Economic Dynamism of Asia in the New Millenium

From the Asian Crisis to a New Stage of Growth

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Yoshinori Shimizu

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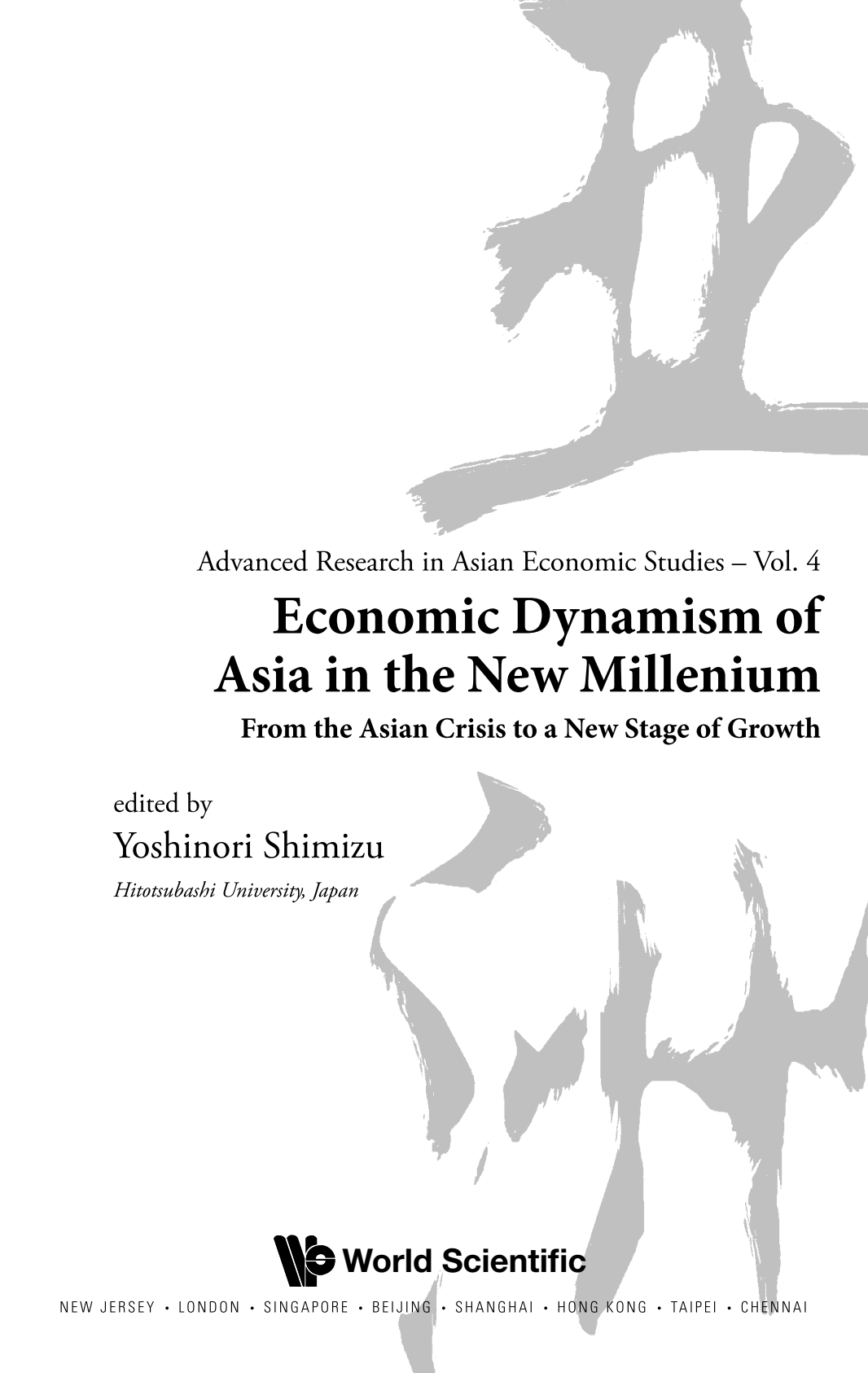
From the Asian Crisis to a New Stage of Growth

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World Scientific

EDITOR'S INTRODUCTION

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After the decades called "The East Asian Miracle" East, Asia has gone through a tough period in 1997 when the region was hardly hit by the sudden financial crisis. What actually happened at that time? Since then, a decade of reform, restructuring and recovery as well as the growth to the next stage has passed, demonstrating the great dynamism of the region. What kind of progress has been made to assure the robust growth of the Asian economy?

Now, in 2007, East Asia has reassured its position as the growth center of the world and expected to be so during at least a foreseeable future. How the economies of Asian countries stand now? How the technology transfer has been done? What is the status of the production and technology network among countries? What are the challenges for each economy and for the region? Asia can be regarded already one integrated economic region in terms of the close economic relationship among countries. What kind of policy collaboration should be pursued to further promote the benefits of the whole region? All these topics that are essential for a wide range of readers including policy makers, researchers and business people are discussed in this volume in details

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for a better understanding on the new economic dynamism of Asia in the new millennium.

This volume contains 14 papers in three large categories. The first four papers deals with the 1997 Asian financial crisis, i.e., its causes, impacts, and recovery process from it, clearly illuminating exactly what happened in Thailand, Indonesia, and Hong Kong. The next five papers belong to the second category that focuses on the regional cooperation among countries, such as FTA, financial cooperation, multinational cooperation, and the development of the Greater Mekong Sub-region. The last five papers discuss specific challenges each country faces. Regarding China, the investment-growth nexus and the corporate governance of listed companies are explained. Other papers elaborate topics such as the fiscal performance in Korea, electronic firms in Korea, Taiwan, Thailand, Philippines, and Indonesia, as well as the inequality and poverty problem in the process of growth in Vietnam.

Thus, this volume covers topics relevant to sixteen individual Asian countries as well as those related to the whole area and regions. These papers illuminate the different aspects of Asian economic dynamism from a variety of perspectives. The idea of this volume stemmed from past three volumes of the Journal of Asian Economics I have edited on the Asian economy. The papers included in this volume, however, are newly written, or updated to catch the most recent movements, or sheds new lights to the past events from new perspectives. The list of distinguished authors who are the most respected researchers and experts in this region is another uniqueness of this volume. This is an entirely new book on the new picture of Asian economy that inherits its spirit from the JAE, and made possible thanks to the collaboration of the distinguished authors mentioned above.

Since East Asia is the most powerful engine of enhancing the world welfare, it should give a great rate of return for the world to understand its dynamism and create systems that could fully utilize the potential of the region. We are hoping that this volume should give readers some hints for them to further explore the topics and execute their influence in each field of activity towards the common goal of making Asia an even better and powerful place that could lead the world in the new millennium.

CONTENTS

CHAPTER 1

DETERMINANTS OF ASIAN CAPITAL FLIGHT AND THE IMPACT OF 1997 ECONOMIC CRISIS

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This paper investigates the capital flight from five Asian countries, namely Thailand, the Philippines, Indonesia, Malaysia and South Korea, severely affected by the 1997 economic crisis. The evidence indicates, either by direct or indirect measurement of capital flight, that there is a relatively large amount of capital flight from these countries during the studies period from 1991 to 2000. Moreover, the 1997 economic crisis posed an extensive impact on the structure of the capital flight. The evidences also indicate that major factors, such as an increase in the domestic inflation rate, a spread between US and local interest rates, over value of local currency, foreign direct investment (FDI), government budget deficits and current account deficits, are important in explaining the capital flight from Asia.

1. Introduction

It is common for the open economy that its people participate in financial and economic transactions, including external financial claims with the people of other countries. Generally, local people would like to own foreign assets in order to maintain their purchasing power when the local currency expects to be depreciated or when there is a rapid increase in domestic inflation rates. Instability of domestic political situation also stimulates people to move their assets to safer places in foreign countries.

Yet, there are debates whether the acquisition of foreign assets should be regarded as "capital flight" or "normal capital outflows".

Cumby and Levich (1987) propose legitimacy as a tool to differentiate between capital flight and normal capital outflows. That is, any illegal movement of capital should be regarded as the capital flight while the legal one should be regarded as normal outflows of capital. In addition, nationalists' social utility concept shows that capital flight is a source of disutility as it causes a decrease in domestic social welfare, though augmenting private welfare of those who move the capital out of the country. Cuddington (1986) gives supporting ideas of social disutility from capital flight as causes of instability in domestic financial markets, increase in cost of foreign borrowings due to capital shortage in the country and loss of income taxes.

The above reasons show that capital flight can pose severe impacts on the country's economic development. This is especially true for Asian countries facing economic crisis in 1997. So far, there is no research on the capital flight that caused a huge impact on those Asian countries. Therefore, it is interesting and necessary to conduct an in depth study on this topic. This research aims to 1) gather figures of capital flight from severely affected countries from the 1997 Asian Economic Crisis, including Thailand, the Philippines, Indonesia, Malaysia and South Korea, by using the widely accepted measures of capital flight, and 2) study various factors explaining the determinants of capital flight from those countries. Findings from this study can be of benefits to the introduction of policies and preventive measures to avoid enormous losses on the country's economy. The rest of this paper is organized as follows. Section II provides definitions of capital flight measurement: Direct and Indirect Measures. Section III describes the data for this study, outcomes of the capital flight from Asia and the impact of 1997 economic crisis. Section IV studies determinants of capital flight from the chosen countries and also empirical findings which can be applied to the policy-making. The last section of this paper provides concluding remarks.

2.   Capital Flight Measurement

There is a variety of definitions of capital flight which give different figures. Measurement of capital flight is divided into[1]: 1) **Direct Measure**—defining items of capital flight and using direct data from these items to calculate the total of capital flight; 2) **Indirect Measure**—indirectly defining capital flight, e.g. capital flight is the difference between certain items (definitions for indirect measure are generally wider than those of direct measure).

2.1. *Direct Measures*

Direct measures of capital flight use direct data from the balance of payments. It is particularly focused on short-term capital outflows, known as "Hot Money", which rapidly response to change in the level of investment risk. The hot money, however, also quickly flows back to the country as soon as the risk turns out to be positive. Cuddington (1986) provides that Capital Flight (CF_{CU}) refers to the acquisition of short-term foreign assets by the non-banking private sector. From this, capital flight can be measured by having Errors and Omissions (EO), which reflect Unrecorded Short-term Capital Flows, plus Other Short-term Capital, Other Sector (OSC), to be considered according to the respective country.

$$CF_{CU} = EO + OSC \tag{1}$$

According to Kant (1996), there are debates on the direct measures of capital flight. This is due to the fact that investors may possess both short-term and long-term foreign assets while having the same motivations and impacts on the country, long-term capital such as government bonds also have a high degree of liquidity, and, Errors and Omissions may be derived from different sources, not recorded in the balance of payments. This implies that interpretation of Errors and Omissions by Cuddington (1996) is too narrow.

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[1] We do not consider Hybrid Measure in this study due to the limitation of data.

2.2. *Indirect Measures*

Indirect measures of capital flight mainly measure Net Foreign Claims by the private sector. It is stated that capital flight is calculated under the assumption that capital inflows will be used as a basis for capital outflows. As a result of this, the residual of both types of capital flows is regarded as the amount of capital flight of the respective country. This implies that indirect measures of capital flight are not focused on the impact of national policy on capital flows and do not differentiate between normal and abnormal flows of capital.

The World Bank (1985) suggests the use of indirect measures provided that the Increase in External Debt (IEB) and the Net Foreign Direct Investment (NFDI) show the amount of capital inflows and that the Current Account Deficit (CAD) and the Increase in Official Reserves (IOR) show the amount of capital outflows. Therefore, the difference between Sources of Funds and Uses of Funds refers to the Increase in Net Foreign Claims by the private sector and is regarded as the Capital Flight (CF_{WB}):

$$CF_{WB} = IED + NFDI - CAD - IOR \qquad (2)$$

Considering the Increase in External Debt (IED), the World Bank does not use data from the balance of payment but from sources of the World Debt Tables in stead. Thus, some believe that the figures of external debt from such source may not be inconsistent with those recorded in the balance of payment. It is believed that the inconsistency may possibly come from the exchange-rate revaluation and debt reclassification reported by the World Bank.

Morgan Guaranty Trust (1986) adjusts the World Bank's measurement of capital flight by omitting Short-term Foreign Assets of the Banking System (SFABS) and only regarding foreign assets of the non-banking private sector as the Capital Flight (CF_{MG}):

$$CF_{MG} = CF_{WB} - SFABS \qquad (3)$$

Still, Morgan Guaranty Trust (1986) fails to prove how motivations of external claims by firms and individuals differ from external claims by the banking system, whereas it is the main reason for adjusting the definition of capital flight introduced by the World Bank.

Cline (1987) readjusts the capital measurement of Morgan Guaranty Trust by omitting the Reinvested Investment Income (RII) and the Income from Tourism and Border Transaction (ITBT) from the current account before measuring the capital flight. The reason for this is that we should not use incomes from external assets which do not return to the country in the calculation of capital flight and that the ITBT involves transactions in the free market, which is beyond state control. The Capital Flight (CF_{Cl}), according to Cline (1987), can be measured by:

$$CF_{Cl} = CF_{MG} - RII - ITBT \qquad (4)$$

In spite of the fact that indirect measure of capital flight is simple, shortcomings are detected from inaccuracy of foreign loans figures and overestimation of capital flight for countries with high level of foreign borrowings that do not experience shortage of domestic reserves. In addition, errors in the capital flight measurement may come from the calculation of external debt merely in the form of US Dollar. This is because some countries may have foreign loans in currencies other than US Dollar, so there exists the change in the exchange rates between US Dollar and other currencies.

3.   Capital Flight from Asia

This section presents the empirical results of capital flight by Direct and Indirect measures, details as described in section II. The Asian countries selected for this study are Thailand, the Philippines, Indonesia, Malaysia and South Korea, severely affected by the 1997 Economic Crisis after the depreciation of Thai Baht. From the previous studies, capital flight is usually experienced by those countries facing acute financial crisis. It is, therefore, interesting to find out whether those five countries encountered the problem of capital flight both before and after the 1997 economic crisis.

3.1. *Sources of Information*

This study covers ten years period from 1991-2000 divided into 1) the six years period before the eruption of the economic crisis (1991-1996)

and 2) the four years period during and after the crisis (1997-2000). To present the movements of capital flight in this group of countries, the research applies quarterly information from the balance of payments of each country as reported in the International Financial Statistics (IFS) of the International Monetary Fund (IMF). Additional data are obtained from the World Bank's reports, e.g. World Debt Tables, to measure the capital flight. Other economic figures, e.g. foreign exchange rates, inflation rates, interest rates, current account deficits and government budget deficits, are also obtained from the reports of IMF.

3.2. *Preliminary Analysis of Capital Flight*

Table 1 shows a total stock of capital flight of each country during 1991 to 2000, measured by direct measure of Cuddington (1986) and indirect measure of the World Bank (1985). With the direct measure, it is revealed out that Thailand and South Korea had the highest total stock of capital flight, 25.71 billions USD and 24.67 billions USD, respectively. At the same time, Indonesia had the lowest total stock of capital flight, 8.49 billions USD. In addition, considering the post crisis period, it is revealed that all of the countries, except for Indonesia, had a very high volume of capital flight. Thailand and South Korea had the highest volume, 33.51 billions USD and 18.31 billions USD, respectively. Whereas, studying the period prior to the crisis, Indonesia was the country most affected by the capital flight while South Korea and Malaysia had minus total of capital flight. In other words, the evidence reveals that there were capital inflows to both countries before the 1997 Economic Crisis.

With the indirect measure of the World Bank (1985), it is stated that South Korea and Malaysia had the highest total stock of capital flight of 67.54 billions USD and 103.01 billions USD, respectively; whereas, Thailand had 67.54 billions USD and the Philippines the lowest total of 30.43 billions USD. When considering the before and after the crisis separately, it is found out that, after the crisis, South Korea and Malaysia had the highest total stock of capital flight, 97.84 billions USD and 32.27 billions USD, respectively. At the same time, Indonesia had the lowest total stock of capital flight, 13.50 billions USD. In the period prior to the

Table 1: Total Stock of Capital Flight of each country during 1991 to 2000

Year	Direct Measurement of Cuddington (1986)					Indirect Measurement of World Bank (1985)				
	Thailand	The Philippines	Indonesia	Malaysia	South Korea	Thailand	The Philippines	Indonesia	Malaysia	South Korea
1991-1996	7,396.76 (2.7)[1]	3,358.71 (3.56)	8,358.11 (5.05)	-1,346.00 (-2.82)	-8,831.17 (-2.08)	42,010.78 (31.37)	2,030.24 (5.24)	31,032.10 (19.18)	70,735.90 (93.47)	28,895.49 (5.99)
1997-2000	18,312.21 (14.23)[1]	12,042.42 (15.9)	132.26 (-0.36)	11,956.50 (14.07)	33,505.64 (8.73)	25,532.00 (25.25)	28,403.18 (39.38)	13,498.40 (10.76)	32,271.43 (37.68)	97,844.15 (24.38)
Total	25,708.97 (16.92)[1]	15,401.13 (19.46)	8,490.37 (4.69)	10,610.50 (11.25)	24,674.47 (6.64)	67,542.78 (56.62)	30,433.42 (44.63)	44,530.50 (29.93)	103,007.33 (131.15)	126,739.64 (30.37)

Remark: The digits in the parentheses represent in term of percent of Gross Domestic Product (GDP) of each country in the particular periods.

crisis, Malaysia faced the biggest impact of capital flight of 70.74 billions USD, while Thailand had 42.01 billions USD, and the Philippines the lowest of 2.03 billions USD.

3.2.1. *Impact of 1997 Economic Crisis*

From the measurement of capital flight, both in US Dollar and as a percentage of GDP, shown in the previous section, it can be seen that the volume of capital flight of some countries changed after the 1997 Economic Crisis. This, therefore, brings interesting question whether the crisis had any impact on the structure of the capital flight. In response to the question, the structural change of capital flight was analyzed by the Chow Breakpoint Test. The third quarter of 1997 was defined as a breakpoint, considering it was the time when the Economic Crisis started to spread from Thailand to other countries in Asia. The Chow Test will report the Log Likelihood Ratio and Probability along with the test of hypothesis for structural change of each country. This test will be used for both direct and indirect measures of capital flight.

Table 2 provides the test result of structural change of capital flight in the selected countries. As for Thailand, the Log Likelihood Ratio and Probability shows that the capital flight from Thailand before and after the 1997 Economic Crisis was significantly different. Studying with direct measure of Cuddington (1986), it is significant at the 1% level of significance. Indirect measure of the World Bank is also significant at the 1% level; while Morgan Guaranty (1986) and Cline (1987) are significant at the 5% levels.

For the Philippines, the log likelihood ratio and probability shows that the structure of the Philippines' capital flight before and after the 1997 Crisis were significantly different at the 5% level of significance, as measured by indirect measures of Morgan Guaranty Trust (1986) and Cline (1987).

In Indonesia's case, a study with the direct measure of Cuddington (1986) shows that there was a significant change of capital flight structure before and after the crisis at 1% level of significance. When considering the capital flight of the period before and after the 1997 Crisis with indirect measures of the World Bank (1985), Morgan

Guaranty Trust (1986) and Cline (1987), the Log Likelihood Ratio and Probability shows that the significant differences of Indonesia's capital flight structures was at the 5%, 10% and 20% levels of significance, respectively.

For Malaysia, the Log Likelihood Ratio and Probability shows that the structural change of capital flight is at 5% level for the direct measure, and 1% level for the indirect measure, when comparing between the period before and after the 1997 Crisis. As Malaysia posed the exchange control, the amount of capital flight was relatively low after the crisis in 1997 comparing the period before the crisis when the stock of capital flight was high. This confirms that there was such a significant change in the structure of capital flight.

Table 2: The Test of Structural Change of Capital Flight in the Selected Countries

Countries	Cuddington	World Bank	Morgan	Cline
Thailand	33.8222 [1] (0.0000) [2]*	19.9962 (0.0056)*	17.4187 (0.0149)**	16.2801 (0.0227)**
The Philippines	8.2453 (0.3115)	10.0267 (0.1871)	15.1777 (0.0338)**	14.7984 (0.0387)**
Indonesia	28.2338 (0.0002)*	13.8924 (0.0531)**	12.0010 (0.1005)***	9.9169 (0.1933)****
Malaysia	15.2634 (0.0328)**	27.8603 (0.0002)*	35.2625 (0.0000)*	37.3332 (0.0000)*
South Korea	23.9941 (0.0011)*	34.6024 (0.0000)*	34.2282 (0.0000)*	32.5335 (0.0000)*

Remarks:

[1] shows Loglikelihood Ratio of Chow Breakpoint test for structural changes of capital flight in each country by using 3rd quarter in 2000 as a test point.

[2] shows probability of Loglikelihood Ratio of Chow Breakpoint test for structural changes

* Significant at the 1% level

** Significant at the 5% level

*** Significant at the 10% level

**** Significant at the 20% level

For South Korea, the Log Likelihood Ratio and Probability shows that the structures of capital flight in Korea before and after the Economic Crisis were significantly different at 1% level of significance, when studying with direct and indirect measures.

To conclude, the five selected countries, apart from the Philippines, and particularly the case of capital flight measurement of Cuddington (1986) and the World Bank (1985), the result of Chow Breakpoint Test shows that the 1997 Economic Crisis caused structural changes of capital flight from Asian countries, severely affected by the crisis. This is in consistent with Paster's (1990) statement that, in general, the crisis that arises from the depreciation of local currency and the rapid change in investment risk will lead to the significant flight of capital from that particular country.

4.   Determinants of Capital Flight

The finding in previous section reveals that the five Asian countries faced different degrees of capital flight problems. This brings the question of what economic factors lead to the capital flight in each of these countries. This section provides an answer to this question: beginning with the literature review of previous studies on the capital flight in other regions, providing a model for studying the case of selected Asian countries, then presenting the empirical results.

4.1. *Literature Review*

The study of capital flight came into attention of international financial economists after the birth of the financial crisis in Latin America in 1980s. The study has since become popular, especially when countries or regions experienced major financial and currency crises. Cuddington (1987) studies the determinants of capital flight in four Latin American countries, which are Mexico, Argentina, Uruguay and Venezuela, facing the most severe problems of capital flight during the economic crisis in Latin America. The sources for his study were from the annual balance of payment reported by the International Monetary Fund (IMF), covering the period of 1974-1984. This annual data, however, was regarded as too

limit (the data can not be appropriately collected on a quarterly basis in this period of time) and might result in the unreliable findings.

The results of Cuddington (1987) show that there are three factors that can explain the capital flight from the four countries, though some of them might have different levels of significance. Firstly, the Exchange Rate Overvaluation, with positive relation, can describe the capital flight from the four selected countries. This implies that the states should impose the macroeconomic policy which does not allow the overvaluation of local currency, as it motivates people to move their capital to other countries with more stable currencies. Secondly, an increase in the interest rates in the United States, with positive relation, can describe the capital flight in Mexico and Venezuela. Thus, the fact that the industrialized countries, specifically the United States, implements proper macroeconomic policy can help lessening the problems of capital flight in the developing countries. Lastly, capital inflows in the form of foreign loans can positively describe the capital flight in Mexico and Uruguay. This means, the capital inflow is the basis for the capital outflow. The states, then, should avoid the capital flight by taking into consideration of how to effectively utilize the foreign loans, for example, an allocation of money to suitable economic sectors.

Paster (1990) studies the capital flight in eight countries in Latin American, including Argentina, Brazil, Chile, Columbia, Mexico, Peru, Uruguay and Venezuela, in the period of 1973-1985. The capital flight then was worth 151 billions USD. Additionally, Paster (1990) found that there are five determinants of capital flight which are significant in the statistical aspect: 1) difference between US Dollar and other currencies; 2) changes in inflation rates; 3) net long-term capital inflow; 4) difference in the economic growth rates of the United States and other countries and 5) an increase in tax rates (per GDP). Furthermore, it is mentioned that the exchange control helped to reduce the capital flight in some countries. However, joining the Stand-by-Credit, an aid programme provided by the IMF, did not affect the capital flight from those countries. In other words, the IMF's financial aid programme did not help reduce the capital flight in this region.

Gibson and Tsakalotos (1993) conduct a research on the capital flight in five countries in Europe, namely France, Italy, Spain, Portugal and

Greece, using quarterly data covering 1976-1987. The reason for choosing France and Italy is that both countries had experience the capital flight in the past. On the other hand, Spain, Portugal and Greece are developing countries that implement the Exchange Control. The three countries are to reject the policy when they join the European Monetary System, and this makes an interesting point of study. Gibson and Tsakalotos (1993) assume that the capital flight is influenced by the following factors: 1) expected exchange rate changes, especially currency depreciation; 2) political uncertainty, focusing on the government policy that will affect the majority of people; and 3) government budget deficits, viewing that the budget deficits will lead to financial difficulties and capital flight. Apart from these three factors, the model also includes domestic and foreign interest rates. It is concluded that the expected devaluation of exchange rate and the political uncertainty have positive impact on the capital flight, except for Italy. The government budget deficits have positive impact on the capital flight in France. In addition, a decrease in interest rates in Spain and Portugal leads to an increase in capital flight in the two countries.

Kant (1996) studies the interrelation between Foreign Direct Investment (FDI) and Capital Flight, with three major questions: 1) whether FDI causes the capital flight in those countries; 2) whether the interrelation between FDI and Capital Flight is influenced by different measures of capital flight; and 3) whether the capital flight results from Investment Climate Perspective or Discriminatory-Treatment Perspective. Kant (1996) uses information of capital flight in developing countries from 1974 to 1992, which was calculated by the World Bank. Contemporaneous-correlation and Principal-component analysis were conducted on three sub-regions of the six continents: East Asia and the Pacific, Latin America and Caribbean, and Europe and Mediterranean. It is concluded that the inflow of FDI will appear once there is a decrease in capital flight. This is either by using direct, indirect or hybrid measures. Besides, it is stated that the capital flight was a consequence of ineffective administration of the government rather than the privileges given to foreign investors.

Loungani and Mauro (2000) analyze the determinants of capital flight in Russia, assuming that there are various sources of capital flight, for

example, instability of macro-economy, unfair taxation, a lack of confidence on financial institutions, extensive corruption, and failure to protect intellectual property rights. For the empirical research, Loungani and Mauro (2000) use not only information from Russia but also the database from the transitional economies (from Communism to Capitalism) in three regions: Central Europe, Baltic Sea and Latin America. The period for this study is from 1994 to 1998. Evidence shows that the high inflation rates, government budget deficits and the high level of economic reform are motivations for the capital flight (this is true for the analysis with all three measures). Moreover, it is revealed that capital control does not have any influence on the capital flight in the select countries.

Antzoulatos and Sampaniotis (2002) conduct a research on determinants of capital flight in 17 countries in Eastern Europe. They use quarterly information from 1993 to 1999 to measure capital flight with five different definitions and the model of seven variables. The findings of this research shows that three variables help describe the capital flight. That is, the appreciation of local currency has negative relation with the capital flight. The increased budget deficits to GDP lead to the increased level of capital flight. It is believed that once there are budget deficits, people will be concerned that the government will raise tax rates to compensate the deficits.

Chantanawan (2000) studies the determinants of capital flight in Thailand by adopting the Portfolio Theory, which compares the return on investment and investment risk of domestic and foreign assets. The return on investment rate is represented by the expected devaluation of Thai Baht while the investment risk is represented by the spread between Thai and US Government bonds. Chantanawan (2000) uses seven different measures of capital flight for the model of the mentioned variables. The period of study is from the third quarter of 1997 to the fourth quarter of 1999. The research result shows that the devaluation of Thai Baht can describe the capital flight with three measures but cannot describe the capital flight with the rest four measures. This may be caused by 1) the limits of quarterly data for the test and 2) the difference in interest rates may not accurately estimate the risk of Thai economy.

4.2. *Regression Model*

The literature review in previous section explains which economic factors caused the capital flight in different regions. Therefore, with evidence from the past studies, this research introduces the model to test the hypothesis of the capital flight from the five Asian countries, as followings:

$$CF_{CUit} = a + b_1 (CHINF)_{it} + b_2 (FINC)_{it} + b_3 (OVAL)_{it} + b_4 (FDI)_{it}$$
$$+ b_5 (GBUD)_{it} + b_6 (CAD)_{it} + b_7 (DUM)_{it} + \varepsilon_{it} \qquad (5)$$

$$CF_{WBit} = a + b_1 (CHINF)_{it} + b_2 (FINC)_{it} + b_3 (OVAL)_{it} + b_4 (FDI)_{it}$$
$$+ b_5 (GBUD)_{it} + b_6 (CAD)_{it} + b_7 (DUM)_{it} + \varepsilon_{it} \qquad (6)$$

$$CF_{MGit} = a + b_1 (CHINF)_{it} + b_2 (FINC)_{it} + b_3 (OVAL)_{it} + b_4 (FDI)_{it}$$
$$+ b_5 (GBUD)_{it} + b_6 (CAD)_{it} + b_7 (DUM)_{it} + \varepsilon_{it} \qquad (7)$$

$$CF_{CLit} = a + b_1 (CHINF)_{it} + b_2 (FINC)_{it} + b_3 (OVAL)_{it} + b_4 (FDI)_{it}$$
$$+ b_5 (GBUD)_{it} + b_6 (CAD)_{it} + b_7 (DUM)_{it} + \varepsilon_{it} \qquad (8)$$

where:

CF_{CU} = capital flight according to Cuddington (1986)
CF_{WB} = capital flight according to World Bank (1985)
CF_{MG} = capital flight according to Morgan Guaranty Trust (1986)
CF_{CL} = capital flight according to Cline (1987)
i = 5 countries: Thailand, the Philippines, Indonesia, Malaysia and South Korea
t = 40 quarters; from 1st Quarter of 1991 of 4th Quarter of 2000

The meaning of the seven variables and the assumption regarding interrelation between the capital flight and each of the variables is shown in Table 3. The OLS Regression will be applied to the above equations. The OLS Regression is suitable for this research as the problem of Heteroskedasticity will not significantly affect the regression results.

Table 3: Determinants for Capital Flight and Direction of Relations

Variables	Relations with Capital flight
1. CHINF (Change in Inflation)	Have positive relations with capital flight as an increase in inflation rates leads to lower level of real return on investment. To avoid this phenomenon, local investors move their capital out of the country and acquire foreign assets in stead. Also, increased inflation rates lead to the expectation that the local currency will soon be depreciated. Note that the Change in Inflation derives from: $CHINF = \ln\pi(t) - \ln\pi(t-1)$ When π is domestic inflation rate.
2. FINC (Financial Incentive)	Have positive relations with capital flight since larger spread between US Dollar and local currency leads to higher motivation to acquire foreign assets in the form of US Dollar (capital flight). The Financial Incentive derives from: $FINC = \ln(1+iUS) - \ln(1+i) + \ln(e) - \ln(e-1)$ When ius = interest rate of US Treasury bill i = domestic interest rate e = exchange rate between local currency and US Dollar
3. OVAL (Degree of Currency Overvaluation)	Have positive relations with capital flight as over-valued local currency tends to be depreciated and, thus, drives local investors to move their capital to be reserved in the a more stable currency. The Degree of Currency Overvaluation derives from: $OVAL = P/ (e*Pus)$ When P = level of domestic product Pus = level of US domestic product e = exchange rate between US Dollar and local currency

Variables	Relations with Capital flight
4. FDI (Foreign Direct Investment)	Have two types of relations with capital flight: 1. Negative relations, if considering that high FDI represents excellent domestic investment climate. This is especially true when considering from the Investment-Climate Perspective. Thus, high level of FDI indicates that there is to be lower volume of capital flight. 2. Positive relations, viewing that increased FDI results from the government's discriminatory policy, which gives privileges to foreign investors over local investors (Discriminatory-Treatment Perspective). This drives investors to move their capital to a country with better investment incentive.
5. GBUD (Government Budget Deficit)	Have positive relations with capital flight because the government budget deficit is a bad sign that may lead to higher tax rate in the future. This possibly leads to capital flight.
6. CAD (Current Account Deficit)	Have positive relations with capital flight. Current account deficit is a sign for economic recession and this could lead to capital flight.
7. DUM (Dummy Variable)	Is a variable that describes structural change due to the 1997 Economic Crisis, defining its value as "0" for data before 3rd quarter of 1997 and as "1" for data collected from 3rd quarter of 1997 on. If DUM is statistically significant, it means that 1997 Economic Crisis has a crucial impact on the capital flight.

The test of four regression equations (5) to (8) is separated into two stages. First, the full equations are tested using all seven variables. The result will show which variables are statistically significant. Then, the second stage examines the reduced equations. That is to use only the variables with statistical significance from the first stage, and put it on the right hand side of the regression equation in the second stage. This is to confirm that the test result of the first stage remain significant at the

second stage. Then, the test result of the regression equations, only variables with statistical significance, is reported in the next section.

4.3. *Empirical Findings*

Results from the test of four equations to see the determinant factors for capital flight in the five countries are as follows:

Thailand

Table 4 provides the test result of regression equations of Thailand's case. According to direct measure of Cuddington (1986), two variables can describe the capital flight from Thailand. First, an increase in domestic inflation rates (CHINF) has statistical significance at the 10 percent level but has opposite direction to the assumption. That is, the increased inflation rates lead to decreased capital flight from Thailand. Second, the current account deficits (CAD) have statistical significance at the 5 percent level and have positive relation in accordance with the assumption. That is, the increased CAD leads to increased capital flight from Thailand.

   According to the direct measures of capital flight, the variable of residual between interest rates of US Dollar and Thai Baht (FINC) can describe Thailand's capital flight. The statistical significance is at the 5 percent to 10 percent levels. However, the direction is opposite to the assumption. That is, an increase in residual between both currencies leads to a decrease in capital flight from Thailand. The second variable, which is the overvaluation of local currency (OVAL), can describe the capital flight with all of the indirect measures. It is at the 10 percent statistical significance and has positive relation which is consistent with the assumption. That is the overvalued of Thai Baht leads to a higher volume of capital flight.

   Next, FDI can describe Thailand's capital flight at the 5 percent statistical significance. Moreover, it has positive relation in accordance with the Discriminatory-Treatment Perspective, meaning that Thai Government discriminately gives privilege to foreign investors rather than local investors. Therefore, FDI happens at the same time as the

capital flight by Thai investors. Furthermore, the CAD can describe Thailand's capital flight with the World Bank's measure. It is significant at the 10 percent level of significance and the direction is consistent with the assumption. Besides, DUM is also significant at the 20 percent level of significance with the World Bank's measure and has a positive sign, which means that the 1997 Economic Crisis significantly caused the capital flight from Thailand. However, DUM is not statistically significant with other measures of capital flight.

Table 4: The Test Result of Regression Equations of Thailand's Capital Flight

Independent Variables	Capital Measurement			
	Cuddington	World Bank	Morgan	Cline
1. CHINF	-0.0721 (-1.8781)[1]**			
2. FINC		-103.8000 (2.1486)*	-93.8595 (1.9743)**	-93.6533 (-2.0661)*
3. OVAL		5.1945 (1.9289)**	4.4642 (1.7304)**	4.3946 (1.7950)**
4. FDI		2.9842 (2.6621)*	2.9736 (2.4187)*	2.8435 (2.3693)*
5. GBUD				
6. CAD	0.3564 (3.3392)*	0.7812 (1.7138)**		
7. DUM		24.6558 (1.3554)****		
R^2	0.7518	0.5097	0.4024	0.3941
Durbin-Watson stat	2.1578	2.0315	1.8812	1.8904
Prob (F-statistic)	0.0000	0.0030	0.0313	0.0366

Remarks: The digits in parentheses represent t-statistic value of independent variables in OLS regression model.

Significant at the 5% level (two-tail)

** Significant at the 10% level (two-tail)

*** Significant at the 15% level (two-tail)

The Philippines

Table 5 presents the test result of the regression equation for the Philippines. According to the direct measure of Cuddington (1986), there are two variables that can describe the capital flight from the Philippines. The first variable is the residual between interest rates of US Dollar and Peso (FINC). It has the statistical significance of 10 percent and positive sign according to the assumption, that is an increase in the residual of interest rates leads to an increase in the capital flight of the Philippines.

Table 5: The Test Result of Regression Equations of the Philippines Capital Flight

Independent Variables	Capital Measurement			
	Cuddington	World Bank	Morgan	Cline
1. CHINF				
2. FINC	5.9228 (1.9807)[1]**			
3. OVAL	-0.7962 (-2.6045)*			
4. FDI		1.7480 (1.7846)**	1.5119 (1.5614)***	1.6135 (1.6425)***
5. GBUD		3.3956 (1.7151)**	3.1492 (1.6813)***	3.0627 (1.5978)***
6. CAD				
7. DUM			11.2121 (1.5763)***	10.5536 (1.4520)****
R^2	0.2866	0.5366	0.6142	0.5886
Durbin-Watson stat	1.9305	2.1293	2.0505	2.0338
Prob (F-statistic)	0.1272	0.0006	0.0001	0.0003

Remarks: The digits in parentheses represent t-statistic value of independent variables in OLS regression model.
 Significant at the 5% level (two-tail)
** Significant at the 10% level (two-tail)
*** Significant at the 15% level (two-tail)

The second variable is the overvalued of the local currency (OVAL). It has the statistical significance at 5 percent and has negative sign according to the assumption.

With the indirect measures of capital flight, FDI can describe the capital flight from the Philippines. It has the statistical significance at 10 percent and 15 percent levels. Also, it is in line with the Discriminatory-Treatment Perspective. This implies that the Philippino government gives privilege to foreign investors which makes the dissatisfied local investors moving their capital to other countries with more interesting return on investment. The second variable that can describe the capital flight, only with indirect measures, is the government budget deficits (GBUD). It has the statistical significance and positive direction which is in line with the assumption. That is, the government budget deficits lead to concerns, by investors, that the government might raise tax to compensate the deficits. The people will then move their capital to foreign countries to avoid the higher tax in the future. The DUM has the statistical significance of 10 percent, only with indirect measures of Morgan Guaranty Trust (1986) and Cline (1987) and has positive relation. This means that the 1997 Economic Crisis significantly leads to the capital flight from the Philippines.

Indonesia

Table 6 shows the result of the regression test for Indonesia. According to the direct measure of Cuddington (1986), there are six variables describing the capital flight from Indonesia. The first variable is the difference between interest rates of US Dollar and Indonesia Rupiah (FINC), which has the statistical significance of 5 percent. It has negative relation which is in line with the assumption. The second variable is the overvaluated currency (OVAL) with the statistical significance of 5 percent. It has positive relation which is in line with the assumption, meaning the overvaluated Rupiah leads to the capital flight from Indonesia. The third variable is Foreign Direct Investment (FDI) with the statistical significance of 15 percent and a positive relation in accordance with the Discriminatory-Treatment Perspective. That is, the government gives privileges to foreign investors over the local investors and, thus,

Table 6: The Test Result of Regression Equations of Indonesia Capital Flight

Independent Variables	Capital Measurement			
	Cuddington	World Bank	Morgan	Cline
1. CHINF				
2. FINC	-4.6162 (-4.2257)[1]*	-8.0937 (-1.6712)***	-6.2776 (-2.4682)*	-6.5021 (-2.9742)*
3. OVAL	0.0009 (2.1896)*	0.0035 (1.8906)**	0.0031 (2.2993)*	0.0030 (2.5179)*
4. FDI	0.4748 (1.6694)**			
5. GBUD	-1.2296 (-3.7651)*	2.0131 (1.5921)***	1.5794 (1.3418)****	
6. CAD	0.9835 (4.3318)*	1.2631 (1.8893)**		
7. DUM	6.7180 (3.3947)*			
R^2	0.5427	0.4941	0.3422	0.2983
Durbin-Watson stat	1.9950	1.9816	1.9309	1.9011
Prob (F-statistic)	0.0041	0.0120	0.0913	0.1670

Remarks: The digits in parentheses represent t-statistic value of independent variables in OLS regression model.

* Significant at the 5% level (two-tail)

** Significant at the 10% level (two-tail)

*** Significant at the 15% level (two-tail)

the increase in FDI occurs at about the same time as the capital flight from Indonesia.

The fourth variable is the government budget deficits (GBUD). It is significant at the 5 percent level of significance while having negative relation which is contradict to the assumption. The fifth variable is the current account deficit (CAD) with 5 percent statistical significance and positive relation in line with the assumption. This means current account

deficits is a sign of bad economic situation and, thus, leads to capital flight from the country. The last variable is DUM with 5 percent statistical significance and positive relation in accordance with the assumption. That is, the 1997 Economic Crisis leads to an increase in the capital flight from Indonesia.

According to indirect measures, the difference between interest rates of US Dollar and Indonesian Rupiah can describe Indonesian capital flight. It has 5 and 15 percent of statistical significance. It has negative relation which is contradict to the assumption but is in line with the result of the direct measure of Cuddington (1986). The second variable, which is the overvaluation of currency (OVAL), can describe the capital flight. It has 5 and 10 percent of statistical significance and has positive relation in line with the assumption. This means that the overvaluated Rupiah leads to the capital flight. The third variable, Government Budget Deficits (GBUD), can describe the capital flight only with measures of the World Bank (1985) and Morgan Guaranty Trust (1986). It is significant at the 15 percent level of significance and has a positive sign which is in line with the assumption. This means that the government budget deficits will lead to capital flight because of the fear that the government will raise interest rates to compensate the deficits. The last variable, Current Account Deficits (CAD) is at the 10 percent statistical significance and has a positive relation in line with the assumption. The increase in current account deficits is a sign of bad economic situation. This leads to the capital flight as people are trying to move their capital to invest in other countries that is more stable and gives more interesting return.

Malaysia

Table 7 shows the test result for the case of Malaysia. With Cuddington's direct measure, there are three variables describing the capital flight. The first one is the difference between interest rates of US Dollar and Malaysian Ringit. It is significant at the 5 percent level of significance and has a positive relation in accordance with the assumption. The second variable is the overvaluation of the currency (OVAL) with 5 percent statistical significance and negative relation contradict to the

assumption. The third variable is Foreign Direct Investment (FDI). It is significant at the 5 percent level of significance and in line with the Discriminatory-Treatment Perspective. This is the fact that the Malaysian government gives privileges to foreign investors cause the dissatisfied local investors to move their capital abroad. Thus, the capital flight by Malaysians exists at the same time as the FDI.

Table 7: The Test Result of Regression Equations of Malaysia Capital Flight

Independent Variables	Capital Measurement			
	Cuddington	World Bank	Morgan	Cline
1. CHINF		-1.2009 (-2.3474)*	-1.3876 (-1.3381)****	-1.5882 (-1.5124)***
2. FINC	56.7460 (2.0959)[1]*			
3. OVAL	-30.3411 (-1.8843)**			
4. FDI	0.8897 (2.1805)*	6.7820 (6.0553)*		(1.8580)**
5. GBUD			0.5476 (1.7512)**	0.5966 (1.9121)**
6. CAD			0.9599 (2.2429)*	1.1034 (2.7183)*
7. DUM			35.3675 (2.0360)**	40.7254 (2.4456)*
R^2	0.7229	0.6789	0.4488	0.4777
Durbin-Watson stat	1.5782	2.1818	1.9900	1.9419
Prob (F-statistic)	0.0000	0.0001	0.0288	0.0167

Remarks: The digits in parentheses represent t-statistic value of independent variables in OLS regression model.
Significant at the 5% level (two-tail)
** Significant at the 10% level (two-tail)
*** Significant at the 15% level (two-tail)

According to the indirect measures, an increase in inflation rates (CHINF) can describe the capital flight. It has 5, 15 and 20 percent of statistical significance and negative relation contradicts to the assumption. The second variable, Foreign Direct Investment (FDI), has statistical significance only with the measures of World Bank (5 percent) and Cline (15 percent). This variable is in line with the Discriminatory-Treatment Perspective. The third variable is the Government Budget Deficits (GBUD). It has 10 percent statistical significance only with measures of Morgan Guaranty Trust (1986) and Cline (1987) and has positive relation in line with the assumption. That means an increase in the government budget deficits leads to the capital flight. The fourth variable is the Current Account Deficits (CAD). It has 5 percent statistical significance only with measures of Morgan Guaranty Trust (1986) and Cline (1987) and has positive relation in accordance with the assumption. That is, the current account deficits are a sign of bad economic situation that leads to the capital flight. The last variable, DUM, has statistical significance only with measures of Cline (at the 5 percent level) and Morgan Guaranty Trust (at the 10 percent level) and has positive relation in line with the assumption. This means the 1997 Asian Economic Crisis leads to an increase in the capital flight from Malaysia.

South Korea

Table 8 shows the test result for South Korea's case. With the direct measure of capital flight by Cuddington (1986), there are three variables describing the capital flight from South Korea. The first variable is Foreign Direct Investment (FDI) with 15 percent of statistical significant and positive relation in line with the Investment Climate Perspective. In other words, the good investment climate in South Korea results in the low investment risk, which attracts increased investment from foreign countries. At the same time, there is likely to be less capital flight as the investment at home offers more attractive returns than the investment overseas. The next variable is Government Budget Deficits (GBUD), with 5 percent statistical significance and positive relation in line with the assumption. The last variable is Current Account Deficits (CAD) with 5 percent statistical significance.

Table 8: The Test Result of Regression Equations of South Korea Capital Flight

Independent Variables	Capital Measurement			
	Cuddington	World Bank	Morgan	Cline
1. CHINF				
2. FINC			16.7282 (1.3875)****	
3. OVAL		-0.0621 (-2.2093)*	-0.0514 (-2.4576)*	-0.0467 (-2.3462)*
4. FDI	-0.5881 (-1.6008) [1] ***			
5. GBUD	0.0724 (2.2080)*	-0.5286 (-3.1433)*	-0.3109 (-2.3655)*	-0.2907 (-2.1974)*
6. CAD	0.1366 (2.3602)*	3.3368 (9.4496)*	2.7588 (10.3647)*	2.6752 (10.3611)*
7. DUM		-11.0358 (-1.8170)**	-9.3420 (-1.9869)**	-8.9326 (-1.9323)**
R^2	0.7729	0.8157	0.8630	0.8556
Durbin-Watson stat	1.9601	2.1625	2.2717	2.2289
Prob (F-statistic)	0.0000	0.0000	0.0000	0.0000

Remarks: The digits in parentheses represent t-statistic value of independent variables in OLS regression model.
* Significant at the 5% level (two-tail)
** Significant at the 10% level (two-tail)
*** Significant at the 15% level (two-tail)

In addition, according to indirect measures, there are five variables for the capital flight from South Korea. The first variable is the difference between interest rates of US Dollar and Korean Won (FINC). This variable is significant at the 15 percent level of significance only with the measure of Morgan Guaranty Trust (1986) and the sign is in line with the assumption. The second variable is the overvaluation of local

currency (OVAL). It has 5 percent statistical significance, when considering all three measures, while having negative sign contradicts to the assumption. This means the appreciation of Korean Won leads to a decrease in capital flight from South Korea. The third variable is Government Budget Deficits (GBUD). It is significant at the 5 percent level of significance in all cases and has negative relation in accordance with the assumption, meaning that the government budget deficits lead to a decrease in capital flight. The fourth variable is Current Account Deficit (CAD) with 5 percent statistical significance and positive relation in line with the assumption. It implies that current account deficit is a sign for economic recession which leads to an increase in the capital flight. The last variable is DUM with 10 percent statistical significance and negative relation contradict to the assumption. That is, the 1997 Economic Crisis resulted in a lower level of capital flight from South Korea. From this, it is interesting to note that South Korea is the only country having the result in contrast to other four countries.

4.4. *Policy Implementation*

Findings from the research reveal that macro-economic factors, be it domestic inflation rates, local currency value and domestic interest rates, are the motivation for capital flight in Asia. Thus, the government of each country needs to pay attention in implementing economic policies to promote the well-balanced and stable economy, for example, keeping the country's inflation rates in the appropriate level and avoiding rapid changes as well as adopting the foreign exchange system that keep the value of the country's currency as realistic as possible.

However, from previous experience, governments of many developing countries tend to avoid any change of economic policies that would affect the value of local currency for the reason of their political stability. As a result of this, many currencies become misled without the government's notice that it can lead to huge damage to the country, for instance, an attack on the local currency by the speculators or the massive capital flight. In addition, it is found out that adopting the appropriate interest rate policy, in accordance to the major currency like US Dollar, will help reduce the problem of capital flight. This is because

of the fact that the more the country's financial market is integrated with the international financial markets, the more there is a comparison between return on investment from various financial markets. Consequently, the appropriate interest rates will help reduce the gap between the return on investment of local and foreign investors.

Next, it is detected that the Foreign Direct Investment (FDI) can explain the capital flight as most of the research result supports the Discriminatory-Treatment Perspective. All countries featured in this research have been promoting economic policies that push them towards the industrialization or semi-industrialization, focusing on creating a rapid economic growth. Once the countries' savings cannot accommodate such growth, they have to draw a huge amount of foreign investment. The governments, then, have to compete in acquiring investments from overseas. This is, for example, giving privileges to foreign investors despite the fact that there also exists the same kind of businesses by local investors. This causes the gap between the investment opportunities for the local and foreign investors, which drives the disadvantaged local to move their investment to other countries. From this, the governments should be aware of this fact, consider if their investment promotion policy would cause the capital flight and find the solutions to the problem.

In addition, research findings also show that the risk from current account deficits and government budget deficits are sources for an increase in the capital flight. These factors are indicators for the economic recession for the countries. Therefore, the governments should try to reduce an investment risk that is to promote a pleasant investment climate to the countries. Once, the investment climate is improved and the risk is reduced, the capital flight will be decreased accordingly.

5. Conclusions

This paper studies the capital flight from five Asian countries, including Thailand, the Philippines, Indonesia, Malaysia and South Korea, which were attacked by the 1997 Economic Crisis. The study uses quarterly data from each country during 1991 to 2000. Initially, supporting evidence shows that there significantly was capital flight from these five

countries. That is, the total value of capital flight during the mentioned period was lowest at 8.49 billions dollars in the case of Indonesia and highest at 25.71 billions dollars in the case of Thailand. In addition, Indonesia had the lowest capital flight figures in percentage to GDP at 4.69 and the Philippines had the highest at 1946, considering by Cuddington's (1986) direct measure. Besides, analyzing the structural change of capital flight, by direct and indirect measures, it was found out that the Economic Crisis in 1997 significantly posed an impact on the structure of capital flight from those countries. This finding is in line with past studies that financial and economic crises in each country were the significant origin of an increase in capital flight.

Findings from the test of Regression Equation to figure out the determinants for capital flight reveal that there are five factors which influence capital flight from Thailand. These comprise increased inflation rates, difference between interest rates of US Dollar and Thai Baht, overvaluation of Baht, foreign direct investment and current account deficit. In the case of the Philippines, there are four determinants for capital flight, which are difference between interest rates of US Dollar and the Philippines' Peso, overvaluation of Peso, foreign direct investment and government budget deficit.

Furthermore, there are five determinants for Indonesian capital flight, including difference between interest rates of US Dollar and Indonesian Rupiah, overvaluation of Rupiah, foreign direct investment, government budget deficit and current account deficit. As for Malaysia, six determinants for capital flight are found. These consist of increased inflation rates, difference between interest rates of US Dollar and Malaysian Ringit, overvaluation of Ringit, foreign direct investment, government budget deficit and current account deficit. Lastly, there are five factors for South Korea's capital flight, which are difference between interest rates of US Dollar and Korean Won, overvaluation of Won, foreign direct investment, government budget deficit and current account deficit.

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CHAPTER 2

THE ASIAN FINANCIAL CRISIS, DEFLATION, AND STRUCTURAL CHANGE IN HONG KONG

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The Asian Financial Crisis presents a rare opportunity to study deflation in Hong Kong. Cumulative deflation as measured by the consumer price index fell by 15 per cent from 1998 to 2004. This article studies the interplay of two factors that played an important interacting role in determining the onset, persistence, and eventual ending of deflation in Hong Kong after 1997. These two main factors are (1) a sharp and protracted downturn of the business cycle, and (2) structural change of the Hong Kong economy in response to the opening of China and the process of gradual economic integration. We develop a theoretical framework for interpreting the post-1997 deflation that occurred after the onset of the Asian Financial Crisis and the subsequent global economic slowdown. We show that the same framework can also be applied to the understanding of the inflationary period before 1997 and the economic recovery in 2003 that led to the ending of deflation in Hong Kong. We cite evidence to show that deflation in Hong Kong can be explained primarily by factors associated with regional and global economic cycles and their effects on the economy; and that deflation would end in 2003. The persistence in deflation should not be interpreted as a result of structural transformation of the Hong Kong economy resulting from closer integration with Mainland China. The price convergence process resulting from the economic integration with the Mainland will continue for a considerable period of time. It will, however, exert only

a minor dampening effect on the average price level in Hong Kong given its slow moving process.

1. The Changing Structure of the Economy

The Hong Kong economy has demonstrated a remarkable capacity to adapt to external change during the past 60 years. At each stage of its economic evolution, Hong Kong has risen to the challenges of changing global conditions and succeeded in making the economy work. The economy evolved from being an entrepot trading centre for China during the immediate post-war period into an export oriented light manufacturing industrial city during the 1950s and 1960s. In the 1970s, the Hong Kong financial sector started as a local commercial banking community only to emerge as one of the largest financial centres in the world. In addition, during the 1970s Hong Kong became a leading tourist destination in the Asia-Pacific region. In the 1980s, with the advent of China's open door policy, Hong Kong has re-emerged as the premier entrepot trading centre serving not only China but the entire Asia Pacific region.

Since the mid-1980s, the Hong Kong economy has begun evolving in an entirely new way because of new economic links with China and the Asia-Pacific region. By the mid-1990s, the shift of Hong Kong manufacturing investment out of Hong Kong, particularly to the Pearl River Delta area in Guangdong Province of China, has been largely completed. The most remarkable change is that as a functional economic entity, Hong Kong now extends well into the entire Asia-Pacific region and most prominently South China. With the extensive investment made by Hong Kong manufacturers and other entrepreneurs in South China, the economy of Hong Kong is no longer simply an internationally connected city economy. It is a metropolitan economy integrating with a vast Chinese hinterland and linked to the global economy.

The changing structure of Hong Kong's economy is reflected in the shifting shares of the manufacturing sector relative to services in total GDP. The share of manufacturing in total GDP declined from about 20 per cent in the mid-1980s to about 3.4 per cent in 2004. At its height in

1970, manufacturing had accounted for 31 per cent of Hong Kong's GDP.

The rapid growth of the service sector is evidence of the continual expansion of Hong Kong as a major financial centre in the Asia-Pacific region. It is also evidence of the re-emergence of Hong Kong as an entrepot for China trade and as a service centre for export orientated production in South China's vast hinterland. Hong Kong's service sector grew from about 70 percent of GDP in the mid-1980s to nearly 86 per cent in 2004. In a previous study, Tao and Wong (2002) showed that the growth of the service sector is almost entirely accounted for by producer services (or intermediate services) instead of final consumer services.

The growth of producer services in Hong Kong reflects the growing integration of Hong Kong's economy with the rest of the region and especially the Chinese hinterland. These producer services support primarily the manufacturing production base that has migrated offshore. The process has taken place to a much greater extent in Hong Kong than Singapore. Tao and Wong (2002) had estimated that Hong Kong's producer services sector had expanded from 40.6 per cent to 50 per cent of GDP from 1987 to 1997. The figures for Singapore had remained unchanged at about 40 per cent.

The change is also reflected in the different structure of exports in the two economies. The proportion of re-exports in total exports had risen from 60 per cent to 77 per cent from 1987 to 1997 in Hong Kong. In Singapore, the proportion of re-exports in total exports had remained unchanged at about 40 per cent over the same period.

The openness of Hong Kong in trade has always been well known, but until recent years little is known of the Hong Kong's external assets and the amount of foreign investments and funds that have been attracted to Hong Kong. The Census and Statistics Department estimated Hong Kong's international investment position, external debt and portfolio investment statistics for the first time in 2002. Current estimates show that Hong Kong's external assets amounted to US$1,373.6 billion (829 per cent of GDP) as at end-2004. Foreign investments and funds attracted to Hong Kong amounted to US$949.7 billion (573 per cent of GDP). The net external assets amounting to US$423.9 billion (256 per cent of GDP) is among the largest in the world.

Hong Kong today is China's foremost partner in commodity trade, tourist trade, direct foreign investment, and loan syndication. Besides trade and investment, Hong Kong facilitates China's open door policy in many indirect ways. Hong Kong serves as a contact point, a conduit of information and technology transfer, a marketing and management training ground, and last but not least its centre for international financial capital. For the year ended 2005, investment public offering (IPO) activity on the Hong Kong Exchange amounted to a total of US$21.24 billion making it the second largest stock exchange in the world after New York in terms of IPO activity for the year. The lion's share of the IPO activity is China-related.

By allowing market forces to drive its economy, Hong Kong is assuming characteristics similar to that of other metropolitan economies like New York. Table 1 below shows that both Hong Kong and New York have a preponderance of producer services. The growing importance of producer services in Hong Kong and New York reflects an economic process at work that is crowding out lower value added activities, such as the physical production stages of manufacturing, to the hinterland. Over time, manufacturing gradually plays a less important role in the city's GDP and employment, even though it continues to function as the management and coordination center for a manufacturing base that has been decentralized to other places. This new dimension of the Hong Kong economy represents both opportunities and difficult challenges for Hong Kong in the next evolutionary phase of its economy.

Table 1: Percentage Contribution to GDP in 1993

	All Services	Consumption Services	Producer Services	Government Services
Hong Kong	78.1	28.7	42.8	6.6
New York City	77.8	26.1	40.8	10.8

Sources: Figures of Hong Kong are based on estimated by Wong (1996). Figures for New York City are taken from Drennan (1998).

2. The Asian Financial Crisis and Economic Recession

As a metropolitan economy, Hong Kong is subject to the same economic dynamics faced by other cities like New York, London and Tokyo. It is economically less vulnerable to the rise and demise of any specific economic sector, but is sensitive to a general macroeconomic contraction such as the one that took place in East Asia following the Asian Financial Crisis in 1997.

The Asian region was hit by two successive negative macroeconomic demand shocks: the Asian Financial Crisis in 1997 and the global economic slowdown in 2001. The regional and global economic environment led to a general macroeconomic downturn in Hong Kong. Given the linked exchange rate system in Hong Kong, where the local currency is unified with the US Dollar through a currency board arrangement, cyclical deflationary pressure appeared.

For this reason, the economic downturn in Hong Kong in the 5 years following the onset of the Asian Financial Crisis was particularly severe. Wong (2002) predicted that the Hong Kong economy was unlikely to rebound until the rest of East Asia starts moving again. For this reason, Hong Kong was therefore less likely to repeat its previous records of rapid export-led manufacturing based recovery on this occasion. Singapore's somewhat greater presence of export oriented manufactured products may therefore recovery before Hong Kong did.

The general price level in Hong Kong started to fall in October of 1998. Since then the price level has fallen by a cumulative of 15 percent, bringing the average consumer prices back to their 1995 level. Deflation had persisted for more than 5 years. Since June 2004, the onset of rising import prices and improving domestic demand has started to reverse the downward pressure on consumer prices.

A major part of the deflationary episode can be accounted for by the bursting of the property bubble triggered by the contagion effects of the Asian Financial Crisis. About half of the drop in the CPI can be accounted for by the housing component. Property prices had dropped by more than 66 percent from their peak in 1997 to September 2003, and rental by about 49 percent (see also IMF 2002). The bursting of the property price bubble following the onset of the Asian Financial Crisis is

an important cause of cyclical deflation. The damaged balance sheets of many households contributed to the persistence of the deflation cycle through a negative effect on consumption.

One third of the drop in the CPI can be accounted for by three other components of the CPI, namely food, clothing and footwear, and durable goods (see IMF 2002). The drop in import prices had also been a contributing factor in the fall of consumer prices. Between 1997 and 2001, import prices declined by 12 per cent, reflecting a 10 per cent appreciation of the nominal effective exchange rate index.

Hong Kong is not alone in suffering from deflation. China, Taiwan, Singapore and Japan also faced falling prices. Inflation in Asia, excluding Japan, dropped from close to 20 per cent in 1994 to around 2.5 per cent in 2001 (see Fung, Ma and McCauley 2002).

The persistent drop in consumer prices is unprecedented in the postwar history of Hong Kong. The concomitant asset price deflation induced by the two successive external negative shocks is the dominant factor responsible for the persistence in the drop of consumer prices. Between 1997 and 2000, net private housing equity dropped by more than 50 percent, and this factor alone can explain more than half of the decline in private consumption, according to a study (see Hong Kong Monetary Authority, May 2001). The cumulative drop in net private housing equity value between 1997 and 2003 amounted to 57%. Many households had to struggle with the problem of negative equity on their property. Property prices started to rebound in 2004.

The overall performance of the stock market has also had a negative effect. In particular the bursting of the internet asset bubble wiped out a considerable proportion of asset wealth of the local population and therefore further dampened the incentive to consume. The shrunken net worth worsened the credit-worthiness of firms, thus reducing banks' willingness to lend. The uncertain economic outlook had also hampered private investment spending. The balance sheets of the private sector had sharply deteriorated in the 5 years after 1997, and this required time to repair. The persistence of deflation had also led the general public to form deflationary expectations, thus further weakening the already depressed level of local consumer and investment spending. The negative outlook on prices implied higher expected real interest rates.

3. The Need for a Theoretical Framework

The interplay of two economic factors in Hong Kong had an important bearing on the nature of deflationary pressure and its persistence in Hong Kong after 1997. These two main factors were (1) a sharp and protracted downturn of the business cycle, and (2) structural change of the economy in response to the opening of China and its gradual integration with Hong Kong. What is the respective importance of cyclical versus structural factors in explaining deflation and its persistence in Hong Kong is of great interest in helping us understand when and how deflation will end.

To resolve this question it is useful to develop a theoretical framework for interpreting the recent deflationary episode. To be scientifically meaningful such a framework must be capable of interpreting the inflationary decade that preceded the onset of the Asian Financial Crisis and the subsequent deflationary period in a consistent manner, as well as the economic recovery after 2003.

Our approach is to think of the Hong Kong economy as being composed of two sectors. One sector produces tradable goods (and services) and another sector produces non-tradable goods (and services). In the decade from the mid-1980s to the mid-1990s manufacturing operations were moved across the border and greatly expanded their scale of operation. Two effects took place in Hong Kong.

First, the manufacturing sector in Hong Kong experienced a huge increase in productivity relative to the rest of the economy, primarily the service sector. Since manufactured goods are predominantly tradable goods and many services are often non-tradable, one can usefully think of the Hong Kong economy as having experienced faster productivity growth in tradable goods relative to non-tradable services. Prices of non-tradable (P_N) services rose relative to tradable goods (P_T). Under the linked exchange rate (e), prices of tradable goods have to rise or fall in tandem with world prices; therefore, the domestic price level in Hong Kong (a combination of tradable goods and non-tradable services) began to rise faster than world prices. This is the cause and nature of structural inflation in Hong Kong. Structural inflation results from rising demand for non-tradable services that have to be domestically produced.

NON-TRADEABLES
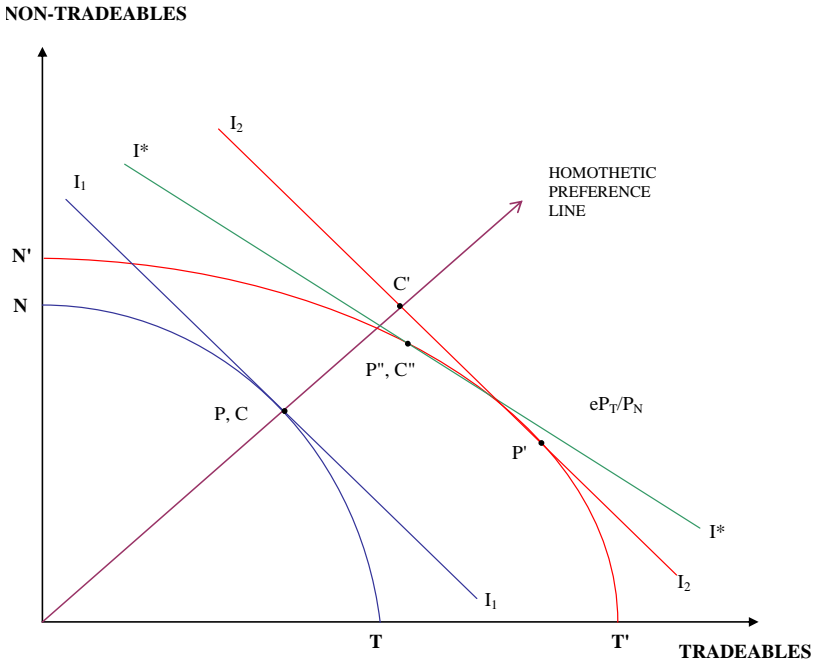
Figure 1.

The situation is depicted in Figure 1, where the point (PC) denotes the original production and consumption bundle before the production possibility frontier (NT) shifted to (N′T′). After the shift the new production and consumption bundle occurs at point (P″C″), where P_N/eP_T has risen.

Second, returns from assets invested across the border in south China resulted in a substantial rise in the incomes of Hong Kong residents above their domestically produced incomes. Part of the income arising from external sources had to be spent on non-tradable domestically produced services thereby further fuelling structural inflation.

The situation is depicted in Figure 2, the increase in income from net external assets leads to an increase in income from I_1I_1 to I_2I_2. This is equivalent to a shift in the production possibility frontier from (NT) to (NT*). The equilibrium production and consumption bundle shifts from point (P″C″) to (P*C*), and P_N/eP_T rises further. Structural inflation is therefore exacerbated.

NON-TRADEABLES
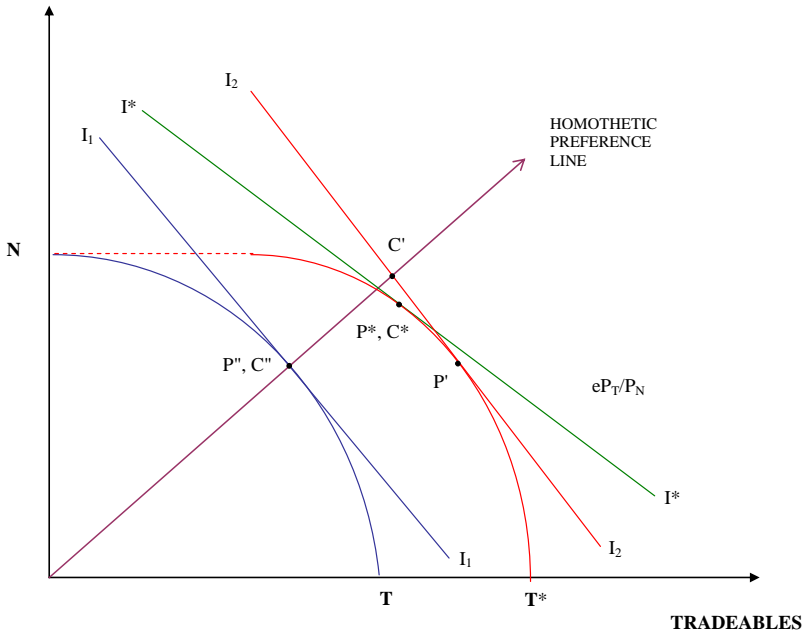
Figure 2.

**Chart 1: Consumption to GDP Ratio
(2000 Prices, smoothed by 2-year moving average)**
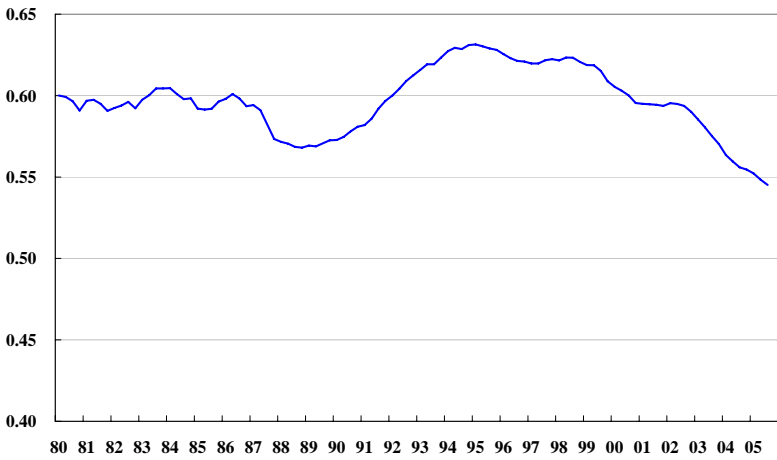
Source: Census and Statistics Department, HKSAR.

As a corollary consumption spending in Hong Kong would therefore rise faster than GDP during inflationary periods. This contradicts the conventional economic wisdom that consumption rises more slowly than GDP during an economic boom, because investment typically grows faster in a boom period compared with consumption. Chart 1 shows that in the decade from the late-1980s to the mid-1990s the ratio of consumption to GDP was indeed rising.

Since, residential property is generally regarded as a non-tradable service and should certainly be considered to be the case during this period. It is therefore logical to find property price inflation to happen during this period. No doubt and inevitably market speculation in properties further fuelled property price inflation.

By the mid-1990s the expansion of manufacturing activities across the border was slowing, consequently structural inflationary pressure was eased. With the onset of the Asian Financial Crisis in 1997 and the subsequent global economic slowdown in 2001, the returns from assets invested externally also fell. The interest rate, which is a good indicator of the declining returns from external incomes, started to fall after the Asian Financial Crisis and especially when the global economic slowdown emerged.

Recent estimates by the Census and Statistics Department (2005) of the net external assets of Hong Kong puts it at 132 per cent of GDP in 2000, 159 per cent of GDP in 2001, 210 per cent in 2002, 248 per cent of GDP in 2003, and 256 per cent of GDP in 2004 (see Table 2). Net external assets as a percentage of GDP has risen dramatically over a short 4-year period of time reflecting the growing international financial and investment linkages of Hong Kong in the world economy. It is interesting to consider the macroeconomic consequences of a decline in the interest rate by 3 per cent. This would imply a decline in income from net external assets equivalent to about 4.0 per cent of GDP in 2000, 4.8 per cent of GDP in 2001, 6.3 per cent of GDP in 2002, 7.4 per cent of GDP in 2003 and 7.7 per cent of GDP in 2004. These are huge declines in incomes and would obviously have a significant negative impact on domestic consumption of non-tradable services.

Table 2: International Investment Position, 2000-2004

Year-end	Assets		Liabilities		Net International Investment Position*	
	US$ bn	*% to GDP*	US$ bn	*% to GDP*	US$ bn	*% to GDP*
2000	1,142.1	*677%*	920.1	*545%*	222.0	*132%*
2001	1,070.8	*643%*	805.7	*484%*	265.2	*159%*
2002	1,030.0	*629%*	686.7	*419%*	343.3	*210%*
2003	1,182.1	*746%*	789.0	*498%*	393.1	*248%*
2004	1,373.6	*829%*	949.7	*573%*	423.9	*256%*

*Net international investment position is the difference between total external financial assets and total external financial liabilities.

Sources: Balance of Payments Statistics of Hong Kong, Third Quarter 2005, Census and Statistics Department, HKSAR

It is important to note that the deflationary pressure caused by the decline in income from net external assets is not a simple case of structural deflation. The decline in income from net external assets is fundamentally cyclical in nature and stems from the regional and global recession that started in 1997. The effect of this recession on Hong Kong is amplified by virtue of the very large net external assets of Hong Kong. This feature of the Hong Kong economy means that the effects of regional and global business cycles exacerbate the volatility of the economy.

The framework developed above can also be used to understand the implications of the so-called "Gortex Border" between Hong Kong and the Chinese Mainland on structural inflation. The term "Gortex Border" depicts the constitutional arrangement defining Hong Kong's relationship with the Chinese Mainland in "one country two systems", where Hong Kong residents are free to travel to the Mainland, while Mainland residents are severely prohibited from coming to Hong Kong.

As the south China economy continue to develop there is a growing incidence of Hong Kong residents crossing the border to purchase a variety of consumption goods and services that were previously

consumed domestically as non-tradable goods (see report by the
Business and Professionals Federation of Hong Kong, January 2002).
This phenomenon can be interpreted as a two-fold change. First, the ease
of crossing the border from Hong Kong into the Mainland had
transformed some non-tradable goods into tradable goods through a
"neighborhood proximity" effect. Second, this "neighborhood proximity"
effect reduced the demand for non-tradable goods in Hong Kong and
resulted in a decline in their prices thereby contributing to structural
deflationary pressures.

The situation is depicted in Figure 3, where the income line shifts
from I_1I_1 to I^*I^*. The production and consumption bundle changes from
point ($P''C''$) to point (P) and point (C). The latter two points do not
coincide and reflect the "odd" situation where it is possible to import
non-tradable services for consumption.
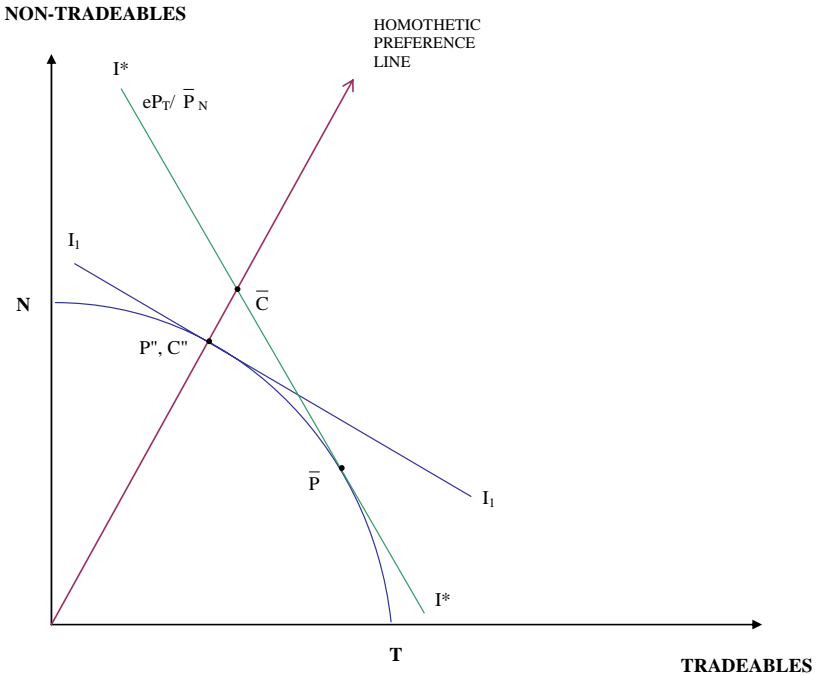
Figure 3.

This process of structural deflation will stop when it is no longer economically worthwhile to engage in cross border consumption of this kind. This happens partly because prices across the border will rise over time. The process will also slow down with productivity gains in non-tradable goods that will lower their prices.

Structural deflation of this sort may hurt the interests of those engaged in the production of non-tradable goods in Hong Kong, but they are positive for the economy as a whole because it allows the population to consume these goods at a lower price.

It is worth noting that the movement of production operations (both manufacturing and services) into China creates structural inflationary pressures that are opposite to the "neighborhood proximity" effect of crossing the border for consumption purchases. Economic integration and the resulting structural change create both deflationary and inflationary pressures. It is likely that prior to the mid-1990s inflationary pressures dominated, but in the post-1997 environment deflationary pressures dominated.

Enhancing the flow of Mainland visitors into Hong Kong for tourism, work or residence would increase the demand for non-tradable goods in Hong Kong and would generate pressures for structural inflation. If the flow is sufficiently large then it could well dominate the deflationary pressures arising from cross-border consumption activities.

The situation is now depicted in Figures 4a and 4b. In Figure 4a we show an outward shift in income line as reflected by an increase in demand arising from the influx of Mainland residents. In Figure 4b we show that the final equilibrium situation would occur at point (P) for production and at point (C) for consumption, prices of non-tradables have risen relative to tradables.

Starting from 28 July 2003, the Chinese Mainland authorities began to relax the restrictions for Mainland Chinese residents in selected provinces and cities to visit Hong Kong for tourist purposes. The progressive relaxation of individual travel permits to visit Hong Kong have had a positive effect on stimulating aggregate demand to support Hong Kong's economic recovery.
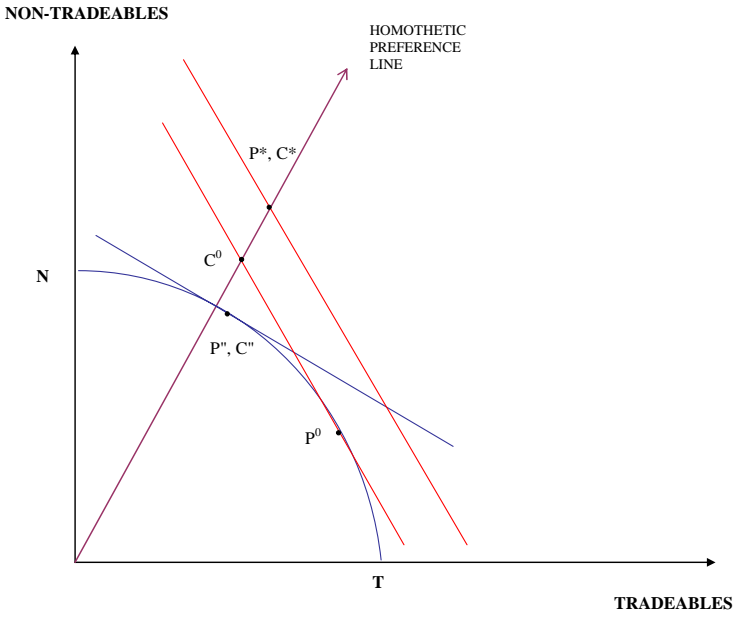
Figure 4a.
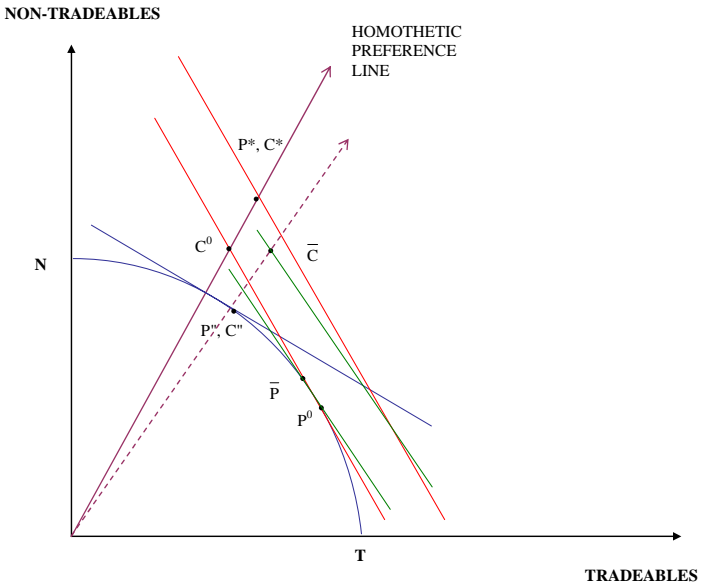
Figure 4b.

   The integration of Hong Kong with China has made it more convenient for companies to move their operations across the border. This effect by itself leads to structural inflation as was witnessed in the decade before the Asian Financial Crisis. The property bubble had been fueled by rapid productivity growth in the tradable sector and exacerbated by speculative activities. However, when the structural change is combined with a severe regional and subsequently global recession it can also be deflationary as returns from overseas assets fall. Consumption and even investment can therefore be negatively impacted.

   In addition, the gradual and continued opening of China has contributed to structural deflationary pressures in Hong Kong because it is now more convenient for households to consume across the border.

4. Price Changes: Cyclical versus Structural

The interplay of structural and cyclical factors had led to more extreme movements in price changes. An economic boom in the rest of the world fuels inflation in Hong Kong through a higher rate of inflation in imported prices, demand led inflation in the prices of non-tradables caused by rising incomes from external sources, and more rapid relocation of production facilities out of Hong Kong. The reverse occurs when economic recession occurs in the rest of the world. Such an adjustment process is reflected in key macroeconomic indicators over the two periods: 1985-97 and 1998-2005, and within their various sub-periods (see Table 3).

   The first period 1985-97 experienced rapid economic expansion and inflation when production facilities were relocated away from Hong Kong. During this period prices of imports were also rising and the Hong Kong currency was strengthening relative to its trading partners as a whole given its link to the US Dollar. The real interest rate was extremely low as a result of rising domestic prices. Real consumption grew faster than real GDP as a whole during this period. The sub-period 1995-97 is interesting because it revealed a slowing down of the economy before the onset of the Asian Financial Crisis.

Table 3: Macroeconomic Indicators in 1985-2005

	1985-1997	Sub-period			1998-2005		Sub-period		
		1985-1989	1990-1994	1995-1997		1998	1999-2002	2003	2004-2005
Real GDP growth rate %	**5.9**	6.9	5.6	4.4	**3.6**	-5.5	4.0	3.1	7.8
Consumer price inflation rate %	**7.7**	5.4	9.7	7.0	**-1.5**	2.9	-3.1	-2.6	0.3
Import price inflation rate % (or unit value index)	**1.7**	3.3	1.3	0.4	**-1.0**	-4.9	-2.1	-0.3	2.8
Nominal Effective Exchange Rate Index (average annual % change)	**1.6**	-2.3	4.2	0.9	**-0.1**	5.5	0.0	-3.2	-1.7
Real Effective Exchange Rate Index (average annual % change)	**3.9**	1.0	5.5	3.5	**-2.9**	7.7	-3.9	-7.0	-3.7
Nominal Best Lending Interest Rate (%)	**8.3**	8.1	8.2	8.8	**7.1**	9.9	7.5	5.0	5.6
Real Best Lending Interest Rate (%)	**0.6**	2.7	-1.5	1.8	**8.6**	7.0	10.6	7.6	5.3
Share of re-exports in total exports	**0.67**	0.51	0.74	0.84	**0.90**	0.86	0.89	0.93	0.94
Ratio of trade balance to GDP using nominal values	**0.054**	0.101	0.058	-0.031	**0.066**	0.006	0.056	0.092	0.104
Real consumption growth rate %	**6.4**	5.7	7.7	3.9	**1.3**	-6.8	2.0	-1.1	5.3
Real export growth rate %	**14.0**	16.5	14.1	7.6	**7.6**	-4.3	6.3	14.2	13.3
Unemployment rate %	**2.1**	2.1	1.8	2.7	**6.1**	4.4	5.9	7.9	6.3

*Figures in 2005 Q4 are forecasted by the High Frequency Macroeconomic Forecasts Model of APEC Study Center, University of Hong Kong.

Source: Census and Statistics Department, HKSAR.

In the second period 1998-2005 economic recession had set in and deflation appeared. It was also a period where relocation of production facilities out of Hong Kong had slowed down and when cross border consumption patterns began to emerge more prominently. During this period prices of imports were also falling and the Hong Kong currency was weakening relative to its trading partners as a whole due to its link with the US Dollar. The real interest rate was very high as a result of falling domestic prices. Real consumption grew slower than real GDP as a whole during this period. The period is particularly interesting when broken down into four sub-periods to reveal the turning points of the business cycle.

In the year 1998, immediately following the Asian Financial Crisis, the real export fell by 4.3% following almost a decade of double digit growth. Real GDP also fell by 5.5% and real consumption dropped by 6.8%. Import price inflation was negative 4.9% and the nominal effective exchange rate appreciated by 5.5%. The nominal best lending interest rate reached a peak of 9.9% with consumer price inflation at 2.9%, the real best lending interest rate was at 7%. In the sub-period 1999-2002 the economy rebounded briefly but succumbed to the 2001 global economic recession and deflation began to set in firmly; the bursting of the internet asset bubble in 2000 also took its toll.

The year 2003 was one of a great reversal in economic fortune. At the beginning of the year there was great promise of an economic recovery starting from the rebound that began towards the end of 2002 in real exports growth. The Hong Kong Dollar followed the US Dollar and started to depreciate. Import price deflation was beginning to end. Nominal interest rates were beginning to adjust downwards. But Hong Kong would be ravaged by Severe Acute Respiratory Syndrome (SARS). the Hong Kong economy shrank by 0.7% year-on-year in the second quarter from the 4.3% growth achieved in the first quarter of 2003. Real consumption dropped 1.1%. Nevertheless, strong global economic growth contributed to the rapid economic rebound starting from the third quarter of 2003.

In the sub-period 2004-2005 the evidence of broadly based economic recovery is reflected in strong growth of external trade, falling interest rates, and rising consumption and investment. The Hong Kong Dollar

continued to weaken and import prices were rising. Deflation had disappeared and a modest amount of price inflation emerged. Real GDP was growing at 7.8%.

To what extent is deflation in Hong Kong a result of structural factors as opposed to cyclical factors?

According to a recent study by the Hong Kong Monetary Authority (April 2002), the average price differential, based on 300 products, between Hong Kong and 4 Mainland cities, namely Shenzhen, Guangzhou, Shanghai and Beijing, was estimated to be around 20 per cent in 2001. They found that this differential would depress the overall price level in Hong Kong by less than 0.5 per cent over a one-year period. Prices in Hong Kong and the four Mainland cities have been converging, albeit very slowly. The existing price differential would on average be reduced by half in 6.5 years.

Another recent study by the International Monetary Fund (May 2002), using the ratio of the consumer prices indices in Hong Kong and Shenzhen as a measure of the average price gap, suggests that the price level gap plays only a minor role in explaining the deflation in Hong Kong. Cyclical factors, as proxied by unemployment rate, credit growth and the nominal effective exchange rate, are much more important determinants of deflation in Hong Kong.

The studies by the International Monetary Fund and the Hong Kong Monetary Authority suggest that deflation in Hong Kong can be explained primarily by cyclical factors. The persistence of deflationary pressures should not be interpreted primarily as a result of structural transformation of the Hong Kong economy. This structural interpretation of deflation does not appear to be firmly supported by empirical evidence. Indeed the low returns from the very large net external assets of Hong Kong and the bursting of the property market bubble are more proximate causes of the deflation experienced in Hong Kong, and both are primarily related to the business cycle effect. Although one could argue that these effects might have been magnified through its interaction with structural factors. In a study conducted by the Hong Kong Monetary Authority (March 2002), the output gap was estimated using annual data from 1976 to 2000. Their findings show that it takes 1 to 2 years for an output gap to move from its trough to zero.

Drawing on these various studies Wong (2002) predicted that prices will start to rise again in 2003 provided that import prices are stable or increasing. If import prices continue to fall then deflation in Hong Kong would continue into 2003. These predictions were premised on a model that one could provide quantifiable estimates that the deflationary episode is primarily cyclical in nature. Deflation in Hong Kong would be readily corrected if the global economic recession ends and the economy start to pick up. Given the empirical evidence, it would take one to two years for consumer prices to stabilize. As the global economy recovers, as the US currency weakens, and as import prices cease to fall the prospect of deflation ending soon was likely to be good.

The price convergence process resulting from the economic integration with the Mainland and structural economic transformation of the Hong Kong will continue for a considerable period of time. It will, however, exert only a minor dampening effect on the average price level in Hong Kong given its slow moving process.

In conclusion, deflation in Hong Kong in the period 1998-2003 was primarily the consequence of a macroeconomic adjustment to global and regional negative economic shocks. The effects were propagated through an economy that was extremely open to international trade and investment flows. Aggregate demand flows were negatively affected directly and repeatedly. Feedback effects generated by declining asset prices and wealth positions resulted in further contractions that took time to repair. Eventually deflation ended when the global economy recovered and Hong Kong regained its competitiveness as a consequence of a weaker US currency, lower interest rates, and after deflation had run its course.

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CHAPTER 3

INDONESIAN ECONOMIC RECOVERY PROCESS AND THE ROLE OF GOVERNMENT

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Indonesia is currently known as a country adopting the wrong sequencing in their liberalization process. Despite impressive economic performance in the 30 years before the recent crisis, Indonesia suffers from several weaknesses and vulnerabilities in both banking and corporate arenas. The Indonesian economic crisis was caused by a sudden loss of market confidence leading to abrupt capital outflow. The IMF plan was designed to regain and restore the market by imposing wide-ranging programs, but the designated steps are not without criticism.

Sustainability of economic recovery in Indonesia depends on two important programs, stability in the macroeconomic environment, and the implementation of a sound and credible restructuring of corporate debts along with strengthening of the banking institution. Public policy process outcomes are becoming complicated and difficult to predict under the democratic system. Indonesia's legal and judicial systems are still very weak, and often unable to safeguard public interest. Such weak quality institutions combined with the new political competition will, at least in the short run, result in more policy distortions, with the burden of cost shouldered by public interest.

1. Introduction

The Asian economic crisis began in 1997 and the struggle for recovery still continues after more than 5 years. Voluminous books and articles

have been published about the Asian economic crisis, most of them attempting to explain the cause. Indonesia is among the countries hardest hit by the crisis. Despite achievements of high economic growth, poverty reduction, and maintenance of macroeconomic stability over the past 30 years, Indonesia suffers from several economic weaknesses. Problems existed prior to the crisis and were aggravated during the crisis. This raises the most important concern about how Indonesia will sustain its economic recovery from the most devastating crisis in the past 40 years.

Indonesia was suffering from a vulnerable balance of payment structure before the crisis. Persistent current account deficits from the services sector were funded mainly by government foreign debts, and right before the crisis were also supported by an influx of private, especially short-term, capital. A policy of free capital flow was adopted by Indonesia in the late 1960s, together with a policy to liberalize foreign investment. Yet this decision was not based on appropriate policy sequencing, as was advocated by Washington consensus. Although free capital flow policy served the Indonesian economy well until the mid 1990s, the absence of a mechanism to manage and control short-term capital—especially under conditions of increasing international capital flow—makes Indonesia vulnerable to any potential capital shocks.

Indonesia is currently known as a country adopting the wrong sequencing in their liberalization process. McKinon (1973, 1993) suggests that capital control should only be lifted at the end of liberalization, i.e. after financial liberalization, bank reform, and trade liberalization. The Indonesian case lends support to this analysis. After adopting free capital flow, Indonesia's banking sector continued to suffer from repression and heavy interventions. The central bank was far from independent, both in conducting its monetary policy and in regulating and supervising banks. A partial liberalization of the banking sector, introduced in the mid 1980s, caused an increasing *number* of banks, but with weak structure and owners of questionable character. At the same time the real economy was still suffering from major distortion policies, including high tariff protection, unfair competition, and pervasive practices of monopoly and oligopoly (cartel).

During this period, the economy accumulated high levels of vulnerability in both banking and corporate structure. Conglomerate

businesses grew aggressively and dominated economic activities in all regions of Indonesia. Most private domestic banks were owned by groups of companies (conglomerates) who primarily used the banks for financing their other businesses, without regard for legal lending limits. State owned banks were also abused, with funds being channeled into poorly run state government projects and high-risk projects owned by President cronies. Conditions in the banking sector were weak, both in terms of capital adequacy and in terms of risk management. Yet, even with bad governance and a lack of transparency and public accountability, companies in Indonesia still enjoyed wide trust and were able to expand business progressively, using debts from both domestic banking and foreign sources. Over-leveraging companies matched with imprudent banking and lending policies, created superfluous financial risks for both the companies and banks. Meanwhile, huge and rapid capital inflow caused a real appreciation of the exchange rate that eventually dampened exports and boosted imports. Such conditions discourage removal of protection and further aggravate economic distortions.

2.   The Crisis and the IMF Program

The economic crisis was marked by a contagion effect of the Thai Bath collapse, leading to investor panic spreading to neighboring countries across the South East Asian regions. The process was followed by a sudden and huge capital outflow from the region. After enjoying private net-capital inflow of up to US $11.5 billion before the crisis in 1996, Indonesia suffered reverse net-capital outflow of more than US $13.8 billion in 1998 (Figure 1). Bank Central's decision to widen the exchange rate band, and follow with a free floating exchange rate, was intended to maintain Indonesia's limited foreign exchange reserve. Following the free floating of exchange rate stem, the Rupiah began to fluctuate wildly with volatility beyond any theoretical explanations. With the collapse of the Rupiah, business viability was shattered, and investor panic ensued. Creditors withdrew capital, demanded immediate repayment of debts, and stopped extending new credit. This worsening trend occurred in massive and alarming ways, and lead to severe capital account deficit.

Figure 1: Private Capital Flow Before and After Crisis
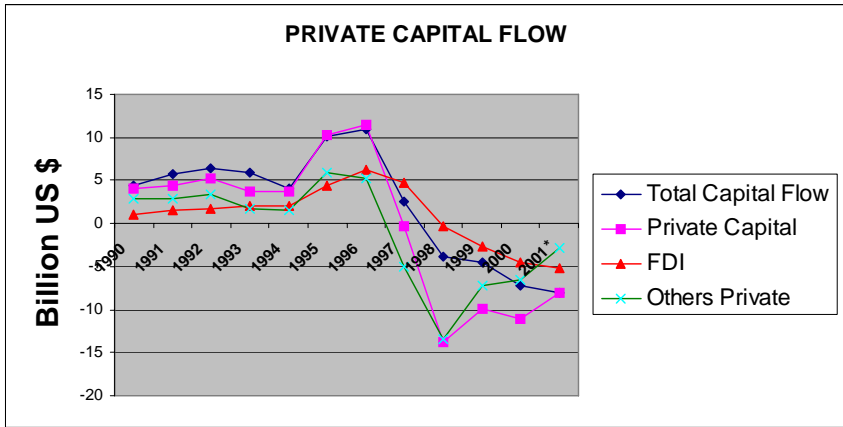
Unlike the balance of payment crisis experienced by many countries in the 1970s and 1980s, which was triggered by current account problems primarily due to external trade deficit, the Asian crisis in late 1990s was caused by a sudden crash and loss of market confidence leading to abrupt capital outflow from countries like Indonesia. IMF program design in these crisis countries was intended to restore market confidence, and result in the return flow of capital. But market confidence is an abstract and difficult concept, and even more problematic when translated into a set of policy actions. To restore market confidence, the IMF imposed wide-ranging programs, including macroeconomic stabilization policies accompanied by very wide yet deep and demanding structural policies.

The first IMF program in Indonesia was introduced in October 1997, early on in the crisis, and was subsequently followed by many updated versions. These programs were deemed to be broad, unfocused, ambitious, and most of the time unrealistic, especially considering the fragile and shaky political transition in Indonesia that limited government capacity to implement the programs on rigid schedules. Criticisms of the IMF programs in Indonesia can be classified into two different types. The first set of criticisms involves the technical content of the program and the quality of the recommended policies. The second area of criticism focuses on the appropriateness of the program in terms

of compatibility with the policy process, the timing and sequencing of program requirements, and the capacity of government to implement them.

2.1. Technical Content of the Program

Facing a potential economic downturn that threatened to deteriorate fiscal conditions, the IMF's response was to insist that the government immediately cut expenditures and increase revenues. Indonesia was ordered to generate a 1% of GDP budget surplus for fiscal year 1998-99, but fiscal contraction created an extreme collapse in domestic aggregate demand in 1998. In response to the situation, the IMF changed its fiscal policy by allowing the government a budget deficit of 1% of GDP. This figure grew to an 8.5% of GDP deficit within less than 6 months from the first recommendation. However, the policy shift did not have the intended impact (Figure 2), both because the economy did not respond instantly to this policy shift, and because the government was in the middle of a difficult political transition that affected fiscal effort. Such extreme yet ineffectual policy prescriptions have created a negative impact on the credibility of the IMF program.

Figure 2: Failure of Fiscal Counter Cycle
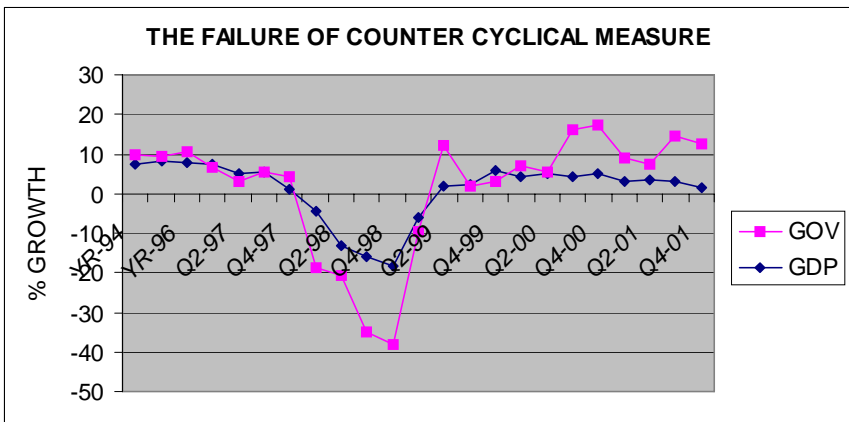
To defend Indonesia from speculative attack early in the crisis, the IMF recommended a drastic measure of monetary tightening by increasing the domestic interest rate from around 20% to above 80% per annum. Rising interest rates deteriorate a borrower's net worth, leading to massive bankruptcy. This raises non-performing loans within banks, causing credit crunches, and accelerating further economic contraction. A steep increase in the interest rate amplifies the probability of default and commercial risks, and when combined with political turmoil, will induce capital flight. As Furman and Stiglitz (1998) state, temporary increase of the interest rate was apparently not helping Indonesia in strengthening its currency, both because the exchange rate problem was more permanent, and because the credibility and commitment of the government in pursuing such policy, and economic reform in general, was sliding drastically during this difficult time. Benefit in the form of a strengthened exchange rate was not realized from the drastic increase in interest rates, rather, negative impacts on the economy were readily observed.

The most turbulent and difficult period during the crisis was in 1998, when massive capital outflow was induced and irrational investor behavior began to manifest. During this period, the IMF demanded that Indonesia keep the free exchange rate and free capital flow policies, while further liberalizing trade policy by lowering tariffs to almost 0% across the board and abolishing many non-tariff barriers. This policy was insisted upon despite the fact that Indonesia's problem was more that of capital account stability, and the fact that Indonesia was among those countries that had already adopted very progressive trade liberalization policies before the crisis. With monetary and fiscal policies that were ineffectual in restoring stability, Indonesia was left with no alternatives to protect her in a vulnerable situation.

Helplessly facing the extreme volatility of the exchange rate, thoughts of the possibility of adopting capital control in order to stabilize balance of payment and Rupiah currency were frequently broached by the public. Restrictions on capital mobility as a means of reducing macroeconomic instability have been discussed since the initialization of the Bretton Wood system. Tobin introduced global tax on foreign exchange transactions to reduce destabilizing speculation in international financial

markets. Several economists, such as Krugman (1998), Stiglitz (2000) and Eichengreen (1999), also support limiting capital flows for developing countries under certain market conditions.

Still, capital control policy is not without opposition. Some studies suggest that capital control may lead to a destabilizing effect by encouraging capital outflow and precipitating increased financial instability. Capital control acts like a form of investment irreversibility, i.e. by making it more difficult to get capital out in the future, controls may make investors less willing to invest in a country. This situation could even further worsen the condition of the current balance of payment in Indonesia. Bartolini & Drazen (1997) state that imposing capital control can send a signal of inconsistent and poorly designed future government policies. This is especially true when the reputation and credibility of government commitment to economic policy is stumpy and doubtful, as in the case of Indonesia. Capital control can easily be circumvented by domestic and foreign residents and firms, and will lead to economic distortions and government corruption. This will even further erode the credibility of the government and the Central Bank, contributing to economic instability. Capital control has a significant negative effect on foreign borrowing and can be interpreted as a means of enforcing financial repression in the economy. It is also associated with a lower domestic interest rate, thus limiting international arbitrage in asset markets.

As shown in the Indonesia case, capital control provides scant effectiveness in averting currency crisis if not accompanied with other economic policies. Some observers noticed that the motive of the Indonesian Government, especially that of President Soeharto, in initiating any policies relating to exchange rate and capital control, was mainly to avoid the implementation of economic reform, or even to expel the IMF from Indonesia. Lack of trust and conflicting positions between President Soeharto and the IMF made it impossible to establish an environment conducive to a policy dialogue that would help identify the best alternative policies to protect the interests of Indonesia. Any attempt to introduce alternative policy even on a temporary basis, such as capital control policy, was declined by the IMF. The IMF allowed Indonesia to put a limit of only US $5 million per customer on forward foreign

currency trading between banks and nonresidents. This situation raised a strong public perception that the IMF declined alternative exchange rate and capital flow policies for Indonesia on the basis of political, rather than technical, economic reasoning.

Financial restructuring is at the heart of the IMF program in Indonesia. As mentioned earlier, Indonesian banking conditions, even before the crisis, were in bad shape. The IMF prescription to remedy these banking problems consisted of closing insolvent banks and recapitalizing and restructuring viable banks. Strengthening bank supervision and establishing Central Bank independency also became an important part of the program. The first, and apparently the most controversial, step in the financial restructuring program was the closing of 16 banks in November 1997. That decision was seemly based on simple but sloppy logic. These banks were very small, comprising only around 2.5% of the assets of banking sector, hence it was believed that this action would not create complicated problems and would definitely be supported by the market.

Indonesia has had no experience in bank closures since the early 1970s, with the exception of one bank closing, which was motivated by political factors. It was known to the public that some banks that had suffered serious difficulties or even solvency problems before the crisis were never disciplined in the form of closing. Instead they received capital injections from Bank Indonesia. Bank Indonesia had no credibility in enforcing bank supervision and prudential rules, and repeatedly acted as lender of first resort to banks. The above situation created a moral hazard for both bank managers/owners and depositors. Depositors never expected any bank closing, regardless of how poorly the bank was managed, and bank managers and owners engaged in excessive and careless lending practices despite prudential regulations.

Under a legal and judicial system that was not functioning, and with pervasive, morally hazardous attitudes of depositors, bankers and owners, the IMF forced Bank Indonesia to close 16 banks as the first action of the bank restructuring program. Without appropriate public explanation regarding the overall bank restructuring program, clear and credible criteria defining bank closure candidacy, or any preparation to handle post bank closing effects in the form of a reliable guarantee

scheme for depositors, the IMF decision to close these small banks only triggered a subsequent banking disaster. Public trust in domestic banks crumbled because of the uncertainty regarding the future fate of any domestic, especially private, bank. Bank runs in the form of transferring deposits from private to state banks occurred pervasively, threatening bank liquidity and the functioning of payment systems.

The Indonesian government and the IMF were totally unprepared for the negative and unintended consequences of a serious loss of confidence in the market. The blunder of closing banks in this initial IMF program was mainly due to: (a) miscalculation of the underlying (political and legal) factors of the Indonesian banking system, (b) a failure to understand public perception about the domestic banking system, and (c) underestimation of the magnitude of the consequences. This initial failure exacerbated banking conditions rapidly and in the end forced Indonesia to bear a very costly bank reform program.

2.2. Policy Process and Government Capacity

The October 1997 decision to invite the IMF to help with the Indonesian economic situation, although formally agreed to by President Soeharto, was in fact not fully supported by him. Thus, a lack of ownership of the economic reform strategy was apparent from the very beginning of the IMF's involvement in Indonesia. This problem was exacerbated in the subsequent months, partially by the IMF's failure to properly address the ownership issue. President Soeharto perceived the IMF programs as a specific attack upon the interests of his family and cronies. Many policy steps lacked clear correlation with the capital account crisis, including abolition of the national car project, elimination of monopoly and cartel practices (such as those in clove and cement trading), and cancellation of many big infrastructure projects. Indeed the IMF program received popular political support from the majority of Indonesian people, who for many years had felt discontent and injustice under the leadership of President Soeharto.

Besides popular support from the Indonesian people, the IMF was not able to achieve significant progress. President Soeharto was apparently becoming part of the problem rather than a source of solution for the

economic crisis. To deal with this, the IMF demanded a stronger personal commitment from President Soeharto himself. Under unusual protocol, the IMF asked President Soeharto to sign a second letter of intent, which he did on January 15th, 1998. The famous headline picture of President Soeharto signing the letter, in front of IMF Managing Director Michel Camdessus, was seen as a humiliation both to the President personally and to the country at large. From this time on it was just impossible to get the support and cooperation from the President and his government to implement the 50 policy actions prescribed by the IMF; now there was a *definite* lack of ownership of the programs. Half-hearted support of IMF program initiatives from the President evolved into more open confrontation after President Soeharto was reelected in March 1998. The outcome was a continued worsening of market confidence. President Soeharto's battle against IMF programs and against increasing political pressure was ended by his resignation in May 1998.

Vice President Habibie succeeded Soeharto as President despite strong political opposition. To appease those exerting political pressure against him, President Habibie decided to cooperate with the IMF almost totally. Faced with a weak bargaining position from the government and a willingness to cooperate from the economic team, the IMF took an opportunistic approach by pushing further economic reform and broadening the coverage of the program to more than 110 policy actions. Under the Habibie government, the IMF imposed a policy action matrix that gave very detailed accounts of actions that should be taken, with specific and most of the time very unrealistic target dates for each of the actions.

Within the first 18 months of his presidency, Habibie passed hundreds of new laws and regulations, many among them designed to implement IMF programs. Examples include the new bankruptcy law, intended to prevent massive bankruptcy during conditions of economic crisis, and the new banking and Central Bank laws, which give extreme independency to Bank Indonesia, though these two laws are inconsistent with each other. Many of these laws and regulations were not prepared, designed, reviewed or debated adequately and thoroughly in the public sphere. Flawed laws and regulations create serious confusion for the

succeeding government who has the responsibility of implementing them.

A long list of policy actions, already signed and agreed to by the transition government under Habibie, created an unfavorable burden for the newly elected government under reform era. This new government, under President Wahid, had limited or even no alternative policy options left open. President Wahid, having been popularly elected via the new democratic mechanism, was very displeased with the rigidity of the IMF program and thus also suffered a lack of ownership and commitment to these economic reform policies. His choice of an economic team revealed his displeasure toward the IMF, and initiated another period of IMF-Indonesia confrontation. His government lasted less than two years, yet during that period almost all progress was wedged, resulting in another cycle of confidence crisis that threatened the beginning of a fragile recovery process.

President Megawati, the fourth president since the crisis outbreak, has non-confrontational political views toward international institutions such as the IMF; this has already been clearly displayed through her choice of economic team members. But her government term spans only a 3-year period. Indonesia's next election is scheduled for 2004 and is sure to produce further political complications. The following section discusses the economic recovery process and its challenges.

3.   The Recovery Process

Suffering from a relatively long and difficult political transition, Indonesia's economic recovery has been a slow, fragile, and unpredictable process compared to other countries experiencing the same crisis. At the early stage of crisis, when a denial episode was evident, macroeconomic equilibrium collapsed with the deteriorating balance of payment condition. Although current account balances turned into a surplus (due to an import decline of 5%, while exports still enjoyed more than 11% growth), massive private capital outflow of more than US $20.7 billion created a total deficit of more than US $7 billion. The Indonesian economy suffered a very deep contraction, 13.1% in 1998, with both aggregate demand and aggregate supply collapsing

dramatically. Figure 3 shows the domestic demand dropping at the rate of -17.2%. The drop was fueled by declining household consumption (-6.17%), plummeting gross domestic capital formation (-39%), and contraction of government consumption (-15.1%). As discussed earlier, this last fact is an indication of fiscal policy failure to use counter cycle measures to lessen economic downturn.

Figure 3: Component of Domestic Aggregate Demand
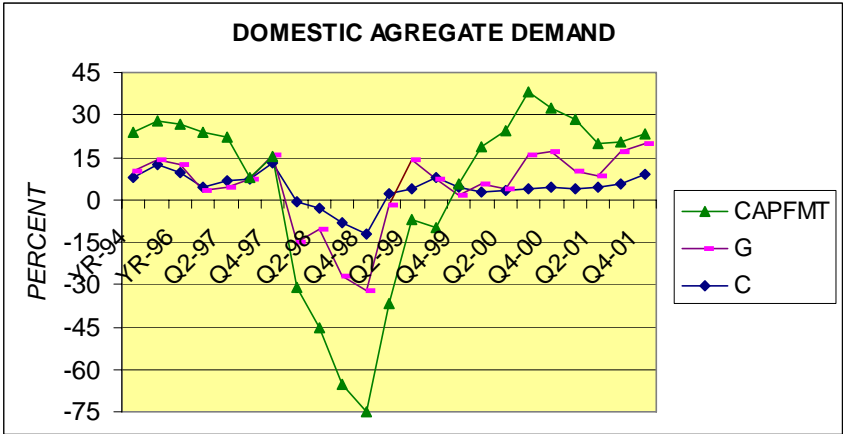
Figure 4: Component of Aggregate Supply
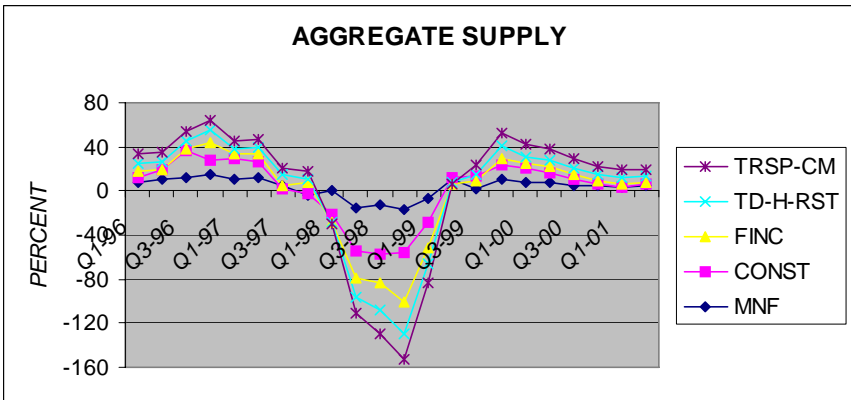
All sectors of aggregate supply except utility (electricity, gas and water) experienced deep negative growth. Construction and financial services suffered the most, with contractions of more than 36% and 26% respectively as shown in Figure 4. After more than a year of economic turbulence the situation began to stabilize, albeit at very low levels of output equilibrium and exchange rate. Although all other factors of the domestic aggregate demand, especially of the gross domestic capital formation, continued to shrink, private consumption started to grow positively. This growth coincided with the first democratic election, which created a growing excitement and optimism among the Indonesian people and gradually restored consumer confidence. Exports were still experiencing rapid decline, but imports were decreasing at a faster pace, resulting in an increasing current account surplus. Rupiah exchange rate appreciation of more than 50% was driven by the calming and encouraging political situation, and commodities prices were firmly stabilized, producing annual inflation of only 2%. Production started to resume with the manufacturing sector and trade as the main contributors to positive growth, while other sectors still struggled with further contractions. The economy grew only 0.8% in 1999, but price, exchange rate and interest rate variables were showing a strong, encouraging trend and solid stability.

Under such an improved and stable environment, the government made a strong effort to proceed with financial restructuring programs. Criteria and rules, based on capital structure, were established to recapitalized banks. Banks with more than 4% capital adequacy ratio (CAR) were treated as (temporarily) healthy and were not subject to any government intervention. Banks with CAR between 4% and -25% were eligible for recapitalization, and banks with CAR below -25% were to be closed. The government recapitalized seven eligible private banks, and 12 systemic banks were taken over. Despite candidacy for closing based on the aforementioned criteria, all state owned banks were merged – from seven into four banks. This was obvious evidence of the *too big too fail* policy. The above steps increased the portion of state owned banks from 42% to 72%, as measured by total banking assets, and from 37% to 61% as measured by total bank liability. The number of private banks shrank to about a half, from 160 to 81, as shown on Table 1. Progression

of these difficult tasks was not at all smooth. Many bank owners tried to use political connections to protect their banks from closing or from being taken over, and many others tried to get favorable terms on the recapitalization process. The cost of the financial restructuring program eventually grew to be enormous; the program is considered among the most costly bank reforms in the world.

Table 1: The Result of Bank Restructuring Program

BANKS	June 97	June 2001	Market Share (% Liabilities)	Share Net Worth
State Owned Banks	7	5	48.2%	46.8%
Regional (Gov) Banks	27	26	3.4%	4.2%
Bank Take Over	0	5	17.5%	17.4%
Private Banks	160	60	30.9%	31.6%
Foreign & Joint Venture	43	37		
TOTAL	237	149	100%	100%

Source: Bank Indonesia

Positive growth across most economic activities only started in the year 2000. This coincides with the beginning of the new democratic government under President Wahid and Vice President Megawati. The peaceful political process ignited a sheer of optimism on both the domestic and foreign fronts, enabling the boost of economic activities. Since 2000 Indonesia seemed to be keeping up with the general economic recovery taking place in other Asian countries hit by the 1997 economic crisis. Higher-than-expected growth of 4.8% in 2000 was mainly due to gross capital formation, which for the first time since the crisis began exhibited a bold positive growth rate of 18% annually, spurring government fiscal expansion. Private consumption also grew positively, though at a more modest level of 3.6% per annum. Beginning in the year 2000, external accounts displayed an encouraging recovery trend, with exports growing at more than 16% and imports showing strong growth of more than 18% annually.

But another political factor presented an obstacle to these positive trends. President Wahid's leadership, and his shaky government, failed to give positive coherent support to the recovery process, initiating additional political turbulence. Vice President Megawati replaced President Wahid in July 2001. Nevertheless, real economic activities have already been affected by the political turmoil and have exhibited concerning drift. Aggregate supply is exhibiting a declining trend at an alarming pace. Non-oil manufacturing has shown declining quarterly growth since the last quarter of 1999 and the construction sector has suffered a dramatic drop in quarterly growth from 13.0% in the last quarter of 1999 to near 0% in the year 2001. The financial sector, especially banks, after concluding a very expensive restructuring and recapitalization program, have also failed to perform satisfactorily, with growth declining from above 6% to below 3% during 2001. The slowing down of economic activities was confirmed by the deterioration of domestic aggregate demand, especially in gross domestic capital formation, which dropped from almost 18% to only slightly above 3% at the end of 2001.

Managing and continuing a recovery process is not an easy task in any case. A wide variety of external factors can be blamed for hampering the country's economic performance. Foremost is, perhaps, the September 11th tragedy, which accelerated the recession already starting to drag down the US and world economies. This accelerated economic slowdown has dampened the most important driver of the recovery process in the economies of Southeast Asia—which are based primarily on export growth. As the second-largest contributor to aggregate demand in the economy, at 41%, Indonesian export growth has declined significantly. This decline was particularly marked in the last two quarters of 2001, with exports finishing the year only 1.8% higher than at the end of 2000. A similar pattern was also seen in import growth, which collapsed from growth of over 34% at the beginning of 2001 to a 23% contraction in the last quarter of 2001. All categories of imports were hit, from consumer goods to raw materials and capital goods. The contraction in imports seen in the last quarter of 2001 indicates a trend that will eventually lead to declining aggregate production, as well as poorer export performance, in 2002. This is because there is a strong

correlation between raw materials and capital goods imports on the one hand, and manufactured exports and domestic manufacturing production on the other. On the capital account, constant pressure is still coming from the private sector. This tendency is accompanied by declining net official capital from US $9.9 billion (1998), to US $ 5.4 billion (1999), and further down to US $3.8 billion in 2000. Declining trade surplus and growing capital deficit, combined with huge external debts, especially in the private sector, contribute to the continuing weakening of the Rupiah.

The only engine of growth that remained robust in 2001 was private consumption, with a growth rate of almost 6%. Yet, consumer confidence indicates a strong declining trend, especially since September 2001. An important factor contributing to deteriorating consumer expectations has been serious anxiety regarding unemployment, followed by a weakening in the general economic outlook and a rapid increase in inflation. Inflation has been increasing since mid 2000, from a 2.1% annual rate to a troubling 15.1% rate early in 2002, a level far in excess of the targeted 9.0%. As a result the interest rate on Bank Indonesia certificates has been pushed above 17% per annum.

Taken together, all of these factors pose serious questions over the sustainability of economic recovery. Economic recovery in Indonesia depends on two important programs. First is the maintenance of stability in the macroeconomic environment, while second is the implementation and execution of a sound and credible restructuring of corporate debts and strengthening of banking financial conditions. Stability and a solid macroeconomic foundation are necessary conditions for a successful restructuring program. But maintaining macroeconomic stability post crisis is not an easy task, given that lots of vulnerabilities still cling to the economy.

Macroeconomic stability depends on how successful the government is in managing its budget risk. Government budget structure after the crisis changed dramatically and lost its flexibility because of three factors: the implementation of progressive decentralization policy, ballooning interest payment on government debts, and soaring oil subsidy. On the other hand, the fiscal condition is quite vulnerable to external changes. Indonesia's high public debt exposure mainly consists of foreign and domestic debts and subsidy on oil and gas, which are

sensitive to both the exchange rate and international oil price. Domestic debt in the form of long-term government bonds are dominated by flexible-rate bonds, which follow the Bank Indonesia Certificate (SBI) three-month interest rate and the rate of inflation. Worsening macroeconomic indicators that have so far led to higher interest rates and inflation will automatically translate into higher costs for the government in terms of domestic debt servicing. However if the macroeconomic condition improves it will generate a positive spiraling effect to the economy.

3.1. Managing public debts

Economic crisis has impacted government debts severely and unfavorably. As a result of the total bail out and restructuring of the banking sector, the Indonesian government issued long-term bonds amounting to Rp 657 trillion, or around 50% of GDP. Rp 218 trillion was for financing liquidity support policy and Rp 438.9 trillion was for recapitalization. Maturities of government bonds vary from five years to 20 years (Figure 5). The position of external public debts before crisis (1996) was only 26% of GDP; but it has now jumped to 59% of GDP

Figure 5: Government Bonds Profile
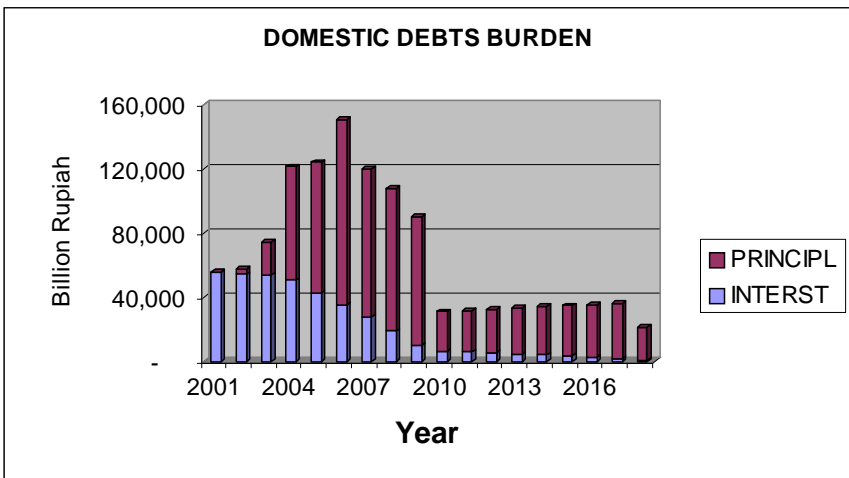
because of new debts from the IMF and other multilateral and bilateral creditors. The increase of external debts to GDP ratio was partly caused by the depreciation of Rupiah currency. Combining foreign and domestic debts created a ratio of public debts to GDP of around 110%, a level threatening to fiscal sustainability.

Reducing the public-debt-to-GDP ratio from the current level to a safe and affordable level is a daunting task and has become the most critical challenge facing the present government. The success of this effort will depend on number of factors. First, macroeconomic conditions need to be stabilized via very specific macroeconomic targets, such as an annual inflation rate below 5%, a nominal SBI rate of less than 11%, and economic growth above 5% annually. Second, fiscal policy should be able to generate a surplus that is sufficient to reduce the public debt. An improvement in the level of government revenue will play a crucial role in sustaining the budget and should become the government's most important policy banner. Improvements in tax administration and the intensification of the tax collection effort is the main policy ingredient. However, this should be accomplished over the medium term, without jeopardizing the fragile recovery process and undermining the remaining incentives that exist for investment in the Indonesian economy.

Domestic debt problems

Issuance of government bonds is one of the consequences of the banking crisis, and the value of the bonds issued was enormous. The government was unable to design a suitable and affordable cost and risk structure of the bonds, and was also unable to implement appropriate preparation and sequencing for issuing of the government bonds. This 'defect' in the process and preparation of bond issuance will create serious constraints and place heavy burdens on those responsible for future fiscal management. Currently, the primary market for bonds is captive. Further distortion has been created by allowing pension funds to invest all of their assets in government bonds. The absence of a liquid and efficient bond market could create potentially huge problems in liquidity management and budget risks. Building appropriate and effective market infrastructure and a regulatory framework for a bond market will require

nimble coordination between the Ministry of Finance and the Central Bank, since the issuance of bonds will also affect monetary policy going forward.

One politically sensitive aspect of government bonds is the high level of interest that needs to be paid on them. Steps to reduce the cost of bonds for the government will create a severe tradeoff to the capital structure of banking sector, which is also owned by the government. Replacing current flexible government bonds with lower risk or fixed-rate (staple) bonds is necessary to reduce budget cost, but it will erode the capital adequacy of recapitalized banks. Reducing the value of bonds outstanding in the banking system by swapping bonds with restructured assets from IBRA would help to reduce the government's debt burden. The difficult part of this exercise is how to measure the quality of IBRA-restructured assets that could be swapped for government bonds. A sound restructuring process will lead to an improvement in the performance of the banking sector, while also reducing the cost of government debt. Conversely, a poor quality and careless asset restructuring process will only increase the final cost by augmenting the level of non-performing loans held by the banking sector.

Indonesia's government has no past experience in the issuing of domestic bonds, hence solid institutional support, including a market for secondary bonds, and a regulatory framework for government bonds, has not yet been established. This situation makes controlling the final costs of the recapitalization program and the subsequently entailed risks an even more difficult endeavor. Due to the nature and number of bonds issued during the crisis, for the next two decades, managing government bonds will be one of the government's most intricate and challenging of tasks. Building a credible and effective institution to manage public debt is one of the most important hurdles facing the current government, especially in view of the increasingly active involvement that can be expected from the House of Representatives (DPR) in the country's state-budget process in future.

Institutional capacity to manage these risks within the Ministry of Finance is inadequate and poorly developed. Improving human resources, as well as setting a clear and unambiguous position,

responsibilities and legal framework for the DMU, is urgently needed to improve its performance. Managing the risks of government domestic debts will require including the following steps of development: new fiscal instruments, especially issuance of short-term fiscal instruments (treasury bills or notes); creating a reasonable yield curve; building strong and efficient market infrastructures for government bonds; and preparing and finalizing legal foundation on domestic debts (law on government bonds). These processes will not be easy, given limited understanding and know-how of both the government economic team and lawmakers on these subjects, and the availability of time to respond to the existing problems given the maturity profile of the bonds (Figure 5).

Foreign Debts Problems

Indonesia is experiencing difficulties in servicing its foreign debt due to deep depreciation of the Rupiah. Most government foreign debts come from multilateral institutions and bilateral sources, with Japan among the most important lenders. Since the crisis Indonesia has asked for foreign debts rescheduling three times through Paris Club. The Paris Club is not supposed to deal with the budgetary problems of debtor countries, but is instead intended to help countries experiencing (temporary) balance of payment problems. Yet in the Indonesian case, government budget problems are more eminent. The fact that Indonesia has had to reschedule its external debt repeatedly, in a similar manner to many Latin American and African countries in 1980s and 1990s, raises serious questions regarding the effectiveness and significance of such steps in helping countries out of debt crises. Currently, a very strong view from NGOs and politicians supported by some foreign institutions suggests that the government should ask for debt forgiveness from external creditors. Such a view is based mainly on the belief that around 30% of the government debt accumulated under Soeharto was corrupt and badly managed. This serious accusation is flawed in substance, but highly attractive politically, especially to politicians eager to seek easy ways out of the current economic mess.

Under strong political and public pressure, the government has an obligation to find the best scheme for managing its debt, especially external public debt. The most recent deal approved by the Paris Club for Indonesia is only slightly better than the Houston rescheduling terms for lower-middle income countries, which were applied to the first Paris Club agreement for Indonesian in 1998. The Houston terms gave 20-year rescheduling and up to a 10-year grace period for Overseas Development Assistance (ODA) debt, and 15-year rescheduling and up to an 8-year grace period for non-ODA debt. The recent Paris Club agreement (Paris Club III) gave 20-year rescheduling and a 10-year grace period for ODA debt, and 18 year rescheduling and a five-year grace period for non-ODA debt, while also allowing debt-swaps of up to US $37 million. This third rescheduling agreement will not satisfy the vigorous demands for debt reduction, or calls to match the rescheduling terms given to low-income countries with much longer maturity and grace periods combined with lower interest rates.

3.2. Fiscal Decentralization

While financing of the state budget remains increasingly questionable for a variety of reasons, additional threats also arise in the risks resulting from the implementation of the decentralization program. In addition to the potential increase in spending as a result of the implementation of decentralization through the government's 'Big Bang' approach, the central government is losing valuable flexibility in managing its revenue flows. Table 2 shows the new revenue-sharing of oil, gas and other sources of revenue between central and local government under the new decentralization law.

Another aspect of fiscal decentralization that may raise potential problems in the future is the permit to do local borrowing. Up until now, local governments in Indonesia have had no meaningful experience in managing local debts. Learning from the many bad experiences of other countries, national government--under the pressure of multilateral institutions such as the IMF or World Bank--has put in place several strong administrative restrictions on implementing the local borrowing policy. Given that the fiscal condition is still critical, the Minister of

Table 2: The New Revenue Sharing Under Law 25/1999

Sources of Revenue	Share of National Gov	Share of Local Government
1. Land Building Taxes	10%	90%
2. Land and Building User Right Fee	20%	80%
3. Forest Forest User Right Fee	20%	16% Province 64% District.
Provision of Forestry Sources	20%	16% Province, 32% forest located district, 32% other districts
4. General Mining Land Rent	20%	16% Province, 64% producing district.
Royalty for exploration and exploitation	20%	16% Province, 32% producing district, 32% other districts.
5. Fishery: Fees for exploitation and production of fisheries	20%	80% distributed evenly for all districts in Indonesia
6. Oil Mining	85%	3% Province, 6% producing districts, 6% other districts
7. Gas Mining	70%	6% Province, 12% producing districts, 12% other districts

Source: Law number 25/1999 and Government regulation 104/2000.

Finance has issued two decrees forbidding local borrowing for two years, and may be longer. This measure will avoid local borrowing predicaments temporarily, but the current demand for and potency to do local borrowing is certainly high and still growing. Yet the capacity of local government, as well as that of the central government, to manage public borrowing is still underdeveloped. Hence the future fiscal risks from the local borrowing debacle are undoubtedly substantial.

Another problem of decentralization policy is the phenomenon of the new law on Special autonomy for Aceh and Irian Jaya (West Papua). These two special autonomy laws were created to prevent a separation movement in these two delicate regions. This asymmetrical autonomy policy will create a new benchmark for central-local government fiscal relationships in other provinces and districts, although the central government has insisted that special autonomy is limited to these two

provinces only. Review of the two autonomy laws (Law number 22 and 25/1999) is crucial given the major complaints and problems of the implementations of decentralization policy in the first year. Revision is needed in order to strengthen the institutional capacity of local government, to eliminate confusing division of responsibilities and functions among different level of government, and to safeguard prudential and sustainable fiscal conditions at both the national and local level.

3.3. Monetary Policy and The Central Bank

With such clear fiscal inflexibility as a result of the huge public debt level and other policy factors, monetary policy will have to be even more effective in maintaining a stable macroeconomic environment. During 2000, monetary policy was loose, as shown by the expansion of the money base up to 23%, bringing down the interest rate of SBI to below 11% per annum. This policy did not provide much help in the recovery of the banks, judging by the slow expansion of credit and the increase in inflation, which created further deterioration of the Rupiah exchange rate. The IMF insisted that Indonesia continue to maintain tight monetary policy in order to maintain stabilization of the Rupiah. Yet complaints and objections on tight monetary policy are frequently expressed by many economic players, and are based on the belief that such policy will not help much in strengthening the Rupiah against foreign currencies.

Tight monetary policy alone is certainly not enough to defend the Rupiah, since there are other factors contributing to the deterioration of Rupiah value. But without a firm monetary policy, expectations of growing inflation surely will further deteriorate the value of the Rupiah. Hence monetary policy should not be judged separately from other economic policies, or from the various contributing factors such as political and security problems. The question that should be asked then is not whether the Central Bank should adopt tight monetary policy or not. Given such tremendous pressure to the economy, tight monetary policy is becoming unavoidable. The question then becomes: how tight is too tight? If macroeconomic coordination improves and a concerted effort to prepare and execute improvement of economic stability is employed,

then monetary policy will not bear all the burden of Rupiah stabilization. As a result the degree of monetary tightening could be reduced significantly.

The shaky performance of monetary policy was caused, to a certain extent, by serious conflict between the government and the Central Bank Board of Governors. Bank Indonesia (BI), as the Central Bank, was granted an independent position by enactment of a new central bank law (Law number 23/1998) in the middle of the crisis. But its position is still vulnerable to political pressures because Bank Indonesia suffers from serious credibility problems. Prior to the enactment of Bank Indonesia Law No. 23/1998, no comprehensive financial or policy audit of BI was ever conducted to reveal problems within the Central Bank. BI's involvement in many policy scandals and banking mismanagement in the past have led to criminal charges, creating a loss of the bank's credibility in the eyes of the public. The courts have recently handed Governor of Bank Indonesia Syahril Sabirin a guilty verdict, sentencing him to three years prison for his involvement in the Bank Bali incident. Despite his legal status, Governor Sabirin refuses to resign from his position and is now in the process of appealing to a higher court. In addition to the board of governors and leadership crisis, BI is also being levied with serious charges of involvement in the liquidity support fiasco, where a total of Rp 140 trillion was given out during the banking crisis in 1998-99. Such burdens and serious legal accusations have had a demoralizing effect on the Indonesian Central Bank.

With such severe credibility problems, the central bank remains an attractive target for political pressure, giving encouragement to power-hungry politicians keen to implement amendments to the new central bank law. The pressure has been so intense that it has resulted in the resignation of all but two members of the board of governors. With politicians in parliament seeing opportunities to make lucrative political deals, and to gain material rewards by facilitating the political attempt to oust the senior management of BI, barefaced political intervention almost succeeded. Only strong public protests, along with serious objections from the IMF, halted the political intervention.

So far, the IMF's involvement in this issue has been to demand the establishment of an international panel designed to give expert opinion to

the government in resolving BI's problems. The first panel submitted its opinion on how to improve accountability at BI: establish an independent committee that can assist parliament in reviewing the performance of the central bank. The second panel is expected to give its opinion on settling the liquidity support (BLBI) problems, especially on the question of the sharing of this burden between the Ministry of Finance and BI. The progress and direction of amendment to the BI law is still unpredictable. This may adversely affect the already poor position of the central bank in national political opinion and will unquestionably influence the government's commitment to maintaining macroeconomic stability, potentially leading to serious erosion of market confidence.

3.4. Corporate Restructuring

Restructuring of companies and their debts is the most important policy needed to correct pervasive past failures at the company level, to restore creditors trust, and to sustain economic recovery. But restructuring policy has been the weakest part of the recovery policy in almost five years of Indonesian economic crisis. The government has signed three different agreements with the former owners of troubled banks, with the largest values, that were taken over in 1998-99. The MSAA (Master of Settlement and Acquisition Agreement) was agreed upon with five debtors who submitted sufficient assets—based on estimated value—to the IBRA, to offset total debts of Rp 88.6 trillion. The MRNIA (Master of Refinancing of Issuance Agreement) was agreed to with another five obligors who had insufficient assets to compensate the government for their total debts of Rp 23.8 trillion, and who were therefore obliged to supplement the shortfall with personal guarantees. Finally, 'I owe you' agreements were made with 24 debtors who had total debts of Rp 18.2 trillion. The total sum of the debt covered by all three agreements was Rp 130.6 trillion, or around 20% of total domestic government debt. Based on these three agreements, the entire sum is supposed to be settled before 2004.

After more than three years since their initial signing, implementation of the agreements is going nowhere. There is neither clear action on the part of the government, nor consistent legal enforcement by the courts.

The public and market have observed many questionable ad-hoc restructuring deals, especially with these biggest debtors under IBRA, including an initiative to lengthen the period of the agreements from four years to 10 years in order to achieve a higher recovery rate. It is obvious that strong individual interests combined with weak legal institutions and a poor judicial system result in substantial corruption and an appalling restructuring process. Bank and company owners are quick to find plenty of loopholes enabling them to shun obligations of debt repayment. New political parties with severely myopic attitudes, and frequent changes in cabinet formation (especially economic team members and the IBRA chairman) make matters even worse by creating ad-hoc and inconsistent decisions. Deep involvement of the national parliament in the restructuring--as a consequence of the democratic system--frequently results in the blurring of technical judgment with political and individual interest. The outcome is a dubious restructuring policy and poor policy implementation.

Since the crisis there has been no clear direction on corporate debt restructuring policies, which should include (among other factors), the main objective of restructuring, the restructure mechanism and reselling of assets under IBRA, policy design regarding previous owner's ability to buy back assets, treatment of foreign versus domestic buyers, and principles of choosing buyers. Equally important is the principle of restructuring state-owned enterprises and the subsequent steps of privatization. Divestment of IBRA assets and the privatization of state-owned companies can serve two important purposes. First, it will generate significant revenue for the government to help bolster its fragile budget. Second, it will show where the government stands regarding private investment, especially from foreign sources, and will open the door to capital inflow, boosting investor confidence.

4.   The New Role of Government

The economic crisis has considerably changed the economic as well as the political landscape of Indonesia. Since the onset of the crisis there have been four changes in the office of President of Indonesia, indicating very radical political changes for a country that was led by only one

person for more than 30 years. Change toward a more democratic system swung the power pendulum from domination of one person, the President (supported firmly by military), into various distributed groups, including parliament, that represent different political parties, local governments and local people, NGOs, and other influential groups such as student organizations, professional groups etc. The positive side of distribution of power to many different groups is the facilitation of a system of checks and balances on the public policy process.

The 1998 election resulted in a new government consisting mostly of new political party members, very few with experience holding cabinet positions. The inexperience and meager capacity of a new crop of leaders threatens to make the national government ineffective and weak. The 1998 election also produced new (and inexperienced) parliament members who's powerful political roles influence all public policy process. Unlike the public policy process during the authoritarian Soeharto era, which was always top down and fully controlling in approach, under the new democratic system the government has to consult with, and seek agreement from, parliament members in order to pursue and execute particular policies. This situation makes for a much longer policy decision-making process and most of the time creates uncertainty of outcome. Such radical changes make the recovery situation more complicated and difficult to manage, frequently hampering the effort of the national government to solve problems or to minimize the risk and cost of the economic crisis.

The quality of checks and balances is dependent upon the quality of both the new government as well as the new political parties, which now control the parliament. It is widely known that almost all political parties in Indonesia competing during the 1998 election had just been established during the crisis and were suffering from poor internal management. Frequently they rely on only one influential (charismatic) leader, lack a cohesive political program and platform, suffer from inadequately low quality of members and weak party discipline, and are backed by shaky and unsecured financial sources. Most of the political parties also lack a knowledge and understanding of the nature of the economic crisis, of the implications in terms of policy response, and of the impending consequences. The new political parties also have no

experience in governing the country and have limited capacity to manage the political process consistently and effectively.

During this radical political transition, in response to strong pressure from regional government and local people, the central government enacted a new law on local autonomy. Law number 22/199 and law number 25/1999 gave a bigger, broader role and political authority to local government at the district level. Power devolvement to lower level government was theoretically intended to better serve the people. But this can only be achieved if local government capacity has been built up enough to assume bigger responsibilities. This is certainly not the case in Indonesia, since during the past 30 years, under Soeharto, local government roles were limited and their institutional capacity and human resource quality were barely developed. Local governments responded enthusiastically to the decentralization policy, especially to the new fiscal balance between central and local government that gives much greater freedom in spending power to local government.

Euphoria at the local government level also created an awkward situation for policy coordination between central and local governments, with the local government having a greater tendency to refuse policy decisions made by the central or higher level government. Examples of this situation can be seen in the many disputes and policy stalemates related to privatization, such as local government refusing to sell state owned companies located in their regions, or local government aims for taking over foreign mining companies operated under national government contracts. This situation lends additional uncertainty to many decisions and commitments made by the central government. The new democratic system, in conjunction with a radically decentralized system requires that a new tradition of political dialogue and negotiation between government and parliament, and between central and regional governments, be established for the new Indonesia. Certainly it will take time to develop, strengthen, and refine an effective new political tradition in Indonesia. Unfortunately post crisis Indonesia faces difficult pending problems, which do not permit time for an appropriate and adequate learning process to occur. Hence, chaotic and messy process is becoming a common phenomenon for Indonesia under the new democratic system.

The economic crisis also created a different economic landscape in Indonesia. In addition to widespread ownership of various state owned enterprises, the government of Indonesia is currently taking over and controlling enormous private assets and corporations in the economy under the newly established institution of IBRA (Indonesia Banking Restructuring Agency), as a consequence of the bail out program for the banking system. This agency is supposed to become a temporary center for banking and asset restructuring (for only five years), and should then be able to resell these banks and assets to the private sector. But under the new democratic political system, political parties may fiercely compete to gain access to and control over as many financial sources as possible. IBRA and state owned enterprises then become the most obvious target of political parties seeking easy financial resources. This can be seen in the frequent change (seven times) of IBRA chiefs since its establishment in 1998. Under such a situation, a technocratic solution to the restructuring process, designed to ensure the best outcome for the country, was often defeated by intense political lobbies benefiting only certain groups. Multiple examples can be seen in debt restructuring deals, asset reselling processes, and privatization of state owned enterprises, which have been repeatedly tainted by shoddy agreements. Indonesia's legal and judicial system is still very weak, and often unable to safeguard public interest. The new political competition combined with weak quality of institutions, at least in the short run, will cause more policy distortions, with public interest shouldering the burden of cost.

Given its past experiences and the current burden and challenges faced, the government of Indonesia has limited choices in defining the new role of the economy. Political competition will pressure any government to be inclined to more populist policies, which most of the time flow against optimal solutions and prudential policy principles. But Indonesia, under Soeharto, was widely recognized as a country with a strong tradition of prudential macroeconomic management. Hence, reestablishing and strengthening the good old tradition of maintaining macroeconomic stability can be used as a benchmark for policy platforms offered by all political parties. At the same time, correcting past failure in the form of bad governance and policy distortion should become the new political objective and a new habit. Government should

limit its role as an effective regulator in the economy by solving the many conflicts of interest through widespread ownership of assets and corporation.

5. Conclusion

Indonesia's painful political transition is likely to remain a dominant factor affecting the sustainability of economic recovery. The effectiveness of the government in implementing economic programs and reform is highly dependent on support of the parliament and the capacity and credibility of the new government. Major handicap lies in the weak institutional foundation in the area of politics, law (including basic constitution), and bureaucracy. Alleviation of these institutional problems requires persistent and consistent effort. Realistically, even under the best cabinet format in the government, a longer time will be needed for the new government to be able to fix the economic destruction and to create significant improvement. That is because, in the past four years, many of opportunities were forgone. Even worse, problems emerged that further aggravated the burden and risk to the whole country. While building strong, effective, but accountable institutions will take some time, the explosion of problems can happen anytime. Even with full support of parliament members in execution of difficult policies, the risk of failure is not trivial. These are seriously daunting tasks. Despite their size, Indonesia has no other option but to triumph over them.

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CHAPTER 4

FINANCIAL CRISIS AND RESTRUCTURING IN THAILAND

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The financial crisis has substantially damaged the Thai economy. Dealing with the economic recovery is not a simple task. Both banking and corporate sectors must be restructured simultaneously. Therefore, the Thai government has implemented its restructuring program in both banking sector and corporate sectors. Besides, expansionary fiscal policy has been implemented as well. Although significant progress has achieved in financial restructuring, much remains to be done to take the Thai economy out of the recession, as there are a number of structural weaknesses.

1. Introduction

The financial sector, in general, helps allocating funds from economic agents who do not have productive investment opportunities to those who have such opportunities. Financial crises have occurred in many parts of the world during the past two decades. These crises lead many countries to severe reduction in economic activities; resulted in significant wealth loss, decline in asset prices, capital flight, and volatility in exchange rates and instability in the financial system. In sum, the crisis wrecks our economy and shred our social welfare.

The collapse of the Thai bath in July 1997 marked the starting of Asia financial crisis. This turmoil spread rapidly and led Asia's economies into a deep recession. The financial crisis in East Asia has led policymakers to an unprecedented reappraisal of policies. The

appropriate policy responses depend in large part on an understanding of what caused the crisis. Two explanations dominate the debate over what caused the crisis. One argues that weak economic fundamentals and policy inconsistencies are main causes of the crisis. The other blames a financial panic where interaction between expectations directly influences macroeconomic policy decisions.

Early research on currency crises usually refers to as the "first generation models" developed by Krugman (1979) and Flood and Garber (1986). These "first generation model" explained currency crises as the result of fundamental inconsistencies in domestic policies. Therefore, the "first generation models" predict that deterioration in the fundamentals should be indicated prior to a crisis by developing overvalued real exchange rate, large current account and trade deficits, and high rate of monetary growth, high inflation, and rising domestic interest rates. In other words, warning signals exist.

By contrast, the interaction between expectations directly influence macroeconomic policy decisions in "second generation models" of currency crises developed by Obstfeld (1996) provide a generic feature of theoretical macroeconomic models with rational expectations, in which market expectations directly influence macroeconomic policy decisions. One version of this debate explains the East Asian crises as a bank run. If many investors are panic and demand immediate payment, then financial intermediaries are faced with liquidity problem, which forces them to liquidate long-term assets at a great cost. In other words, the self-fulfilling pessimism of lenders is the cause of the crisis.

Banking sector covers both the "first generation models" and the "second generation models." Several studies also pointed out that banking and currency crises can generate a vicious circle by amplifying each other. If bank liabilities are denominated in a foreign currency, devaluation largely increases the value of those liabilities. Moreover, as banks usually lend in their local currency, the devaluation, thus, exposes these banks to a substantial mismatch and worsening balance sheet thereafter. In addition, a bank crisis does put a burden to the government. Investors, thus, expect that the government will be forced to adopt an expansionary monetary policy to finance its bailout intervention. As monetary expansion is inconsistent with the exchange rate peg, it leads

investors to believe that the currency will soon devalue. Such an expectation will trigger a speculative attack. In other words, a banking crisis is associated with a worsening fiscal position of a country that triggers expectations of a monetization of the fiscal deficit and exchange rate devaluation eventually. This scenario is thus consistent with the explanation of the "first-generation models" of currency crisis that emphasizes the role of unsustainable fiscal policy.

Moreover, in an open economy with liberalized capital market, if investors anticipate a speculative run, they will try to exchange their claims on financial institutions for foreign currencies. As a result, banks need to liquidate their investments. Unfortunately, most of their investments are in the form of long-term investments; therefore, they can be liquidated only at highly discounted rate. Consequently, bank eventually become insolvent, this situation, thus validates the initial expectation of a run. The run could spread to the entire banking and financial system that eventually leads to a substantial loss of international reserves and thus a currency crisis. This liquidity-driven crisis in the banking sector thus reflects the interaction between expectation and outcomes; therefore, validates the "second generation models" of crisis. There is, therefore, connection among financial, currency, and banking crises.

2. The Evolution of the Crisis in Thailand since the 1980s

In the first half of the 1980s, Thailand's export dropped sharply. Nonetheless, the government refused to devalue the currency, they chose to dampen domestic demand to restore balance of payments by imposing credit controls. This credit restraint program had a significant impact on the Thai economy. A lower credit creation led to a slump in domestic demand and lower asset prices thereafter. There was also a distress in financial sector where there was the closure of 20 finance companies whereas another finance companies that could be revived were rescued by the central bank of Thailand. At that time, the Ministry of Finance set up the Financial Institutions Development Fund (FIDF). The purpose of this Fund was to rehabilitate and revive financial institutions. Although none of the law gave depositors any explicit guarantee, the way the

government and the central bank provided assistance in times of financial distress during the 1980s led people to believe implicitly that their deposits at the commercial banks were quite safe. Moreover, the financial institutions themselves also believed that the government implicitly guaranteed their financial liabilities. As a result, this type of environment created an additional moral hazard problem on the part of financial institutions to undertake high-risk lending activities.

In November 1984, the bath was devalued whereas the Bank of Thailand raised credit growth targets for commercial bank lending. Economic growth picked up again in the second half of the 1980s, as reflected in the rising real GDP that accelerated from 5.5 percent in 1986 to 9.5 percent in 1987 and further to 13.2 percent in 1988 and continued to grow at double-digit rates until the end of the decade (Table 1). Exports grew at an average rate of 26.1 percent per year in 1985-1990 and 15.7 percent in 1991-1996. Inflation rate remained quite low at an average annual rate of 3.9 percent in 1985-1990 and 15.9 percent in 1991-1996. Inflation rate remained quite low at an average annual rate of 3.7 percent in 1985-1990 and 5 percent in 1991-1996. Domestic saving had been impressive, Government saving as a result of the fiscal budget surplus, which had started since 1988 and continue to do so until 1996, also enhanced this high saving rate. Despite such an impressive set of macroeconomic data, not all the data was so impressive. The current account had gotten into deficit since 1987; foreign borrowing largely financed this deficit.

For many years, Thai economy kept her financial system relatively closed. Foreign borrowing was limited and capital inflows were controlled. However, the global environment had changed during the 1990s. Thailand had also embarked on a comprehensive liberalization of domestic financial markets and capital account transactions. In 1990, Thailand accepted the obligations under Article 8 of the International Monetary Fund, and completed the opening up the foreign exchange market for current account transactions in 1992. There was also a concurrent liberalization of capital account transaction; one of the important strategies for this liberalization was the establishment of the Bangkok International Banking Facility (BIBF), an offshore banking center, in 1993.

Year	GDP Growth Rate[1] (%)	Inflation Rate (%)	Unemployment Rate (%)	Interest Rate[4] (%)	Domestic Credit[3] (%)	Deposit (%)	Export (%)	Import (%)	Trade Balance/ GDP	Current Account/ GDP	Net Capital/ GDP	International Reserve	Exchange Rate[2]
1980	4.80	19.70	0.90	16.50	18.80	24.40	23.08	24.00	-0.09	-6.40	0.08	3.05	20.48
1981	5.91	12.80	1.26	17.00	16.80	20.30	7.81	6.45	-0.09	-7.38	0.07	2.75	21.82
1982	5.35	5.20	3.56	16.00	22.40	24.90	-1.45	-15.15	-0.04	-2.84	0.05	2.68	23.00
1983	5.58	3.80	4.58	15.5-16.5	25.60	26.20	-7.35	21.43	-0.10	-7.24	0.04	2.55	23.00
1984	5.75	0.90	4.36	16.50	17.10	21.90	15.87	0.00	-0.07	-5.02	0.06	2.70	23.64
1985	4.65	2.40	4.97	15.50	8.40	12.20	-2.74	-8.82	-0.06	-3.86	0.05	3.00	27.16
1986	5.53	1.90	5.58	12.0-12.25	6.10	12.70	23.94	1.08	-0.01	0.70	-0.01	3.80	26.30
1987	9.52	2.50	5.92	11.50	17.60	19.80	31.82	41.49	-0.03	-0.59	0.02	5.20	25.74
1988	13.29	3.80	4.32	12.0	15.60	19.00	37.07	48.87	-0.06	-2.43	0.06	7.10	25.29
1989	12.19	5.40	3.59	12.5-13.5	19.80	26.80	25.16	27.27	-0.07	-3.32	0.08	10.50	25.70
1990	11.17	5.90	2.24	16.25	26.90	27.50	15.08	29.76	-0.11	-8.32	0.11	14.30	25.59
1991	8.56	5.73	3.12	14.00	15.50	21.40	23.58	15.60	-0.10	-7.53	0.12	18.40	25.52
1992	8.08	4.07	2.84	11.50	18.00	16.20	13.78	6.08	-0.07	-5.47	0.07	21.20	25.40
1993	8.30	3.30	2.62	10.50	22.70	19.20	13.66	12.47	-0.07	-4.87	0.08	25.40	25.32
1994	8.95	5.00	2.62	11.75	28.90	13.10	22.13	18.40	-0.06	-5.40	0.08	30.30	25.15
1995	9.20	5.80	1.71	13.75	22.90	18.20	24.61	31.84	-0.09	-7.86	0.13	37.00	24.92
1996	5.88	5.90	1.54	13.00-13.25	13.90	13.70	-1.80	0.57	-0.09	-7.90	0.11	38.70	25.34
1997	-1.45	5.60	1.51	15.25	34.50	16.00	3.66	-13.42	-0.03	-2.00	-0.03	27.00	31.37
1998	-10.50	8.10	4.37	11.50-12.00	-1.20	8.80	-6.75	-33.77	0.11	12.70	-0.09	29.50	41.37
1999	4.40	0.30	4.20	8.25-8.5	-4.20	-0.50	7.43	16.90	0.08	10.20	-0.06	34.80	37.84
2000P	4.60	1.60	3.61	7.50-8.25	-7.40	5.30	19.60	31.30	0.05	7.60	-0.08	32.70	40.16
2001P	1.80	1.60	3.36	7.00-7.50	-6.10	4.00	-6.90	-2.80	0.02	5.40	-0.05	33.00	44.48

Source : Bank of Thailand

Remarks: p = Preliminary Data, 1 Constant 1998 price, 2 Baht:US $ (Reference Rate) average. Since July 1997, the figures are represented by average inter-bank exchange rate. 3 Exclude foreign and interbank deposits, 4 Minimum Loan Rates(as quoted by the 5 largest banks). Domestic Credit, Deposit, Exports, and Imports are represented in terms of percentage change

Consequently, Thai financial institutions began to enjoy a more liberal economic environment, including favorable funding terms from domestic and foreign sources. This liberalization of the domestic credit market led Thai financial institutions to face a far more competitive environment. However, Thailand's financial system was not sufficiently resilient to adjust to problems created by large capital inflows and subsequent expansion of domestic credit. Moreover, the supervisory and regulatory authorities did not possess the independence needed to ensure that prudential standards were met; which resulted in a lag of transparency and lax regulation. Policy toward distressed financial institutions was not clearly stated. As a result, the credit boom and bust that preceded the currency crisis was a major problem of the Thai financial system.

As international capital markets were accessed easier than before and domestic markets were deregulated as well; there was a drastic increase in foreign borrowing in the 1990s before the crisis. Thai commercial banks and finance companies borrowed large amounts of short-term funds from abroad; these borrowings were unhedged as the pegged exchange rate eliminated exchange risks in borrowing in dollars or any other foreign currencies (Table 2). On the lender side, these foreign investors suffered from low interest rate in the industrialized countries, consequently they were more than willing to lend. A sudden increase in the availability of credit through capital inflows was one of the major factors that encourage increasing investment in risky projects such as lending to real estate or securities market participants. In addition, there were no prudential limits on loan concentration; as a result, banks were overexposed to particular sectors. These risky investments, therefore, worsen the quality of the portfolio of those Thai financial institutions. The quality of loan portfolios in both banks and finance companies was weak. Therefore, inadequate regulation and supervision were two of the factors contributed to the weakness of the Thai financial system. Moreover, there was a maturity mismatch in the balance sheets of domestic financial institutions where short-term borrowing was used to finance long-term projects. There was also a currency denomination mismatch as domestic banks lent in local currency but borrowing in foreign currencies without hedging.

Table 2: Thailand External Debt

	Short-Term External Debt		Total External Debt	
Year	end of period	as % of Total External Debt	end of period	as % of GDP
1990	10.417	35.5432	29.308	
1991	15.391	40.63309	37.878	
1992	18.914	43.35985	43.621	
1993	22.634	43.43754	52.107	41.68726
1994	29.179	44.98281	64.867	44.95758
1995	52.398	51.96565	100.832	60.02388
1996	47.743	43.90484	108.742	59.7847
1997	38.294	35.04338	109.276	69.37696
1998	28.44	27.06973	105.062	93.05842
1999	19.539	20.55633	95.051	77.66377
2000	14.694	18.43317	79.715	65.18584
2001	13.37	19.85152	67.35	58.72762

Source: Bank of Thailand

Nonetheless, signs of trouble were not obvious until early 1996 when pressures on the bath emerged. The business environment for financial institutions were worsen as there were oversupplying in the real estate, falling stock prices, and selling of baht in the foreign exchange market. As a result, many international creditors started to stop lending and some creditors even refused to roll over their loans, which worsened the deteriorating balance sheets of banks and finance companies.

On March 3, 1997, the Bank of Thailand and the ministry of finance announced that 10 finance companies had asset quality problems and insufficient liquidity; and these companies were required to increase their capital. Nonetheless, the Bank of Thailand assured the public that other financial companies were financially sound. Bank of Thailand provided liquidity support through FIDF for these troubled companies. The government also established the Property Loan Management Organization (PLMO); an agency to purchase and manage property loans from financial institutions subjected to certain conditions. The market came to realize the weak quality of banks' assets that coupled with

excessive foreign borrowings with short maturities. Market perception reversed sharply which had resulted in massive capital outflows. These outflows were one of the factors that helped trigger the crisis. Economic fundamentals continued to deteriorate when there was a massive speculative attack in May 1997, by that time, almost all of foreign exchange reserves were depleted by the Bank of Thailand in a continuous attempt to defend the fixed exchange rate system.

The problems of finance companies became more explicit at the end of June 1997 when the Bank of Thailand suspended the operations of 16 finance companies, including the above 10 finance companies. The Bank of Thailand ordered these companies to restructure their management. At the same time, the Bank of Thailand declared that no other companies would be suspended. However, the other 42 finance companies were ordered to suspend their operations in August of the same year.

As for the real sectors, there was perceptible slowdown in exports; a sign of an unsustainable current account deficit was strong. The business environment was deteriorating. Simultaneously, there was a substantial appreciation of the real effective exchange rate, rising short-term foreign debt, a deteriorating fiscal balance. On 2 of July 1997, Thailand could not defend her fixed exchange rate regime any more, and the bath was float then.

The response to the crisis followed a fairly standard pattern, which was to accept the IMF assistance under an austerity program. However, as there was substantial deterioration of the financial system, therefore, there was a need for urgent reforms in financial sector.

3. The Restructuring Process

The government had more incentive decided to tackle the economic crisis by starting with financial sector. These are because the balance sheets of financial firms were more legally controlled compared with non-financial firms. Furthermore, because of the deposit guarantee, the government and the taxpayers were more directly exposed to bank and finance company's bankruptcy than to that of financial firms.

3.1. *Financial Restructuring*

Approaches adopted in Thailand for restructuring have involved the injection of central bank liquidity, regulatory forbearance, closure of deeply insolvent financial institutions, takeovers, carving out and transferring bad assets to a central management agency, and capital injection from private and public resources. The restructuring process can be summarized as follows.

Segregation of viable and nonviable financial institution

To save the overall financial system and to provide new basis for subsequent reforms and rehabilitations, the banks and finance companies were forced to take the initiative in cleaning up their own and their borrowers' balance sheets. During June to August 1997, a total of 58 finance companies were suspended. In order to restore the public confidence, the Financial Institutions Development Fund (FIDF) had provided a guarantee of the deposits and liabilities of the remaining financial institutions. Furthermore, the Financial Restructuring Authority (FRA) were established on October 1997 in order to review rehabilitation plans of 58 suspended finance companies and oversee their liquidation process. Then in December 1997, FRA has announced that 56 finance companies were permanently closed and their assets had to undergo a liquidation process and were transferred to the FRA. The auction process of these assets has to be properly managed by the FRA of which proceeds would be subsequently repaid to the creditors. In addition, the Asset Management Corporation or the AMC was established to ensure the orderly sale of lowest quality assets of the 56 closed finance companies. It acts as a buyer of last resort to prevent fire sale of assets, which in turn could undermine underlying collateral values in the total financial system. The assets bought are managed for resale later.

However, it was found that in the second half of 1998, the banks' balance sheets had not been cleaned up. The downturn in the economy and the consequent delay in economic recovery was entirely due to the delay in adjusting the wrong valuations in the balance sheets. The burden, therefore, was posed on financial institutions.

3.1.1. *Financial Sector Restructuring Program of August 14, 1998*

The problem of weak financial sector did not go away after the first process. The government, thus, made a major announcement to assist in the recapitalization of private banks. It contained four major components.

First, in order to assist in recapitalization of private banks, capital adequacy requirements were announced. It undertook to match the banks' success in raising both tier-1 and tier-2 capital for banks. The overall capital adequacy ratio was to remain at 8.5 percent for banks and at 8 percent for finance companies. But tier-1 capital requirements for banks were lowered from 6 to 4.25 percent, and the tier-2 component was raised from 2.5 to 4.25 percent. Participating banks had to meet the provisioning requirements immediately upon receipt of the capital injection, without a phase-in period.

Second, the government set asides for the exercise 300 billion baht for two capital support schemes (tier-1 and tier-2 schemes). The measure was purposed to encourage recapitalization of Thai commercial banks and finance companies thereby restoring and maintaining their solvency. The tier-1 capital support facility was aimed at catalyzing the entry of private capital, whereas the tier-2 capital support facility was aimed at providing financial resources and incentives to accelerate corporate debt restructuring.

The most important condition for participation in the tier-1 scheme was the adoption of loan classification and provisioning standard. The strategy has been to progressively strengthen their capital bases through a combination of more realistic loan classification and provisioning (LCP) and private sector-led capitalization. The deadline of December 2000 was set for the banks to meet the new requirements.

Under the tier-2 scheme, the government forced financial institutions to tackle the balance sheets of non-financial sector. The government would inject capital through the exchange of nontradable government bonds for bank debentures for a maximum of 2 percent of risk-weighted assets. The amount of funds available would be based on the magnitude of the write-offs resulting from corporate debt restructuring, net of previous provisioning, and the net increase in lending to the private sector.

Third, financial institutions were allowed to establish individual asset management companies. The policy measures were adopted to encourage the banks to set up private AMCs. AMCs provide a channel for banks to separate the good assets from the bad assets, improve that bank's balance sheets and asset quality and concentrate on future businesses of the good banks.

The benefit of establishing such private AMCs is that it allows bank management to focus on the good bank and new lending, while attracting superior and dedicated management to perform the specialized task of resolving NPLs. That is, the bank's majority-owned AMC was an alternative to managing the NPLs in-house. The scheme enables NPLs to be valued at market prices, and requires recapitalization to cover the losses beyond existing provisions on transferred NPLs. The regulation allows the remainder of loan losses to be taken in the AMCs, not in the bank.

Fourth, the consolidation of the banks and the finance companies was to be accelerated through additional Bank of Thailand interventions and proposed mergers. For banks and finance companies unable to recapitalize, the bank of Thailand had no choice but to intervene. The government took over, merged, closed down some finance companies and banks

3.1.2. Progress After the August 1998 Program

The task of capital support schemes led banks to manage and raise altogether some 959 billion baht in the process of capitalization. From this amount, government provided 293 billion, of which 241 billion baht went to state banks including the private banks that were taken over. In addition, another 10 billion baht was provided to a number of finance companies.[1]

Such measures had helped to reduce a new level of NPLs[2], however, with such a long time span (Table 3) At the end of June 1998, the total financial system NPLs amounted to 32.69 percent of total loans

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[1] Tarin, Pichet, and Pisit, 2001: p.88.
[2] According to the new definition of NPLs (three months of non-payment instead of six months), official numbers of NPL therefore were available after end-June 1998.

(Figure 1). With continued stagnation of economic activity and delays in corporate debt restructuring, total financial institution NPLs had increased steadily since June 1998 and reached its peak of 2.73 billion baht or 47.7 percent of total loans in the system in May 1999. Private banks accounted for 1.3 trillion or 42.82 percent of total loans, while state banks accounted for 1.17 trillion baht or 69.36 of total loans. NPLs of foreign banks and finance companies totaled 0.08 trillion or 11.52 percent and 0.17 trillion or 67.18 percent, respectively. In the second half of 1999, NPLs gradually declined to 30.94 percent of total loans in August 2000. Although the worse is over, the problem remained large.

Table 3: NPLs Outstanding - Classified by Financial Institution Group Million Baht

	1998	1999	2000	2001	2002 (Feb)
Private Banks	1,239,944	885,441	476,360	370,480	374,424
(% to total loans)	40.48	30.59	18.00	14.42	14.53
State-owned Banks	1,036,654	1,057,276	308,053	71,468	69,719
(% to total loans)	62.45	62.84	21.63	5.59	5.46
Foreign Banks (full branch)	74,244	61,575	38,176	16,590	11,787
(% to total loans)	9.81	9.94	6.60	3.20	2.19
Total Commercial Banks	2,350,842	2,004,292	822,589	458,538	455,930
(% to total loans)	42.90	38.57	17.70	10.50	10.38
Finance Companies	323,691	90,133	34,752	15,453	14,754
(% to total loans)	70.16	49.22	24.48	9.46	8.74
Grand Total	2,674,533	2,094,425	857,341	473,991	470,684
(% to total loans)	45.02	38.93	17.90	10.46	10.32
New IBFs			4,960	2,462	2,028
(% to total loans)			6.40	4.81	4.44
Credit Foncier Companies			1,362	952	943
(% to total loans)			40.92	24.30	21.05
Total Financial Institutions			863,663	477,405	473,655
(% to total loans)			17.73	10.41	10.27

Source: Bank of Thailand
Remarks 1. NPL = Over 3 months past due loans
2. excluding New IBFs and Credit Foncier Companies

Figure 1: NPLs Outstanding-Classified by Financial Institution Group
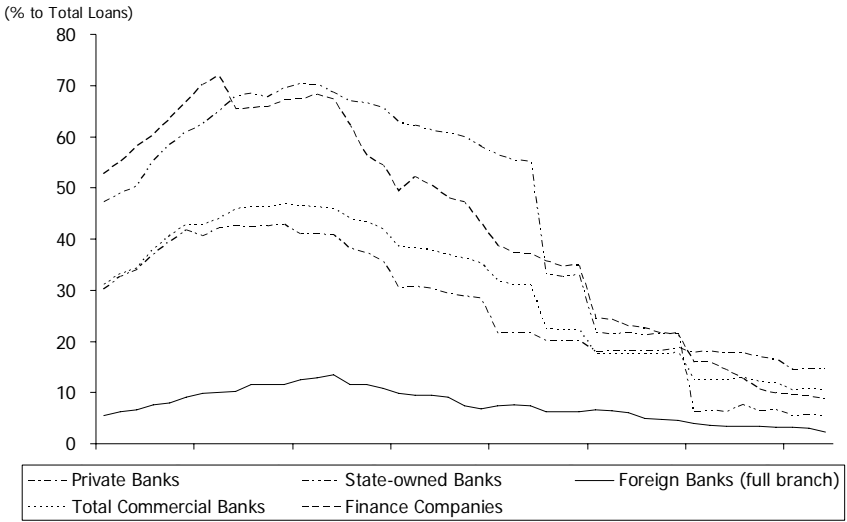
Figure 2: Decrease in NPLs
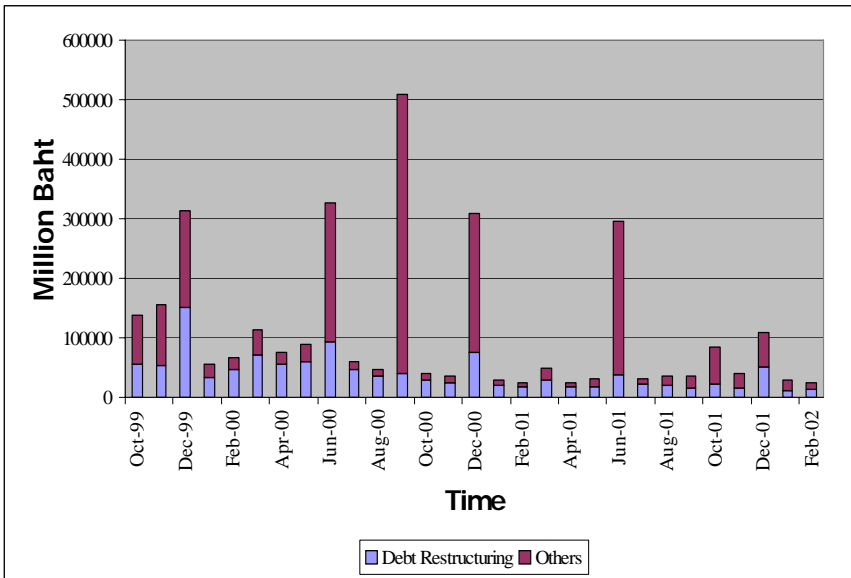
By September 2000, the great strides were apparently made. NPLs dropped to 22.88 percent and these were partly illusory. As banks made provisions, bad loans were sometimes taken of the books altogether. This was because the government encouraged bank to establish their own AMCs. Therefore, at that time, NPLs more than 400 billion baht were transferred in an asset management company. These would disappear from the NPLs statistics, but the NPLs problem still could not be resolved. Many of the debts have merely been rescheduled. The corporate sector in Thailand still remained over-leveraged, which made it highly vulnerable to any downturn. Furthermore, three years after the crisis, commercial bank loans have not recovered from the steady slide since a spurious jump in 1997. On average, during 1997 to 2001, commercial bank loans had declined at the rate of 8.1 percent per annum (Table 4).

Table 4: Loan Outstanding - Classified by Financial Institution Group

	1998	1999	2000	2001	2002 (Feb)
Private Banks	3,063,267	2,894,597	2,646,334	2,568,563	2,576,562
State-owned Banks	1,660,068	1,682,553	1,424,138	1,278,681	1,277,516
Foreign Banks (full branch)	756,505	619,327	578,068	518,973	538,633
Total Commercial Banks	5,479,840	5,196,477	4,648,540	4,366,217	4,392,711
Finance Companies	461,365	183,106	141,940	163,270	168,739
Grand Total excluding New IBFs and Credit Foncier Companies	5,941,205	5,379,583	4,790,480	4,529,487	4,561,450
New IBFs			77,480	51,175	45,714
Credit Foncier Companies			3,327	3,918	4,480
Grand Total			4,871,287	4,584,580	4,611,644

Source: Bank of Thailand
Remarks: Loan Outstanding (Financial Institutions Group excluding New IBFs) in February 2002, as for calculating the ratio of NPL and total loans are excluding the followings:
1) Bad debt write-off can be reaccountable will not count to NPL
2) 100% provision of loss and doubtful loss classification of which non collateral will not count into NPL

It can be seen that the major task of cleaning the financial sector's balance sheets was on the banks themselves. The August 14 package appeared to be moving at a slow pace, with few banks expressing their willingness to participate in the program for fear of losing their management control and ownership under the tough conditions of the tier-1 capital support scheme. In negotiating with debtors, Thai banks were quite reluctant to write down their debts, because that would mean they would have to set aside more money for recapitalization. Many of them chose to reschedule the loans by stretching them out, rather then to restructure them. Most obviously, the banks limited their lending, fearing that borrowers would become non-performing again. They also charged a higher margin in order to generate enough operating profits to pay for the provisioning. At the mean time, this did nothing to improve the debtors' own balance sheets. However, Thai financial institutions have been put on a firm foundation. By the end of 2000, Thai private banks have met their provisioning requirements. Finance companies have even exceeded those requirements, thus meeting the targets set out in the measures.

3.2. Corporate Debt Restructuring

As the crisis was a private sector driven, the corporate debt restructuring is one of the most important issues that have been widely discussed. In this connection, the process of corporate debt restructuring is an integral part of the restructuring of the NPLs because the root cause of NPL problem was the lack of good governance in many sectors, and debtors were no exception. The process of corporate debt restructuring is complex and involves difficult legal, regulatory, and administrative reforms.

One of the most important characteristics of the corporate debt in Thailand has been the prevalence of small loans extended to small and medium-size enterprises (SMEs). That is more than fifty percent of the nation's total classified loans were medium and small-distressed loans. In addition, almost all firms in Thailand are family-owned and family-managed. It is consequently difficult to reject the equity holders without ejecting the management. In other words, restructuring Thai corporate debt would require far more effort.

In June 1998, the government established the Corporate Debt Restructuring Advisory Committee (CDRAC) to facilitate the voluntary process of corporate restructuring and developed the Framework for Corporate Restructuring. The Governor of the Bank of Thailand is the chairman of CDRAC, while its members are represented by the chairpersons from both the creditor and debtor associations, namely the Thai Bankers' Association, the Foreign Banks' Association, the Association of Finance Companies, the Federation of Thai Industries and the Board of Trade of Thailand. The framework also called the "Bangkok Approach", modeled after the London Approach[3].

CDRAC's debt restructuring process allows both the debtors and creditors to voluntarily negotiate the debt restructuring under a market-oriented approach. It consists of 19 principles to facilitate corporate restructuring, which define the expectations of debtors, creditors, and authorities in the voluntary, out-of-court work-out process. To attract creditors and debtors to come together to resolve their debts voluntarily, the Bank of Thailand has coordinated with the Revenue Department, the Department of Land and other relevant agencies in issuing or amending laws and measures to provide tax exemptions and reduce land-transfer fees for creditors and debtors who successfully restructured their debts.

CDRAC coordinated the restructuring efforts under the Debtor-Creditor Agreement on Debt Restructuring Process (DCA) and the Inter-Creditor Agreement on Restructure Plan Votes and Executive Decision Panel Procedures (ICA) by identifying the debtor and creditor groups and setting up the venue for the dialog and negotiations between these two groups.

Despite the weakness that the CDRAC process could not cover creditors who were not financial institutions, it had quite succeeded in its work. By the end of December 2000, 6,239 cases with debt worth 1.1 trillion baht had been resolved out of around 12,000 debtor cases. And as of April 2002, CDRAC successful facilitated 10,109 cases with credits

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[3] A model of large-scale corporate restructuring under a government sponsored out-of-court process.

outstanding of 1.279 trillion baht (Table 5). However, at that time, approximately 1 trillion baht worth of credits were unsuccessfully resolved under the CDRAC's target debtors have been taken to court by creditors.

Table 5: Debt Restructuring of CDRAC Target Debtors by Current Status As of April 30, 2002

Item	Unit	DCA	SA	Total (DCA+SA)
1. Target debtor under the DCA-ICA or SA restructuring process	Cases	1,590	10,083	11,673
	Million Baht	1,467,307	201,860	1,669,167
1.1 Completed cases[1]	Cases	1,018	9,091	10,109
	Million Baht	11,150,449	129,437	1,279,886
1.2 In process of debt restructuring	Cases	-	-	-
	Million Baht	-	-	-
1.3 Unsuccessful restructuring case [2]	Cases	570	992	1,562
- Case filed and to be filed in court	Million Baht	311,778	72,423	384,201
1.4 Transferred to TAMC	Cases	2	-	2
	Million Baht	5,080	-	5,080
2. Target debtors not under the DCA-ICA or SA restructuring process	Cases	1,269	1,908	3,177
(Cases filed and to be filed in court/ In proces of signing SA/Normal Loans)	Million Baht	849,969	106,087	956,056
3. Total Approved Target Debtors	Cases	2,859	11,991	14,850
	Million Baht	2,317,276	307,947	2,625,223

Source: Bank of Thailand
Remarks: [1]Completed cases under DCA/ICA comprise of -:
1. Completed cases (contract has been sign); 2. Agreement on Plan, in process of documentation and signing; and 3. Agreement on Plan, file for reorganization in Bankruptcy Court.
[2]As of April 30,2002, there are 134 small and medium sized debtors with credit outstanding of 3,891 million baht that creditors have the right to take legal action against the debtors and CDRAC had already terminated the process.

3.2.1. *Problems and Bottlenecks delaying Negotiations on Corporate Debt*

Restructuring

Economic crisis was more severe than expected. All parties involved in debt restructuring had limited experience and practical knowledge in dealing with such high level of NPLs in the financial system. In addition, the word debt restructuring, in reality had become debt rescheduling instead.

According to economic conditions, some debtors tried to conserve as much cash-flow as they could, by severely restricting the outflows of funds. Repayment of debts and even payments of interest were considered items that could be dispensed with in such difficult times. The "strategic NPLs" then occurred due to the misguided attitudes in debt restructuring. "Strategic NPLs" used to mean dishonest default, that is, the debtor has the ability to make repayments but chooses not to do so.

The strategic NPLs was employed by firms since, by the end of 1997, banks were reluctant to put new money in order to limit their losses. Therefore firms had to build up a large hoard of cash reserves to sustain themselves during the interim. This gave them considerable bargaining power vis-à-vis their creditors. Such attitudes are not congruent with CDRAC's restructuring process, which aims for debtors to be able to continue their business operations in order to make fair repayments to their creditors who should receive more in return than they would from liquidation in the court proceeding.

Since November 2001, the proportions of new NPLs to reentry NPLs have been declined. For example, in January 2001, new NPLs totaled 13 billion baht, while restructured loans turning bad again totaled 18 billion baht and in January 2002, new NPLs totaled 6.8 billion baht, while restructured loans turning bad again totaled 24.3 billion baht (Figure 3). Even though, there could be many factors that driven up NPLs, the strategic NPLs is believed to play a significant role.

3.3. *The Thai Asset Management Company (TAMC)*

The government established the Thai Asset Management Corporation (TAMC) in June 2001 to help alleviate weaknesses in the bank and corporate sector. It is believed that cleaning out the banks' balance sheets by buying out bad loans from them would make the banks lend again, and bring economic recovery. However, the TAMC act has been riddled with criticisms that the measure would be valid at the start of a financial meltdown, not just three years afterward when the economy had already paid the price of great income losses. Finally, clearing its constitutional hurdles on October 2001, the TAMC started accepting its first lot of asset transfer on October 15, 2001.

Figure 3: Increase in NPLs
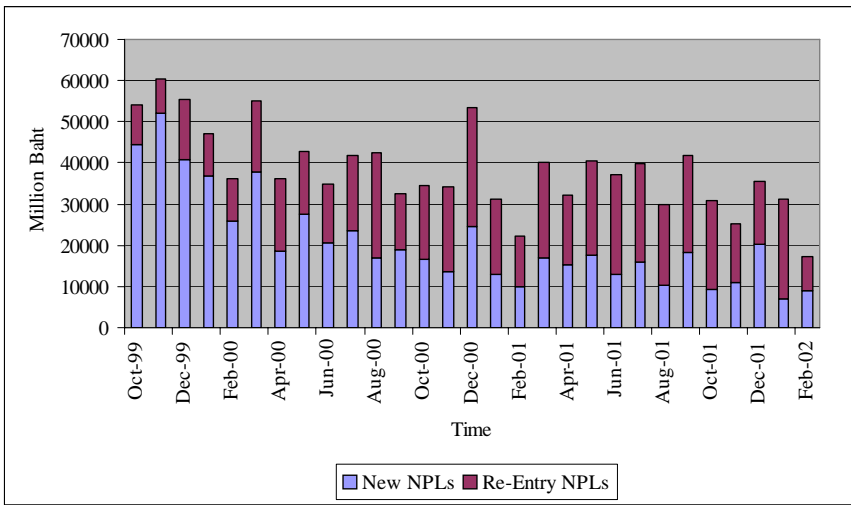
The TAMC is a government agency owned 100 percent by the Financial Institutions Development Fund (FIDF). The TAMC is managed by a board of directors consisting of no more than 11 members appointed by the Minister of Finance and approved by the Council of Ministers. Basically, the TAMC is tasked to clean up those state banks' balance sheets. It is mandated to take over the entire NPL portfolio of the state banks, which totaled 1.1 trillion baht. Those sub-quality assets are

defined as loss, doubtful of loss, doubtful or sub-standard. However, private financial institutions and asset management companies may also transfer NPLs to TAMC. These will be those secured, for which there are multiple creditors, for which the debtors were owing at least 5 million baht and for which no restructuring agreement in writing has been entered for the NPL by July 9, 2001, and for which NPLs were not part of a rehabilitation plan approved by the Bankruptcy Law before June 2001. This part is valued at approximately 250 billion baht worth. However, trade creditors, non-Thai banks and their branches are not eligible to transfer their NPLs to the TAMC.

The TAMC pricings are different for state and private banks. The price of the assets payable by TAMC to the state banks is the value of the collateral. The rules prescribed by the TAMC Board shall determine the price to be paid if there is no collateral. The price payable to private banks is the value of the collateral, or the book value of NPLs less applicable reserve amount, whichever is lesser.[4] The TAMC will pay the banks in non-transferable ten-year FIDF-guaranteed bonds, carrying a floating interest equal to the interest rate on bank deposits.

Profits and losses will be shared at the end of the five and ten years. In the case of profits, the first twenty percent will be shared equally between TAMC and the financial institutions; additional profit not exceeding the difference between the book value and transfer price will accrue to the financial institutions; any further profits will accrue to TAMC. In the case of losses, the first 20 percent of transfer price will be absorbed solely by financial institutions; they will share the losses for the next twenty percent equally with TAMC; and any remaining loss will be borne by the TAMC.

The TAMC has very wide enforcement powers to collect from the banks' debtors. One of the most interesting powers of the TAMC is its ability to restructure the debt by unilaterally amending loan terms, forcing a debt-equity conversion, taking assignments of debts or assets from the debtor to settle debts, and taking transfer of shares or buy issued

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[4] Book value here means the total principal amount of the loan as at the date of transfer together with accrued interest for the 3-month period prior to the transfer date.

shares to increase the debtor's capital. For all these measures, only the approval of the governing board of the TAMC is required.

Currently, the TAMC has successfully transferred 4,565 cases with debt amounted to 698.4 billion baht. The transferred prices were approximately 33.27 percent of the debt value. By the year 2002, it aims at injecting 500 billion baht.[5]

However, there seems to be little enthusiasm towards the TAMC. Bankers do not believe that it is a way to really resolve the NPLs problems. The TAMC may be a vehicle to warehouse the NPLs. With no sign for early economic recovery, injecting more capital into the system do not facilitate banks' activities. Banks still have excess liquidity since it is very difficult to find investment outlet.

4. Constraints on Restructuring

After the severe economic in 1997, progress has been made in improving economic performance as well as restructuring the financial system. Real GDP growth that was sharply decline from 5.9 percent in 1996 to -1.4 percent in 1997 and drastically dropped to -10.5 percent in 1998, has started to recover in 1999. GDP growth slowly adjusted to 4.4 percent and 4.6 percent in 1999 and 2000, respectively.

However, the recovery has been restrained by a number of structural weaknesses. First, there is an excess liquidity in the market with historical low rate of interest and many believe that Thailand has been in a liquidity trap. One reason explaining the excess liquidity is the ill-functioned financial market, resulted from the slow pace of the financial sector restructuring. Besides, the soundness of most banks and financial companies has not been fully recovered. The resumption of lending has been slow, therefore, these financial intermediaries do not play their full role in extending the loans to investors so as to boost up the economy.

Furthermore, the role of monetary policy is rather limited under this scenario. Therefore, the government has implemented expansionary fiscal policy in assisting Thailand to take off from the economic slowdown. Nonetheless, the high percentage of the public debt seems

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[5] Money Magazine (April 2002) Vol. 4 No. 38, p. 21.

threatening the overall economy. The central government debt as a percentage of GDP rose from 10 percent in mid-1998 to 25 percent in the third quarter of 2001 (Figure 4).

Figure 4: Central Government Debt as % of GDP
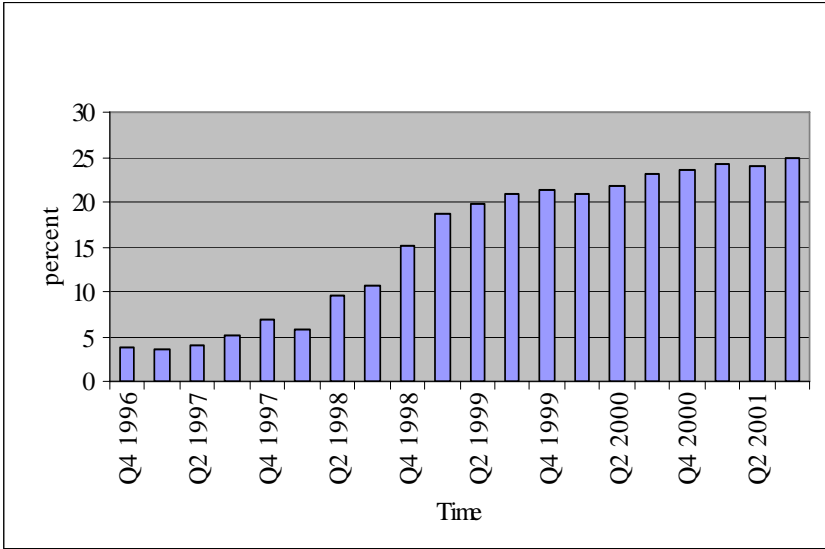
Moreover, the global economic slowdown was exacerbated by September 11 terror attack in the United States. Also there is a slow recovery in the Japan economy. External demand, therefore, has decreased further, as a result, the growth prospect is lower than earlier expected.

5. Conclusion

While globalization offers potentially immense benefits to countries. On the other hand, it also poses new challenges in terms of policy making. The financial crisis has led people to reassess the costs and benefits of globalization, especially one of financial integration. Globalization awards good policies whereas punishes bad ones. Capital flows could definitely benefit a country, if this country sufficiently prepares herself.

The key factor required for a country to recover from a financial crisis is not just a traditional austerity program. We also need to restructuring the financial system and improving corporate governance. The country should also take measures to develop well-functioning capital markets. Actions are required to strengthening prudential regulations and supervisions which should also be politically independent. Moreover, transparency and disclosure of market and company information should be promoted. Improving risk assessment and providing sufficient market infrastructures are also necessary. Significant progress has been achieved through the restructuring process. Nonetheless, The pace of the restructuring should better be accelerated whereas the quality of the restructuring should be further improved. Besides, the country also needs to further develop a bond market, which will help reducing the over-dependence of corporate on bank credit, and increasing resilience in the financial system.

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CHAPTER 5

EAST ASIA FTA: ECONOMIC MODALITIES, PROSPECTS AND FURTHER IMPLICATIONS[*]

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When it comes to the future of East Asia, it looks like this could depend much on the recent experiences on regional integration initiatives. This includes a region-wide free trade arrangement which is mapped out as part of a step towards an East Asian Community. An appropriate economic background is called for which could cover key issues like scope and framework, trade creation and trade diversion, transaction costs, market windening and rules of origin. Implications for regional partners looks unequal but could evolve with rather more benefits than costs and dynamic adjustment for all concerned interests. East Asia needs to go beyond the usual formation of regional arrangements elsewhere.

1. Context

More recently, there is much of renewed interests to form regional integration arrangements in East Asia. The situation has much changed from, previously, where the region used to resist to such a formation.

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There was only ASEAN which represented the only one formal regional grouping among developing countries, solely for the Southeast Asian region. However, by the turn of the new century, a wave of proposals for various kinds of regional integration arrangements have been pursued much more than ever before, even in East Asia. For many, one could ask for the rationale in such initiatives and implications that would follow from such a creation.

Indeed, regional trade liberalization, in brief, is an important and complex issue on an increasing globalized economy. It requires difficult answers about whether and, if so, how and with whom regional preferential integration should be pursued (Bhagwati and Panagariya (1999), Dutta (1999), and Winters (2001)). To make such an assessment requires one to focus on some of the important questions that need to be answered. The issue of costs and benefits will come first to mind and whether the formation of regional integration arrangements will help to raise or to lower welfare. Then, there is also the debate over the virtues and dangers of regional preferential treatment and whether these arrangements can reinforce or hinder multilateral trade liberalization. Answers to these questions have never been easy.

As East Asia is about to embark on, its own vision of a region-wide free trade arrangement, as part of a step towards an East Asian Community (East Asia Vision Group Report (2001)), it is timely to look closely at the formulations and recommendations of such an establishment. This is to ensure that an East Asian Free trade Agreement (EAFTA) is well conceptualized to bring about more opportunities for the region, thus is also contributing to the multilateral trade liberalization and global competition. The key questions are, what the costs and benefits of this attempt, and what are the pay-offs? This is particularly important when one considers additional requirements of "deeper integration" in an EAFTA which hopes to improve welfare both regionally and globally for East Asia.

This paper sets a less ambitious goal which is to discuss some of the key issues that appear to the author. As the formation of an EAFTA will englobe quite a wide range of issues, it is interesting to focus on some that might appear to be meaningful for the region. Why an EAFTA has to emerge? And what does it mean to East Asia? These are two important

questions raised for relevant approach provided in section 2 which helps to set the question for whether EAFTA represents more or less than an FTA in East Asia. Implications for regional partners will be assessed in section 3 as section 4 will discuss the formulations as an enlarged version of an AFTA before the possible future orientation is drawn in the final section.

2. Toward a concise economics of EAFTA

If an EAFTA has to emerge, one could ask for what would be the appropriate framework to apply to the region. Since East Asia comprises countries of almost two billions population in a vast area, there are still at different stages of economic development, thus yet to including differences in political regime, institutions, social groups and values that may involved in the process of liberalized exchanges among them (see Table 1 and Table 2). This is because, in the process of regional integration, the increasingly liberalized movement of goods and services, factors of production [1] and tastes will alter prospects and give new challenges. There are opportunities for major increase in income and wealth for participants in the process. There are also threats of lost income, unadapted sectors, national institutions who may be left behind.

2.1. *Scope and framework*

In order to find an appropriate framework, one may start by asking what are the aims of the regions vis ā vis to this initiative the long run (see Table 3). There is a need to look closely at the long term objectives and to watch closely the market forces operating in the region in order to benefit its dynamics and find ways to manage interdependence among countries. The term "open regionalism" as expressed in the APEC process, will this apply to East Asia? The term is important if East Asia would like to adapt its very first liberalization of the exchange process.[2]

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[1] Capital, technology and labor through migration and as embodied in trade in goods and services.

[2] Will discuss more extensively in section 5.

Table 1: Overview of Selected Indicators for ASEAN-10, China, Japan and Korea, 2000

	Population* (million)	Area (1000 sq.kms)	GDP (US$ billion)[1]	GDP per Capita (US$)[1]	Real GDP growth (%)[1]	Exports (US$ billion)[1]	Imports (US$ billion)[1]	Degree of openness (export+import / GDP)	Rise in consumer price (%)[1]
China	1,266.8	9,600	1,080	855	8.0	249	225	44	0.9
Hong Kong, China	6.9	1	163	24,403	10.5	203	214	256	-6.5
Japan	126.9	377	4,765	37,546	2.4	479	380	18	-2.0
Korea	47.0	98	457	9,726	8.8	172	160	73	-1.6
Taiwan	22.1	36	309	13,926	5.9	148	140	93	-1.7
ASEAN-10	508.8 (total)	4,482 (total)	581 (total)	1,198.9 (average)	5.43 (mean)	436 (total)	388 (total)	135 (average)	2.73 (mean)
Brunei	0.3	6	5	14,094	3.0[4]	2[2]	4[2]	65	1.1[2]
Indonesia	204.0	1,905	152	723	4.8	64	45	72	9.0
Malaysia	22.2	330	89	3,848	8.8	102	86	211	4.0
Philippines	75.2	300	74	949	4.0	38	33	96	5.5
Singapore	3.8	1	95	28,092	10.0	140	137	292	3.0
Thailand	61.5	513	123	1,964	5.0	70	63	108	2.3
Vietnam	78.1	332	31	397	6.5	15	16	100	2.5
Cambodia	11.4	181	3[2]	289[2]	4.5[2]	2[4]	2[4]	125	-0.8[3]
Lao PDR	5.0	237	2[2]	315[2]	5.7[2]	1[4]	0[4]	50	25.1
Myanmar	47.3	677	7[2]	155[2]	6.2[2]	2[4]	2[4]	57	0.1[3]

Notes : *1999

Sources : 1 EAEP (2002), East Asian Economic Perspectives: Recent Trends and Prospects for Major Asian Economies, February, Tokyo, Vol. 12, Special Issue

2 ASEAN Secretariat, ASCU Database

3 International Financial Statistics, July 2001

4 Direction of Trade Statistics Quarterly, June 2001 and December 1999

Table 2: Average Annual GDP and Merchandise Export Growth Rates in Selected Asian Countries

Economy	Growth in Pre-crisis Period (1995-1996)		Growth in Crisis Period (1997-1998)		Growth in Post-crisis Period (1999-2000)		Estimate Growth Period (2001-2002)[1]	
	GDP (%)	Export (%)	GDP (%)	Export (%)	GDP (%)	Export (%)	GDP (%)	Export (%)
China	10.0	21.4	8.3	10.7	7.6	17.0	na	na
Japan	2.5	2.4	0.4	-2.7	1.5	-3.5	-0.5	-7.4
Korea	7.8	17.8	-0.85	1.0	9.8	15.5	2.8	-5
Taipei, China	6.2	11.8	5.6	-2.0	5.7	16.1	7.2	-5.1
Indonesia	8.0	11.9	-4.2	0.8	2.8	15.0	3.6	3.4
Philippines	5.2	23.6	2.4	19.8	3.6	13.8	2.9	-6.6
Singapore	7.8	13.7	4.8	-6.2	7.9	12.4	-0.7	-3.8
Thailand	7.6	11.4	-6.1	-1.5	4.2	13.5	1.8	-1.7
Vietnam	9.4	32.5	7.0	14	5.8	25	5.9	9.6
India	7.4	13.0	5.8	0.3	6.2	14.3	na	na

Source : Computed from Asian Development Outlook 2001 (ADB 2001)
1 EAEP (2002), East Asian Economic Perspectives : Recent Trends and Prospects for Major Asian Economies, February, Tokyo, Vol. 13, Special Issue

Table 3: Components of Regional Trading Arrangements Taken Place in ASEAN and EAFTA

	ASEAN	EAFTA
Tariff elimination	3	3
Non-tariff elimination	3	3
Rules of origin	3	?
Common external tariff	-	-
Specific timetable for liberalization	3	?
Free trade in services	3	?
Free movement of labor	?	?
Free movement of capital	?	?
Promotion of industrialization	3	?
Compensation fund	3	?
Promotion of other trade objection	3	?
Accompanying payment arrangement	?	

Also if an EAFTA is not an ended objective, one could ask whether this EAFTA is a mean to move to the Asian Economic Community (AEC) which could be more desirable in the long-run (Dutta (2002)).[3] In other words, the role of regional economic integration through an AEC will become more significant for the success of the region in the process of further globalization.[4]

Trade liberalization is known to involve much efforts from all countries involved. Japan, is known, for its own non-tariff measures against agricultural imports. China is just about to start its own unilateral liberalization under the WTO. Korea, although adamant to move in an EAFTA, might be faced with some protests from social groups back home. And most ASEAN countries already under the AFTA, are still unsure how to face the trade liberalization of the neighboring northern countries. All this requires the will of the countries to cooperate and build trust in the longer term.

In its design, an EAFTA might have to fit in a broader scope like an AEC. The challenge is also to overcome with a clear objective and to undertake a reasonable economic framework. Countries gains by grouping, the magnitude of the benefit to either of the parties depends on different industries and actors that devolve upon the others. Conflicting national interests might arise (Gomory and Baumol (2000) : 109). The transfer of an industry from one country to another will generally benefit the acquiring country at the expense of the other. This would have direct implications for the design of a nation's trade policy as many countries of East Asia might not yet give up the kinds of trade protection they have previously to the barriers elimination.

Apart from conflicting national interests, it might also be argued that trade liberalization, per se, involving tariff and non-tariff measures might not survive its own course if these efforts are not supplemented by a certain kind of harmonization like trade facilitation. This trade facilitation offers a soft approach in parallel to the hard approach of trade liberalization which would involve more trade negotiations. The move toward a free trade integration in this sense could be gradually but persistent and consistent with the overall pursuits.

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[3] As this would involve intra-community macro and micro-economic parameters.

[4] Experiences of the EU and lessons to be learnt for Asia are great in this area.

2.2. *Trade creation and trade diversion*

The tradition of any regional trading arrangement must normally start with the discussion of trade creation and trade diversion, as a result of such a bloc creation (Viner (1950)). This approach has adopted a view on regional trading arrangements as a combination of trade creation and trade diversion. In sum, if regional costs are above international price levels, trade liberalization at the regional level tends to give rise to trade diversion. But if economic integration causes regional costs to fall and could be below international prices, by lowering barriers to exchange among members, preferential trade arrangements could give rise to trade creation.

This static welfare analysis helps to draw the bottom line that trade diversion move, members in the bloc, away from global suppliers at costs that are lower than its own, which finally leads to an increase in trade among members of the regional agreement. This increase has also been called trade creation even though trade could not be the lowest cost suppliers. To help reminding such trade creation and trade diversion associated with the formation of regional trading arrangements, one would start with the illustration of Figure 1.

Figure 1 illustrates the effects of imposing a tariff to only non member producers when member producers are less-efficient suppliers. As Viner shown clearly, before any tariff is applied, all imports are mainly from the most efficient producers, which in this case, represent non-member countries. The importing country has the choice to buy from member producers at price P_M, or from non member producers at price P_W. Since P_W is evidently lower, all imports should come from non-member producers. With no tariff at all, the importing country's supply will come from non member country with the total imports of $Q_1 Q_2$. Even if a tariff is imposed to both member and non-member producers (P_{w+t}), imports will still originate from non member producers (with the total imports of $Q_3 Q_4$).
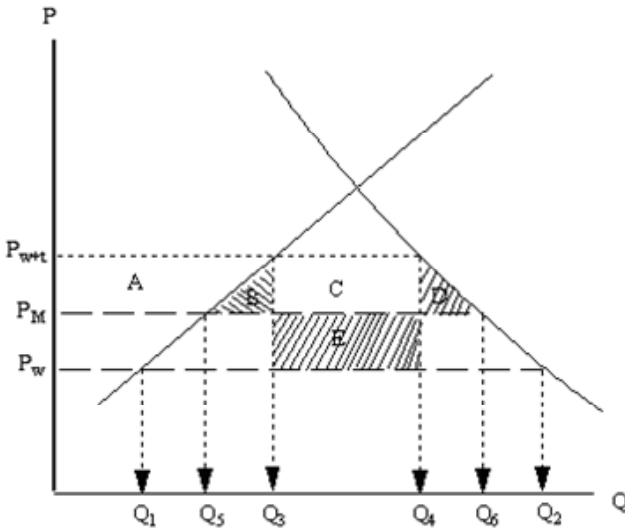
Figure 1: Trade creation and trade diversion

In a regional context, if tariff is applied only to non member producers so that price of non member imports is higher than the price of member imports (P_{w+t} is higher than P_M), all imports will originate from countries within the bloc ($Q_5 Q_6$). The country will import less ($Q_5 Q_6$ instead of $Q_1 Q_2$) as a result of a tariff applied to only outsiders' countries and consumer demand less than before (P_W). This domestic consumer loss, is a deadweight loss, and does not represent a gain for anyone.

However, with a regional bloc formation and internal tariff liberalization, a tariff-free member supplier can compete effectively because its costs (P_M) are lower than the world price with imposed tariff (P_{w+t}). A preferential treatment for member countries only results in a gain for consumers (areas A+B+C+D), a lost for producers (area A), and a loss of tariff revenue (areas C+E). If areas B and D (or trade creation) are larger than E (or trade diversion), then the net welfare of a trade formation is positive. On the other hand, if area E is larger, than the net welfare is negative.[5]

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[5] However, some would argue that, regardless of the net welfare effect, this is still a case of trade diversion because trade is less efficient higher price sources than would occur with full liberalization (Reynold, C. W. (1995)).

2.3. *Transaction costs*

Trade creation is likely to be great and trade diversion small, if transaction costs among prospective members of a bloc are low. Transaction costs, as could be broadly defined, are introduced in the cost function of the regional trading partners (Figure 2).[6] In this sense, transaction costs involve in the process of exchange would include those of transportation, communications, bureaucratic red tape, transshipping because of customs and border regulations, all of which are significant for the East Asian region.[7]
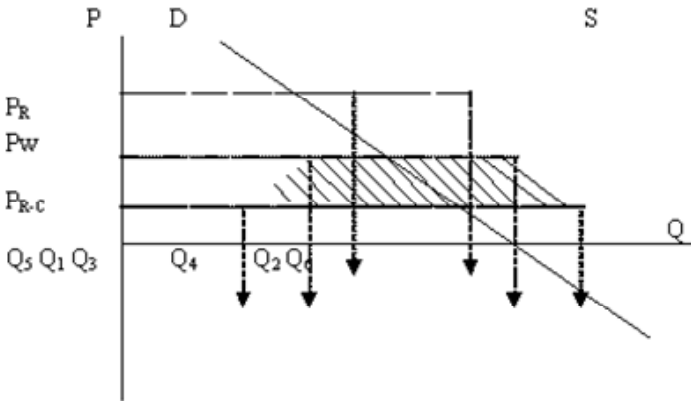
Figure 2: Trade creation and trade diversion with transaction costs (broadly defined)

Thus, transaction costs including transportation costs and other costs of exchange, coupled with the existence of economies of scale, is important to resource allocations and geographic location of industry across space (Krugman (1991)). From Figure 2, difference between P_R and P_{R-C} represents transaction costs per unit of output under a broadly defined regional partner in which location matters importantly to

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[6] Transaction costs are viewed as costs that arise when individuals exchange ownership rights to economic assets and enforce their exclusive right. Costs of arranging a contract ex-ante and monitoring and enforcing it expose as opposed to conventional production costs, which are cost of executing a contract. (Eggertsson (1990): 14).

[7] These may amount to ten or more percentage point in total value added (Reynolds (1995) : 11).

comparative advantage. When barriers are removed, the internal price of the region falls to P_{R-C}.

With regional integration, member country could establish a competitive advantage in the activity at the global level. This is shown as costs which are now below those of the world Pw, so that a protection is no longer needed (Reynolds (1995) : 12). Under this dynamic hypothetical case, the regional economy (and in our case meant East Asia) is able to eliminate its external barriers and still increase regional trade through trade creation. Thus, the realization of reduced transaction costs through regional integration represents a kind of trade shifting toward the region or a favorable trade diversion.[8]

It is also important to note that overall would welfare could increase, even though trade within the region could grow to some extent at the expense of outsiders' countries, because of lower regional costs rather than protection with rent-seeking barriers. Wannacott (1994) lists a number of positive impacts of this trade diversion : they include favorable terms of trade effect i.e.; lower prices of imports relative to exports for regional partners, a reduction in quota rent to third country suppliers as prices fall to the lower regional level; erosion of lobbying within the region as new low-cost producers establishes themselves and gain their own voice within regional markets; huge potential scale economies for the region especially in East Asia; and the opportunity to help reduced levels of previous trade diversion where, in fact, they were earlier preferences to other suppliers[9] (e.g. new trade bilateralism in several East Asian countries).

2.4. *Market widening*

The impact of transaction costs reduction can also be shown through market widening in Figure 3. Through increased access for regional

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[8] Because it has relied not upon the erection of eternal barriers, but the reduction of internal barriers to exchange.

[9] Wannacott (1994) argued that the NAFTA sectoral liberation decided to opt for lower external tariffs because North American integration lowered their own costs to globally competitive levels due to economies of scale and lower cost inputs, including those from abroad.

producers, there is the case of increasing returns to scale. East Asia is well placed to gain "external economies of scale". Under favorable conditions under increasing returns, which are particularly found in knowledge-intensive industries as embodied by skilled labor, regional trade arrangements can be trade creating since they may push cost curve below international competitive levels. (Bhagwati and Panagariya (1996)). The East Asian countries are competitive in several knowledge-driven industries owning to large work force of relatively educated population will low wages.
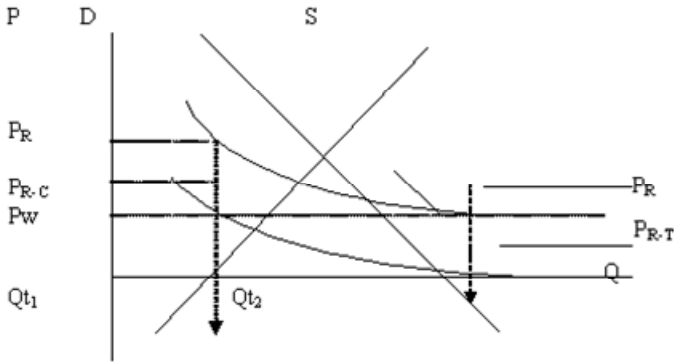
Figure 3: Dynamic effects of trade diversion and trade creation with market widening and increasing returns

The removal of barriers to trade lower costs. As shown in figure 2, cost curve shifts downward, reflecting scale economies realized through production expansion to serve a widening regional market. Increasing returns to scale are possible by linking individual markets of a region into a broader region-wide economy as well as assessing the international market in general. Comparative static gains are presented here as follows:

- At Qt_1, both P_R and P_{R-C} are still higher than P_W. The quantity produced is still small even without barriers to trade, the product in a regional market is still trade-diverting as compared to the one outside the region;

- On the other hand, due to the medium and long-run effects of integration, continuous reduction of barriers to trade is having strong

impact for production expansion in a region-wide market integration. At Qt_2, product at the region becomes more cheaper than the international market.

The more the regional partners pool their skilled labor,[10] the more they can benefit from economies of scale. At one point in time, they could easily expand through "open regionalism" in the international market. For China and many other East Asian countries, integrating can give rise to scale economies, just as their large cities like Hong Kong and Singapore through international integration.[11]

The process of market widening however require careful attention to social and political implications if it is not to be distorting and destabilizing (Reynolds (1995) : 17). Tradable as much as nontradable sectors are to be taken into consideration, inducing increase both domestic and foreign investment to serve the expanded regional demand and supply effects. Cross-border investments to take the advantage of the new opportunities would be increased by policy harmonization among regional partners.

2.5. *Rules of origin*

There are also the issues in which FTAs, in many ways, might differ from customs union. For a free trade area, it had been assumed that since each country maintains its external tariff's structure, average external tariff levels remain unchanged was automatically satisfied. Krueger (1997) proves, however, the assumption can be shown to be incorrect as rules of origin can serve as additional trade barriers in an FTA in ways that cannot be under a customs union. Thus an understanding of differences between FTAs and customs union become important, especially for issues like overlapping FTAs which several East Asian countries are now running into (Chirathivat (2001)).[12]

Krueger (1997a) outlines three related consequences. First, "trade deflection" could happen as each good and service enters through the

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[10] This may require a region-wide migration.

[11] Major gains in East Asia may derive from "open regionalism" to the extent that regionalism is extended to internal integration of markets and related institutions.

[12] The issue of overlap is an issue that arises with FTAs and not all customs union.

member country with the lowest tariff and is transshipped. Thus, a need for rules of origin is to be established. Second, an FTA may "export protection" from one regional partner to another through incentives created by rules of origin. Third, different protection rates in an FTA implies the producer in regional partners cannot be facing common prices of tradables or of nontradables that use significant quantities of tradables as inputs. How important of these consequences are depend on the structure of protection existing in members of the FTA, and the economic response to them.[13]

Thus, rules of origin applied within regional trading arrangements plays a crucial role in determining the degree of protection and the level of trade distorsion. One important note (Krishma and Krueger (1995)) for the East Asian region, in this regard, is that rules of origin can induce a switch in the sourcing of low cost non-regional to high-cost regional inputs in order for producers to take advantage of the preferential rates. The specific production relations that exist between component producers and users are indeed important in a production value chain in different countries of East Asia. In the end, non-regional producers of intermediate goods hurt by restrictive rules of origin may move production activities into lower-cost country in the region even though it is not the most efficient, lowest cost producer at the global level.[14]

There are also transaction costs related to enhancing border-crossing procedures in an FTA. Costs are related to documenting products and verifying them prior to border crossing. Thus, continuous treatment of transactions across borders could be cumbersome, hence may not be effective to promote exchange in an FTA. Necessary documents to prove the origin of exchange entails costs which may cause producers to pay relevant duties rather than incur the costs of proving origin.[15]

In principle, from the welfare point of view, "an FTA cannot lead to any more trade creation than can a customs union and when rules of

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[13] Each is likely to have consequences for economic behavior and hence the impact of FTA.

[14] This scenario could potentially distort efficient investment decisions and hinder liberalizing effects of a free trade area. (Estevadeordal (2002) : 13)

[15] It is estimated that these costs in the context of EAFTA is at 3-5 per cent of f.o.b. price. (Krueger (1997), (1991).

origin export any protection, an FTA leads to more trade diversion than does a custom union" (Krueger (1997b) (1999)). In other words, rules of origin are the main cause that can result in trade diversion under an FTA which, under a customs union, this will not occur. In consequence, there can be no prospect of an FTA evolving into a "single market" unless tariff-rate unification a la customs union is undertaken at a later date. This is quite a big target if an EAFTA is aimed to survive its own course in the long run. It needs to challenge several critical issues related to each regional partner's freedom, prepareness and common interests in the long run.

3.   Implications for regional partners

If a regional trading bloc is to be formed, there are costs and benefits that need to be assessed thoroughly. As a regional preferential treatment involves directly the reduction of trade barriers in each regional partner, it requires careful consideration of all major aspects of direct effects of FTA and changes in economic policy that might follow. This study applies the Global Trade Analysis Project (GTAP) model known among interested persons in the field. (see Annex 1). For the ASEAN countries, they might live with these experiences for some years already with their own AFTA. But, so far, as there will be a more or less ASEAN+3 with a population moving up to almost two billion in number, this will be evidently the largest FTA in the world.

For the former ASEAN-6, average tariff rates collected from Japan, China and Korea stand quite differently. The level is high for Japan (19.9 per cent) and low for Korea (4.6 per cent) and China (2.3 per cent) (see Table 3). This is mainly due to the products of motor vehicles and parts and some other manufactured products in which ASEAN countries tax heavily on its imports. On the other hand, average tariff rates collected from ASEAN products also stand differently in the three countries. Japan represents the lowest level (2.2 per cent) among the three while China stands for the highest (9.4 per cent). Obviously, China imposes a high trade barrier for ASEAN products in most agricultural exports thus including, processed rice, vegetable oils and fats, sugar, beverages and tabacco products, and in various manufactured exports like wearing apparel, motor vehicles and parts and electronic equipment.

Table 4: Average tariff rates of ASEAN, China, Japan and Korea

	ASEAN collected from				ASEAN subject to collection from		
	China	Japan	Korea		China	Japan	Korea
Grain nec	0.76	41.94	45.00	Meat products	23.92	24.45	28.05
Gas	13.90	13.90	0.00	Dairy products	12.59	18.23	21.63
Textiles	11.34	11.28	14.21	Food products nec	27.69	12.71	26.08
Wearing apparel	4.52	6.63	14.44	Beverage, tabacco prods	49.72	16.63	10.47
Wood products	14.68	5.53	7.64	Wearing apparel	31.50	11.73	12.07
Motor Vehicles and parts	10.71	59.17	39.36	Leather products	10.18	11.51	9.56
Average	2.34	19.88	4.56	Average	9.37	2.16	6.22

Source : Chulalongkorn and Monash General Equilibrium Model (CAMGEM), Chulalongkorn University

As for trade barriers among the three Northeast Asian countries, China represents the most protected countries in terms of its average tariff rates collected from Korea and Japan (see Table 4). Korea stands in the middle and Japan, the least protected, in terms of this tariff collection. In terms of product categories, China collects a high tariff from Japan for the products like vegetable and oils, food products, textile, wearing apparels, motor vehicles and parts. In the case of Korea, they will be subject to high tariff collection for products like vegetable and fruit, fishery, animal products, vegetable oil and fats, beverages and tabacco products, textile, wearing apparels and motor vehicles and parts. As for Korea and Japan, they are also quite protective for their agricultural imports and some manufactured products. These are animal products, milk, sugar, food products, fruit, vegetables, textile, wearing apparels.

In a FTA, if the principle is fully implemented, the regional framework by abolishing trade barriers allows trade expansion among regional partners which could be realized through trade creation and trade diversion effects as mentioned in section 2. The removal of trade barriers is supposed to lower costs, increase intra-regional trade and increase economic efficiency. This will help to boost real income in the regional economies as resources flow to sectors where they can be more efficiently and productively utilized. In order to look at changes resulting

from such a FTA, it requires to apply analytical tools which will give results for further interpretation.

To simulate the effects of an EAFTA, one could apply a general model application known as the Global Trade Analysis Project (GTAP). In such an application, it assumes that rates of trade protection are reduced to zero which is the ultimate goal to eliminate all tariff and non-tariff measures. Based on the average level of production in ASEAN, China, Japan and Korea, one could assess the macroeconomic impact of tariff elimination as follows :

- Essentially, ASEAN seems to gain the most in an increase in real GDP at market prices of 3.36 per cent, mainly from its own internal effects while Japan stands to gain the least of this increase of only 0.08 per cent (see Table 5). China and Korea, meanwhile, will gain each an increase in real GDP at market prices of 1.66 per cent and 1.86 per cent respectively. These gains are mainly derived, for both countries, mainly from the regional effects in a FTA.

Table 5: Average tariff rates of China, Japan and Korea

		China collected from		Japan collected from		Korea collected from	
		Japan	Korea	China	Korea	Japan	China
1	Veg, fruit, nut	19.58	25.93	6.44	5.45	55.92	35.59
2	Crops nec	7.70	14.21	5.98	7.08	11.87	8.73
3	Fishing	14.97	26.20	5.04	5.08	10.15	15.01
4	Meat products	26.11	24.82	16.56	1.15	27.53	29.83
5	Poultry, seafoods	21.59	28.72	7.51	6.38	16.41	18.11
6	Veg oil and fats	36.66	39.73	0.30	2.62	16.22	6.56
7	Food products nec	36.52	32.09	13.23	14.21	44.65	29.78
8	Beverages, tobacco prods	59.42	48.83	11.31	10.01	1.31	21.87
9	Textiles	26.21	25.88	10.06	10.15	8.65	11.03
10	Wearing apparel	33.21	32.91	12.06	11.74	12.53	12.90
11	Motor vehicles and parts	66.27	64.14	0.04	0.07	7.57	7.81
12	Manufactures nec	19.24	19.58	2.36	1.75	7.59	7.69
	Average	13.72	9.71	6.99	1.73	6.44	7.37

Source : Chulalongkorn and Monash General Equilibrium Model (CAMGEM),
Chulalongkorn University

- In terms of net welfare, ASEAN also stands to gain the most. However, this gain is also shared among the other three countries. ASEAN, similar to China, looks to be net gainer as the costs of rise in land price, wage rate and reduction of capital price are taken into consideration.

- Also, most countries seem to gain much higher trade expansion with the tariff elimination (see Table 6). China stands to gain the most in all other markets while the country also sees other regional partners gaining better market access into its own place.

- The result also shows a low degree of trade diversion both for ASEAN and China. On the other hand, it seems to be that Japan's and Korea's export to the third markets could be slowed down by the FTA, especially in the EU and the USA. Overall trade diversion in a FTA is equivalent to 6.5 per cent for the U.S. and 4.7 per cent for the EU.

- China would most likely profit from costs advantages of input imports from the regional partners like ASEAN which would help China to be more competitive and export even more to third markets. ASEAN, also, would gain from input price decrease for intermediate and capital goods imports which would encourage most ASEAN countries to invest and export more to the East Asian region and the world.

The implications of tariff liberalization is clear to a certain extent. The assessment of non-tariff liberalization, on the other hand, is not an easy exercise since it involves various measures which are not easily captured. As tariff equivalent of non-tariff measures is not easily estimated, this study applied the non-tariff measures incidence to measure the non-tariff protection which has been integrated within the model :[16]

- Overall, the impact of non-tariff liberalization is not an easy exercise since it involves various measures which are not easily captured (see Table 7) The average level is generally higher than the one of tariff. For instance, the average non-tariff protection of China against ASEAN

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[16] Based on TRAINS developed by the UNCTAD, core NTMs are classified into three categories : quantitative controls, price controls and financing. This is not including measures like automatic licensing, monopolistic controls, technical barriers, and others.

Table 6: Macroeconomic impact of tariff liberalization on ASEAN-6, China, Japan and Korea

	ASEAN				China				Japan				Korea			
	Internal	External	Regional	Overall	Internal	External	Regional	Overall	Internal	External	Regional	Overall	Internal	External	Regional	Overall
Rental price of capital (%)	-2.43	-3.06	0.61	0.08	-1.61	-0.27	0.18	-1.58	1.53	-0.07	0.74	0.87	1.32	-0.09	0.41	1.01
Rental price of land (%)	9.94	4.21	6.39	-0.84	11.37	-0.76	0.21	12.12	-0.67	-0.62	0.18	-0.21	5.09	-0.69	0.79	5.09
Labour wage rate (%)	2.39	1.47	1.95	-0.75	3.27	0.03	0.06	3.18	1.54	-0.16	0.81	0.89	4.88	0.00	0.60	4.30
Terms of trade (%)	-0.81	-1.39	0.80	-0.14	-1.50	-0.49	0.12	-1.19	1.77	-0.23	0.94	1.05	0.87	-0.20	0.33	0.75
Real GDP (factor cost) (%)	3.13	3.04	0.80	-0.56	1.47	0.17	-0.06	1.34	0.09	-0.04	0.06	0.06	1.72	0.03	0.13	1.55
Real GDP (market prices) (%)	3.36	3.37	0.76	-0.59	1.66	0.22	-0.07	1.49	0.08	-0.04	0.06	0.06	1.86	0.05	0.13	1.69
Real investment (%)	5.52	5.44	1.39	-1.00	4.01	0.46	-0.12	3.71	0.11	-0.10	0.10	0.09	4.03	0.14	0.25	3.67
Export volumes (%)	6.90	6.88	0.95	-0.68	16.13	1.75	0.06	14.58	4.66	0.51	0.93	3.31	7.22	0.53	0.36	6.44
Import volumes (%)	6.49	6.06	1.66	-0.90	20.38	2.34	0.12	18.35	7.10	0.33	1.91	4.90	9.18	0.44	0.66	8.18
Trade balance (millions)	-2398.65	-3189.42	212.16	442.23	-3185.47	-1188.02	181.72	-2332.65	1480.26	18.33	985.52	517.38	-2147.61	-214.01	13.70	-1961.59
Welfare (millions$)	13248.79	10921.06	6840.15	-3480.63	6343.16	308.53	-106.79	5936.18	11399.89	-2539.16	6556.24	6968.56	7939.04	-152.21	1013.16	7083.51

Source : Chulalongkorn and Monash General Equilibrium Model (CAMGEM), Chulalongkorn University

imports into the country is exceptional higher than most bilateral trading partners. China alone imposes such a high protection for Japan and Korea as well. Korea, on the other hand, seems to be the least protected country among all regional partners, then followed by Japan and ASEAN.

- Average non-tariff rates of ASEAN collected from the three countries are high for products like poultry and seafoods, vegetable oil and fats, food products, petroleum and coal products and motor vehicles and parts (see Table 7). On the other hand, average non-tariff rates of Japan, China and Korea, collected from ASEAN products are high for forestry products, daily products, processed rice, beverage and tobacco products, and paper products and publishing.

- As for average tariff rates of China collected from Japan and Korea are high for products like plant-based fibres, livestocks, vegetable oil and fats, beverage and tabacco products, motor vehicles and parts (see Table 8). Meanwhile, Japan concentrate its protection on products from China and Korea on mostly products like livestock, forestry, meal products, processed rice and food products. Finally, Korea opts to protect its products from import competition from China and Japan on most agricultural products like vegetable, fruit and nut, livestock, wool and silk worm cocoon, daily products and processed rice.

- The result of the non-tariff measures' macroeconomic impact, as shown in Table 9, is mostly significant for China as its overall GDP could rise up to 6.3 per cent and its overall welfare is also substantial. ASEAN and Korea seem to gain quite remarkably for its GDP rise, welfare and price. Japan, at the bottom, for its benefit gained in term of GDP. However, in terms of welfare, it is still meaningful result for Japan as much as its rise for rental price of capital as Japan finds its own position to finance more widely for regional partners.

- China gains for its GDP at the expense of its own trade balance worsening, and even more than the one of ASEAN. Japan seems to gain with a trade surplus more than the rest. Korea has not much been affected by its own trade balance with the region. China seems to be a net gainer for its exports to the third markets as its products become more price competitive and supply to most major countries like the USA and the EU (see Table 10). ASEAN seems to expand much to the Chinese market.

Table 7: Impact on trade flows as a result of tariff liberalization

Imports Exports	Thailand	ASEAN	China	Japan	Korea	Australia	India	USA	Eu	Others	Total
Thailand	0.00	3.28	54.89	13.96	12.69	4.35	1.42	6.50	4.66	3.32	8.38
ASEAN	-7.07	0.05	43.95	9.19	16.20	2.30	1.02	3.95	2.68	2.47	5.18
China	45.01	21.22	0.00	30.84	60.84	4.41	0.86	4.74	4.43	3.96	12.67
Japan	25.15	15.95	56.78	0.00	14.09	-7.34	-7.85	-8.38	-8.82	-8.49	2.46
Korea	31.20	10.73	59.23	7.49	0.00	-4.92	-6.09	-5.66	-6.80	-6.60	4.97
Australia	-7.43	-0.54	-6.32	0.33	2.09	0.00	-0.87	-1.11	-1.71	-1.48	-0.68
India	-5.18	0.28	-12.57	-2.89	-3.25	-0.94	0.00	-0.60	-0.71	-0.18	-0.89
USA	-6.38	-1.78	-12.92	0.91	-7.53	0.31	-0.85	0.00	-0.69	-0.50	-1.07
EU	-9.61	-5.88	-24.48	-0.23	-4.76	0.64	-0.44	0.19	-0.51	-0.30	-0.92
Others	-4.21	-0.82	-14.39	0.78	-1.16	0.18	-0.65	-0.13	-0.77	-0.55	-1.08
Total	4.83	3.41	8.70	5.05	5.31	-0.62	-1.16	-0.91	-0.75	-0.90	0.38

Source : Chulalongkorn and Monash General Equilibrium Model (CAMGEM), Chulalongkorn University

Table 8: Average non-tariff rates of ASEAN, China, Japan and Korea

	ASEAN collected from				ASEAN subjected to collected from		
	China	Japan	Korea		China	Japan	Korea
Forestry	96.78	76.65	0.05	Poultry, seafoods	23.77	53.14	43.88
Dairy products	24.98	0.00	38.93	Veg oil and fats	25.03	8.01	66.69
Processed rice	100.00	100.00	100.00	Food products nec	12.40	24.97	51.65
Beverages, tobacco prods	52.18	37.15	6.55	Petrolium, coal products	14.30	14.72	18.09
Paper prods, publishing	85.08	5.07	0.00	Motor Vehicles and parts	6.06	21.04	18.14
Average	69.08	4.21	1.17	Average	9.99	8.68	12.54

Source : Chulalongkorn and Monash General Equilibrium Model (CAMGEM), Chulalongkorn University

Table 9: Average non-tariff rates of China, Japan and Korea

		China collected from		Japan collected from		Korea collected from	
		Japan	Korea	China	Korea	China	Japan
1	Veg, fruit, nut	0.46	0.00	14.27	2.00	66.32	56.49
2	Plant-based fibers	92.95	89.48	20.98	0.00	0.00	0.00
3	Livestocks	92.09	99.06	10.42	13.98	27.47	82.91
4	Wool, silk-worm cocoon	100.00	0.00	0.00	0.00	59.47	57.10
5	Forestry	3.23	2.97	54.13	88.92	2.92	12.95
6	Meat products	0.00	0.00	21.90	0.12	0.00	7.43
7	Veg oil and fats	67.82	95.06	1.04	0.00	2.84	0.96
8	Dairy products	4.42	12.33	0.00	0.00	33.30	7.31
9	Processed rice	0.00	0.00	100.00	0.00	99.91	0.00
10	Food products nec	10.98	18.32	23.57	38.53	12.71	7.86
11	Beverages,tobacco prods	78.60	45.17	47.49	81.92	3.47	0.03
12	Leather products	70.96	52.96	0.00	0.00	0.00	0.00
13	Motor vehicles and parts	68.45	75.78	0.00	0.00	0.00	0.00
	Average	45.38	37.78	22.60	17.34	23.72	17.93

Source : Chulalongkorn and Monash General Equilibrium Model (CAMGEM), Chulalongkorn University

Table 10: Macroeconomic impact on non-tariff liberalization on ASEAN, China, Japan and Korea

Variables	ASEAN				China			
	Overall	Internal	External	Regional	Overall	Internal	External	Regional
Rental price of capital (%)	-0.40	-1.53	1.37	0.00	-4.96	-0.98	0.20	-4.43
Rental price of land (%)	14.46	0.41	15.87	-1.50	17.21	-1.65	1.30	18.41
Labour wage rate (%)	2.97	0.75	4.08	-0.96	6.39	1.90	0.12	4.46
Average price of primary factor (%)	2.02	-0.54	3.53	-0.47	1.80	0.20	0.27	1.39
Price of GDP (market price) (%)	0.49	-1.88	3.28	-0.45	-4.50	-1.63	0.24	-3.43
Import Price (%)	-0.02	-0.14	0.21	-0.08	0.47	0.28	-0.03	0.35
Export Price (%)	0.49	-1.06	2.13	-0.29	-4.44	-1.40	0.18	-3.63
Terms of trade (%)	0.51	-0.92	1.92	-0.21	-4.90	-1.68	0.21	-3.96
Aggregate capital stock (%)	4.09	2.85	3.28	-1.17	10.59	3.04	-0.19	7.84
Real GDP (factor cost) (%)	2.29	1.39	2.05	-0.64	5.68	1.81	-0.04	3.85
Real GDP (market prices) (%)	2.34	1.60	1.91	-0.67	6.29	1.99	-0.06	4.22
Real private consumption (%)	2.16	0.71	2.78	-0.71	3.05	1.66	-0.03	1.21
Real government consumption (%)	2.07	-0.05	3.30	-0.65	3.31	0.80	0.05	2.21
Real investment (%)	4.09	2.85	3.28	-1.17	10.59	3.04	-0.19	7.84
Real Saving (%)	3.46	1.14	4.02	-0.98	6.73	1.26	0.07	5.19
Export volumes (%)	4.13	3.90	1.63	-0.77	31.01	7.50	0.21	24.64
Import volumes (%)	4.82	3.48	3.33	-1.06	35.21	9.22	0.21	27.89
Trade Balance (millions$)	-1131.86	-2417.74	556.67	448.16	-6163.30	-3143.66	544.86	-4409.21
Welfare (millions$)	13074.22	3876.04	16603.16	-4059.93	29034.24	9365.09	98.62	18100.69

Source : Chulalongkorn and Monash General Equilibrium Model (CAMGEM), Chulalongkorn University

Table 10: (Continued)

Variables	Japan				Korea			
	Overall	Internal	External	Regional	Overall	Internal	External	Regional
Rental price of capital (%)	1.69	-0.09	0.49	1.34	3.36	-0.04	0.36	3.22
Rental price of land (%)	-4.09	-3.76	0.32	-0.79	13.36	-2.06	1.38	15.05
Labour wage rate (%)	1.95	-0.15	0.53	1.55	6.40	-0.33	0.58	6.41
Average price of primary factor (%)	1.80	-0.15	0.51	1.45	5.38	-0.29	0.52	5.40
Price of GDP (market price) (%)	1.64	-0.21	0.50	1.35	4.87	-0.38	0.49	5.01
Import Price (%)	-0.57	0.21	-0.18	-0.57	-0.19	0.07	-0.02	-0.23
Export Price (%)	1.50	-0.14	0.45	1.20	2.85	-0.19	0.29	2.90
Terms of trade (%)	2.08	-0.35	0.63	1.78	3.05	-0.26	0.32	3.14
Aggregate capital stock (%)	0.43	-0.04	0.07	0.34	3.47	-0.26	0.29	3.51
Real GDP (factor cost) (%)	0.23	0.01	0.04	0.16	2.03	-0.12	0.18	2.03
Real GDP (market prices) (%)	0.23	0.01	0.04	0.16	1.91	-0.11	0.17	1.90
Real private consumption (%)	0.44	-0.02	0.10	0.34	2.75	-0.11	0.25	2.68
Real government consumption (%)	0.22	-0.04	0.07	0.17	2.05	-0.26	0.23	2.19
Real investment (%)	0.43	-0.04	0.07	0.34	3.47	-0.26	0.29	3.51
Real Saving (%)	0.37	-0.04	0.13	0.25	3.67	-0.37	0.39	3.82
Export volumes (%)	3.70	0.61	0.58	2.62	4.37	-0.01	0.44	4.14
Import volumes (%)	6.39	0.31	1.23	4.88	7.34	-0.22	0.70	7.13
Trade Balance (millions$)	1165.23	77.35	628.78	684.90	-168.00	-64.64	35.84	-58.44
Welfare (millions$)	17572.68	-1058.34	4414.33	13331.45	11398.28	-777.87	1123.82	11453.45

Source : Chulalongkorn and Monash General Equilibrium Model (CAMGEM), Chulalongkorn University

This concentration at the Chinese market could happen at the expense of a reduction of trade flows ASEAN's major markets like the USA, the EU and others. Japan and Korea seems to have a similar fate of its trade with China and the rest of the world.

The overall result points to the fact that there would certainly be trade gains for regional partners. China seems to gain the most in terms of its rise in GDP and trade with regional partners and the world. As for the other regional partners like ASEAN, Japan and Korea, they could also gain from these efforts of trade liberalization. ASEAN could gain form its GDP rise, relatively more than Japan and Korea. However, it seems that all ASEAN, Japan and Korea seem to be busy exporting their inputs like intermediate products and capital goods to supply China's need to produce and trade with the rest of the world.

It look like China could come out as net gainer as trade creation will easily offset trade diversion with the rest of regional partners. On the other hand, others' attention on China would get a slight trade diversion as they could be busy looking at opportunities to trade. It remains to be analyzed how these countries could use these opportunities to strengthen their economic partnerships. With strong growth of China, ASEAN and Korea, this could be interesting picture in terms of the regional future growth and development.

4.   Need for regional policy

Up to the present, East Asia, as a whole region, has been slow to develop a region-wide initiative for institutionalized integration. The outward orientation of their economies with the rest of world is successful as shown by trade patterns, investment orientation and technological transfer and development. New East Asian-wide trade liberalization could still have substantial trade creating effects within the region. However, these countries are still worrysome of extra-regional effects which prevent them from going further with thought and action along these lines.

The rise of East Asia from the mid 1980s up to before the Asian crisis provoked an idea of the Asian regionalism. Any regionalist formation in East Asia is meant to be the East Asian response to emerging trade blocs in Europe and in Americas (see Chart 1) However,

welfare implications of continental trading blocs could lower welfare for each continent (Stein and Frankel (1994)). After the Asian crisis, there were multiple bilateral preferential trading arrangements (PTAs) with partial internal liberalization. Welfare in this case, is still to be verified for countries involved. At the same time, there is much debate about a new regionalism in Asia, in the areas like finance as much as trade and others. There are issues of the prospects for a further spread of economic progress and for an expansion of the interdependency mechanisms in the region.

4.1. *Conceptual formulations*

Regionalism tends to separate countries in a region from the others. Hence, it is, by its conception, discriminatory against others. Most regional trading arrangements have the tendency to be protective among themselves. This makes regionalism filled within the definition of inward-looking orientation (Manfield and Milner (1997)). One could ask whether East Asia is moving its own vision to FTA toward this direction.

By contrast, "open regionalism" has been adopted as a concept in moving the APEC process and its members. The term "open" would make sense if it means, membership is open to all and that the concessions given to members are simultaneously extended to other as well. (Ariff (2001)).[17] In practice, it is inconceivable to see membership is "open" for all for any regional grouping.

More often, membership in regional groupings is strictly defined in any given geographical areas. However, it is possible to see for regional groupings to extend intra-regional concessions and privileges to non-members (Chirathivat (1996)). ASEAN, for example, has been able to multilateralize regional tariff reductions under AFTA. Several countries of ASEAN like Indonesia, Malaysia, the Philippines and Thailand have extended some of their AFTA tariff rates unilaterally to the rest of the world. This makes for a viable argument to escape from unnecessary steps toward trade diversion. Thus, ASEAN is quite close to what one may term "open regionalism" although it is by no means to open.

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[17] If this was the interpretation, open regionalism is nothing but anti-regionalism. In other words, open regionalism is hardly a variant of regionalism.

Chart I
Regional Integration Schemes among the Three Blocs from
An ASEAN Perspective

	Europe	East Asia		Asia-Pacific

Americas

                EAFTA   Taiwan   **ANZCER**

NAFTA

Developed Countries   **EU**   Japan   Hong Kong   Australia

U.S.A.

                      South Korea   New Zealand

Canada

Developing Countries   China   Papua New Guinea

Mexico

                  ASEAN

                  Thailand

Peru

                  Malaysia

        ASEM   Indonesia

                  Singapore   **APEC**

                  Philippines

                  Brunei

                  Vietnam

Chile

Mercosur

FEALAC

                  Laos

                  Myanmar

                  Cambodia
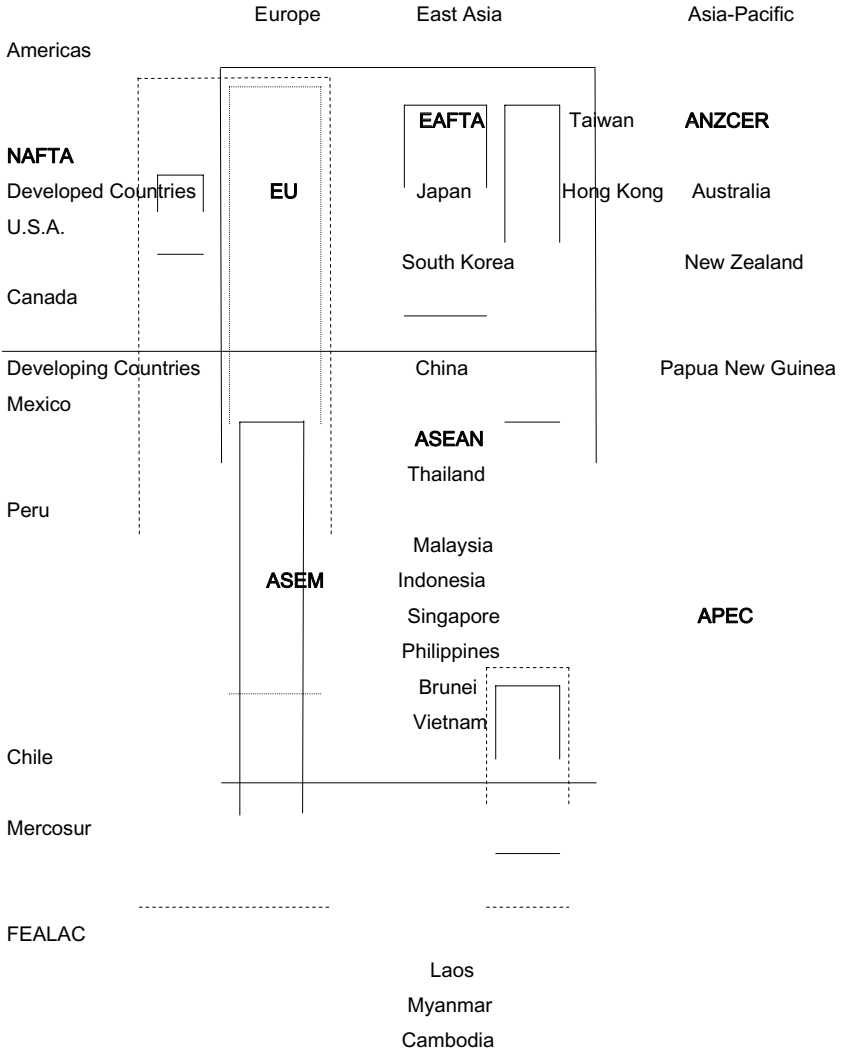
In fact, intra-ASEAN tariff reductions, after the completion of the first round of ten years, this year, seem to be faced with little resistance from industry. ASEAN entrepreneurs are seeing the benefits in the long-run and the deals within reciprocal arrangements. ASEAN governments aim to push regional trade liberalization as a step toward global free trade. In this sense, regional integration of ASEAN seems to move in line with global free trade, thus making a lot of difference from the usual version of regional integration framework which used to know (Ariff (2001)). ASEAN looks at AFTA not as an inward-looking trade liberalization, but rather as a "training ground" that would prepare them for global competition.

Precisely speaking, ASEAN extra-regional trade linkages have been much stronger and far more meaningful than intra-regional trade patterns. AFTA or intra-ASEAN trade liberalization has been explored to give each country a greater potential and an edge toward an investment – driven area in an expanded ASEAN. Hence, the main objective of AFTA is not to increase intra-ASEAN trade per se, but rather to provoke attention to the ASEAN region as an area to invest, produce and compete efficiently within the global economy. As an outward-looking regionalism, ASEAN sets clear objectives to establish linkages with other countries and regional groupings that would create more opportunities and new challenges for the region.

4.2. *Possible future orientation*

Prospects for emerging integration trends have increased in East Asia. Even with the Asian crisis, the process of economic growth and industrialization seems not to be deterred as economic recovery now takes place quite satisfactory in most of the crisis-striken countries. A deepened economic interdependency, through trade, investment and technological transfer, between countries in the region has been one of the factors contributing to this comeback of dynamic expansion. At the same time, an outward orientation of these countries with the rest of the world has been instrumental in keeping this region globally competitive.

The revival of institutionalized-led integration in East Asia, as opposed to market-driven integration carried out up to present, is again

back to the debate. Efforts to date of East Asian countries to construct such formal regional economic institutions have met with little success. To respond to the establishment and the strengthening of regional integration institutions of Western Europe and the Americas, the discussion is whether East Asia is ready to moving in this direction as well. In the meanwhile, there is much proliferation of bilateral, subregional preferential arrangements conducting increasingly in the region as much as elsewhere in the world.

If East Asia is to set for its own institutionalized integration, what does this additional regional institution mean for East Asia? As a vast region covering of almost two billion population, there is still many differences, from a populous China to a tiny country like Brunei, or from an open economy like Singapore to a military regime like Myanmar, or even from a highly industrialized country like Japan to an agrarian-based society like Laos. East Asia needs to look closely at conditions and environment in which they are moving for further integration.

The conceptual framework for a new Asian regionalism has been mixed. The investigations from a Vinerian perspective on regional integration as a combination of trade creation and trade diversion have to be clear from its beginning. Intra-regional liberalization could benefit a reduction in transaction costs, hence making regional production globally competitive. This exercise could also help to market widening and allowing for economies of scale to operate fully for firms produced and invested in the region. Hence, better resources allocations resulting from goods and services exchange together with factors of production could not be underestimated. However, if the region solely concentrates its efforts on a FTA per se, it could prevail with difficulties arising from rules of origin as countries practice quite differently border controls and regulations related to it.

An assessment of a bloc formation has been made in order to evaluate the impact of regional partners in a partial equilibrium model. It assumes that if countries reduce each one's own tariff protection to zero, there would be trade gains, but differently distributed among partners. Overall, there will be a net welfare increase as a result of a rise in real GDP and trade expansion. Japan and Korea could face with a certain degree of trade diversion. China, on the other hand, would profit from input

imports from most regional partners to remain competitive and even exports more to the third markets. Non-tariff barriers are, for the moment, more difficult to assess in these countries hence the accuracy of estimation result is to be interpreted with careful consideration.

Moving on to different facets of the political economy of the setting, it requires even more the involvement of different actors involved. East Asia has to go beyond the usual formation of regional institutions elsewhere. It requires finding its own new regionalism that fits them most. There will be policy choices from the start in a wide range of topics like name, countries involved, its depth and its coverage, for instance. All these remind us that any initiative the region might take its own decision in this regard is of real importance. Any shortsight or complacent view, or even prematured action is to be disregarded as it could threaten the prospects of future integration of East Asia in the world economy.

Appendix 1: Summary of the Global Trade Analysis Project (GTAP) model applied in this study

This paper makes use of the GTAP model known among economists in the area. In fact, the Chulalongkorn CAMGEM Project is well endowed with this model and applied for simulation in a growing number of important global trade scenarios. Basically, the GTAP model is a multi-region and multisector model with its latest version containing 45 countries and 50 production sectors.

The structure of the model (ASEAN Secretariat (2001)) can be described through : (a) Regional household whose Cobb-Doughlas preferences are defined over composite private expenditures, composite public sector expenditures and savings; (b) demand where private expenditures are governed by a Constant Difference of Elasticity (CDE) function; (c) production which is assumed to be described by a multi-level Leonlief-type production function involving value added and intermediate inputs generated from the Social Accounting Matrix (SAM) constructed from each region (with value added produced through a Constant Elasticity of Substitution (CES) function; (d) macro closure of a CGE model with macro adjustment behavior; the macro balances in each

region will be composed of government deficit or surplus, aggregate saving and investment and balance of trade.

Finally, the equilibrium of the model is defined as a set of prices and quantities for goods and factors in all regions such that (a) demand equals supply for all goods and factors; (b) each industry earns zero profit; and (c) gross investment equals aggregate savings in each region. The model is neoclassical in nature as prices in each region's product and factor markets are assumed to be flexible and arable land for agriculture in each region is assumed to have a fixed amount.

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CHAPTER 6

**A FUNDAMENTAL SCOPE FOR REGIONAL
FINANCIAL COOPERATION IN EAST ASIA**

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The idea of regional financial cooperation in East Asia was without doubt created by the Asian economic crisis in 1997. This paper examines policy options for crisis prevention with respect to exchange rate regimes, external debt management and domestic financial sector restructuring in the broader context of external and domestic financing for growth in East Asia. Putting the regional financial cooperation in this context, the paper argues that the cooperation will complement to strengthen the present and future international financial architecture, but that there is no strong rationale for this regional financial cooperation should, nor would lead to a monetary union.
Keywords: regional financial cooperation, financial globalization, international financial architecture, monetary integration, East Asia, external and domestic financing, financial intermediation
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1. Introduction

The idea of regional financial cooperation in East Asia has come without doubt from the Asian economic crisis in 1997. In order first to alleviate the disastrous outcomes caused by the Crisis and then to avoid them from being repeated, a number of proposals for monetary and financial cooperation in the region were advocated by government officials, business

people and academic scholars. Among them, alternative exchange rate regimes such as a common currency and regional financial schemes such as the Asian Monetary Fund (AMF) have been listed up. In this context, the so-called Chiang Mai Initiative (CMI) can be understood as a framework for the regional financial cooperation.

How effective are the CMI arrangements to prevent and resolute the financial crises? What kind of actions can be taken by the governments in the region? How well can the CMI be harmonized with the multilateral institutions such as the IMF? Instead of trying to directly answer these imminent policy agenda (See Henning, 2002), however, I would rather like to provide with a more basic framework for consideration of macroeconomic financing in East Asia before and after the Crisis, which would give more fundamental basis for the arguments on pros and cons of regional financial cooperation.

The financial globalization or capital market integration is forcing not only the policy authorities of developing economies, particularly those of emerging markets, but also those of international communities to cope with new policy challenges. Indeed, since the crises, various efforts have been launched in various aspects in pursuit for more robust domestic as well as international financial system (IMF [2000c]). One aspect is said to enhance transparency and accountability, assess standards and codes, and better identify financial sector vulnerabilities. Generally, they are intended to contribute to better-informed decision-makings for lending and investment. The other aspect includes external debt management, alternative exchange rate regimes and domestic financial sector restructuring. They are to harmonize the new reality of jumped-up capital movements with domestic as well as international settings, or to restructure domestic and international institutions and get them adapted to this reality.

The purpose of the present paper is to give some thoughts to this latter aspect. More concretely, based on our painful experiences of the financial crises of the 1990s, we would like to search for realistic policy principles, particularly in the field of macroeconomics, balancing the benefits of financial globalization with the costs of intrinsic market failures. Specifically, given those apparent intrinsic defects of capital markets in general, we will emphasize the importance of a second-best mix of policy tools in emerging market economies. Then, the measures of regional

financial cooperation can be fit in a broader context of external as well as domestic financial intermediation for growth and stability.

In Section 2 we briefly review policy lessons learnt from our experiences of the financial crises in the 1990s. Based on this, policy issues related to *external financing* are discussed in Section 3. We first overview patterns and components of international capital flows to emerging markets, highlighting diversities across periods as well as across regions and individual economies. Then, exchange rate regimes and external debt management in East Asia are discussed. In Section 4, we turn to *domestic financing* as opposed to external one, because domestic financing has played a more significant role in resource transfers and was hardest hit by the Crisis. After an overview of how financing needs have been met, we first discuss briefly on the results of structural adjustments after the Crisis. Then, we touch on the importance of rehabilitation of the financial intermediation in getting back to the robust growth track. Section 5 deals with possible monetary integration in East Asia in comparison with Europe. Relevant points such as symmetry of macroeconomic shocks and adjustment speeds after the shocks are discussed to obtain some implications for the regional financial cooperation in the region. Lastly in Section 6, we summarize the points and orientations of policy implications for more robust macroeconomic and financial stability, which should be maintained in both international and regional financial cooperation.

2. Lessons from the Financial Crises in the 1990s

In this section, we briefly review policy lessons learnt from our experiences of the financial crises in the 1990s. After the 1994 currency crisis of Mexico, there was a lot of debate on policy management in emerging markets. [1] There we may be able to find some consensus perceptions as:

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[1] The literature includes Sachs, Tornell and Velasco [1995], Calvo and Mendoza [1996], and Edwards [1997], and *Journal of International Economics* [1996]. Also, the views of economists of multilateral institutions are found in Burki [1997] for World Bank, Loser and Williams [1997] for IMF, and OECD [1995].

Inflexible exchange rates tend to lead to a currency crisis. Particularly, large real appreciation is likely to lead to currency speculation.

Large current account deficits also tend to lead to the crisis through rousing expected currency depreciation. It holds true whether the deficit is due to fiscal deficits or to private overspending.

Short-term capital flows including portfolio investment are volatile as well as destabilizing. So that the issuance of foreign currency denominated, short-term national bonds to defend currency values could be not only fiscally, but also socially, very costly.

The banking sector should be carefully surveyed and supervised. A vulnerable banking sector tends to lead to contagion with a collapse of confidence on the banking system, and to deepen currency and financial crises through constraining strong tightening policies.

To what extent could we make use of these lessons in the Asian crisis in 1997? Or can we apply these lessons also in the context of East Asia? I think that the answers to both questions are "No, not fully." First of all, until the crisis, we do not see substantial swings in real effective exchange rates throughout the 1990s in East Asia. Except for China and Hong Kong, East Asia had never seen more than 20 % real currency appreciation. Even in Thailand, its real appreciation immediately before the crisis was no more than 15 percent from its historical trend of the 1990s, so that it could have hardly ignited expectations for immediate currency depreciation. Second, while current account deficit was persistent and large, capital account surplus larger than the current deficit did matter more in Thailand and other crisis economies. Despite differential paces of capital account liberalization, capital inflows, particularly those of short-term, increased explosively in East Asia in the first half of the 1990s. Thus, we should add some consensus perceptions from the Asian experience in 1997 as:

Inflexible exchange rates tend to lead to a currency crisis, not necessarily because of overvaluation, but because they tend to give wrong signals to the market and to induce excess risk taking such as huge external short-term borrowing.

Even without persistent and large current account deficits, large-scale reversals of capital flows would trigger currency crises. Namely, current account imbalance is not a necessary condition for the crisis.

The point made clear by the above two additional lessons is that the Asian crisis was a "new" type of crisis, so that it would not have been well predicted beforehand. Indeed, Furman and Stiglitz [1998] suggested that the Asian crisis was *novel*, when they tried to predict crises using three representative models and found that none of them could predict the occurrence of the crisis well.[2] Important here is in what sense the Asian crisis was *new*. Is every crisis different? Is the crisis purely accidental? Note here that it was not a real crisis until October 1997, but became so due to the mismanagement afterwards. At least, however, we would be able to say that the policy frameworks prior to the crisis did not appear to match well the new global economic environment, more specifically the financial globalization.

3. How to Manage External Financing

In this section we pursue for possible policy choices to cope with the fragilities associated with volatile capital flows to those economies. First, we briefly overview patterns and components of international capital flows to emerging East Asian markets, highlighting diversities across periods as well as across regions and individual economies. To cope with the volatility of capital flows, one may have in mind the use of capital controls. In fact, controls on short-term capital were said to play a significant role in maintaining autonomy of macroeconomic policy in Chile and Colombia in the 1990s (Ariyoshi et al. [2000]). Meanwhile, if we would like to focus on allocative efficiency of intermediated funds, we may want to strengthen supervision of a banking sector, which was a main player in financial intermediation in the context of developing economies. Furthermore, if excess capital inflows resulted from inflexible exchange rates, we may have to pursue for an alternative exchange rate arrangement including a free float. Accordingly, we will discuss policy options for exchange rate arrangements, and the strengthening of prudential and capital controls and other overall external debt management issues.

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[2] Those are models in Frankel and Rose [1996], Kaminsky, Lizondo and Reinhart [1998] and Sachs, Tornell and Velasco [1996].

3.1. *Patterns and Compositions of Capital Flows in East Asia*

In the past three decades we have witnessed twin peaks in capital flows to developing economies (Figure 1). The first is in the early 1980s and the second is in the mid-1990s. Both peaks were followed by abrupt reversals of capital from inflows to outflows in a massive scale. Capital flows are not homogeneous and their behaviors are different from one another, though.

Developing Economies
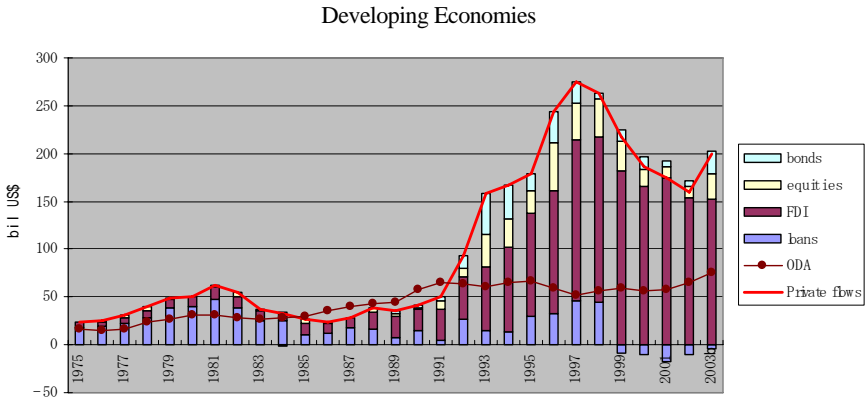
Figure 1A. Net capital flow by region (million US$)

East Asia and the Pacific
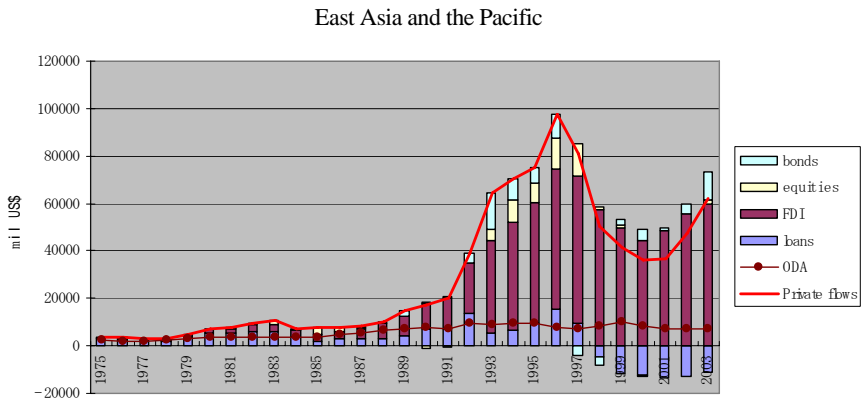
Figure 1B. Net capital flow by region (million US$)

Latin America and the Caribbeans
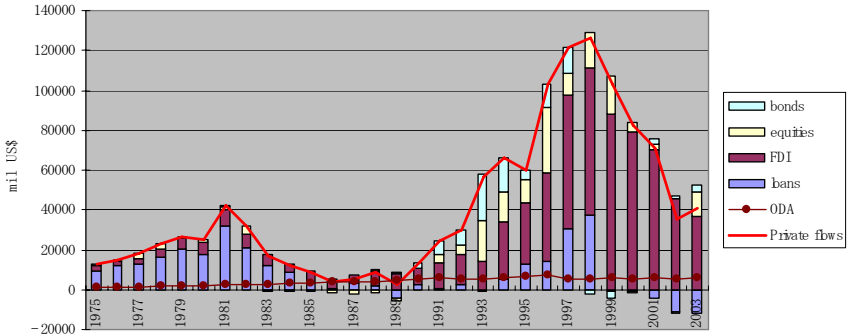
Figure 1C. Net capital flow by region (million US$)

Sub Sahara Africa
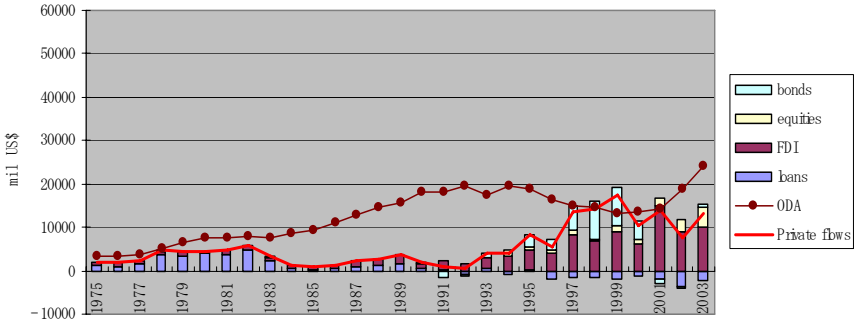
Figure 1D. Net capital flow by region (million US$)

Generally, foreign direct investment is far more stable than other flows such as portfolio investment and loans. Indeed, the first surge of capital flows to developing economies consisted mainly of debt (creating) flows, especially bank loans. Once they subsided, the recent upsurge of flows were led, first, by non-debt flows, i.e. foreign direct investment, next, portfolio investments, i.e. bond and equity issuance and, then, the recovery of bank and other loans.

In addition, the absolute amounts of net capital flows show stark contrasts among East Asia and the Pacific, Latin America and the Caribbean, and Sub-Sahara Africa. This simply tells us that the general

trend of net capital flows to developing countries is dominated by few economies noted as emerging markets in East Asia, Latin America and other regions. Meanwhile, however, if we look at their relative amounts to economic activity levels, i.e. gross national income (GNI), we see very different pictures (Figure 2). Relative to GNI, net foreign capital flows have played more or less equivalent roles throughout the three regions. Notably, these flows have been relatively less important in East Asia than the others, which would be more fully discussed later in the paper.

East Asia and the Pacific
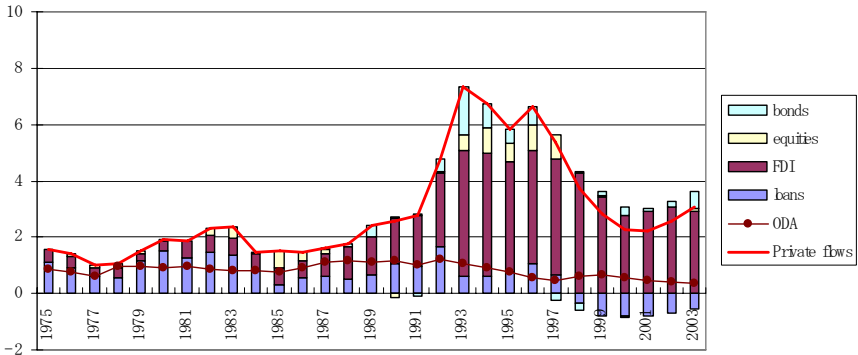
Figure 2A. Net capital flow (% of GDP)

Latin America and the Caribbean
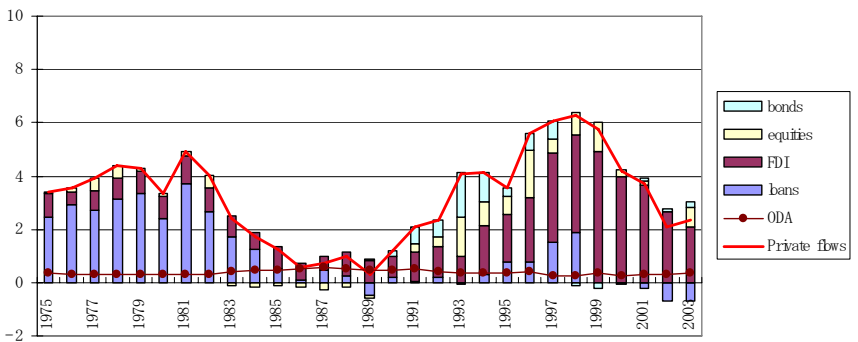
Figure 2B. Net capital flow (% of GDP)

Sub Sahara Africa
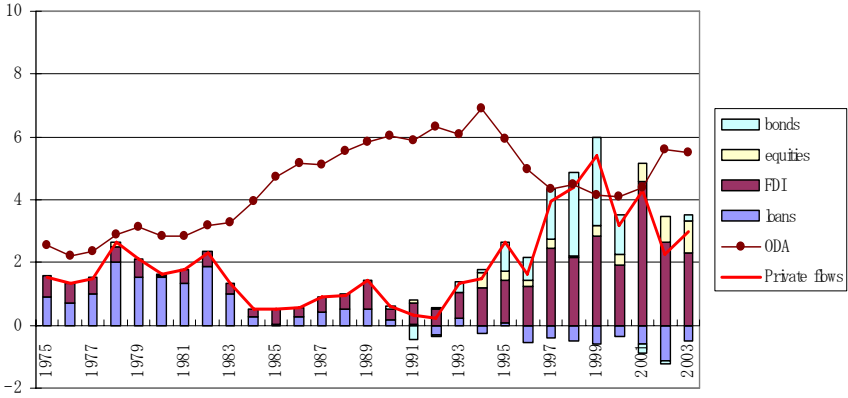
Figure 2C. Net capital flow (% of GDP)

Before the crisis in 1997, there are significant differences in the compositions of capital flows across regions. In the case of East Asia and the Pacific, the role of foreign direct investment (FDI) was relatively larger to the other developing regions such as Latin America, while both regions shared in common bonds and equity investments as new important components in addition to bank and other loans (Figure 1). Even these regional characteristics in capital composition, however, might obscure the differences among individual economies within each region.

In Asia, one reason for this lies in the existence of China as a big absorber of foreign capital flows (Figure 3). Its huge absorption of foreign capital flows is dominantly in the form of direct investment. The roles of bank loans and portfolio investment are relatively secondary in quantity, although both are also large in absolute terms. Thus, it is not surprising to see that emerging ASEAN economies among themselves enjoyed very different capital compositions. In Indonesia, private bank and other loans had led the capital upsurge rather than direct investment, which was also the case with Thailand until the nightmarish 1997. Malaysia observed direct investment (and then, portfolio investments as opposed to loans) playing a leading role in ballooning capital inflows, while the Philippines was in between among these ASEAN four. In terms of capital

compositions, Thailand looked like Korea with large bank and other loans (including huge short-term loans) plus non-negligible portfolio investments and relatively less reliance on direct investment.
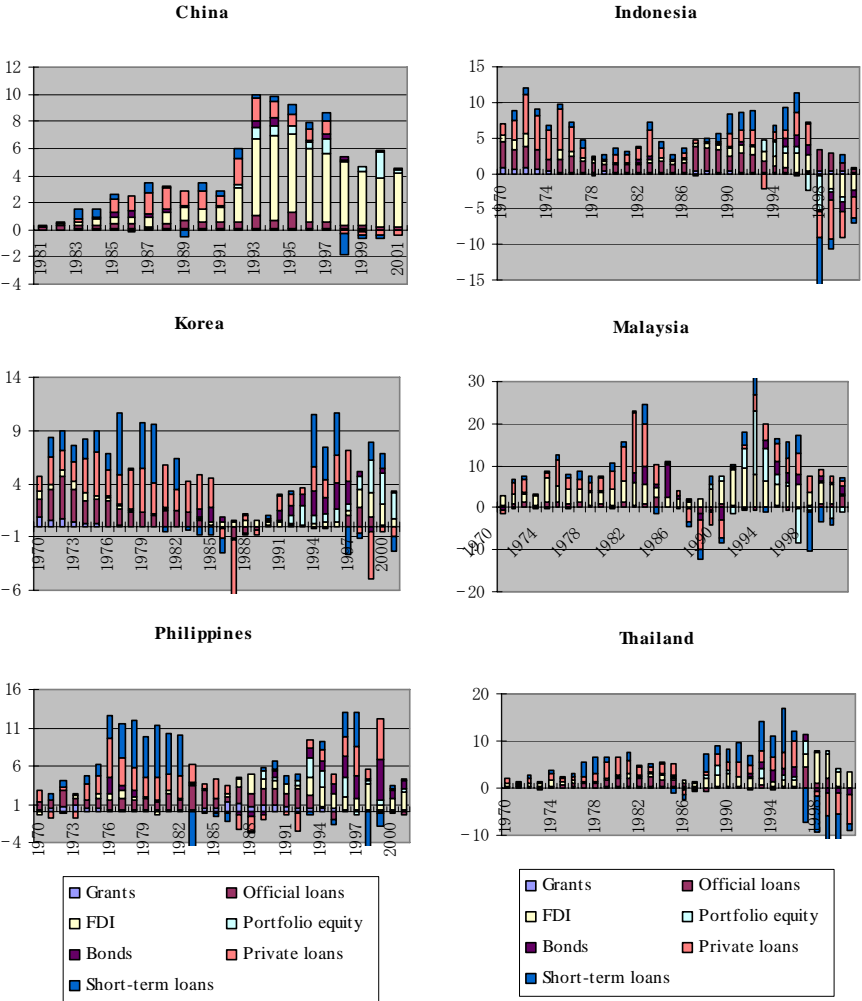
Source: World Bank, Global Development Finance, CD-ROM, 2003.

Figure 3. Net capital flow by country (% of GNI)

Then came the currency, financial and economic crises in 1997 and onwards. The three capital components showed contrasting developments during the crises (Figure 1). The largest reduction was found in loans, but foreign direct investment either remained the same or showed a little increase while portfolio investment in between. One of the interesting differences between Asia and Latin America is the rebound of portfolio flows in Asia that is not the case in the latter. One reason is again the China factor, though. On the other hand, as far as bank and other loans are concerned, their reversals are most severe and damaged real economies in Asia because of their larger reliance on loans in the past.

Individually, again, we see some differences in East Asia (Figure 3). Indonesia witnessed overall declines in all capital components except for official loans. Despite a sharp fall in loans, Korea enjoyed increased portfolio investments and FDI in the recent period, which surely helped their external adjustments after the crisis. Malaysia maintained to some extent bank loans, bond finance and FDI despite retrenchments in short-term loans and portfolio equity investment. Bond finance and FDI were maintained in the Philippines. Thailand relied solely on FDI as capital inflow with loans and bond finance falling down.

The rise and fall of bank loans and portfolio flows can be attributed to a few factors. They are usually classified as *pull* factors on the side of developing economies and *push* factors on the capital supplying economies. The former includes capital market liberalization and privatization policies, and the latter includes financial innovation in financial products such as depository receipts and procedures such as cross listings as well as the growth of institutional investors such as mutual funds, pension funds, hedge funds, and insurance companies (Kohsaka, 1996). High rates of return on assets, mechanisms to reduce information asymmetries, and enhanced contract enforcement would be part of explanations. Intrincically, however, bank loans and portfolio flows tend to be pro-cyclical and are prone to reverse contagion coming from large exposures to emerging markets.

Turning to the current situation, capital flows to developing economies appear to ultimately start recovering since 2003 (World Bank, 2005). Although they are far below the past peak level, they are likely to grow in the medium and longer run. Among the possible reasons, the recent

demographic changes or aging in developed economies would generate capital flows to emerging markets. Due to slowdown of investment and growth, and the resulting saving glut in the global economy, international investors resume inevitably to seek for the outlet of saving resources in developing economies, particularly emerging markets. Then, of course, these economies would be exposed again to the risk of capital flow reversals.

3.2. *Exchange Rate Regimes*

A free fall of exchange rates was the first experience in East Asia in the last two decades. In fact, the damage caused by that led to the cease of net debt flows to the region after the Crisis. The free fall changed their exchange rate regimes in a very substantial way. Figure 4 shows the share of countries which adopt de facto pegged exchange rate regimes as a simple average within a regional group. As has been pointed out, official or self-announced exchange rate regimes often diverge from de facto ones (Reinhart and Rogoff [2002], for example). Before the crisis, Indonesia adopted a de facto crawling peg as opposed to an undisclosed official
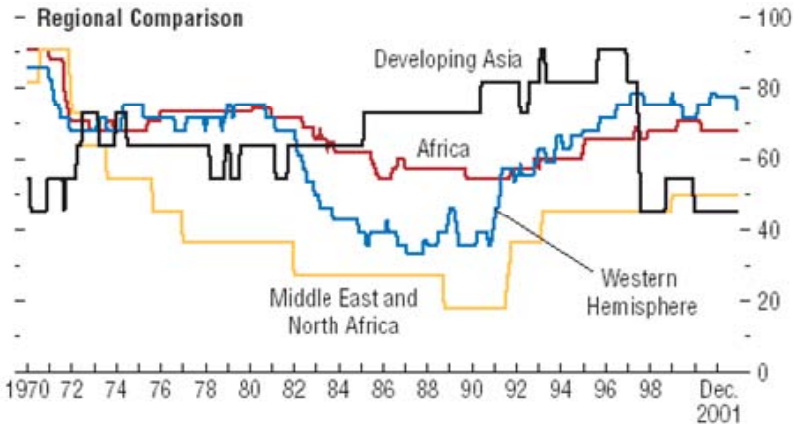
Source: IMF, World Economic Outlook, September 2003, Figure 2.17, p. 29.

Figure 4. Share of countries on a hard or crawling peg

basket peg, Korea and Malaysia a de facto moving band around the US dollar as opposed to an official basket peg, Thailand a de facto peg as opposed to an undisclosed official basket peg. After all, the currency crisis appeared to corner those economies to either official and de facto peg (China and Hong Kong joined by Malaysia) or official and de facto free float (Indonesia, Korea, the Philippines, Thailand).

One recent study (Alesina and Wagner [2003]) finds that the larger the external debt, the more likely a country is to adopt a fixed exchange rate, and that the more robust the institutional framework for macroeconomic stability, the more likely a country is to announce flexible exchange rates, but to adopt a de facto peg. Both of these characteristics had held true for East Asia, but the Crisis plunged them into a free fall in exchange rates. Now, how can we assess the status quo in exchange rate regimes?

The crises in the 1990s suggest that it is difficult for emerging markets to maintain single-currency pegging so that they should move toward some more flexible exchange rate regimes. Indeed, a combination of a fixed exchange rate and a vulnerable financial system would induce excessive capital inflows and inefficient resource allocation and, through constraining monetary policies, would magnify and deepen economic crises.

It might be wrong, however, to abandon one exchange rate regime only because it is vulnerable to rather infrequent crises. For, there is no guarantee for flexible exchange rates either not to be misaligned or volatile, or both. Defining misalignments as deviations from medium-term trends and volatilities as standard deviations of changes in real effective exchange rates, for example, we can find significantly positive correlation between the two. In the context of such small open economies as emerging markets, both misalignment and volatility of exchange rates are likely to be larger than in developed economies. Accordingly, a pure free float might not be a realistic choice of exchange rate regimes.

In fact, preconditions for a free float usually pointed out are (See, for example, Isard [1995], Obstfeld and Rogoff [1995], Eichengreen et al. [1998]): a) a high degree of integration with the international capital market, b) a high diversification of partners in current account transactions, c) a high priority for monetary autonomy due to independent supply and demand shocks, and d) well developed domestic capital and foreign

exchange markets equipped with such functions as risk diversification and risk management. How many emerging markets can meet these criterions?

In sum, being aware of huge differences among developing economies with respect to their development stages and economic environments, we would not be able to recommend one unique optimal exchange rate regime applicable to developing economies in general. Even an optimal exchange rate regime for one country might become suboptimal as its environment changes. Having said this, however, we could draw some policy implication for the choice of exchange rate regimes of emerging markets in the context of financial globalization:

In order to maintain both monetary autonomy and free access to the international capital market, pegging to a single major currency is simply not a viable choice. More flexible exchange rate regimes including *free float* must be chosen.

Second, somewhat tautological, if we give up monetary autonomy and happen to be equipped with such institutional preconditions as independent monetary authorities, ample foreign exchange reserves and robust domestic financial system, you may be able to maintain a *single currency peg*.[3]

Third, with comparatively underdeveloped domestic capital markets, if you can maintain monetary and fiscal disciplines and command some effective controls on capital account transactions, not a single, but some broader range of pegging such as basket peg, peg with band, crawling peg, etc., could be chosen.

3.3. *External Debt Management*

Revealing exchange rate risks, more flexible exchange rates would help improve private sector's risk management with international capital

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[3] Hong Kong substituted free float for the present pegged system under a currency board in 1983. Even for Hong Kong as an international financial center, however, it is not at all easy strategy to maintain nominal exchange rate stability against the U.S. dollar, while guaranteeing free capital movements. In fact, in each episode of currency attack including the recent crisis, they reformed and upgraded their currency board system to accommodate destabilizing shocks to domestic financial markets. Accordingly, the system would be hardly transferable to other economies (Jao [1998], Meredith [1999] and Tsao [1999]).

movements, thereby contributing to sound macroeconomic management. Likewise, among instruments of external debt management, strengthening prudential regulations on domestic and foreign financial institutions would alleviate potential macroeconomic risks. Although risk management of international capital transactions is not totally different from that of domestic counterparts, additional risk factors such as exchange rate risks and differences in national institutions come into view.

On the creditors' side, developed countries should supervise investors and financial institutions in their jurisdictions and discourage them not to take excess risks in international transactions, because even their slight, but sudden portfolio shifts could generate excess capital inflow or sudden outflow to small open emerging markets. On the borrowers' side, in order to establish and implement prudential criterions, we require such elements as supervisions and regulations of public authorities, internal governance of private financial institutions and market disciplines. Since qualities of these elements depend on development stages of markets and institutions across countries, we cannot expect too much even in emerging markets among developing countries.[4]

As such, in those emerging markets without strong supervision, the crisis fully exposed lack of skills and ability of risk management in private financial institutions. Can we overcome these defects overnight? To be realistic, we have no choice but to resolve them over time in the longer run perspective of economic development. If this is the case, programs for capital market liberalization, which should presuppose a robust banking system and an adequate public supervisory regime, would hardly be viable.

Capital controls can be justified only when there exist malfunctions which prevent markets from allocating capital efficiently. Imperfect

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[4] Often mentioned on Indonesia are related lending, loan concentration, weak legal frameworks and governance, lack of disclosure systems, and weak supervisory authorities, but we can see more or less similar phenomena not only in emerging markets. In Korea, for example, capital shortages of banks were not well recognized nor well handled. Though the BIS capital adequacy rule had been introduced in 1992, the rule itself tended to underestimate risks of short-term loans, and defective domestic rules on provisioning, stock valuation, asset classification, and accounting standards, distorted prudential evaluation. In other words, preconditions for capital account liberalization were not adequately satisfied yet (Shin and Wang [1999]).

information problems such as an asymmetry between borrowers and lenders and uncertainty for the future could cause excess risk taking as well as inefficient investment. Furthermore, sentiment-driven disinvestment or reversal of capital flows could lead to macroeconomic instability and huge economic and social costs as in the case of emerging markets in the 1990s. Thus, capital controls can be regarded as second-best precautionary measures against these market failures and their resulting external diseconomies.

Accordingly, to assess the effectiveness of capital controls, we must examine to what extent they contribute to policy objectives related to macroeconomic stability through restraining capital movements, especially those of short-term capital. Capital controls, changing the size and composition of capital flows, would affect interest rate differentials and the foreign exchange market, thereby influencing the effectiveness of monetary policies. Also, we must consider at what cost capital controls can be implemented. They would distort resource allocation and require administrative costs to enforce regulations. They might deprive of incentives to improve infrastructure for capital markets as in the case of other protectionist measures and deteriorate international investors' confidence in the market.[5,6]

Now let us look at the outcome of these efforts of prudential and capital controls ant other external debt management after the Crisis. Even though

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[5] Concrete measures of capital controls are diverse. Broadly, there are two types. One is direct controls including discretionary interventions, quantitative controls and licensing. The other is indirect controls to increase transaction costs of specific items (taxation, unremunerated reserve requirement (URR), multiple exchange rates, provisioning for foreign currency positions, asymmetric position controls, differential reporting obligations, etc.).

[6] In the 1990s, emerging markets imposed controls on short-term capital inflows prior to financial crises and on outflows in the process of crises. The former cases include Brazil (1993-97), Chile (1991-98), Colombia (1993-98), Malaysia (1994), and Thailand (1995-97). There, capital controls were to maintain macroeconomic stability against rapid increases in capital inflows in the early 1990s. Together with sterilization and other policy measures such as deregulation on capital outflows, more flexible exchange rates, strengthened prudential controls and fiscal tightening, some countries appeared successful in containing capital inflows and others in changing maturity composition longer. In the latter cases of controls on capital outflows (Malaysia (1998) and Thailand (1997)), experiences showed mixed results in attaining exchange rate stability.

the regional average of external debt to GDP ratios has been lower in East Asia and the Pacific than in Latin America and the Caribbean even after the Crisis, the ratios have become higher and still remained so in Indonesia, Malaysia, Philippines and Thailand than before. However, thanks to favorable export environments as well as external adjustments generating continuous negative I-S gaps after the Crisis, the debt to export ratios improved markedly in East Asia except for Indonesia and Philippines.

Also noteworthy is the recovery of the level of foreign exchange reserves. IMF [2003] pointed out that the reserve accumulation has been accelerated in the 2000s, particularly with emerging economies in Asia, and even suggested the necessary slowdown of their reserve growth to be necessary. While discussing this suggestion is beyond the scope of this paper, the reserve accumulation is without doubt an important policy response to the volatility of international capital flows to smooth unpredictable as well as temporary imbalances in international payments. In fact, East Asian economies have significantly increased their foreign exchange reserves as a ratio to months of imports as well as to external debt, among which the most notable are China and Korea, followed by Malaysia and Thailand.

As such, East Asian economies have attained a combination of more or less flexible exchange rate regimes, strengthened prudential controls on the financial sector and monitoring capital flows and external debt, and enhanced provisions against possible liquidity shortages. Consequently, various debt indicators have shown (occasionally more than warranted) improvements in recent years. In this sense, we would argue, headaches are not on the side of external financing, but rather on that of domestic one.

4. How to Manage Domestic Financing

Apart from how to externally finance East Asia, we might better start from basic financing needs there. That is, let us look at the basic domestic investment and saving gaps. Figure 5 demonstrated clearly how East Asia is saving-rich in comparison with other developing regions. It also shows how East Asia is a vigorous investor. Net results, i.e. investment-saving gaps turn out to be negative, that is, on balance at least East Asia has

become a capital provider instead of its absorber. It means that, relatively speaking, East Asia is less dependent on external finance than the other developing countries. Of course, we can find differences among economies in the region, but it would be generally safe to say that East Asia except for the Philippines is now more independent in terms of investment finance than before and than the other developing regions.

East Asia and the Pacific
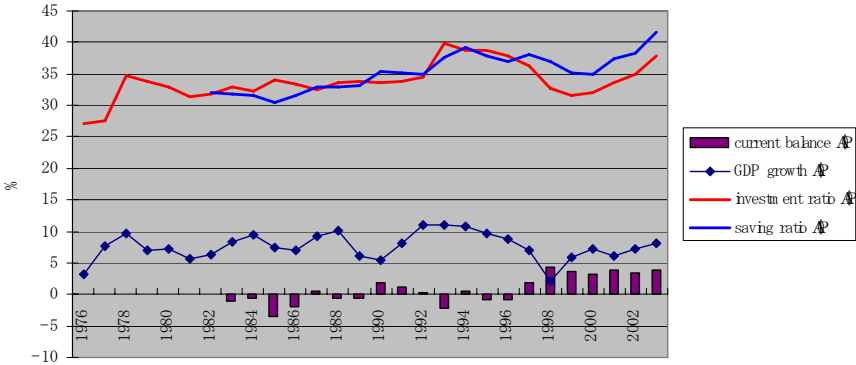
Source: World Bank, World Development Indicators, CD-ROM.

Figure 5A. Investment-saving gaps by region (% of GDP)

Latin America and the Caribbean
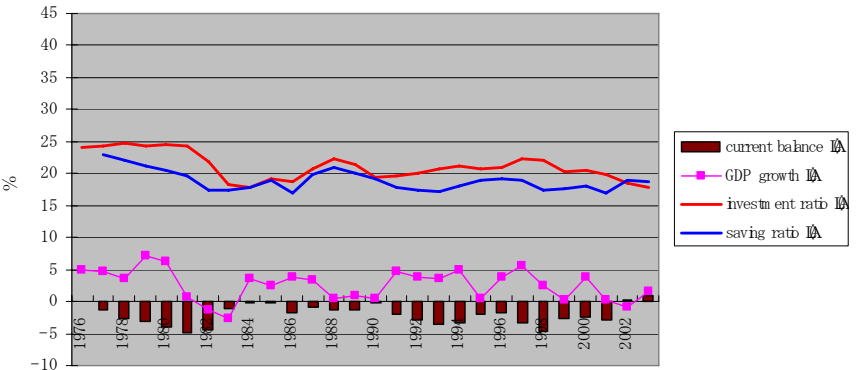
Source: World Bank, World Development Indicators, CD-ROM.

Figure 5B. Investment-saving gaps by region (% of GDP)

Sub Sahara Africa
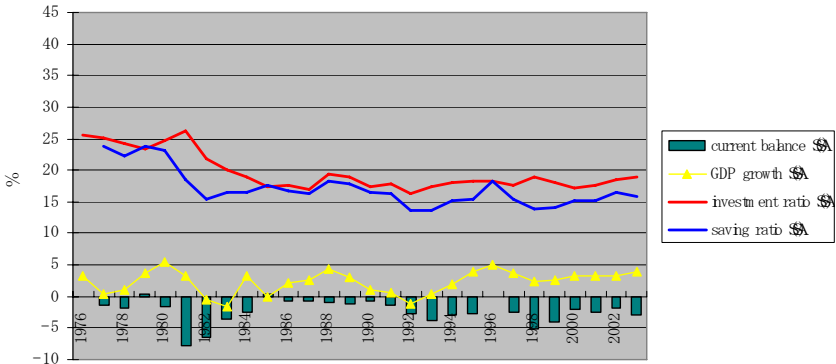
Source: World Bank, World Development Indicators, CD-ROM.

Figure 5C. Investment-saving gaps by region (% of GDP)

The problem here is how efficiently these ample domestic savings have been transferred or intermediated to investors. Here comes the issue of the domestic financial system. Financial intermediation plays a significant role in economic development. This is particularly so in East Asia. In fact, *the East Asian Miracle* has been supported by financial intermediation through commercial banks and other financial intermediaries rather than by bonds and equities through capital markets. The degree of financial intermediation, e.g. measured by broad money as a ratio to GDP, has been distinct from those in the other developing economies and regions. In the rapidly growing East Asian economies, the corporate sector depends heavily on external sources of funds, especially from financial intermediaries given their limited internal funds to finance their vigorous investment needs. We should note that this high debt-dependency of the corporate sector, which is sometimes regarded as a symbol of financial vulnerability, resulted from and could be rather *a symbol of rapid economic growth and macroeconomic stability*.

4.1. *Financial Vulnerability?*

There would be no doubt that the Asian financial crisis in 1997 was one of the most dramatic economic events in the last decade. The crisis surprised

most of concerned observers and prompted them to reexamine their beliefs on stable macroeconomic management in the region. Not only this, however, the persistent and even intensifying crises immediately after the initial policy responses under the IMF-supported adjustment programs did lead us to the desperate need to reexamine these programs. Focusing on the overall strategy of crisis management for the Asian financial crisis, IMF economists denote that "financial sector vulnerability was at the root of the Asian crisis." (Boorman et al. [2000])

It appears that the *vulnerability* of financial sectors in East Asia was suddenly highlighted after the Asian financial crisis in 1997. But are they really uniquely vulnerable? It has been recognized that financial institutions and systems have got into trouble worldwide including developing as well as developed countries, along with the *financial globalization* (IMF [1999], Kohsaka [2000]), failing to adapt to the new financial environment (see Caprio and Klingebiel [1997], for example.). In this context, even the highlighted vulnerability can be regarded as one of universal adaptation failures to the financial globalization. With high economic growth and huge capital inflows under virtually pegged exchange rates, typical syndromes of the adaptation failures were brought about such as asset price boom-and-bust, excess investment and supply, and accumulation of short-term foreign debt unhedged against exchange rate risks.

Adjustments and structural reforms have been linked to constitute columns of the IMF prescription for developing economies in crisis. The linkage of these two measurements, however, has been sometimes criticized because overall structural reform plans, which in some cases had appeared to be unrealistically severe, may erode the confidence on the effectiveness of the prescription. Likewise, too harshly tightening macroeconomic policy could erode the basic confidence on the adjustment policies in themselves, thereby leading to a free fall of exchange rates. More concretely, at the apparent cost of deflationary impacts, excessive high-interest rate policies may not contribute to exchange rate stability (Furman and Stiglitz [1998]).

4.2. *Macroeconomic Adjustment*

The author examined the dynamic patterns of macroeconomic and financial variables in East Asia immediately after the Asian financial crisis in 1997 from the perspective of international comparison (Enya and Kohsaka [2004]). Did changes in money and credits impose deflationary impact on real economies? If so, to what extent? And how different are they in comparison with developed and other developing economies?

Using cross-country data covering more than 35 developed as well as developing countries, Demirguc-Kunt and Gupta [2000] examined the behaviors of monetary variables such as money, credits and interest rates, and real variables such as output and investment, after financial crises over the period of 1980 to 1995. We focus, instead, on five East Asian countries seriously hit by the Asian financial crisis in 1997, i.e. Indonesia, Korea, Malaysia, Philippines, and Thailand.[7] For comparison, we also check the financial crisis of these East Asian economies in the 1980s.

Now, comparing these three sets of financial crises, Table 1 summarizes the features in macroeconomic dynamics after the financial crises for the exposition purpose. First, we focus on the similarities in East Asian cases. Two common features across the two periods are there. One is that the negative impact on output growth of financial crises is more persistent than in the global cross-country case. And, two, interesting is that the impact is not significantly inflationary, but somehow deflationary. This is quite contrasting to the global case, and would provide one of the reasons why exchange rate depreciation is more persistent in the global case, but rather short-lived in East Asia.

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[7]This focus, we think, has a few merits. First, *aggregate*, or wide-ranged cross-country studies over different periods could not separate country effects from those of exogenous shocks across periods. Second, the aggregate cross-country results over the years from 1980 to 1995 of Demirguc-Kunt and Gupta [2000] may not be able to identify out the characteristics of the 1990s when *financial globalization* was accelerated significantly. In these respects, the focus on the five crisis-hit economies would enable us to presume common external shocks in the same period of the late 1990s, and relatively homogeneous economies in the same region. Thus, we may be able to obtain more representative patterns of dynamic adjustments then and there significantly different from the aggregate cross-country results.

Table 1. Macroeconomic Dynamics after the Financial Crises

	Cross-Country		East Asia, 1980s		East Asia, 1997	
Output Growth	(-)		(-)		*(-)*	*persistent*
Inflation	(+)	persistent	*(-)*		*(-)*	
Depreciation	(+)	persistent	none		(+)	
Policy Interest Rate	none		none		*(+)*	
Loan Rate	(+)		none		(+)	
Deposit Rate	none		none		(+)	
Spread	(+)	persistent	(+)		*none*	
Demand Deposit Growth	(-)		(-)		(-)	
Demand Deposit/ GDP	none		(-)	persistent	none	
Total Deposit Growth	NA		(-)		(-)	
Total Deposit/ GDP	(+)	persistent	(+)	persistent	(+)	persistent
Bank Credit Growth	(-)	persistent	none		(-)	persistent
Bank Credit/ GDP	(+)	persistent	(+)	persistent	(+)	persistent
Investment/ GDP	(-)		(-)	persistent	*(-)*	*persistent*
Trade Surplus/ GDP	NA		none		*(+)*	*persistent*
Fiscal Surplus/ GDP	none		none		*(-)*	*persistent*

1. Signs of significant deviations from the pre-crisis levels. "none": no significant deviations.
2. "Persistent" implies prolonged deviations over the entire post-crisis period.
3. "NA": not available.
Source: Enya and Kohsaka [2004]

The most conspicuous features of the 1997 Asian crisis are as follows. Apparently, the unique features of the crisis are dynamics in real interest rates, real bank credits, and components of aggregate demand to GDP ratios. Significantly high interest rate policies in the crisis year come first as a unique feature of the 1997 crisis. A persistent slowdown of real bank credit growth is the second unique feature, because this is not the case in the crisis in the 1980s in East Asia. The third unique feature consists of persistent slowdown of domestic investment to GDP ratio on the one hand, and of persistent increases of trade surplus and persistent decreases of fiscal surplus as ratios to GDP on the other. Surely, the latter offset at least partially the negative effect of the former on economic activity levels.

Having identified the most unique features of the macroeconomic dynamics in East Asia immediately after the Asian financial crisis, we cannot but be inclined for the criticism against excessively tight monetary policy immediately after the financial crisis in East Asia. It appears difficult to claim that the high-interest-rate policy has little to do with persistent slowdowns of output, bank credits, and domestic investment. These slowdowns must have put a deflationary instead of inflationary impact. High interest rates helped deteriorate corporate balance sheets and lower their creditworthiness, and banks must have resorted to quantitative restrictions in loan provision. It would be fine with no systemic bank runs on the deposit side any more, which, however, could hardly prevent from credit crunch. Banks seemed to have lost appetite for supplying credits, which might be reflected on no significant expansion of interest rate spreads. There seem to be reasons for the credit crunch hypothesis that the shortage of bank credits led to output and investment slowdown and that the recovery of credits is indispensable for the *autonomous* recovery of crisis-hit economies.

4.3. *Growth cum Credit*

Now, how tight were monetary policies in the Asian financial crisis? As a matter of fact, the degree of monetary tightening in the Asian financial crisis turned out to be significantly larger than in the prior crises. Policy (real) interest rates were significantly higher. The slowdown of real credit growth was significant and significantly persistent.

Given the vulnerabilities in the financial as well as corporate sectors in East Asia, was monetary tightening counter-productive? Whether the high-interest-rate policy leads to exchange rate depreciation or appreciation in the financial crisis has attracted some interests among policy makers and academics (Furman and Stiglitz [1999]). Only if monetary tightening could prevent from further exchange rate depreciation, it would be able to prevent from further deterioration of balance sheets of financial as well as corporate sectors. Note, however, that monetary tightening itself affects negatively those balance sheets directly by raising capital costs of the corporate sector and indirectly by making the financial sector more cautious in provision of credits. While this *exchange rate-interest rate nexus* (Basurto and Ghosh [2000]) is related to the secondary burden on the real sector, monetary tightening definitely does have the primary negative effect through significantly slower credit growth. The monetary tightening, in turn, proved to be counterproductive, dampening domestic investment and putting a deflationary impact on the real economic activity in East Asia. As such, the economic recovery in East Asia has not been supported by recoveries of domestic investment as well as of bank credits. As Park and Lee [2001] correctly pointed out, only fiscal stimulus and external factors such as export demand growth helped break through the deflationary situations brought about by the initial policy programs.

In the aftermath of the 1997 Crisis, the economic recovery in East Asia has not been supported by recoveries of domestic investment as well as bank credits. Credit slowdown was apparent across all the Asian economies. Triggered by the IMF-prescribed monetary tightening policy, it is believed that reduced credit supply further contributed to the already weakening economic activities in these countries. This mechanism is consistent with the pattern of causality between credit and real economic activity as proposed by the *credit view* (Bernanke and Gertler, 1995).

Figure 6 shows what is going on in financial intermediation in East Asia after the Crisis. Except for China and Korea, almost all economies in East Asia witnessed sharp falls of claims or credits on the non-financial private sector relative to GDP immediately after the Crisis. Particularly, the falls have been persistent in Indonesia, the Philippines and Thailand.
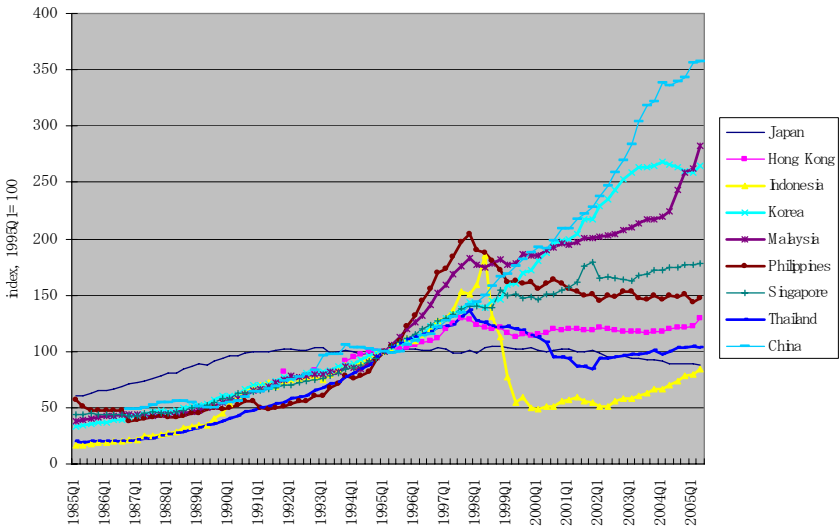
Figure 6. Claims on Nonfinancial Private Sector (real)

4.4. *Credit Crunch?*

Among the literature on possible credit crunch in the post-Crisis East Asia, we can detect some evidence of the existence of credit crunch there, using a disequilibrium analysis (Enya, Kohsaka and Pobre [2004]). Particularly it suggests that during the crisis period of 1997 through 1999, credit crunch appeared to exist in Malaysia and Thailand, but that is not the case in Korea (Figure 7).

First of all, it is obvious that Thailand was the most hard hit on the financial intermediation and then came Malaysia by the Asian Crisis among the three economies under our study. The financial intermediary shrank on both the asset side and liability side in the two economies, which is contrasting to the Korean case after 1997 as well as to their own experiences of credit crunch or near-crunch before the Crisis. The impact of the Crisis on the financial intermediation in Korea appears to be at least relatively mild to the other two and to its own experiences in the recent past. Therefore, we conclude that it is no surprise for us to detect credit crunch in Malaysia and Thailand, but none in Korea after the Crisis.

Korea
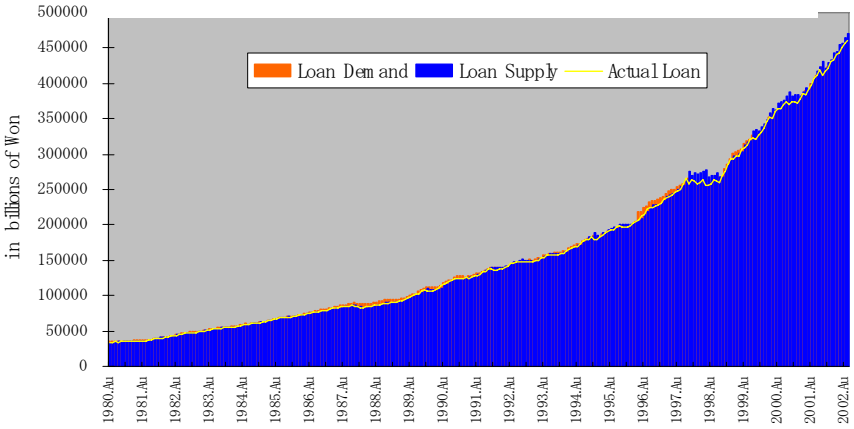
Source: Enya, Kohsaka and Pobre, 2004.

Figure 7A. Actual Loan and Estimated Loan Demand and Supply

Thailand
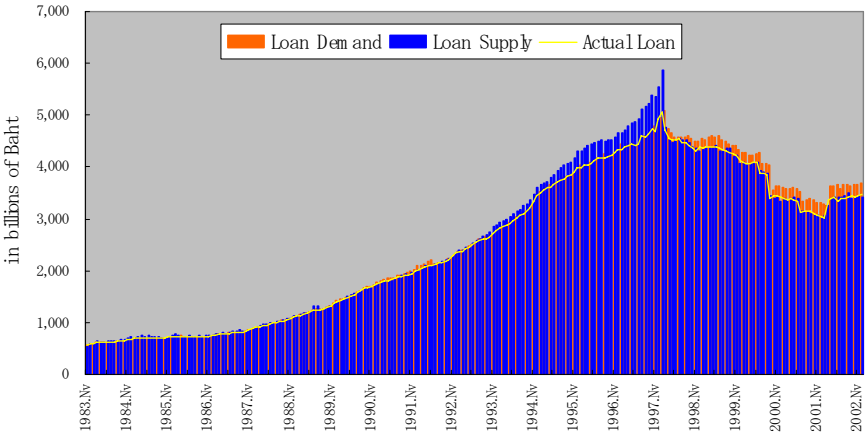
Source: Enya, Kohsaka and Pobre, 2004.

Figure 7B. Actual Loan and Estimated Loan Demand and Supply

Malaysia
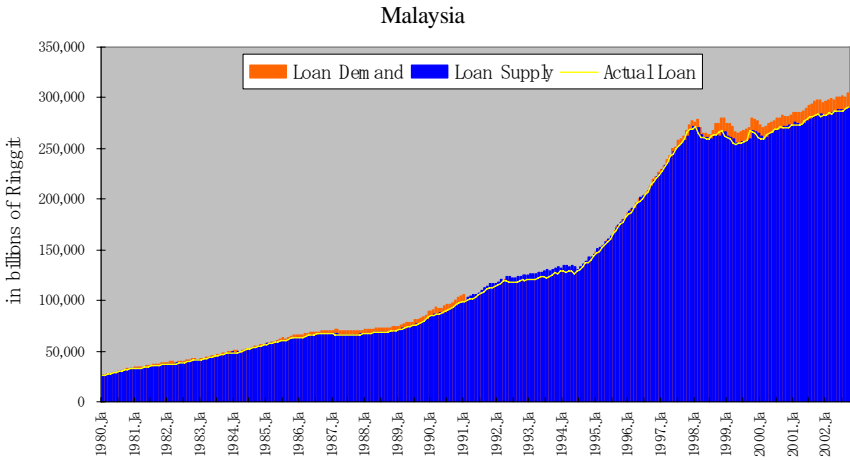
Source: Enya, Kohsaka and Pobre, 2004.

Figure 7C. Actual Loan and Estimated Loan Demand and Supply

Second, or more importantly, we must realize the overwhelming role of aggregate demand depression in generating significant declines of credits in East Asia. In fact, we note that so-called *V-shaped* recoveries of East Asian economies since the Crisis were not achieved by the resurgence of endogenous private demands (i.e. consumption and investment), but barely supported by that of exogenous demands (i.e. world exports and fiscal stimulus). Even as late as in 2002, we cannot witness the significant resurgence of domestic credits to the private sector in Malaysia and Thailand.

If we look at growth components in East Asia in Figure 8, we can see how domestic demand has been depressed, parallel with the retrenchment of private credits. Except for Korea, investment almost faded away as growth components as late as 2003, not only in Indonesia, Malaysia, Philippines and Thailand, but in Hong Kong and Singapore (not reported here). Note that this much depression in domestic demand is unprecedented in East Asia in the past few decades. Only comparable episodes can be found in the early to mid-1980s, but the depression was not this persistent and deep then.
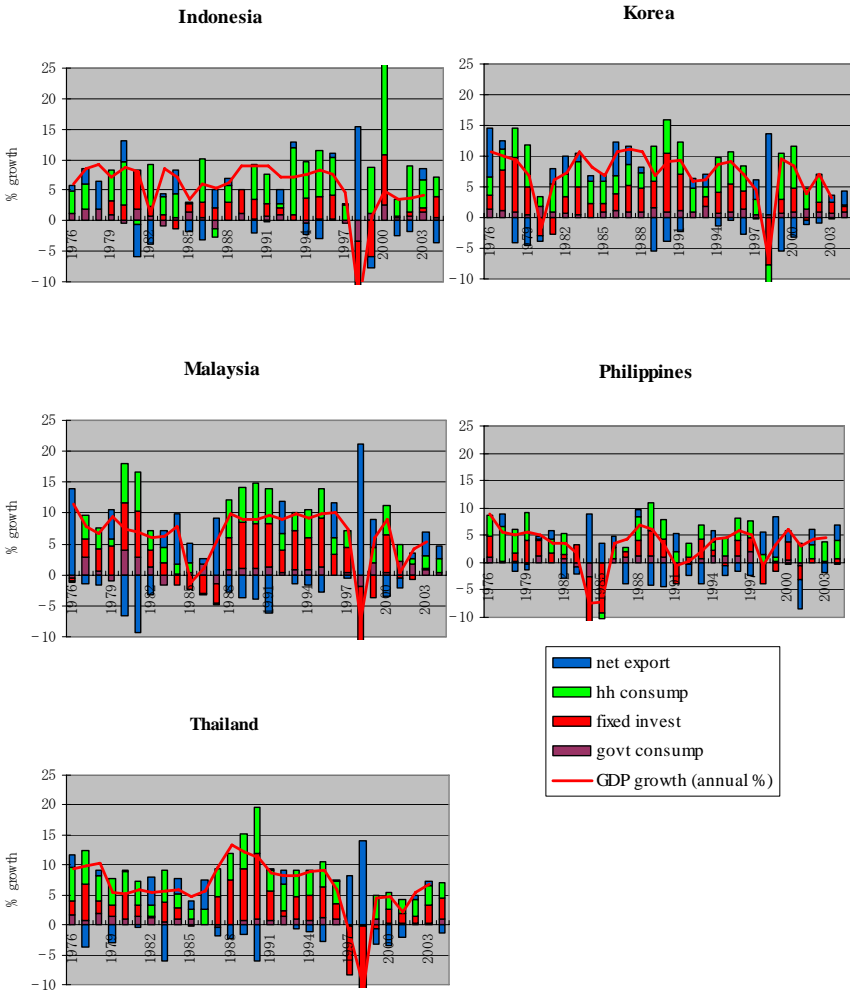
Figure 8. Growth components in East Asia

What is the policy implication of the above findings? I would argue that we must reconsider the important role played by the financial intermediaries. That is, while it is meaningful to nurture capital markets in the long run, the rehabilitation of the financial intermediaries is more emergent and vital for the economies to regain the endogenous growth path without solely depending on external luck of world economic growth.

5. Macroeconomic Linkages and Monetary Integration

5.1. *Capital Market Integration*

While a sheer size of capital flows could not necessarily be an appropriate indicator of capital market integration, there are several evidences showing that emerging markets receiving these huge flows in East Asian have been significantly integrated to the rest of the world. Realizing that macroeconomic fluctuations are transmitted through capital markets via price (interest rates) as well as quantity (capital flows), interactions between interest rates and capital movements in response to price differentials can tell us the developments in capital market integration in the region. More concretely, for example, Kohsaka [2000] shows: First, the real interest rate linkages to the international capital market is fairly strong during the period of 1980-98 in East Asia in the sense that no persistent real interest rate differentials can be detected. Nevertheless, second, there is still room for foreign exchange risk premium and/ or other deviations from UIP (uncovered interest rate parity) to prevent from exploiting potential profits implied by real interest rate differentials on one hand, and medium-run changes in PPP exchange rates to hinder the equalization of domestic and international real interest rates on the other.

Without doubt, macroeconomic interdependence is realized not only through financial integration, but through real integration with external trade and foreign direct investment. How do macroeconomic variables affect and are affected as a result of these increasing linkages through real and financial flows in East Asia? As the first step toward reviewing macroeconomic interdependence, one can examine correlation and cohesion among selected macroeconomic indicators. As far as GDP growth and inflation are concerned, it is shown that their (positive) correlation in East Asia is far lower than within the United States, nor as high as in Europe. It would be too early, however, to conclude that East Asia is less integrated in macroeconomic terms than Europe. Observed changes in macroeconomic variables are the results from global and local exogenous shocks and endogenous responses to them. So that, before assessing the degree of macroeconomic interdependence, we must recognize the nature of the shocks and the pattern of the responses.

5.2. *Comparative Macroeconomic Linkages*

In order to identify economic shocks, Kohsaka [2000] uses the structural VAR method by Blanchard and Quah [1989], decomposing a vector of first differentials of logarithmic real GDP and GDP deflator into supply as well as demand shocks. Supply shocks are supposed to affect both output (real GDP) and prices (GDP deflator) in the long run, while demand shocks affect only prices. The larger the size of the underlying shocks, the greater the need to adjust to them by resorting to monetary, fiscal and exchange rate policies, and the more compelling the need for an independent economic policy response. As against Bayoumi-Eichengreen [1994], Kohsaka [2000] does not see any distinct features in terms of sizes of either supply or demand shocks across as well as within regions.[8] Their sizes are almost comparable across regions and there is little distinct regional biases within regions.

Correlation coefficients measuring the association of supply as well as demand shocks can be compared among the three areas. As shown in Table 2, an overall picture is as follows: In both supply and demand shocks, the US regions are conspicuous in having significantly higher correlation than East Asia and Europe. So that, one might be able to say that there is not much differences between Asia and Europe as far as the degree of regional correlation among supply and demand shocks are concerned. One important difference between the two regions is that both supply and demand shocks are almost exclusively positively correlated across countries in Europe except for Ireland, while they are often negatively correlated in East Asia. In other words, with respect to correlations of supply and demand shocks within the regions, the contrast between US regions and the other two regions is clear, but this is not the case between East Asia and Europe.

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[8] Bayoumi-Eichengreen [1994] found that in the case of supply shocks the peripheral countries experience supply shocks larger than the core countries in Europe, while those of US regions are similar to those in the EC core and lower than those of the EC periphery over the period of 1962-88. In the case of demand shocks, however, they found that, while they are mostly the same in EC, the US regions have larger shocks than EC.

Table 2A. Correlations in demand shocks in East Asia, 1971-96

	Indonesia	Japan	Korea	Malaysia	Singapore	Philippines	Thailand	USA
Indonesia	1.000							
Japan	-0.013	1.000						
Korea	0.024	-0.027	1.000					
Malaysia	0.358	0.049	0.084	1.000				
Singapore	0.500	0.059	0.227	0.522	1.000			
Philippines	0.391	-0.035	-0.030	0.447	0.284	1.000		
Thailand	-0.392	0.040	0.100	-0.500	-0.284	-0.149	1.000	
USA	-0.164	0.159	0.028	-0.122	-0.182	-0.102	0.014	1.000

Table 2B. Correlation in demand shocks in Europe, 1971-96

	UK	Austria	Finland	France	Ireland	Italy	Spain	Sweden	USA
UK	1.000								
Austria	0.320	1.000							
Finland	0.332	0.492	1.000						
France	0.127	-0.042	0.034	1.000					
Ireland	-0.045	-0.061	-0.343	0.013	1.000				
Italy	0.085	-0.070	-0.158	0.393	0.177	1.000			
Spain	0.200	0.066	0.099	0.444	0.093	0.319	1.000		
Sweden	0.335	0.037	0.435	-0.019	0.238	-0.010	0.116	1.000	
USA	0.170	-0.006	-0.005	0.229	0.135	0.134	0.141	0.166	1.000

Table 2C. Correlation in demand shocks in US regions, 1977-96

	New England	Mideast	Great Lake	Southeast	Southwest	Plains	Rocky Mountain	Far West
New England	1.000							
Mideast	0.715	1.000						
Great Lake	0.492	0.372	1.000					
Southeast	0.464	0.612	0.502	1.000				
Southwest	0.212	0.302	0.123	0.667	1.000			
Plains	0.410	0.311	0.657	0.533	0.563	1.000		
Rocky Mountain	0.491	0.475	0.700	0.585	0.374	0.662	1.000	
Far West	0.689	0.879	0.430	0.656	0.492	0.446	0.682	1.000

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Table 2D. Correlations in supply shocks in East Asia, 1971-96

	Indonesia	Japan	Korea	Malaysia	Singapore	Philippines	Thailand	USA
Indonesia	1.000							
Japan	0.055	1.000						
Korea	-0.042	0.141	1.000					
Malaysia	-0.298	0.016	-0.023	1.000				
Singapore	0.228	0.046	0.042	-0.612	1.000			
Philippines	-0.022	0.026	0.031	-0.336	0.314	1.000		
Thailand	-0.538	-0.058	0.002	0.262	-0.413	0.137	1.000	
USA	-0.203	0.123	-0.004	0.117	-0.099	-0.063	0.110	1.000

Table 2E. Correlation in supply shocks in Europe, 1971-96

	UK	Austria	Finland	France	Ireland	Italy	Spain	Sweden	USA
UK	1.000								
Austria	0.009	1.000							
Finland	-0.006	0.263	1.000						
France	0.090	-0.019	-0.009	1.000					
Ireland	-0.011	-0.007	-0.186	-0.004	1.000				
Italy	-0.083	-0.064	0.048	0.134	0.143	1.000			
Spain	-0.066	0.088	0.129	-0.006	-0.119	0.018	1.000		
Sweden	0.103	-0.152	0.360	0.037	-0.129	0.111	0.040	1.000	
USA	0.125	0.072	-0.033	0.049	-0.173	-0.161	0.033	-0.078	1.000

Table 2F. Correlation in supply shocks in US regions, 1977-96

	New England	Mideast	Great Lake	Southeast	Southwest	Plains	Rocky Mountain	Far West
New England	1.000							
Mideast	0.895	1.000						
Great Lake	-0.685	-0.706	1.000					
Southeast	0.831	0.894	-0.753	1.000				
Southwest	0.478	0.589	-0.484	0.659	1.000			
Plains	-0.527	-0.635	0.640	-0.652	-0.772	1.000		
Rocky Mountain	-0.650	-0.703	0.934	-0.703	-0.565	0.673	1.000	
Far West	0.752	0.874	-0.703	0.749	0.567	-0.717	-0.772	1.000

Turning to the responses of economies to shocks, if we simplify adjustment mechanisms in the three regions, we may assume that, while US regions can be characterized by high factor mobility with fixed exchange rates and Europe by low factor mobility with exchange rate flexibility, East Asia comes in between. That is, though East Asia also lacks labor mobility, except for Japan, their exchange rate flexibility is more or less limited in terms of the US dollar, but not necessarily so against other major currencies (Kohsaka [1999]). Under the circumstances, how can we find the differences in adjustment patterns among the three regions to the shocks? To do that, Kohsaka [2000] used impulse response functions associated with the structural VAR models.

In the case of price responses, there seems less differences in adjustment speed across regions in the case of demand shocks than in supply shocks. While there are several countries in East Asia which show faster adjustment speed than US regions, adjustment in the latter is generally less dispersed. These contrasts against US regions hold true for Europe, and we see virtually no difference between East Asia and Europe. As for responses of production, US regions demonstrate generally faster and more cohesive adjustments to both demand and supply shocks than East Asia. This contrast with US regions, appears less, this time, for Europe than for Asia, while Asia seems to need particularly larger adjustment to supply shocks.

Now, what have we learned from the above exercise? As far as the adjustment speeds of prices based on the past behavioral patterns are concerned, we see little difference between East Asia and Europe in both supply and demand shock cases, both of them are considered to be with less labor mobility, but (at least, potentially) more flexible exchange rates then US regions. However, the adjustment speeds of production appear to be higher in Europe than in East Asia, which is magnified in the case of supply shocks.

To sum up, as pre-monetary-integration regions, East Asia has shown little difference from Europe in terms of the size and correlations of shocks, while in terms of adjustment speed of production we find not a small difference between East Asia and Europe. Why is it so? Is it because of differences in policy responses or in economic structures? We have no definite answer to the question now. At least, however, what we have

found is that, if Europe can afford to reap the benefit of monetary integration by converging into one Europe like US regions, East Asia is not very remote from that qualification in terms of shocks and adjustment.

6. Conclusion: A Scope for Regional Financial Cooperation

The recent trend of financial globalization has shown opportunities and risks of capital account liberalization in developing economies. Opportunities include increasing investment possibilities, creating technology spillovers and deepening domestic capital markets. Risks include increasing instability of small open economies exposed more to outside shocks such as sudden reversal of foreign capital flows. Then those economies would face serious difficulties in not only macroeconomic management but also financial systems as a whole.

In the long run, the globalization of financial markets could expand opportunities. They come from more efficient resource allocation and better risk diversification. Emerging markets, however, are only marginal in the global capital market so that they tend to be most vulnerable and exposed to large swings of international investor sentiments, which are subject to herd behavior and contagion.

The international capital market failure is intrinsic to capital markets in general. In domestic markets, we have devised a variety of safety nets, from the central bank as the lender of last resort to deposit insurance schemes. Yet, we are not equipped with either kind of safety nets in the international market. Obviously, a systemic risk as in the recent Crisis is out of reach of individual monetary authorities in developing economies. This is one reason why a new international financial architecture is desperately needed.

Obviously, the drive for regional financial cooperation in East Asia comes from a frustration against the present international financial architecture. The frustration is based on its lack of effective policy instruments against volatile capital flows and on its lack of understanding of the financial structures and macroeconomic mechanisms in the region. Here comes into view the regional financial cooperation which could support the architecture at least in a complementary way. At present the

regional financial cooperation in East Asia appears to be propped by four pillars, i.e. 1) the networking of bilateral currency swaps under the Chang Mai Initiative (CMI), 2) the monitoring of short-term capital flows, 3) the strengthening of policy dialogue and 4) the Asian Bond Market Initiative.

The first two pillars are precautionary measures against liquidity crises to strengthen sound external debt management to cope with the volatile capital flows under the financial globalization trend. The currency swaps would surely reinforce the liquidity provision against potential liquidity shortages as contingent foreign exchange reserves. The monitoring of short-term capital flows was a blind spot in the Crisis and naturally becomes one of the top priorities in the regional financial cooperation. Remember that they are far from complete solutions against the resurgence of currency crises due to volatile international capital flows.

The third one is to enhance the discipline and sustainability in macroeconomic management through peer monitoring and information exchanges. This may also help prevent from repeating harsh experiences of the 1997 crisis due to misguided policy prescriptions. The financial sector reform or restructuring could become part of this, being another one of the top priority issues because of the important role played by the sector in the past remarkable economic achievements. The fourth pillar is relevant for domestic financial intermediation and apparently shares the same concern as financial sector restructuring. Obviously the growth of domestic as well as regional capital markets would, at least in the long run, provide alternative channels of transferring ample domestic resources from surplus to deficit sectors and help alleviate the burden having been put solely on financial intermediaries in the region.

Let me emphasize here that, unlike the other emerging markets, East Asia is not dependent on one-way external finance any more. So that, to attract foreign resources from outside the region in order to fulfill the domestic I-S gap is not the first priority of the regional financial cooperation. Rather, its aim is to rehabilitate and enhance a stable and healthy financial intermediation within individual economies in the region as well as within the region. This is the way they have taken so far and will do so to sustain growth and stability in the future.

Our estimation result suggested that East Asia is not much different from Europe in terms of asymmetry of supply and demand shocks and of

adjustment speeds after the shocks, which may or may not imply that member economies are appropriate to form a currency union, though. Europe started a currency union, which never implies the decision is correct, nor East Asia should follow Europe. First of all, East Asia like Europe is very different from the United States, a well-established currency area, in terms of macroeconomic shocks and adjustment speeds to shocks. Second, European Union is formed not by an economic, but mainly by a political drive, which does not exist in East Asia now.

In other words, it would be safe to regard that regional financial cooperation and monetary integration are two separate things at the moment in East Asia. To date, we have witnessed the further deepening of the real economic integration through trade and investment in East Asia, but do not find strong evidences that exchange rate volatilities within the region harmed these flows in a significant way. It is doubtless that the pillars of the regional financial cooperation would complement and/or strengthen the present and future international financial architecture. Under the circumstances, however, we do not see any strong economic rationales for the policy authorities to trade off their autonomy in macroeconomic management immediately by joining any currency union in the region against possible future currency crises in East Asia.

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FINANCIAL COOPERATION AND INTEGRATION IN EAST ASIA

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Abstract

Prior to the Asian financial crisis in the fall of 1997, few would have seriously argued for the creation of a system of regional financial cooperation in East Asia. Only a market-led integration process was taking place in East Asia. However, the financial crisis was a major financial watershed that gave East Asians a strong impetus to search for a regional mechanism that could forestall future crises. This search is currently gathering momentum and opening the door to possibly significant policy-led integration in East Asia. This paper aims to provide a view on the current process and future prospects for regional financial cooperation and integration in East Asia. In particular, monetary cooperation in East Asia will be a several decade-long process that requires building collective institutions in the beginning. A major hindrance to monetary cooperation in East Asia is the region's lack of political capital.

JEL: F02, F33, F36, F42

Key Words: Chiang Mai Initiative, East Asia, Financial Cooperation, Financial Integration, Monetary Union.

1. Introduction

Deeper economic integration in East Asia is now on the policy agenda. There are a number of ways it can be progressed, from different starting

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points. One possible starting point is to focus explicitly on increasing intra-regional trade and investment through formal free trade arrangements (FTAs), and another is to focus on monetary and financial integration (or at the same time with trade-initiated integration process).

Prior to the Asian financial crisis in the fall of 1997, East Asia has shown preference toward open regionalism and multilateralism, as reflected in the objectives of the Asia Pacific Economic Cooperation (APEC) on the trade front. At the same time, few would have seriously argued for regional financial cooperation in East Asia on the financial front. Only a market-led integration process was taking place in East Asia. However, the financial crisis that erupted in 1997 was a major financial breakdown that gave East Asians a strong impetus to search for a regional cooperative mechanism that could forestall future crises. This search has been gradually gathering regional consensus and opening the door to possibly significant policy-led integration in East Asia.

Evidently, there is a movement toward Asian regionalism today. After the proposal to create an Asian Monetary Fund (AMF) was scuttled, the leaders of ASEAN responded by inviting China, Korea and Japan to join in an effort to seek economic cooperation in the region. The ASEAN+3 summit in November 1999 released a "Joint Statement on East Asian Cooperation" that covers a wide range of possible areas for regional cooperation. Recognizing the need to establish regional financial arrangements to supplement the existing international facilities, the finance ministers of ASEAN+3 at their meeting in Chiang Mai, Thailand, in May 2000 agreed to strengthen the existing cooperative frameworks in the region through the "Chiang Mai Initiative (CMI)."

In addition, East Asian countries started to recognize that they could not effectively boost trade relatively as much as countries more actively involved in forming free trade agreements. Following the ASEAN FTA, China, Japan, and Korea respectively agreed to form a FTA with ASEAN countries. East Asia is moving its own vision to a region-wide community. However, East Asia has much diversity, from a populous China to a tiny country like Brunei, or from an open economy like Singapore to a military regime like Myanmar, or even from a highly industrialized country like Japan to an agrarian-based society like Laos (Chirathivat, 2004). Therefore, a region-wide FTA would be slow to

materialize, when we consider such diversity and inexperience of regionalism.

The large currency crises of the last decade have been regional in nature. Clearly, neighboring countries have a strong incentive to engage in mutual surveillance and to extend one another financial assistance in the face of potentially contagious threats to stability. Whether the sudden shifts in market confidence were the primary source of the Asian financial crisis or not, foreign lenders were so panicked by the Thai crisis that they abruptly pulled their investments out of the other countries in the region, making the crisis contagious. The geographical proximity and economic similarities (or similar structural problems) of these Asian countries prompted the withdrawal of foreign lending and portfolio investment, whereas differences in economic fundamentals were often overlooked. If the channels of contagion cannot be blocked off through multilateral cooperation at the early stage of a crisis, countries without their own deep pockets of foreign reserves could not survive independently. Hence, neighbors have an interest in mutual assistance as an insurance scheme before a crisis spreads to them. As long as a crisis remains country-specific or regional, however, there would be no urgent political need for unaffected countries to pay the significant costs associated with playing the role of a unilateral insurer.

The formation of a regional financial arrangement in East Asia also to some extent reflects frustration with the slow reform of the international financial system (Park and Wang, 2002). The urgency of financial architectural reform in the G7 countries has receded considerably. The slow progress has been further complicated by the perception that the current international architecture is defective. The lack of global governance, including a global lender of last resort and international financial regulation, is not likely to be revamped anytime soon. As long as the structural problems on the supply side of international capital such as volatile capital movements and G3 exchange rate gyrations persist, the East Asian countries will remain as vulnerable to future crises as they were before. Thus, it would be in the interest of East Asians to work together to create their own self-help arrangements. The CMI of ASEAN+3 is one such available option. However, it is equally important that East Asian countries continue to undertake financial sector

restructuring and development. Without sound financial institutions and adequate regulatory regimes, Asian financial markets will remain vulnerable to external shocks. Regional policy dialogue should also contribute to strengthening the efforts to restructure and advance the financial markets in East Asia.

The three pillars of liquidity assistance, monitoring and surveillance, and exchange rate coordination are essential elements for regional financial and monetary cooperation. However, the development of regional financial cooperation and its related institutions will be evolutionary as shown in the case of European monetary integration. A shallow form of financial cooperation may comprise no more than a common foreign reserve pooling or mutual credit arrangement such as bilateral swaps. In other words, some kinds of shallow financial cooperation are conceivable without any commitment to exchange rate coordination under which exchange rates of the participating countries are pegged to each other or vanish through the adoption of a common currency. East Asian countries presently appear to pursue this form of financial cooperation (Henning, 2002). Although a full-fledged form of monetary integration is not viable at this stage, East Asia may begin to examine the feasibility and desirability of exchange rate policy coordination.

The purpose of this paper is to provide a view on the current process and future prospects for regional financial and monetary cooperation. The paper is organized as follows. Section 2 discusses the rationale for regional financial cooperation. Section 3 reviews the current status of regional financial cooperation in East Asia. Section 4 examines the current level of financial integration at the regional level. Section 5 addresses major barriers to financial cooperation and integration. Finally, section 6 concludes with a discussion of the future prospects for financial and monetary cooperation in the region.

2. Rationale for Regional Financial Cooperation

The Asian financial crisis provided a strong impetus for East Asia to reform and strengthen its domestic financial systems (markets and

institutions). At the same time, a strong need has emerged for developing a framework that can support regional financial cooperation to prevent and manage such crises in the future. However, the terminology – regional financial cooperation – seems ambiguous and thus needs to be more clearly specified. No one can deny the need for regional financial cooperation in the genuine sense, but when it comes to discussing the details and specifics of concrete proposals, there is disagreement all around among insiders and outsiders alike. One clear example is the proposal for the Asian Monetary Fund (AMF), which was shot down in 1997 (Wang, 2004).

The adoption and implementation of the CMI could be counted as a major step toward strengthening the financial cooperation among the thirteen East Asian countries. However, ASEAN+3 countries will face much tougher challenges and tasks in exploring augmentation beyond the CMI. East Asian countries need to clarify to the international community what their motivations are, how they will develop an action plan, and how they believe it fits in with the existing global financial system (Park and Wang, 2000).

The creation of a regional monetary fund in East Asia was strongly opposed by the United States, European countries and, of course, the IMF for a number of reasons. Opponents dismiss the contention that an East Asian regional fund may have a comparative advantage in diagnosing regional economic problems and prescribing appropriate solutions. In this regard, the CMI and its follow-up implementation seem acceptable to many detractors of the regional monetary fund. The CMI does not require a new institution like the AMF, and it is also tightly linked to IMF conditionalities.

The issue of moral hazard is one strong argument against the regional monetary fund. At this stage of development, East Asians may not be prepared to negotiate an international treaty that includes provisions for sanctions and fines for countries that do not adjust their domestic policies accordingly (Eichengreen, 2000).[1] This unwillingness would make it

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[1] Eichengreen (2000) argued that East Asia, in contrast to Europe, lacks the tradition of *integrationist* thinking and the web of interlocking agreements that encourage monetary and financial cooperation in Europe. For over a half-century, European countries have

difficult for the regional monetary fund to impose politically unpopular policies on the member countries and, hence, may pose a serious problem in policy discipline. However, the IMF itself is also not immune to the moral hazard problem.[2] It has not yet been made clear why an East Asian monetary fund would suffer more from the moral hazard problem than the IMF. As Sakakibara (2000) puts it, if those countries unaffected by the East Asian crisis do not have any political incentive to contribute their own money, they should say so instead of using the moral hazard argument as an excuse for opposing regional arrangements in East Asia.

Eichengreen (2000) finds it useful to distinguish between technical assistance and financial assistance. True enough, there is no reason to discourage competition in the market for technical assistance. Governments should be free to choose the source of technical assistance with the best track record. However, his concern is that if multiple monetary funds were available, East Asian governments would have an incentive to shop around for the most generous assistance and the least onerous terms. He seems to believe that AMF conditionalities would be much softer than IMF conditionalities. At the end of the day, his concern should be well taken when Asians consider further development beyond the CMI that presently assumes IMF conditionality as a given.

Once established, an East Asian monetary fund could provide additional resources to the IMF while joining forces to work on matters related to the prevention and management of financial crises. At the same time, it could also support the work of the IMF by monitoring economic development in the region and taking part in the IMF's global surveillance activities.

Contagion is geographically concentrated, so that a regional grouping for support is logical. In addition to providing financial assistance in tandem with international support, a regional financial cooperation mechanism may conduct policy reviews and initiate a dialogue process.

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worked very hard to develop a wider web of political and diplomatic agreements that encourage their cooperation on monetary and financial matters. If the European experience is any guide, East Asia may take many years to develop an effective cooperative arrangement for money and finance.

[2] The task force report of the Council on Foreign Relations (1999) advises the IMF to adhere consistently to normal lending limits to redress the moral hazard problem.

Policy dialogue, including monitoring and surveillance, is the foundation on which coherent policy formation under the regional financial arrangements rests. A monitoring and surveillance process would provide prompt and relevant information for assessing the situation of countries in trouble and the potential contagious effects of a crisis to neighboring countries. Furthermore, a joint exercise based on a region-wide early warning system would facilitate closer examination of financial risks in the region. In addition, the regional policy dialogue process would contribute to ensuring effective implementation of high-quality banking and financial standards, and promoting financial market development in East Asia.

Although regional financial cooperation is desirable in a broad sense, the devil is in the details (Pereira da Silva and Yoshitomi, 2001). If a scheme for regional financial cooperation is effective in preventing and managing future financial crises as well as promoting financial market development in the region, no one can deny the desirability of the regional arrangement. However, various regional institutions have different memberships and different goals. If some institutions cannot achieve the collectively set goals, they should be closed and new institutions created (Wang and Woo, 2004). In this regard, an important task is to identify those regional institutions that perform effectively to achieve their stated goals.

3. Status of Regional Financial Cooperation

The CMI has been a key initiative for Asian financial cooperation. Significant progress has been made in implementing the CMI. The ASEAN Swap Arrangement (ASA), one of the main components of the CMI, has increased to US$1 billion, effective as of November 17, 2000, and encompasses all ASEAN member countries. Regarding the network of bilateral swap agreements (BSAs) under the CMI, substantial bilateral agreements have been reached. At the end of December 2003, the first round of CMI implementation has been completed by concluding the sixteen BSAs that amount to US$39.5 billion in total (based on the reciprocal term). Japan has been playing a leading role in terms of both

number and amount: Japan concluded seven agreements with Korea, China, Indonesia, Malaysia, the Philippines, and Thailand, and Singapore. China also concluded five agreements with Korea, Indonesia, Malaysia, the Philippines and Thailand in addition to the China-Japan BSA. Similarly, Korea concluded five agreements with China, Indonesia, Malaysia, the Philippines and Thailand in addition to the Japan-Korea BSA [See Table 1].

Table 1. Progress on the Chiang Mai Initiative
(As of December 31, 2003)

BSA	Currencies	Conclusion Dates	Amount
Japan-Korea	USD/Won	July 4, 2001	US$ 7 billion (a)
Japan-Thailand	USD/Baht	July 30, 2001	US$ 3 billion
Japan-Philippines	USD/Peso	August 27, 2001	US$ 3 billion
Japan-Malaysia	USD/Ringgit	October 5, 2001	US$ 3.5 billion (a)
PRC-Thailand	USD/Baht	December 6, 2001	US$ 2 billion
Japan-PRC	Yen/RMB	March 28, 2002	US$ 3 billion equivalent
PRC-Korea	Won/MB	June 24, 2002	US$ 2 billion
Korea-Thailand	USD/Baht	June 25, 2002	US$ 1 billion
Korea-Malaysia	USD/Ringgit	July 26, 2002	US$ 1 billion
Korea-Philippines	USD/Peso	August 9, 2002	US$ 1 billion
PRC-Malaysia	USD/Ringgit	October 9, 2002	US$ 2 billion
Japan-Indonesia	USD/Rupiah	February 17, 2003	US$ 3 billion
PRC-Philippines	RMB/Peso	August 29, 2003	US$ 1 billion
Japan-Singapore	USD/S$	November 10, 2003	US$ 1 billion
Korea-Indonesia	USD/Rupiah	December 24, 2003	US$ 1 billion
PRC-Indonesia	USD/Rupiah	December 30, 2003	US$ 1 billion

Note: (a) The US dollar amounts include the amounts committed under the New Miyazawa Initiative, US$5 billion for Korea and US$2.5 billion for Malaysia.

In the 8th ASEAN+3 Finance Ministers' Meeting held in May 4, 2005, a few developments in the CMI were taken to strengthen the mechanism. First of all, the ministers agreed that countries having BSAs with a certain country in trouble make a collective decision in lending money to the country. This agreement can be seen as a first step toward multilateralizing the CMI. Since the CMI swap network has not yet been tested, it could be only workable when one or two countries come under pressure. If a number of countries are simultaneously experiencing pressure from capital markets, it would be only natural to expect a degree of reluctance to take on any additional obligations in defense of their neighbors. Thus, such joint decision and action will be required for preventing a free-rider problem. Second, the size of swaps increased. The ASA has been doubled to US$2 billion. At the same time, the current swap amount of any BSA can be expanded up to 100 percent if both sides agree to increase the amount. Third, the autonomy of the CMI was strengthened in that the autonomous disbursement without IMF involvement increased from 10 percent to 20 percent. These developments reflect a growing sense of regional financial cooperation.

Despite a few recent developments, however, the CMI still has several limitations. One important remaining issue is the linkage of the CMI to the IMF. As long as the CMI is simply a source of financial resources supplementary to the IMF, the size of the swap borrowing does not necessarily need to be large enough to meet potential needs, because there exists another deep pocket of financial resources provided by the IMF. Although the CMI is not allowed to design its own conditionality at this point, it does need to establish its own surveillance mechanism. Under the revised CMI framework, 20 percent of the swap arrangements can be disbursed without IMF involvement. But because this 20 percent of swap can be disbursed only with the consent of swap-providing countries, the swap-providing countries need to formulate their own assessments about the swap-requesting country. At present, the current practices under the ASEAN+3 process cannot effectively capture emerging problems.

Most participating countries agree in principle that the CMI needs to be supported by an independent monitoring and surveillance system. This system monitors economic developments in the region, serves as an

institutional framework for policy dialogue and coordination among the members, and imposes structural and policy reform on the countries drawing from the BSAs. To do so, the ASEAN+3 finance ministers agreed to organize a study group to produce a blueprint for an effective mechanism of policy dialogues and economic reviews for the CMI operations at the ADB annual meeting in Honolulu on May 9, 2001. The study group met in Kuala Lumpur November 22, 2001 to discuss the report on possible modalities of surveillance prepared by Bank Negara Malaysia and Japan's Ministry of Finance. However, the member countries could not reach an agreement on the surveillance issues, agreeing only to institutionalize the ASEAN+3 meetings of deputies for informal policy reviews and dialogues. At this stage of development of the CMI, many countries feel uncomfortable about creating an independent regional monitoring and surveillance unit as part of the CMI.

In the long run, however, the participating countries are likely to wean themselves from their reliance on the IMF. If the CMI develops into more or less an independent financial arrangement from the IMF, then the regional financial arrangement should be designed to discipline the borrowers to adhere to sound macroeconomic and financial policies by imposing conditionalities. However, the ASEAN+3 countries at the current stage do not seem well prepared for establishing a policy coordination mechanism in the surveillance process.[3]

Finally, the CMI has nothing to do with exchange rate coordination. In comparison with Europe, the CMI has a different motivation from the beginning. The European facilities were created with the purpose of limiting bilateral exchange rate fluctuations among regional currencies. The CMI started with high capital mobility and flexible exchange rates,

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[3] For instance, the ASEAN surveillance process is built on the basis of consensus and informality in keeping with the tradition of non-interference (Manzano, 2001). East Asian in contrast to Europe lacks the tradition of integrationist thinking and the web of interlocking agreements that encourage monetary and financial cooperation (Eichengreen and Bayoumi, 1999). Eichengreen and Bayoumi (1999) stress that East Asia does not meet the necessary intellectual preconditions for regional integration. For this reason, they conclude that it is unrealistic to speak of pooling national sovereignties. While there is no doubt considerable work to be done in promoting policy coordination in the region, it is wrong to say that it cannot be done in East Asia.

although some members of ASEAN+3 have maintained a relatively fixed exchange rate regime. So far, the ASEAN+3 countries have not presumed any manifest exchange rate coordination. In the absence of exchange rate coordination, incentives for mutual surveillance will be limited because a member country facing a speculative currency attack may be free to float its exchange rate vis-à-vis those of other neighboring countries (Wang and Woo, 2004). Under the current ASEAN+3 policy dialogue framework, the purpose of the CMI and mutual surveillance system is to prevent the occurrence of financial crises and contagion in the region.

4. Examination of Regional Financial Integration in East Asia

As regards to financial integration, economists propose various conceptual definitions. Financial integration refers to an individual country's linkages to international capital markets. Of more relevance for the analysis is the distinction between de jure financial integration, which is associated with policies on capital account liberalization, and actual capital flows. For example, indicator measures of the extent of government restrictions on capital flows across national borders have been used extensively in the literature. On the other hand, the volume of capital actually crossing the borders of the countries could be different from the anticipated financial flows. In this sense, de jure restrictions on capital flows and actual capital flows across national borders are two ways of measuring the extent of a country's financial integration with the global economy. The differences between these two measures are important for understanding the effects of financial integration. By either measure, developing countries' financial linkages with the global economy have risen in recent years. However, a relatively small group of developing countries has garnered a lion's share of private capital flows from industrial to developing countries, which surged in the 1990s (Prasad et al., 2003).

Over the past decade, a number of East Asian countries have liberalized their financial markets to foreign capital by reducing restrictions on inward and outward capital flows. Net private capital

inflows to East Asia in the mid-1990s were conspicuous in the postwar period in terms of the size of the flow to emerging markets. The inflows to East Asia were driven by a mixture of push and pull factors, including the pursuit of perceived large profit opportunities, the diversification of Japanese overseas direct investment, the expansion of institutional investors and country funds, the development of regional ratings, and the easing of capital account restrictions. However, the Asian financial crisis has brought significant changes to the patterns of capital flows to East Asia. Most East Asian countries became net providers of international capital due to their current account surpluses. While receiving inflows of foreign direct investment (FDI) and portfolio investment on a net basis, these countries have repaid large amounts of bank loans for the past several years.

Despite the changes in the patterns of international capital flows in East Asia, the countries of East Asia has developed stronger financial ties with Western Europe and the United States than with one another. There is no sign of the development of an integrated regional financial market. This less progress in regional financial integration is not surprising. Eichengreen and Park (2005) explain the various factors by comparing the two regions – Europe and East Asia. According to their analysis, Europe has gone further than East Asia in the integration of product and factor markets. While the EU has a true single market in goods and services, progress towards the creation of an Asian free trade area remains incomplete. While Europe has removed essentially all barriers to the free movement of capital and most barriers to the movement of labor, in East Asia limits on factor mobility remain pervasive. In Europe, regionalism is motivated in no little part by a desire for political integration that has no counterpart in East Asia. While Europe has built institutions of transnational governance (e.g., the European Commission, the European Parliament, the European Court of Justice, and now the European Central Bank), East Asian integration is "weakly institutionalized." That is, it is predicated not on transnational institutions but on intergovernmental agreements that defer to the sovereignty of the participating states. Nor is integration in East Asia driven by an alliance of key nations like France and Germany or by a single hegemonic power

(the role played by the United States in the Western Hemisphere); it is a more multi-polar process.

Recently, the ASEAN+3 group has shown great interests in developing regional bond markets in East Asia so that East Asian borrowers can issue bonds denominated in local currencies. The member countries agreed under the Asian Bond Initiative (ABI) to conduct detailed studies on various aspects of bond market development. Given the low degree of regional financial integration in East Asia, this initiative would be welcome if it would be a means to facilitate financial market development in East Asia. Despite strong enthusiasm of the ASEAN+3 countries for constructing bond market infrastructure and increasing the supply of as well as demand for these bonds, the creation of deep and liquid bond markets in the region will take a long time. It will require more extensive domestic financial reform, institutional harmonization among and substantial investment for building the infrastructure by the ASEAN+3 (Park and Park, 2003). Eichengreen and Luengnaruenmitchai (2004) also find that the slow development of local bond markets is a phenomenon with multiple dimensions. They conclude that the only solution is to work harder at strengthening market regulation, market infrastructure and the other domestic conditions for the development of local bond markets before giving that process a further push by finally opening the capital account.

Many proponents of the ABI may counter this pessimistic view. Ito (2003, 2004) argues that there may be regional bias next to home bias in that investors find bonds issued in Asia attractive compared to bonds from other region.[4] However, at this stage of development, there is no guarantee that regional efforts, even if they can be organized, could succeed in fostering regional capital markets that are competitive vis-à-vis the global capital markets in the U.S. and Europe. Furthermore, the continuing globalization of financial markets and advances in information technology that allows financial companies in the

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[4] Ito argues that there is natural preference among the investors that they purchase familiar products with less perceived risk. However, he also acknowledges that regional bias is still a product of theoretical deduction rather than widely observed phenomenon, such as home bias, supported by hard evidence.

international financial centers dominate the international banking and investment businesses. In reality, there would be no home bias at the regional level, unlike at the country level. For example, a regional portfolio is not necessarily easy to hedge. Having better information at the regional level does not seem to be enormously more advantageous than having better information at the global level.

5. Barriers to Financial Cooperation and Integration

East Asian policymakers who conceived the idea of the CMI would easily concede that the BSA system as it is currently structured has a long way to go before it can be accepted as an effective mechanism of defense against financial crises. Although five years have passed since the system was established in May 2000, the leaders of the CMI group have yet to produce an operational structure for BSAs, in particular a monitoring and surveillance mechanism. And it is highly unlikely that they will do so anytime soon.

As for institutional and political constraints on further expansion of the CMI, the most serious one has been that the thirteen countries have failed to articulate the ultimate objectives of the CMI arrangement. The participating countries themselves are still unclear about whether the CMI is going to be fostered as a regional liquidity support program or as a building block for a full-fledged regional monetary system in East Asia. If bilateral swap arrangements are activated collectively and supported by a surveillance system, then they constitute a de facto regional monetary fund. The CMI could then be used as the base on which an elaborate system of financial cooperation and policy coordination is built by following in the footsteps of the European monetary integration. At this stage of development, many countries in East Asia are not prepared to accept the idea of or may feel uncomfortable about restructuring the CMI into a forerunner of the AMF.

A second institutional constraint is related to the need for coordinating the activities of the CMI with other regional arrangements such as the Manila framework supported by the U.S., Australia, and New Zealand. Most of the CMI countries also participate in the Manila

framework and APEC. At some point in the future, the leaders of the ASEAN+3 countries may have to decide on the mode of cooperation and division of labor in promoting regional growth and stability between these institutions and the CMI. All thirteen countries have been engaged in policy reviews and dialogues through the various APEC meetings and the Manila framework. Unless the CMI is developed into a credible financial arrangement by increasing swap amounts, it will take on a role similar to other regional economic forums. The coherence of the group will then be weakened, as questions are raised as to whether the thirteen countries constitute an appropriate grouping for a regional financial arrangement in East Asia.

A third hindering factor is that as the fear of another round of financial crisis has receded with the recovery that has been faster than predicted on the basis of previous episodes of crises. With this false perception, the ASEAN+3 countries have become less interested in enlarging and institutionalizing the CMI operations. Instead, their focus has recently shifted to creating free trade areas in East Asia. The ASEAN free trade area (AFTA) now includes the whole of Southeast Asia. AFTA continues to expand. In November 2001, China and the ASEAN countries agreed to form a free trade area within ten years, allowing for some preferential treatment for less developed ASEAN countries. Japan has concluded a free trade agreement with Singapore and started negotiations on a similar agreement with Korea and several states of the ASEAN on the individual basis.

The free trade movement is undoubtedly a desirable development, and the CMI could facilitate further liberalization of trade by stabilizing bilateral exchange rates of regional currencies and minimizing the disruptive effects of financial market turbulence. This advantage suggests that the ASEAN+3 countries may have an incentive to broaden the scope of the CMI in parallel with negotiations on establishing free trade areas in the region. In reality, however, it appears that free trade discussions have rather distracted many East Asian countries from their CMI negotiations. However, the prospect of a region-wide East Asian FTA, covering all thirteen ASEAN+3 countries, is slow to materialize because China and Japan are seeking bilateral trade agreements rather than multilateral ones. In particular, the current pattern of regional trade

agreements in East Asia is confusing. It essentially consists of a web of bilateral arrangement, many of which are still on the drawing board. There has apparently been no formal attempt to build a region-wide agreement like the Common Market agreement. Bilateral agreement is unlikely to foster a collective framework.

Finally, there is the leadership issue that defies an easy solution. If the thirteen countries have a more ambitious goal of developing a collective exchange rate mechanism similar to the ERM in Europe with the long-term objective of adopting a common currency, they will have to increase the number and amount of the BSAs. As the European experience shows, such an extension requires political leadership that can foster coherence among the thirteen countries by mediating between the divergent interests of the members.

China and Japan would be naturally expected to provide leadership in the future developments of financial cooperation along with region-wide free trade agreement. Despite the differences in their strategies, the combination of China and Japan together is the key to developing a common political will in East Asia. Sakakibara (2003) and Murase (2004) argue that the role of China and Japan in East Asia's integration process is synonymous with that of France and Germany in Europe's integration process. Nonetheless, East Asia's lukewarm attitude toward a creating a regional bloc in both trade and finance fronts is basically due to the lack of political capital in the region.

As far as China is concerned, economic integration with the ASEAN 10 members, South Asian and central Asian countries may be more important geo-politically than financial cooperation or free trade with either Japan or South Korea. While China is a super military power in the world, it is still a developing economy with a huge gap to narrow in terms of technological and industrial sophistication vis-à-vis Japan. These differences in the economic and military status of the two countries suggest that, even if they manage to reconcile their troubled memories of the past, China and Japan may find it difficult to work together as equal partners for regional integration in East Asia.

Despite slow progress in reconciliation between China and Japan, China seems to emerge as an active player in the both international and regional arena. Since the mid-1990s, China has expanded the number and

depth of its bilateral relationships, joined various trade and security accords, deepened its participation in key multilateral organizations, and helped address global security issues. The pinnacle of this process was the Treaty of Good-Neighborliness and Friendly Cooperation that China signed with Russia in 2001 (Medeiros and Fravel, 2003).

China borders Russia and many of the South Asian and Central Asian countries in addition to several ASEAN members. Therefore, it is natural for China to seek expansion and deepening of its trade and financial relations with those neighboring countries. In fact, for this reason, China has been courting ASEAN for a free trade agreement and joined in November 2001 the Bangkok agreement on a free trade area that includes Korea and the South Asian countries (Bangladeshi, India, Laos and Sri Lanka). In Central Asia, China has also taken a leading role in establishing the region's first multilateral group, the Shanghai Cooperation Organization. Founded to settle long-standing territorial disputes and to demilitarize borders, the organization now stress counter-terrorism cooperation and regional trade among Russia, Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan and China.[5]

In contrast, Japan has not been able to articulate its strategic interests in East Asia. There is some suspicion that Japan is not interested in free trade and financial arrangements per se in East Asia for purely economic reasons. Instead, Japan is engaged in the discussion of those regional arrangements with other East Asian countries to maintain its leadership role as the region's largest economy by checking and balancing China's expansion. Many analysts believe that Japan's active involvement in regional economic integration is therefore motivated by its desire to maintain its traditional pole position in East Asia. On top of this suspicion, Japan is perceived to be a stubborn country insensitive to and unwilling to resolve wartime legacies and disputes on historical and territorial claims. Japan's lack of a leadership for East Asian

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[5] In June 2001, the presidents of six countries signed the Declaration of the Shanghai Cooperation Organization (SCO). The SCO aims at strengthening mutual trust and friendly relations among member states, encouraging their further effective cooperation in politics, economy, science and technology, culture, education, energy, transportation, environmental protection and other fields, jointly ensuring regional peace, security and stability, and creating a new international political and economic order.

development seem to undermine Japan's ability to pull East Asian
countries together for regional cooperation and integration (Park and
Wang, 2005).

6. Future Prospects

Regionalism in East Asia is taking two forms: free trade arrangements
(FTAs) and financial arrangements. The arrangements imply that
geographically proximate countries have some incentives to create a
regional grouping for the purpose of fostering trade on the one hand and
promoting financial and exchange rate stability on the other. The two
processes reinforce each other.

    The euro area pursued trade integration first, but from a theoretical
point of view there is no clear reason for this. When the Bretton Woods
system began to unravel, the pressure for exchange rate stability
intensified and thus the European countries started to initiate monetary
cooperation. Unlike Europe, North American Free Trade Agreement
(NAFTA) was formed without any explicit consideration of exchange
rate stability. Two important factors can be singled out to determine
whether trade integration will be followed by exchange rate coordination
or not. First, the intra-regional trade shares should be large enough for
the FTA countries to pursue monetary integration. While the EU
countries as a group hold a substantial share of trade for each country,
the share of trade for the U.S. to Canada is relatively small, and thus
provides a smaller incentives for the U.S. to introduce any form of
exchange rate coordination mechanism between the U.S. and Canada.
Second, exchange rate coordination requires much more durable
commitment and much more sophisticated institutional arrangements.

    The recent increase in East Asia's intra-regional trade is primarily
attributed to the rise of bilateral trade between China and other East
Asian economies. However, East Asia on average still has much lower
intra-regional trade than Europe did in 1980. Given this current low level
of intra-regional trade in East Asia, East Asian countries are more likely
to have less incentive to pursue exchange rate coordination or monetary
integration. Also, as mentioned above, another major hindrance to

monetary cooperation in East Asia is the region's lack of political capital. Whatever economic benefits a monetary union may bring, they are unlikely to be realized in the near future if each country is unwilling to cooperate in the political arena.

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CHAPTER 8

INTEGRATING THE TWO ASIAN ECONOMIC GIANTS: JAPANESE MULTINATIONAL CORPORATIONS IN CHINA[1]

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Summary

In this paper we investigate various trends, behavioral patterns and geographic determinants of direct investment from Japanese multinational corporations in China. The investment and trade behavior of Japanese firms in China constitute an important channel through which economic integration takes place between the two Asian economic giants. According to recent Japanese government surveys, Japanese firms locate in China to take advantage of its low costs and its large and growing market. Japanese firms sold a large fraction of goods produced in China in the Chinese market. They also procured a significant share of its intermediate goods from suppliers in China.

Based on our panel econometric analysis, Japanese multinationals are attracted to regions in China where there is an abundance of human capital, good tax and investment incentives and where economic reforms have progressed in a significant way.
Key words: Foreign Direct Investment, Japanese Multinational Corporations, the Chinese Economy
JEL Classification numbers: F20, F23

1. Introduction

China and Japan are the two largest economies in Asia. Economic ties between the two countries are blossoming. In 2003, Japan's trade with China (including Hong Kong) increased by almost one-third. Many Japanese multinational companies such as Toyota, Matsushita and Nissan have invested heavily in China (Financial Times March 30, 2004). Many researchers now believe that the relentless growth of the Chinese market is largely responsible for the recent export-led recovery of Japan, which seems to be finally emerging from a decade-long stagnation.

From China's standpoint, Japanese and other sources of foreign direct investment represent an important contributing factor to its growth. In the first quarter of 2004, China grew at an official rate of 9.7%. The central government in Beijing is attempting to implement various cooling measures to slow down the economy. Despite such efforts, it is still expected that Japanese and foreign direct investment from other regions will continue to rise. Direct investment is rapidly integrating the two economic giants in Asia. In this paper, we will investigate this very important channel of economic integration between the two most important economies in Asia—China and Japan. In the next section, we will set the stage by first discussing some of the characteristics of foreign direct investment in China. In section 3, we focus specifically on Japanese direct investment in China. In particular we will discuss the motives for investment, patterns and destination of sales and patterns of procurement for Japanese multinational corporations operating in China and elsewhere. In section 4, we provide a panel econometric analysis of the geographical determinants of direct investment from Japan to China for the years 1990-2002. In the last section, we conclude.

2. Some General Characteristics of Foreign Direct Investment in China

One of the most important elements of China's economic reform has been the promotion of foreign direct investment (FDI) inflow. FDI in China has grown dramatically over the past two decades, since China initiated its 'open-door' policy in 1978 (Table 1). When China initiated its 'open-door' policy, the amount of FDI inflow was very little. It was not until the mid-1980s when FDI in China surged and marked the beginning of China's ride on the wave of globalization. In the early 1990s, it once again gained momentum. After it achieved the unprecedented growth between 1991 and 1993 however, both the number of projects and the contracted value began to go down in 1994. This downturn continued until the next big wave of FDI inflow hit China in 2000. In 2002, despite the widespread decline in FDI in the world, China experienced an increase in FDI inflow and overtook the United States to become the world's second largest destination of FDI.

Table 1
Contracted and Realized FDI, 1979-2002

US$ million/%

Year	Contracted		Realized	
	Amount	Growth Rate	Amount	Growth Rate
1979-1982	6,010		1,166	
1983	1,732		636	
1984	2,651	53.1%	1,258	97.8%
1985	5,932	123.8%	1,661	32.0%
1986	2,834	-52.2%	1,874	12.8%
1987	3,709	30.9%	2,314	23.5%
1988	5,297	42.8%	3,194	38.0%
1989	5,600	5.7%	3,392	6.2%
1990	6,596	17.8%	3,487	2.8%
1991	11,977	81.6%	4,366	25.2%
1992	58,124	385.3%	11,007	152.1%
1993	111,436	91.7%	27,515	150.0%
1994	82,680	-25.8%	33,767	22.7%
1995	91,282	10.4%	37,521	11.1%
1996	73,277	-19.7%	41,725	11.2%
1997	51,004	-30.4%	45,257	8.5%
1998	52,102	2.2%	45,463	0.5%
1999	41,223	-20.9%	40,319	-11.3%
2000	62,380	51.3%	40,715	1.0%
2001	69,195	10.9%	46,878	15.1%
2002	82,768	19.6%	52,743	12.5%
1979-2002	827,809		446,258	

Source: China Foreign Economic Statistical Yearbook.

Tables 2a and 2b present the contracted value and the realized value of FDI from 14 leading investing countries, respectively. One of the features of the inflow of FDI in China is the large contribution of investment from Hong Kong, Taiwan and Macau, especially during the late 1980s and the early 1990s. One of China's reform strategies is to first open up Special Economic Zones (SEZs) in the southeast part of China in an attempt to attract foreign capital from its neighbors. Four SEZs were established in two southeast coastal provinces, Guangdong and Fujian. In Guangdong province, three SEZs are established in Shenzhen, Zhuhai, and Shantou. Shenzhen was a small town sharing a border with the then British colony, Hong Kong. Zhuhai is located next to Macao. Shantou is another coastal town lies near the border between Guangdong and Fujian. The fourth SEZ, Xiamen in Fujian province was a relatively industrialized city, located near Taiwan.

Hong Kong has by far been the biggest investor in China throughout the years. The investments from Hong Kong to China have increased dramatically since the early 1980s. Between 1983 and 2002, the contracted amount and the realized amount of FDI from Hong Kong amount to more than US$375 billion and US$204 billion respectively. These figures account for 45.4% and 45.8% of the total respective contracted amount and realized amount of FDI from the world. However, it has been frequently estimated that a significant portion of investment from Hong Kong to China originates from China itself or from countries outside Hong Kong (Fung, 1997). A large amount of China's capital outflow is channeled to Chinese firms located in Hong Kong and finds its way back to China as FDI. This type of "round tripping" of funds is mostly used to escape regulations such as barriers to trade or to gain eligibility to incentives available to only foreign investors (e.g. tax concessions). According to the World Bank (2002), round tripping accounts for twenty to thirty percent of FDI in China.

Between 1983 and 2002, Singapore and Macao ranked 6th and 12th in total contracted FDI in China, and they ranked 6th and 11th respectively in total realized FDI. The presence of both economies appears to have been stronger in the beginning of the 1990's.

Table 2a
Contracted FDI by Source Country/Territory, 1983-2002
US$10,000/%

ta	1983-1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	1992-2002	1983-2002
Total	5066740	5873545	1.1E+07	8267977	9128153	7327642	5100353	5210205	4122302	6237952	6919455	8276833	77607983	82674723
Hong Kong, China	3107746	4199377	7393852	4697141	4099555	2800172	1822229	1761328	1332892	1696105	2068586	2520183	34391420	37499166
United States	464887	314191	681275	601018	747113	691576	493655	648373	601611	800089	751487	815647	7146035	7610922
Taiwan	0	554790	996487	539488	587907	514098	281449	298168	337444	404189	691419	674084	5879523	5879523
Japan	368782	220025	296047	444029	759236	513068	340124	274899	259128	368051	541973	529804	4546384	4915166
Singpore	92161	100255	295420	377796	866575	631440	46919	300152	225824	203074	198417	278548	3524420	3616581
Virgin Islands	560	4345	29856	83570	132115	312105	515571	613613	348749	752162	877177	1264980	4934243	4934803
Korea	0	42054	155669	180626	299839	423646	218098	164085	148385	238582	348740	528222	2747946	2747946
United Kingdom	78476	28741	198832	274838	357723	254238	144551	168159	108540	83418	151564	114199	1884803	1963279
Germany	116778	13434	24938	123314	165963	99809	61281	237467	93872	290009	117145	91532	1318764	1435542
France	24450	29165	23623	24813	64242	123539	108112	48884	47031	63440	56577	87886	677312	701762
Macau, China	0		281466	172111	111529	44873	35865	30718	42656	34801	50300	63154	867473	867473
Netherland	22017	4143	15169	36582	60232	88921	56718	56268	67581	341412	97397	51629	876052	898069
Canada	33406	31578	118374	89033	98248	82256	90659	94679	69915	86843	129546	114843	1005974	1039380
Malaysia	6173	20928	75855	61734	106066	75737	49021	32591	26573	38851	47221	79284	613861	620034
Australia	33977	27583	63791	84892	125738	52162	61447	69899	58838	69668	67500	91044	772562	806539
Share in total	**1983-1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**1992-2002**	**1983-2002**
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Hong Kong, China	61.3%	71.5%	66.4%	56.8%	44.9%	38.2%	35.7%	33.8%	32.3%	27.2%	29.9%	30.4%	44.3%	45.4%
United States	9.2%	5.3%	6.1%	7.3%	8.2%	9.4%	9.7%	12.4%	14.6%	12.8%	10.9%	9.9%	9.2%	9.2%
Taiwan	0.0%	9.4%	8.9%	6.5%	6.4%	7.0%	5.5%	5.7%	8.2%	6.5%	10.0%	8.1%	7.6%	7.1%
Japan	7.3%	3.7%	2.7%	5.4%	8.3%	7.0%	6.7%	5.3%	6.3%	5.9%	7.8%	6.4%	5.9%	5.9%
Singpore	1.8%	1.7%	2.7%	4.6%	9.5%	8.6%	0.9%	5.8%	5.5%	3.3%	2.9%	3.4%	4.5%	4.4%
Virgin Islands	0.0%	0.1%	0.3%	1.0%	1.4%	4.3%	10.1%	11.8%	8.5%	12.1%	12.7%	15.3%	6.4%	6.0%
Korea	0.0%	0.7%	1.4%	2.2%	3.3%	5.8%	4.3%	3.1%	3.6%	3.8%	5.0%	6.4%	3.5%	3.3%
United Kingdom	1.5%	0.5%	1.8%	3.3%	3.9%	3.5%	2.8%	3.2%	2.6%	1.3%	2.2%	1.4%	2.4%	2.4%
Germany	2.3%	0.2%	0.2%	1.5%	1.8%	1.4%	1.2%	4.6%	2.3%	4.6%	1.7%	1.1%	1.7%	1.7%
France	0.5%	0.5%	0.2%	0.3%	0.7%	1.7%	2.1%	0.9%	1.1%	1.0%	0.8%	1.1%	0.9%	0.8%
Macau, China	0.0%	0.0%	2.5%	2.1%	1.2%	0.6%	0.7%	0.6%	1.0%	0.6%	0.7%	0.8%	1.1%	1.0%
Netherland	0.4%	0.1%	0.1%	0.4%	0.7%	1.2%	1.1%	1.1%	1.6%	5.5%	1.4%	0.6%	1.1%	1.1%
Canada	0.7%	0.5%	1.1%	1.1%	1.1%	1.1%	1.8%	1.8%	1.7%	1.4%	1.9%	1.4%	1.3%	1.3%
Malaysia	0.1%	0.4%	0.7%	0.7%	1.2%	1.0%	1.0%	0.6%	0.6%	0.6%	0.7%	1.0%	0.8%	0.7%
Australia	0.7%	0.5%	0.6%	1.0%	1.4%	0.7%	1.2%	1.3%	1.4%	1.1%	1.0%	1.1%	1.0%	1.0%
Above 15	85.8%	95.2%	95.6%	94.2%	94.0%	91.5%	84.8%	92.1%	91.4%	87.7%	89.5%	88.3%	91.7%	91.4%

Source: China Statistical Yearbook, China Foreign Economic Statistical Yearbook, Almanac of China External Economies and Trade, various issues.
Note: Data for 1983 - 1992 include data of Foreign Direct Investment and Other Foreign Investment.

Table 2b
Realized FDI by Source Country/Territory, 1983-2002
US$10,000/%

Country (Territory)	1983-1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	1992-2002	1983-2002
Total	**2329049**	**1100751**	**2751495**	**3376650**	**3752053**	**4174548**	**4527701**	**4546275**	**4031871**	**4071481**	**4687759**	**5274300**	**42294884**	**44623933**
Hong Kong, China	1367575	750707	1727475	1966544	2006037	2067732	2063200	1850836	1636305	1549998	1671730	1786093	**19076657**	**20444232**
United States	258496	51105	206312	249080	308301	344333	323915	389844	421586	438389	443322	542392	**3718579**	**3977075**
Taiwan	0	105050	313859	339104	316155	347484	328939	291521	259870	229658	297994	397064	**3226698**	**3226698**
Japan	311589	70983	132410	207529	310846	367935	432647	340036	297308	291585	434842	419009	**3305130**	**3616719**
Singpore	27014	12231	49004	117961	185122	224356	260641	340397	264249	217220	214355	233720	**2119256**	**2146270**
Virgin Islands	0				30376	53761	171717	403134	265896	383289	504234	611739	**2424146**	**2424146**
Korea	0	11948	37381	72283	104289	135752	214238	180320	127473	148961	215178	272073	**1519896**	**1519896**
United Kingdom	33107	3833	22051	68884	91414	130073	185756	117486	104449	116405	105166	89576	**1035093**	**1068200**
Germany	40021	8857	5625	25899	38635	51831	99263	73673	137326	104149	121292	92796	**759346**	**799367**
France	20552	4493	14141	19204	28702	42375	47465	71489	88429	85316	53246	57560	**512420**	**532972**
Macau, China	0	20200	58650	50937	43982	58039	39455	42157	30864	34728	32112	46838	**457962**	**457962**
Netherland	6383	2841	8400	11105	11411	12511	41380	71882	54168	78948	77611	57175	**427432**	**433815**
Canada	6765	5824	13688	21605	25702	33793	34412	31652	31442	27978	44130	58798	**329024**	**335789**
Malaysia	566	2467	9142	20099	25900	45995	38183	34049	23771	20288	26298	36786	**282978**	**283544**
Australia	19241	3503	10996	18826	23299	19392	31374	27197	26331	30888	33560	38070	**263436**	**282677**
Share in total	**1983-1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**1992-2002**	**1983-2002**
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	**100.0%**	**100.0%**
Hong Kong, China	58.7%	68.2%	62.8%	58.2%	53.5%	49.5%	45.6%	40.7%	40.6%	38.1%	35.7%	33.9%	**45.1%**	**45.8%**
United States	11.1%	4.6%	7.5%	7.4%	8.2%	8.2%	7.2%	8.6%	10.5%	10.8%	9.5%	10.3%	**8.8%**	**8.9%**
Taiwan	0.0%	9.5%	11.4%	10.0%	8.4%	8.3%	7.3%	6.4%	6.4%	5.6%	6.4%	7.5%	**7.6%**	**7.2%**
Japan	13.4%	6.4%	4.8%	6.1%	8.3%	8.8%	9.6%	7.5%	7.4%	7.2%	9.3%	7.9%	**7.8%**	**8.1%**
Singpore	1.2%	1.1%	1.8%	3.5%	4.9%	5.4%	5.8%	7.5%	6.6%	5.3%	4.6%	4.4%	**5.0%**	**4.8%**
Virgin Islands	0.0%				0.8%	1.3%	3.8%	8.9%	6.6%	9.4%	10.8%	11.6%	**5.7%**	**5.4%**
Korea	0.0%	1.1%	1.4%	2.1%	2.8%	3.3%	4.7%	4.0%	3.2%	3.7%	4.6%	5.2%	**3.6%**	**3.4%**
United Kingdom	1.4%	0.3%	0.8%	2.0%	2.4%	3.1%	4.1%	2.6%	2.6%	2.9%	2.2%	1.7%	**2.4%**	**2.4%**
Germany	1.7%	0.8%	0.2%	0.8%	1.0%	1.2%	2.2%	1.6%	3.4%	2.6%	2.6%	1.8%	**1.8%**	**1.8%**
France	0.9%	0.4%	0.5%	0.6%	0.8%	1.0%	1.0%	1.6%	2.2%	2.1%	1.1%	1.1%	**1.2%**	**1.2%**
Macau, China	0.0%	1.8%	2.1%	1.5%	1.2%	1.4%	0.9%	0.9%	0.8%	0.9%	0.7%	0.9%	**1.1%**	**1.0%**
Netherland	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.9%	1.6%	1.3%	1.9%	1.7%	1.1%	**1.0%**	**1.0%**
Canada	0.3%	0.5%	0.5%	0.6%	0.7%	0.8%	0.8%	0.7%	0.8%	0.7%	0.9%	1.1%	**0.8%**	**0.8%**
Malaysia	0.0%	0.2%	0.3%	0.6%	0.7%	1.1%	0.8%	0.7%	0.6%	0.5%	0.6%	0.7%	**0.7%**	**0.6%**
Australia	0.8%	0.3%	0.4%	0.6%	0.6%	0.5%	0.7%	0.6%	0.7%	0.8%	0.7%	0.7%	**0.6%**	**0.6%**
Above 15	**89.8%**	95.8%	94.8%	94.4%	94.6%	94.3%	95.2%	93.8%	93.5%	92.3%	91.2%	89.9%	**93.3%**	**93.1%**

Source: China Statistical Yearbook, China Foreign Economic Statistical Yearbook, Almanac of China External Economies and Trade, various issues.
Note: Data for 1983 - 1986 include data of Foreign Direct Investment and Other Foreign Investment.

3. Japanese Direct Investment in China

Japanese multinational corporations vigorously participated in investing in China during the 1980's. Between 1983 and 1991, the cumulative value of realized FDI from Japan was larger than that those from the United States. During the period, Japan was the second largest investor in terms of the cumulative value of realized FDI. During the 1990's, Japan did not sustain the momentum for the promotion of their FDI in China. Between 1992 – 2002, the share of Japan in the cumulative value of contracted FDI declined to 5.9% ranking 5th behind Hong Kong, the U.S., Taiwan and the Virgin Islands. The cumulative value of realized FDI during the period, however was higher than those from Taiwan and the Virgin Islands, ranking third behind Hong Kong and the United States.

3.1 *Motives, Procurement and Destination of Sales of Japanese Affiliates in China*

Table 3 shows the results of the survey conducted by Ministry of Economy, Trade and Industry (METI) of the government of Japan on the motives of Japanese direct investment in the manufacturing sector in the world and various Asian countries in 1999.[2]

For Japanese direct investment to the world, 24.3% of the firms surveyed ranked "expanding the firm's share in the host country" first. Although "expanding the firm's share in the country" is a common motive for Asia as well, an equally important motive for Japanese FDI

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[2] Unfortunately, the survey does not report the results for all the relevant separate countries. It only allows us to examine the motives of Japanese direct investment for China and Hong Kong together, ASEAN4 together (Thailand, Indonesia, Malaysia and the Philippines) and the NIEs3 together (Taiwan, Singapore and South Korea). However, since Hong Kong does not have much manufacturing left in its economy, most of the responses about the motives for investing in China and Hong Kong should be directed towards investing in China.

in Asia is "to take advantage of lower cost".[3] This reflects a business strategy by Japanese multinational corporations to increase the competitiveness of their products by moving their relatively labor-intensive and lower-technology portion of their operation process to Asia.

Table 3
Motives Behind Japanese Direct Investment in 1999

	China + HK		ASEAN4		NIE's 3		World	
	Number of Firms	%	Number of Firms	%	Number of Firms	%	Number of Firms	%
1	136	5.2%	115	3.7%	77	4.2%	519	4.2%
2	583	22.2%	670	21.6%	331	18.0%	2093	17.1%
3	472	17.9%	496	16.0%	238	13.0%	1577	12.9%
4	202	7.7%	406	13.1%	175	9.5%	1256	10.3%
5	550	20.9%	602	19.4%	442	24.1%	2975	24.3%
6	137	5.2%	249	8.0%	171	9.3%	1121	9.2%
7	101	3.8%	128	4.1%	99	5.4%	590	4.8%
8	233	8.9%	208	6.7%	104	5.7%	716	5.8%
9	138	5.2%	138	4.5%	113	6.2%	657	5.4%
10	51	1.9%	64	2.1%	38	2.1%	339	2.8%
11	9	0.3%	19	0.6%	29	1.6%	183	1.5%
12	19	0.7%	3	0.1%	18	1.0%	217	1.8%
13								
14	2631		3098		1835		12243	

1 to secure tha raw materials
2 to take an advantage of lower cost
3 to lower the cost
4 to provide parts to firms that are already established
5 to expand their share in the country
6 to expand their share in the third country in the region
7 to expant their share in the third country
8 to re-export to Japan
9 to receive profits such as dividend
10 to avoid exchange rate risks
11 to avoid the trade conflict
12 for research and development
13 others
14 total

Source: METI, Government of Japan

Notes: NIE's 3 includes Taiwan, Singaore and Korea
        ASEAN4 includes Thailand, Indonesia, Malaysia, and Philippine.

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[3] Indeed, firms in labor-intensive industries such as textiles as well as firms in relatively capital- and technology- intensive industries such as electrical machinery and precision machinery ranked "to take advantage of lower cost" as their most important motive of FDI in Asia.

Motives behind Japanese direct investment in various Asian countries and regions differ from each other. In China, more than 22% of Japanese firms picked "taking advantage of lower cost" as their main motive for undertaking FDI. In 1979, China established the legal framework for processing and assembly arrangements. Since then, China has built up considerable strengths in assembling and processing of industrial parts and components. It covers a wide range of industries such as electrical machinery, automobile, aerospace, and shipbuilding. In response, many Japanese firms in the machinery industry shifted the production of parts and components to China. "Expanding their share within China" was the second most popular motive, accounting for 20.9% of the Japanese firms surveyed. An interesting feature of the Japanese direct investment in China is that relatively small number of firms undertook their investment to expand their market shares in the third country either in the region or outside of the region. On the other hand, almost 9% of the firms invested in China to re-export their products back to Japan.

The lower cost motive is also the largest motive for Japanese multinationals undertaking FDI in ASEAN4. "Expanding their market share in the country" ranked second, but a smaller percentage of firms picked this motive compared to that for China. Relative to Japanese multinational corporations in China, many more firms that are operating in ASEAN4 appear to be motivated in expanding their shares in the third country especially within the region than motivated by re-exporting their products back to Japan.

The survey for NIE's3 shows slightly different results. Japanese multinationals in the Asian NIE's3 appears to be targeting more towards their local markets compared to those in China or ASEAN4. Almost one out of four firms indicated that expansion in the host country is the largest motive of FDI. The share is almost the same as the share for the world on average. Another feature that is specific to the region is that "expanding their market share in the third country" is a much more important motive, with a share of 14.7%. At the same time, "to re-export to Japan" is a much less important motive, accounting for only 5.7% of the firms surveyed. Industries undertaking FDI in order to lower their costs are limited to textiles and precision machinery.

We turn next to examine the pattern of trade of Japanese firms and see how their different motives behind the Japanese FDI are reflected in their trading behavior.

Table 4 shows the geographic distribution of sales of Japanese overseas affiliates in the manufacturing sector for 1996, 1999 and 2001. An interesting feature of the patterns of sales of Japanese affiliates in Asia can be observed in comparison with those in the world on average. In Asia, the table shows downward trend in the local sales of Japanese affiliates over time. In 1996, over 58% of the products of Japanese affiliates are distributed locally, whereas the corresponding figure is less than 50% in 2001. In contrast, Japanese affiliates worldwide on average place greater emphasis on the local market to absorb their products. These observations indicate that Japanese affiliates in Asia are more motivated to use the host country of their FDI as an export base relative to the affiliates in the world on average. Furthermore, for the remaining of the goods produced by Japanese affiliates in Asia that are exported to other countries, almost half is re-exported back to Japan and the other half is exported to third countries in recent years. For the world, in 2001, the goods that are re-exported to Japan only amounts to 10.9%, and 19.1% of the goods are exported to third countries.

One distinctive characteristic of affiliates of Japanese multinational corporations operating in China is its high share of export ratio to Japan. In 2001, the share amounts to 31.5%, which is much higher than the corresponding figure in the ASEAN4 and the NIEs. This high export ratio of Japanese affiliates in China can be attributed to China's FDI promotion policies. Foreign enterprises were able to import raw materials, components and production machinery duty-free, as long as they are engaged in export production. These policies resulted in a large number of foreign enterprises specialized in "processing trade", in particular "process with imported materials." The share of foreign firms in China's total exports skyrocketed to 26% between 1991 and 1995 and to 44% between 1995 and 2000.

Among the Asian countries, affiliates of Japanese multinationals in the NIEs3 are selling more locally while those in ASEAN4 are exporting more to both Japan and to third countries, with China positioned between

Table 4
Destination of Sales of Japanese Affilliates in Manufacturing Sector

(in %)

	2001			1999			1996		
	locally	Exported to Japan	the third country	locally	Exported to Japan	the third country	locally	Exported to Japan	the third country
China and Hong Kong	47.2	31.5	21.3	47.0	31.2	21.8	44.7	29.0	26.3
ASEAN4	38.8	28.1	33.0	37.8	31.2	30.9	60.1	18.9	21.0
NIEs 3	59.1	17.7	23.2	60.2	16.9	22.9	55.8	18.5	25.7
Asia	48.8	24.7	26.5	49.8	25.1	25.1	58.4	18.8	22.8
World	70.0	10.9	19.1	70.0	9.6	20.3	70.5	9.3	20.2

Source: METI, Government of Japan

Notes: NIE's 3 includes Taiwan, Singaore and Korea
        ASEAN4 includes Thailand, Indonesia, Malaysia, and Philippine.

the two regions. This observation of trade pattern of Japanese affiliates in different region of Asia is consistent with the survey about the motivation of FDI in the previous section. The common phenomenon for all three regions is that Japan is the largest export market for their products. However, the dependency on Japan to absorb their goods is much smaller for the NIEs3.

We turn to examine the patterns of procurement of Japanese affiliates in different regions. The rise in FDI results in an increase in induced exports from the home country to the host country. At the initial stage of the foreign production, one can expect an increase in the exports of capital goods required for the production from Japan to the host country of their FDI. Once the production is set up, the export of intermediate goods from Japan will increase. The extent of Japanese affiliates' dependence on Japan relative to the local market or the third country as a source for procurement can differ substantially for different regions and different industries. Industries that are technology- intensive such as machinery require specific parts and components. They tend to import their intermediate goods from Japan. However, as technology gets transferred and as the host country establishes its own high technology intermediate goods industry, the share of local procurement is expected to rise. The share of local procurement can also be high due to local content requirement imposed by the host country's government.

Table 5 shows the share of procurement of affiliates of Japanese multinational corporations in different regions for corresponding years. Combining Table 4 with Table 5, we can examine both the source of the intermediate goods as well as the destination of the final products. First let us look at the pattern for Japanese firms worldwide. Japanese affiliates import on average 38.5% of their intermediate goods from Japan in 2001, whereas they only sell 10.9% of their products back to Japan. Furthermore, during the same year, as we saw in the previous section, their sales are highly concentrated locally at 70.0%, yet the share of local content in the manufacturing sector only amounts to 45.6%. With respect to third countries, Japanese affiliates import 15.9% of their intermediate goods and export 19.1% of their final products.

Table 5
Sources of Procurement of Japanese Affilliates in Manufacturing Sector

(in %)

	2001			1999			1996		
	locally	Imported From Japan	the third country	locally	Imported From Japan	the third country	locally	Imported From Japan	the third country
China + Hong Kong	40.1	35.1	24.8	46.8	34.9	18.3	29.1	49.1	21.8
ASEAN4	42.0	36.4	21.7	41.9	32.6	25.5	37.9	44.3	17.8
NIEs3	42.8	37.8	19.3	41.4	39.1	19.5	43.4	35.0	21.6
Asia	41.6	36.6	21.7	43.9	34.8	21.3	40.3	40.3	19.4
World	45.6	38.5	15.9	46.9	36.6	16.5	47.2	37.4	15.4

Source: METI, Government of Japan

Notes: NIE's 3 includes Taiwan, Singaore and Korea
          ASEAN4 includes Thailand, Indonesia, Malaysia, and Philippine.

In Asia, in contrast, the dependence of Japanese affiliates on Japan as procurement source is slightly lower than that of the world average at 36.6% in 2001, yet their sales to Japan amounts to 24.7%. Furthermore, the difference between the share of their local procurement and their local sales is much smaller in Asia relative to the world average. The dependence on the third country as a procurement source on the other hand is much higher than the world average at 21.7%.

China appears to have become a firmly established procurement source for Japanese multinational corporations. Relative to Japanese firms that operate the Asia, the share of local procurement in China was much lower at 29.1% in 1996. However, China's strength as a procurement source has quickly improved. In 1999, the share reached 46.8%, which was the highest among all areas in Asia, and was almost as high as the worldwide average. In 2001, the corresponding figure was 40.1%, which was only slightly lower than the figure for ASEAN4 and the NIEs.

The dependence of Japanese affiliates on Japan as a procurement source is the highest in the NIEs. On average Japanese affiliates in NIEs3 are importing 37.8% of their intermediate products from Japan in 2001, although Japan is only absorbing 17.7% of their products as we have shown in previous section.

3.2 *Regional Distribution of Japanese Direct Investment in China*

Table 6 shows one of the distinctive characteristics of FDI in China, namely its unevenness of the regional distribution. During 1983 – 2002, approximately 71% of the cumulative FDI is located in the regions in the Southeast coast, 18% in the rest of the East, while the remaining 12% is located either in the central and western regions. The imbalance in the regional distribution can also be found in Japanese direct investment. However, the spatial patterns of Japanese investors indicate the more magnified imbalance of their investments relative to the investors from the World on average. The location of Japanese firms is heavily swayed towards the Southeast coast and to the rest of the East. The share of the number of Japanese firms in the Southeast coast and the rest of the East accounts for 64.8% and 28.6% of the total direct investment from Japan,

respectively, in 2000 (Table 7). In manufacturing sector, the corresponding figures are 66.3% and 25.8%, respectively. In 2000, while 7.64% and 3.04% of the contracted amount of the world direct investments in the manufacturing sectors were flowed into the central and western regions in the manufacturing sector, respectively, the shares for the number of Japanese firms are extremely small at 3.2% and 0.7%. Since the numbers in the table is the share of the number of the Japanese firms and does not represent the share of the FDI values, the numbers are not directly comparable to those in Table 7. However, it helps to understand the skewness of the Japanese direct investments in the coastal regions. Within the coastal regions, the distribution of Japanese direct investments can be characterized as follows. First, geographic proximity appears to be an important factor for Japanese firms to decide the location of their direct investments just like the firms from Hong Kong and Taiwan. The relatively high share of Japanese direct investment in Shanghai, Shandong and Liaoning can be accounted by the reason. What stands out is the high concentration of the Japanese multinational corporations in Shanghai. More than one quarter of the Japanese manufacturers engaging in production in China is located in Shanghai. In the non-manufacturing sector, the corresponding figure is even higher. More than one third of Japanese investors picked Shanghai for the location of their business. Second, there may be the possible effect of cultural proximity between Japan and the regions in China that particularly have a long history with Japan, namely Manchuria which comprises the provinces of Heilongjiang, Jilin, and Liaoning. With the seizure of Manchuria in 1931, Japan has established an empire in the region, where it has abundant mineral deposits and shows the great potential for industrial development and war industries. The share of Japanese direct investment in the manufacturing sector of Liaoning in 2000 is 11.4%, which is much higher than that of the World direct investment. This relatively high concentration of Japanese investors in Liaoning since early times may be due to traces of their cultural ties with the region.

Table 6
Contracted FDI by Province, 1983-2002
(US$10,000/%)

	1983-1989	1990-1994	1995-1999	2000	2001	2002	1983-2002
Southeast Coast							
Shanghai	242464	1998294	3563495	636438	737347	895971	8074009
Jiangsu	99200	2687981	4630145	1125090	1509083	1964756	12016255
Zhejiang	34056	994445	1136992	250948	501588	672146	3590175
Fujian	219944	2750731	2985627	446947	500717	389236	7293202
Shandong	71306	1712985	1860703	507435	671750	718085	5542264
Guangdong	1077715	8340147	6272890	1151960	1122355	1522678	19487745
Hainan	72514	775976	253161	13705	15193	24010	1154559
Sub Total	1817199	19260559	20703013	4132523	5058033	6186882	57158209
percentage share	**76.2%**	**72.3%**	**68.2%**	**66.7%**	**73.6%**	**75.2%**	**70.9%**
Rest of the East							
Beijing	180962	1308790	1209002	354929	271075	276449	3601207
Tianjin	41621	729661	1627964	353920	208248	210319	3171733
Hebei	35718	497393	759646	118406	80231	114390	1605784
Liaoning	91971	1136085	2028484	499140	415587	524303	4695570
Guangxi	54071	651863	459122	71029	58707	49233	1344025
Sub Total	404343	4323792	6084218	1397424	1033848	1174694	14418319
percentage share	**17.0%**	**16.2%**	**20.0%**	**22.6%**	**15.0%**	**14.3%**	**17.9%**
Central							
Shanxi	2081	92197	237454	26174	29859	25581	413346
Inner Mongolia	1487	62507	74111	25798	26479	19314	209696
Jilin	7472	196615	295442	59647	57770	49335	666281
Heilongiang	21574	205400	334082	28283	37800	32646	659785
Anhui	5075	189367	289270	63602	64375	81216	692905
Jiangxi	9829	197549	232958	26478	52660	149767	669241
Henan	26424	339338	391557	69921	62188	75364	964792
Hubei**	33793	450577	404263	106583	87350	97906	1180472
Hunan	11301	229782	428058	66507	95327	87498	918473
Subtotal	119036	1963332	2687195	472993	513808	618627	6374991
pecentage share	**5.0%**	**7.4%**	**8.9%**	**7.6%**	**7.5%**	**7.5%**	**7.9%**
West							
Sichuan	19456	583390	312930	60484	99211	86089	1161560
Guizhou	3531	99090	51506	6738	9111	13406	183382
Yuunan	4287	98014	149939	29749	29444	26011	337444
Tibet		1260					1260
Shaanxi	5015	188727	243990	49931	73009	73617	634289
Gansu	2539	41994	46857	12340	15749	11128	130607
Qinghai	2670	3718	18725	12225	20320	10702	68360
Ningxia	995	18907	19439	7427	8171	7788	62727
Xinjiang	6093	47750	43336	9227	12590	14995	133991
Sub Total	44586	1082850	886722	188121	267605	243736	2713620
percentage share	**1.9%**	**4.1%**	**2.9%**	**3.0%**	**3.9%**	**3.0%**	**3.4%**
Table Total**	2385164	26630533	30361148	6191061	6873294	8223939	80665139

Note: Data for 1983, 1984, 1998 - 2002 is provided by China Foreign Economic Statistical Yearbook.
    Data for 1983 and 1984 include data of Foreign Direct Investment and Other Foreign Investment.

Table 7
The Regional Distribution of Japanese Direct Investment in 2000

(in number of firms and %)

	Total	Manufacturing	Non-Manufacturing	Commerce
China Total	**1,712**	**1,263**	**449**	**204**
Southeast Coast	**64.8%**	**66.3%**	**60.4%**	**70.1%**
Shanghai	27.2%	23.2%	38.3%	52.0%
Guangdong	12.9%	13.5%	10.9%	12.7%
Hainan	0.6%	0.7%	0.2%	
Zhejiang	3.7%	4.4%	1.6%	1.0%
Fujian	1.8%	2.1%	0.9%	0.5%
Jiangsu	13.0%	15.7%	5.3%	1.5%
Shandong	5.7%	6.7%	3.1%	2.5%
Rest of the East	**28.6%**	**25.8%**	**36.5%**	**27.5%**
Liaoning	10.8%	11.4%	9.1%	7.8%
Tianjin	6.8%	6.3%	8.5%	8.8%
Beijing	9.5%	6.2%	18.7%	10.8%
Guangxi				
Hebei	1.5%	2.0%	0.2%	
Central	**3.2%**	**3.9%**	**1.1%**	**1.0%**
Hunan				
Hubei	0.5%	0.7%		
Jiangxi	0.1%	0.2%		
Anhui	0.8%	1.1%		
Henan	0.4%	0.4%	0.2%	
Shanxi	0.1%	0.2%		
Inner Mongolia	0.4%	0.4%	0.2%	
Heilongiang	0.4%	0.3%	0.7%	1.0%
Jilin	0.5%	0.6%		
Inland region	**0.7%**	**0.8%**	**0.4%**	
Xinjiang				
Tibet				
Gansu				
Qinghai				
Sichuan				
Yuunan				
Guizhou				
Ningxia				
Shaanxi	0.7%	0.8%	0.4%	
Hong Kong	818	277	541	330
Unkown	47	40	7	3

Source: METI Japan

4. Geographic Determinants of Japanese Direct Investment in China

4.1 *Model specification*

In this section, we assess econometrically the relative importance of factors in determining the flow of direct investment into each region of China from Japan for the period from 1990 to 2002. We start with a basic model derived from a reduced form specification for demand for inward direct investment. Let FDI_i be the foreign direct investment from Japan to region i. Then, the relationship between FDI and its determinants can be written as $FDI_i = f(X_i,)$, where X_i is a vector of variables that captures the overall attractiveness of region i to FDIs. The variables included in this vector are dependent only on the regional characteristics of China.

The basic regression model can be written as a linear specification in the following form:

$$\ln(FDI_{i,t}) = \alpha_i + \beta_1 \ln(GDP_{i,t}) + \beta_2 \ln(LAGWAGE_{i,(t-1)}) + \beta_3 \ln(HE_{i,t}) +$$

$$\beta_4 \ln(INFRA_{i,t}) + \beta_5 \ln(SEZ_{i,t}) + \beta_6 \ln(OCC_{i,t}) + \beta_7 \ln(ETDZ_{i,t}) + \beta_8 \ln(STATE_i),$$

where the subscripts i and t stands for China's region i and period t and the variables used in this analysis are given below.

$FDI_{i,t}$: FDI from Japan to region i at time t,

$GDP_{i,t}$: GDP of region i at time t,

$LAGWAGE_{i,(t-1)}$: average wage of region i at time t-1,

$HE_{i,t}$: the ratio of the number of students enrolled in higher education in region i to its population at time t,

$INFRA_{i,t}$: kilometers of both high quality roads and railway in region i per square kilometer of land mass at time t,

$SEZ_{i,t}$: the number of Special Economic Zones in region i at time t,

$OCC_{i,t}$: the number of Open Coastal Cities in region i at time t,

$ETDZ_{i,t}$: the number of Economic and Technological Development Zones in region i at time t,

$STATE_{j,t}$: The proportion of manufacturing output produced by State Owned Enterprises in region j.

A great deal of papers has investigated the determinants of the locational choice of FDI.[4] The above variables have been identified as important factors in much of the existing literature.

To examine the importance of size of the local market, gross domestic product (GDP) of each region is used. The importance of market size has been confirmed in many empirical studies. For foreign investors, the size of the host market, which represents the host country's economic conditions and the potential demand for their output, should be an important element in their FDI decision-makings. Since this variable is used as an indicator of the market potential for the products of foreign investors, the expected sign is positive. Furthermore, the more that foreign investors target the local market, instead of exporting the produced goods, the larger should be the magnitude of the positive coefficient.

Since labor cost is a major component of cost, wage variables are frequently considered in the literature. A high nominal wage, other things being equal, deters inward FDI, particularly for firms that engage in labor-intensive production activities. Therefore, the expected sign for this variable is negative. However, regional wages may be high because of high local inflows of FDI. To avoid the potential simultaneity bias between investment and wages, we elect to use the nominal wage lagged one period.

The variable HE is included in the equation to capture the average level of human capital in each region. Although the expected sign of the variable is positive, the importance of this variable should be higher for technology- and capital-intensive industries than for labor- intensive industries. Furthermore, the coefficient may be large for Japanese multinationals, which practice job rotation and demand their workers to make decisions at the shop floors (Aoki 1988, Fung 1991).

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[4]Examples of such works are Lunn (1980), Kravis and Lipsey (1982), Owen (1982), Scaperlands and Balough (1983), Maki and Meredith (1986), Culem (1988), Wheeler and Mody (1991), Coughlin, Terza, and Arromdee (1991), Friedman, Gerlowski, and Silberman (1992), Woodward (1992), Smith and Florida (1993), Hines (1996). For the case of China, the studies include Cheng and Zhao (1995), Head and Ries (1996), and Cheng and Kwan (2000)

The hypothesis that well-developed regions with superior transportation facilities are more attractive to foreign firms is examined by including the proxy, density of roadway and railway.

The effects of policy incentives are examined by including a number of the SEZs, OCCs (Special Economic Zones and Open Coastal Cities), and ETDZs (Economic and Technological Development Zones). These areas are granted preferential tax and other policies and can deal flexibly with foreign businesses. The expected signs for both variables are positive. [5]

The last variable, 'STATE', is included to test the degree of internal reforms measured by the share of the State owned enterprises (SOEs) in manufacturing output in each region. China's economic reform has transformed the economy from a centrally planned economy dominated by the state sector to a market-oriented economy. Although the relative importance of SOEs in manufacturing output has been decreasing over time as economic liberalization in China proceeds, the degree of liberalization can vary from one region to another. All things being equal, the foreign firms may prefer the region with high degree of internal reforms, which creates better environment for their business.

The detailed explanation for the designation of each policy is given in Appendix A. The data sources are explained in Appendix B.

4.2 *Panel Estimation*

The estimation used is a random effects model specified as follows:

$$y_{it} = \alpha + \beta' x_{it} + \varepsilon_{it} + u_i,$$

where the disturbance term, ε_{it} is associated with both time and cross-sectional units, which are the regions in this analysis, and u_i is the random disturbance that is associated with the ith region and assumed to be constant over time. In another words, the region- specific constant

terms are assumed to be randomly distributed over cross-sectional units. y_{it} is the dependent variable, which is foreign direct investment inflow from a source country into region i at time t. x_{it} is the set of characteristics in each region i at time t. Further assumptions on the error terms are: $E[\varepsilon_{it}] = E[u_i] = 0$, $Var[\varepsilon_{it}] = \sigma^2_\varepsilon$, $Var[u_i] = \sigma^2_u$, $Cov[\varepsilon_{it}, u_j] = 0$ for all i, t, and j, $Cov[\varepsilon_{it}, \varepsilon_{js}] = 0$ if t $\neq$ s or i $\neq$ j, and $Cov[u_i, u_j] = 0$ if i $\neq$ j.

The regression disturbance, w_{it}, can be written as; $w_{it} = \varepsilon_{it} + u_i$. The variance and covariance of all disturbances are: $Var[w_{it}] = \sigma^2 = \sigma^2_\varepsilon + \sigma^2_u$, and $Cov[w_{it}, w_{is}] = \sigma^2_u$. Therefore, the disturbances in different periods are correlated for a given i, because of their common component, u_i. Hence, the efficient estimator is generalized least squares (GLS). The two-step estimators are computed by first running ordinary least squares (OLS) on the entire sample. Then, the variance components are estimated by using the residuals from the OLS. Finally, these estimated variances are used in the second step to compute the parameters of the model.

Estimation results of the model are presented in Table 8. The size of the nominal regional GDP appears to be an important factor in determining outward FDI for Japan. The coefficients for the variable are positive and statistically significant at the 1% level, confirming the hypothesis that the amount of FDI inflow is positively related to the host region's market size. Table 8 indicates that a one-percent increase in regional GDP is associated with a 0.67 percentage increase in Japanese direct investment.

The lagged wage variable is also a promising determinant in the analysis for Japan. This negative impact of the wage variable is consistent with the findings of Cheng and Kwan (2000), although the magnitude of the impact is smaller in our finding. The coefficient for Japan was found to be significant at the 1% level.

Unlike previous studies by Cheng and Zhao (1995) and Cheng and Kwan (2000) using the aggregate amount of FDI as the dependent variable, we find strong evidence of a positive effect of labor quality (captured by the variable HE) for foreign direct investment from Japan. The finding of a significant impact of labor quality and education attainment on direct investment from Japanese multinational corporations is consistent with previous studies by Woodward (1992),

and Smith and Florida (1993). The importance of labor quality may further be explained by the forms of information structure for coordinating operating activities of Japanese firms[6]. The typical Japanese firm relies on horizontal communication among functional units. Workers acquire skills through learning-by-doing rather than by performing the specific task assigned to them. Hence, workers must be more versatile and flexible in job demarcation. Furthermore, the integrative skills of workers are vital to utilize effectively on-site information. The practice of just-in-time production and job rotation by Japanese firms at home and abroad leads to a greater emphasis on workers' education. Thus, the fact that Japanese firms require educated workers explains the size of the coefficient and the level of significance of the coefficient for HE in our finding.

The panel regression shows no evidence that the quality of infrastructure, proxied by the density of roadways and railways, has any significantly positive influence on direct investment inflow in China from Japan.

Table 8 Regression results for Japanese Direct Investman in China 1990-2002

variable names	Japan		
	coefficient	t-stat	level of significance
CONSTANT	6.55	2.54	1%
GDP	0.67	3.61	1%
LAGWAGE	-0.60	-2.57	1%
HE	0.76	3.20	1%
INFRA	0.21	1.09	
SEZ	0.38	0.74	
OCC	0.65	1.32	10%
ETDZ	0.81	2.31	5%
STATE	-1.02	-3.93	1%
d.f.	303		
ad. R^2	0.70		

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[6] Aoki (1988), and Fung (1991, 1992) identify the essential difference between American firms and Japanese firms, i.e. hierarchical coordination in American firms and horizontal coordination in Japanese firms.

Among the three policy variables examined in the analysis, EDTZ appears to be the most influential determinant for direct investment by Japanese multinationals. Except for the constant term, the magnitude of the impact of the variable is found to be the second largest among all the variables examined in the analysis. The results support the hypothesis that regions designated as ETDZ have the advantage of attracting Japanese direct investment by implementing special policies favorable to Japanese investors. These areas are designed for enhancing FDIs from foreign firms that are technologically advanced. They are often located in or near provincial capitals or transport hub cities. Close to one third of Japanese direct investment in China in 2000 was in electrical machinery. The ETDZ may be more suitable for Japanese firms due to the nature of the characteristics of their investment and production. On the other hand, the impact of SEZ on Japanese direct investment is absent and the effect of OCC is only marginal.

Finally Table 8 reports that the higher degree of domination by SOEs in the industrial sector impedes the inflow of direct investment from Japan. The industrial share of SOEs has dropped dramatically on average as the Chinese government started its domestic reform. However the degree of liberalization varies within China. The higher degree of domination by SOEs may have a negative impact on such aspects as transparency of local government policy and law. The coefficient is found to be negatively significant at the 1% level. Furthermore, the influence of the variable on the decision- makings of Japanese firms is much larger than that of other determinants we have reported, such as GDP and EDTZ. Further structural changes are expected to proceed further because of China's accession of WTO. This suggests a great potential for further growth of inward direct investment from Japanese multinationals.

5. Conclusion

In this paper we study one important channel of economic integration between the two economic giants of Asia—Japan and China. The channel of integrating the two large economies is direct investment by Japanese multinationals in China. In particular, we examine the trend, the

characteristics and the geographic determinants of Japanese direct investment. Many Japanese multinational firms have major investment in China, the fastest growing large economy in the world. They invest in China both because of its large market potential as well as for its cheap but high quality labor. In 2001, affiliates of Japanese multinationals in China sold 47% of the goods made in China in the Chinese market. In the same year, Japanese firms operating in China also procured 40% of their materials and intermediate inputs from China itself. These local ties show that Japanese multinational corporations are already quite integrated with the Chinese economy.

We also conduct an econometric analysis of the locational determinants of Japanese direct investment in China for the years 1990-2002. Several results emerge from our econometric exercises. First, Japanese direct investment responds positively to the regional quality of labor in China. Japanese investors place heavy emphasis on Chinese human capital. Second, Japanese investors respond to investment and tax incentives provided by China. Japanese companies react positively to economic incentives provided in Economic and Technological Development Zones (ETDZs). Finally, the share of output accounted for by state-owned enterprises is a significant deterrent to Japanese direct investment. This variable acts as a proxy to the extent of economic reforms in that region and it captures all the barriers, both formal and informal, to foreign direct investment.

Appendix A

Special Economic Zones:
>Shenzhen, Zhuhai, and Shantou in Guangdong; Xizmen in Fujian; Hainan.

Open Coastal Cities:
>Dalian in Liaoning; Qinhuangdao in Hebei; Tianjin; Yantai and Quingdao in Shandong; Lianyungang and Nantong in Jiangsu; Shanghai; Ningbo and Wenzhou in Zhejiang; Fuzhou in Fujian; Guangzhou and Zhanjiang in Guangdong; Beihai in Guangxi.

Economic and Technological Development Zones:

> Dalian, Yingkou and Shenyang in Liaoning; Qinhuangdao in Hebei; Tianjin; Yantai, Quingdao and Weihai in Shandong; Lianyunggang, Kunshan and Nantong in Jiangsu; Guangzhou and Zhanjiang in Guangdong; Ningbo in Zhejiang; Fuzhou, Rongqiao and Dongshan in Fujian; Minhang, Hongqiao and Caohejin in Shanghai; Wenzhou in Zhejiang; Harbin in Heilongjizng; Changchun in Jilin; Wuhu in Anhui; Wuhan in Hubei; Chongqing in Sichuan; Dayawan and Pnyu's Nansha in Guangdong; Xiaoshan and Hangzhou in Zhejiang, Beijing; Urumqi in Xinjiang.

Appendix B: Data Sources

The following data are taken from the *Almanac of China Foreign Relations and Trade* (various issues):

> Contracted Japanese direct investment (DI) for 1990 to 2002

The following regional data for 1996 to 2002 are taken from the *China Statistical Yearbook* (various issues); for 1990 to 1995, they are taken from *China Regional Economy*: *A Profile of 17 years of Reform and Opening-Up* 1996:

> GDP
> Number of students enrolled in higher education
> Distance of roadway
> Distance of railway
> Average lagged nominal wage

Gross Industrial Output Value by Ownership from 1990 to 2002 is taken from the *China Statistical Yearbook* (various issues).

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CHAPTER 9

THE DEVELOPMENT OF THE GREATER MEKONG SUBREGION (GMS): REAL PROMISE OR FALSE HOPE?

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The Greater Mekong Subregion (GMS) Economic Cooperation was created by six countries sharing the Mekong River namely Cambodia, Lao PDR, Myanmar, Thailand, Vietnam, and the Yunnan Province of the People's Republic of China, with the help by the Asian Development Bank in 1992. The nine priority areas of activities in this cooperation include transport, telecommunications, energy, tourism, human resources development, environment, agriculture, trade, and investment. In the last ten years, many projects have been completed or are being undertaken including the development of North-South, East-West, and Southern Economic Corridors which are road networks linking many of these six GMS members, the generation of electricity trade between Lao PDR and Thailand, and the agreement to facilitate cross-border movement of goods and people. As these GMS members are market-based open economies, the potential benefits from this cooperation are large. However, there are problems concerning the different levels of development, and the relative lack of political

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stability in some member countries that may slow down the progress and full benefits of this subregional cooperation.

1. Introduction

The beginning of the 1990s saw many important changes in many countries in Southeast Asia. First, the internal wars that had beset many countries in the region, especially in Cambodia, were brought to an end. Second, the original six members of ASEAN namely Brunei, Indonesia, Malaysia, Philippines, Singapore, and Thailand, had agreed to set up the ASEAN Free Trade Area (AFTA) in 1992 which eventually would see free trade among these members within the next ten years. Third, the four less developed economies in the Southeast Asian region namely Cambodia, Lao PDR, Myanmar, and Vietnam were later invited to join the original ASEAN members, which, by 1999, had increased the membership of this economic grouping from six to ten. But even before this enlargement of ASEAN at the end of the 1990s, another interesting event had already taken place in Southeast Asia in 1992. This is the establishment of the Hexagonal Growth Area involving six countries along side the Mekong River namely Yunnan Province of the People's Republic of China, Lao PDR, Myanmar, Thailand, Cambodia, and Vietnam. Later this growth area is better known as the Greater Mekong Subregion or GMS.

   What makes this subregional grouping interesting is the fact that this is the cooperation of former socialist economies and capitalist economy in an area notoriously known for the wars and conflicts in the past. It is also interesting to note that the three members of this group, Cambodia, Lao PDR, and Myanmar, were previously classified by the UN Systems as the 'least-developed countries' reflecting their relatively poor state of economic development. Other members namely Vietnam and the Yunnan Province of China, until recently, did not fare much better either. Vietnam was embroiled in various wars for more than three decades with

little time for proper economic development. The Yunnan Province of China which is located inland in the Southwestern corner of China away from the economically prosperous coastal areas, benefits little from the opening up of the country to economic reforms, and, like Lao PDR, has no access to the sea. Only Thailand is the capitalist state in the subregion with a proven record of good economic development, but its approach to economic development may be entirely different from other countries in the subregion. Considering the disparage nature of each economy, and its historical background, a question may be asked as to how these six countries could work together. Other questions include: What are common benefits that these countries could derive from their cooperation? Are there any dangers, or costs from these new relationships? Is the cooperation in the GMS an indication of a real promise or a false hope?

These questions will be discussed in this paper. It will begin, in Section 2, by discussing the rationale behind the formation of this GMS. Section 3 discusses what have been agreed among the member countries in terms of economic projects or development or cooperation activities. Section 4 assesses the prospects and problems of these projects and activities. Finally, Section 5 concludes by offering some thoughts on the pivotal role of Thailand in this subregional cooperation, and an assessment on the real promise or false hope of this subregional cooperation.

2. Rationale for the GMS Growth Area

The concept and practice of economic cooperation among nations are not new, but the concept and practice of economic cooperation based on specific configuration of geographical area such as triangles or quadrangles are relatively new and uniquely an Asian invention. Although the origin of this idea of growth triangle or growth area may be difficult to pin down, it is well accepted that its popularity has been due to various efforts of the Asian Development Bank to promote this form of geographical, subregional economic cooperation.

According to the ADB (1992), the growth triangle concept refers to the exploitation of complementarity among geographically contiguous

countries to help them gain greater competitive advantage in export promotion. Growth triangles seem to be particular solution to the practical problems of regional integration among countries at different stages of economic development and, sometimes, even with different social and economic systems. Also, growth triangle is an appropriate form of regional cooperation for many Asian countries. It is preferable to some existing types of cooperation as it entails low levels of political and economic risks. Growth triangle is preferred to regional trading bloc in that it is more export-oriented and because of its non-exclusionary nature does not invite retaliatory action from outside.

Following on the apparently good start of the so-called Southern Growth Triangle between Singapore, the Johor state of Malaysia and the group of Indonesian islands of Riau, especially the island of Bataam, the idea of growth triangle spreads upward. The present 6-country economic zone was actually an outgrowth of the former 4-country growth area consisting of two northern provinces of Thailand, Chiang Rai and Chiang Mai, Keng Tung in Myanmar, the areas of Luang Namtha and Bokeo in Laos, and Xichuangbanna in the south China province of Yunnan.[2] Two more countries in the Mekong River basin, Vietnam and Cambodia, were later included in the ADB-supported Technical Assistance (TA) in 1992. The new geographical area was drawn, and the GMS was born.

In putting its weight behind the above economic cooperation, the ADB believes that such cooperation is a natural result of the play of market forces. The increasing liberalisation of policies narrowly promoting self-sufficiency and centralisation has allowed trade and other forms of economic cooperation to increase rapidly. The increased exchange of goods and services would encourage specialisation and a more efficient use of human, capital and natural resources. In turn, the more productive use of resources would enable the subregion to trade more effectively in global markets, yielding further gains in specialisation and technology acquisition, and as a consequence of the

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[2] This subregion is popularly known as the Golden Quadrangle. In Thailand, this area is also affectionately referred to as the cooperation of the Five Chiangs, that is Chiang Rai, Chiang Mai, Chiang Tung (Thai name for Keng Tung), Chiang Roong (Thai name for Jinghong, the capital of Xishuangbanna), and Chiang Kam (old name of Luang Prabang in Laos).

rapidly improving economic prospects in the subregion, foreign investment from advanced countries continue to flow in.

Despite the differences in economic endowment and stages of economic development among the countries in the subregion, the above 6-country growth areas possess several common interests such as:

The Mekong River which runs through or alongside all six countries is a central feature of the economy of the subregion, playing a key role in the agriculture, forestry, fishing and energy sectors, and providing an important mode of transportation.

All but one (Thailand) of the six economies are in transition from highly centralised, planned economies to more market-oriented, open economies.

These areas are resource-rich and should be highly complementary to the faster growing economies of East and Southeast Asia.

Intraregional trade has begun to blossom between the countries in the subregion, for example between China and Thailand, Vietnam and Thailand, and Myanmar and Thailand. But the poor state of infrastructure severely limits trade and commerce.

The subregion suffers from a severe lack of internal capital which must come, in part, from outside sources. Private investors are more likely to consider investing in the subregion if all countries coordinate their efforts to improve the returns on investment.

Area of the subregion have common cultural heritages. For example, Thailand has a long historical relationship with Laos and shares some common language roots with the ethnic groups of Yunnan Province.

Apart from these common interests, each country in the subregion will have its own reason and justification to benefit from this subregional cooperation. Let us look at each individual country in turn. [3]

Thailand, being the strongest economy in the subregion, is expected to be the pivot upon which this economic cooperation would evolve. Thai economy is market-oriented, so it generally favours free competition as an approach to trade and investment, to increase

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[3] These views were derived from ADB's consultations with respective governments in the growth area and also from presentations of official participants during the first full-member conference held at the ADB headquarters in Manila after the completion of Phase I of the initial study.

economic efficiency and social welfare. An official view towards this 6-country subregional cooperation is for the reduction and elimination, wherever possible, of barriers to the flow of resources, factor inputs and goods and services between member countries. According to this view, artificial barriers may be reduced through policy adjustments and the improvement of rules, regulations, institutions and the flow of information, and natural physical barriers may be overcome through the joint development of infrastructure to improve accessibility. Thailand should see this subregional cooperation as providing an opportunity to expand trade and investment, and to acquire needed sources of production inputs.

For China, this GMS economic zone should provide an excellent 'southern gateway' that could bring greater economic prosperity to the south and southwestern provinces of China (for example Yunnan, Guangxi and Sichuan). This is important in light of the fact that the opening up of the special economic zones in the coastal areas has resulted in increased economic disparities between the coastal provinces and inner, land-locked provinces. As far as the Yunnan Province is concerned, the distance to the sea at Laem Chabang in Thailand or the Gulf of Mataban in Myanmar is shorter than the same distance to the eastern coast of China. Of course, the distance to the Vietnamese port of Haiphong is shortest, but China may not find it safe to depend on this single route alone. By being able to establish an alternative route to the south, Yunnan is expected to develop into another economic centre of southwestern China, benefiting China in general and Yunnan and other southwestern provinces in particular.

There are other reasons that China would like to see the success of this southern gateway. Apart from Thailand, the route will also connect it with Malaysia, Singapore and Indonesia, the other high-growth, dynamic members of ASEAN. The mutual benefits through trade and investment to Yunnan and other southern provinces of China could be enormous. The exposure to international competitive trading could also increase the efficiency of many state enterprises in these areas which at present may have to be subsidised by the central government.

For Lao PDR, the long years of socialist economic management had strained its economic relationship with Thailand. With the advent of the

New Economic Vision policy in 1986 where the country has moved from a centrally planned to a market-oriented economy, the economic relationship with Thailand has improved. And this GMS economic zone should be an avenue by which future economic cooperation between Laos and Thailand could develop. As will be explained in some detail later, potential economic benefits from greater economic cooperation between the two countries lie in the area of energy, investment in agriculture, and tourism.

At present, the situation in Myanmar does not lend itself to a clear indication as to where the country is moving. However, the fact that Myanmar government participated fully in the initial phase of this subregional economic cooperation is sufficient proof of its willingness to work along with its neighbours. In June 1993, for example, the Myanmar government accepted a loan of 336 million baht from Thailand to help in the improvement of the road from Tha Chilek, just across from the northernmost border of Thailand, to Keng Tung, a distance of 164 kms. This loan carries an interest rate of only 3 per cent a year and a repayment period of not exceeding 20 years with a 10-year grace period. In general, the economic and trade ties between Thailand and Myanmar have been strong, but recently Myanmar has become more wary of the environmental damage that the current trade has brought (mainly in forest depletion). But, these are relative minor problems which could easily be corrected once Myanmar has succeeded in solving its internal political problems.

Different political problems also have befallen the Cambodian government despite its successful formation of democratic government. Even with some semblance of a central government, the country still suffers from disorganisation, with inadequate capital, infrastructure and human resources. A great deal of help is needed in that respect. Top priorities for subregional cooperation from an official point of view included various roads and railways linking Cambodia with Vietnam, Laos and Thailand, and the upgrading of telecommunications network.

For Vietnam, the Doi Moi economic reform in 1986 has brought about drastic changes in the way the government has run the country. Foreign trade has been liberalised and foreign investment has been heavily promoted and encouraged. Although Vietnam has no difficulty

establishing its external contact with other countries via the sea, the land distances between itself and its western neighbours are so short and easy to upgrade that it would be strange not to exploit this opportunity that the subregional cooperation will bring. In fact, there is already an additional idea to develop another growth triangle between the northeastern region of Thailand starting with Khon Kaen province and extending to Mukdahan and Ubon Ratchathani provinces, with the Savannakhet and Khammouane areas of Lao PDR, and stretching across to Dong Hoi and Da Nang in Vietnam.

3. What Have Been Accomplished So Far?

It has become quite obvious from the above that Thailand and all the countries in transition in the subregion are quite anxious to get involved in this Mekong River economic zone. Under the general guidance of the ADB, started with the first TA in 1992, the First Conference of the representatives of the six governments was convened at the ADB Headquarters in Manila in December 1992 where these governments and the ADB reached a consensus on the concepts and basic modalities for subregional economic cooperation. In June 1993, the ADB approved the second subregional economic cooperation TA aiming at defining in more concrete terms the opportunities, benefits and mechanisms for enhancing economic cooperation as well as defining priority subregional development projects. The Second Conference was convened to set rules to promote and facilitate the consultative process among the six countries with a view to identifying and selecting subregional projects for implementation. The approach to subregional economic cooperation has involved the following: (ADB, 1994, vi as quoted in TDRI, 1996)

- Identifying the broad areas where cooperative efforts should be focused through an initial round of country consultations;
- organising meetings and conferences to strengthen the subregional consultative process and to focus on the subregional cooperation efforts;
- conducting sectoral studies to identify impediments to subregional economic cooperation and to formulate joint strategies to overcome these impediments;

- arriving at a consensus on priority subregional projects, based on the studies prepared under the subregional cooperation initiatives;
- preparing priority subregional projects for implementations; and
- mobilising financing for priority subregional projects.

These first two meetings were very important because they considered the overall scope, technical specifications, and operation plans of the sector studies. Six areas of activities (or sectors) were agreed upon. They were: (1) transport sector; (2) energy sector; (3) telecommunications sector; (4) environment and natural resource development; (5) trade and investment; and (6) tourism. [4] Many projects were then selected for study. For example, on transportation infrastructure, 5 projects were selected including the road connecting Bangkok with Phnom Penh and Ho Chi Minh City; the three routes linking Nakhon Panom in Thailand with Tha Kaek in Lao PDR to Vinh in Vietnam, linking Nakhon Panom with Tha Kaek to Hontha in Vietnam, linking Mukdahan in Thailand with Savannakhet in Lao PDR to Danang in Vietnam; and the upgrading of airports in Cambodia, Lao PDR, Myanmar, Vietnam and Yunnan. On energy development, selected projects included hydroelectric power plants in Lao PDR, the control of Salween River in Myanmar, gas pipeline from the Gulf of Mataban to Thailand, and gas and oil pipelines from southern Vietnam to Thailand.

The Third Ministerial Meeting was held in Hanoi in April 1994, and the Fourth was held in Chiang Mai, Thailand only few months later in September 1994. This showed how fast this economic cooperation had moved. After this Fourth Conference, the priority list of subregional projects in all six areas of activities or sectors were completely drawn up as shown in Box 1. This list is now regarded as the road map of future regional cooperation in the GMS. The Fifth Conference was held at the ADB Headquarter in Manila in November 1995, but the Sixth Meeting had gone out to Kunming, Yunnan Province of the PRC in August 1996.

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[4] This was later expanded into 9 areas, including transport, telecommunications, energy, tourism, human resources development, environment, agriculture, trade, and investment.

Box 1: Priority Subregional Projects Under the GMS Framework

I. Transport

Road Transport Subsector

R1	Bangkok-Phnom Penh-Ho Chi Minh City-Vung Tau Road Project
R2	Thailand-Lao PDR-Vietnam East-West Corridor Project
R3	Chiang Rai-Kunming Road Improvement Project via Myanmar and Lao PDR
R4	Kunming-Lashio Road Improvement Project
R5	Kunming-Hanoi Road Improvement Project
R6	Southern Lao PDR-Sihanoukville Road Improvement Project
R7	Lashio-Loilem-Kengtung Road Improvement Project
R8	Southern Yunnan Province-Northern Project Thailand-Northern Lao PDR-Northern Vietnam Road Improvement Project
R9	Northeastern Thailand-Southern Lao PDR-Northeastern Cambodia-Central Vietnam Corridor Project

Railway Transport Subsector

RW1	Yunnan Province-Thailand Railway Project
RW2	Yunnan Province-Vietnam Railway Project.
RW3	Thailand-Cambodia-Vietnam Railway Project
RW4	Project to extend the subregional railway network to Lao PDR through the first international Mekong bridge
RW5	Yunnan Province-Myanmar Railway Project
RW6	Project to provide Northeastern Thailand-Lao PDR Railway Link (in addition to RW$)
RW7	Railway Projects Connected with Mineral Developments in Lao PDR
RW8	Thailand-Myanmar Railway Project.

Water Transport Projects

W1	Upstream Lan Cang-Mekong River Navigation Improvement Project
W2	Mekong Delta Navigation Improvement Studies
W3	Red River Navigation Improvement Project
W4	Southern Lao PDR-Cambodia Navigation Improvement Project
W5	New Phnom Penh Port Improvement Project
W6	Sihanoukville Port Improvement Project
W7	Central Vietnam Ports Improvement Project
W8	Cai Lan Port Improvement Project
W9	Thai Vau-Vung Tau Port Development Project
W10	Yangon-Thilawa Port Improvement/Development Project

(Box 1 continued)

Air Transport Project

A1   Cambodia Airports Improvement Project

A2   Yunnan Province Airports Improvement Project

A3   Myanmar Airports Improvement Project

A4   Second Bangkok International Airport Project

A5   Vietnam Airports Improvement Project

A6   Project to Establish New Subregional Air Routes

Institutional Project

I1   Subregional Transport Forum

II. Energy

Power Generation and Transmission

A1   Xe Kong and Se San Basin hydropower development study in Cambodia, Lao PDR and Vietnam, including transmission Interconnection among these countries and Thailand

A2   Nam Tha hydropower in Lao PDR, including transmission interconnection with Thailand

A3   Transmission interconnection of the Jinghong hydropower project in Yunnan Province, PRC, with Thailand

A4   Nam Theun Basin hydropower development study in Lao PDR, including transmission interconnection with Thailand and Vietnam

A5   Thanlwin Basin hydropower development in Myanmar and Thailand

A6   Theun-Hinboun hydropower project in Lao PDR, including interconnection with Thailand

A7   Immediate interconnection of existing power systems

A8   Long-term subregional generation and transmission system development

Natural Gas Transmission

B1   Implementation of the Yundana-Bangkok (Myanmar-Thailand) Gas Pipeline Project

B2   Planning and preparedness for emergency response to marine oil and hazardous substance pollution

Institutional Building

C1   Establishment of an electric power forum for the GMS

C2   Strengthening of the legal and institutional planning and framework for effective water management

(Box 1 continued)

III. Environment

Institutional Building

| 1 | Training Centre for Environment and Resource Management |
| 2 | Support of environment NGO activities |

Management of Wastes and Hazardous Substances

3	Environmental legislation and minimum regional environmental standards
4	Planning and preparedness for emergency response to marine oil and hazardous substances pollution
5	Toxic and hazardous waste management
6	Introduction of environmentally sound technology for transport (urban air pollution abatement)
7	Pesticide regulations

Management of Natural Resources

8	Combating deforestation
9	Regional network for cooperation among national parks and wildlife sanctuaries
10	Subregional environmental monitoring and information system
11	Combating the illicit trade in endangered species

IV. Human Resource Development Project

1	Subregional cooperation in HIV/AIDS prevention and control
2	Distance Education Project
3	Training Centre for Environment and Resource Management
4	Training the trainers in the basic skills of tourism
5	Training resource managers in conservation and tourism
6	Coordinated approach to malaria control under changing agricultural and forestry practices
7	HRD Information Network
8	Improving language training capacity
9	Training to support transformation to a market economy
10	Development of highland and border area populations
11	Cooperation in skill development and education

(Box 1 continued)

V. Trade and Investment

Facilitation and Enhancing Trade Flows

| 1 | Subregional Trade Working Committees |
| 2 | Subregional trade promotion cooperation |

Improving Investment Climates

3	Forum of investment promotion agencies
4	Investment promotion and the environment
5	Regulations governing private sector involvement in financing large-scale infrastructure projects and in the sale of government assets

Building a Strong Science and Technology Base

| 6 | Subregional inventory of science and technology resources and policies |
| 7 | Harmonising and improving technical standards |

An Increasing Role for the Private Sector

| 8 | Subregional Chamber of Commerce |

VI. Tourism

1	Promoting the subregion as a tourist destination
2	Subregional Tourism Forum
3	Training the trainers in the basic craft skills of tourism, including in HRD sector
4	Training resource managers in conservation and tourism, including in HRD sector
5	Mekong River Tourism Planning Study

VII. Telecommunications

C1	Thailand-Lao PDR-Vietnam no. 1 optical fibre cable link
C2	Cambodia-Vietnam optical fibre cable link
C3	Thailand-Cambodia optical fibre cable link
C4	Myanmar-Thailand no. 1 optical fibre cable link
C5	Myanmar-Thailand no. 2 optical fibre cable link
C6	Thailand-Lao PDR-Vietnam no. 2 optical fibre cable link
C7	Thailand-Lao PDR-Vietnam no. 3 optical fibre cable link along Route 9

(Box 1 continued)	
C8	Lao PDR-Cambodia optical fibre cable link
C9	Thailand-Lao PDR-Yunnan province optical fibre cable link
C10	Thailand-Myanmar-Yunnan province optical fibre cable link
C11	Yunnan province-Vietnam optical fibre cable link
C12	Myanmar-Yunnan province optical fibre cable link
C13	Yunnan province-Lao PDR optical fibre cable link
Studies	
S1	Mobile Telecommunications Study
S2	Network and Operational Support Study
S3	Cross Border Tariff Options Study
S4	Telecommunications Training Needs Study
S5	Unified Numbering Plan Study

Source: Asian Development Bank (1996), Compendium of Infrastructure Projects in Cambodia, Lao PDR, and Vietnam, vol. 1: Main Report: Forum for the Comprehensive Development of Indochina, Working Committee on Infrastructure Development, February 1996, Table 6.1.

Unfortunately, Thailand suffered from economic meltdown in July 1997 which had effectively slowed its active participation in the GMS activities. It is true that indeed the ADB had continued to hold the annual GMS ministerial meetings [5], and various GMS Working Groups had continued to meet in various places, but with economic difficulties in Thailand deepening in 1998, the negative spillover effects were felt by other countries in the subregion as well. Although most other countries in the subregion did not suffer the contagion, the crisis brought on by Thailand had generated a loss of confidence among foreign investors on the strength of Southeast Asia as a destination for their foreign direct investment (FDI). Fortunately, however, some cross-border projects had

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[5] The 7th to 9th Ministerial Conferences were all held at the ADB Headquarter in Manila, Philippines. From 2001 onward, when Thailand and the Southeast Asian region had recovered from the economic crisis, the ministerial conference was again held outside the ADB Headquarter. For example, the 10th Conference was held in Yangon, Myanmar; the 11th in Phnom Penh, Cambodia; the 12th in Dali, Yunnan, PRC, and the 13th Conference in 2004 is to be held in Luang Prabang in Lao PDR.

already started before the crisis, such as the hydro-electric power projects between Lao PDR and Thailand, and the fibre optic project between Vietnam and Thailand, and these projects were not affected by the crisis and are now completed and in operation. Also two important infrastructure projects were approved during the crisis period. One was the Phnom Penh-Ho Chi Minh City Road Project which was financed by the ADB under two separate loans for Cambodia and Vietnam in December 1998, and the other was the East-West Corridor Project linking Lao PDR, Thailand, and Vietnam which was approved by ADB in December 1999.

The post-crisis development of the GMS could be said to have started with the 10th Ministerial Conference in Yangon, Myanmar in November 2001. The reinvigorated GMS ministers had agreed on the Strategic Framework of the GMS Program for the Next Ten Years, the Framework Agreement for Facilitation of Cross-Border Movement, and the 11 Flagship Programs. These plans and programs with further details of operation were submitted to the first GMS Summit attended by all heads of governments of the 6 GMS countries in November 2002 in Phnom Penh, Cambodia.

On the Strategic Framework for the Next Ten Years

While the current activities are conceived in terms of nine priority sectors, a more multisectoral and holistic approach to regional cooperation will be pursued in the next decade. Accordingly, five strategic thrusts are identified:

- Strengthen infrastructure linkages through a multisectoral approach;
- Facilitate cross-border trade and investment;
- Enhance private sector participation and improve its competitiveness;
- Develop human resources and skills competencies;
- Protect the environment and promote sustainable use of shared natural resources.

On the Framework Agreement for the Facilitation of the Cross-Border Movement of Goods and People

The trade facilitation component of this agreement covers all the relevant aspects of cross-border transport facilitation. These include:

- single-stop/single-window customs inspection
- cross-border movement of persons (i.e., visas for persons engaged in transport operations)
- transit traffic regimes, including exemptions from physical customs inspection, bond deposit, escort, and phytosanitary and veterinary inspection
- requirements that road vehicles will have to meet to be eligible for cross-border traffic
- exchange of commercial traffic rights
- infrastructure, including road and bridge design standards, road signs and signals

The GMS Agreement will apply to selected and mutually agreed upon routes and points of entry and exit in the signatory countries.

On the Eleven Flagship Programs

Eleven programs of activities have been selected from among scores of planned or listed activities (from Box 1). They will represent major advances in regional cooperation. The eleven programs consist of:

(1). North-South Economic Corridor
(2). East-West Economic Corridor
(3). Southern Economic Corridor
(4). Telecommunications Backbone
(5). Regional Power Interconnection and Trading Arrangements
(6). Facilitating Cross-Border Trade and Investment
(7). Enhancing Private Sector Participation and Competitiveness
(8). Developing Human Resources and Skills Compentencies
(9). Strategic Environment Framework
(10). Flood Control and Water Resource Management
(11). GMS Tourism Development

Box 2: Summary of the Priority GMS Flagship Programs

Economic Corridor Development
The initial focus of the GMS Program was the provision of infrastructure. Before the inception of the Program in 1992, the improvement of subregional transport infrastructure was considered essential in furthering linkages between and among the subregion countries. This is demonstrated in the construction of the first international bridge crossing the Mekong River between Vientiane in Lao PDR and Nong Khai in Thailand, which was completed in 1994, and funded by a grant from the Australian Government. This bridge forms part of an important north-south link in the GMS. In the GMS Program, highest priority was accorded to the development of the subregional road "corridors", which largely involve the rehabilitation and improvement of existing alignments, instead of new construction. Transnational road links that existed throughout the subregion, but were degraded by war, conflicts, and general lack of maintenance, were given particular attention. Three so-called "economic corridors,"—North-South, East-West, and Southern—were identified as part of the 11 GMS flagship programs. An economic corridor is a geographically defined area where infrastructure investments are linked directly with trade, investment and production opportunities.

Regional Power Interconnections and Trading Arrangements
This flagship program focuses on the optimal utilization and development of the region's energy potential and provision of cross-border power transmission links to allow efficient electricity trade. Significantly, the GMS Inter-Governmental Agreement on Power Trade, signed in November 2002, paved the way for the development a power trade operating agreement. Support initiatives include the establishment of institutional mechanisms within the subregion to support the momentum toward increased cooperation in the field of electric power and natural gas.

Telecommunication Backbone and Communication Technology
This flagship program is designed to establish the basic infrastructure needed to interconnect the national networks of the six GMS countries. A total of 13 transmission links originally grouped into three loops (East, West, and North) and improved interconnection have been identified for priority implementation. These 13 priority networks have been regrouped into a two-phased project, namely, the Telecommunications Backbone Project—Phases 1 and 2. In addition to investment in backbone facilities, the program includes important policy reforms and much-needed capacity building initiatives expected to pave the way for private sector participation.

Facilitating Cross-Border Trade and Investment
This flagship program involves important subcomponents, including improving the data system for trade and investment, establishing single-stop customs inspection stations and products and services in support of small- and medium-sized enterprises

(SMEs), and reducing barriers to trade in agricultural products. The program also relates closely to the other flagship programs, such as transportation, telecommunications and energy cooperation initiatives, and the Framework Agreement for the Facilitation of the Cross-Border Transport of Goods and People. All six GMS Governments have signed this landmark agreement, and are negotiating and finalizing—by 2005—the annexes and protocols which will provide the implementing guidelines for the cross-border pact. To provide further impetus to reducing nontariff barriers, GMS countries will soon pilot-test, single-stop customs facilitation arrangements at selected border crossings. Joint control by juxtaposed countries' customs authorities through shared facilities or mutual recognition of harmonized customs inspection procedures will help reduce transportation costs associated with delays at border controls.

Strategic Environment Framework

Since the onset of the GMS Program, it has been recognised that cooperative action is critical to resolve environmental problems that transcend national boundaries. Environmental cooperation under the GMS Program increasingly concerns broader transborder issues, such as the cumulative effects of development in the subregion. The strategic environment framework flagship program has been developed to guide investment decisions in critical sectors and areas, and mitigate potential adverse effects of economic development. It combines analytical, participatory, and policy-oriented processes that together constitute a strategic platform to guide investment decisions in the GMS. The first phase developed a strategic platform for guiding investment decisions in the GMS, consistent with the demands of environmental and social sustainability. The second phase facilitates decision making, first by creating a data warehouse which will structure and organise relevant data and information at the national and subregional levels to make them readily accessible to the decision maker; second, by providing performance assessment methodologies; and third, by establishing a framework and platform through which knowledge will constantly be added to the existing database.

Flood Control and Water Resource Management

This flagship program complements the initiatives of the Mekong River Commission (MRC) and includes four major groups of floodplain management measures: (i) land use planning—to minimize risks to people living in vulnerable floodplain areas; (ii)structural measures—such as building platforms for dwellings and making roads flood-proof to minimize hazards to people living in floodplains, and construction of flood mitigation structures such as detention basins and embankments to reduce flood damage to urban settlements, and (iii) flood preparedness—to strengthen institutional capacities to prepare for floods, and build capacity for responding to flood emergencies.

Developing Human Resources and Skills Compentencies

This flagship program provides a framework for wide-ranging cooperation, to jointly address regional challenges affecting the human resource development. Initiatives under this flagship program include support systems for harmonizing training standards and skills certification systems, a system for accrediting training institutions and capacity building of vocational training institutions, mitigation of the transborder spread of communicable diseases, improvement of health and education services for ethnic minorities in border areas, and short-term training for enhancing capacity of GMS officials in development management.

GMS Tourism Development

In tourism, partnerships between public and private sectors in the GMS have helped establish, through joint marketing, the GMS as a single tourist destination that offers a rich array of cultural, historical and natural resources. As a result, the GMS is one of the fastest growing tourist destinations in the world, attracting over 16 million tourists in 2002. The GMS tourism development flagship program will support key infrastructure critical to promoting the subregion as a "single destination site." "Soft infrastructure" will also be improved, including inter-country visa recognition and greater mobility for tour operators and guides. GMS cooperation in tourism has embarked on facilitating the movement of tourists to and within the subregion through, among other things, the establishment of a GMS visa, which is envisaged to work like the Schengen visa in Europe. Special effort will be directed at extending tourism to poor and remote areas, including through the development of eco-tourism. The quality of tourism services will improved through training and other measures. The private sector will be encouraged to take charge of tourism development within a well-defined social and environmental regulatory framework.

Enhancing Private Sector Participation and Competitiveness

GMS countries recognise the important role of the private sector as an engine of economic growth in the subregion. In this regard, the flagship programs are collectively relevant because they are based fundamentally on providing a supportive framework for private enterprise. The flagship program for enhancing private sector participation and competitiveness addresses specific factors. A particular concern is the managerial, marketing, and other skills of SMEs and accessibility of financial services. To help SMEs and other commercial interests find a voice for their needs and views, the GMS Business Forum is being strengthened and its activities expanded.

Source: Excerpts from ADB, Greater Mekong Subregion Principal Programs and Projects, Appendix 5.

It is appropriate that the three economic corridor development programs are listed as the first three flagship programs for the GMS at present, for they are probably the most illustrious examples of this subregional cooperation programs, and also probably the most important. The North-South Economic Corridor Program consists mainly of the Chiang Rai-Kunming via Lao PDR Road Improvement Project, and the Chiang Rai-Kunming via Myanmar Road Improvement Project, and the Kunming-Hanoi-Haiphong Multimodal Transport Corridor Project. Together with the North-South Rail Links Project which will come later, it is possible to travel from Singapore to Kunming by rail and road. The East-West Transport (Road) Corridor will see the linking of Mawlamyine in Myanmar with Mae Sot and Mukdahan in Thailand, across the Mekong River by the 2nd Mekong River International Bridge to Savannakhet in Lao PDR, to Dong Ha and Danang in Vietnam. This is one of the most exciting new road networks in Southeast Asia where all-weather motor travel along the entire route will be possible by 2006. And for the Southern Economic Corridor, this will include the Bangkok-Phnom Penh-Ho Chi Minh City-Vung Tau Road Improvement Project, and also the Cambodia-Vietnam Central West-East Corridor Project. See Map 1 for the geographical depiction of these transportation networks. For a summary of these and other priority GMS Flagship Programs, see Box 2.

Apart from these high profile road network projects, GMS members do engage in various other activities along the nine priority sectors working groups referred to above. Below are some of the examples of GMS activities undertaken by various GMS Working Groups: [6]

GMS countries chart concrete work plan for developing cross-border power trade in the subregion (November 2003): The 9th meeting of the Experts Group on Power Interconnection and Trade and the 10th meeting of the Subregional Electric Power Forum, were held in Guangzhou, PRC on 18-19 November 2003. These back-to-back energy meetings were held to discuss the progress of GMS countries in preparing their power

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[6] This information is gathered from GMS Updates, current news and events available at the ADB Website <http://www.adb.org/GMS>

Map 1

GREATER MEKONG SUBREGION ECONOMIC CORRIDORS
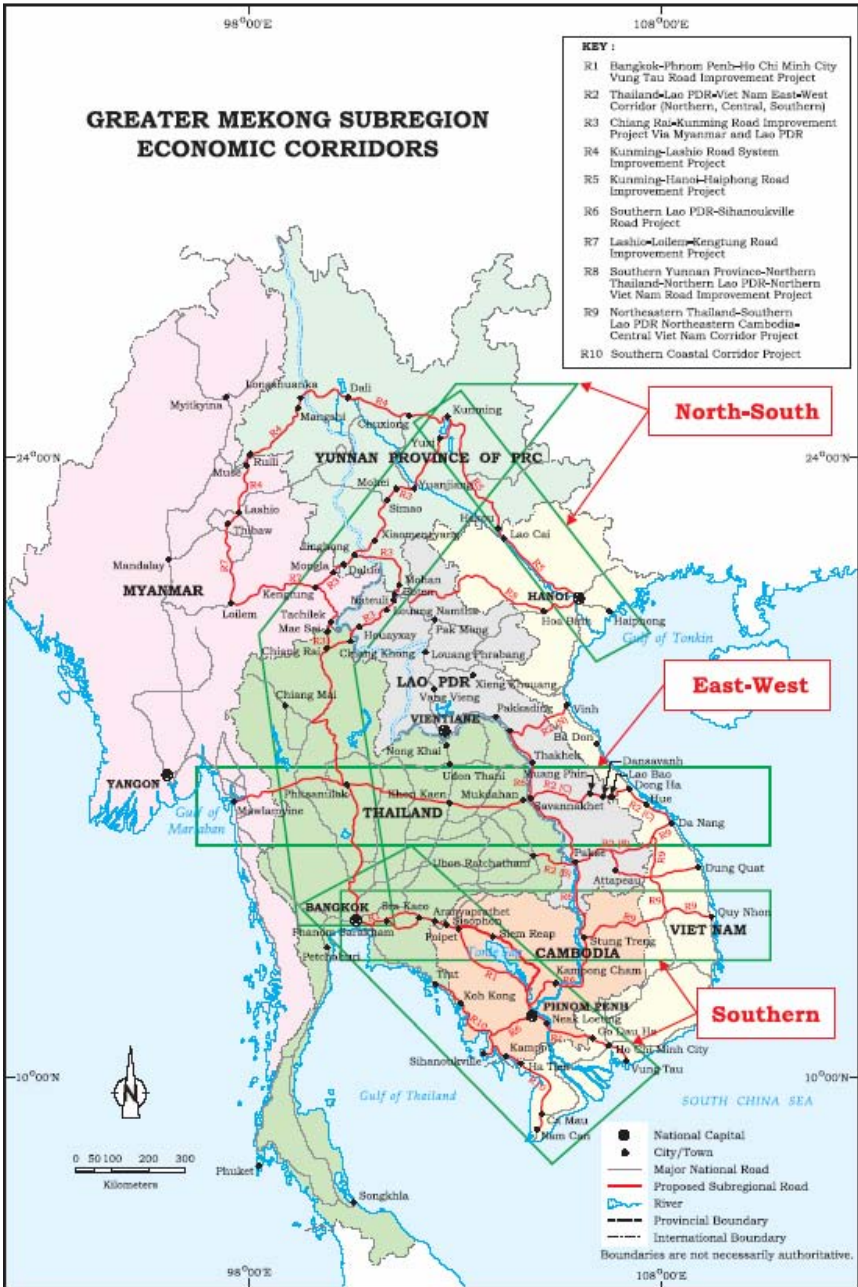
systems for cross-border power transactions and to chart the work plan for accelerating the development of the policy and institutional framework for regional power trade. The meetings were co-hosted by China Southern Power Grid Co. of the PRC, the ADB, and the World Bank.

ADB holds expert meeting to build GMS capacity for environmental management and sustainable development (18-19 August 2003): An Expert Meeting on Development of Institutional Mechanisms for Environmental Management and Sustainable Development in the GMS was held on 18-19 August 2003 in Manila, to come up with a work plan to build the capacity of GMS countries in formulating and implementing their respective National Sustainable Development Strategies (NSDSs). The development of NSDSs was one of the priorities recommended to implement the Johannesburg Declaration and Johannesburg Plan of Implementation, made by the Heads of States and Governments in the World Summit on Sustainable Development (WSSD) held in Johannesburg in September 2002.

The 14th meeting of the GMS Tourism Working Group convened in Hanoi (March 2003): The meeting reviewed progress made in the eight priority GMS tourism programs including destination marketing, subregional events, training, management of natural and cultural resources, Mekong/Lancang River tourism development, facilitation of travel, village-based tourism, and GMS tourism flows. The meeting also reviewed the agenda of the Working Group to make it more in line with the GMS Tourism Development Flagship Program.

GMS officials negotiate Annexes and Protocols of Cross-Border Transport Agreement (February 2003): The First Negotiation Meeting on Stage 1 annexes and protocol of the GMS Cross-Border Transport Agreement was held in Hanoi, Vietnam on 25-27 February 2003. The meeting discussed and negotiated (i) 7 annexes and one protocols in Stage 1, (ii) the guidelines for negotiating the annexes and protocols, and (iii) the draft amendment to Article 17 of the Agreement which will allow mutual recognition of driving permits issued by the GMS national authorities.

4. Problems and Prospects of Further Cooperation in the GMS

From the above account of how GMS countries cooperate among themselves with the help of the Asian Development Bank during the last ten years, it may be seen that many things have been accomplished. It is possible to see the development of this GMS cooperation in four phases. The first phase from 1992-1993 concerned close consultations between the ADB and member countries to determine the framework for economic cooperation. The second phase from 1993-1996 involved detailed sector studies to identify priority subregional projects and initiatives. The third phase may be understood to cover the period from 1996 through the depth of the East Asian economic crisis until economic recovery period in 2000. This was in fact the beginning of project implementation period, but the economic crisis, especially the one experienced by Thailand, had dulled the pace and tempo of the GMS activities somewhat. The current phase from 2001 onward, where key economies in Southeast Asia have recovered, however, is the period for the broadening and deepening of GMS activities.

   According to the ADB, it was shown that, under the GMS Program, about $2 billion were spent on a series of feasibility studies of about 10 infrastructure projects. Among these was the upgrading of the Phnom Penh-Ho Chi Minh City Highway and the East-West Corridor Project. A framework agreement was signed by the governments of Cambodia, Lao PDR, Thailand and Vietnam to facilitate the cross-border movement of goods and people. The agreement covers such issues as customs procedures, rights of cross-border passage for vehicles and drivers, vehicle and load specifications, insurance provisions, and transit and user fees. In addition, significant progress was made concerning trade in energy and in establishing a telecommunications network for the subregion. The two hydropower projects amounting $380 million were breakthroughs, both in terms of bilateral partnership (between Lao PDR and Thailand) and private sector participation.

   Again according to the ADB, initiatives concerning human resource development, tourism, the environment, trade and investment were supported by 18 advisory TAs from ADB and co-financiers. Human resource development initiatives include: harmonization of training

standards and accreditation/certification; mitigating of the transborder spread of communicable diseases; and improvement of health and education services for ethnic minorities in border areas. Significantly, the program had acted as a catalyst for encouraging broad-based economic cooperation and resource mobilisation. ADB had provided $772 million in loans for subregional infrastructure projects and mobilized a further $234 million for co-financing them. In addition, $58 million in technical assistance was provided by the ADB, co-financiers, and the GMS governments. Most important of all, the GMS Program had served as a catalyst for the member countries to take the initiative in forming cooperation agreements.

Despite the exciting prospects for future developments in the GMS, there are several problems that could hinder the efficient and effective cooperation among countries in the subregion. Two groups of problems could be singled out.

First, economic problems. Although it is true that many former socialist countries have abandoned central planning or state-control approach to development and relied more on market approach to development, the experience and expertise of these GMS members in modern, capitalistic development are still not fully developed, and there are many things they would have to learn. And because of these different levels of development in the GMS member countries, the starting point of cooperation understandably could be very difficult. As can be seen in Table 1, the levels of development between Thailand, the most developed economy in the subregion, and the other five nations are quite disparate. Economically, Thailand is in a much more advanced position with regards various aspects of development status and macroeconomic performance.

In order to benefit more from economic integration, members may have to attain a minimum level of economic development, which may include the existence of economic institutions such as modern financial and payments systems, transportation and communications network, capable bureaucracy and generally literate or well-educated population. Economic relationship between very rich and very poor partners may not be very productive, and could evolve into the situation of patron-client

Table 1: Salient Economic Statistics of the Greater Mekong Subregion Economies

	Cambodia		Lao PDR		Myanmar		Thailand		Vietnam		Yunnan	
	1992	2002	1992	2002	1992	2002	1992	2002	1992	2002	1992	2002
1. Population (million)	9.0	13.5	4.4	5.5	42.3	52.2	57.3	63.4	68.5	79.7	38.3	43.1
2. GDP Growth Rate (%)	7.0	5.5	7.0	5.9	9.7	9.7	8.1	5.2	8.7	7.0	10.9	6.5(01)
3. Per Capita GDP (PPP US$)	1,100	1,649	971	1,678	853	1,568	4,530	6,788	1,141	2,240	1,218	2,881
4. Government Revenue (%GDP)	5.2	11.4(01)	11.7(93)	12.7	8.4	4.2(00)	18.1	16.1	19	21.2	8.2(95)	9.2(01)
5. Government Expenditure (%GDP)	8.2	16.9(01)	17.7(93)	17.1	10.5	3.5(00)	15.6	17.6	21.5	24.3	19.5(95)	23.9(01)
6. Consumer Price Inflation (%)	96.1	3.3	9.9	10.6	21.9	57.1	4.2	0.7	5.7(96)	3.8	1.3	0.9
7. Openness Ratios (%GDP) (a)	30	101.8	29.8	40.9	3.6	1.0(01)	61.3	98.1	50.8	103.9	9.1	8.6(01)
8. Share of Intraregional Trade to Total Trade (% or total trade)	20.1	24.5	63.3	67.8	23.4	35.6	2.8	8.9	4.7	13.9	1.2	1.9
9. Tourist Arrivals (in thousands) (b)	219.7	523.0	346.5	735.7	136.9	217.2	6,951.6	10,873.0	1,351.3	2,628.0	596.9	1,304.0
10. Foreign Direct Investment Flows ($million)	33	54	8	25	172	129	1,544	1,068	385	1,200	3	128(01)

Source: Asian Development Bank (ADB)
Note: Number in parenthesis shows the actual year.
Note: (a) defined as the ratio of total trade to gross domestic product at current market price.
(b) Start from 1995.

relationship rather relationship among equals. And the impact of trading relationship between large and small members could create a well-known terms-of-trade effect where the larger trading partners reap all the gains from trade through their sheer size of products and market power. A minimum level of economic development may also imply that some regulatory measures to soften the adverse impacts due to size could be more easily implemented or followed.

What the above seems to indicate is that the less developed members of the GMS may need to develop quickly if all were to benefit more fully from trade with one another. But free trade is easier to practice than restricted or controlled trade, and less developed trading partners could learn to adjust quickly. The help of the ADB is critically important, and members have to make sure that this help from the ADB is not slackened off. It may be necessary that ADB finds more financial supporters or sponsors from the outside, either from interested governments or the private sector. Recent activities by the ADB in meeting and discussing with governments in Europe and America are attempts in this direction. [7]

But while the economic problems may be easier to solve or managed, the political problems may be not. The political situations in Myanmar and Cambodia are probably the most serious obstacles for future progress and development of this subregion cooperation. Without genuine democratization and political reforms in Myanmar, it is unlikely that Myanmar will be or could be accepted as a bona fide good or trusting member in the GMS, let alone in ASEAN or in the international community. No meaningful foreign assistance will be forthcoming, and no meaningful trading relations between Myanmar and the world could be contemplated. And as for Cambodia, precious time was lost for the implementation of growth policies because it could not pass necessary reforms due to political deadlock after inconclusive election held in July

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[7] Examples of these efforts include a conference entitled "Economic Cooperation and Opportunities in the Greater Mekong Subregion Infrastructure and Private Sector Development" held in Washington, DC on 26 June 2003; the GMS Investment and Trade Promotion Conference held in Hanoi, Vietnam on 4 March 2004; and the Mekong Development Forum jointly sponsored by the French Ministry of Economy, Finance, and Industry, and the Ministry of Foreign Affairs, and the ADB in Paris, France on 28-29 June 2004.

2003. Only when political stability is reached could important and meaningful legislative, administrative, and judiciary reforms be undertaken.[8]

At the first GMS Summit Meeting in Phnom Penh, Cambodia in November 2002, the GMS Leaders had endorsed the overall concept of further development of the GMS consisting of three C's, Connectivity, Competitiveness, and Community. This was most appropriate and realistic: the GMS members need all these. According to the view of the Director General of the Mekong Department of the ADB,[9] there are three forms of transition that GMS members have to go through in their future cooperation. The first transition is the changing role played by the state and the markets, with the private sector contributing more to the total economic activities. The second transition is the greater diversification of most of the GMS economies, with subsistence agriculture giving way to commercialised agriculture and emerging manufacturing activities. And the third transition is the fact that countries of the GMS are becoming more "open" economically, that is to say the ratio of total trade to GDP has gone up in most GMS economies. These three transitions will go a long way to hold the GMS countries together and make them more prosperous.

In all, despite many problems and obstacles, it is still believed that the future of the GMS cooperation looks promising. The basic principles adopted under the GMS scheme are workable because not all six countries must agree on common resolution. Some countries may agree now; some countries may join in later. Member countries adopted practical approach to problem-solving; the GMS will remain open regional association rather than a concrete regional grouping (like ASEAN) or a trade bloc. Members countries have all tried to make their own adjustments in legal and regulatory frameworks so that they can cooperate with their member countries better. And the avoidance of

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[8] According to SOK Hach (2004), Director of the Economic Institute of Cambodia, strengthening public administration and fighting corruption are the keys to sustainable economic development and effective poverty reduction in Cambodia.

[9] Mr. Rajat M. Nag, in his speech at the GMS Investment and Trade Promotion Conference in Hanoi, Vietnam, 4 March 2004.

sovereignty issues at the GMS meetings or conferences is one of the most pleasing natures of this subregional cooperation. [10]

5. Concluding Remarks: Thailand and the GMS, and the Larger Context of Regional Cooperation

This paper has attempted to discuss the development of the economic cooperation among the riparian countries of the Mekong river, the area which is now well-known as the Greater Mekong Subregion or GMS. It has pointed out the crucial, initiating role of the Asian Development Bank (ADB) in launching, managing, facilitating, and promoting the GMS. The paper discusses the rationale for the formation of this subregional cooperation from each country's point of view, the achievements so far, and the problems and prospects of further cooperation in the future. This paper would like to end the discussion by offering some concluding remarks about the role of Thailand in its involvement in the GMS.

After the fall of socialism in the Southeast Asia and Indochina, Thailand is in good position to be involved in this economic reorientation, and through the development of growth triangles or growth areas, From the point of view of Thailand, the existence and progress of this economic zone provide both the stimulus and incentives to look ahead upon its role in the future regional and subregional development. The benefits and costs of specific items of cooperation in the GMS economic zone have been mentioned in the paper, but there is a need for Thailand to look beyond the confine of this subregional cooperation and perceive this present development in the light of a larger regional and global economic cooperation. Four observations could be made as follows.

First, Thailand must look upon this economic zone as part of its effort to increase its international competitiveness, by adopting the 'offensive plan' rather than 'defensive plan' in its future strategy of economic development. Thailand must realise that it is facing tougher competition

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[10] This was the view of Mr. Morita Noritada, former director of the ADB, who is regarded as the architect of the GMS cooperation.

from other lower-cost countries in the region in the production that its existing comparative advantage will soon be eroded. This strategic concern on the future competitiveness of the Thai economy has always received highest level of attention from the government. A report by a government study team has shown that since the year 2000, the dependence on US and European markets has decline and that on ASEAN and other regional and subregional markets has increased, attesting to the promise of subregional cooperation like the GMS.

Second, the geographical position of Thailand in the Southeast Asian and Indochina subregion makes it imperative that Thailand play a leading role in fostering greater economic cooperation in the region and subregion. Thailand was cautious at first when the idea of opening up its northern border with Indochinese neighbours and China was proposed fearing that influx of goods and services from China would compete unfairly with local products. But after careful planning and preparation, it has come to a conclusion that as long as unhindered market forces are allowed to be the guiding principle of economic interactions among nations, Thailand should not fear as long as it is willing to adjust itself to the changing situations. On the issue of subregional cooperation, Thailand knows that Singapore and Malaysia are pushing hard from the south to gain access into Thailand to connect with Indochina and China. Thailand welcomes the gesture and is eager and willing to promote greater economic cooperation in the subregion. Note that Thailand is also active in the participation of another subregional cooperation with Malaysia and Indonesia in the so-called Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT) Project. [11]

Third, the subject of Baht Zone, that is to say, the regular use to the Thai baht as an international currency in the GMS is often mentioned as a consequence of Thailand being the strongest and closest economy in the subregion. While it is never (or at least not yet) an official policy of the Thai government to see Thai baht a fully convertible international currency in the subregion, the fact remains that the use of Thai baht in the GMS trade has become widespread, and the Thai monetary

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[11] It may be noted that Thailand was the leading member of ASEAN to propose the idea of ASEAN Free Trade Area (AFTA) at the Fourth ASEAN Summit in Singapore in 1991.

authorities did not attempt to discourage this practice one way or the other. The benefits of increased use of the baht in the GMS from the point of view of Thailand are quite obvious. First of all, trade and investment between Thailand and its GMS neighbours are expected to increase because the need to use convertible currencies which are scarce in many of these GMS countries is substantially removed. Secondly the cost of foreign-exchange purchase and the risk of exchange-rate fluctuation from the point of view of Thai businessmen are reduced, providing an additional competitive edge to Thai businessmen. Thirdly as it has been projected that the balance of trade between Thailand and its GMS neighbours will be against Thailand in the future, the use of baht will help reduce the pressure on Thailand's international reserves, at least in the short-run. Fourthly the use of baht will have a direct link with domestic (Thai) production of goods and services helping local economy. And fifthly the use of baht gives seigniorage gains to Thailand similar to the lending of these GMS countries to Thailand without charging interest.

Fourth, eventually this subregional economic cooperation will lead to a larger regional cooperation. All countries in Southeast Asia are now members of ASEAN, with only exception of East Timor which is the newest sovereign nation in Southeast Asia. As one of the general principles of GMS economic cooperation is that it has no intention to lay the foundation towards the formation of a trade bloc, this subregional cooperation does not conflict with the main guiding principle of ASEAN. And in a larger context of APEC, ASEAN is always a proponent that APEC is a forum for intergovernmental cooperation with a view to supporting and promoting non-preferential and non-discriminatory trade and investment in the Asia-Pacific region. As such the GMS economic zone could be looked upon as a part of a much larger global economic arrangement that, once accomplished, will lead to a better life and livelihood of all the people in the region.

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CHAPTER 10

INVESTMENT-GROWTH NEXUS IN CHINA:
A COMPARATIVE PERSPECTIVE[*]

Zhang Jun[**]

This paper investigates some features of investment-growth nexus in post-reform China with respect to the growth experiences of East Asian economies during similar phase of development. It characterizes the the pattern of investment-driven growth through calculating and decompositing the investment/GDP ratios, examining the sectors and ownerships accounting for incremental change of investments, and analyzing the incremental capital output ratios (ICORs) in real terms, with some comparisons with the NIEs in East Asia. It finds that China had realized its high growth without necessitating an increasing proportion of investment to GDP and without raising ICOR in 1980s. But since mid-1990s China seems to have experienced an excessive expansion of investment as a result of intensified inter-provincial excessive competition.

JEL classification: O53; O47.

Keywords: Chinese Economy; Asian Economies; Investment-Growth Nexus.

1. Introduction

China has maintained rapid economic growth for more than 20 years since the outset of economic reform in the early of 1980s. This performance record is not only unique among all the transitional economies, but also superior to the Asia Miracle of the East Asian Newly-Industrialising Economies (NIEs) between the 1960s and 1980s.

However, in spite of size difference, China's growth pattern is similar to that of the NIEs and may similarly be described in terms of the investment-growth model (Zhang, 2002). Although about 70 percent of its population lives in the rural area, China's economic growth had mainly depended on the rapid expansion of the manufacturing sector rather than on agriculture, except in the early 1980s. The value added of industrial sector has accounted for 45 percent of China's total GDP, while that of agriculture has been only about 10 percent. It is manufacturing rather than agriculture that has driven China's economic growth.

Because of the importance of *manufacturing* industries, international trade has played a crucial role in China's economic growth during post-reform era. This also parallels the experience of the NIEs. Despite a different pattern of FDI-inflow between China and most of the NIEs, there is great similarity in their efforts to export promotion and trade expansion. FDI inflow has played an important part in China's export growth in 1990s and since, with 80 percent of China's exports being manufactured exports, more than half of which come from foreign invested enterprises (FIEs) in China.

In the past two decades a great deal of economic literature on growth and industrialization has been produced, which has helped explain the nature and pattern of growth during East Asian Miracle (e.g. Lau and Kim,1992; Young,1993; Kim and Lau,1996). It is widely believed that the East Asian Model is best characterized in terms of an investment-growth paradigm, captured in such indicators as high investment/GDP ratio, rising capital-output ratio, or incremental capital output ratio (ICOR), etc..[1] In this paper we will observe and describe the pattern of *aggregate* investment in China, discuss its investment-growth

nexus in the context of the East Asian NIEs, and examine investment efficiency during the high-growth period.

The paper finds that investment did not grow faster than output during most of the reform period, and the investment/GDP ratio did not rise rapidly until recently. China has successfully utilized its unlimited supply of labor (mostly rural) through massive rural industrialization since it embarked on reform. The success of rural industrialization owes much to the proliferation of millions of rural and small enterprises, which have been market-orientated and have used appropriately simple and labour intensive technology.

The remainder of this paper is organized as follows: in the next section we present an analysis of some features of investment-growth nexus in China during the past two decades, describe the sectoral and ownership-based account of investment change at an aggregate level, and offer some comparisons with East Asian NIEs. In section three we will look at efficiency change and investigate whether China has over-invested by calculating the real investment/GDP ratio and incremental capital-output ratio (ICOR) with a discussion of institutional change that leads to excessive investment. The final section offers some concluding remarks.

2. China's investment pattern in the context of East Asia

2.1. Investment rates

Table 1 provides estimates of investment rates (investment as a proportion of GDP) in China between 1978 and 2000 in norminal terms and on the basis of three different definitions. Investment rate one is calculated by using data on investment defined as "total social investment in fixed assets" (*quan shehui guding zichan touzi e*)[2]. Investment rate two and investment rate three are calculated using estimates of "gross value of capital formation" and "gross fixed capital formation", respectively. The difference between the gross value of capital formation and gross fixed capital formation is given by the change in inventories, as explained in the standard national accounts.

Table 1: China's nominal investment rates during the period of reform (1978–2000)

Year	GDP	Total social investments in fixed assets	Invest- ment rate 1	GDP measured by expenditure approach	Gross capital formation	Invest- ment rate 2	Gross fixed capital formation	Invest- ment rate 3
1978				3605.6	1377.9	38.2	1073.9	29.78
1979	4038.2	.	.	4074	1474.2	36.2	1151.2	28.26
1980	4517.8	910.9	20.16	4551.3	1590	34.9	1318	28.96
1981	4862.4	961	19.76	4901.4	1581	32.3	1253	25.56
1982	5294.7	1230.4	23.24	5489.2	1760.2	32.1	1493.2	27.2
1983	5934.5	1430.1	24.1	6076.3	2005	33	1709	28.13
1984	7171	1832.9	25.56	7164.4	2468.6	34.5	2125.6	29.67
1985	8964.4	2543.2	28.37	8792.1	3386	38.5	2641	30.04
1986	10202.2	3120.6	30.59	10132.8	3846	38	3098	30.57
1987	11962.5	3791.7	31.7	11784.7	4322	36.7	3742	31.75
1988	14928.3	4753.8	31.84	14704	5495	37.4	4624	31.45
1989	16909.2	4410.4	26.08	16466	6095	37	4339	26.35
1990	18547.9	4517	24.35	18319.5	6444	35.2	4732	25.83
1991	21617.8	5594.5	25.88	21280.4	7517	35.3	5940	27.91
1992	26638.1	8080.1	30.33	25863.7	9636	37.3	8317	32.16
1993	34634.4	13072.3	37.74	34500.7	14998	43.5	12980	37.62
1994	46759.4	17042.1	36.45	46690.7	19260.6	41.3	16856.3	36.1
1995	58478.1	20019.3	34.23	58510.5	23877	40.8	20300.5	34.7
1996	67884.6	22913.5	33.75	68330.4	26867.2	39.3	23336.1	34.15
1997	74462.6	24941.1	33.49	74894.2	28457.6	38	25154.2	33.59
1998	78345.2	28406.2	36.26	79003.3	29545.9	37.4	27630.8	34.97
1999	82067.5	29854.7	36.38	82673.1	30701.6	37.1	29475.5	35.65
2000	89403.6	32917.7	36.82	89112.5	32255	36.2	32623.8	36.61

Note: Investment rate 1 = total social investments in fixed assets/GDP*100%. Meanwhile we also give the GDP measurement by expenditure approach in which the investment is measured by the gross capital formation. Because gross capital formation consists of both gross fixed capital formation and inventory increase, we therefore calculate both the investment rate 2 and investment rate 3. The value unit is 100 million Chinese RMB yuan and the unit of the investment rates is %. Sources: *China Statistical Yearbook* (NBS, 2001).

On average during 1978-2000, investment rate one was about 30 percent, while investment rate two was around 37 percent. The difference between investment rate one and investment rate three narrowed over time. The investment rates of China today are definitely much higher than those of Japan and US in their similar stage of high growth. It is also far higher than those of Hong Kong and Taiwan, whose investment rates between 1966 and 1998 were just 25.4 percent and 23.7 percent, respectively (Toh and Ng, 2002). China's investment rates are comparable to those of Singapore (1970s-1980s), South Korea, Thailand and Malaysia. For example, the average investment rate in fixed assets of Singapore was 35.4 percent between 1966 and 1998, which is the highest among the four little dragons in East Asia.[3]

The ratio of inventory increase over GDP can be easily calculated by taking the difference between investment rate 2 and rate 3 in Table 1, which is illustrated in Figure 1. Between 1978 and 1995, this ratio was relatively stable and averaged about 8 percent, which is much higher than in other market economies. Since the middle of 1990s, however, China's inventory increase as percentage of GDP has consistently declined.

Figure 1. The ratio of inventory increase to GDP in China 1978-2000
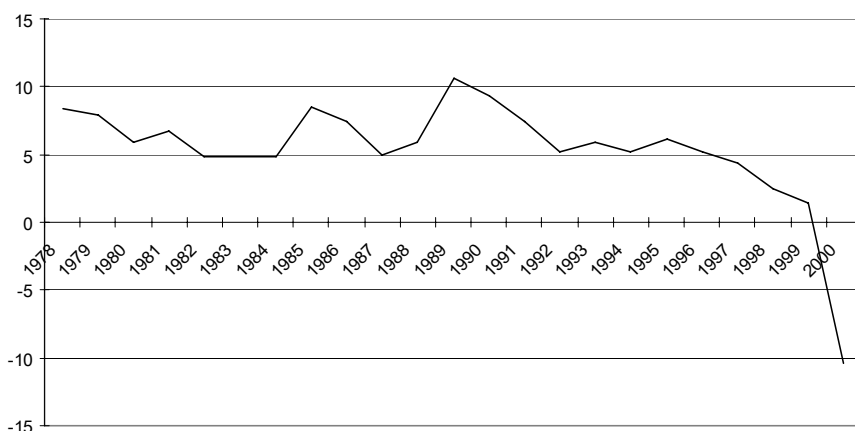
2.2. Industrial share of GDP and structural change of manufacturing sector

It is widely believed that China's success in transforming the centrally planned economy has been largely due to its success in promoting and expanding its industrial sector - manufacturing, in particular. In this subsection we describe China's industrial transformation by examining the industrial share in Chinese GDP and investment growth in manufacturing industries during 1978-2000.

Figures 2a and 2b present both the industrial, and construction and installation shares in GDP from 1981 to 2000. The industrial share in China's GDP was around 45 percent, which is quite similar to that achieved during the rapid phase of development in East Asia (especially in Korea and Singapore). The importance of the industrial sector in China's gross investment can also be shown by the expenditure breakdown of total social fixed investment. As Table 2 shows, total social investment in fixed assets has derived mostly from expenditure on both construction and installation works (C&I), and equipments and instruments purchases (E&I) (see also Figure 2a,b).

Figure 2a. China's industrial share of GDP and expenses on purchases of equipments and instruments as % of GDP
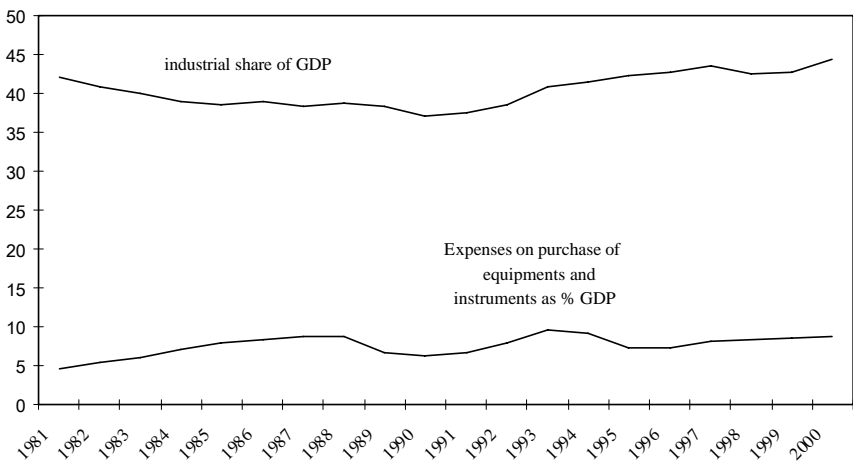
Figure 2b. China's construction as % of GDP and expenses on construction & installation as % of total investment
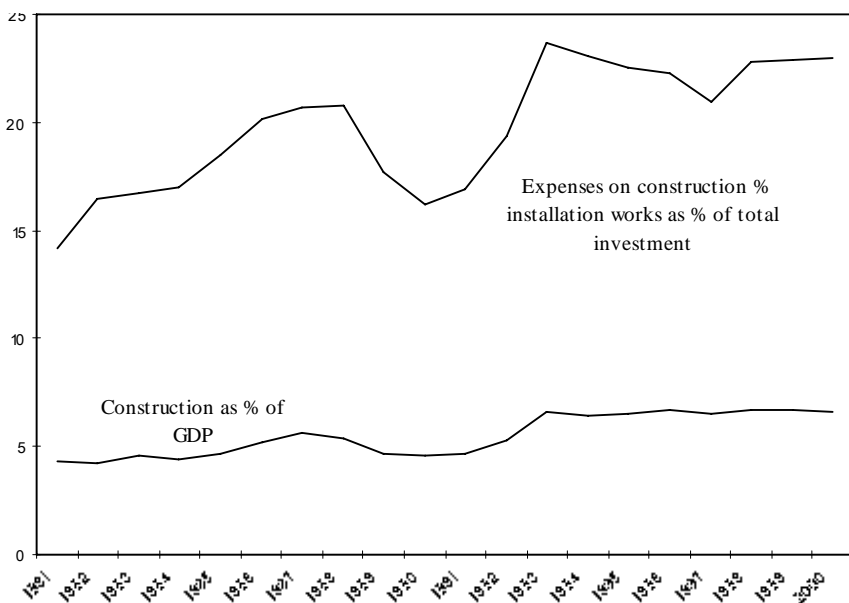
It is interesting, however, that, contrary to some East Asian economies, China's industrial share of GDP does not show a significantly increasing trend. For instance, Singapore, Korea and Thailand all experienced a rapid growth in the size of manufacturing sector, so that the share of manufacturing in GDP rose continuously from a very low level.

China's experience is, however, different from that of these East Asian NIEs because of its over-industrialized state under the pre-1978 centrally planned system. China's pre-1978 economy was dominated by the catch-up strategy of Soviet-Type, which very much emphasises the development of heavy and military industries. After the opening up and market-orientated reform policies were implemented, China entered a new industrialization phase that was typified by the rapid emergence and proliferation of millions of rural and small-sized industrial enterprises (so-called TVEs). These enterprises (TVEs) have entered almost all the

Table 2: Composition of total social investment in fixed assets in China (1981-2000)

Year	Total social investments in fixed assets (100 million yuan)	Accounted for by			Investment rate (%)	Accounted for by:		
		Construction and installation works	Equipment and instrument purchases	Others		Construction and installation works	Equipment and instrument purchases	Others
1981	961	689.83	223.64	47.54	19.76	14.19	4.6	0.98
1982	1230.4	871.12	291.41	67.87	23.24	16.45	5.5	1.28
1983	1430.1	993.32	358.31	78.43	24.1	16.74	6.04	1.32
1984	1832.9	1217.58	509.23	106.06	25.56	16.98	7.1	1.48
1985	2543.2	1655.46	718.08	169.65	28.37	18.47	8.01	1.89
1986	3120.6	2059.66	851.95	208.99	30.59	20.19	8.35	2.05
1987	3791.7	2475.65	1038.78	277.26	31.7	20.7	8.68	2.32
1988	4753.8	3099.66	1305.37	348.77	31.84	20.76	8.74	2.34
1989	4410.4	2994.59	1115.81	300.00	26.08	17.71	6.6	1.77
1990	4517	3008.72	1165.54	342.74	24.35	16.22	6.28	1.85
1991	5594.5	3647.68	1460.19	486.63	25.88	16.87	6.75	2.25
1992	8080.1	5163.37	2125.14	791.58	30.33	19.38	7.98	2.97
1993	13072.3	8201.21	3315.92	1555.18	37.74	23.68	9.57	4.49
1994	17042.1	10786.52	4328.26	1928.08	36.45	23.07	9.26	4.12
1995	20019.3	13173.33	4262.46	2583.48	34.23	22.53	7.29	4.42
1996	22913.5	15109.29	4925.98	2878.28	33.75	22.26	7.26	4.24
1997	24941.1	15614.03	6044.84	3282.25	33.49	20.97	8.12	4.41
1998	28406.2	17874.53	6528.53	4003.10	36.26	22.82	8.33	5.11
1999	29854.7	18795.93	7053.04	4005.74	36.38	22.9	8.59	4.88
2000	32917.7	20536.26	7785.62	4595.85	36.82	22.97	8.71	5.14
1981-2000					30.35	19.79	7.59	2.97

Note: The Investment rate of 1981-2000 is arithmetically averaged .

Sources : *China Statistical Yearbook* (NBS, 2001).

manufacturing industries and mining that was formerly dominated by large-sized state enterprises (Otsuka, et al, 1998). The importance of large and heavy industrial enterprises has continuously declined as the result of this rural industrialization process.

In order to understand the manufacturing expansion, in Table 3, we further calculate and show the investment growth in Chinese manufacturing industries in 1981, 1998 and 2000. For simplicity, we classify the manufacturing sector into 11 industries. The calculations show that since the 1980s, except for textiles, ordinary machinery and manufacturings which were defined as "other" in Table 3 -,categories whose relative investment shares have shrunk - all manufacturing industries have experienced a rapid growing share of investment. Such growth clearly benefited from widening markets, both in China and in abroad, in which China had a comparative advantage.

2.3. Investment in housing construction

Toh and Ng (2002) emphasized the accountability of housing construction when they explained the investment peak in the rapid development phase of Singapore. According to them, housing construction - both private and public residential housing construction - accounted for a major proportion of the investment boom between 1981 and 1985.[4]

China does not directly disclose annual data of investment in housing construction completed, but by indirect means from information on China's capital construction investment, we can derive some data. These data are: floor space of housing construction completed annually; floor space of individual housing completed in urban and rural areas; and floor space of residential housing completed. Table 4 provides the total floor space of housing construction compeleted annually in China between 1985 and 2000.

As Table 5 indicates, the total floor space of housing construction includes the relevant figures for both urban (cities/towns) and rural communities. The rural share is greater than that of the urban sector.

Table 3: Sectoral shares of investment in China's manufacturing industries (1981-2000)

		2000				1998				1981	
		Investment in capital construction	Investment in renovation and renewals	Total	Share (%)	Investment in capital construction	Investment in renovation and renewals	Total	Share (%)	Investment in capital construction	Share (%)
Manufacturings		1175.11	2104.15	3279.26	100.00	1484.08	1797.3	3281.38	100	216.01	100
Electrical and electronic products	Electrical equipments and machinery	29.19	79.09			34.62	71.37				
	Electronic and telecommunications equipment	214.80	147.52			178.05	76.6				
	Instruments, metals, Cultural and office machinery	9.21	10.55			7.39	8.02				
	Total	253.20	237.16	490.36	14.95	220.06	155.99	376.05	11.46	5.06	2.34
Chemistry and chemical products	Raw chemical materials and chemical products	172.18	274.67			201.91	280.32				
	medical and pharmaceutical products	42.42	91.20			30.22	52.01				
	Chemical fiber	11.79	34.94			53.02	20.01				
	Total	226.39	400.81	627.20	19.13	285.15	352.34	637.49	19.43	16.34	7.56
Transportation equipments	Transportation equipment	107.56	178.90	286.46	8.74	186.66	150.05	336.71	10.26	2.6	1.2
Machinery and equipments	Ordinary machinery	31.18	61.08			27.83	67.45				
	Equipments for special purposes	29.93	43.10			23.42	47.1				
	Total	61.11	104.17	165.28	5.04	51.25	114.55	165.8	5.05	15.53	7.19

| | | 2000 | | | | 1998 | | | | 1981 | |
		Investment in capital construction	Investment in renovation and renewals	Total	Share (%)	Investment in capital construction	Investment in renovation and renewals	Total	Share (%)	Investment in capital construction	Share (%)
Metal products	Metal products	17.28	29.20	46.48	1.42	19.18	21.62	40.8	1.24	1.2	0.56
Petroleum processing and coking	Petroleum processing and coking	32.79	129.91	162.70	4.96	137.84	105.03	242.87	7.4	8.21	3.8
Rubber and plastics	Rubber products	8.40	20.86			11.61	29.5				
	Plastic products	27.70	38.96			17.15	30.97				
	Nonmetal mineral products	61.42	112.18			70.67	103.9				
	Total	97.52	172.00	269.52	8.22	99.43	164.37	263.8	8.04	2.68	1.24
Metals	Smelting and processing of ferrous metals	50.85	269.11			155.95	242.99				
	Smelting and processing of nonferrous metals	39.76	82.00			24.35	61.3				
	Total	90.61	351.11	441.72	13.47	180.3	304.29	484.59	14.77	21.51	9.96
Food, beverage and tobacco	Food processing	32.43	43.95			33.09	49.93				
	food production	37.57	47.75			26.99	28.09				
	beverages	26.27	82.52			25.23	84.14				
	tobacco	18.23	45.24			8.95	69.23				
	Total	114.50	219.47	448.47	13.68	94.26	231.39	325.65	9.92	9.26	4.27

Table 3: (Continued)

| | | 2000 | | | | 1998 | | | | 1981 | |
		Investment in capital construction	Investment in renovation and renewals	Total	Share (%)	Investment in capital construction	Investment in renovation and renewals	Total	Share (%)	Investment in capital construction	Share (%)
Textiles	Textiles	29.57	107.86			23.13	61.97				
	garments and other fiber products	17.67	17.28			10	12.27				
	Total	47.25	125.14	172.39	5.26	33.13	74.24	107.37	3.27	19.86	9.19
Others	Leather, furs, down and related products	12.18	4.54			8.89	4.58				
	Timber processing, bamboo, cane, palm fiber and straw products	8.22	15.15			9.58	13.96				
	Furniture manufacturing	7.15	5.55			8.07	4.05				
	papermaking and paper products	39.54	79.91			117.02	58.44				
	Printing and recording media reproduction	13.05	22.85			15.47	18.05				
	Cultural, education and sports goods	2.66	3.66			0.97	2.53				
	Other Manufacturing	44.11	24.60			16.84	22.64				
	Total	126.92	156.27	285.89	8.72	176.84	124.25	301.09	9.18	113.76	52.66

Note: The unit is 100 million RMB yuan. The unit of share is %. Sources: Author's caculation. The basic data for estimation are from China Statistical Yearbook (NBS, 2002, 1999, and 1982). The data for manufacturing industries come from China Statistical Yearbook of Investment (NBS, 2001, p. 529).

Table 4: Total floor space of housing construction completed annually in China (1985-2000)

Year	Total floor space of housing construction completed (10,000 sq.m)		Floor space of individual housing completed in rural areas (10,000 sq.m)		% of individual floor space completed in rural areas to total floor space of housing completed		% of floor space completed in cities/towns to total floor space of housing completed		Floor space of newly-built houses in rural areas (100 million Sq.m) (9)
	Total (1)	Residential housing (2)	Total (3)	Residential housing (4)	Total (5) = (3) / (1)	Residential housing (6) = (4) / (2)	Total (7) = 1 – (5)	Residential housing (8) = 1 – (6)	
1985	122084	90972	78973	69542	0.65	0.76	0.35	0.24	7.22
1986	151184	117667	103225	94468	0.68	0.8	0.32	0.2	9.84
1987	141963	107697	96477	85524	0.68	0.79	0.32	0.21	8.84
1988	135943	104801	89092	80799	0.66	0.77	0.34	0.23	8.45
1989	105749	83197	71026	66134	0.67	0.79	0.33	0.21	6.76
1990	107793	86289	71136	67812	0.66	0.79	0.34	0.21	6.91
1991	119107	94002	79501	74193	0.67	0.79	0.33	0.21	7.54
1992	114800	85017	65338	60442	0.57	0.71	0.43	0.29	6.19
1993	122021	76779	56012	46129	0.46	0.6	0.54	0.4	4.81
1994	136550	97510	65390	57646	0.48	0.59	0.52	0.41	6.18
1995	145600	107433	73522	66230	0.5	0.62	0.5	0.38	6.99
1996	161988.98	121932.92	87277	79531	0.54	0.65	0.46	0.35	8.28
1997	166057.13	121100.96	85888	77287	0.52	0.64	0.48	0.36	8.06
1998	170904.75	127571.61	83864	77031	0.49	0.6	0.51	0.4	7.99
1999	187357.07	139305.93	83244	76758	0.44	0.55	0.56	0.45	8.34
2000	181974.44	134528.83	81270	75515	0.45	0.56	0.55	0.44	7.97

Sources: The data of column 1 and column 2 are based on *China Statistics Yearbook* (NBS, 2001), section 6-1; 1999, p183, section 6-1; 1998, p185, section 6-1; 1997, p149, section 5-1; 1996, p139, section 5-1; 1995, p137, section 5-1; 1993, p145, section 5-1; 1991, p143, section 5-1; 1989, p447, section 10-1; 1988, p559, section 10-1. Data of column 3 and column 4 are quoted from *China Statistical Yearbook* (NBS, 2001), section 6-34. Data of column 5 to column 8 are calculated by the author. Data of column 9 are quoted from *China Statistical Yearbook* (NBS, 2002), section 10-27.

Table 5: Estimated unit cost of housing construction and of private residential housing

Year	Housing built for individuals in cities/towns and in industrial and mining areas						Housing built for individuals in rural areas	
	Floor space of housing construction completed (10,000 sq.m)		Value of housing construction completed (10,000 RMB yuan)		Costs of housing construction completed (RMB yuan/sq.m)		Costs of housing construction completed (RMB yuan/sq.m)	
	Total (1)	Residential housing (2)	Total (3)	Residential housing (4)	Total (5) = (3) / (1)	Residential housing (6) = (4) / (2)	Total (7)	Residential housing (8)
1985	7081.36	6306.80	567917	493872	80.2	78.31	44	45
1986	8115.37	7234.80	745623	654192	91.88	90.42	49	41
1987	9120.19	8294.36	1005133	899614	110.21	108.46	63	57
1988	10526.83	9433.15	1568475	1401141	149	148.53	83	72
1989	8565.38	7822.55	1402278	1260234	163.71	161.1	112	97
1990	7180.55	6492.93	1247034	1103317	173.67	169.93	109	96
1991	7554.40	6808.24	1403230	1250861	185.75	183.73	115	102
1992	9673.43	8586.22	2164663	1897651	223.77	221.01	143	112
1993	11463.44	9812.95	3385002	2804212	295.29	285.77	181	165
1994	14098.18	12268.36	4513203	3870038	320.13	315.45	201	174
1995	15194.84	13333.90	5523894	4770290	363.54	357.76	233	204
1996	16556.86	14518.78	6552198	5629097	395.74	387.71	258	222
1997	17570.24	15165.03	7041112	5938633	400.74	391.6	280	245
1998	20781.49	18227.39	8485630	7272165	408.33	398.97	286	248
1999	21830.37	19246.43	9175357	7818281	420.3	406.22	229	234
2000	21763.53	18929.01	9529931	8120255	437.89	428.98	242	245

Sources: The data of column 1 to column 4 are quoted from *China Statistical Yearbook* (NBS, 2001), section 6-33. The data of column 5 and column 6 are obtained by author's estimation The data of column 7 and column 8 are quoted from *China Statistical Yearbook* (NBS, 2001), section 6-34.

The average cost of housing construction per m^2 in China is estimated here by averaging the costs of cities/towns and of rural areas, weighted by their respective shares in total floor space. Since there is no information released in statistical publications about the estimated per m^2 costs of housing construction, either in cities/towns or in rural areas, we have instead used the estimated costs of private residential housing construction, both in cities/towns and in rural areas. This is acceptable, since the difference between per m^2 costs of general housing and private residential housing construction should not be great.

Thus, the estimated annual investment in China's housing construction is obtained by multiplying the average unit cost of total housing construction per m^2 by the total floor space of housing construction per annum. Annual investment of non-residential housing equals the total investment of housing construction minus the investment of residential housing per annum. This is presented in Table 6.

From the estimates of gross fixed investment set out in Table 3 and those of total investment in housing (Table 6), it is inferred that investment in housing accounted for about 30 percent of total investment in 1980s, although in and after the 1990s, this percentage declined. In the late 1990s, investment in housing was about 20 percent of gross investment in fixed assets, or about 7 percent of Chinese GDP - much less than the 14.4 percent recorded in Singapore between 1966 and 1998[5].

2.4. The share of public investment

In current statistical practice in China, data on fixed investment are broken down and classified by "who owns", "who manages", "where the money comes from", and "on what the money is spent". Since the outset of China's economic reforms, there has undoubtedly been an increase in the share of non-state investment (the sum of "individual investment", "private investment"and "investment by other type of ownership"[6]) in total social fixed investment. Furthermore, the share of in-budget investment by the state in total fixed investment has also declined sharply.[7]

Table 6: Total investment in housing construction in China (including residential and non-residential housing)

Year	Average unit cost of total housing construction (RMB yuan/sq.m) (1)	Average unit cost of residential housing (RMB yuan/sq.m) (2)	Investments in housing construction (100 million RMB yuan) (3)	Investment of residential housing (100 million RMB yuan) (4)	Investment of non-residential housing (100 million RMB yuan) (5)
1985	56.67	52.99	691.85	482.06	209.79
1986	62.72	50.88	948.23	598.69	349.54
1987	78.11	67.81	1108.87	730.29	378.58
1988	105.44	89.6	1433.38	939.02	494.37
1989	129.06	110.46	1364.8	918.99	445.8
1990	130.99	111.53	1411.98	962.38	449.6
1991	138.35	119.16	1647.85	1120.13	527.72
1992	177.73	143.61	2040.34	1220.93	819.41
1993	242.72	213.31	2961.69	1637.77	1323.92
1994	262.95	231.99	3590.58	2262.13	1328.45
1995	298.27	262.43	4342.81	2819.36	1523.45
1996	321.36	280	5205.68	3414.12	1791.56
1997	337.96	297.78	5612.07	3606.14	2005.92
1998	348.39	308.39	5954.15	3934.18	2019.97
1999	336.13	311.5	6297.63	4339.38	1958.25
2000	349.74	325.95	6364.37	4384.97	1979.41

Note: Column 1 **=** Table5 (5) × Table4 (7) + Table5 (7) × Table4 (5) ;

Column 2 **=** Table5 (6) × Table4 (8) + Table5 (8) × Table4 (6) ;

Column 3 **=** (1) × Table4 (1) ÷ 10000 ;

Column 4 **=** (2) × Table4 (2) ÷ 10000 ;

Column 5 **=** (3) – (4).

Sources: Author's own calculation based on Table 4 and Table 5.

Table 7 calculates and breaks down gross investment rates by different ownership of investments. In making the calculations, we have summed "individual investors" and so-called "investment by other type of ownership". As Table 7 indicates, the proportion of investment by state and collective sectors does not drop, but the share of private investment has really been up. After about 1993, with the increasing infow of foreign investment into China, the private investment rate almost doubled. During 1980-200 the state sector's investment rate still accounted, on average, for 61.25 percent of total fixed investment; of the

corresponding figure for the collective sector was about 14 percent. Of all private investment, individual investment accounted, on average, for 40 percent; FDIs were only about 10 percent or so. For example, in the peak year of 1996, 274.7 billion RMB *yuan* of foreign direct investment (FDI) (including that from Hong Kong, Macao and Taiwan) only accounted for 12 percent of total fixed investment in China, which was less than 40 percent of private investment.

Table 7: Investment shares of state-owned, collectively-owned and private sectors (1980-2000)

Year	State sector invest-ment	Collective sector invest-ment	Individual invest-ment	Invest-ment by other type of ownership "	Private invest-ment	Total social invest-ment rate	Accounted for by		
							State invest-ment	Collective invest-ment	Private invest-ment
1980	745.9	46	119	.	119	20.16	16.51	1.02	2.63
1981	667.5	115.2	178.3	.	178.3	19.76	13.73	2.37	3.66
1982	845.3	174.3	210.8	.	210.8	23.24	15.97	3.29	3.98
1983	952	156.3	321.8	.	321.8	24.1	16.04	2.63	5.42
1984	1185.2	238.7	409	.	409	25.56	16.53	3.33	5.7
1985	1680.5	327.5	535.2	.	535.2	28.37	18.75	3.65	5.97
1986	2079.4	391.8	649.4	.	649.4	30.59	20.38	3.84	6.37
1987	2448.8	547	795.9	.	795.9	31.7	20.47	4.57	6.65
1988	3020	711.7	1022.1	.	1022.1	31.84	20.23	4.77	6.85
1989	2808.2	570	1032.2	.	1032.2	26.08	16.61	3.37	6.1
1990	2986.3	529.5	1001.2	.	1001.2	24.35	16.1	2.85	5.4
1991	3713.8	697.8	1182.9	.	1182.9	25.88	17.18	3.23	5.47
1992	5498.7	1359.4	1222	.	1222	30.33	20.64	5.1	4.59
1993	7925.9	2317.3	1476.2	1352.9	2829.1	37.74	22.88	6.69	8.17
1994	9615	2758.9	1970.6	2697.6	4668.2	36.45	20.56	5.9	9.98
1995	10898.2	3289.4	2560.2	3271.5	5831.7	34.23	18.64	5.63	9.97
1996	12006.2	3651.5	3211.2	4044.6	7255.8	33.75	17.69	5.38	10.69
1997	13091.7	3850.9	3429.4	4569.1	7998.5	33.49	17.58	5.17	10.74
1998	15369.3	4192.2	3744.4	5100.3	8844.7	36.26	19.62	5.35	11.29
1999	15947.8	4338.6	4195.7	5372.7	9568.4	36.38	19.43	5.29	11.66
2000	16504.4	4801.5	4709.4	6902.5	11611.9	36.82	18.46	5.37	12.99
1980-2000						29.86	18.29	4.23	7.34
Share						100%	61.25%	14.17%	24.58

Note: The unit of investment is 100 million RMByuan, the unit of the investment rate is %.
Sources: China Statistical Yearbook (NBS, 2001).

Thus, as a whole, real private investment accounted for no more than a quarter of total fixed investment in China. Considering that the averaged investment rate in China in 1980-2000 was about 30 percent, the share of public investment (mainly consisting of state and collective investments) in GDP was therefore about 23 percent - much higher than in Singapore and Taiwan in 1966-1998 (9.1 percent and 10.6 percent respectively).[8]

3. Has China over-invested?

Growing attention has been paid to the worsening efficiency of investment in rceent literature on China (e.g., Young, 2000; Qin and Song, 2002; Song, et al, 2001; Sun, 1998; Zhang, 2002). But the purpose of most recent studies has been either to carry out growth accounting analysis of Total Factor Productivity (TFP) or to empirically estimate aggregate investment function of China. In this section we do not repeat that excerise; rather, we will examine and discuss carefully the changing pattern of investment efficiency, and explain this pattern with respect to Asian experiences.

3.1. Investment to GDP Ratios in Real Terms

In his paper reviewing the growth pattern of East Asia economies, Young (1993, p.7) mentioned that " ......with the exception of Hong Kong, during the 1960-1985 period each of the NICs experienced an extraordinary rise in its investment to GDP ratio. Between 1960 and 1980 the I/GDP ratio doubled in Taiwan, tripled in Korea and quadrupled in Singapore... ... this increase is not typical of the world economy where, with the exception of high-performing Asia, I/GDP ratios were constant or declining."

Initially, the annual investment rates presented in Table 1 exhibit an upward pattern, indicating that China experienced a slow but increasing investment/GDP ratio. This pattern, however, may partially reflect the relative price change between output and capital goods, since the investment rates in Table 1 are calculated in nominal terms, Since the

output price and price of capital goods are unlikely to change at the same pace, it it necessary to convert these ratios into real terms in order to see how China's investment-output has changed over time.

The *China Statistical Yearbook* does not provide GDP deflator, and we must therefore estimate the implicit deflator of China's GDP, using the information of both current value of GDP and GDP index, as shown in Table 8.

Table 8: China's implicit GDP deflators (1978-2000)

Year	Current GDP (100 million RMB yuan) (1)	GDP index at comparable price (previous year = 100) (2)	GDP index at current price (previous year = 100) (3)	Implicit GDP deflator estimated by (3)/(2)*100 (previous year = 100) (4)	GDP deflator converted into 1990 price (5)
1978	3624.1	111.7	113.19	101.33	55.07
1979	4038.2	107.6	111.43	103.56	57.03
1980	4517.8	107.8	111.88	103.78	59.19
1981	4862.4	105.2	107.63	102.31	60.56
1982	5294.7	109.1	108.89	99.81	60.44
1983	5934.5	110.9	112.08	101.07	61.09
1984	7171	115.2	120.84	104.89	64.08
1985	8964.4	113.5	125.01	110.14	70.57
1986	10202.2	108.8	113.81	104.6	73.82
1987	11962.5	111.6	117.25	105.07	77.56
1988	14928.3	111.3	124.79	112.12	86.96
1989	16909.2	104.1	113.27	108.81	94.63
1990	18547.9	103.8	109.69	105.68	100
1991	21617.8	109.2	116.55	106.73	106.73
1992	26638.1	114.2	123.22	107.9	115.16
1993	34634.4	113.5	130.02	114.55	131.92
1994	46759.4	112.6	135.01	119.9	158.17
1995	58478.1	110.5	125.06	113.18	179.02
1996	67884.6	109.6	116.09	105.92	189.61
1997	74462.6	108.8	109.69	100.82	191.17
1998	78345.2	107.8	105.21	97.6	186.58
1999	82067.5	107.1	104.75	97.81	182.49
2000	89403.6	108	108.94	100.87	184.08

Note: Columns (1)-(3) are based on *China Statistical Yearbook*, columns (4) and (5) are calculated by the author.
Sources: *China Statistical Yearbook* (NBS, 2001).
Table 9 China's price index of investment in fixed assets (1978-2000)

For the price index of capital goods, we use the price index of investment in fixed assets as representative. *China Statistical Yearbook*, however, began to provide such index only after 1993, and the starting year of this index is 1991 (1990=100). Fortunately, Jefferson, et al. (1996, p.175) estimated China's price index of investment in fixed assets between 1979 and 1992. Since both Jefferson, et al. (1996) and *China Statistical Yearbook* estimated their indexes similarly by averaging the deflators of construction/installation and machinery /equipments purchases, we think that of Jefferson, et al. is generally consistent with *China Statistical Yearbook*'s. Therefore, for 1978-89, we insert Jefferson et al.'s price index of investment in fixed assets to provide a complete picture.

Figure 3 exhibits the patterns of relative price changes of the deflator for investment in fixed assets and the implicit GDP deflator during 1978-2000. The relative price ratio curve shows that the price for capital goods relative to the price for GDP increased by 61.3 percent from 1978 to 1993, but then (1993-2000) fell by 10.7 percent, so that there must have been a difference between nominal and real investment rates. This curve of relative price ratio in Figure 3 also tells us that the ratio was greater than 1 after 1990, and less than 1 before 1990, suggesting that before 1990, China's real investment rates (in constant 1990 prices) must have exceeded nominal rates, and vice-versa after 1990.

Figure 3. Price of Capital Goods Relative to GDP Deflator (1990=1)
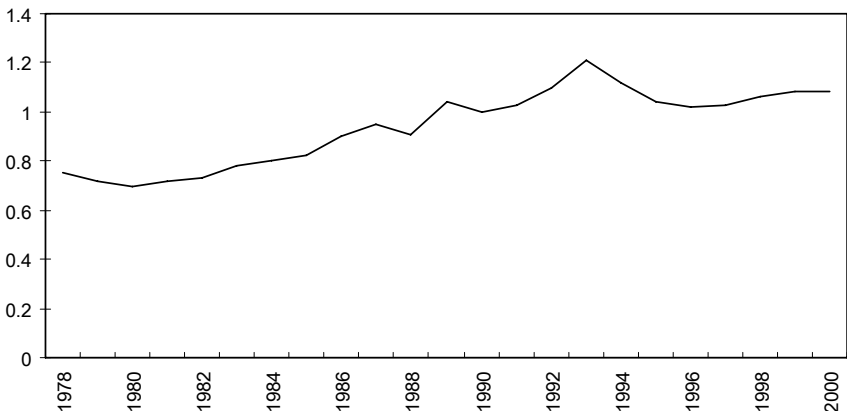
With these relative price changes in mind, it is not reasonable to simply observe the pattern of investment/GDP ratios only in nominal terms. Rather, it is necessary to convert these nominal investment/GDP ratios into real values based, on the relative price change between the price index for capital goods and the GDP deflator.

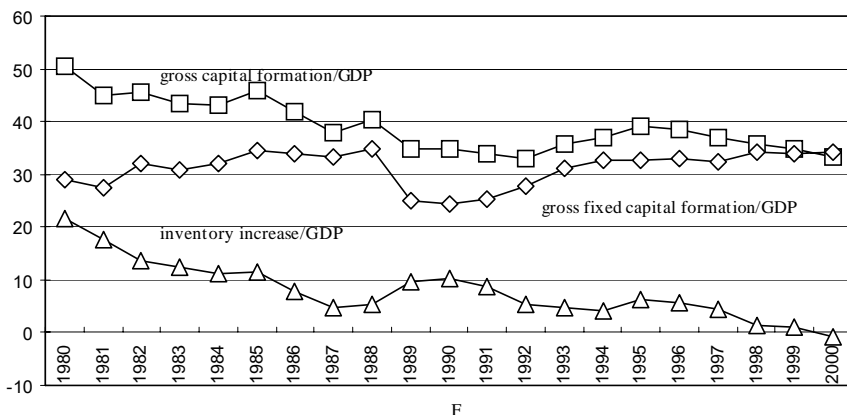Figure 4. China's Real Investment/GDP Ratios

Figure 4 presents these adjusted investment rates in real terms in the expectation that, contrary to the nominal rates estimated in Table 1, China's real investment/GDP ratios will no longer follow a rising trend. As Figure 4 indicates, the real gross value of capital formation in fact increased less slowly than GDP, and thanks to the slight drop in the proportion of inventory increase, the growth of real fixed capital formation generally remained fairly constant relative to that of real GDP during the reform period.

3.2. Incremental capital-output ratio (ICOR)

Identifying the pattern of real investment/GDP ratios is important to a better understanding of whether China has over-invested since the implementation of its economic development program in the early 1980s. To some extent, this ratio can be used as a proxy measure of the efficiency in the use of its capital throughout the economy.

Table 9: China's price index of investment in fixed assets (1978-2000)

	Index provided by Jefferson, et al. (1996) (1990 = 100)	Index provided by *China Statistical Yearbook* (previous year = 100)	Adjusted index based on both Jefferson, et al. and *China Statistical Yearbook* (1990 = 100)
1978			
1979	41.3		41.3
1980	41.3		41.3
1981	43.8		43.8
1982	44		44
1983	47.6		47.6
1984	51		51
1985	58.2		58.2
1986	66.6		66.6
1987	73.9		73.9
1988	79.5		79.5
1989	98.3		98.3
1990	100		100
1991	111.9	109.5	109.5
1992	125.5	115.3	126.3
1993		126.6	159.8
1994		110.4	176.5
1995		105.9	186.9
1996		104	194.3
1997		101.7	197.6
1998		99.8	197.3
1999		99.6	196.5
2000		101.1	198.6

Sources: The figures in column are quoted from Jefferson, Rawski, and Zheng(1996); The figures in column 3 are taken from China Statistical Yearbook (NBS, 1993, p.269; 1995, p.250; 1996, p.272; 1997, p.283; 1998, p.318; 1999, p.310; 2000, e-version, section 9–14; 2001, e-version, section 9–14). The figures in column 4 are estimated by the author.

A direct and simple measurement of investment efficiency at the aggregate level, however, may be carried out by calculating the so-called incremental capital-output ratio (ICOR), which is the reciprocal of the marginal productivity of capital stock:

$$ICOR = I/\Delta \; GDP$$

Figure 5. China's Real Incremental Capital Output Ratio (ICOR)
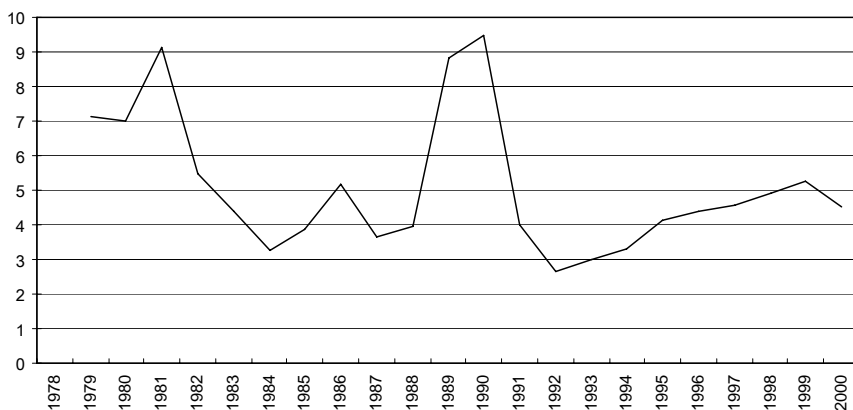
Based on estimates of both GDP and gross values of capital formation, including their deflators, we have calculated China's real ICOR during 1979-2000 (see Figure 5). Our calculations show that during this period China's average ICOR was 5.1, compared with 4 for Singapore, 6 for Hong Kong, and 3 for Taiwan (all during 1987-1997)[9].

Between the 1970s and 1990s, three of the "four little dragons" (Hong Kong is the exception) and the "little tigers" (e.g. Malaysia, Thailand), as well as Japan itself, experienced a rising pattern of ICOR. But during 1979-2000, China overall underwent a rather modest change in its ICOR. Apart from the exceptional fluctuation during the three years of retrenchment following the Tiananmen event in 1989, China's ICOR had moved downwards during 1978-1988, suggesting a better performance than most East Asian NIEs and emerging economies at a similar stage of development. Only after 1992 did China's ICOR begin to increase graduallly, primarily due to continuing large-scale investment in urban infrastructure and national transportation networks, which had previously long been underdeveloped areas of the economy.

The major reason that China initially experienced an increasingly improved performance in investment in 1980s is that, in 1980s, China's success relied primarily on the rapid entry and expansion of rural and small industrial businesses, whose production technology was much of labour intensive, and who were much more market orientated (Lin, et al,

1994; Liu and Zhang, 1999). But since 1990s, especially since mid-1990s, the growth of investment has begun to be increasingly driven by the investment fever of performance-targetting local governments. This is much of a problem associated with instintutional change that was designed by the central government, following the deepening process of opening-ups, to govern the central-local relationship and to guarantee the development momentum at the level of local governments.

The changed behavior of local governments came after the macro-level reforms carried out at both fiscal and political/personnel systems in the early of 1990s. As of fiscal reforms, an important change would be the recentralization of fiscal revenues and an introduction of VAT-based tax returned system in 1994. Since the major source of revenues returned (from the central government to local governments) and shared taxes (between the central and local governments) is VAT, and since VAT is paid primarily by manufacturing and service industries, it is not difficult to understand that, under such system, local governments will have much stronger incentive to localize the investment and production. This is the major reason for observed rising barriers to entry and increased segmentation of domestic markets, as many studies have found (Young, 2000; Poncet, 2002).

At political/personnel level, in the early years of 1990s, a performance-based selection system of local officials was introduced from above to below, with a fortification of the vertical appointing and monitoring political authority to guarantee the economic development and social stability (Zhou, etal, 2005). Under both political and fiscal constraints, local governments have to commit to having a better provision of local public goods and to improve infrastructure in order to foster the rapid economic growth in localities, and have had substantially increased the share of local spending relative to local GDP in order to create and bid for a destination for more investments, including inflow of foreign direct investments.

Given the background of institutional change and resultant mechanism for investment expansion at local level, it is not surprising to observe the rising ICOR or worsening efficiency of investment in China after a decade long experience of efficiency improvement in 1980s. As an important evidence supporting this observation mentioned above, my

recent study of China's provincial economic growth experiences finds that Total Factor Productivity has grown much less since mid-1990s in China, as shown in Figure 6, reflecting the increased congestion and distortion of investments (Zhang, Wan and Jin, 2005). In the appendix of this paper, both the data and a standard growth accounting methodology used to produce such series of data for Chinese provinces are presented.

Figure 6. Total Factor Productivity and the Growth Rate of TFP: 1987-2001
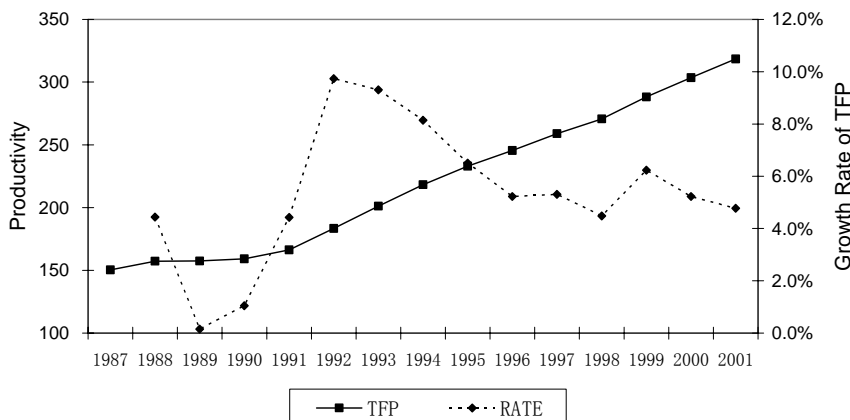
4. Concluding remarks

In this paper we have analysed China's investment-growth nexus in the context of the high growth experiences of East Asian economies. Through an examination of the pattern of real investment/GDP ratio and the incremental capital output ratio during the period of high growth, the paper shows that, while in 1980s China performed better than most East Asian economies in terms of efficiency, some signals of excessive investment has become apparent since mid-1990s, primarily as a result of intensified interprovincial excessive competition.

In 1980s, China's economic growth was propelled largely by the rural industrialization, and thus was facilitated by the sectoral shift of rural labor from family farming to industrial manufacturing activities in township and village enterprises. This process of rural industrialization has been extremely beneficial to economic growth, since China has an

almost unlimited supply of cheap rural labor, enabling the sustained sectoral shift of labor to generate improved allocative efficiency that has, in turn, led to more rapid growth.

Theoretically speaking, as long as proliferation of small-sized firms and competitive firms can be encouraged to continue on, and China can increasingly integrate its much of economy into the global markets, and at the same time to integrate its domestic markets, China can maintain its high growth without facing a substantial rise in its investment /GDP ratio or capital-labor ratio. In practice, a further requirement is that China should continue to liberalize its economy, enable and encourage the private sector to expand quickly and play the overwhelming part in China's future sustained growth. This, however, requires a continued and commited reform in the intergovernmental fiscal relationships (IFRs) in China to contain the intergovernmental excessive competition.

Appendix: Growth Accounting for Total Factor Productivity in Chinese Provinces: 1987-2001

According to Solow (1957), we assume a aggregate production function with neutrality of technological change as follows：

$$Y = A_t f(K, L) \tag{1}$$

Differentiating with respect with time and dividing both side of above function with output Y, we have：

$$\frac{\dot{Y}}{Y} = \frac{\dot{A}}{A} + w_K \frac{\dot{K}}{K} + w_L \frac{\dot{L}}{L} \tag{2}$$

Let us define $w_K = \frac{\partial Y}{\partial K} \frac{K}{Y}$ as output elasticity of capital and $w_L = \frac{\partial Y}{\partial L} \frac{L}{Y}$ as output elasticity of labor. Assuming further above function is homogeneous with degree one, then $w_K + w_L = 1$. Let $y = Y/L$ and $k = K/L$ represent output per head and capital per head, then：

$$\frac{\dot{A}}{A} = \frac{\dot{y}}{y} - w_K \frac{\dot{k}}{k} \tag{3}$$

Given equation (3), the total factor productivity and growth of total factor productivity can be accounted for.

In carrying out this accounting, we use the CCES dataset developed by China Center for Economic Studies at Fudan University. This dataset covers Chinese 29 provinces and municipalities for the period 1987-2001. For producing a consistent provincial real capital stock, which is based on real capital stock dataset for the period 1952-2001 developed by Zhang, et al., (2004), we adjusted the base year of capital price index from 1952 into 1987.

Table 10: Productivity and Its Growth in Chinese provinces for Selected Years

Provinces	1988a	1988b	1993a	1993b	1998a	1998b	2001a	2001b
Beijing	275	6.05%	322	10.00%	414	8.25%	495	5.65%
Tianjin	230	3.56%	274	6.05%	412	5.46%	586	7.15%
Hebei	145	7.14%	190	9.84%	255	3.81%	290	5.64%
Shanxi	132	3.50%	161	4.55%	205	5.06%	220	4.42%
Inner Mongolia	167	3.76%	187	2.52%	248	6.03%	300	6.02%
Liaoning	239	5.69%	274	7.09%	366	5.78%	455	5.06%
Jilin	199	6.15%	215	6.93%	309	5.80%	401	6.84%
Heilongjiang	200	4.01%	238	4.61%	302	2.75%	365	6.29%
Shanghai	330	4.44%	404	5.93%	570	6.44%	790	4.75%
Jiangsu	198	10.32%	263	11.20%	383	5.13%	465	5.74%
Zhejiang	186	4.16%	259	13.05%	369	4.86%	418	3.64%
Anhui	136	-0.84%	162	12.00%	240	3.23%	276	4.75%
Fujian	172	8.11%	264	15.33%	387	4.94%	439	4.29%
Jiangxi	128	7.41%	162	7.29%	227	4.79%	272	4.77%
Shandong	164	5.74%	226	13.11%	287	5.08%	363	0.07%
Henan	119	2.68%	146	10.15%	193	1.42%	208	5.77%
Hubei	178	2.96%	230	8.77%	324	4.27%	374	3.72%
Hunan	141	1.96%	178	8.06%	239	4.28%	284	5.39%
Guangdong	206	-10.38%	308	11.52%	405	3.79%	462	3.64%
Guangxi	101	1.53%	144	7.16%	167	2.95%	183	3.93%
Hainan	148	3.41%	193	6.13%	194	4.01%	227	4.44%
Sichuan	97	2.97%	128	9.60%	173	5.34%	197	5.08%
Guizhou	91	2.88%	108	6.47%	138	2.61%	144	2.90%
Yunnan	107	11.00%	124	4.20%	156	2.65%	169	2.74%
Shanxi	133	13.20%	155	7.93%	205	5.89%	239	6.41%
Gansu	111	8.12%	132	2.95%	171	4.77%	233	4.99%
Qinghai	130	3.25%	138	2.28%	166	3.81%	197	5.47%
Ningxia	120	7.16%	139	5.78%	175	5.74%	193	4.42%
Xinjiang	149	4.80%	191	3.55%	235	7.02%	268	3.49%

Note(1) a: the level of TFP; b: the growth of TFP; (2) Taiwan, Hong Kong, and Tibet are not included   because of lack of data; (3) Chongqing, though has become the province-equivelent municipality since 1997, is still included in Sichuan province.

Most studies find a range of output elasticity of capital between 0.3-0.6, and around 0.3 for China, therefore we assume a value of 1/3 for China in conducting this accounting. Another assumption is that we assume the output elasticity of capital is unchanged across the provinces, considering the fact of the mobility of factors within China. The result of accounted TFP for selected years is presented in Table 10.

Notes

1. In his paper titled "Lessons from the East Asian NICs: A Contrarian View", Young (1993) concludes that one of the most important characteristics of the East Asian NICs lies in their successful expansion of investment and employment in manufacturing rather than in their striking growth rate of productivity, thus they deserve the title of "industrialization". In his elegant article, Krugman (1994) presents a critical comment on the Asia Miracle in a non-technical way. Felipe (1999) offers a majestic literature survey about East Asia's economic growth and efficiency change.

2. E.g., according to the definition given in *China Statistical Yearbook (NBS, 2001)*, total social investment in fixed assets covers: investment in capital construction, investment in renovation and renewals of existing facilities, investment in real estate development, investment in other fixed assets by state-owned units, investment in other fixed assets by collective-owned units (including those in cities and towns, and rural areas), private investment in house construction (in cities and towns, industrial and mining areas and rural areas).

3. Between 1981 and 1985, the rate of investment in fixed assets in Singapore rose to 46%, which probably reflected the high growth speed of its investment in capital construction. According to Toh and Ng (2002), more than half of investment was spent in residential housing and construction.

4. E.g., as Toh and Ng (2002, pp54-55) have pointed out, more than half of investment during the investment peak in Singapore in 1981-1985 was attributed to the construction boom.

5. The proportion of investment of housing in China is lower than that in Hong Kong, but is similar to Taiwan's. The average proportion of investment in housing was 12.6% in Hong Kong during 1966-98, and about 6.8% in Taiwan. See Toh and Ng (2002, Table 1).

6. "Investment by other type of ownership" includes all investments made by such investors as joint ventures across ownerships, share-holding companies, FDI, and overseas Chinese from Hong Kong, Macao and Taiwan, etc.

7. E.g., the investment financed through the state budget only accounted for about 10% of total investment in capital construction of the year 1998. See *China Statistical Yearbook* (NBS, 2001, 6-6).

8. According to Toh and Ng (2002), during the same period, Hong Kong's public investment rate was much lower, only about 3.7%.

9. The ICORs of Hong Kong, Taiwan and Singapore are mentioned and illustrated in Toh and Ng (2002, Fig. 5).

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CHAPTER 11

**CORPORATE GOVERNANCE AND STATE-OWNED
SHARES IN CHINA LISTED COMPANIES**

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During the last decade, China public listed companies' (PLCs) performance is growing weakly and governance practices are seriously defective. Some of the previous studies based on practice of developed economies overlooked the underlying issues, and the empirical researches are mixed. This paper argue that, from the beginning of the reform of restructuring China state owned enterprises (SOEs) into PLCs, the concern about the potential loss of state assets made the ownership split into three different type of shares, with only a small fraction of A-shares are tradable, and the state keeps on holding the controlling share stakes. This special institutional arrangement rooted deeply in China political system and ideology, as well as in the economic reform strategy, explains large part of the inefficiency of corporate governance of China PLCs. After an unsuccessful policy practice in 2001, in which the government's objective aiming to finance its huge social security fund gap conflicted with that of market, it should be realized that there are two major unknowns: the time and the pricing mechanism of the state shares to be reduced, which are crucial to the future of China capital market and economic development

1. Introduction

Since early 1990s, stock market has been playing a growing important role in reshaping China financial system. It's expected that the market could improve the performance and corporate governance of public listed

companies (PLCs). However, the actual performance are growing weakly and governance practices are seriously defective, characterized by insider control and collusion, lack of safeguards for minority shareholders and weak transparency etc.. Most of previous studies based on theories and practice of developed economies attribute these flaws to factors such as culture, uncompetitiveness of markets, poor legal enforcement, inefficient debt and equity market. The empirical researches are mixed. For example, Tian(2001) argues that " corporate value increase with increased state shareholding when the government is a large shareholder"; Xu and Wang(1999) suggested that while the state share is negatively related with performance, the large stakeholder of legal persons, or institutional investors, has positive effect. The policy of "speeding fostering institutional investors" by China Securities Regulatory Commission (CSRC) in this vein in 2002, resulting in massive collision and price manipulation between these investors, has been criticized widely.

Without the understanding of the fundamental underlying issue, the share structure, especially the role of state-owned shares playing in corporate governance of China PLCs, it might be impossible to make meaningful results.

As the state owned enterprises (SOEs) reform started in China about two decades before, the government was concerned about the potential loss of state assets if all shares of a restructured SOE were to be freely traded. As a concession, the ownership of each enterprise was split into (1) state share; (2) legal persons shares and (3) common domestic A-shares. After the opening of two stock exchanges in the beginning of 1990s, with only a small fraction of A-shares are tradable, the state keeps on holding the controlling share stakes. This is different from both advanced and other transition economies, explains large part of the inefficiency of corporate governance of China listed companies. This special institutional arrangement rooted deeply in China political system and ideology, as well as in the economic reform strategy.

The rest part of the paper is organized as follows.

After a description of the corporate governance and shareholding structure of China listed companies in section 2; an in-depth historical and institutional analysis of the formation of state-owned share given in section 3; section 4 then reviews an important reform attempt of 2001,

through which the government tried to resell its illiquid shares gradually. The reform arose dramatic market turbulence, lasting for less than half a year and then called off, because the government's objective, aiming to finance its huge social security fund gap, conflicts with that of market; section 5 makes some concluding remarks.

2.   Corporate governance and Share Structure

2.1.   *The role of PLCs in Chinese economy*

Over the past decade or so, China state owned enterprises (SOEs) underwent significant reforms, about 80 percent of all small and medium-sized enterprises have been sold to employees and outside investors, more than 1200 large enterprises restructured into public listed companies (PLCs). Meanwhile, stock market had been introduced and growing rapidly, expected to play an important role in reshaping China traditional bank-dominated financial system. By the end of 2002, total market capitalization of PLCs reached 4100 Billion RMB, about 40% of China's GDP. The output of PLCs amounted about 18% share of China GDP, and distributed in a variety of key industries in the whole economy. The restructuring of SOEs to PLCs has demonstrated as a "model" for the overall reforming SOEs. However, the performance measured by earnings related indicators of PLCs have been continuously falling throughout many years. For example, PLCs' profit per share dropped from 0.35 RMB in 1993 to 0.20 RMB in 2000, the average annual declining rate is 7.7%.

Why did China PLCs perform so poorly? It is hard to be attributed to macroeconomic factors, since during the same period, the yearly growth rate of China GDP is about 8%, and the other kind of enterprises, such as township and village enterprises and foreign invested enterprises performanced quite well.[1] Hu ect. (2003) provides another explanation arguing that most of the PLCs are in the so-called declining industries, such as primary and secondary industries, but considering of the current

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[1] For comparison, from year 1998 to 2000, ROE of the collectively owned medium and small enterprise are 11.03%, 12.96% and 13.61%, and the ROE of foreign invested enterprises are 4.05%, 8.19% and 12.37%, respectively.

development stage of China, such explanation also not hold. On the other hand, it is impossible to explain why the performance of PLCs is worsening so rapidly and continually, while the general industry composite of PLCs remains stable.

Table 1: Performance of China PLCs 1993-2000

Year	1993	1994	1995	1996	1997	1998	1999	2000
EPS(RMB)	0.35	0.32	0.25	0.23	0.23	0.18	0.20	0.20
ROE(%)	14.50	13.98	10.80	9.62	9.48	7.36	8.06	7.52
Deficit PLCs(Number)	0	2	17	31	41	77	79	97
Deficit PLCs as of Total (%)	0	0.68	5.26	5.85	5.50	9.16	8.32	8.7

Source: *Fundamental Analysis of China Listed Companies*, every issues; in the year of 2001 and 2002, the deficit PLCs as of total growth to 13.11 and 13.51 respectively.

It should also be noted that in China, in fact, only a clean and perhaps better performed group of SOEs could be chosen to be listed on the two exchanges. So, the most plausible explanation about the poor performance of China PLCs lies largely in themselves intrinsically, especially in their weak corporate governance, due to their unique shareholding structure.

2.2. Share structure

To begin with, let us have a look on the general share structure of China PLCs.

For a typical listed company in China, there are three major types of shares outstanding: state shares, legal person shares and common A-shares. Each type accounts for about one-third of all shares, entitled to the same cashflow and voting rights , but differentiate in the ways of exchange. Only the common A-shares can be publicly traded, while the legal person and state shares only transferable privately or through irregularly scheduled auctions.

Table 2: Share Structure of China Listed Companies (1994-2000)   (%)

Classes	**Brief Description**	1994	1996	1998	2000
State Shares	Held by the state and its varied ministries, bureaus and regional governments, in exchange for the capital contribution made by the State. Non-tradable; Transferable to other institution, under the approval of CSRC.	43.31	35.42	34.25	38.90
Legal person shares	Owned by domestic institutions, defined as non-individual legal entity; Commercial banks excluded by law; non-tradable; transferable to other institutions under the approval of CSRC.	22.44	27.18	28.35	23.82
Tradable A Shares	Held and trade mostly by domestic individuals and institutions; in IPOs, tradable A shares should account for no less than 25% of total outstanding shares.	33.02	35.25	34.11	35.72
Employee Shares	Offered to workers and managers of PLC, usually at a substantial discount.	0.98	1.20	2.05	0.64
Shares denominated in foreign currency	Including B-shares and H-shares. Till 2000, B-shares available exclusively to foreign investors, separated from A-share market; H-shares are listed and traded on Hong Kong market.	12.02	13.33	10.05	7.28

Sources: China Securities and Futures Statistics Yearbook, 2001.

State shares are held by the central and local governments, which are represented by local financial bureaus, state asset management companies, or investment companies. State shares can also be held by the parent of the listed company, typically an SOE. They are not tradable. Legal person shares are held by domestic institutions such as industrial enterprises, securities companies, trust and investment companies, foundations and funds, construction and real estate development companies, transportation and power companies, etc. These institutions are further classified according to their ownership structure as SOEs, state-owned nonprofit organizations, collectively or privately owned enterprises, joint stock companies, etc. Legal person shares are not tradable. Tenev, Zhang & Breford (2002), based on a survey of Shanghai Stock Exchange, estimates that in 1999, in more than 95 percent of the cases, the state is directly or indirectly (through industrial SOEs) in control of listed companies.

Table 3: The Ratio of State-owned and controlled shares in China PLCs (2001)

Largest shareholder		Ratio as of the total number of PLCs	Ratio of largest shareholder as of the outstanding
State as ultimate controlling shareholder	Direct control	8.5%(94)	39.6%
	Indirect: SOEs	75.6%(836)	47.3%
	State-controlled PLCs	1.4%(15)	52.3%
	Solely SOEs	32.6%(360)	49.7%
	State-controlled Non-PLCs	40.6%(449)	45.4%
	State-owned institutions	1.1%(12)	39.0%
Total PLCs controlled by the State		84.1%(930)	46.5%
Total PLCs controlled by non-state		15.9%	34.8%
Total		100%(1105)	44.6%

Liu etc., (2003, p.53).

In a recent research of Liu ect. (2003), in the vein of La Porta, Lopez-de-Silanes and Shleifer (1999) "the principle of ultimate ownership", they surveyed 1160 PLCs of China in 2001, the government ultimately controlled 84% of PLCs, in which 8.5% directly, 75.6% indirectly by "pyramid shareholding schemes".

Compared with most developed countries, the ownership concentration of China's PLCs is not so high, while the prominent feature of the ownership structure is that the state can be identified as the ultimate controlling shareholders. Compared with most emerging economies, in terms of types of largest shareholders, China differs from theirs as to the absence of significant ownership by individuals and families, the negligible role of financial institutions and institutional investors, and the state playing an important role. Although many SOEs have been transformed into modern PLCs, yet the ultimate state ownership is still retained, so they also retain the same flaws of old SOEs. These features have a direct bearing on the corporate governance issues that China PLCs are facing.

2.3. *Critical impediments to corporate governance of China PLCs*

In context of this study, corporate governance is defined as a set of instruments and mechanisms (contractual, legal, and market) available to

shareholders for influencing managers to maximize shareholder value and to fixed claimants. It relates to determine how: (1) the rights, interests and responsibilities of owners and stakeholders are defined, exercised and protected; (2) the managers are selected and oversighted by shareholders; (3) the balance of managerial powers and responsibilities are mandated and executed within a structure of checks and balances without stifling managerial entrepreneurship.

In developed countries, basically two different patterns in corporate governance can be classified, the Anglo-American pattern and the German-Japanese pattern. In the former, share ownership is dispersed, and unsatisfactory performance is sanctioned by shareholders selling shares or by hostile takeover; in the latter, core investors, such as commercial banks, with significant stakes have both the incentive and ability to monitor and control the managers. Putting briefly, either the market discipline or the financial institutions plays a critical role in different corporate governance patterns.

There have been heated debates on the benefits and drawbacks of the two patterns. Theoretically, both can find their roots in literature. Fama(1980), for example, argued that if a firm is viewed as a set of contracts, ownership is a concept irrelevant. A properly functioning manager market may discipline managers and solve incentive problems caused by the separation between ownership and control. Jensen and Ruback (1990) emphasized that the role of the market for corporate control and the takeover has restricted nonvalue maximization behavior of top corporate managers. However, economists argue that ownership matters because it affects, at least to some extent, the working of the markets. Shleifer and Vishny (1986) developed a model to demonstrate that a certain degree of ownership concentration is desired for the takeover market to work more effectively. Large shareholders are able to capture a chunk of the gain from monitoring and are likely to supply it at levels that would be otherwise impossible to reach in diffusely held firms.

Empirical studies so far have presented mixed results regarding the debate on the market verse ownership approaches.

For transition economies, important issues can be addressed: how corporate governance mechanisms have changed after privatization or corporatization; whether outsider investors' interests are protected by law;

and to what extent these changes have led to improvements in corporate governance. In light of financial crises in East Asia, it is timely and crucial to study issues related to corporate governance. China can be identified as both transition and emerging economy, with its special features and problems of shareholding structure.

2.3.1. *Ambiguous property rights and multi-level principal-agent relationship*

The separation of ownership and control is a common feature of a large modern corporation. Since the owners cannot operate the firm themselves and have to delegate the control to managers, due to information asymmetry and incentive incompatibility, there is principal-agent problem. Though some argue that "the nature of those principal-agent problems may differ little depending on whether ownership is public (state) or private" (Stiglitz(1994)), property rights theory generally suggests that state ownership is inefficient.

In China case, under a system of ownership by all the people, property rights belong to everyone and to no one in particular, and the property right of state ownership is intrinsically ambiguous. The state-dominated PLCs share the traditional principal-agent problem of SOEs, in which there exists a long and multiple series of principal-agent problems among central government, line ministries, local governments and managers. The state assumes the role as representative of the people and acts as the principal on behalf of the public, but the controlling authorities, e.g. central government line ministries and local government, which exercise de facto ownership rights over PLCs in reality do not bear any residual risks over the control and use of an SOE's assets. Although the top priority of governments is stated as "preserving and increasing the value of state properties", the value of state assets is not easy to be determine given only the book values are used, which have nothing to do with a company's profitability, and it is difficult to verify which decision made by the management are value increasing or not. Officials may not have sufficient incentives to preserve and increase the value of state properties.

Documented abuses by the controlling shareholders include soft loans from listed companies on a long-term basis; the use of listed companies as

guarantors to borrow money from banks; and the sale of assets to listed companies at unfair prices, usually without an appraisal by an independent evaluator. Given the historical relationship between listed companies and unlisted parent companies, the latter implicitly assume that listed companies will and should help a parent company if the need arises. Similarly, if the listed company comes under pressure—for example, if it has to satisfy an earnings requirement for a share placement—it may call on the parent company for help, for instance, by buying assets from the listed company to create exceptional gains for the latter. Interference by the parent company may also include transferring and appointing listing company personnel at will. This type of interference has often resulted in major difficulties for listed companies. As some listed companies have tens of thousands of individual investors, abuses of this sort can have a major impact on social stability and on market confidence.

So in a sense, there can hardly be found the real owners and agents in this institutional setting. And such systemic features of SOEs as soft-budget constraints, the lack of independent financial accountability and the impossibility of bankruptcy, undermine the incentives and disciplinary mechanism essential to corporate governance of PLCs.

2.3.2. *Weak managemental incentives and market discipline*

Perhaps the most important implication of the dominant role of state ownership in China's listed companies is the control that the government can exert over management appointments and incentives, and thereby over companies' behavior. Generally, the board of directors is the critical link between ownership and corporate governance. According to a survey of corporate governance practices among companies listed on the Shanghai Stock Exchange conducted in early 2000 by Integrity Management Consulting and the Research Center of the Shanghai Stock Exchange, shareholders at that time appointed 76 percent of the directors of listed companies (table 4)[2]. State and state-owned legal person share-holders

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[2] In the survey, total of 10,560 questionnaires were sent to the directors, supervisors, and senior managers of all companies listed on the Shanghai Stock Exchange at that time, of which 9,600 were individual questionnaires, 480 were enterprise questionnaires, and 480

were the most influential, appointing 69 percent of all directors. Appointment to managerial positions has been ultimately politically determined.

Table 4: Ownership and Control in China PLCs (%)

Shareholder type	Ownership	Control (board seats)
State	24	21
Legal persons	44	48
Employees	2	3
Common A shares	30	4
Total	100	76

Source: Survey by Integrity Management Consulting and the Research Center of the Shanghai Stock Exchange (2000).

In China, managerial job markets are underdeveloped, especially in the state-dominated PLCs, most board members and managers are still having a corresponding status of civil service, their remuneration promotions are still relying on the assessments of their superiors in the political and administrative hierarchy rather than market performance. Commercial banks and other financial intermediaries are ruled out holding shares of firms, and thus play no role in corporate governance. Because shares that cannot be traded freely account for 65% of the total, stock prices almost have quite weak relation with PLCs performance, and market discipline does not work in improve the corporate governance. When a large portion of a company's ownership is locked up and illiquid, stock price manipulation (especially coupled with insider information) becomes easy and it gives market participants much incentive to do so. Till recently, those PLCs that performed poorly in previous years, thus their shares having been marked as ST(Special Treatment) and PT(Particular Treatment) , have relatively high stock price, due to price manipulation.

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were financial data questionnaires. The response rate was 41 percent for the individual questionnaires, 54 percent for the enterprise questionnaires, and 50 percent for the financial data questionnaires. Extensive information about corporate governance practices was thus obtained for 257 listed companies.

Company managers do not have to worry that poor management may cause their company facing the threat of being taken over. In other words, holders of public shares cannot "vote with their feet" and managers are not concerned about the rights of public shareholders.

3. How Did the State Shares in China PLCs Take Shape?

As discussed above, China PLCs shareholding regime and corporate governance have distorted the effect of market mechanism and caused inefficiency. The present characteristics of ownership and governance have been largely shaped and will continue to be influenced by the overall SEOs reform strategy and the political and ideological debates.

3.1. *China economic reform strategy*

From the beginning, SOEs restructuring has been widely viewed as the key to the success or failure of reform both in China and other central-planning economies. Two competing approaches have been proposed: the market approach and the ownership approach. The first is based on a belief that if the markets for products and factors are created, and corporate control is established and functions well, efficiency improvements of SOEs can be achieved without dramatic changes in ownership. Proponents of the second approach argues that private ownership is necessary for enterprise efficiency. Considering the two alternative views, while in Russia and Eastern Europe, radical ownership reforms were put in place at an early stage of reform, China has adopted a reform strategy that gives priorities to fostering markets and nurturing institutional changes, characterized as the "gradualism" strategy controlled by government.

Since early 1980s China has been seeking to improve SOEs corporate governance, which was then simply articulated in the term of "separation of government from management", trying to form a "modern company system". In the late 1980's, many SOEs were converted into stock companies, and further into PLCs in the beginning of 1990s, when the two national stock exchanges were introduced. In November 1993 the CPC

Congress formulated the most important policy regarding SOE reform aiming at the creation of a "modern enterprise system," with its corporate structure, governance, and management based on the principle of corporatization, and with provisions for full separation of the state's exercise of ownership rights from the enterprise's exercise of legal person property rights. The Company Law, promulgated at the same time, provided the legal underpinnings for the concept of a modern enterprise system providing rules for the incorporation of all enterprises of different ownership types into limited liability companies and limited liability shareholding companies, and specified governance structures, rules regarding the transfer and sales of shares, and procedures for mergers and bankruptcy.

Today's ownership and governance characteristics of listed companies in China are largely shaped by the past incentives structure of the listing process. At the 1997 CPC 15th Congress, the Central Committee endorsed both the corporatization of large SOEs and the restructuring of small SOEs, and decided to accelerate the speed of reforms. The central component of the reform program was "grasping the big, and enlivening the small". The notion of grasping the big involves two related sets of reforms. First, the government is creating a number of large enterprise groups with extensive cross-ownership by encouraging mergers in core industries. Second, the government is encouraging those enterprises performing better to be listed on the stock exchange to promote ownership diversification and raise funding for restructuring.

The government introduced stock markets partly as a means of financing for the state sector. Though many empirical researches argue that equity financing plays a minor role for firms external fund(Mayer,1990), and the principal function of capital market is providing price signals through stock trading for resource allocation, in China, it has been widely believed or misunderstood that newly established stock exchanges could play a key role for supporting loss-making SOEs, local governments operating under increasingly hard budget constraints appreciated the feature of limited liability as an opportunity to get off themselves from continuously underwriting SOEs' liabilities, and under the quota system, local governments were responsible for selecting what companies were to be listed. Local

governments tended to give preference to companies that were under their control, urgently needed capital infusion, or socially important. Such criteria would not necessarily result in the selection of the most dynamic, successful, and high-growth companies. They also created a bias against private sector companies.

While the Company Law stipulated various criteria for listing in accordance with the regulations in successful developed markets, these criteria were insufficient to play a screening role. For example, the law allowed the companies to be listed as divested from SOEs or large and medium SOEs to use pro-forma profit records. This provided incentives to establish SOEs for the specific purpose of listing, a trend that came to be known as "packaging for listing." The packaged shell companies often did not have a meaningful track record, and their business models were at times ad hoc. Thus the companies that are listed on China's stock exchanges are mostly SOEs. They have strong links with the government, especially local governments, and their boundaries with their parent groups are relatively new and often artificial. (Tenev, etc., 2002).

3.2. *Ideological, Political Constraints of PLCs*

What is distinctive from the experience of China PLCs corporate governance hitherto is that, quite different from other transition economies, political and ideological factors precluded real property right reform in the state sector.

The SEOs corprotization reform practices since early 1980s has laid the foundation of the landmark " Decision on the Problems of Establishing a Socialist Market Economy", adopted by the 14th Congress of Communist Party of China in Oct. 1993, which for the first time stated that the objective of reform was the establishment of a modern "socialist market economy" with "Chinese characteristics", i.e. a competitive market system characterized by the predominance of public ownership. Since the government concerned politically and ideologically about the potential loss of state assets if all shares of a restructured SOE were to be freely traded, as a concession, the ownership of each firm is split into (1) state share; (2) legal person shares and (3) common A-and B-shares, with the

restriction that no shares would ever be floated. Regardless of share type, the holder of each share is entitled to the same cashflow and voting rights.

The government subsequently introduced a series of complementary reforms to build the institutional mechanisms for control consistent with the corporate form. While increasing the autonomy of SOE management, the government was also seeking to strengthen the supervision of state property, but in ways consistent with the new form of enterprise autonomy. In 1994 the government issued supervision regulations that provided the legal basis for the emerging network of state-owned bodies designed to supervise SOE property. The aim, although not yet fully realized, was to move toward an indirect, delegated form of control in line with the tenet of separation between ownership and management.

So, it's obvious that the policy of restructuring SOEs into PLCs was taken as an alternative to, and as a means of avoiding privatization, failed to address the fundamental property right issue. Moreover, in case that the state is the controlling shareholder, and the state shares are not to be traded, it is possible for the state to control more social assets with relatively less state assets, this allowing the state sector play a leading role in relation to other sectors at the enterprise level in a mixed economy.

As the worsening performance of SOEs and state-dominated PLCs's were widely known and being criticized, the 15th Congress of CCP in the fall of 1997 announced the policy of ownership diversification of the state sector, and made explicitly clear that "shareholding system" was indicated as a means of reforming SOEs. While many researchers hailed it as giving a green light to massive privatization, but it also reiterated that public ownership should continue to remain dominant in China economy. [3]Similarly, a decision of the 4th Plenum of the 15th Party Congress (Sept. 1999), and the State Planning and Development Commission's (SPDC) Jan. 2000 statement elaborating on this decision, reaffirmed that while state ownership would be reduced in a number of sectors, it would remain dominant in industries of strategic importance such as infrastructure, key

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[3] In the report, although there is a striking statement that "public ownership can and should be realized in many possible institutional forms", it still emphasis that "the shareholding system" "all depends on who has the controlling stakes of share".

producer goods, etc. Few specific practical measures for divestiture have in fact been formulated.

The 16th CPC Congress held in Nov., 2002 called for to establish a new state asset management system, "unifying the duty of managing assets, personnel and affairs"; and till very recently, in the news conference held by the newly established State-owned Assets Supervision and Administration Commission (SASAC) on 22th, May, 2003, the controlling role of state assets has been once more emphasized.

4. Failed practice of state share reselling in 2001

From the above discussion, it is clear that the poor performance of China PLCs is closely related with the state dominated shareholding structure in most of PLcs, because it has distorted a balanced corporate governance structure from inside and destroyed the market discipline from outside. Fortunately, in June, 2001 State Council of China started to launch an ambitious reform to resell state shares gradually; but unfortunately, this reform lasted only for 4 months, failed in a dramatic market turbulence.

4.1. Why and how the state decided to resell part of state-owned shares in 2001?

Corporate governance has moved to the center stage of enterprise reform in China in recent years[4], and the fourth plenum of the Chinese Communist Party's 15th Central Committee held in September 1999 decided to calls for "strategic adjustment" of the state sector by "withdrawing what should be withdrawn". One of the measures that put out officially for the first time was the permission to resell part of state shares. Though this policy transformation maybe one of the backgrounds of currently hot-debated issue, it should not be regarded as the direct and

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[4] It's documented that in an international symposium "China Economic Reform: Next Step", held in Beijing, 1994, Professor Aoki and Qiang from Stanford University, first introduced the concept of corporate governance into China, and contributed to China SOEs reform.

decisive force of year 2001's reform, since the "decision" also made it clear that "under the prerequisite of state-controlling, resell part of state-shares to financing SOEs reform and development".

In fact, the real and direct incentive to resell part of state shares is that the restructuring of SOEs and state-dominated PLCs are facing some difficulties in reality: huge deficits and inadequate of social security coverage. According to a recent survey of China central bank (People's Bank of China), by the end of 2000, 51.2% of the 62,656 enterprises failed to repay their bank debts. The nonperforming loan ratios in the state-owned banking system are estimated at between 25% to 30%. While the poor financial performance of a large number of SOEs, including state-controlled listed companies, imposes a severe burden on the banking system, and is also a potential threat to financial stability, unemployment concerns are still making real restriction to further reform on SOEs and PLCs. This underscores the urgent need to establish a modern social security system to provide a social safety net.

In March 1998, the Ministry of Labor and Social Security was established aiming at introducing a comprehensive new social security system and the government has adopted a three-pillar approach to pension reform, namely: (a) a mandatory pooled fund to include all SOE employers administered by cities or provinces, (b) mandatory individual accounts managed by cities or provinces and funded by employer and employee contributions, and (c) voluntary supplemental accounts set up by enterprises. In February 2001 the government established the National Social Security Fund and the National Social Security Council to create a supplementary pension system.

The implementation of these plans has encountered a number of obstacles, most severe of which is the implied pension deficit has been rising. The existing system has not generated enough reserves nationwide for the transition to a fully funded system, and a comprehensive national system is still not in place because the central government offered cities a choice of different options, and because economic growth rates and labor market conditions vary across regions. Thus, finally, growing enterprise arrears and municipal deficits have been shifted upward to the Ministry of Finance , which had hoped to sidestep this responsibility but was unable to do so. In 1997 MOF transferred money to help cover deficits in 5

municipalities. By 1999 it transferred more than 18 billion yuan (US$2 billion) to help 21 municipalities make pension payments, and by 2000 this amount had almost doubled to 34 billion yuan (US$4 billion) in 25 municipalities, or 17% of total pension spending. These deficits are expected to grow by leaps and bounds over the next few years, as the number of pensioners expands. The MOF had a sense of urgency to find a long-term solution (James, 2002). Since the MOF is the ultimate representative of state assets, it had to sell its state shares to compensate the huge social security fund gap. This policy seemed good to the financial market, but turned out to be unsuccessful.

On 12th, June, 2001, the State Council announced "the Tentative Measure of Reselling State Shares to Finance the Social Security Fund", in which under an initial public offering (IPO) or under a seasoning offering of an existent PLC, the government would resell its shares (up to 10 percent of the offering), and these proceeds should be channeled to the National Social Security Fund. However, since the MOF decided to resell its non-trade shares, which are generally agreed over-valued, at the market price as that of the tradable common A-shares, the Shanghai Composite Stock Index dropped dramatically by 32%, from 2245 on 12th, June, 2001, to 1514 on 22th, Oct. Then the China Securities Regulatory Commission had to suspend the reform in a hurry.

4.2.   *Conflicts between the government and the market*

Generally, there is no disagreement between the government and market considering the reselling of state shares; however, as for the targets and measures of reselling, conflicts exist. The market expected the policy could help to readjust state economic structure, withdrawing from most of the competitive industries, improving corporate governance and resuming market discipline by lessening shareholding in PLCs, but the government focused on financing the huge social security deficit, with the state shares reselling at a relative high price, and retains the controlling position in PLCs. Different targets of reselling determined the concrete measures to be taken, and the focus of the game concentrated in the pricing of state shares to be sold.

In this game, the government as the largest stake holder is of dominant priority, but the individual investors can react passively by leaving the market. Historically, in fact, the state shares were over-valued in the process of going public. Under a quota system controlled by government, the government or an SOE as sole or major initiator of a PLC is inevitable to be the largest shareholder, and endowed with strong bargaining power in its assets valuation and discounted its assets into shares. Though hard to calculate, it is widely believed that the state shares are deliberatively enlarged and over-valued from the beginning. More over, under the implicit commitment of the non-tradable of state share, which making up about two-thirds of all the shares, the IPO price of common A-shares are much higher than its intrinsic value, means the individual investors had contributed too much to the PLCs. This can be evidenced from the higher P/E ratios of most of China PLCs. The market reasonably argues that the state shares should and could only be sold according to a PLC's net asset, rather than at the market price. If the government takes advantage of dominant priority, decide to resell its shares at current market price in the name of "using market mechanism", it is naturally an intervention of market, which result in nothing but the crash of market, as we have seen in the later part of 2001.

5. Concluding remarks

Till now, the reform of restructuring SOE into PLCs in China has not yet improved the economic efficiency of state sector. The internal corporate governance structure and external market discipline both weakened by the government overwhelming power in PLCs, with the state remains as controlling shareholder politically and ideologically.

Optimal resource allocation is unlikely to be achieved simply by creating capital market without changing the ownership structure of SOEs. The fundamental issue remains untouched; nevertheless, restructuring SOEs into PLCs has created a regime conductive to implementing measures for improving corporate governance, and there would be a Pareto improvement if the government reduces or sells off the shares it hold in the PLCs.

After an unsuccessful policy practice in 2001, it should be realized that there are two major unknowns: the time and the pricing mechanism of the state shares to be reduced, which are crucial to the future of China capital market and economic development.

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CHAPTER 12

FISCAL PERFORMANCE, PUBLIC DEBT AND FISCAL CONSOLIDATION IN KOREA[*]

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As for the East Asian countries, the total amount of government debt in Korea has risen sharply over the following several years in the wake of the Asian financial crisis. The purpose of this paper is to assess whether the current level of government debt is sustainable for a severely attacked country, namely, Korea. Under the intertemporal budget constraint model, the study tests for fiscal sustainability and examines whether there was any discernible change in the behaviour of government debt following the Asian financial crisis. Empirical analysis indicates that the levels of government debt are not sustainable in Korea. It also shows that the crisis contributes significantly to push the government debt in excess of its sustainable level. This urges policy attention for fiscal consolidation.

1. Introduction

Rapid accumulation of public debt can lead to severe macroeconomic problems and can impede control of the fiscal deficit itself. This is particularly relevant for developing countries where the need for public expenditure is high and where tax systems and public regulation and accountability are weak. The recent experiences of the Asian Financial

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Crisis have renewed interest in the problem of public debt for Korea. The total amount of government debt has risen sharply over the following several years in the wake of the financial crisis. This is mainly as a result of huge and persistent fiscal stimulus to speed up the recovery process from the crisis. For Korea, however, high public debt had more immediate consequences for economic performance such as debt crises and the resulting painful periods of economic adjustment.

The purpose of this paper is to examine the budget deficit and public debt problems of a severely attacked country, namely, Korea. A key issue is whether the recent level of its public debt is sustainable. Fiscal sustainability is essentially an intertemporal question. In this vein, several studies have devised and implemented tests of the intertemporal budget constraint: Hamilton and Flavin, 1976; Trehan and Walsh, 1991; Bohn, 1991 and 1998, Jha and Sharma 2004, to name a few. These methods typically examine the presence of fiscal sustainability by testing the time-series properties of government debt and fiscal deficits implied by the present value model, such as unit roots or cointegration relationships. Most of the subsequent studies have followed suit. The study applies the well-known test procedure by Hamilton and Flavin and Trehan and Walsh to the Korean case under study.

In a different context, Campbell and Shiller (1987) propose a method to assess the present value model of stock and bond prices. The study also applies this procedure to the tests of intertemporal budget balance. Their procedure makes full use of the model's structure and derives testable hypotheses. For example, one may test the restriction that the actual path of government debt is equal to the theoretical one implied by the present value model at every horizon. Presumably, the Campbell and Shiller model offers a more stringent test for fiscal sustainability than other methods mentioned above do. Their method also allows us to assess whether there was any discernible change in the behavior of government debt following the Asian Crisis. This task may not be accomplished with the use of unit roots or cointegration tests because there is only a short sample span since the Crisis. The situation is particularly acute for Korea in which only a yearly data are readily available.

The remainder of this paper is organized as followed. Section 2 provides an overview of the fiscal policy and budget structure in Korea

under study. Section 3 explains the current fiscal stance for Korea in regard to budget deficit and public debt. Section 4 assesses the fiscal performance in the aftermath of the financial crisis. Section 5 summarizes the general analytical background in relation to the present-value borrowing constraint and tests of sustainability and presents empirical results along with some policy implications for fiscal consolidation. Section 6 concludes the paper.

2. Fiscal Policy and Budget Structure

2.1. Fiscal Policy in Korea

Fiscal policy played a supporting role in the Korean industrialization process by contributing to the overall savings rate and by minimizing tax disincentives of investment. Though the focus of fiscal policy in Korea changed sharply over time, its major characteristics for the last four decades have included a relatively small public sector, comparatively low taxes, liberal use of tax incentives for saving and investment, heavy reliance on indirect tax, increased public savings, and relatively little emphasis on spending for redistributive social services. Korean fiscal planners applied the logic of supply-side economics much earlier than their counterparts in the USA and the UK.

Table 1: Fiscal Indicators, 1990-2003

(Unit: %)

	As a percentage of GNP			
	Budget expenditure	Total tax	Government consumption	Government saving
1995	13.0	18.1	11.2	9.1
1996	12.9	18.4	11.6	9.6
1997	13.8	18.0	11.6	9.9
1998	14.5	17.5	12.8	8.9
1999	15.1	17.8	12.3	9.1
2000	14.9	19.6	12.1	11.8
2001	15.9	19.7	12.9	11.0
2002	15.9	19.8	12.9	11.7
2003	16.2	20.4	13.3	11.6

Source: National Bureau of Statistics, *Major Statistics of the Korean Economy*, 2004.

Table 1 provides four indicators of the capacity of the government to influence the economy: share of the budgetary expenditures (general account) of the central government in GNP, the total tax burden, measured as a ratio of total (national and local) tax revenue to GNP, the government final consumption as a proportion of GNP, and the government saving rate.

Despite the heavy and active involvement by the government in activities of the private sector, the size of government, whether measured as budgetary expenditure as a percentage of GNP or the overall tax burden, is still somewhat low compared with that of other countries, developed and developing.

The total budgetary spending of the central government has fluctuated widely without showing any consistent trend. The share of government final consumption in GNP has fluctuated less than that of general account budgetary expenditures in GNP. Due to the concerted effort by the government to raise revenue, the share of total (national and local) tax revenue as a percentage of GNP, or the tax burden, increased from 18.1% in 1995 to 20.4% in 2003. There has been an almost uninterrupted increase in government savings when the government sector moved from a position of net dissaver to one of net saves.

2.2.   Size of Government Expenditure

Government expenditures have been basically restrained, with the ratio of the central government budget to GNP remaining at less than 24% throughout the 1960 to 2004 period.

The central government budget for 1990 inclusive of the General Account and the Special Accounts was 31.9 trillion won equivalent to 17.9 percent of GDP. Its ratio to GDP has been stable between 18% to 20% until the financial crisis in 1997. However it hiked to 23.7% in 1998 and thereafter has consistently stayed over 21% (see Table 2).

While the size of the General Account has varied by the equivalent path to the central government budget for the same time period, the ratio of the 22 Special Accounts to GDP has been declining since the crisis after it reached its peak at 8.6% in 1999.

Table 2: Central Government Budget and Its Components

(Unit: hundred million won, %)

Year	Central Government		General Account		Special Accounts	
	Amount	Percent of GDP	Amount	Percent of GDP	Amount	Percent of GDP
1995	729,150	19.3	514,981	13.6	214,169	5.7
1996	927,052	20.0	584,808	13.9	252,244	6.1
1997	924,642	20.4	639,621	14.1	285,021	6.3
1998	1,054,505	23.7	732,260	16.4	322,245	7.3
1999	1,145,482	23.7	732,260	15.1	413,222	8.6
2000	1,239,155	21.4	805,099	13.9	434,056	7.5
2001	1,374,808	22.1	986,685	15.8	388,123	6.3
2002	1,452,499	21.2	1,089,183	15.9	363,316	5.3
2003	1,586,479	22.0	1,172,229	16.2	414,250	5.8
2004	1,612,627	20.7	1,201,394	15.4	411,233	5.3
2005	1,673,186	19.9	1,343,704	16.0	329,482	3.9

Source: Ministry of Planning and Budget
Note: 1) Data for 2004-2005 are budget amounts and the rest, actual.

2.3. *Composition of General Account Expenditures*

An important characteristic of the central government expenditure pattern is that Korea had big share of defense expenditures and small share of social development expenditures until early 1990s and thereafter the share of defense expenditures has declined while the social expenditure share has increased. The shares of defense expenditures in government outlays have continuously declined to 16.5% in 2004. Social development expenditures remained smaller than defense expenditures and economic development expenditure though the social development expenditure has increased gradually to 13.7% in 2004.

There was a conspicuous change in the composition of the General Account expenditures in the aftermath of the financial crisis so as to stimulate the economy as well as to carry out restructuring policies; economic development (30.3%), education (16.6%), defense (19.3%), social development (9.8%) and transfers to local governments (9.6%) in 1998. In 2005, the composition is seen in a traditional manner besides more emphasis on grants to local governments and education; economic development (20.9%), education (20.1%), defense (16.2%), social development (13.0%) and transfers to local governments (14.5%) (see Table 3).

Table 3: Composition of General Account Expenditures

(Unit: %)

Year	National Defense	Education	Social Development	Economic Development	General Administration	Grants to Local Gov't	Repayment of Debt & Others	Total
1995	22.1	18.8	8.1	22.3	10.6	10.6	7.1	100.0
1996	22.1	18.9	8.6	22.4	10.7	10.9	6.4	100.0
1997	21.3	18.9	9.2	25.1	10.7	10.7	3.8	100.0
1998	19.3	16.6	9.8	30.3	10.0	9.6	4.4	100.0
1999	17.3	14.2	11.1	29.2	9.7	8.3	9.9	100.0
2000	17.7	14.5	13.1	27.3	9.3	9.5	9.6	100.0
2001	16.4	18.1	13.8	25.8	9.3	12.5	4.1	100.0
2002	16.0	17.2	12.7	29.4	9.3	11.3	4.2	100.0
2003	15.8	17.7	13.1	27.7	10.8	12.6	2.3	100.0
2004	16.5	18.5	13.7	25.2	9.5	12.0	4.6	100.0
2005	16.2	20.1	13.0	20.9	10.9	14.5	4.1	100.0

Source: Ministry of Planning and Budget, The Bank of Korea
Note: Data for 2004-2005 are budget amounts and the rest, actual.

3.   Budget Deficit and Public Debt

3.1.   *Consolidated Fiscal Balance*

Korea recorded a consolidated budget deficit of 18.8 trillion won in 1998, the biggest annual shortfall since the Republic's foundation in 1948, and 13 trillion won in the following year. Accordingly, the ratio of overall deficit inclusive of interest payments to gross domestic product (GDP) rose to 4.2 percent and 2.7 percent, respectively (see Table 4 and Figure 1).

However, the consolidated budget balance started to be positive ever since and peaked at 22.7 trillion won, 3.3 percent in 2002. This is over-stated due to the surpluses in the National Pension Fund (NPF). To better assess the financial soundness of the government, it is desirable to exclude the NPF from the consolidated balance. There are two more factors to consider in addition to the NPF in this regard. One is the net lending and the other is the repayment of restructuring bonds by the government.

Meanwhile, the government's consolidated fiscal balance posted a surplus of 5.6 trillion won in 2004, down 26.3 percent from 7.6 trillion won a year ago, as it spent more to boost the economy. The figure is equivalent to 0.7 percentage point of the nation's GDP, compared with 1.1 percent in 2003.

The sharp fall reflects expansionary policies and the adoption of a 4.5 trillion won supplementary budget. Total revenue in the government's consolidated budget reached 178.8 trillion won in 2004, up 7.8 trillion won from 2003, while total expenditures came to 173.2 trillion won, up 8.8 trillion won from a year ago.

The public fund, including pension funds and other social security funds, registered a 1.9 trillion won deficit in 2004, compared with a 2.8 trillion won loss a year earlier. When the operation of social security-related funds is excluded, the consolidated fiscal balance swung into the red, with a deficit of 3.6 trillion won. The balance of social security funds posted a surplus of 21.2 trillion won in 2004.

Table 4: Balance of the Central Government

(Unit: billion won, %)

Year	Revenue	Expenditure	Balance of the Consolidated Budget	
			Amount	Percent of GDP
1990	32,457	34,035	△1,578	△0.9
1991	37,486	41,508	△4,022	△1.9
1992	43,767	45,470	△1,703	△0.7
1993	51,548	50,735	813	0.3
1994	61,741	60,357	1,384	0.4
1995	72,820	71,579	1,241	0.3
1996	85,528	84,429	1,099	0.3
1997	93,368	100,327	△6,959	△1.5
1998	96,673	115,430	△18,757	△4.2
1999	107,923	120,988	△13,065	△2.7
2000	135,811	129,284	6,527	1.3
2001	144,033	136,765	7,268	1.3
2002	158,712	136,047	22,665	3.3
2003	171,945	164,303	7,642	1.1
2004	178,784	173,180	5,595	0.7

Source: Ministry of Finance and Economy

Note: △ denotes negative figures.

3.2.   Snowballing Public Debt

Persistently rising financial costs on the public funds used for financial
sector restructuring in the aftermath of the crisis in 1997 were a main
factor raising the budget deficit. This dramatically raised the nation's
net government debt by 41.7 percent to 71.4 trillion won in 1998 from
50.4 trillion won in 1997. The surge was attributed to the issuance of a
huge sum instate bonds and borrowings from international funding
agencies in order to raise badly-needed funds for corporate and financial
restructuring. When state-guaranteed liabilities are included, the
government debt snowballed by 125.8 percent to 143.4 trillion won in
1998 from 63.5 trillion won in 1997.

Figure 1. Consolidated Budget Balance Excluding National Pension Fund
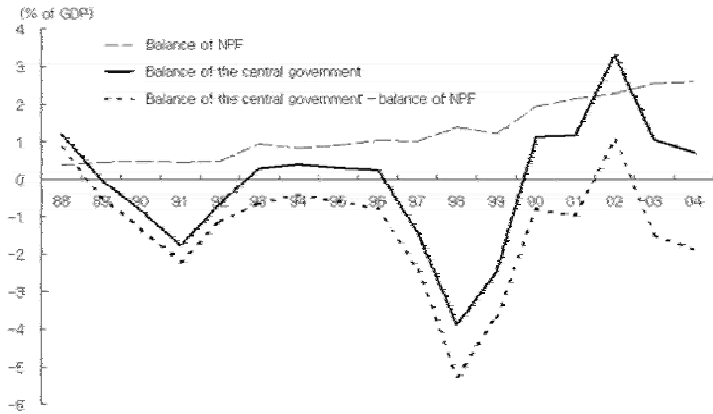
Source: Young-Sun Koh, *Reforming the Fiscal Management System in Korea*, Korea Development Institute, 2005.

Table 5: Central Government Debt and Its Components

(Unit: million won, %)

Year	Net Government Debt		Gross Government Debt	
	Amount	Percent of GDP	Amount	Percent of GDP
1990	24,545,165	13.8	31,733,273	17.8
1991	27,681,094	12.9	37,523,999	17.5
1992	30,974,113	13.0	44,661,890	18.7
1993	32,846,324	11.8	44,612,097	16.1
1994	34,431,893	10.6	47,756,087	14.8
1995	35,626,029	9.1	50,654,930	12.7
1996	36,827,642	8.8	44,439,726	9.9
1997	50,453,913	11.1	63,492,825	12.9
1998	71,437,309	11.8	143,390,657	29.6
1999	89,714,617	16.9	171,219,212	32.3
2000	100,941,585	17.1	175,506,957	30.3
2001	113,115,691	18.2	219,885,250	35.3
2002	126,629,739	18.5	229,101,094	33.6
2003	158,824,711	22.0	239,414,938	33.2

Source: Ministry of Planning and Budget
Note: Net government debt is the difference between gross government debt and state-guaranteed liabilities.

The skyrocketing amount of government debt is expected to pose a serious threat to the nation's economic development. Korea is worried that a dramatic rise in the government debt will derail the sound economic growth as has been seen in other countries, including the U.S., Britain, Germany and Japan. Korea's debt ratio to the GDP is still lower than that of some advanced economies, most of which vary from 50 percent to 70 percent. However, government debt, once it begins to accumulate, tends to surge continuously due to snowballing interest payment burdens (see Table 5).

4.   Fiscal Policy in the Aftermath of the Financial Crisis

4.1.   *Fiscal Response to the Financial Crisis*

Public Funding for Financial Restructuring

Following the financial crisis in 1997 and in its aftermath, a number of big businesses collapsed in chain insolvencies as well as the undercapitalized banks, securities companies, and some financial institutions were thrust to the brink due to a shortage of liquidity. This was attributed to interest rate hike and a credit crunch. Hence the financial market became extremely unstable and even the financial system itself faced a risk of collapse.

The Korean government proceeded to clean up the troublesome financial institutions by suspension of operation, purchase and assumption (P&A), mergers, etc. It has injected 167.6 trillion won of public funds into financial institutions through capital subscriptions, purchase of bad loans and payments of deposits of failed financial institutions (see Table 6). The public funds were raised mainly by issuing of Deposit Insurance Fund Bonds and Non-performing Assets Resolution Fund Bonds, whose repayment were guaranteed by the government. The government also extended interest-free loans to the Deposit Insurance Corporation and the Assets Management Corporation for interest payments on the bonds. The total outstanding stock of restructuring bonds stood at 102.1 trillion won (21 percent of 1998 GDP).

Table 6: Public Funds Injected for Financial Restructuring

(Unit: trillion won)

Year	Bond Issued	Injection of Recovered Public Funds	Fiscal funds	Others	Total
1998	38.8	-	15.7	1.1	55.6
1999	25.2	5.7	4.6	-	35.5
2000	8.9	20.0	0.8	7.4	37.1
2001	29.2	5.1	△0.2	△7.0	27.1
2002	-	1.9	-	1.8	3.7
2003	-	1.6	△0.5	1.0	2.1
2004	-	4.0	△0.1	-	3.9
2005[1]	-	2.6	△0.05	-	2.5
Total	102.1	40.9	20.2	4.3	167.6

Source: Korea Public Fund Oversight Committee

Note: 1) Figures are for the first five months of the year.

2) △ denotes negative figures.

Expanding Social Safety Nets

A series of business bankruptcies and corporate restructuring resulted in a depression and a record high rate of unemployment rate. Creating more temporary jobs thru public assistance and additional beneficiaries by extending the scope of social insurance helped coping with soaring economy and jobless workers.

As a mandatory membership of unemployment compensation was extended to cover small business workers and self-employed were given subsidies representing some part of the contributions to encourage them to join the National Pension Scheme, the number of beneficiaries of social insurance increased substantially. For stabilizing the livelihood of low-income families, the scale of benefit was increased and the range of beneficiaries was also extended.

Accordingly, a budget increase by 32% per annum during 1998-2001 was followed for expanding social safety nets. Fiscal subsidy for medical insurance covered almost 40 percent of loss incurred by regional health

insurance authorities as well. Along with strengthening the social safety net, the health and social security budget was markedly stretched. The share of the general account budget rose from 6.2% in 1997 to 10.8% in 2001 and its ratio to GDP hiked from 0.9% to 2.0% for the same period.

Deficit Budget to Encounter the Crisis

The economic recession since the outbreak of the financial crisis continued for 29 months while the average duration of previous recessions was 16.8 months. This painful and prolonged economic hard-landing in 1998 brought about budget deficit of 18.8 trillion won or 4.2% of the nominal GDP in the consolidated central government balance. The magnitude of the deficit was not unusually large, but it was large enough to threaten the sustainability of the fiscal policy.

The real GDP growth rate recorded 10.9% in 1999, a remarkable 17.6%p improvement from -6.7% in the previous year. Such a sudden and abrupt recovery from recession is unprecedented one. The economic recovery was spectacular indeed, but the overall adjustment process can be characterized as an adjustment at the cost of growth.

Such a rapid economic recovery was obviously the basis for the consequent success in fiscal consolidation. In 1999, the consolidated central government's budget deficit reduced to 2.72% of the nominal GDP. In the following year, the budget balance turned to a surplus of 1.3% of the nominal GDP. Significant changes in the composition of both expenditure and revenue also supported the improvement in the budget balance. (Park, 2002)

4.2.   *Assessment of Fiscal Performance in the Aftermath of the Crisis*

Under IMF-supported programs, Korea did in fact allow public finances to exert a stimulating impact on its economy. This has been true for Korea in 1998. This can be shown by the evolution of budget balances in Korea from the year immediately preceding the crisis to the year immediately following it.

It is correct that the IMF advised Korea to limit the buildup of public debt in the aftermath of financial crises in order to help restore confidence, and reduce the very high interest rates in such a situation. Nonetheless, this advice was tailored to Korea's special circumstances and the size of debt burden. Of course, it is impossible to predict accurately the consequences of a crisis. The budget deficits in Korea were allowed to grow rapidly in the face of deeper-than-expected economic downturns. From all this, it is clear that government budgets in Korea's situation have played a stabilizing role.

It also needs to be taken into account the way that IMF-supported programs in Korea have been adjusted to respond to the needs of the most exposed segments of society, especially the poor. In Korea, social safety nets have been expanded to provide unemployment compensation, targeted public subsidies and other support. In several cases, government budgets also helped finance a needed restructuring of the financial sector. At the same time, the programs allowed for significant shortfalls in budget revenues as tax proceeds declined with the recession.

Fiscal restructuring also sought to reduce unproductive and wasteful public expenditures to help finance priority spending. Many of the specific elements of government budgets thus provided support for the economy while a few elements were contractionary when seen in isolation. Overall, the overall contribution of government budgets was supportive.

5. Sustainability Test of Public Debt

5.1. *Intertemporal Budget Constraints*

In this section, we set out a simple intertemporal budget relationship and derive the restrictions that must be satisfied for sustainability. Consider the general budget identity

$$B_t = (1 + r_{t-1})B_{t-1} + D_t \tag{1}$$

where B_t is the real market value of outstanding public debt at period t, r_{t-1} is the real interest rate for debt instruments held from t-1 to t, and D_t is the primary fiscal deficit, excluding interest payments. Under the

assumption of a constant real interest rate (i.e. $r_t = r$ for all t), solving Eq. (1) forward yields the intertemporal budget constraint

$$B_{t-1} = -E[\sum_{j=0}^{\infty} \beta^{j+1} D_{t+j}] + E[\lim_{j \to \infty} \beta^{j+1} B_{t+j}] \qquad (2)$$

where $\beta = 1/(1+r)$ is the discount factor. From Eq. (2), sustainability requires that the present value of future primary surpluses must exceed the present value of primary deficits by a sufficient amount to cover the difference between the initial debt stock and the present value of the terminal debt stock.

If the present value of the terminal debt stock is positive, Eq. (2) can be satisfied even if a government rolls over its debt in full every period by borrowing to cover both principal and interest payments. However, Chalk and Hemming (2000) demonstrates that a government attempting to run a Ponzi game will find that no rational individual is willing to hold its liabilities, and it cannot therefore roll over its debt in full in every period. Thus, no-Ponzi game restriction is typically regarded as synonymous with sustainability, which implies that the transversality condition, $\lim \beta^{j+1} B_{t+j} < 0$, has to hold. In fact, this condition will hold as an equality since individual investors cannot end up being indebted to the government, and as a consequence sustainable fiscal policy has to satisfy the present-value borrowing constraint. Thus, sustainability requires that an excess of future primary surpluses over primary deficits match the current stock of government debt in present value terms as in

$$B_{t-1} = -E[\sum_{j=0}^{\infty} \beta^{j+1} D_{t+j}] \qquad (3)$$

As Trehan and Walsh (1991) have shown, Eq. (3) offers a simple test of intertemporal budget constraints in the vase where the (expected) rate of real interest is constant. If D_t is a stationary stochastic process, budget balance is satisfied if and only if B_t is also stationary. If D_t is nonstationary, B_t must be nonstationary and there must exit a linear combination of D_t and B_t that is stationary, i.e. cointegration. Hamilton and Flavin (1986) is a special case as they find D_t to be

stationary, and therefore argue that stationarity of B_t implies that budget balance holds. With a few exceptions, most previous studies based their tests of sustainability on the tests of a unit root or a cointegrating relationship linking government deficits and the outstanding stock of debt (Trehan and Walsh, 1988; Hakkio and Rush, 1991; Bohn, 1998).

Alternatively, the present value model of Campbell and Shiller (1987) can be employed to test the intertemporal budget constraint. One benefit is that their model enables us to derive the optimal path implied by the present value model of public debt in an unrestricted vector autoregression (VAR) framework. To see this, consider a VAR model for D_t and B_t of the form

$$\begin{bmatrix} D_t \\ B_t \end{bmatrix} = \begin{bmatrix} a(L) & b(L) \\ c(L) & d(L) \end{bmatrix} \begin{bmatrix} D_{t-1} \\ B_{t-1} \end{bmatrix} + \begin{bmatrix} \varepsilon_{1t} \\ \varepsilon_{2t} \end{bmatrix} \tag{4}$$

where the polynomials in the lag operators a(L), b(L), c(L), and d(L) are all of order p. Eq. (4) can be represented in companion form as

$$\begin{bmatrix} D_t \\ \vdots \\ D_{t-p+1} \\ B_t \\ \vdots \\ B_{t-p+1} \end{bmatrix} = \begin{bmatrix} a_1 & \cdots & a_p & b_1 & \cdots & b_p \\ 1 & \ddots & & & & \\ & 1 & \ddots & & & \\ c_1 & \cdots & c_p & d_1 & \cdots & d_p \\ & & & 1 & \ddots & \\ & & & & 1 & \ddots \end{bmatrix} \begin{bmatrix} D_{t-1} \\ \vdots \\ D_{t-p} \\ B_{t-1} \\ \vdots \\ B_{t-p} \end{bmatrix} + \begin{bmatrix} \varepsilon_{1t} \\ 0 \\ \vdots \\ \varepsilon_{2t} \\ 0 \\ \vdots \end{bmatrix} \tag{5}$$

or in a more compact notation

$$Z_t = AZ_{t-1} + \varepsilon_t .$$

For all i, note that

$$E(Z_{t+i} \mid I_t) = A^i Z_t ,$$

which is the forecast of Z_{t+i} conditional on the information at time t, I_t, containing current and lagged values of D_t and B_t. Projecting Eq. (3) onto the information set I_t gives

$$E[B_t \mid I_t] = -\sum_{i=1}^{\infty} (1/1+r)^i E[D_{t+i} \mid I_t].$$ (6)

Using Eq. (5), the following set of restrictions on the VAR companion matrix A can be obtained

$$g' = -\sum_{i=1}^{\infty} (1/1+r)^{-i} h' A^i$$ (7)

where *g* and *h* are column vectors of 2p elements, all of which are zero saving the p+1 element of *g* and the first element of *h* are unity (i.e. $B_t = g'Z_t$ and $D_t = h'Z_t$). Since B_t and D_t are stationary variables, the right-hand-side of (7) converges to

$$g' = -h'\varpi A[I - \varpi A]^{-1}$$ (8)

where $\varpi = 1/(1+r)$. Using Eqs (3) ad (7) with $B_t = g'Z_t$ and $D_t = h'Z_t$, it is possible to compute

$$\tilde{B}_t = -\sum_{i=1}^{\infty} \varpi^i h' A^i Z_t$$

or

$$\tilde{B}_t = -h'\varpi A[I - \varpi A]^{-1} Z_t$$ (9)

which is a VAR forecast of the present value of future changes in D_t based on the estimated coefficients from the unrestricted VAR as in Eq. (4). This public debt variable, $\tilde{B}_t$, then reflects the optimal current deficit implied by the theory. If the present-value model of public debt is adequate then B_t should equal $\tilde{B}_t$ except for an innovation. Because sustainable fiscal policy must satisfy the present value budget constraint, significant deviations of B_t from $\tilde{B}_t$ may be regarded as evidence against fiscal sustainability.

A formal test can be constructed to check the statistical validity of intertemporal budget constraints for the public debt. To see this, post-multiply both sides of Eq. (8) to yield

$$g'[I - \varpi A] = -h'\varpi A. \tag{10}$$

By writing out the restrictions on individual coefficients of the companion matrix, A, the restrictions implied by Eq. (9) state that $B_{t+1} - D_{t+1} - (1+r)B_t$ should be unpredictable given lagged B_t and D_t. This orthogonality restriction can be statistically examined by running a linear regression of the form

$$B_t - D_t - (1+r)B_{t-1} = \alpha + \sum_{k=1}^{p} \delta_{1,k} B_{t-k} + \sum_{k=1}^{p} \delta_{2,k} D_{t-k} + \nu_t \tag{11}$$

and testing the null hypothesis $\delta_{1,k} = \delta_{2,k} = \cdots = 0$ for all k>0.

5.2.   *Empirical Results*

Empirical analysis outlined above is undertaken using annual data over the period 1974 to 2002. Data on public debt and deficit are in real terms deflated by the CPI. All data were obtained from the Ministry of Finance and Economy. First, we test for the presence of a unit root in each series. Table 7 reports the results of augmented Dickey-Fuller (ADF) tests for the null hypothesis of a unit root. To have a crosscheck, the study also reports the results of Kwiatkowski *et al*. (KPSS, 1992) tests, which assumes the null hypothesis that the series is stationary with or without a trend. Both tests suggest that budget deficits are stationary in Korea. These results imply that from Eq. (3), the level of public debt in Korea must be stationary for fiscal sustainability.

For public debt, however, the KPSS test shows that the null hypothesis of stationarity, either with or without trend, is rejected. These findings are consistent with those of the ADF test, as they could not reject the null hypothesis of a unit root. Consequently, the level of public debt may be regarded as unsustainable for Korea.

Table 7: Unit Root Tests

	Debt			Deficit	
ADF	KPSS		ADF	KPSS	
	No trend	Trend		No trend	Trend
-2.16	0.89*	0.21*	-3.19*	0.08	0.05

Notes: Both ADF and KPSS tests assume the lag length of two. Critical values for the ADF and KPSS tests are drawn from Fuller (1976) and Kwiatkowski *et al*. (1992), respectively. An * indicates significance at the 5% level.

The study now examines a present value model of public debt by applying the procedure of Campbell and Shiller (1987). For this, Eq. (11) is estimated with p=2 to warrant no serial correlation in the residual series. Data on the real interest rate are constructed using nominal money market rates and the CPI from the Bank of Korea. Its simple average over the full sample is used to derive the dependent variable, $(B_t - D_t - (1+r)B_{t-1})$. Table 8 reports the results of the Wald test for the null hypothesis that the restrictions implied by the present value model are coherent with the data. This null hypothesis is rejected strongly with the marginal significance levels being less than 1 percent. Accordingly, the level of public debt fails to satisfy the intertemporal budget constraint. This may be regarded as evidence against the sustainability of public debt as sustainable fiscal policy must satisfy the present value budget constraint.

Table 8: Tests on the Present Value Model of Public Debt

Wald test	19.11
p-value	0.01

Note: The Wald test statistic is distributed as $\chi^2 (4)$.

Campbell and Shiller point out that Eq. (11) may be rejected because of economically unimportant deviations from the null hypothesis, such as data imperfections, which are nevertheless statistically important. They also suggest a more intuitive and less econometrically stringent test that compares the predicted path of the optimal government debt under the

theory with that of the actual public debt. Figure 2 depicts actual and optimal public debt based on the estimation of VAR (2) model in Eq. (4). There are significant differences between the two, confirming the rejection of intertemporal budget constraints as in Table 8.

In fact, Figure 2 leads us to draw several interesting conclusions. Actual public debt of Korea was smaller than the sustainable level prior to the crisis. While the level of public debt was not in an optimal path, they should not have posed a major concern to the healthiness of the economy as a result. After the crisis, however, the situation reverses as a rapid surge in the fiscal deficit pushes public debt far above the level of sustainability. Figure 2 offers one explanation why the unit root test may fail to capture the debt problem after the crisis. This also corroborates the usefulness of Campbell and Shiller's method for the test of fiscal sustainability. Reflecting partly on this, the sustainable level fell subsequently to observe the intertemporal budget balance.

Previously, Croce and Juan-Ramón (2003) examined the fiscal sustainability using the IFS algorithm for 12 countries including Korea. They found that the IFS indicator for Korea switched from the sustainable to the unsustainable country in the aftermath of the financial crisis. This finding is well consistent with the study, as Figure 2 shows.

Figure 2. Sustainable Level of Public Debt
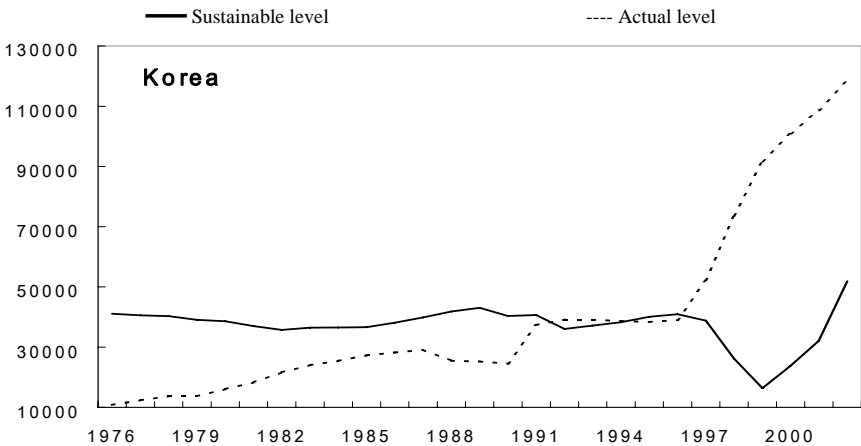
Skyrocketing fiscal deficit since the crisis should have pushed public debt far above the levels of sustainability. For Korea, however, Kim (2001) and Bank of Korea (2002) report that fiscal unsustainability may not be a concern despite the jump in public debt ratio since the crisis. Underlying idea is that given low initial level of Korea's debt ratio, this ratio was still "outside the danger zone". These studies used data up to either 1999 or 2000. Continued accumulation of fiscal deficits throughout the early 2000's acts to overshadow this somewhat optimistic view (see Figure 2). It will be prudent to wait for more observations before we decide with some certainty whether the current fiscal stance is sustainable or not. Nevertheless, given the results in Figure 2 together with those from Croce and Juan-Ramón, it seems that it may not be a good practice to ignore debt growth until it causes a real problem.

Fiscal expansion has been used in Korea to get out of two recessions – one occasioned by the East Asian crisis and the second by the downturn in the global economy since late 2000. However, during this process Korea has accumulated the level of public debt that appears unsustainable, risking sustained high rates of economic growth. If left unchecked this excessive accumulation of public debt might risk adverse expectations and subsequent recession just as the accumulation of excessive private debt triggered the crisis. It is necessary, therefore, to ensure that Korea uses its current economic expansion to initiate tax reform to substantially raise government revenues and streamline and cut wasteful government expenditures to reduce fiscal deficits or, at least, generate primary surplus. At the same time a carefully tailored program of privatization of government enterprises with the revenue being used to directly reduce the debt should be pursued.

6. Conclusion

For Korea, the total amount of government debt has risen sharply over the following several years in the wake of the financial crisis. This raises concern about the sustainability of public debt and fiscal consolidation. This paper has set out to assess fiscal sustainability for a severely attacked country, namely, Korea. At work is the model of intertemporal

budget balance. The study tests for implied intertemporal balance conditions for fiscal sustainability. It also examines whether there was any discernible change in the behaviour of public debt following the crisis.

Empirical analysis indicates that the level of public debt is not sustainable in Korea. It posed little concern on the soundness of public debt prior to the crisis. After the crisis, however, a rapid surge in fiscal deficit pushes public debt far above the level of sustainability. The results suggest that policy makers need to draw their attention to consolidate the fiscal stance and to retain the sustainability of public debt.

Some caveats are in order before concluding the paper. First, the present value balance approach has limitations in serving an indicator to gauge fiscal sustainability. Some fiscal policies that appear unsustainable can satisfy implied constraints, while other policies appear sustainable but do not satisfy them (McCallum, 1984; Kremer, 1989). Several alternative measures for the sustainability have been developed, but they also have their own shortcomings such as lack of economic grounds (see Horne (1991) and IMF (2002) for a comprehensive survey). Second, the study has used annual date over the sample period 1974 to 2002 because quarterly data and a longer sample span were not available. Such a small sample may be unavoidable for this kind of studies. Nevertheless, the well-known problems in use of small samples (i.e. small sample biases, size and power distortions in unit root tests) are likely to undermine the strength of the findings in the paper. Finally, the study could not address a possibility of structural breaks in connection to the Asian financial crisis. This topic would be interesting, but has to be left until more observations after the crisis are available.

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CHAPTER 13

FOREIGN OWNERSHIP, TECHNOLOGICAL INTENSITIES AND NETWORK STRENGTH: ELECTRONICS FIRMS IN EAST ASIA

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This paper attempts to examine one, differences in technological intensities (TI), and two, the relationship between TI and network strength (NS) between foreign and local electronics firms in Korea, Taiwan, Thailand, Philippines and Indonesia. TI was disentangled into the categories of human resource (HR), process technology (PT) and R&D (RD) intensities, and the statistical analysis also examined separately differences between foreign and local firms. Local firms enjoyed higher TI and RD levels than foreign firms in Taiwan and Philippines. Foreign firms enjoyed higher TI and PT levels than local firms in Indonesia. Apart from Indonesia, there were no obvious differences in HR practices between foreign and local firms in the other economies. Local firms enjoyed higher TI and RD than foreign firms in Taiwan and Philippines. There was no statistical difference involving all the technological categories between foreign and local firms in Korea. Local firms in Thailand showed higher TI and PT than foreign firms. The econometric results show that TI and RD of firms are strongly correlated with NS. NS showed a stronger impact on TI and RD among local rather than foreign firms. Overall, the strong influence of NS on technological and RD intensities – though its impact is higher on local firms - undoubtedly points to need for the strengthening at host-sites of institutional and systemic influences external to firms.

1. Introduction

There is now recognition that firms' conduct and performance depend considerably on critical embedding institutions, connectivity and coordination–what evolutionary economists refer to as the institutional and systemic features of the national innovation system (NIS). The theoretical basis to its role in stimulating innovation and competitiveness has its roots in Hamilton (1791) and List (1885), but efforts to examine it as a system of learning and innovation was articulated lucidly by Nelson and Winter (1982), Freeman (1989), and Lundvall (1988). Reinert (1994) traces its role, albeit from the lenses of industrial policy instruments, to 1485 Britain. The significance of taxonomies and trajectories in understanding firms' participation in innovation was emphasised by Dosi (1982) and Pavitt (1984).

While extensive work on issues related to NS exists, little work has been done to compare its effect on firm-level technological capabilities across economies, including on foreign and local firms. Past work on multinationals have tended to address their superiority over national firms owing to efforts to internalize their superior tangible and intangibale assets (Hymer, 1960; Dunning, 1974). Little work exists on the impact of NIS on the capabilities and conduct of foreign firms compared to local firms. It is of course extremely difficult to address this issue given the openness and vagueness of the concept and the strength and relationships involving institutions. The NS embedding firms in Korea and Taiwan is generally superior to that in Thailand, Philippines and Indonesia. All these economies were underdeveloped by most measures in the 1960s. Korea and Taiwan embarked on a process of building their science and technology infrastructure from the late 1960s and 1970s, managing to systematically raise their levels of R&D personnel in the population and R&D investment in Gross National Investment (GNI) respectively by the 1990s. Thailand made strong efforts from the late 1980s but their R&D personnel and R&D investment endowments have remained significantly lower than developed economies levels even in 2000. Philippines fairly strong human capital endowments placed it in the same category as Thailand. Although the overall national basic infrastructure institutions in Thailand

are superior to the ones in Philippines and Indonesia, the location of several of the electronics firms examined in export processing zones where most of these services are concentrated is likely to reduce these differences. Nevertheless, differences in network strength (NS) - a variable that captures the institutional and systemic effects – across the six economies offers the opportunity to test its influence on firm-level technological capabilities. The exercise also allows the partial testing of the hypothesis that firms rely on home-site more than host-site NS to drive their R&D activities (Lall, 1992).

Drawing from a survey sample of 177 electronics firms, this paper seeks to examine (1), differences in technological intensities between foreign and local firms facing different levels of NS, (2), the relationship of NS on firm-level technological intensites, and (3), whether foreign firms enjoy a lower propensity of technological intensities with host-site NS than local firms. The electronics industry is a key export-oriented industry in all six economies, and given its exposure to intense competition, shortening product cycles and continued miniaturisation requiring strong technological support either from home or host sites, it makes a unique laboratory for analysis. The rest of the paper is organised as follows. Section 2 documents the state of basic and high tech support in the six economies. Section 3 presents the methodology and data. Section 4 examines the statistical differences involving technological indicators between foreign and local firms, and the statistical relationships involving these variables. The NS is introduced in the regression models in place of country dummies to examine the effects of the embedding institutional and systemic influences. Section 5 presents the conclusions.

2.   Literature Review

The theory of foreign direct investment posits that multinationals enjoy asset specific (tangible and intangible) technological advantages over local firms (see Hymer, 1972; Dunning, 1974). Access to superior resources in parent plants abroad is considered to explain this advantage. The relocation of such an activity to developing economies allows multinationals to internalize such resources. However, existing work on

ownership and technological levels have hardly broached effectively the question of why technological intensity levels between foreign and local firms differ across industries and countries. This paper seeks to address this question by examining firms in an economy endowed with fairly strong effective demand and high tech infrastructure.

2.1. *Neoclassical models*

Neoclassical models originate from the assumption that markets coordinate demand-supply functions effectively so that the natural economy-wide equilibrium is achieved through optimal allocation of resources. Until the works of Romer (1986), Lucas (1988), Krugman (1986), Helpman and Krugman (1987) and Grossman and Helpman (1990), neoclassical analysis were anchored on Solow's (1956; 1957) production function accounting framework that reduced technology to an exogenous black box. Despite the introduction of elegantly constructed models demonstrating that in the presence of increasing returns markets no longer generate pareto optimal solutions, these new growth models did not enter neoclassical policy analysis owing to the believe that government failure were far more serious than market failure. Hence, the World Bank (1993) while conceding that government intervention was extensive in Korea and Taiwan argued that it was neither necessary nor possible to pursue such policies to engender rapid economic growth.

The relative price theoretic as the basis of resource allocation and the choice of technology can be traced in the dynamics of foreign direct investment (FDI) from the use of the production function and the technology gap. Caves (1974) had initiated these models to examine spillover effects by adapting the growth accounting model originally advanced by Solow (1956). Empirical works using refinements of this model produced mixed results (e.g. Blomstrom, 1986; Blomstrom and Sjoholm, 1999; Aitken, Hansen and Haddad, 1997; Aitken and Harrison, 1999; Sjoholm, 1999). However, Romer (1987a; 1987b; 1990; 1991; 1994), Nelson (1994) and Vaitsos (2003) provided a devastating critique of neoclassical growth models explaining technical change. These criticisms question the very foundation of production function approaches to understanding productivity growth and technical change.

Likewise, Lall (1992) and Rasiah (1995) have argued that spillovers being external to firms cannot be measured exhaustively. Besides, spillover has both pecuniary and non-pecuniary, and positive and negative dimensions so that its empirical investigation cannot be carried out exhaustively (see Rasiah, 1995: chapter 2).

Whilst the neoclassical production function models face fundamental problems, Caves (1974) account of how positive spillovers can take place are theoretically sound. Indeed, the presence of productive foreign firms can offer a demonstration and competition effects on local firms. However, these effects are potentially achievable only if the enabling systemic and institutional environment exists. Unlike evolutionary economists, neoclassical economists do not broach the role of government to create and facilitate with markets the coordination of these institutions.

There has however been one largely consistent finding by neoclassical analysts: that technological gap is inversely correlated with spillovers from foreign to local firms. The rationale is that the lower the technological gap, the easier is the diffusion from foreign to local firms. While the very fundamentals of the production function model has been argued to be shaky, the logic and hence the evidence adduced to defend the technology gap argument is also fraught with problems. Firstly, the typical measure of technological gap – the difference in the values of machinery and equipment of foreign and local firms – does not really capture technological differences effectively, and also given the wide dispersion in technology within ISIS 5 digit industries reduces it to a spurious proxy.[2] Hirschman (1958; 1970) had argued convincingly that the wider the gap the greater the potential for learning and that it is in the interest of local institutions and firms to respond learn to substitute imports with domestic production. Indeed, Hirschman emphasized the focus on backward rather than forward linkages as export markets would raise the scale for expanding supplier links. *Ceteris paribus* while it is

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[2] E.g. PCB assembly in electronics is significantly different from wafer fabrication. The former is also associated with low margins and labour-intensive activities while the latter is a highly capital-intensive high value added activity. Hence, industry dummies used do not actually control for such effects.

easier to learn something one almost knows than to grasp something far
more sophisticated, such a sequencing of learning does not take into
account the dynamics of the "S" curve where the rate of absorption rises
sharply once a certain critical mass of knowledge is attained until the
technology frontier is reached by when the rate of absorption slows down
again owing to the difficulty associated with producing new knowledge.
Besides, it is the potential rather than the actual that sets the limits of
learning and hence planning and effort can be targeted to raise the rate of
diffusion closer to the potential. Such a dynamic argument clearly
undermines the very need to examine if diffusion from foreign to local
firms will be higher when technological gaps are higher or lower.

2.2. *Evolutionary models*

Evolutionary economics models that address the national innovation
system (NIS) take cognisance of the impact of the embedding
environment in stimulating learning and innovation (see Nelson and
Winter, 1982; Freeman, 1987; Lundvall, 1992). The focus on science and
technology infrastructure and the "S" goes right to the heart of
evolutionary arguments of technology.

   In addition to addressing the embodied nature of technical progress,
evolutionary arguments broach the issue of institutions and institutional
coordination that is critical in driving learning and innovation in firms
(see Nelson, 1993; Freeman, 1987). Lucid accounts of learning from
from the acquisition of technology to its adaptation and eventually the
innovation of exportable products offer considerable policy relevant
explication constructive initiatives to stimulate learning and innovation.
Using the experience of Japan, Freeman (1989) had demonstrated
convincingly that international flows of stocks of knowledge from
development to developing economies take a sequential shift involving
import, adaptation, assimilation and innovation.[3] Lundvall (1988; 1992)
introduced interesting empirical to argue over the interactive nature of
learning between producers and users. Dosi (1982) and Pavit (1984)

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[3] Fukasaku (1992) used this framework to examine the evolution of technology in
Mitsubishi Nagasaki Shipyard.

advanced the importance of trajectories and taxonomies in technology development. Disentangling further the processes of learning and innovation – following the conceptual exposition of Lall (1992) - Figueiredo (2002) and Ariffin and Figueiredo (2004), Oyeyinka (2003) and Rasiah (2004a; 2004b) showed how firms moved up the technology trajectory by learning initially simple and later complex technological capabilities before eventually participating in R&D activities.

However, despite considerable deepening made by these contributions, the evolutionary approach has hardly examined the impact of the embedding environment on the technological levels of foreign and local firms. More specifically evolutionary works have not produced a reasonable framework to examine differences in technological capabilities between and within firms by ownership across a set of economies with differences in institutional and systemic strength. Whilst evolutionary logic should lead us to assume that inter-region firm-level differences in technological capabilities would vary with differences in the science and technology infrastructure, it does not tell us whether foreign firms will have patterns of differences within them and between them and local firms. In addition, evolutionary models have also not examined the role of trust-loyalty (social capital) in resolving government and market failures.

2.3. *Alternative framework*

The framework of analysis adopted in this paper borrows extensively from evolutionary economics, but in light of problems associated with the above approaches uses an alternative framework to examine the differences and determinants of labour productivity, wages, and export, skills and technological intensities between foreign and local firms in East and Southeast Asia. The paper employs indexes measured using related proxies to compare and examine technological capabilities – human resource, process technology and R&D (see also Rasiah, 2004a; 2004b). Given that spillovers are external firms and are not measurable exhaustively, the estimation of capabilities offers the estimation of the potential that can take place at host sites. The higher the gap the higher will be the potential, though, the benefits of it will depend on the

embedding environment's capacity to enable the host-site's economic agents to appropriate them. These benefits can arise in the same product and process technologies, or in dissimilar but complementary technologies.

While extensive work on issues related to NS exists, little work has been done to compare its effect on firm-level technological capabilities across economies, including on foreign and local firms. Hymer (1960) had argued that multinationals enjoyed superiority over national firms owing to efforts to the advantages of internalizing their superior tangible and intangibale assets (Hymer, 1960). Dunning (1974) used the eclectic Ownership, Location and Internationalization (OLI) perspective to argue over the economic advantages multinationalization allows. However, little work address the impact of NIS on the capabilities and conduct of foreign firms compared to local firms. It is of course extremely difficult to address this issue given the openness and vagueness of the NIS concept and the strength and relationships involving institutions. The NS embedding firms in Korea and Taiwan is generally superior to that in Malaysia, Thailand, Philippines and Indonesia. All these economies were underdeveloped by most measures in the 1960s. Korea and Taiwan embarked on a process of building their science and technology infrastructure from the late 1960s and 1970s, managing to systematically raise their levels of R&D personnel in the population and R&D investment in Gross National Investment (GNI) respectively by the 1990s. Malaysia and Thailand made strong efforts from the late 1980s but their R&D personnel and R&D investment endowments have remained significantly lower than developed economies levels even in 2000. Philippines fairly strong human capital endowments placed it in the same category as Malaysia and Thailand. Although the overall national basic infrastructure institutions in Malaysia and Thailand are superior to the ones in Philippines and Indonesia, the location of several of the electronics firms examined in export processing zones where most of these services are concentrated is likely to reduce these differences. Nevertheless, differences in network strength (NS) - a variable that captures the institutional and systemic effects – across the six economies offers the opportunity to test its influence on firm-level technological capabilities. The exercise also allows the partial testing of the hypothesis

that firms rely on home-site more than host-site NS to drive their R&D activities (Lall, 1992).

Like all industrial organization measures of concentration where estimations of market power only refer to its potential, technological intensities only refer to potential, i.e. the extent of learning-diffusion that can occur in a locality. Although the capacity to absorb new knowledge is easier when the gap between the leader and learner is small, there is neither a rigorous argument nor empirical evidence that convincingly substantiates this point. As Hirschman (1958; 1970) has argued the bigger the gap the larger will be the potential for learning and catch-up. Marx (1853) had established the basis for rapid technological transformation when he argued over the positive role of colonialism, in how pre-capitalist modes of production give way to capitalist production. Despite the destruction and dislocation that accompanies capitalist integration, the phase did quicken technical change in India (see Kumar and Desai, 1983). Unlike under colonialism when the objectives of the regime in power targeted policies primarily for accumulation within the borders of the colonial grandmaster, post-colonial governments have enjoyed relative autonomy to engender technical change to generate domestic accumulation (see Warren, 1973; 1980).

Hence, this paper seeks to use an alternative methodology where the focus is directly on embodied technology. By using technological intensities, the assessment can be focused simply on the potential spillovers that can arise at host-sites. [4] Although higher technological intensities need not translate into commensurate levels of absorption by local economic agents – including firms – it is a more reliable indicator to examine than spillovers when the data collected comes only from individual firms. A better method of examining spillovers will be to study the firms as a network of interconnected economic agents (e.g. Rasiah, 1994; 1995). However, this methodology is too expensive and requires enormous sacrifice by researchers to construct a national database.

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[4] Using a range of economies, Rasiah (2004a; 2004b; 2004c) showed that differences in technological intensities between foreign and local firms also varied with the level of institutional and systemic strength embedding firms.

To examine differences in technological intensities between foreign and local firms, it is also important to establish the institutional base within which these firms are operating. As Dosi (1982) and Pavitt (1984) have argued, taxonomies and trajectories are important when examining technological capabilities and demands in firms. Foreign firms with access to sophisticated technology from their plants at developed parent sites will tend to show higher overall technological intensities than local firms facing underdeveloped support domestically (Rasiah, 2004).

However, the pattern of differences would vary between human resource (HR) practices, process technology and R&D. Foreign firms are likely to show higher intensity levels than local firms in the easy to move internalized practices associated with HR, and machinery and equipment and process technology associated with it. Industry differences matter here as most garment firms are likely to enjoy similar labour-intensive technologies owing to the abundant supply of labour in South Africa. Owing to South Africa's fairly developed high tech infrastructure, conduct of firms to undertake R&D essentially at parent sites (see Vernon, 1983; OECD, 1998, cited in Amsden, Tschang and Goto, 2001),[5] and the risks associated with intellectual property rights, R&D intensities in local firms can be expected to higher than in foreign firms. However, foreign pharmaceutical firms use South Africa as an important base for undertaking R&D and hence are expected to show higher R&D intensities than local firms. However, foreign firms overall enjoy higher product technologies as they access the know-how and brand-name from their plants abroad.

3. The Embedding Environment and Foreign Direct Investment

This section presents a brief account of the state of infrastructure and foreign ownership in Korea, Taiwan, Thailand, Philippines and Indonesia. Because the degree of connectivity and coordination involving embedding institutions is examined from firms (see next

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[5] The OECD (1998, cited in AMsden, Goto and Tschang, 2001) reported that only 12% of R&D invested in OECD economies is undertaken outside parent locations.

section), this section is confined to a discussion of basic and high tech infrastructure.

The state of the basic infrastructure (BI) between the six economies generally followed their rank against per capita incomes. BI was estimated using three proxies (see note below Table 1). Taiwan and Korea enjoyed a high basic infrastructure (BI) score of 0.61 and 0.54 respectively followed by 0.30 for Thailand respectively, and 0.12 and 0.10 for Philippines and Indonesia respectively in 2000 (see Table 1). The Netherlands and Sweden had the highest scores of 0.84 and 0.82 respectively, while Niger and Cameroon were ranked the lowest both with a figure of 0.01 among the 96 countries ranked in 2000.

Table 1: Basic and High Tech Infrastructure Index, 2000

	BI	HTI
Korea	0.544	0.446
Taiwan	0.613	0.490
Thailand	0.296	0.019
Philippines	0.117	0.021
Indonesia	0.109	0.017

Note: BI was calculated using the proxies of gross primary education rate (education), doctors per thousand people (health) and main telephone lines per thousand people (communication) using the normalisation formula in model (4) below and 96 countries where data were available from World Bank (2003). The same approach was used to calculate HTI using the proxies of R&D scientists and engineers per million people, and R&D investment in Gross Domestic Investment and 56 countries where the data was available from World Bank (2003) and national ministries. See Table 2 for the formulas and proxies used. Both the BI and HTI scores were eventually divided by the highest score in the respective categories so that their scores fell in the range $0 \leq X \leq 1$.

Source: Computed from World Bank (2003); Taiwan (2004); Thailand (2004); Indonesia (2004); Philippines (2004)

The high tech infrastructure (HTI) was also strongest in Taiwan and Korea. R&D investment in Gross National Investment (GNI) in Taiwan and Korea were 2.70% and 2.02% respectively in 2000 (World Bank, 2003; Lin, 2003: 74). R&D scientists and engineers per million population in Korea reached 2,140 persons in 2000 (World Bank, 2003),

while R&D researchers reached 3,930 per million people in Taiwan in 2000 (Lin, 2003: 74). HTI was measured using two proxies (see note below Table 1). The HTI figures for Taiwan and Korea were 0.490 and 0.446 respectively in 2000 (see Table 1). The commensurate figures for Malaysia, Thailand and Philippines were 0.029, 0.019 and 0.023 respectively in 2000. Not only is the gap involving HTI between Taiwan and Korea, and the other economies much wider than the BI figures, Philippines enjoyed a higher HTI score than Thailand. Thailand, Philippines and Indonesia enjoyed R&D expenditure in Gross Domestic Investment of 0.11%, 0.21% and 0.07% respectively in 2000. R&D scientists and engineers per million people in Thailand and Philippines were 101 and 156 respectively in 2000. The data for Indonesia was not available. Data on R&D investment was not available to compute the figure for Indonesia. Japan had the highest HTI score of 0.999, while Burkina Faso had the lowest score of 0.001 out of the 55 countries where data was available in 2000.

Unlike in Korea and Taiwan where local firms figured prominently following deliberate national policies from the late 1960s and 1970, export-oriented foreign firms were targeted aggressively for generating investment, employment and exports since 1986 in Thailand and 1990 in Indonesia, and initially in 1971 but especially since 1995 in Philippines. Whereas foreign ownership has traditionally been low, net FDI in gross capital formation (GCF) became important in Thailand following the financial crisis of 1997-98. There was also a significant rise in net FDI in GCF in Korea and Taiwan primarily from mergers and acquisitions after 1998 (see Figure 1). However, net FDI levels fell in Indonesia have been in the negative in Indonesia following the financial crisis and subsequent political fallout since 1997-98.

Despite an ostensible decline in FDI in Indonesia, foreign ownership remained significant in the electronics industry as can be seen from the sample compiled. The rise in net FDI levels after 1998 in Thailand was mainly a result of falling asset values and costs arising from a severe depreciation in the baht. Despite falling FDI levels in GCF, labour-intensive consumer electronics firms such as Sony have significant assembly operations in Indonesia. Semiconductor and other foreign

Figure 1: FDI in Gross Capital Formation, 1976-2000

Source: World Bank (2002); Taiwan (2004)
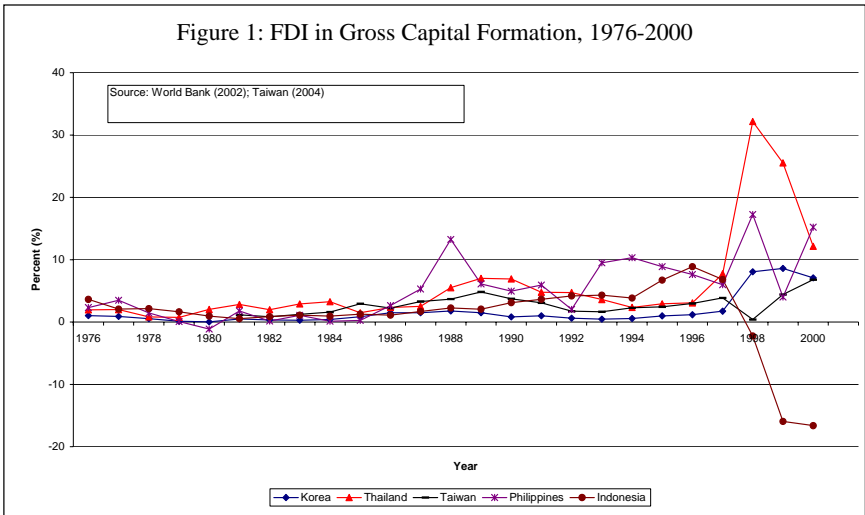
electronics component firms have expanded strongly in Philippines especially in the late 1990s.

Overall, Korea and Taiwan show significantly stronger basic and high-tech institutions than the remaining four economies. Thailand enjoyed stronger basic institutions than Philippines and Indonesia. The gap in the basic infrastructure scores between these economies was smaller. However, the gap involving the high tech infrastructure was wider as Taiwan and Korea enjoyed far higher scores than the remaining economies. In addition, Philippines enjoyed a high tech infrastructure score higher than Thailand. This paper will examine the impact of these instruments on the technological intensities of electronics firms in the subsequent sections. Despite lower FDI levels in Taiwan, Korea and Indonesia, data on sufficient numbers of foreign firms was collected for examining the impact of network strength on the technological intensity variables in these countries.

4. Methodology and Data

This section introduces the methodology that will be used to examine the statistical differences and relationships involving NS and technological

intensities. The paper employs indexes measured using related proxies to compare and examine technological capabilities.

The use of technological capability indexes in examining the capacity of firms to compete can be traced to Lall (1992), Bell and Pavitt (1995), Westphal *et al* (1990), Wignaraja (2002), Figueiredo (2002, 2003) and Ariffin and Figueiredo (2003). Wignaraja (2002) adapted the Ernst, Ganiatsos and Mytelka (1998) taxonomy of capabilities to fit the narrow range of data available to examine upgrading in Mauritius' firms. Rasiah (1994) had identified a number of firm level technological capabilities to examine their role in knowledge diffusion from foreign to local firms. Lall (1992), Bell and Pavitt (1995) and Ernst, Ganiatsos and Mytelka presented a detailed conceptual and methodological framework to examine sources of learning and innovation, sequencing these processes and their role in capability building. Figueiredo (2002, 2003) refined this methodology and found these instruments extremely useful in defining learning activities in the steel industry in Brazil.

While the technological capability framework has become popular lately, it has yet to be applied seriously to compare foreign and local firms. The exceptions include Ariffin and Figueiredo (2003) who made simple comparisons of capabilities in Malaysia and Manaus, Brazil. Ariffin and Figueiredo used simple two-way correlations to show that there was no obvious differences in technological levels between foreign and local consumer electronics firms in Manaus, but that foreign firms enjoyed higher technological levels than local firms in the electronics firms in Malaysia.

The methodology developed here extracts elements from all the above but adapts it further to obtain a simpler set of variables with common specifications for statistical analysis. As a result, it lacks some of the rich explorations undertaken by the above studies. In addition, because cross-firm quantitative approximation is essential for running regressions, only proxies referring to the same variable are normalised here. In addition, institutional and systemic variables were included in the paper to facilitate cross-country effects of NS. No attempt is made to trace causation owing to the lack of panel data, and the simultaneity of relationships between institutional and systemic, and firm-level variables over the long run, as well as the, the cross-sectional data used. Smith

(1776) and Young (1928) had argued that the dictum, 'the division of labour is determined by the size of the market' works both ways (see also Best, 1990; 2001). In addition, there are also dynamic influences such as increasing returns, structural inter-dependence and complementarity (see Abramovitz, 1956; Kaldor, 1957).

Methodologically, this paper seeks to use similar but two-tail t-tests to examine if statistical differences existed between foreign and local firms in all six countries, and to go beyond to examine the statistical relationships between technological intensity, and the explanatory variables of export incidence, network strength (NS) their elasticity differences by ownership while controlling for size, age, management type and union incidence. In addition to the usual comparison of technological capabilities between foreign and local firms, the results are expected to offer implications on whether the institutional and systemic strength embedding firms influence technological intensities, and whether differences exist between foreign and local firms.

4.1. Specification of Variables

The variables used in the paper are specified in this sub-section, which along with the components, sources of data and where relevant, their relationships with NS are shown in Table 2. The firm-level variables defined refer to related effort or conduct demonstrated within each of the selected firms. Hence, a local firm undertaking R&D but engaged product technology would show up greater R&D intensity than a foreign firm that accesses it from its parent plant abroad. Yet, the foreign firm may be engaged in product technologies superior to the local firm. Nevertheless, the use of conduct variables – largely referring to cutting edge practices – allows the estimation of process and HR technology on the basis of their closeness to the technology frontier.

NS was computed by estimating selected proxies where data was available on the strength of basic and high tech infrastructure from firms' assessment of their capacity and degree of connectivity and coordination with firms. Technological capabilities were computed by estimating the strength or value of human resource, process technology and R&D intensities.

Firm-level technologies include human resource practices, machinery and equipment, inventory and quality control systems and R&D expenditure. Since a number of characteristics have overlapping objectives and effects, it is methodologically better to integrate related proxies into a composition of indexes, which will not only help minimise double counting, but also avert collinearity problems in statistical analysis. In addition, adjusting firms' responses with related proxies, e.g. R&D, will offer a better approximation of its intensity than just any one proxy – e.g. R&D sales as a percent of sales and R&D staff in workforce. Because there are no *a priori* reasons to attach greater significance to any of the proxies used, the normalisation procedure was not weighted. However, the indirect effects of these proxies would still remain as the hiring of key R&D scientist or engineer by one firm from another would inevitably have a bearing on its R&D capability. The following broad capabilities and related composition of proxies were specified.

4.1.1. Human Resource Capability

Given the fairly developed nature of electronics manufacturing undertaken in all six economies and because competition is intense and the knowledge intensity in electronics assembly and testing is high, and hence HR techniques in the sample can be expected to be strong in all of them. Indeed, HR technologies even in foreign semiconductor firms diffuse horizontally and simultaneously between plants (see Rasiah, 1994). Hence, there is unlikely to be statistically significant differences between foreign and local firms in the countries, and the relationship between HR and NS is unlikely to statistically significant.

HR practices were measured as:

$$HR_i = 1/3[TM_i, TE_i, CHR_i] \tag{1}$$

TM, TE and CHR refer to training mode, training expense as a share of payroll and cutting edge HR practices respectively of firm i. TM was measured as a multinomial logistic variable of 1 when staff are sent out to external organisations for training, 2 when external staff are used to train employees, 3 when staff with training responsibilities are on payroll, 4 when a separate training department is used, 5 when a separate

training centre is used and 0 when no formal training is undertaken. CHR was measured by a score of one for each of the practices. The firms were asked if it was their policy to encourage (1), team-working, (2), small group activities to stimulate innovation, (3), multi-skilling, (4), interaction with marketing, customer service and R&D department, (5), life long learning and (6), upward mobility. Because all the proxies were evenly weighted, HR was divided by 3. The proxies were normalised using the following formula:

$$\text{Normalisation Score} = (X_i - X_{min})/(X_{max} - X_{min}) \tag{2}$$

X_i, X_{min} and X_{max} refer to the ith, minimum and maximum values of the proxy, X. The normalisation procedure raises the highest observation among the six countries to one and the lowest to zero. Caution must be placed in the interpretation of the normalised means as they represent relative values against the highest and lowest observations rather than the absolute values.

4.1.2. Process Technology Capability

Owing to industry-specific characteristics of process technology in electronics firms where competitors require similar intensities to compete, there is unlikely to be significant differences between foreign and local firms, and the relationship between PT and NS is unlikely to be statistically significant. However, differences between foreign and local firms may exist in countries where the nature of participation of either one may just be emerging.

Data on three proxies facilitated the computation of PT, which was calculated using the formula:

$$PT_i = 1/3[EM_i, ITC_i, QC_i] \tag{3}$$

EM, ITC and QC refer to equipment and machinery, information technology components and quality control instruments respectively of firm i. EM was computed as a multinomial logistic variable with average age of over 5 years=0, 5 years=1, 4 years=2, 3 years=3, 2 years=4 and 1 year and less=5. Likert scale scores ranging from 1-5 (least to strong) was used to measure ITC. QC was measured as a dummy variable

(QC=1 if cutting edge methods were used, QC=0 otherwise). Because all the proxies were evenly weighted, PT was divided by 3.

4.1.3. R&D Capability

With the exception of funding of public labs and universities, firms seldom participate in basic research. Hence, firm-level R&D is largely focused on process technology and product development – especially diversification of use and proliferation. Given that Korea and Taiwan have a more advanced NS than Malaysia, Thailand Philippines and Indonesia, it is hypothesised in the paper that R&D will produce a statistically significant and positive relationship with NS.

The data collected enabled the computation of two R&D proxies, *viz.*, R&D expenditure as a percentage of sales and R&D personnel as a share of employment. It was not possible from the sample data to disentangle investment advanced between process and product R&D, and hence this proxy was measured to relate to both product and process R&D and was measured as:

$$RD_i = 1/2[RDexp_i, RDemp_i] \qquad (4)$$

Where RD_{exp} and RD_{emp} refer to R&D expenditure as a share of sales and R&D personnel in workforce respectively of firm i. Because the proxies were evenly weighted, RD was divided by 2.

4.1.4. Overall Technology Intensity

The overall technology intensity (TI) is specified to take stock of all the three proxies specified above–i.e. HR, PT and RD. TI is hypothesised to have a positive and statistically significant relationship with NS owing to the influence of RD. It is measured as follows:

$$TI_i = HR_i + PT_i + RD_i \qquad (5)$$

Owing to the absence of *a priori* reasons, all three TI components above were weighted equally, which explains why the formulas used earlier to estimate these variables were divided with the number of proxies used.

4.1.5. Network Strength

Network strength (NS) is the key explanatory variable used in the paper. Given the stronger NS in Korea and Taiwan, firms are likely to participate more in R&D activities than in Malaysia, Thailand, Philippines and Indonesia. Firms have access to stocks of knowledge from foreign national innovation systems – e.g. publications, education, licensing arrangements and foreign affiliates. However, owing to proprietary obligations and greater support often given to national firms, firms tend to rely more on their own national innovation systems to participate in R&D activities (see Vernon, 1971). In addition, foreign firms tend to retain new product development at parent sites – preferring to participate largely in process and product adaptation activities at host-sites. Hence, local firms are likely to show higher propensity to use NS for R&D activities than foreign firms. Hence, it is hypothesised that NS is likely to show higher impact on TI and RD in the local firms' sample than in the foreign firms' sample.

The NS computed here only takes cognisance of BI, HTI and network cohesion (NC) between firms and these institutions. The information gathered for Korea, Taiwan and Thailand prevented the inclusion of inter-firm links and relationship with other institutions such as industry associations.

Using firms' assessment, network strength (NS) involving basic infrastructure institutions was measured as follows:

$$NS_{BIi} = 1/3([HH_i, EE_i, TT_i])\qquad(6)$$

Where NS_{BI}, HH, EE and TT refer to network strength involving basic infrastructure institutions, and capacity and strength of firm i's connections and coordination involving health institutions, basic education institutions, and transport and telecommunication institutions. Likert scale scores of 1-5 were used to measure the strength. The NS_{BI} was divided by 3 owing to the number of proxies used.

Using firms' assessment, network cohesion (NC) involving high tech infrastructure institutions was measured as follows:

$$NS_{HTIi} = 1/3[RD_{Ui}, RD_{Li,} RD_{IGi}]\qquad(7)$$

Where NS_{HTI}, RD_U, RD_L and RD_{IG} refer to network strength involving high tech infrastructure, and capacity and strength of firm i's connections and coordination involving R&D support from universities, R&D labs, and government R&D incentives and programmes. Likert scale scores of 1-5 were used to measure the strength. NS_{HTI} was divided by the number of proxies used (i.e. 3). Although most firms considered effective legal intellectual property rights (IPRs) as an important influence on their participation in R&D activities, it was excluded from analysis as its influence was largely similar within individual economies.

NS was measured simply by adding the strength of basic and high-tech support faced by firms as follows:

$$NS_i = NS_{BIi} + NS_{HTIi} \tag{8}$$

The use of NS_{BI} and NS_{HTI} can have both positive and negative implications. On the positive side it helps draw firms' assessments of the quality of connections and coordination with the relevant institutions involved, including explaining the geographical dispersion in institutional support across individual economies. On the negative side it could introduce perceptive biases.

4.2. Other critical firm-level Variables

Six other important firm-level variables were included in the analysis. Ownership is the key differentiating variable used in the paper. Export incidence is considered to influence the choice of technology. Size – depending on firms' specialisation on the basis of scale or scope – brings different implications on technological capabilities. The other control variables introduced in the regression models are union, management type and age.

4.2.1. Export Incidence

In the absence of sufficient responses on gross output and exports for Korea, Taiwan, Thailand, Philippines and Indonesia, export-incidence rather than the more important export-intensity was used as a proxy for capturing export market influences. However, this variable is unlikely to

capture much significance given the high incidence of exporting (90.1%) of firms [see Table 3]). All firms enjoyed export experience in Thailand and Philippines, and the share was also very high in Taiwan (97.4%) and Korea (95.3%). Only in Indonesia were there significant numbers of totally inward-oriented firms (42.1%). Nevertheless participation in export markets help firms enjoy greater scale effects and competition. Hence, where significant the relationship between technology and export incidence can be expected to be positive.

$X_i = 1$ if firms have export experience; $X_i = 0$ if otherwise.

Where X refers to export incidence of firm i.

4.2.2. Union

Owing to collinearity problems between wages and NS, union was used to represent labour market conditions. Given the lack of strong institutional representation involving electronics unions in the countries selected, the relationship between union and the technological intensity variables can be expected to be insignificant even when union incidence is high. Union was measured as a dummy variable:

$U_i = 1$ when firm enjoys unionised workers; $U_i = 0$ otherwise.

Where U refers to unionisation status of firm i. Using this criterion, the incidence of unionisation was highest in Indonesia (60.5%), which is a consequence of political freedom enjoyed by unions following democratisation since 1998. Korea (44.2%), Thailand (41.9%), Taiwan (36.8%) and Philippines (18.5%) followed next.

4.2.3. Size

There is a long standing debate on the importance of size on firms' productivity and technology levels. Typical industrial organization arguments posit that firms achieve competitiveness with a certain minimum efficiency scale (MES), which varies with industries (see Scherer, 1980; 1992; Pratten, 1971). The electronics industry is a diverse one in which some sub-sectors are scale-intensive (e.g. wafer fabrication

and semiconductor and disk drive assembly) while some specialize on the basis of scope (e.g. capacitors, resistors and diodes). Where scale is unimportant – e.g. small-batch components – scope rather than scale is important (Piore and Sabel, 1982; Rasiah, 1994; 1995). Audretsh (2002) offered pervasive analysis of US data to dispel arguments related to the significance of large size in efficiency and innovative activities. The increasing decomposition and dispersal of production involving electronics firms has made small size very efficient. Given the controversy over the role of size in economic performance and the claims of industrial organization exponents over MES differences, a neutral hypothesis was framed – simply that size has a bearing on technological capabilities.

Two categories of size were chosen, *viz.*, small and medium, and large, and it was measured as a dummy variable:

$S_i = 1$ when employment size was 500 or more; $S_i = 0$ if otherwise.

Where S refers to size of firm i. Based on this classification, small and medium firms dominated the samples of Taiwan (84.2%), Korea (79.1%), Thailand (71.0%) and Indonesia (60.5%) (see Table 3). Large firms accounted for more than half of the firms in the Philippines (77.8%).

4.2.4. Ownership

The evidence on the influence of foreign ownership on technological capabilities is mixed. The OECD (1998; cited in Amsden, Tschang and Goto, 2001: 5) reported that not more than 12% of total R&D expenditure is spent by firms outside home sites in developed economies. Lall (1992) argued that foreign firms transfer the innovation rather than the process itself abroad. Rasiah (2003) contributed empirical evidence to show that foreign firms generally participate only in process R&D in developing economies. However, Blomstrom and Persson (1983) and Blomstrom and Wolff (1994) provided evidence of positive spillovers from foreign firms' to the local economy. Given the contradictory evidence produced, albeit the methodological approach used may explain

the divergence, a neutral hypothesis was used. Foreign ownership was defined using equity share of 50% or more, and was measured as:

$FO_i = 1$ if foreign equity ownership of firm i was 50% or more; FO= 0 otherwise.

Where FO refers to status of ownership of firm i. Using this criteria, foreign ownership in the sample was highest in Philippines (66.7%) followed by Thailand (45.2%), Korea (34.9%), and Taiwan (34.2%) and Indonesia (34.2%) (see Table 3).

4.2.5. Owner-managed Firms

There is sometimes a misconception that multinationals cannot be managed by owners fully or partially. Since the most common definition of a multinational corporation refers to firms with assets in at least two countries, several foreign firms in the study met these conditions. It is often argued that owner managers impact both positively and negatively in firms' performance. On the one hand, owners are considered to have a greater drive to succeed owing to lower agency costs and their availability to make quick decisions. On the other hand, owner-managers are considered to be less professional, especially when running big businesses, and hence may lack the instruments to succeed in export markets. Hence a neutral hypothesis with either a positive or negative sign is expected. OM is measured using a dummy variable as follows:

$OM_i=1$ if firm is managed either partly or fully by the owner; OM=0 otherwise.

Where OM refers to status of management of firm i. Using this criterion, there were more local owner-managed firms in Taiwan (71.1%) and Korea (65.1%) than in Thailand (45.2), Philippines (22.2%) and Indonesia (47.4%) (see Table 3).

4.2.6. Age

Given that firms with longer experience are considered to enjoy greater experiential and tacit knowledge age is considered to provide a positive relationship with exports and technological capabilities. However, the

statistical relationship may not be positive if foreign firms, using superior technology from abroad and enjoying strong access to global markets, only started relocating their operations recently. Hence, a neutral relationship is assumed. The absolute age of the firm is used as an independent variable and was measured as:

A_i = years in operation of firm i.

Where A refers to age of operation of firm i.

Table 2: Variables, Proxies and Expected Relationships with NS

Variables and *proxies*	Acronym	Measure	Source of data	Expected Relationship with NS
Basic infrastructure	BI	1/3[H, E, T]	World Bank (2003) & National Ministries	
Health	H	Doctors/'000 people	World Bank (2003)	
Education	E	Literacy rate	World Bank (2003)	
Transport and telecom.	T	Tel. Lines/'000 people	World Bank (2003)	
High tech infrastructure	HTI	$\frac{1}{2}[RD_I, RD_{SE}]$	World Bank (2003) & National Min	
R&D investment	RD_I	R&D investment/GNI	World Bank (2003)	
R&D scientists and engineers	RD_{SE}	R&D scientists and engineers/million population	World Bank (2003) & National Min	
Network strength	NS	$NS_{BI} + NS_{HTI}$	ADB-UNU/INTECH survey	
Network strength with BI	NS_{BI}	1/3[HH+EE+TT]	ADB-UNU/INTECH survey	
Capacity and quality of health support	H	Likert scale (1..5)	ADB-UNU/INTECH survey	
Standard and quality of education	E	Likert scale (1..5)	ADB-UNU/INTECH survey	
Capacity and quality of transport and telecom.	T	Likert scale (1..5)	ADB-UNU/INTECH survey	
Network strength with HTI	NS_{HTI}	$1/3[RDu+RD_L+RD_{IG}]$	ADB-UNU/INTECH survey	
Capacity and quality of R&D support from universities	U	Likert scale (1..5)	ADB-UNU/INTECH survey	

Table 2: (Continued)

Variables and *proxies*	Acronym	Measure	Source of data	Expected Relationship with NS
Capacity and quality of R&D support from R&D labs	RD_L	Likert scale (1..5)	ADB-UNU/INTECH survey	
Capacity and quality of R&D incentives and grants from government	RD_{IG}	Likert scale (1..5)	ADB-UNU/INTECH survey	
Technology index	TI	HR+ PT+ RD	ADB-UNU/INTECH survey	Positive and significant
Variables and *proxies*	Acronym	Measure	Source of data	Expected Relationship with NS
Human Resource	HR	1/3[TM, TE, CHR]	ADB-UNU/INTECH survey	Unclear
Process technology	PT	1/3[EM, ITC, QC]	ADB-UNU/INTECH survey	Unclear
R&D	RD	½[Rdexp, RDemp]	ADB-UNU/INTECH survey	Positive and significant
Foreign ownership	FO	Dummy (FO=1,0)	ADB-UNU/INTECH survey	
Size	S	Dummy (S=1,0)	ADB-UNU/INTECH survey	
Union	U	Dummy (U=1,0)	ADB-UNU/INTECH survey	
Age	A	Absolute years	ADB-UNU/INTECH survey	
Management type	OM	Dummy (OM=1,0)	ADB-UNU/INTECH survey	
Quality control methods	QC	Dummy (QC=1,0)	ADB-UNU/INTECH survey	
IT components	ITC	Likert scale (1…5)	ADB-UNU/INTECH survey	
Cutting edge HR practices	CHR	Absolute number used	ADB-UNU/INTECH survey	
Equipment and machinery	EM		ADB-UNU/INTECH survey	
Training expense	TE	% in payroll	ADB-UNU/INTECH survey	
Training mode	TM		ADB-UNU/INTECH survey	
R&D expenditure	Rdexp	R&D expenditure in sales	ADB-UNU/INTECH survey	
R&D employees	RDemp	R&D employees in workforce	ADB-UNU/INTECH survey	

Table 3: Breakdown of Sampled Firms, 2000

	Ownership		Export Experience		Size		Owner Managed		Union		Total
	Foreign	Local	Yes	No	SMI	Large	Yes	No	Yes	No	
Korea	15(34.9)	28(65.1)	41(95.3)	2(4.7)	34(79.1)	9(20.9)	28(65.1)	15(34.9)	19(44.2)	24(55.8)	43(100)
Taiwan	13(34.2)	25(65.8)	37(97.4)	1(2.6)	32(84.2)	6(15.8)	27(71.1)	11(28.9)	14(36.8)	24(63.2)	38(100)
Thailand	14(45.2)	17(54.8)	31(100.0)	0(0.0)	22(71.0)	9(29.0)	14(45.2)	17(54.8)	13(41.9)	18(58.1)	31(100)
Philippines	18(66.7)	9(33.3)	27(100.0)	0(0.0)	6(22.2)	21.(77.8)	6(22.2)	21(77.8)	5(18.5)	22(81.5)	27(100)
Indonesia	13(34.2)	25(65.8)	22(57.9)	16(42.1)	23(60.5)	15(39.5)	18(47.4)	20(52.6)	23(60.5)	15(39.5)	38(100)
Total	73(41.2)	104(58.8)	158(89.3)	19(10.7)	117(66.1)	60(33.9)	93(52.5)	84(47.5)	74(41.8)	103(58.2)	177(100.0)

Note: Figures in parenthesis refer to percentages.
Source: Compiled from ADB Survey (2001-2002); UNU-INTECH Survey (2002) using Stata 7.0 Package.

Overall 177 electronics firms responded to the survey (see Table 3). The national sampling frames of the six countries were not used owing to the difficulty of obtaining firm-level data. Case studies of three electronics firms in Korea, Taiwan, Thailand and Philippines were carried out by national consultants, while the author undertook similar interviews in the Indonesia study. The survey and the case studies constitute the basis for the results and analysis in the paper. A correlation coefficient test was carried to avert use of variables causing multi-collinearity problems (see Appendix 1).

4.3. Statistical Models

This section presents the models specified to estimate the statistical relationships involving technological intensities. Tobit regressions were preferred because the technological intensity variables are censored both on the right and the left side of the data sets, and they take a maximum value of 1 and a minimum value of zero. NS is assumed to pick up country effects in models, and hence country dummies were not used in all the regressions.

$$\textit{Tobit: } TI = \alpha + \beta_1 X + \beta_2 NS + \beta_3 S + \beta_4 FO + \beta_5 OM + \beta_6 A + \mu \quad (9)$$

$$\textit{Tobit}: HR = \alpha + \beta_1 X + \beta_2 NS + \beta_3 S + \beta_4 FO + \beta_5 OM + \beta_5 A + \mu \quad (10)$$

$$\textit{Tobit}: PT = \alpha + \beta_1 X + \beta_2 NS + \beta_3 S + \beta_4 FO + \beta_5 OM + \beta_6 A + \mu \quad (11)$$

$$\textit{Tobit}: RD = \alpha + \beta_1 X + \beta_2 NS + \beta_3 S + \beta_4 FO + \beta_5 OM + \beta_6 A + \mu \quad (12)$$

All the regression models above were repeated using foreign and local firm samples separately. Individual country regressions by ownership were not carried out owing to low incidence of foreign ownership in Taiwan, and the small sample size involving Thailand and Philippines.

5.   Statistical Analysis

This section uses statistical instruments and the variables specified in Section 3 to examine differences in technological intensities between foreign and local firms in the six economies, and the relationship of technological variables with NS, including by separate foreign and local firms' samples.

5.1. Statistical Differences

This section examines statistical differences between foreign and local firms in wages, and technological capabilities using two-tail t-tests of means. The results are presented in Table 4.

Local firms enjoyed higher TI levels than foreign firms in Taiwan, Philippines and Thailand. The differences between foreign and local firms in Taiwan are mainly explained by differences in RD intensities, whereas in Philippines and Thailand it is largely due to differences in PT intensities. Local firms also enjoyed higher RD than foreign firms in Philippines. However, the RD scores in Philippines were extremely low. Foreign firms enjoyed higher PT and PT levels than local firms in Malaysia and Indonesia, which is linked to the participation of local firms as suppliers and in consumer electronics, and in Indonesia also as simple computer assembly manufacturing for the local market. Foreign firms also enjoyed higher HR than local firms in Indonesia. The differences in Korea were not statistically significant.

All in all, except for RD involving firms in Taiwan, there were no obvious statistical differences between foreign and local firms in Korea and Taiwan. However, as the evidence shows most foreign firms in the Korean sample were a result of local firms being acquired by foreign capital and hence might explain why no statistically significant differences were established. Differences on HR levels only existed in Indonesia, which could be cutbacks faced by inward-oriented local firms from the financial crisis. Foreign firms enjoyed higher TI and PT levels than local firms owing to the nascent status of local firms. Local firms dominated R&D capabilities in Taiwan. RD levels were also higher among local than foreign firms in Philippines but the levels were extremely low.

Table 4: Two-tail t-tests of Technology Intensity Levels by Country and Ownership, 2000

	Foreign	*Local*	*T*		*Foreign*	*Local*	*t*
TI				*PT*			
Korea	0.945	0.850	1.10	Korea	0.358	0.357	0.08
Taiwan	1.195	1.536	-2.10**	Taiwan	0.452	0.505	-0.96
Thailand	0.651	0.852	-1.97	Thailand	0.293	0.472	-3.73*
Philippines	0.807	1.001	-3.13*	Philippines	0.457	0.326	-2.57**
Indonesia	0.790	0.599	2.64*	Indonesia	0.310	0.235	1.97
HR				*RD*			
Korea	0.361	0.288	1.21	Korea	0.225	0.205	0.48
Taiwan	0.319	0.421	-1.48	Taiwan	0.423	0.610	-2.38**
Thailand	0.334	0.349	-0.18	Thailand	0.024	0.031	-1.03
Philippines	0.445	0.458	-0.53	Philippines	0.036	0.087	-2.06**
Indonesia	0.429	0.305	2.81*	Indonesia	0.052	0.060	-0.31

Note: * and ** refer to significance levels of 1% and 5% respectively.

Source: Computed from ADB (2001-2002) and UNU-INTECH (2002) data using Stata 7.0 Package.

Since the normalization was undertaken across the data set of the five economies, the simple means demonstrate significant differences in R&D capabilities between Taiwanese and Korean firms, and Philippines', Thailand and Indonesian firms. RD intensities of Philippines, Thailand and Indonesia were extremely low. Interviews also showed that much of the R&D reported by firms in Indonesia, Philippines and Thailand were only involved in minor adaptations of equipment and products. The higher intensity of Taiwanese firms over Korean firms could be a consequence of lower investment in the latter owing from the crippling financial crisis of 1997-98.

5.2. *Statistical Relationships*

This section examines the statistical relationships involving the technological intensity variables controlling for other variables. All the regressions in Table 5 passed the White test for heteroskedascity and the chi-square statistics of model fit. The results generally confirm

expectations. Country dummies were dropped when NS was used as it is subsumed and captured by the latter.

The explanatory variable NS was statistically highly significant and its coefficients were positive involving TI and RD – irrespective of ownership. Quite clearly the embedding institutional and systemic support has been a critical variable in influencing firms' participation in R&D activities. In addition, the coefficients of NS involving the local firms' sample for TI and RD were significantly stronger than in the foreign firms' sample, confirming local firms' participation and higher reliance on national NS than foreign firms. Although foreign firms' access to their parent and other foreign subsidiaries has reduced their use of national NS to undertake R&D activities, foreign firms generally produced superior products than local firms. Local firms – in addition to acquisition through licensing and learning by doing – show strong R&D effort to learn and innovate. NS was statistically insignificant against HR and PT in the all the regressions, which is, as argued earlier, a consequence of similarities in processes and HR practices that are required of electronics firms engaged in export manufacturing. This finding confirms the hypothesis defined earlier that NS is unlikely to show statistical relationship with HR and PT owing to the need for firms to use similar technologies in the electronics industry.

Export incidence (X) was statistically significant and the coefficients positive in the TI, PT and RD regressions in the overall and local firms samples. The lack of statistical significance involving the foreign firms' sample is invariably the consequence of too few firms lacking export experience.[6] The positive and strong coefficient involving the local firms sample demonstrate that exporting both requires and drives higher technological levels.

Ownership was statistically insignificant in all the regressions, suggesting that technological capabilities in the aggregated samples were not significantly different between foreign and local firms once controlled for levels of NS and other variables. However, the separate regressions by ownership show higher reliance on NS by local firms on

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[6] The lack of export-intensity data prevented a statistically more rigorous analysis on the influence of exports on the technological variables.

TI and RD intensities than foreign firms. This is to be expected since foreign firms have access to superior technological support from their parent sites.

Size (S) had a positive sign consistently in all the regressions except involving the RD regressions, i.e. large firms show higher technological intensities than small firms. It was statistically insignificant only involving RD, and involving TI and PT in the local firms sample. Clearly TI, HR, and PT in the overall and foreign firms' samples seem to be positively correlated with size – suggesting that scale is still important in HR and PT technologies in export-oriented assembly and testing activities. Although size was not statistically important, most firms with R&D activities are not involved in Original Brand Manufacturing (OBM) activities. Also, management type carried a positive coefficient in all the regressions, and was statistically significant in the overall and local firms' samples involving TI and PT, and overall sample involving RD. Age was statistically significant in all the RD regressions, suggesting that older firms enjoy higher R&D intensities than newer firms, though its influence was small. Union was statistically significant and the coefficient is positive in the RD regressions in the overall and foreign samples. Given the weak position of unions, this relationship is either likely to be spurious or because of the fairly high incidence of unionisation in Taiwan and Korea (only lower than in the Indonesian sample) where the RD levels were the highest in the sample.

Taken together, it can be seen that NS has had a critical influence on TI and RD intensities in the countries examined. Although FO did not enjoy a statistically significant relationship with all the technological intensity variables, NS has had a greater impact on TI and RD in local firms than on foreign firms. The highly significant and positive coefficient of X in the local firms sample showed that technological levels were higher in exporting than in inward-oriented local firms in these countries. The results involving the foreign firms sample could not be interpreted owing to the dominance of only exporting firms in the sub-sample.

Table 5: Statistical Relationships Involving Technological Intensities, 2000

	TI			HR			PT			RD		
	All	Foreign	Local	All	Foreign	Local	All	Foreign	Local	All	Foreign	Local
X	0.226 (2.83)*	-0.163 (-1.09)	0.307 (3.09)*	0.030 (0.74)	-0.131 (-1.69)	0.067 (1.32)	0.155 (4.49)*	0.055 (0.67)	0.175 (4.75)*	0.105 (2.01)**	-0.056 (-0.62)	0.132 (2.01)**
NS	0.833 (5.87)*	0.513 (2.65)*	1.000 (4.48)*	0.071 (0.99)	-0.024 (-0.24)	0.109 (0.95)	0.070 (1.14)	0.085 (0.81)	-0.002 (-0.03)	0.795 (9.32)*	0.530 (4.78)*	0.980 (7.18)*
FO	-0.003 (-0.06)			0.026 (1.06)			-0.008 (-0.38)			-0.026 (-0.89)		
U	-0.040 (-0.82)	0.037 (0.58)	-0.044 (-0.56)	-0.035 (-1.44)	-0.005 (-0.16)	-0.043 (-1.09)	-0.030 (-1.47)	-0.012 (-0.35)	-0.054 (-1.90)	0.054 (1.87)	0.074 (2.09)**	0.075 (1.57)
OM	0.112 (2.34)**	0.087 (1.42)	0.121 (1.66)	0.016 (0.67)	0.024 (0.76)	0.006 (0.15)	0.041 (1.97)**	0.020 (0.60)	0.065 (2.44)**	0.068 (2.31)**	0.049 (1.37)	0.063 (1.40)
A	0.006 (2.63)*	0.002 (0.67)	0.008 (2.29)**	-0.001 (-0.98)	-0.002 (-1.25)	-0.001 (-0.61)	0.002 (2.40)**	0.000 (0.19)	0.004 (3.16)*	0.006 (4.60)*	0.006 (3.08)*	0.006 (3.00)*
S	0.149 (3.13)*	0.173 (2.98)*	0.106 (1.39)	0.127 (5.26)*	0.136 (4.52)*	0.114 (2.94)*	0.057 (2.77)*	0.098 (3.10)*	0.028 (1.01)	-0.033 (-1.13)	-0.039 (-1.15)	-0.054 (-1.15)
μ	0.161 (1.66)	0.705 (3.99)*	-0.011 (-0.09)	-0.035 (-1.44)	0.508 (5.54)*	0.250 (3.86)*	0.153 (3.66)*	0.248 (2.57)*	0.147 (3.15)*	-0.460 (-7.16)*	-0.185 (-1.70)	-0.573 (-6.77)*
N	177	73	104	177	73	104	177	73	104	177	73	104
LR, χ2	79.61*	17.53*	62.56*	35.63*	22.92*	15.31**	52.39*	10.88***	52.92*	141.04*	50.39*	83.58*
LL	-73.97	-22.89	-45.88	76.22	47.55	28.59	104.20	29.88	58.69	4.90	12.57	-3.07

Note: * and ** refer to 1% and 5% levels of significance; NS is expected to capture country effects.

Source: Computed from ADB (2001-2002) and UNU-INTECH (2002) survey data using Stata 7.0 Package.

6. Conclusions

Although the statistical results were mixed, the paper produced some clear findings. Local firms enjoyed higher TI and RD capabilities than foreign firms in Taiwan and Philippines. The latter is understandable given that foreign firms enjoy access to their superior R&D capabilities abroad. As expected, there were no obvious differences in HR and PT capabilities between foreign and local firms in Taiwan. There was also no obvious statistical difference between foreign and local firms involving all the technological indicators in Korea. Foreign firms in Indonesia enjoyed statistically superior TI and PT compared to local firms. Local firms enjoyed higher TI and PT capabilities than foreign firms in Thailand. Statistical differences involving HR was only obvious in Indonesia, where foreign firms enjoyed higher levels than local firms.

The econometric analysis showed that NS impacted strongly on TI and RD capabilities in all the regressions, demonstrating that network strength matters in especially the depth of R&D participation of both foreign and local firms. As expected network strength had a bigger impact on local TI and RD capability than in foreign firms' samples. Owing to the common parameters required in the electronics industry in assembly and test operations where the competition is intense, NS did not enjoy a statistically significant relationship with HR and PT in all the regressions. Export incidence enjoyed a strong and positive relationship with TI, PT and RD in the local firms sample demonstrating its strong and positive influence on technological intensity. There were too few observations involving only inward-oriented foreign firms to interpret the foreign firms' sample.

Although local firms inexorably rely on domestic NS more than foreign firms to support their R&D activities, it influences technological intensities in both sets of firms. Hence, the results indicate that there is a need to strengthen institutional and systemic support instruments to stimulate the participation of both local and foreign firms in technological activities. Policy focus should target strengthening the institutional and systemic environment facing firms, as it will enhance learning and innovation conduct in firms. The strategies for individual

economies would obviously differ with their specific endowments and their technology trajectories.

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GROWTH WITH EQUITY OVER VIETNAM'S ECONOMIC TRANSITION: A POLITICAL ECONOMY PERSPECTIVE

Scott Fritzen[*]

1. Poverty as the litmus test of economic reform in Vietnam

After seemingly interminable decades lost to war and later isolation and economic mismanagement, the closing decade of the 20th century was, in development terms, perhaps the greatest in its history. Vietnam enjoyed an average rate of economic growth of 7.6% over the decade, placing it among the fastest growing countries in the world, alongside its neighbor China. Less remarked upon is the burst of poverty reduction Vietnam experienced over this period, one that would, if sustained a further ten or fifteen years, move it from the ranks of the poorest countries in the world to one with negligible levels of absolute poverty. In part because of these numbers, and the textbook fashion in which the Vietnamese economy responded to market-oriented reforms, the multilaterals have celebrated Vietnam as a showcase of the promise of economic integration or 'globalization' for poor countries.

Yet the close of the decade found many beginning to examine Vietnam's experience from a more critical angle. While Vietnam's growth rates have been consistently high, there is now doubt that inequality is rising at a significant pace across a range of sectors and

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dimensions of social and economic life. Concerns over institutional quality are also pronounced; for instance, perceptions of corruption in officialdom have ranked among the highest in the world since Transparency International first included Vietnam in its rankings in 1997. This (also one-sided) scenario of declining growth, static institutional quality, and rapidly increasing inequality has at times triggered doubts over the sustainability of poverty reduction in Vietnam.

Poverty is arguably the most momentous socioeconomic issue facing Vietnam over the medium-term, for a number of reasons. First, however defined, the sheer number of people living in 'absolute' poverty is still high in Vietnam. Just over one-quarter of the population, or some 20 million people, fall below a putatively comparable international poverty line, and a large population is clustered just above the that line. Second, the issue of how fast inequality is growing, and what it means for Vietnam's self-defined 'multi-sectoral economy with socialist characteristics', is politically sensitive, particularly given reports of sporadic rural unrest in several regions of the country, which, though their causes may be localized, cast doubt over the degree of responsiveness and legitimacy of local institutions. Local debate over the links between growth, inequality and poverty in the transition process affect the willingness of policy elites to pursue more rapid economic and institutional reforms. Third, the pace of poverty reduction (as well as economic restructuring) will fundamentally color relations with the donor community, more focused than in previous decades on the impact of the policy environment on poverty reduction (World Bank 2004a).

Thus, how Vietnam deals with the question of poverty and inequality will fundamentally determine the type of society it will become. Will it be able to emulate the long-term relative success of the East Asian 'tigers' in generating broadly based affluence and reducing poverty? Will Vietnam ultimately resemble countries like the Philippines or Sri Lanka, which, despite better-than-average social indicators in some areas, have lost the momentum of growth and poverty reduction for sustained stretches in the recent past? A 'worst case' scenario – in which Vietnam drifts towards some unstable combination of accelerating inequality, low economic growth and institutional dysfunction – is also not to be dismissed.

What was the Vietnamese model for reducing poverty over the last fifteen years? How sustainable is it in light of the ever-changing institutional and economic environment? What will Vietnam have to do in order to continue to reduce poverty? The paper first examines the interrelationships between growth, inequality and poverty reduction in the literature, and then uses the 'growth with equity' paradigm as the background against which to assess Vietnam's growth experience. Having surveyed the reform agenda necessary to continue to deliver rapid poverty reduction, the paper concludes by assessing the political and institutional dynamics underlying these reforms.

2. 'Growth with equity' as an emerging model of economic governance

The relationships between growth, inequality and poverty reduction have generated an enormous literature over the years (Srinivasan [2001] and Bruno and others [1997] provide an overview). While interpretive emphasis may differ, a number of analysts and institutions previously holding quite contrary positions have in recent years embraced certain key general propositions, which might be broadly described as the 'growth with equity' position (Watkins, 1998). Specific elements of this broad school of thought include the following:

1. *Necessary relationship between growth and poverty reduction.* Even typical critics of orthodox development theory increasingly acknowledge the critical role of growth in reducing poverty sustainably, particularly in very low-income countries. In the absence of growth, few government interventions can sustainably reduce poverty, and radical measures to affect income distribution generate huge inefficiencies and lack political feasibility.

2. *Need for 'high-quality' growth to maximize poverty reduction.* While the impact of growth on poverty reduction is almost always positive, the speed and depth of the impact varies significantly. A range of policy measures is available to governments to improve the impact of any given level of economic growth on poverty reduction.

3. *No necessary relationship between growth and inequality.* Contrary to earlier theories going back to Kuznets (1959), several studies

(reviewed by Srinivasan, 2001) suggest that there is no *necessary* connection between rapid growth and inequality generation. Country experience varies dramatically; in a study of 44 countries over the period 1981-92, inequality was found to slightly rise with greater rates of economic growth in about half of the countries, and in half it actually fell (Bruno and others, 1997). One must therefore look at the specific propelling forces behind the growth–inequality relationship in any given case.

The above propositions derive from a particular reading of international experiences, with East Asian countries occupying a prominent position. It is widely known that successful East Asian economies such as South Korea and Taiwan have been able to combine comprehensive economic transformation with relative social equity, while many Latin American countries –Brazil and Mexico are the classic examples – have made far less social progress, despite substantial economic growth. Several studies (Watkins, 1998; World Bank, 1993) suggest the success of the "tigers" in this regard rested on three important factors: *i)* higher levels of *initial* equality and equal distribution of assets (in part due to major socioeconomic traumas, such as World War II, the Korean War etc.); *ii)* egalitarian, high-quality educational systems; and *iii)* a labor-intensive growth strategy which contributed to employment creation and growth in real wages. These three factors worked to Latin America's detriment. It has been plagued by deep economic and social inequalities that predate its period of rapid industrialization. Its income distribution has been skewed by an educational system and social expenditure biased heavily against basic services (e.g. favoring university education). And its import substitution industrial strategy was decidedly less successful in creating flexible labor markets with low unemployment and growing wages (Watkins, 1997).

The case of China reveals the complex interplay of the three variables – growth, inequality and poverty reduction – in practice, as opposed to the neat theory. It plays an important role in interpreting the Vietnamese experience, since neither falls into the East Asian 'miracle' or 'Latin American' categories. The poor have benefited greatly from Chinese growth over the previous twenty years, with poverty estimated to have fallen by over 50% between 1981 and 1995, regardless of the poverty

line used (World Bank, 1997, p. 11). But China has experienced a degree of inequality generation (as measured, for instance, by a Gini coefficient which increased from 28.8 in 1981 to 38.8 over the same period) which is "highly unusual and signals deep structural transformation in the distribution of assets and their returns" (World Bank, 1997, p. 1). Regional disparities have grown tremendously: between the coast and the interior, but even more between rural and urban regions throughout the country. Such disparities have gone hand in hand with widening gaps in access to basic services, which reflect purchasing power to a greater degree than in the past.

Regional disparities in China have grown for several reasons, in ways that complicate the relationship between the variables under consideration. The advantages of better infrastructure (proximity to world markets and harbors etc.) have increased with the reforms, so better endowed areas have benefited from them to a greater extent. Yet several reasons relate more to particular policy choices, making the pace of inequality generation perhaps less 'inevitable' than many casual observers may posit (Wang and Hu, 1999; World Bank, 1997; Ravallion and Chen, 2004). First, regional policies have designated coastal areas for preferential treatment in foreign trade and investment. Second, the interprovincial distribution of public finance has become more regressive and has led to an inability to maintain basic expenditures on public services in poorer areas. Third (and partly as a result of these policy-related shifts), interior regions have generated significantly less human capital, with pre-existing gaps in literacy, school attendance and infant mortality widening since the advent of the reforms. Fourth, coastal regions have benefited from investment levels two and a half times higher than those in the interior, leading to differential economic growth rates, with coastal growth powered by fast growing export industries. Thus while the basic East Asian, 'growth with equity' pattern of stressing education and labor-absorbing growth is evident in the Chinese case, the degree of inequality – to a large extent generated by policy – is inconsistent with that basic paradigm.

3.   Indicators from Vietnam's transition

To what extent have Vietnamese reforms followed a 'growth with equity'-type pattern? To what extent do they parallel China, with its extremely rapid inequality generation coupled with poverty reduction? This section first explores the background to Vietnam's transition reforms, and then examines its impacts on socioeconomic indicators over the past fifteen years.

3.1. Background to reforms

The scope of Vietnam's *doi moi* ('renovation') reforms stretching over the past fifteen years is striking. China and Vietnam were the 'stars' among former command-and-control economies, with sustained growth rates over 7% through much of the 1990's, continuing well into the new millennium. Even the comparison with China is sobering. Unlike China, Vietnam began its reforms in macroeconomic crisis; it also began its most far-reaching reforms nearly a decade later than China.

What were the conditions from which Vietnam began this economic ascent? Following reunification of the country in 1975, the North pressed ahead with its model of a top-heavy, centralized economy, which had been consolidated in the North for some decades. An attempt was made to collectivize agriculture in the South; it was fiercely resisted and generally unsuccessful. Private trading of any kind was banned, as the service sector was viewed as non-productive. The banking system simply responded passively to politically driven investment decisions, and in any case faced a dire shortage of funds. Prices were essentially irrelevant in this bureaucratic, centralized state-subsidy system. The results of this experiment were dire. Per capita growth was negative throughout the late 1970's, including in the state-owned heavy industrial sector, which was intended to be the leading engine of growth.

By 1979, calls for reform were heard, and two important reforms – introducing a contract system in agriculture, and allowing 'spontaneous commercialization' of state-owned enterprises – were implemented in 1981. A period of "big bang" fundamental reforms began in 1987 and is well documented elsewhere (Fforde and de Vylder, 1996); key reforms included large-scale decollectivization, monetary and price reforms, and

openness to trade and foreign direct investment. Following stabilization in both external relations and in the economy, by the early 1990's Vietnam was set for over 10 years of rapid economic growth.

## 3.2. *Vietnam in comparative context*

There are three relevant human development facts about Vietnam that immediately stand out when looking at the country in comparative perspective. The first is high poverty. The World Bank places Vietnam 157 out of 207 ranked countries in terms of Gross National Income per capita (at purchasing power parity in 2000, to take but one point over this period). Low per capita income translates into high levels of deprivation in some key indicators. Despite a decade of incremental improvements, "child malnutrition rates in Vietnam are among the highest in the region" (World Bank, 2001a, p. 27). Second, Vietnam has better social indicators than most similarly situated poor countries (excepting malnutrition rates). The final stylized point is the extreme sub-national variation found in terms of both economic and social indicators.

Figure 1 above depicts all three facts rather simply, plotting, for Vietnam and several comparator countries, per capita GDP against their Human Development Index (HDI) score.[1] Vietnam ranks near the bottom in terms of per capita income, but its HDI score is significantly better than several other low-income comparators. Table 1 places the sub-national picture in perspective by providing regional HDI estimates, confirming that some areas – the Southeast (home to Hochiminh City) in particular – are nearly as well off as average residents of richer countries such as Malaysia, while others are on par with Vietnam's poorer Indochinese cousins, Cambodia and Laos. Vietnam's HDI score increased steadily since 1985 (the first year for which it was calculated) to 2003, from .58 to .70, driven primarily by increases in the GDP per capita component of the index (hdr.undp.org/statistics/data/countries.cfm?c=VNM, accessed November 24, 2005).

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[1] The Human Development Index – HDI for short – combines five indicators: per capita income, educational attainment (combined first-, second- and third-level gross enrolment ratio), literacy rates and life expectancy.

Figure 1. Vietnam's human development score and per capita GDP in comparative perspective
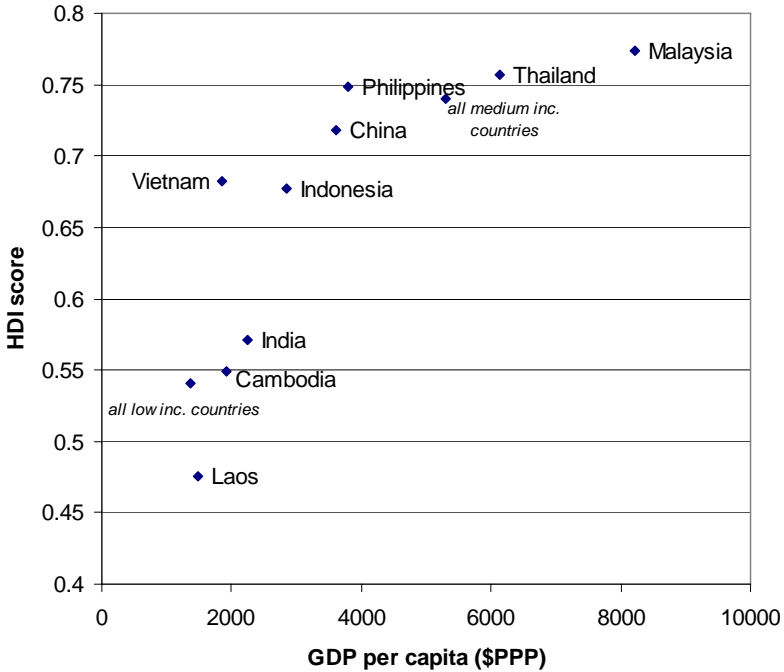
3.3. Socioeconomic impacts of the transition

What happened to poverty and human development indicators during the transition? Rapid growth generated rapid reductions in poverty; the period between 1993 and 2002 – dates framing the most rigorous large-scale survey available, the Vietnam Living Standards Survey [VLSS], technically assisted by the World Bank and the UNDP – saw a 29 percentage point decline in the head-count index of poverty (see table 1). This figure suggests Vietnam's poverty reduction experience over the 1990s was among the fastest ever recorded.[2] Growth was also relatively

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[2] Others rapid experiences of poverty reduction include Malaysia (1965-92), Cuba (1960-70) and Korea (1965-92); see Taylor and others (1997, p. 443).

broadly based: all regions and most sub-populations have seen absolute incomes rise.

Key social indicators – such as life expectancy, infant mortality, and literacy – have almost uniformly improved during the transition, though often marginally. Some nutritional indicators saw rapid improvement between 1993 and 1998, with stunting rates for children under five decreasing from 53% to 33.6% (Koch and Nguyen, 2001, p. 66), though others, such as underweight children under five, have declined much more sluggishly (World Bank, 2001a, p. 29). Vietnam posted relatively strong gains between 1985 and 1999 in life expectancy (67 to 74 years) and infant mortality (49 to 33 per 1,000 live births), but marginal gains

Table 1: Progress on the Chiang Mai Initiative
(As of December 31, 2003)

BSA	Currencies	Conclusion Dates	Amount
Japan-Korea	USD/Won	July 4, 2001	US$ 7 billion (a)
Japan-Thailand	USD/Baht	July 30, 2001	US$ 3 billion
Japan-Philippines	USD/Peso	August 27, 2001	US$ 3 billion
Japan-Malaysia	USD/Ringgit	October 5, 2001	US$ 3.5 billion (a)
PRC-Thailand	USD/Baht	December 6, 2001	US$ 2 billion
Japan-PRC	Yen/RMB	March 28, 2002	US$ 3 billion equivalent
PRC-Korea	Won/MB	June 24, 2002	US$ 2 billion
Korea-Thailand	USD/Baht	June 25, 2002	US$ 1 billion
Korea-Malaysia	USD/Ringgit	July 26, 2002	US$ 1 billion
Korea-Philippines	USD/Peso	August 9, 2002	US$ 1 billion
PRC-Malaysia	USD/Ringgit	October 9, 2002	US$ 2 billion
Japan-Indonesia	USD/Rupiah	February 17, 2003	US$ 3 billion
PRC-Philippines	RMB/Peso	August 29, 2003	US$ 1 billion
Japan-Singapore	USD/S$	November 10, 2003	US$ 1 billion
Korea-Indonesia	USD/Rupiah	December 24, 2003	US$ 1 billion
PRC-Indonesia	USD/Rupiah	December 30, 2003	US$ 1 billion

Note: (a) The US dollar amounts include

in 1999.[3] Indeed, it is the pre-transition (i.e. indeed pre-1980s) period that stands out for exceptionally rapid advances in these latter indicators.

The trajectory of the social sectors, with health and education representative, has thus been quite different from that of the productive sectors, which saw extremely rapid development over the transition. Most of the uniqueness of Vietnam – relatively good social indicators given its income level – was evident prior to the reforms, not as a direct result of them. Moreover, during the early transition period (i.e. the late 1980s) the social sectors experienced what might be called a 'double crisis without a transition'. They were first hit by the marked lack of investment and organizational decline which inflicted all sectors of the economy (precipitating the reforms). And, what service-delivery mechanisms did exist essentially crumbled with the decline of the cooperatives, the disappearance of subsidies and the lack of a clear legal and regulatory framework. The opportunity for a revitalized social sector – with both renewed resources and a coherent legal and policy framework consistent with a market-oriented economy – was one which inevitably would take longer to realize. By the mid-1990s, the social sectors enjoyed relatively stable funding after significant increases in the share of a rapidly increasing GDP the government was collecting as revenues (SRVN and others, 2000). Overall, then, social service delivery networks and social indicators have not declined, but rather have stabilized and marginally improved over the transition, particularly since the mid-1990s. Given appalling declines seen in some transition contexts (e.g. Russia), that is no small achievement.

The more problematic aspect of the transition is its impact on rapidly accelerating socioeconomic and regional disparities and the persistence of vulnerable populations who have yet to fully take part in the economic growth picture. Inequalities in certain social indicators critical to human capital remained undiminished, or have even increased, over the previous fifteen years. One type of variation is regional. Infant mortality, for instance, varies in provinces from 85 per 1000 infants – as bad as most

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[3] These figures are subject to large measurement errors and should be read cautiously. Data for life expectancy and infant mortality for 1985, and literacy for 1980, is taken from ESCAP (1993) and for 1999 from UNDP (2001).

least developed countries, for instance – to below 20 for several cities and delta provinces, on part with some of the most economically advanced states in Asia. Differential access to social services and infrastructure account for much of this variation. For instance, access to improved sanitation facilities is both an important goal in itself and a key determinant of long-term health outcomes; it too varies dramatically by province, from less than 25% in some mountainous and coastal provinces to over 95% in several cities and delta provinces. This scale of disparity is found across many types of social indicators.

Figure 2. Theil decompositions of inequality by region (panel a) and rural/urban (panel b)

Panel A   *Panel B*
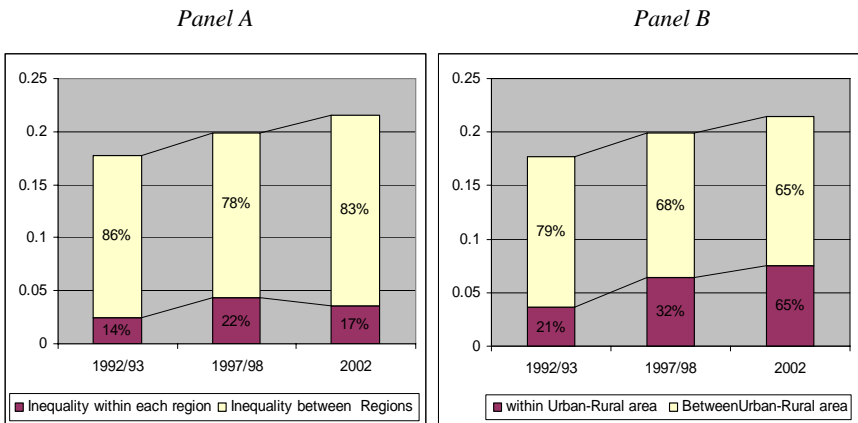
Source: VLSS calculations

Other measures examine the breakdown of economic inequality within a country. One is the Theil index, used to assess both overall levels of inequality as well as factors that have contributed to changes in the expenditure Gini. Figure 2 shows two ways in which the Theil divides contributions to inequality: between and within rural and urban areas, and between and within regions. Much of the recent increase in inequality in Vietnam is due to a rise in inequality <u>between</u> regions and <u>within</u> urban and rural areas. The economic development performance of regions is diverging over this period. But within these regions, greater levels of inequality are observed between similarly situated rural and

urban areas. This may represent a change from the early years of the transition. In 1999, a donor report (World Bank, 1999a:ix) suggested that:

this period [1993-1998], which followed some very significant policy changes in Vietnam...has seen no increase in inequality within rural areas. In fact, inequality within rural areas has actually declined somewhat during this period. While concern has been raised that the policy reforms initiated in agriculture would lead to rising inequalities, there is no evidence to indicate that this is the case.

The recent evidence suggests that at the macro level, the above statement is no longer accurate. One interpretation for the pattern observed in Figure 2 is that the process of economic differentiation between households in similarly situated areas is accelerating due to increasing returns to human capital, regular wage employment and, perhaps, access to economic rents and corruption. A complementary perspective is that the different degree to which local governments succeed in creating an enabling policy and regulatory environment, even in similarly situated localities, is taking on greater importance under conditions of administrative decentralization in Vietnam.

Another way of disaggregating human development is by household expenditure quintile, highlighting the differential outcomes of economically better-off and poorer households. In Figure 3, the *outcome* of interest is malnutrition in Panel A, while Panel B presents a related *service coverage* indicator, access to prenatal care. Substantial disparities mark both; astonishingly (given the near universal coverage of health centers in the countryside), over half of pregnant women in the poorest expenditure quintile still fail to access prenatal care. Causation is complex in these cases,[4] but the figures side by side emphasize that some classes with greater expenditure levels have greater access to critical services that drive differential human development outcomes.

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[4] Income is not necessarily the main cause of disparities in nutritional indicators. Factors correlated with income that are highly influential in this case (such as the situation of minorities in remote areas and the education of mothers) are in turn highly correlated with income.

Figure 3. Expenditure quintile as predictor of the access to prenatal care (Panel A) and malnourished children (Panel B) (1998)
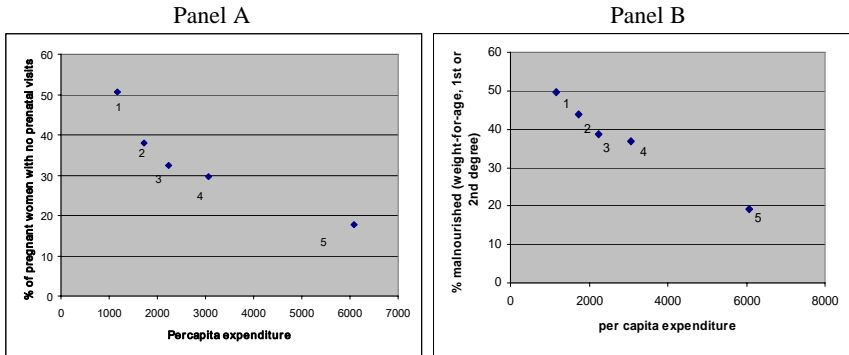
By highlighting an important social service affecting women, Figure 3 also indirectly raises the issue of gender. Women's legal and constitutional rights are strong in Vietnam, and economic disparities between men and women remain. Yet some social aspects of gender inequalities appear to be growing – such as the vulnerability of women to domestic violence – while their political representation has also been gradually declining at all levels of government.

Another source of variation is by ethnicity. It has sometimes been stated that all regions and ethnic groups are gaining from *doi moi,* simply at different rates. Minorities have clearly benefited from improved coverage of social infrastructure, particularly where coverage is measured by physical accessibility. For example, virtually all communes now have at least one primary school and a public health clinic, and coverage of the electricity network in minority-dominant households has also improved, from 7% in 1993 to 43% in 2004. Yet especially in terms of the *utilization* of services, minority coverage gaps continue to loom very large. Although minority students have gained better access to education at all non-tertiary levels over the past 15 years, the absolute gap in educational attainment between them and Kinh students has remained constant at lower secondary education and grown at the upper secondary level (World Bank, 2003). And the pace of their poverty

Figure 4. Poverty gap for ethnic Kinh and minorities, 1993-2002
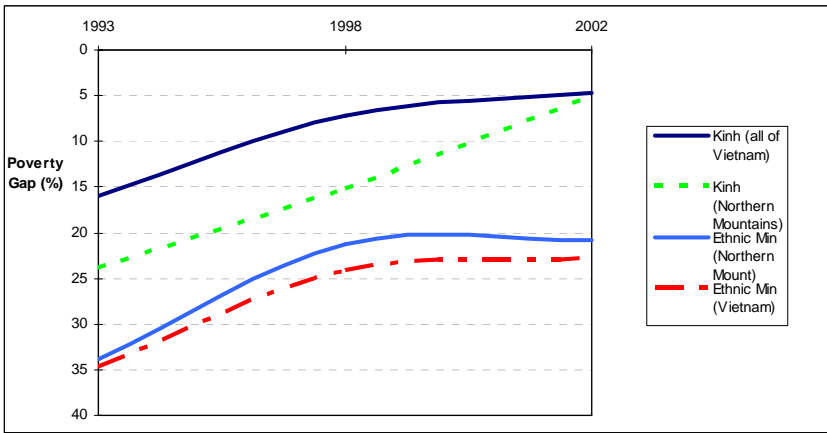
decline seems to have largely frozen between 1998 and 2002; the poverty gap measure, for instance – a reflection of how far from the poverty line poor minorities remain – has barely moved in this period (see figure 4).

4. Can Vietnam sustain 'growth with equity' as a poverty reduction strategy?

Vietnam has thus experienced rapid growth linked to broadly based poverty reduction and generally improving social indicators during its transition to a market-oriented economy. Yet inequalities have also increased substantially, whether measured by income or social indicators. Ethnic minority-majority, regional and urban-rural disparities are all pronounced. From this perspective, Vietnam's experience has generally resembled that of China, which one might summarize as growth with imperfect (but still substantial) equity.

Can Vietnam sustain and build on the gains of the transition to date, while slowing or reversing the trend towards increasing inequality? The answer will depend, first, on the analyst's assessment of the nature of Vietnam's achievements to date, and specifically on how dependent these gains were on specific circumstances experienced in the early to

mid-transition period. The answer will also hinge on Vietnam's changing policy environment. This section examines each of these areas.

Why did Vietnam succeed in quickly achieving, not only stabilization, but also rapid economic growth and poverty reductions over the course of its reforms? Views divide into the 'pessimist' and 'optimist' camps, depending on the analyst's views on the implications of the early transition period for further development. The 'pessimist' position[5] begins with the assertion that Vietnam benefited in its initial reform period in ways unlikely to be sustained or repeated. Its economic structure was not overly dependent on a large state-owned heavy industrial complex, making its downsizing less problematic. Just as external aid from the former Soviet Union dried up, large oil production came on line to help balance the budget. And the enormous boost in rice production was a 'one-shot deal', compensating for previous restrictive structures; further growth in agriculture will be slower and more difficult to achieve. In looking for a guidepost for future development in Vietnam, pessimists focus on three factors: a) structural constraints, such as population growth and relative dearth of natural resources per capita; b) policy shortcomings, particularly urban and lowland bias, leading to a predicted stagnation of agricultural growth and rapid environmental decline in the highlands; and c) institutional rigidities, such as continued emphasis on the state-sector over the more dynamic private sector. Vietnam is seen to lack the political will to make the thorough institutional changes, particularly in the promotion of the non-state sector, which are the logical continuation of the initial transition policies. The essence of this view is that achievements to date

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[5] Some typical early statements in this vein: "[I]t is more than likely that Vietnam will not be able to maintain rates of GDP growth that will enable it to avoid falling behind others in the region" (Fforde, 1996, p. 20). "Judged by current progress, Vietnam has at best a chance in three of achieving [the route followed by the four little dragons, including Taiwan and China]" (Haughton, 1994, p.31). "The assessment … of Vietnam's development prospects is not n optimistic one. … We perceive many of the negative factors – rapid population growth, limited resources, environmental degradation, cultural, institutional, and ideological rigidities – as interacting in ways that produce negative synergy" (Jamieson and others, 1992, p. 5).

in terms of both the *level* and *broadly based nature* of growth are currently under threat.

The 'optimistic' position[6] views the transition through a different lens. While acknowledging all the fortuitous contributing factors above, optimists see in Vietnam's *doi moi* reforms a demonstrated commitment to pragmatism, and the capacity to adjust with changing circumstances. In marked contrast to the pessimists, government capacity generally, and social organization specifically, are typically seen as strong. Vietnam has enjoyed generally good macroeconomic management, of crucial importance to providing a long-term pro-growth environment. Moreover, Vietnam's relatively broadly based human capital has enabled many segments of society to benefit from the initial reforms (creating a momentum in favor of their continuation) and will underpin Vietnam's long-term attraction as a magnet for foreign investment, only temporarily disrupted in this view by the Asian financial crisis, the world economic slowdown and ongoing administrative reforms. This view suggests one can still expect considerable poverty reduction in Vietnam.

While both stylized perspectives above are consistent with some of the facts of Vietnam's transition – there is no need to choose one or the other – they imply substantially different trajectories for Vietnam's development outcomes. It is in the assessment of the government's reform agenda that the views above differ most sharply, and indeed, the 'growth with equity' paradigm discussed in section two holds that public policies play an important role in mediating the growth-poverty-inequality relationships. Some of the most important overall policy orientations posited in this paradigm to lead to both sustainable growth and social equity, and which can be empirically evaluated in Vietnam, include: a) maintenance of macroeconomic stability; b) economic policy that generates demand for labor; c) ensuring broad access to human and productive assets; d) provision of public goods that boost the returns to those assets; e) compensatory policies for slow growing regions and

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[6] The donor community is nature home of most 'optimistic' analysts. As Landes (1999, p. 492) notes after listing self-defeating government policies in developing countries, the "international experts keep their chin up (that's what they're paid for) and offer modest recipes for improvement."

vulnerable populations; and f) institutional reforms that ensure effective implementation of these policies. The remainder of this section briefly surveys the state of reforms in these areas.

4.1. Maintenance of macroeconomic stability

Macroeconomic stability is strongly associated with the primary means to sustainably reduce poverty – facilitation of high-levels of investment and economic growth. Inflation also serves as a regressive tax borne disproportionately by the poor, who are unable to protect the value of their cash assets as well as the better-off (Ames and others, 2001).

Vietnam has been able to maintain overall macroeconomic stability throughout the transition. Inflation was held in single digits throughout the 1990s and first four years of the new decade. One trend initially causing concern in the late 1990s was the erosion of revenue collection as a percentage of GDP, from 22.6% of GDP in 1995 to 18.5% in 2000[7], but since then revenues have rebounded to as high as 25% of GDP in 2004 (www.mof.gov.vn, accessed November 10, 2005); against this favorable trend, the donor community estimates associated risks to fiscal sustainability in the near term as manageable. The authorities have shown a high commitment to maintaining macroeconomic stability, even at the cost (in their perspective) of slower economic integration and structural reforms. Most forecasts of the macroeconomic picture are for continued stability (EIU, 2005).

4.2. Rapid employment generation

Reducing poverty in Vietnam is inextricably linked to policies that promote extensive use of the primary asset owned by the poor – their labor. It is estimated that the Vietnamese economy must absorb well-over one-million new labor entrants per year (Webster, 1999; Le Xuan Ba et al. 2001), while returns to labor must increase over time for incomes to be rising and poverty falling. In Vietnam and many other countries, the primary engines of employment generation are labor-

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[7] The figure for 2000 is IMF estimate, cited in World Bank (2000, p. 1).

intensive industrialization and the promotion of higher incomes through higher productivity in the smallholder agricultural sector. Among the most important policy instruments for doing this are the removal of biases (e.g. in the allocation of scarce credit) towards capital-intensive, import-substituting industries and the facilitation of private-sector investment and small- and medium-scale enterprises.

Performance in these areas is mixed and the subject of much controversy. Growth has clearly generated significant increases in employment in industry, construction and services, and wage employment has driven incomes higher for a substantial segment of the population. But there is some controversy among researchers as to whether one could reasonably expect the growth to be generating significantly *more* off-farm employment than has been the case to date. Several analysts are suggesting the rate of employment generation has slowed in recent years (Le Xuan Ba et al. 2001; Belser, 2000). What is the evidence?

Labor-intensive enterprises have declined as a proportion of all industry from 58 to 51%, and account for only one-third of exports (in contrast to China, for instance, where it accounts for half of all exports). The overall growth in industrial-sector employment has been modest, growing at an average rate of 4% between 1993 and 1997 and 8% from 1997-2003; both figures are low compared to industrial GDP growth. Labor-intensive industry only accounts for a third of exports, as opposed to China where it accounts for half of all exports (World Bank, 1997; Le Xuan Ba *et al,* 2001; and Belser, 2000).

Two factors help explain the pattern observed. First, the environment for the private sector – while without doubt improved since the early transition period – has yet to become fully enabling. The small but growing private sector suffers from variations in the quality of provincial regulatory environments, which results in a high level of "informality", meaning essentially that the sector is not effectively regulated or supported by state interventions. The scale of this informality may be astonishing: it is estimated that for every dollar of official GDP, up to half a dollar goes unrecorded (Tenev, Carlier, Chaudry and Nguyen, 2003:xiii). High levels of informality are detrimental to Vietnam's development objectives. Informality is caused by excessive regulation

and binding rules and weak implementation capacities. It thrives because businesses in different ownership types and sizes are treated unequally. Smaller and private enterprises have more difficulty than public and larger enterprises gaining access bank financing, land and information in general.

The second is the continued slowness in pushing through State-Owned Enterprise (SOE) reform. These enterprises are concentrated in capital-intensive industries which have seen significant expansion with relatively little employment generation. These enterprises have certainly been exposed to increased competitive pressures. Yet the significant levels of protection afforded the sector under an import-substitution industrialization policy, coupled with preferential access to state credit, have arguably hurt sectors with the potential for more rapid employment growth.

It is important to note the progress that has been made in recent years with respect to the two constraints above. The situation for private enterprise has markedly improved since the promulgation of the Enterprise Law in 2000, which has contributed to a 58% increase in the number of registered private enterprises of all types.[8] And the share of SOEs in industrial output, non-oil exports and bank credit has continued to fall, all from approximately one-half to one-third of the total between 1998 and 2003.[9]

4.3. *Broad access to productive assets and human capital*

Literature on the determinants of how broadly based growth will be emphasizes initial conditions, particularly the distribution of human and productive assets prior to any bout of growth (Watkins, 1998; World

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[8] Figures calculated from Industrial Enterprise Survey of Vietnam's General Statistics Office, available at

http://www.gso.gov.vn/default_en.aspx?tabid=479&idmid=4&ItemID=1822,

accessed September 10, 2005. See also Mallon, 2004 for a comprehensive overview of the formulation, implementation and impacts of the Employment Law.

[9] World Bank, 2004a:17. To be precise: the share of SOEs in total industrial output fell from 45% to 29%; in non-oil exports, from 62% to 33%; and in Bank credit, from 52% to 36%, all in the period 1998 to 2003.

Bank, 1993). On this measure, Vietnam was relatively well-poised for its high-growth period, with its relatively good social indicators and (following decollectivization in 1987) broad and generally equitable distribution of farm land. This picture is still generally positive, though the distribution of income is by no means static; rapidly increasing inequality can be expected to lower the efficiency with which growth translates into poverty reduction in the future.[10]

Universal provision of social services is a fundamental plank in the growth with equity strategy (Taylor and others, 1999). While social delivery systems have recovered from the negative impact of the early transition, they suffer at present from chronic problems of low quality and continued disparities in access by the poor (World Bank, 2004a; Sepehri, 2005). For example, a drive over the 1990s for 'universal basic education' resulted in improvements in enrollments, while repetition and drop-out rates in mountainous areas have remained stubbornly high (UNICEF, 2000; World Bank, 2004b). Slow improvements in nutritional status in poor regions (such as the Mekong Delta and Northern Uplands) are probably a good proxy for access to social sector delivery systems (World Bank, 2001a).

In general, this reform area looks relatively more achievable and positive than the others, particularly given recent indications that social sector expenditure is being protected through the recent fiscal decline (SRVN, 2005). Key reforms across the board for the social sectors include greater stability of financing for basic social services and improved capacity building for service delivery in the weakest capacity – and generally poorest – areas of the countries (Fritzen, forthcoming).

4.4. Public goods

Provision of public goods that raise the productivity of the assets controlled by the poor is an essential function of any 'growth with equity' development paradigm. The two primary means of doing this are to make public-expenditure pro-poor and to strengthen the institutions

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[10] Landlessness is also growing in certain regions, notably the Mekong River Delta, which is probably contributing to the slower rate of poverty reduction in this area.

which provide public goods (including opening to civil society; see 4.6). Reorienting public expenditure is a recommendation that cuts across reform sectors. In terms of funneling public expenditure into productive investments (outside the SOE sector), Vietnam's public expenditure system is considered to be relatively good for its income class (SRVN and others, 2000). In terms of the distribution impact of that expenditure, however, several areas need urgent attention.

The first is in the intersectoral distribution of expenditure. A significant but unclear share of public expenditure is eaten up by subsidies to State-Owned Enterprises, crowding out expenditure on such potentially high-impact areas as agricultural research, which has fallen as low as 0.1% of the state budget in recent years (SRVN and others, 2000, pp. 11, 37-39). The second is to reform interprovincial finances, towards enhanced financing of fiscally weak provinces. While the central government transfers funds from richer to poorer provinces, local finances in poorer localities are commonly found to be insufficient to ensure basic standards of service delivery (Fritzen, 2000; Rao and others, 1999). Boosting fiscal capacity in poor provinces will likely necessitate increases in interprovincial fiscal redistribution, consistent with aggregate fiscal discipline and the avoidance of distortionary effects on local fiscal effort. Greater efforts are also needed to spread investments more equitably intra-provincially, taking into consideration the rural-urban distribution of expenditure. Large investments made in provincial town infrastructure are often out of proportion with provincial population structures, let alone the distribution of poverty (World Bank, 2001a; Swinkels and Turk, 2004).

A third critical area concerns the distributional effects of local government revenue intake. There is evidence that burden of income tax and fees may be disproportionately borne by the rural population. Direct income taxes like personal income tax, real-estate tax contributes an abnormally small share to budget revenue. Personal income tax contributes only 3% to total tax collections. Yet the combined incidence of various taxes, fees, and contributions (TFC) to which rural populations varies widely across provinces and may be regressive; for example, the highest TFC incidence is in Thanh Hoa (9.2 percent) and the lowest in two of the richest provinces in the country, Hochiminh City and Tay

Ninh (1.8 percent) (World Bank, 1999a). Another study[11] estimated taxes in one village of Ha Tinh province to amount to fully one-third of household income, with no effective exemption mechanism for poor households.

4.5. Safety net policies

Most countries that have achieved sustained poverty reduction have put into place mechanisms to compensate slower growing regions and vulnerable populations (Taylor and others, 1999). An increasing percentage of Vietnam's poor are concentrated in a few regions, such that the influence of regional policy on developments there will have a major impact on poverty. Four key influences on development in slower-growing areas can be identified (in addition to exogenous factors such as commodity prices and the structural reform agenda already mentioned, which would help to mitigate the urban bias of public expenditure).

The first is the increasing integration of labor markets. Unlike for China, there has been relatively little work on labor migration issues in the Vietnamese context, yet seasonal migration is clearly increasing rapidly. Anecdotal evidence suggests restrictions placed on migrants to cities, while not as comprehensive as those in China, are on the increase. How the government regulates these flows will be an important indicator of the appropriateness of the reform environment for poverty reduction.

Second, regional policy at present is focused on so-called "economic focal point zones" (one each for the northern, central and southern regions), in which public investment is concentrated and FDI, to the extent possible, directed. From a 'growth with equity' perspective, this

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[11] A participatory poverty assessment undertaken by Action Aid in Ha Tinh province in 1999 indicated that taxes and fees accounted for an average of 28% of the income of a "rich" family, 35% of income for a "middle" family, and 39% of income for a "poor" family. These figures are not as quantitatively grounded as those in the VLSS, which place the average figure for North Central region households at 5.4% of expenditures for all taxes and fees. However, the huge gap between these estimates emphasizes the need for better research on this topic. The results suggest that households in many poor localities may not be able to finance more local services from contributions, as the 'socialization' strategy may imply.

model of regional development has major weaknesses. Hoped-for linkages between growth zones and surrounding rural areas have been slow to materialize (Fritzen, 2001).

A third factor concerns the efficacy of the government's targeted programs for poor regions, under the umbrella of the National Hunger Eradication and Poverty Reduction Program. National programs, initiated in the early 1990s and substantially reengineered in the past few years, funnel central-government funding to high-priority areas such as agricultural extension, small-scale infrastructure and anti-malarial programs, targeted primarily onto the poorest regions. The overarching program's key weakness at present is poor coordination, both between sectors and levels of government; a significant gap between the programs on paper and on the ground is evident in many localities (Fritzen, 2005; Nguyen The Dzung, 1998). In recent years, however, programs to support small-scale infrastructure in Vietnam's 2,000 "poorest" communes (about 15% of the total) have been given fairly high marks by the donor community (World Bank, 2004a), so the system does show capacity to improve program performance over time.

Yet ultimately the strikingly low share of safety net (or social welfare) income in the household expenditure of the poor serves to remind us regarding the limited reach of state assistance to the poor. In the VLSS (World Bank, 1999a, p. 125), the combination all four major sources of 'safety net' expenditure – social insurance, social subsidies, poverty alleviation programs and NGO assistance – amounted to less than 2.7% of household income for the poorest quintile of the population in 1998. In addition, this expenditure was found to be very poorly targeted, with the highest 40% of income earners capturing almost 70% of government spending on safety nets. The importance of weak safety nets is highlighted by the fact that any exogenous shock could push a substantial portion of the population below the poverty line, making aggregate poverty estimates subject to major shifts.

4.6. Institutional reforms

Creating durable institutions that can underpin the above reform areas is perhaps the ultimate challenge facing Vietnam's government. The

quality of institutions also directly affects poverty reduction in its 'empowerment' aspect, much emphasized by the World Bank in recent years (World Bank, 2001b; World Bank, 2004a). Institutional reforms in the broadest sense hinge on the future of changes underway in state-society relations, center-local relations and party-state relations.

Allowing meaningful local participation, institutionalizing checks on local authority and creating the conditions for private sector participation in the country (including in social service delivery) are three essential elements of state-society relations in transitional Vietnam. One of the flagship reforms in this regard is the so-called 'grassroots democratization' decree from 1998, which provides guidelines to local government on making local expenditures more transparent and on processes for eliciting the participation of villagers in local planning. The donor community has called this an "important step" (World Bank, 1999a, p. 90), but much will depend on the quality of implementation, especially given local interests that could stand to lose out from greater budgetary transparency and broader participation in decision-making (Fritzen, forthcoming).

In terms of center-local relations, a central issue concerns how interprovincial disparities in both finances, capacity and leadership can be addressed for the weakest localities, while strengthening incentives for finding innovative solutions to local problems. Analysts' attention is focused on Vietnam's ongoing trend towards fiscal decentralization to the provincial level. The situation of Hochiminh City – which has been pushing for greater authority – will be important to monitor (Gainsborough, 2003).

A final overarching reform concerns party-state relations. Countries that successfully promote growth over the long run typically do so through policies guided by technocratic elites, achieved through competitive recruitment to public-sector posts (World Bank, 2001b). Underpinning the rule of law, so essential to promoting growth and protecting the legal rights of citizens, in most (though not all) cases is also a healthy distance between administrative and political functions of government (though an air-tight separation exists only in academic theory). Vietnam has suffered on both counts from party domination of governmental functions and recruitment based, in the Vietnamese idiom,

on "virtue" (i.e. loyalty) as much or more than "talent". A number of reforms, typified by the assertiveness of the National Assembly, are concerned with carving out a more technocratic basis and independent sphere for the administration, with the Party focusing on its overall 'steering' function (cite Vasavakul, 2002).

All of these institutional reforms are, in practice, deeply controversial in the Vietnamese context. It is important to note that the impetus behind them comes not primarily from outside, i.e. from the donor community; an active debate is evident in the local press and specialist forums on each of these reform areas. Institutional reform will inevitably carry 'Vietnamese characteristics'; the crucial question is whether they will be comprehensive enough to underpin higher-quality, and faster, growth.

5. The political context of economic governance reforms

One implication of the analysis offered in this paper is clear. Continuation of the rapid poverty reduction experienced over the 1990s and the last five years is not assured. Growth itself, the primary engine of poverty reduction, may yet slow considerably. More importantly, income inequality appears to be growing significantly, in ways that could undermine economic growth and the efficiency with which growth is translated into poverty reduction. Essential reforms that would both help to sustain high growth rates, reduce poverty and slow the tide of rising inequality are in many cases on the policy agenda, but progress towards their adoption and implementation is uneven.

One indicative way to conceive of poverty reduction scenarios in Vietnam is in terms of the interaction of two basic variables: the speed of growth, and the 'quality' of growth, i.e. how broadly shared the growth is. Ultimately, the growth with equity paradigm underlines that those two variables are not independent. Those policies that will lead to rapid economic growth are also the ones that will promote rapid poverty reduction as well as reducing inequalities. Some elements of the reform agenda sketched above – such as targeting poorer areas with an area-based development program; increasing fiscal redistribution towards poorer provinces; and boosting absolute spending levels on basic services – are mildly redistributive; these would need to be well

integrated into the general policy framework and in keeping with overall fiscal and monetary discipline. But the proposed scale of these interventions does not pose a danger of slowing aggregate economic growth (e.g. by siphoning major resources away from productive investments or distorting tax frameworks). Quite the contrary: these measures are fully consistent with macroeconomic and sectoral reforms necessary to accelerate economic growth. The 'growth with equity' is highly relevant for the Vietnamese context.

Table 3. Poverty reduction scenarios in Vietnam

	Growth LOW	Growth HIGH
Inequality HIGH	I. Worst case. Limited poverty reduction in better-ff areas, possibility of reversal of current gains, and possible worsening in minority areas. Increasing tension. Happen if structural reforms not carried out. *Indicative comparison: Russia (1980-93)*	II. Current track. Poverty reduction to decelerate. Regional differences and socioeconomic differences to accelerate, leading to increasing governance tension. *Indicative comparison: China (1985-93), Thailand (1981-92)*
Inequality LOW	III. Stagnation of poverty reduction. Somewhat unlikely scenario except in event of economic crash, in that decreased economic growth likely to be accompanied by limited structural reform and hence increased rent seeking. *Indicative comparison: Sri Lanka (1981-90)*	IV. Best case; significant poverty reduction (continuing trend found in VLSS), with improved income distribution. *Indicative comparison: Malaysia (1979-89), Indonesia (1980-93)*

Source for comparisons: See World Bank (1997, p. 8)

Table 3 sums up the implications for poverty reduction. The best case scenario, represented by quadrant four, is for growth to continue at a high pace, and for significant progress on the 'growth with equity' agenda to lessen inequality. The worst case scenario – low growth and increasing inequality – would over the medium term

substantially increase sociopolitical tensions in Vietnam; in the extreme, and in the presence of exogenous economic shocks, some of the poverty reduction achievements to date could be eroded. Quadrant one represents a potential threat that cannot be discounted. In between these cases lie quadrants two and three. Both go somewhat against the grain of the 'growth with equity' analysis as applied to contemporary Vietnam, in the sense that continued high growth rates are in fact likely to be correlated with, indeed caused by, progress on the structural reform agenda which underpins improved equity. But they remind that the reform reality is likely to fall somewhere in between the two extreme cases.

How likely a 'growth with equity' path can be sustained in Vietnam will depend ultimately on the political economy of reform (albeit in interaction with external issues, such as the changing world economy). To assess this political backdrop requires examining the interests and relative power of stakeholders involved in particular reform sectors. Distinguishing reform areas with respect to three characteristics is also helpful. First, reforms that touch upon systemic economic relationships – i.e. that affect powerful embedded political and economic interests – rather than more narrowly construed bureaucratic interests, should be more difficult to reform in the absence of a crisis (Grindle and Thomas, 1991). Second, higher consensus on the underlying problem analysis should facilitate reform adoption and implementation (Kingdon, 1995). Finally, more tractable problems, i.e. those amenable to clearly defined technical solutions (short of fundamental institutional reorientation) – are more likely to be adopted than those demanding fundamental institutional reorientation or lacking 'obvious' solutions.

An exploratory analysis along these lines (table 4) yields some initial insights. Some reforms, particularly those involving structural reforms and slowing down urban-rural bias, are of a highly political nature. They pit 'reformers' against 'conservatives', and slower-growing provinces against faster-growing ones, with middling provinces (more likely to have a larger percentage of State-Owned Enterprises and fewer market-oriented possibilities than the richest provinces) pushing for slower structural reform. The structural reform dynamic is driven by the need to recover higher growth rates as one bedrock of political stability – suggesting rapid reform – against powerful groups which would lose out

from liberalization, combined with those of a conservative ideological bend. Given the consensus-oriented decision-making of policy in Vietnam, the presence or not of external economic shocks will likely have a significant impact on how quickly the structural reform agenda moves forward. Political initiative and leadership may also play a role in framing that agenda, with many eyes focused on the likely successor to Prime Minister Phan Van Khai, expected in 2006 (Koh, 2004). Fundamentally, this analysis suggests progress on the structural reform agenda is likely to continue to be incremental in the short term.

Table 4. Stakeholder analysis of 'growth with equity' agenda

Key influence on growth-poverty-inequality	Stakeholders	Systemic issues vs. 'bureaucratic politics-as-usual' issues; consensus: high or low; tractability: high or low	Indicative areas to monitor
Macroeconomy	• at present (though not through institutional guarantees) in technocratic hands.	• bureaucratic, high, high	• banking reforms and share of revenue in GDP: only two weak indicators
Structural reform	• party factions ('progressives' vs. 'conservatives'), SOEs, emerging private sector, donors	• structural, low, low	• speed of SOE equitization; growth of export-oriented SME's
Rural development	• provincial groupings, ministries, political elites	• elements of both, low, moderate	• allocations to Public Investment Program
Social development	• primarily coordinating and sectoral ministries	• bureaucratic, high, moderate	• secondary school enrollments; allocations to basic services; private-sector participation
Public finance	• provincial groupings, ministries, political elites	• bureaucratic, low, low (without high-level support)	• interprovincial fiscal allocations to poorest provinces
Institutional reform	• party, local government officials, political elites, ministries, incipient civil society groupings	• elements of both, low, low	• implementation of grassroots democratization decree; role of National Assembly

Other reforms fall into a 'bureaucratic politics-as-usual' pattern, i.e. the primary decision-makers and contending parties are narrow bureaucratic interests, such as particular ministries. Most reforms that have a high quotient of implementation concerns – such as implementation of the grassroots democracy decree (see 3.6 above) – fall into this category, as do a number of important public expenditure reforms, such as reorienting the percentage of intra-sectoral expenditure within the social sectors allocated to basic services. On the more positive side, the Vietnamese administrative system has been constantly engaged in incremental bureaucratic reforms over the transition period; it shows a fairly high capacity to learn and adjust. Prospects for reform in the bureaucratic category rest on the skill with which donors, an increasingly critical press and ministry reformers focus sustained attention onto key areas. They also depend on the effectiveness of new institutional arrangements, such as the role of the National Assembly and procedures for budget transparency at the grassroots level.

How the major central line ministries would respond to ongoing calls for increased decentralization and horizontal coordination is an open question. They would benefit from a clearer framework for the accountability of lower governments regarding minimum service delivery standards, and from improved strategic direction within their sectors. Yet direct upper-level control over some fiscal allocations and implementation arrangements would be delegated to local governments and communities, involving a delicate reorientation of roles and responsibilities. Strong leadership from central-level coordinating ministries and the national leadership would be necessary to make decentralization work, but these also may face conflicting pressures and interests. Administrative decentralization, to be coupled with a major capacity building effort in poorer localities, remains one of the most complex, though promising, elements on Vietnam's reform agenda at present. Summarizing the stakeholder picture, then, the more powerful interests would appear to be working to maintain a moderate or incremental pace of reform, particularly concerning highly important structural issues.

There is never an equilibrium in politics; the effect of reforms is changing political configurations, and vice versa. Economic reforms tend

to produce consequences that outstrip the capacities of the political system to cope with them in part because, as in Vietnam, these reforms have consequences for the distribution of income and the future of entrenched institutional interests (Riedel and Turley, 1999, p. 50). Much will depend on four elements in the changing political situation: how quickly the social forces calling for speedier reform (such as private entrepreneurs and the rural poor) organize; how much clout weaker provinces can leverage based on the perennial concerns of the center over regional inequalities; the influence of the donor community, which increases when the economy slumps; and, finally, the political skills of those who see speedier reforms as the best hope for sustaining economic growth and with it, the legitimacy of the Vietnamese party/state. Collectively, these could represent powerful groups pushing for 'growth with equity' reforms. Yet entrenched interests will work to protect their prerogatives.

Vietnam's population has benefited from one of the fastest rates of poverty reduction experienced in the world over the 1990's, but the jury must be still out on the long-term sustainability of this achievement.

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