

FINANCIAL ACCOUNT OPENNESS FOLLOWING
THE 1997 ASIAN FINANCIAL CRISIS

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I. Introduction

This research examines financial account openness following the 1997 Asian Financial Crisis (AFC) and considers the relationship between increased financial account openness, institutions and economic growth. The topic is of significant importance as little research has been done in the field and no other paper addresses these specific issues. It has been argued that the AFC triggered an aggravation of existing imbalances in the global economy and exposed serious systemic problems in the global monetary and financial arrangements.¹ The crisis may have also led governments to rethink the structures of their countries' banking and financial institutions and systems and to open their financial accounts, as a means through which to reduce vulnerability to future crises.²

This research stems from the observation that, immediately following the AFC, China increased the pace of reforms designed to integrate its financial and banking sectors into the global economy. This suggests that China acted to increase its level of financial account openness. In the China case study presented below, emphasis is placed on the reforms for institutional development implemented by the Chinese government. By providing a link between China's institutional development and the country's financial account openness, the

¹ Akyuz, Yilmaz. "The East Asian Financial Crisis: Back to the Future?" *The Journal of Economic Perspectives* 11.4, 2001.

² Socorro, Maria. "The Past Performance of the Philippine Banking Sector and Challenges in the Postcrisis Period" University of the Philippines, 2002.

paper offers possible reasons that could have triggered the Chinese government to maintain a lower level of financial account openness in comparison with other countries. In addition, the paper examines why countries of low economic and social development might have experienced negative annual economic growth following the AFC, despite increasing their financial account openness.

Financial account openness is defined as the process of ensuring the integration of the domestic financial system in the global market by way of lifting administrative or legal restrictions on capital movements.³ Financial accounts, which together with the current account and the capital account comprise a nation's balance of payments,⁴ represent the net sum of the balance of direct investment, portfolio investment, and other investment transactions.⁵ Building on the work of Chinn and Ito,⁶ the determinants of financial account openness are estimated using data for a sample of 51 countries with consideration made for potential heterogeneity across countries in terms of relative level of social and economic development.

In order to provide a more realistic measure of the openness in financial account transactions, this research relies on the financial account openness index

³ Carmignani, Fabrizio. "Does Financial Openness Promote Economic Integration?" World Institute for Development. No. 74, 2005.

⁴ BEA Bureau of Economic Analysis. Glossary. <http://www.bea.gov/glossary/glossary.cfm?letter=B>

⁵ Vreeland, James. "The IMF and Economic Development" Yale University. Cambridge University Press, 2003.

⁶ Chinn, M., and Ito, H. "What Matters for Financial Development? Financial Controls, Institutions, and Interactions" La Follette School Working Paper Series No. 007, 2005.

developed by Chinn and Ito,⁷ as discussed in the “Data” section. The research proceeds as follows. Section I provides an introduction to the controversies surrounding the benefits of financial account openness. Section II discusses the data and variables employed in the empirical analysis. This is followed in Section III by a discussion of the empirical analysis. Section IV presents a case study of China, while Section V concludes.

The AFC triggered a series of debates regarding whether increased financial account openness would have lessened the crisis’ disastrous effects on Southeast Asian economies. Economists have controversial opinions regarding the way in which financial account openness may affect a country’s economic development. The following paragraphs will present the expected influence increased financial account openness brings from a theoretical perspective. Afterwards, the paper provides an overview of two major perspectives economists have on the subject: (1) that financial account openness can benefit an economy if domestic economic inefficiencies are addressed prior to the financial account becoming more open and (2) that financial account openness itself can set the economy on an unstable path, regardless of the level of internal development.

Models of competitive and efficient markets suggests that financial account openness fosters economic growth and development, as it enables

⁷ Chinn, M., and Ito, H. “What Matters for Financial Development? Financial Controls, Institutions, and Interactions” La Follette School Working Paper Series No. 007, 2005.

financial resources to flow from capital-abundant countries (where expected returns are low) to capital-scarce countries (where expected returns are high). This process is likely to reduce countries' cost of capital, increase investment, and raise output.⁸ Financial account openness is thought to result in greater economic efficiency through diversification. For example, if a country is facing an economic downturn, lower wages will attract investment, which stimulates the economy.⁹ Moreover, financial account openness is thought to contribute to the development of a country's financial sector by ensuring funding to those institutions and individual investors most capable of using the funds for productive investment opportunities.¹⁰ In addition, an open financial account is likely to increase foreign investors' confidence in a country's equity markets, as it provides the option to invest in a variety of domestic equity securities, while domestic investors can gain access to foreign equity securities.¹¹

Removal of financial controls allows investors to attain a desired level of portfolio diversification that can, in turn, decrease the likelihood of financial crises.¹² Further, financial account openness can result in higher availability of credit, increased financial system efficiency (by eliminating inefficient financial

⁸ Fischer, Stanley. "Capital Account Liberalization and the Role of the IMF" Princeton Essays in International Finance 207(1998):1-10.

⁹ Stiglitz, Joseph. "Capital Market Liberalization, Economic Growth and Instability" *World Development* 25 (2000): 1075-1086.

¹⁰ Chinn, M., and Ito, H. "What Matters for Financial Development? Financial Controls, Institutions, and Interactions" La Follette School Working Paper Series No. 007, 2005.

¹¹ Bekaert, C., Lundblad, C. "Equity Market Liberalization in Emerging Markets" *Journal of Financial Research* 26.3 (2003): 275-299.

¹² Idem.

institutions), and decreased incidence of adverse selection and moral hazard.¹³ Increased investor confidence allows for a greater degree of financial mobility and a more efficient distribution of funds. Financial account openness can contribute to efficient global allocation of resources, sound macroeconomic policies, and integration of global financial activities with risk creation mechanisms (such that financial activities are not only limited to national borders and risks are spread across various markets).¹⁴ Such openness is likely to decrease the cost of equity finance, mostly due to reductions in investors' expected returns that compensate for the risks being taken as well as a decrease in agency costs.¹⁵ Gourinchas and Jeanne¹⁶ argue that financial account openness does not only benefit a country through increased access to external capital but also through a triggering of reforms that reduce domestic economic distortions.

While favoring financial account openness, some economists argue that countries can only benefit if they undertake reforms addressing macroeconomic imbalances which serve to promote institutional development prior to opening their financial account. Institutional development is defined as removal of structural deficiencies of financial and banking sectors in addition to

¹³ Stiglitz, Joseph. "Financial Market Liberalization, Economic Growth, and Instability," *World Development*, 28:6 (2000): 1075 - 1086.

Stultz, René. "Globalization, Corporate Finance and the Cost of Financial," *Journal of Applied Corporate Finance*, 12.3 (1999): 8-25.

¹⁴ "Globalization: The Role of Institution Building in the Financial Sector - The Case Study of China," People's Bank of China, 2003.

¹⁵ Stultz, René. "Globalization, Corporate Finance and the Cost of Financial," *Journal of Applied Corporate Finance*, 12.3 (1999): 8-25.

¹⁶ Gourinchas, P., and Jeanne, O. "On the Benefits of Capital Account Liberalization for Emerging Economies" Princeton University and IMF, 2002.

improvements in government and bureaucratic practices and procedures. Chinn and Ito,¹⁷ Tornell et al.,¹⁸ and Leblang,¹⁹ consider that such reforms are a key pre-condition for effective financial account openness and, if improperly undertaken, can increase the likelihood that financial account openness will have unfavorable economic outcomes.

Stiglitz²⁰ and Bhagwati²¹ argue that the effects of financial account openness have been highly variable: while developed countries have experienced increased economic growth, less developed ones have actually experienced severe crises and recessions in the years after becoming more open. Edwards,²² Bailliu,²³ Klein,²⁴ and Arteta et al.²⁵ found that although financial account openness promotes growth in developed countries, it tends to hurt growth in developing countries and may result in financial crisis. Bussiere and

¹⁷ Chinn, M., and Ito, H. "What Matters for Financial Development? Financial Controls, Institutions, and Interactions" La Follette School Working Paper Series No. 007, 2005.

¹⁸ Tornell, A., Westermann, F., and Martinez L. "The Positive Link Between Financial Liberalization, Growth, and Crises." NBER Working Paper No. 10293, 2004.

¹⁹ Leblang, David. "Domestic and Systematic Determinants of Capital Controls in the Developed and Developing World" *International Studies Quarterly*, 41 (1997): 435 - 454.

²⁰ Stiglitz, Joseph. "Financial Market Liberalization, Economic Growth, and Instability," *World Development*, 28:6 (2000): 1075 - 1086.

²¹ Bhagwati, Jagdish. "The Capital Myth: The Difference Between Trade in Widgets and Trade in Dollars", *Foreign Affairs* 77(1998): 7-12.

²² Edwards, Sebastian. "Capital Flows and Economic Performance: Are Emerging Economies Different?" NBER Working Paper No. 8076, 2001.

²³ Bailliu, Jeannine. "Private Capital Flows, Financial Development, and Economic Growth in Developing Countries" Bank of Canada Working Paper No. 15, 2000.

²⁴ Klein, M., and Olivei, G. "Capital Account Liberalization, Financial Depth, and Economic Growth," NBER Working Paper No. 7384, 1999.

²⁵ Arteta, C., Eichengreen, B., and Wyplosz, C. "Do the Effects of Capital Account Liberalization Depend on the Stage of Financial and Institutional Development?" University of California, Berkeley, 2001.

Fratzscher²⁶ argue that financial crises have more severe negative effects in terms of a loss in growth when economies have more open financial accounts; generally, for the five years following a crisis, an open economy experiences on average, an 8 percent loss in economic growth, compared to only 6 percent for countries that also experience the same crisis but have closed financial accounts.

Weller²⁷ argues that financial account openness can result in an unsustainable growth cycle which can destabilize emerging economies' banking systems and currencies. Since increased capital inflows cause the domestic exchange rates to appreciate, domestic banks usually increase their borrowing of foreign currencies in order to finance domestic assets. This is likely to increase the difficulty in making international loan repayments, which can trigger investors to withdraw their short-term loans and can result in currency depreciation. In order to limit such effects, Weller²⁸ argues, emerging economies should focus on establishing stabilizing institutions before opening their financial accounts.

The AFC strengthened the belief that economies, in order to benefit from financial openness, first need to ensure the development of domestic financial markets and institutions. This process can ease economies' integration in the global financial system, which can eventually lead to complete financial account

²⁶ Bussiere, M., and Fratzscher, M. "Towards a new Early Warning System of financial crises", ECB Working Paper No. 145, 2002.

²⁷ Weller, Christian. "A Few Observations on Financial Liberalization and Financial Instability" *Review of Radical Political Economics*. 32.3(1999): 66-77.

²⁸ Idem.

openness.²⁹ Moreover, it can reduce the likelihood of moral hazard as increased information for investors and a better distribution of risk can ameliorate information asymmetries and strengthen investors' confidence, promote adequate corporate governance and creditor rights, and ensure efficient bankruptcy and insolvency procedures.³⁰ Generally, a higher level of financial account openness prior to a crisis has appeared helpful in reducing output losses and the duration of output contraction for industrialized countries. However, the same cannot be said for economies that are relatively lesser-developed as, often, they have been unable to provide investors with the advantages listed above.

There are several common deficiencies facing investors in countries that have opened their financial accounts but have not taken reformatory measures. These deficiencies include a lack of transparency about government, corporate and financial sector operations, which may contribute to investment misallocation. Also, such economies may be characterized by a weak banking sector that cannot properly handle large inflows of capital and channel them into productive investments. The result is that a large share of capital inflows may be invested in sectors prone to speculation. Third, an inefficient corporate sector may not effectively use capital inflows, assess investment risk, and may encourage excessive reliance on foreign borrowing. There may also be an increased likelihood that the exchange rate is overvalued, which may generate

²⁹ Padoa-Schioppa, T. "The role of financial markets in sustaining economic growth in Asia" European Central Bank, 2004.

³⁰ Arteta, C., Eichengreen, B., Wyplosz, C., "When does financial account liberalization help more than it hurts?" NBER Working Paper No. 8414, 2001.

large current account deficits. Increased short-term capital inflows and inadequate long-term capital inflows may result in currency devaluations as countries tend to rely mostly on short-term external debt and deplete their foreign exchange reserves. Additional deficiencies include an under-developed public infrastructure, lack of transparency (which can result in adverse selection and moral hazard), unreliable accounting, auditing, and legal and judiciary systems, and an under-developed and ineffective financial market infrastructure. Weak corporate governance structure and management, political interference with the decisions of domestic businesses, corruption and nepotism in the market, and weak regulatory institutions also characterize such economies.³¹

Although such deficiencies can never be fully removed, the more reformatory measures are taken, the more likely it is that financial account openness will prove beneficial.³² If a country's government fails to implement reforms for decreasing the effects of such inefficiencies, financial account openness can result in a significant number of weaknesses, the most important of which is that investors can lose confidence in the domestic economic environment, thus triggering massive capital outflows, which can undermine the viability of the economy's entire financial system.³³ This situation is mostly pertinent to developing countries, which pose greater risks to investors due to

³¹ Ingves, Stefan. "Financial Sector Regulation: Issues and Gaps" International Monetary Fund, 2004.

³² World Bank Operations Evaluation Department "Development Effectiveness: Opportunities in a Volatile Environment" 1999.

³³ Bailliu, Jeannine. "Private Capital Flows, Financial Development, and Economic Growth in Developing Countries" Bank of Canada Working Paper No. 15, 2002.

the fact that they have less diversified economies and lower regulatory efficiency.³⁴ A decrease in investor confidence can lead to the value of the domestic currency falling sharply, which makes it increasingly difficult for developing countries to pay back their debts. While raising interest rates can provide incentives for investors not to withdraw capital, developing countries could find it very challenging to offer higher rates. The reason for that is that the viability of their banking sector can be threatened, as borrowers are likely to find it hard to pay higher interest.

McKinnon³⁵ and Gourinchas³⁶ argue that financial openness itself, regardless of the level of macroeconomic and institutional development, can bring instability, at least in the short-run. In the short-run (generally the first five years following increased financial account openness), economies tend to receive an initial economic boost and grow at a faster level. The reason for this is that greater access to capital is likely to result in over-borrowing from abroad, which can increase investments and result in temporarily higher growth. McKinnon³⁷ argues that increased financial account openness is likely to have a temporary downside in the medium-run (usually expressed through a recession), followed by increased gains from openness in the very long-run. However, in order for

³⁴ Stiglitz, Joseph. "Financial Market Liberalization, Economic Growth, and Instability," *World Development*, 28:6 (2000): 1075 - 1086.

³⁵ McKinnon, R., and Huw P. "Credible Economic Liberalizations and Overborrowing" *American Economic Review* 87 (1997): 189-93.

³⁶ Gourinchas, P., and Olivier J. "On the Benefits of Capital Account Liberalization for Emerging Economies" Princeton University and IMF, 2002.

³⁷ McKinnon, R., and Huw P. "Credible Economic Liberalizations and Overborrowing" *American Economic Review* 87 (1997): 189-93.

countries to experience fewer losses in the short-run, establishing stabilizing institutions before opening their economies is of crucial importance.³⁸

On a different note, Glickman,³⁹ extending Minsky's financial instability hypothesis to the case of economies opening their financial accounts, argues that sooner or later following financial account openness, economies will fall in a state of internationalized financial fragility. As investors try to reduce their risk, they will begin shifting to investing in other currencies, which will increase the offering of domestic currency on the market, triggering an exchange rate crisis. Minsky⁴⁰ believes that financial account openness brings in financial instability (mostly caused by increases in short-term debt and speculative trading). Minsky⁴¹ considers that reforms for achieving a free market will lead to a weakening in the barrier of financial conservatism, which can only result in increased financial system fragility. Reforms recommended by advocates of financial account openness are only "spreading a layer of illusion over business attitude euphoria,"⁴² which Minsky postulates as the source of financial fragility. In regards to the AFC, high levels of FDI mostly in the form of stock market investment rather than fixed assets, coupled with a common trading practice of borrowing short-term funds in countries with low interest rates (e.g. Japan) and

³⁸ Idem.

³⁹ Arestis, P., Glickman, M. "Financial crisis in Southeast Asia: Dispelling Illusion the Minskyan way" *Cambridge Journal of Economics* 22 (2002): 237-260.

⁴⁰ Wolfson, Martin. "Neoliberalism and International Financial Instability" *Review of Radical Political Economies*. 32.3(1999):239-378.

⁴¹ Idem.

⁴² Idem.

lending the funds in other East Asian countries for higher interest rates, were crucial causes triggering the crisis.

Several empirical studies examine the relationship between financial account openness and economic growth. Using data for 66 countries for the 1960-1989 period, Quinn⁴³ finds a positive relationship between financial account openness and growth. However, financial inflows have demonstrated an ability to stimulate economic growth only if markets are sufficiently developed to allow for an efficient allocation of financial resources. Investigating a sample of 90 countries for the 1975-1997 period, Aizenman⁴⁴ reports that banking and twin crises (an association of banking crisis and balance-of-payments crisis), have mainly occurred in developing countries, and that their number increased in the 1990s. Twin crises were found to mainly characterize countries with increased financial account openness in emerging-market economies. This appears to support the assertion that in order for financial account openness to have positive effects, it has to be accompanied by a requisite level of financial and banking sector development, and government and bureaucratic institutions that are conducive to economic growth. Existing empirical literature also shows that in the case of high-income, economically-developed countries, there appears to be a positive relationship between financial account openness and economic growth, whereas in the case of developing countries (which are also, generally

⁴³ Arteta, C., Eichengreen, B., Wyplosz, C. "When does financial account liberalization help more than it hurts?" NBER Working Paper No. 8414, 2001.

⁴⁴ Aizenman, Joshua. "Financial Opening: Evidence and Policy Options," NBER Working Paper No. 8900, 2002.

speaking, less institutionally developed), financial account openness has actually resulted in lower levels of growth.⁴⁵ This topic will be discussed in the “Empirical Analysis” section, which will offer a better understanding of how effective increased financial account openness following the AFC was for countries in various categories of social and economic development.

II. Data

Existing measures quantifying the extent of financial account openness are often inadequate indicators of the complexity of real-world financial controls. For example, conventional measures for quantifying financial controls often do not consider the intensity of financial controls (e.g. binary variables based upon IMF’s categorical enumeration reported in the *Annual Report on Exchange Arrangements and Exchange Restrictions*). These IMF-based variables frequently provide imprecise depictions of the intricacy of financial controls, which can differ both by the direction of financial flows (inflows or outflows) as well as by the type of financial transactions they target. Further, distinguishing between *de jure* and *de facto* controls on financial transactions is challenging as, often times, financial control policies are implemented without a prior adoption of clearly defined policies that can control for the volume and/or type of financial flows. Finally, the private sector may seek to evade financial account restrictions, thus

⁴⁵ Arteta, C., Eichengreen, B., Wyplosz, C. “When does financial account liberalization help more than it hurts?” NBER Working Paper No. 8414, 2001.

diminishing the effect of regulatory financial controls.⁴⁶

In this research, measures of financial account openness are taken from Chinn and Ito.⁴⁷ All other data were drawn from the World Development Indicators (World Bank, 2006) and cover the 1984-2004 period. Although using data for more recent years would be desirable as it would allow for a better understanding of how financial account openness changed post-AFC, little information was available beyond 2004. While the lag structure of the empirical model (discussed at length below) requires that data series used in this analysis extend from 1984-2004, the period under study begins in 1989. This results in an equal number of annual observations prior to (1989-1996) and following the crisis (1997-2004). The countries in the data set are listed in Appendix A.

Chinn and Ito⁴⁸ model financial account openness as a function of the following variables:⁴⁹ a 5-year lagged value of the dependent variable, *financial openness*_{*t-5*}; a 5-year lagged value of a country's volume of trade surplus/deficit as a percentage of GDP, *trade openness*_{*t-5*} (where trade openness equals the sum of a country's imports and exports relative to GDP, and thus measures trade intensity relative to the size of the economy); average budget surplus/deficit as a percentage of GDP over the preceding five years, *average budget surplus/deficit*_{*t*}.

⁴⁶ Edwards, Sebastian. "Financial Mobility and Economic Performance: Are Emerging Economies Different?" NBER Working Paper No. 8076, 2001.

⁴⁷ Ito, Hiro. Portland State University. <http://web.pdx.edu/~ito/>.

⁴⁸ Chinn, M., and Ito, H. "What Matters for Financial Development? Financial Controls, Institutions, and Interactions" La Follette School Working Paper Series No. 007, 2005.

⁴⁹ Note: All variables have been italicized for clarity purposes

$_{t-5}$; average total reserves over the preceding five years, *average total reserves* $_{t-1|t-5}$; average GDP per capita over the preceding five years, *average GDP per capita* $_{t-1|t-5}$. The *average budget surplus* $_{t-1|t-5}$, *average total reserves* $_{t-1|t-5}$, and *average GDP per capita* $_{t-1|t-5}$ variables control for the general trend of macro variables and are included as 5-year averages prior to the time period t (shown as $(t-1|t-5)$), in order to reduce their volatility and to avoid the disadvantage of having strong cyclical factors in the data. If, for example, $t=1998$, then variables having a $t-5$ subscript (*financial openness* $_{t-5}$ and *trade openness* $_{t-5}$) correspond to year 1993, while variables with $t-1/t-5$ subscript (*average budget surplus* $_{t-1|t-5}$, *average total reserves* $_{t-1|t-5}$, and *average GDP per capita* $_{t-1|t-5}$) represent the average value over the 1993-1997 period.

The following rationale was employed in choosing the above macroeconomic variables for the regression specification. The 5-year lagged value of the dependent variable, *financial openness* $_{t-5}$, accounts for the fact that countries that tended to have a more open financial account in the past tend to have a open financial account in the present as well. Traditionally, the *budget surplus/deficit* and *average total reserves* variables are considered to be determinants of financial controls and thus have a significant weight in encouraging the level of financial account openness; *average per capita GDP* controls for the level of development of the economic system, which also has been found to have a significant impact on financial account openness; and liberalization in cross-border goods transactions (*trade openness*) is a precondition

for financial account openness, as the more open to trade a country is, the greater its financial account openness.⁵⁰

The *financial account openness* variable, as constructed by Chinn and Ito,⁵¹ can take values between -3 and 3 and is based on three “dummy variables” published in IMF’s *Annual Report on Exchange Arrangements and Exchange Restrictions*. The variables take a value of either -1 or 1 and indicate: the presence of multiple exchange rates (a value of 1 for single exchange rate, -1 for multiple exchange rates), restrictions on current account transactions (a value of 1 for no restrictions on current account transactions, -1 for restrictions) and the requirement of the surrender of export proceeds (a value of 1 for no such requirement and -1 for when the requirement exists). The greater a country’s index, the more open is its economy to cross-border capital transactions. A variable indicating restrictions on financial account transactions was not included in the calculation of the *financial account openness* variable, as it would not have allowed for a better determination of the intensity of capital controls. As argued by Chinn and Ito,⁵² countries with open financial accounts can actually restrict the flow of capital by limiting transactions on the current account restrictions or other systems (e.g. multiple exchange rates, requirements to surrender export

⁵⁰ Aizenman, J., Noy, I. “Endogenous Financial Openness: Efficiency and Political Economy Considerations,” Manuscript, University of California, Santa Cruz, 2004.

⁵¹ Chinn, M., and Ito, H. “What Matters for Financial Development? Financial Controls, Institutions, and Interactions” La Follette School Working Paper Series No. 007, 2005.

⁵² Chinn, M., and Ito, H. “What Matters for Financial Development? Financial Controls, Institutions, and Interactions” La Follette School Working Paper Series No. 007, 2005.

proceeds, etc.).⁵³ Thus, while the *financial account openness* variable addresses the existence of different types of restrictions on cross-border transactions and thus measures the extensity of financial controls, it also has the advantage of providing an estimation of the intensity of these controls.⁵⁴

We begin the empirical analysis by replicating the regression estimation of Chinn and Ito.⁵⁵ After comparing the results from estimating the baseline regression equation using our dataset to the results reported by Chinn and Ito, we augment the empirical specification to permit examination of the influence of the AFC on financial account openness and potential variation across country classifications. The general form estimation equation is given as:

$$\begin{aligned}
 \text{Financial Openness}_{it} = & \alpha_0 + \beta_1 \text{Financial Openness}_{it-5} + \beta_2 \text{Trade Openness}_{it-5} \\
 & + \beta_3 \text{Average Budget Surplus/Deficit}_{it-1|it-5} \\
 & + \beta_4 \text{Average Total Reserves}_{it-1|it-5} \\
 & + \beta_5 \text{Average GDP per Capita}_{it-1|it-5} + \varepsilon_{it}
 \end{aligned}$$

Augmenting the above estimation equation, a series of variables have been imputed to discern a more accurate understanding of countries' degree of financial account openness following the AFC. The dummy variable *post-AFC* (a

⁵³ Idem.

⁵⁴ Idem.

⁵⁵ Idem.

time variable capturing the general change in financial account openness beginning 1997) was generated for this purpose. The variable takes a value of one if the corresponding year is 1997 or later and zero if the corresponding year is 1989 through 1996. Multiplying the variables in the above regression by the *post-AFC* dummy (which results in the *average GDP per capita*_{*t-1|t-5*} *x post-AFC*, *average budget surplus/deficit*_{*t-1|t-5*} *x post-AFC*, *average total reserves*_{*t-1|t-5*} *x post-AFC*, *trade openness*_{*t-5*} *x post-AFC* and *financial openness*_{*t-5*} *x post-AFC* 97 variables), allows for an understanding of the way in which these variables have influenced financial account openness following the AFC.

Variables have also been created to examine whether countries that are members of the Organization for Economic Co-operation and Development (OECD) have a higher degree of financial account openness than non-OECD countries and whether any change is discernable following the AFC. OECD membership indicates a commitment to a market economy and a pluralistic democracy. OECD members have average income levels among the highest in the world. Collectively, OECD nations produce about 60 percent of the world's output. Excepting Slovakia, which joined the OECD in 2000, all other member countries were part of the organization prior to the AFC. Two variables, *OECD* (accounting for all OECD countries) and *OECD x post-AFC* (accounting for OECD countries in the 1997-2004 period), have been created for this purpose.

Classifications from the United Nations Human Development Index (HDI), which provides comparative measure of literacy, education, life expectancy, and standards of living for countries worldwide, are also employed to account for social and economic development. This permits determination of the extent to which financial openness for corresponding economies has changed following the AFC. The HDI lists countries at low, middle or high levels of human development and is based on three related development measures: life expectancy, educational attainment and real GDP per capita. Dummy variables were created to represent countries with high Human Development Indexes (*high HDI*), middle Human Development Indexes (*medium HDI*) and low Human Development Indexes (*low HDI*). In addition, by multiplying the above variables by the *post-AFC* dummy variable, the *high HDI x post AFC*, *medium HDI x post-AFC* and *low HDI x post-AFC* variables were generated, such that we may gain a better understanding of the magnitude to which the financial account openness of countries in the above categories has changed following the AFC.

A third classification categorizes countries by gross national income (GNI) per capita (World Bank, 2006). Each nation is classified as *high income*, *upper middle income*, *lower middle income* or *low income*.⁵⁶ As with OECD and HDI classifications, these variables have been adapted to account for the post-AFC period and to determine the extent to which financial account openness for the four categories

⁵⁶ Countries are classified by the World Bank as high income if GNI per capita is greater than \$9,395; upper middle income if \$3,035 < GNI per capita < \$9,385; lower middle income if \$785 < GNI per capita < \$3,035; and low income if GNI per capita < \$785.

has changed since 1996. Lastly, given the focus we place on the Chinese economy, variables measuring China's financial account openness both before (*China*) and after the AFC (*China x post-AFC*) have been generated.

Tables 1A and 1B present descriptive statistics for the full sample and the various country classifications. Table 1A reveals that OECD countries have higher levels of *financial openness*_{*t-5*}, *average total reserves*_{*t-1|t-5*}, and *average GDP per capita*_{*t-1|t-5*}, as compared to non-OECD countries. Similarly, on average, high HDI countries have significantly higher values for the above three variables as compared to medium HDI and low HDI countries. The table also suggests that, compared to non-OECD countries, OECD economies tend to trade less intensively. This may indicate that these economies are highly-diversified in terms of output mix and, thus, are more self-sustaining or that, historically, these economies have engaged in relatively protectionist trade policies. Similarly, high HDI countries are less open to trade than medium and low HDI economies. The *average budget surplus/deficit*_{*t-1|t-5*} variable suggests that OECD countries tend to have larger budget deficits relative to the size of their economy than non-OECD countries. Also, high HDI countries seem to have smaller budget deficits relative to the size of their economy than medium HDI countries.

Table 1A: Descriptive Statistics for Full Sample and by OECD Membership and HDI Classification

	All Countries (n=816)	OECD (n=224)	non-OECD (n=592)	High HDI (n=336)	Medium HDI (n=256)	Low HDI (n=224)
Financial Openness _{t-5}	.07283 (1.5461)	1.5409*** (1.2892)	-.4826*** (1.2424)	.9388*** (1.5769)	-.2126*** (1.3904)	-.8910*** (.7854)
Trade Openness _{t-5}	0.6429 (0.4133)	.5199*** (.3208)	.6894*** (.4345)	.5902*** (.3767)	0.6623 (.3916)	.6998** (.4771)
Average Budget Surplus/Deficit _{t-1 t-5}	-11.4206 (34.5161)	-17.0674** (40.3399)	-9.2838 (31.815)	-9.1190 (22.0763)	-21.1373*** (54.2508)	-3.7680*** (9.0140)
Average Total Reserves _{t-1 t-5}	10764.84 (25286.4)	26014.63*** (38578.7)	4994.644*** (14095.08)	18469.59*** (33334.17)	8662.65* (20219.24)	1610.2*** (4626.25)
Average GDP per Capita _{t-1 t-5}	6492.597 (8678.36)	18050.57*** (8263.717)	2119.308*** (2881.376)	13975.37*** (9211.367)	1959.017*** (1587.236)	449.6726*** (515.7447)

Mean values presented with standard deviations in parentheses. ***, **, * denote statistical significance from the all countries mean at the 1%, 5% and 10% levels, respectively.

Table 1B suggests that, on average, the higher a country's income category, the higher the level of *financial openness*_{t-5} and *average GDP per capita*_{t-1|t-5}. China, however, despite being classified as a lower middle income country, has a lower level of *financial openness*_{t-5} than even countries in the lower middle income classification and lower *average GDP per capita*_{t-1|t-5} than the typical country in this cohort. This suggests that China is likely to have lower financial account openness than the average lower middle income country. In terms of the *average total reserves*_{t-1|t-5} variable, it can be said that, on average, high income countries have higher average reserves, relative to their GDP, than countries in the upper middle income and low income groups. The mean values also suggest that high income countries are less open to trade, while lower

middle income countries are, on average, more prone to engaging in higher levels of trade.

Table 1B: Descriptive Statistics for Full Sample and by World Bank Income Classification and for China

	All Countries (n=816)	High Income (N=208)	Upper Middle Income (N=176)	Lower Middle Income (N=240)	Low Income (n=192)	China (n=16)
Financial Openness _{t-5}	0.7283 (1.5461)	0.9765*** (0.3347)	0.6601 (0.4082)	0.7508*** (0.5217)	0.5640*** (0.2965)	0.3413*** (0.0268)
Trade Openness _{t-5}	0.6429 (0.4133)	0.5765*** (0.3347)	0.6601 (0.4082)	0.7508*** (0.5217)	0.5640*** (0.2965)	0.3413*** (0.0268)
Average Budget Surplus/ Deficit _{t-1 t-5}	-11.4206 (34.5161)	-9.4306*** (21.7961)	-19.2130*** (41.7229)	-13.0185 (47.0468)	-4.4357*** (9.5676)	-0.1314*** (0.1073)
Average Total Reserves _{t-1 t-5}	10764.84 (25286.4)	26892.13*** (39835.45)	4348.057*** (5883.768)	8812.024 (20815.73)	1616.658*** (4953.729)	60956.72*** (54332.1)
Average GDP per Capita _{t-1 t-5}	6492.597 (8678.36)	20026.31*** (6232.539)	4209.71*** (1845.684)	1406.534*** (682.6588)	281.2954*** (104.0804)	511.487*** (201.800)

See Table 1A notes.

In regards to the *average budget surplus/ deficit_{t-1|t-5}* variable, it appears that, on average, high income countries tend to have smaller budgets deficits relative to the size of their economy than upper middle income countries and lower middle income countries, but larger budgets deficits in comparison to low income countries. China has much higher average total reserves than even high income countries. As will be emphasized later, countries with high average reserves tend to have lower levels of financial account openness.

On the whole, however, the descriptive statistics suggest that in most cases there is a strong relationship between the five explanatory variables in the baseline regression and financial account openness. This strengthens the idea that these variables are well suited for the purpose of the study, as they provide for a good understanding of the way in which financial account openness differs across country classifications based on social and economic development.

III. Empirical Analysis

While this research examines the determinants of financial account openness, interpretation of estimated coefficients is restricted to the signs of the coefficients and, thus, to directional changes in financial account openness. This is consistent with the approach employed by Chinn and Ito and is appropriate, given the focus of this research on the possible influence of the AFC. Tables 2A and 2B present estimation results. The column labeled as Regression A presents coefficients generated from replicating the specification employed by Chinn and Ito.⁵⁷ Comparing the results to those of Chinn and Ito reveals that estimated coefficients have the same signs, despite a predicted positive coefficient for the *average total reserves_{t-1|t-5}* variable. Moreover, in both situations, *financial openness_{t-5}*, *average budget surplus/deficit_{t-1|t-5}*, and *average GDP per capita_{t-1|t-5}* have a positive and significant effect on financial account openness.

⁵⁷ Chinn, M., and Ito, H. "What Matters for Financial Development? Financial Controls, Institutions, and Interactions" La Follette School Working Paper Series No. 007, 2005.

The coefficient on the *financial openness*_{t-5} variable suggests countries that historically have had relatively open financial accounts have maintained this openness and became more open over time. The coefficient on the *average budget surplus/deficit*_{t-1|t-5} variable suggests that countries that have either large budget surpluses or low budget deficits (as a percentage of GDP) relative to other countries tend to have less open financial accounts. Higher *average GDP per capita*_{t-1|t-5} corresponds to a greater degree of financial account openness. Since average GDP per capita is an indicator of a country's level of economic development, the results appear to confirm that more developed countries have more open financial accounts.⁵⁸ Yet another similarity is that the coefficient on the *trade openness*_{t-5} variable is significant in both estimations. While the coefficient is significant at a 5 percent level in the Chinn/Ito regression, it is significant only at the 20 percent level in the current study. Thus, contrary to Chinn and Ito's findings, increased trade openness may not affect financial account openness as would otherwise be anticipated.

Table 2A: Estimation Results, Regressions A through C

Variables	Chinn/Ito (n=263)	Predicted Signs	Regression A (n=816)	Regression B (n=816)	Regression C (n=816)
Financial Openness _{t-5}	0.6109*** (0.0573)	+	0.7084*** (0.0270)	0.7020*** (0.0278)	0.6896*** (0.0282)
Trade Openness _{t-5}	2.177** (1.0332)	+	0.1498 (p=0.154) (.1050)	0.1623(p=0.125) (0.1063)	0.1601(p=0.141) (0.1086)
Average Budget Surplus/Deficit _{t-1 t-5}	0.0408*** (0.0153)	+	0.0027*** (0.0006)	0.0029*** (0.0007)	0.0032*** (0.0007)
Average Total Reserves _{t-1 t-5}	-0.0064 (0.0246)	+	-2.50e-06*** (7.58e-07)	-2.24e-06** (8.17e-07)	-2.13e-06** (8.79e-07)
Average GDP	0.3187***	+	0.00003***	0.00002***	0.00002***

⁵⁸ Arteta, C., Eichengreen, B., Wyplosz, C. "When does financial account liberalization help more than it hurts?" NBER Working Paper No. 8414, 2001.

per Capita $_{t-1 t-5}$	(0.0969)		(4.74e-06)	(6.74e-06)	(6.35e-06)
OECD				0.1679** (0.1245)	
Medium HDI					-0.1104 (0.1110)
low HDI					-0.4030** (0.1182)
Constant	a		0.1264 (0.0826)	0.1152 (0.0843)	0.2185 (0.1011)
R-squared	0.60		0.6688	0.6694	0.6757
F-statistic			555.78**	465.13**	418.04**

Heteroskedasticity - consistent robust standard errors in parentheses. “***”, “**”, “*” denote statistical significance from zero at the 1%, 5% and 10% levels, respectively. Coefficients that are significant at the 20% level are noted with corresponding p-values in parentheses. ^a Despite Chinn and Ito⁵⁹ including a constant term in the regression reported in the “Chinn/Ito Results” column, they chose not to include the estimated value in their paper. Appendices B and C present results of diagnostic tests for multicollinearity and heteroskedasticity, respectively.

The largest difference in the two regressions is that, while the coefficients of the *average total reserves* $_{t-1|t-5}$ variable are negative in both cases (despite a predicted positive value), the coefficient in the Chinn/Ito study has significant yet marginal effect. In the present study, the effect is significant at a 1 percent level of significance. This may suggest that countries with more open financial accounts have less of a need for financial reserves. Thus, the higher a country’s level of reserves, the more closed its financial account. This may be due to an increased likelihood that such countries have fixed exchange rate regimes. Despite certain differences, including that the two studies address different time periods (the Chinn/Ito study focuses on the 1980-2000 period, while the present study on the 1989-2004 period), examine different sets of countries and have different sample sizes (263 observations in the Chinn/Ito study and 816 observations in the current study), the results are similar.

⁵⁹ Chinn, M., and Ito, H. “What Matters for Financial Development? Financial Controls, Institutions, and Interactions” La Follette School Working Paper Series No. 007, 2005.

The estimated coefficient corresponding to the OECD dummy variable in Regression B indicates that OECD member countries have a higher level of financial account openness relative to non-OECD countries. This confirms previous studies arguing that countries which are more economically developed have more liberalized financial accounts.⁶⁰ The strong relationship between financial account openness and development is again emphasized by Regression C, which shows that countries with medium levels of human development are less open than countries with high levels of human development while countries with low levels of human development are significantly less open than countries with high human development indexes.

Table 2B: Estimation Results, Regressions D through F

Variables	Regression D (n=816)	Regression E (n=816)	Regression F (n=816)
Financial Openness _{t-5}	0.6807*** (0.0289)	0.6864*** (0.292)	0.6547*** (0.0286)
Trade Openness _{t-5}	-0.0859 (0.1322)	-0.627 (0.1322)	-0.2210* (0.1315)
Average Budget Surplus/Deficit _{t-1 t-5}	0.0036*** (0.0007)	0.0031*** (0.0007)	0.0041*** (0.0007)
Average Total Reserves _{t-1 t-5}	-5.57e-06 ^(p=0.122) (3.60e-06)	-6.86e-06** (3.39e-06)	-4.99e-06 ^(p=0.167) (3.61e-06)
Average GDP per Capita _{t-1 t-5}	0.00003*** (9.98e-06)	0.00002*** (9.66e-06)	0.0000216 (0.000013)
Trade Openness _{t-5} x post-AFC	0.3908** (0.1964)	0.3542* (0.1973)	0.4198** (0.1954)
Average Budget Surplus/ Deficit _{t-1 t-5} x post-AFC	-0.3107** (0.1296)	-0.3093*** (0.1141)	-0.1963 ^(p=0.122) (0.1270)
Average Total Reserves _{t-1 t-5} x post-AFC	4.57e-06 ^(p=0.125) (3.77e-06)	5.19e-06 ^(p=0.144) (3.55e-06)	3.12e-06 (3.85e-06)
Average GDP per Capita _{t-1 t-5} x post-AFC	-0.000015 ^(p=0.171) (0.000012)	0.00001 (0.00001)	-1.50e-06 (0.000017)
OECD		0.6445***	

⁶⁰ Arteta, C., Eichengreen, B., Wyplosz, C. "When does financial account liberalization help more than it hurts?" NBER Working Paper No. 8414, 2001.

		(0.1462)	
OECD x post-AFC		-0.9465 ^{***}	(0.2249)
Medium HDI	-0.1171		
	(0.1394)		
low HDI	-0.6153 ^{***}		
	(0.1375)		
Medium HDI x post-AFC	0.0340		
	(0.2227)		
Low HDI x post-AFC	0.4816 ^{***}		
	(0.2363)		
Upper Middle Income			-0.3917 [*]
			(0.2170)
Lower Middle Income			-0.5825 ^{**}
			(0.2367)
Low Income			-1.1195 ^{***}
			(0.2384)
Upper Middle Income x post-AFC			0.1993
			(0.3122)
Lower Middle Income x post-AFC			0.4770
			(0.3381)
Low Income x post-AFC			0.5891 ^{**}
			(0.3441)
post-AFC	0.0685	0.3160 [*]	-0.2274
	(0.1998)	(0.1910)	(0.3625)
Constant	0.2765 ^{**}	0.0735	0.9042 ^{***}
	(0.1252)	(0.1063)	(0.2454)
R-squared	0.6921	0.6889	0.6977
F-statistic	260.26 ^{**}	279.53 ^{**}	262.77 ^{**}

See Table 2A notes.

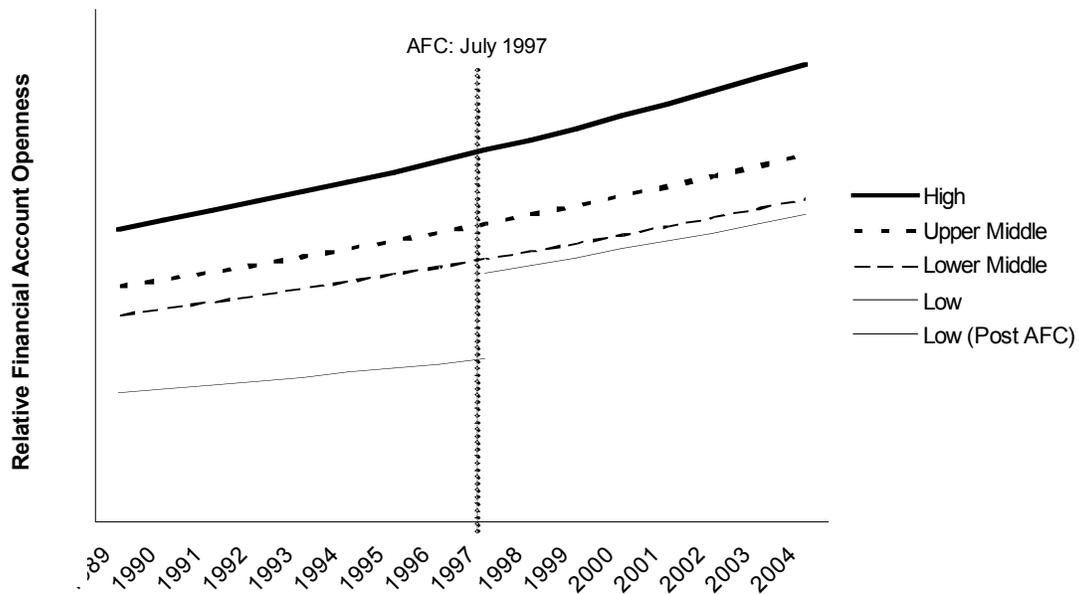
To further observe variation in financial account openness following the AFC, a series of interaction terms has been generated. The *post-AFC* variable is interacted with several explanatory variables. For example, when the variable identifying medium HDI countries is interacted with the *post-AFC* variable, the inclusion of the interaction term in the regression specification permits isolation of any significant deviation among medium HDI countries in terms of financial openness during the period from 1997 through 2004 relative to the 1989-1996 period. Similarly, a *low HDI x post-AFC* interaction term (referring to countries of low human development after 1996) has been added to the estimation equation.

The results corresponding to Regression D suggest that countries with medium human development have increased their financial account openness following 1996 relative to countries with high human development (e.g. the excluded classification). However, the pace of openness of medium HDI countries (of whom China is part of) has been significantly slower than that of low HDI countries. Compared to the high HDI cohort, the typical low HDI country has experienced a substantial increase in its financial account openness. The fact that, post-AFC, less economically-developed countries opened their financial accounts at a faster pace can also be seen in Regression E. While OECD countries continued being significantly more open than non-OECD countries, following the AFC, non-OECD countries experienced a greater increase in financial account openness. This has decreased the gap between OECD countries and non-OECD countries in terms of the level of financial account openness.

To further examine potential changes in financial account openness after the AFC, Regression F compares upper middle, lower middle, and low income countries to high income countries (again, the excluded classification). As before, the specification has been altered to include post-AFC interaction effects. The results reveal that countries in all three categories have financial accounts that are less open than those of high income countries (with low income countries being the least open). However, after 1997, the pace at which the countries in the upper middle and lower middle income (China included) groups liberalized their

financial accounts was significantly lower than that of countries in the low income group. The positive, yet insignificant, mean values of upper middle income and lower middle income country variables suggest that, as of 2004, these countries are not catching up with high income countries in regards to financial account openness, but rather seem to move in a parallel path. The figure below reflects the significantly higher pace of growth in financial account openness of countries in the low income group following the AFC.

Figure 1: Financial account openness of countries by income classification



The R-squared and F-statistic values presented in Tables 2A and 2B indicate the appropriateness of the regression specification. R-squared values larger than 0.50 are considered a good fit in studies that have a cross-sectional nature⁶¹ (such as the present one). The significantly larger R-squared values

⁶¹ Studenmund, A.H. "Using Econometrics: A Practical Guide" Forth Edition. Addison Wesley Longman, 2001.

obtained (shown in the Tables 2A and 2B above reveal that between 66 percent and 69 percent of the variation in the dependent variables can be explained by the independent variables, a slightly higher albeit similar percentage to that reported in the Chinn/Ito study. The F-statistic determines if the estimated coefficients are jointly significant from zero. This test of overall significance of a regression equation indicates that using the regression is an improvement over relying on the mean of the dependent variable as a predicted value.

As seen in Table 3, financial account openness for the full sample increased following the AFC. Confirming earlier findings, the increase in financial account openness of OECD countries following the AFC has been smaller than that of non-OECD countries. The results confirm that, while low HDI countries realized a significant increase in financial account openness following the AFC, medium HDI countries have also witnessed positive increases in financial account openness; however, the increases have been of somewhat lower magnitude. Similarly, while countries in all income classifications experienced an increase in financial account openness post-AFC, low income countries have experienced the highest increase in openness and the lower middle income countries (of which China is part of) have also experienced a significant increase in financial account openness. When comparing China's financial account openness to that of other countries it can be inferred that, prior to the AFC, China had a lower level of openness than the average country in the low income group; following the AFC, however, China increased its openness by a rate similar to that of lower middle

income countries, but maintained a level lower than that of the average low income country.

Table 3: Average Financial Account Openness in the Study Sample

Sample	N	Mean	Std Deviation
Sample prior to 1997	408	0.0996***	1.5435
Sample after 1996	408	0.7834***	1.5560
OECD countries prior to 1997	112	1.7152***	1.1687
OECD countries post 1996	112	1.9792***	1.0413
non-OECD countries prior to 1997	296	-0.5117***	1.1861
non-OECD countries post 1996	296	0.3309**	1.4778
High HDI countries prior to 1997	168	1.2363***	1.5360
High HDI countries post 1996	168	1.6767***	1.3001
Medium HDI countries prior to 1997	128	-0.1641***	1.355
Medium HDI countries post 1996	128	0.3449	1.4016
Low HDI countries prior to 1997	112	-1.0040***	0.6696
Low HDI countries post 1996	112	-.1697***	1.3528
High Income countries prior to 1997	104	1.8741***	1.2123
High Income countries post 1996	104	2.2199***	0.6766
Upper Middle Income countries prior to 1997	88	0.834***	1.3110
Upper Middle Income countries post 1996	88	1.1622**	1.5205
Lower Middle Income countries prior to 1997	120	-0.4021***	1.2371
Lower Middle Income countries post 1996	120	0.2858 *	1.4281
Low Income countries prior to 1997	96	-1.1724***	0.5884
Low Income countries post 1996	96	-0.5064***	1.1019
China prior to 1997	8	-1.4238***	0.3517
China after 1996	8	-1.0948***	0

Mean values presented with standard deviations. "****", "****", "****" denote statistical significance from the overall mean at the 1%, 5% and 10% levels, respectively.

Table 4 compares the average annual growth prior to and following the AFC, by country classification and for China. When comparing the increased financial account openness of low income countries with observed economic growth potentially attributable to this openness, it can be seen that the typical

low income country has recorded a decrease in annual economic growth following the AFC. This may suggest that increased financial account openness only enhances growth if countries first establish the proper environment for growth to occur. More specifically, that many underdeveloped countries have inadequate institutional support hinders the pro-growth influence of financial account openness. Given the relatively short time since the AFC, it is likely that low income countries have been unable to address structural deficiencies in their economic systems prior to further opening their financial accounts and that this has inhibited annual GDP per capita growth. That medium HDI countries, despite not opening their financial accounts as quickly as low income countries, have realized higher growth than low HDI countries supports the notion that countries at low levels of social and economic development may not have had the proper financial structures in place to benefit from increased financial account openness.

Table 4: Average Annual Growth Rates of Per Capita GDP, Prior to and Following the AFC

	Avg. GDP/capita Prior to AFC	Avg. GDP/capita Post AFC	Change
Sample	1.7132% (0.0395)	1.8144% (0.0344)	0.1012%
High Income countries	2.0020% (0.0245)	2.2108% (0.02217)	0.2087%
Upper Middle Income countries	2.5716% (0.0465)	2.1916% (0.0295)	-0.38%
Lower Middle Income countries	1.6031% (0.0387)	1.6585% (0.0327)	0.0554%
Low Income countries	0.7357% (0.0295)	0.2161% (0.0368)	-0.5196%
High HDI countries	2.212% (0.0331)	2.3021% (0.0258)	0.0901%

Medium HDI countries	1.5005% (0.0478)	2.114% (0.0386)	0.6135%
Low HDI countries	1.1963% (0.0371)	0.7401% (0.0383)	-0.4562%
OECD countries	1.9474% (0.0258)	2.0649% (0.0249)	0.1175%
non-OECD countries	1.6246% (0.0436)	1.7195% (0.0373)	0.0949%
China	7.2192% (0.0416)	9.6069% (0.0288)	2.3877%

China experienced a significantly higher annual economic growth post AFC than the average country in all the above categories, despite its lower level of financial account openness. This could suggest that the Chinese government has intentionally decided not to liberalize the country's financial account to such a high extent, as a strategy to eliminate the possible unfavorable outcomes a more open financial account could bring, given the country's low institutional development and largely inefficient macroeconomic environment. This corresponds to Chinn and Ito,⁶² Tornell et al.,⁶³ and Leblang 1997,⁶⁴ who argue that a positive relationship between financial account openness and economic growth only manifests itself following a country's achievement of a certain degree of development, and consider that financial account openness should be done gradually, such that an economy can have adequate time to take reformatory measures against its weaknesses.

⁶² Menzie, C. and Ito, H. "What Matters for Financial Development? Financial Controls, Institutions, and Interactions" La Follette School Working Paper Series No. 007, 2005.

⁶³ Tornell, A, Westermann, F., Martinez, L. "The Positive Link Between Financial Liberalization, Growth, and Crises." NBER Working Paper No. 10293, 2004.

⁶⁴ Leblang, David. "Domestic and Systematic Determinants of Capital Controls in the Developed and Developing World" *International Studies Quarterly*, 41 (1997): 435 - 454.

IV. China Case Study

This case study offers an overview of possible reasons China maintained a low level of financial account openness following the AFC while at the same time significantly increasing the number of reforms aimed at achieving higher levels of financial market transparency and increasing the competitiveness of its banking sector. The study is of significance importance as it provides support for the idea that in underdeveloped countries increased financial account openness alone might not result in increased economic growth. Rather, corroborating previous research, the case study seems to indicate that institutional development is of crucial importance for economic growth. Edwards,⁶⁵ Bailliu,⁶⁶ Klein,⁶⁷ and Arteta et al.⁶⁸ found that while financial account liberalization can result in favorable outcomes for developed countries, that is usually not the case for developing countries. Also, as argued by Bussiere and Fratzscher,⁶⁹ financial crises seem to have more severe negative effects in terms of a loss in growth for more open economies than for those that are closed. Addressing macroeconomic imbalances prior to increasing financial account openness is, as argued by Chinn

⁶⁵ Edwards, Sebastian. "Capital Flows and Economic Performance: Are Emerging Economies Different?" NBER Working Paper no. 8076, 2001.

⁶⁶ Bailliu, Jeannine "Private Capital Flows, Financial Development, and Economic Growth in Developing Countries", Bank of Canada Working Paper No. 15, 2000.

⁶⁷ Klein, M. and Olivei, G. "Capital Account Liberalization, Financial Depth, and Economic Growth," NBER Working Paper No. 7384, 2000.

⁶⁸ Arteta, C., Eichengreen, B., and Wyplosz, C. "Do the Effects of Capital Account Liberalization Depend on the Stage of Financial and Institutional Development? University of California, Berkeley, 2002

⁶⁹ Bussiere, M., and Fratzscher, M. "Towards a new Early Warning System of financial crises" ECB Working Paper No. 145, 2002.

and Ito,⁷⁰ Tornell et al.,⁷¹ and Leblang,⁷² crucial in ensuring that the increased openness will not have unfavorable economic outcomes.

China represents a particularly interesting topic to examine as the country experienced a high level of economic growth following the AFC despite having a less open financial account than even the average low income country. In addition, China is unique in that it is the largest recipient of FDI in the world even though advocates of financial account openness posit a positive relationship between financial account openness and FDI inflows.⁷³

Deficiencies in the Chinese economic system could have triggered the government to maintain a lower level of openness. This argument is strengthened as increased financial account openness could be related to the significant capital losses Indonesia, Malaysia, South Korea, Thailand, and the Philippines experienced following the AFC. A few years prior to the AFC, the above countries began increasing the openness of their financial accounts. This resulted in domestic banks increasing borrowings from abroad, such that in

⁷⁰ Chinn, M., and Ito, H. "What Matters for Financial Development? Financial Controls, Institutions, and Interactions" La Follette School Working Paper Series No. 007, 2005.

⁷¹ Tornell, A., Westermann, F., and Martinez L. "The Positive Link Between Financial Liberalization, Growth, and Crises." NBER Working Paper No. 10293, 2004.

⁷² Leblang, David. "Domestic and Systematic Determinants of Capital Controls in the Developed and Developing World" *International Studies Quarterly*, 41 (1997): 435 - 454.

⁷³ Noy, I., and Vu, T. "Capital Account Liberalization and Foreign Direct Investment" Department of Economics, University of Hawaii, 2007.

1996, total private capital inflows to these nations were \$93 billion, up from \$41 billion in 1994. In 1997, the AFC resulted in a sudden outflow of \$12 billion.⁷⁴

The case study emphasizes the measures taken to reduce the prevalence of Non-Performing Loans (NPLs) and to encourage financially strong foreign banks to compete when acquiring partial ownership of domestic banks. The effectiveness of enacted policies is also discussed as are the shortcomings that continue to characterize the Chinese financial and banking sectors. While there is limited information available as to how the Chinese Communist Party perceived the AFC, the sharp increase in the number of reforms implemented starting with 1997 – which have significantly changed the way in which financial and banking sector activity is being conducted – indicates the crisis may have played an important role in the Chinese government’s decision to intensify its struggle towards achieving international competitiveness and to reduce the potential threat a similar future event could bring for the country.

United Nations (UN) reports argue it is of primary importance for countries to modernize and strengthen their banking sectors prior to opening their financial accounts, in order to sustain economic growth, given the present unstable global financial environment that has resulted from rapid liberalization

⁷⁴ Clark, Thomas. “Haemorrhaging Tigers: the power of international financial markets and the weaknesses of Asian modes of corporate governance” *Corporate Governance* 8.2(2000): 101.

and integration of financial and capital markets worldwide.⁷⁵ China seems to have recognized the importance of improving its banking sector, as significant reforms have been implemented for that purpose following the AFC.

In addition, the UN also emphasizes the importance of ensuring efficient domestic financial markets and institutions.⁷⁶ Following the AFC, China has taken significant steps towards reforming inefficiencies in the above two areas. Additionally, recognizing that opening its financial account could result in FDI to take mostly the form of speculative investment (portfolio investment in stock and bonds), rather than investment in tangible properties (e.g. factories), the Chinese government has taken measures towards encouraging foreign banks to purchase non-performing loans (NPLs) and hold ownership of domestic banks, such that it can limit the possibility of overnight investment withdrawal, in case of a decrease in investor confidence. The sections below provide a more in-depth overview of the measures the Chinese government took following the AFC to improve the efficiency of the country's economic sector. An overview of the major shortcomings of the Chinese economy is also presented, as a means to argue that it is likely, due to these existing deficiencies, that China will only gradually increase the openness of its financial account in the future.

A. China and the AFC

⁷⁵ United Nations "Development and Institutional Reform of Financial Markets: Issues and Policy Options for the Escwa Region", 2004.

⁷⁶ United Nations "Development and Institutional Reform of Financial Markets: Issues and Policy Options for the Escwa Region", 2004.

China shared significant weaknesses with the countries affected by the AFC, the most important of which are an export-dependent economy, a significant amount of low-yield investments, a banking system weakened by bad loans, and corruption and nepotism in the market system.⁷⁷ However, China also had advantages over economies that suffered directly from the AFC which helped China avoid potentially damaging effects. These advantages included strong macroeconomic performance – in 1997 the sum of Chinese imports and exports resulted in China being the tenth largest trading power in the world, having more than \$140 billion in financial reserves – thus being able to maintain a stable economy; partial convertibility of the Yuan and strict control over capital flows; and a significantly higher proportion of medium and long-term foreign direct investment than short-term investment.⁷⁸ Given China's high rates of GDP growth (8.8% in 1997 and 7.8% in 1998), the AFC is thought to have resulted in actually strengthening China's international position, as the country began being perceived as a key factor of stability in the region.⁷⁹

B. Major Reforms

Beginning in 1997, there has been an increase in attempts to reform the Chinese economy from a planned economy to one resembling a free-market

⁷⁷ Dassu, Martha. "China and the Asian Crisis: Pillar of Stability or Next Country at Risk?" *The International Spectator*, 33.3(1995).

⁷⁸ *Idem.*

⁷⁹ *Idem.*

society. Chinese government policy shifted from what in hindsight seemed to be a complacent attitude towards the country's under-developed financial and banking sectors.⁸⁰ Appendix D provides an overview of the major reformatory measures implemented both prior to and following the AFC. While the number of reforms enacted following the AFC till 2004 is significantly larger (at a 10% significance level) than those prior to the crisis, it cannot be argued that the magnitude of these reforms is higher as well. However, contrary to the pre-AFC period, reforms following the AFC seem to indicate an increase in the country's attempt to become more integrated in the global economic system.

Dassu⁸¹ observes a marked increase in both the pace and significance of reforms implemented after the AFC and considers that although restructuring attempts began in the 1980s, these reforms did not represent a priority, as Chinese financial and banking institutions did not have to face international competition or adopt international accounting norms. Reforms were always followed by a strengthening in the supervisory role of the Communist Party, such that their intended purpose was never fully achieved. Banks continued to be supervised by the central government and conducted lending in accordance with its directions. Despite the opening of the country's stock market in 1990, selection

⁸⁰ Dassu, Martha. "China and the Asian Crisis: Pillar of Stability or Next Country at Risk?" *The International Spectator*, 33.3(1995).

⁸¹ *Idem*.

of the first 1,000 participating companies was based not on performance but on the preferences of local governments and central ministries.⁸²

Following the AFC though, China began implementing a significant number of reforms for institutional development. Not only was the right of governments and central ministries to influence the selection of traded companies abolished (in favor of stricter procedural guidelines), but companies began being required to disclose a significantly higher level of information before being awarded listing rights.⁸³ In addition, besides the fact that financial sector reform and concerns about inadequate corporate governance moved to center stage, significant changes in the country's industrial policy were made as well, especially since the country was also in the process of joining the World Trade Organization (WTO). WTO membership was indicative of significant capital flows in the country and a much higher degree of competition from foreign financial entities which could trigger twin crises (foreign exchange and banking/stock market crisis). Thus, reforming the country's legal administration, improving the transparency of financial and banking institutions (mostly through recapitalization of the State Commercial Banks (SCBs) and adoption of the international standard accounting system), and implementing reforms for

⁸² Huang, Y., Saich, A., & Steinfeld, E. "Introduction." in "Financial Sector Reform in China." Eds. Huang, Y., Saich, T., Steinfeld, E., Cambridge, Massachusetts: Harvard University Asia Center, 2005.

⁸³ Idem.

economic openness and globalization became top priorities for the government.⁸⁴

C. Disposition of Non-Performing Loans

The largest deficiency addressed was that of the high levels of NPLs. The prevalence of NPLs is attributable, in large part, to financial losses incurred by State Owned Enterprises (SOEs) following the entrance of competitive foreign firms into the market. A lack of a commercial credit culture at major financial institutions also contributed to the high number of NPLs. Shifting the responsibility of financing SOEs from the fiscal budget to the SCBs, has resulted in fiscal revenues decreasing as a share of GDP from 30 percent to 12 percent and bank loans as a share of GDP increasing from 50 percent to 120 percent.⁸⁵ These significant shifts were mainly caused by the fact that banks did not receive autonomy but instead had the responsibility to authorize lending as directed by the state's industrial policy. Since it was the central authorities who were in charge of approving lending, they were also ultimately responsible for paying off any losses. This vicious lending cycle resulted in NPLs accounting for three-quarters of the loans made by mid-1995 and in SOEs having debt-to-equity ratios

⁸⁴ Yang, D.L. "China in 2001: Economic Liberalization and Its Political Discontents" *Asian Survey*, 42.1 (2002): 14-28.

⁸⁵ Xu, Min. "Resolution of Non-Performing Loans in China" The Leonard N. Stern School of Business, Glucksman Institute for Research in Securities Markets, 2005.

averaging 158 percent in 2001 (with companies operating in the construction, real estate, food and textile industry reaching debt-to-equity ratios of 350 percent).⁸⁶

In trying to reduce the amount of NPLs, the government established, in 1999, four Asset Management Companies (AMCs) (Cinda, Orient, The Great Wall and Huarong) which were each matched with one of the four major SCBs (the Bank of China (BOC), China Construction Bank (CCB), the Industrial and Commercial Bank of China (ICBC), and the Agricultural Bank of China (ABC)). AMCs were established as separate organizations from their parent banks because of regulations prohibiting commercial banks from participating in investment banking activities.⁸⁷ There are two methods employed in facilitating the transfer of NPLs from parent banks to AMCs: 40 percent of the value of the transferred NPLs consists of loans made by the parent bank to the AMC at an interest rate of 2.25 percent, while 60 percent of the value of the transfers is being done through the parent bank purchasing “bonds issued by the AMC, guaranteed by the Ministry of Finance (MOF), and paying interest of about 2.5 percent.”⁸⁸ AMCs have the option of collecting the NPLs themselves or to simply repackaging them and trade them at discount prices on secondary markets.⁸⁹ Table

⁸⁶ Xu, Min. “Resolution of Non-Performing Loans in China” The Leonard N. Stern School of Business, Glucksman Institute for Research in Securities Markets, 2005.

⁸⁷ Huang, Y., Saich, A., & Steinfeld, E. “Introduction.” in “Financial Sector Reform in China.” Eds. Huang, Y., Saich, T., Steinfeld, E., Cambridge, Massachusetts: Harvard University Asia Center, 2005.

⁸⁸ Bonin, J., Huang, Y. “Dealing with the Bad Loans of the Chinese Banks,” Department of Economics, Wesleyan University Working Paper No. 357, 2001.

⁸⁹ Idem.

5 below provides a summary of the major recapitalization/NPL transfer measures undertaken by the Chinese government.

Table 5: Recapitalization/NPL Transfer Methods Undertaken by the Chinese Government

Year	Action
1998	The government injected RMB 270 billion (\$33 billion) of capital into the four State Owned Banks (SOBs)
1999	The government established four AMCs: Cinda, Huarong, Orient and Great Wall. Each of the four AMCs as originally matched up against each of the four SOBs: Cinda with CCB, Huarong with ICBC, Orient with BOC, and Great Wall with ABC. The AMC's purchased RMB 1.4 trillion (\$170 billion) of NPLs from the four SOBs and the China Development Bank. Transferred loans were primarily "substandard" or "doubtful" loans (under the old four-tier classification mechanism) made prior to 1996 and overdue for more than one year by the end of 1998. The AMCs purchased the NPLs at book value.
2003	The government injected RMB 370 billion (\$45 billion) of capital into CCB and BOC, both slated for public offerings in 2005.
2004	Cinda AMC won the auction to purchase RMB 278.7 (\$34 billion) in NPLs from BOC and CCB, at 50 percent of book value. The ultimate recovery rate of 33 cents on the dollar for the loans is required by year-end 2005.
2004	Cinda AMC bought RMB 41.4 (\$5 billion) of NPLs from Bank of Communications at a 50 percent discount, funded entirely by a loan from PBOC. Cinda has promised ultimate recovery of 30 percent to 40 percent of face value.
	Total bailout transfer amount as of 2004: RMB 2.36 trillion (\$287 billion)

Source: China Banking Regulatory Commission. Presented in: Xu, Min. "Resolution of Non-Performing Loans in China" The Leonard N. Stern School of Business, Glucksman Institute for Research in Securities Markets, 2005.

In 2000, BOC, CCB, and ICBC each reported decreases in their NPL/loan portfolio ratios; however, given the country's loan portfolio was growing faster than its GDP, the NPL/GDP ratio did not diminish. NPL recoverability rates are further inhibited by their low asset quality – of the 1.7 trillion Yuan of NPLs transferred to the AMCs, 1.4 trillion Yuan represent policy loans made prior to 1995, and only 22 percent of these consisted of "real estate, intellectual property rights, and other tangible securities,"⁹⁰ which are easier to recover due to higher liquidity. The largest part of the NPL portfolio is made up of loans backed by machinery, accounts receivable, and inventories, which have the lowest liquidity.

⁹⁰ Xu, Min. "Resolution of Non-Performing Loans in China" The Leonard N. Stern School of Business, Glucksman Institute for Research in Securities Markets, 2005.

Since, in some cases, operations for recuperating NPLs have been suspended for more than a decade their recoverability has significantly decreased, such that only 23.3 percent of the NPLs were retrieved by 2005. Further information on the disposal of non-performing assets of each of the four AMCs, as of December 31, 2004 is presented in Table 6 below.

Table 6: Disposal of Non-Performing Assets at China’s AMCs, December 31, 2004 (in billion Yuan)

	Total	Huarong	Great Wall	Orient	Cinda
Accumulated Disposal	675.06	209.54	209.91	104.55	151.06
Asset Recovery Ratio	25.5%	25.3%	14.4%	29.5%	38.3%
Cash Recovery	137.00	41.34	21.57	23.29	50.81
Cash Recovery Ratio	20.3%	19.7%	10.3%	22.3%	33.6%

Source: China Banking Regulatory Commission. Presented in: Xu, Min. “Resolution of Non-Performing Loans in China” The Leonard N. Stern School of Business, Glucksman Institute for Research in Securities Markets, 2005.

Beginning in the first quarter of 2004, all AMCs increased in their ability to dispose of NPLs. Table 7 summarizes the recent disposal of NPLs for the AMCs. However, since AMCs must fund the transfer of NPLs by paying interest obligations of 30 billion Yuan a year until 2009 on the loans they acquired to the People’s Bank of China (PBOC), they could face significant cash flow pressures if the recovery rate of NPLs remains low. Given that, starting in August 2005, the government implemented measures allowing AMCs to compete for acquiring NPLs, it is expected that larger amounts of NPLs will be recovered.⁹¹

Table 7: Accumulated Disposal of Non-Performing Assets by the four AMCs (in trillion Yuan)

	Q1, 2004	Q2, 2004	Q3, 2004	Q4, 2004	Q1, 2005	Q2, 2005

⁹¹ Xu, Min. “Resolution of Non-Performing Loans in China” The Leonard N. Stern School of Business, Glucksman Institute for Research in Securities Markets, 2005.

Overall	0.529	0.567	0.588	0.675	0.689	0.717
Huarong	0.146	0.170	0.175	0.210	0.214	0.220
Great Wall	0.170	0.176	0.183	0.210	0.214	0.229
Oient	0.089	0.092	0.097	0.105	0.107	0.110
Cinda	0.124	0.129	0.133	0.151	0.154	0.158

Source: China Banking Regulatory Commission. Presented in: Xu, Min. "Resolution of Non-Performing Loans in China" The Leonard N. Stern School of Business, Glucksman Institute for Research in Securities Markets, 2005.

AMCs have implemented a series of strategies for debt recovery: debt-for-equity swaps, direct sales of packaged or individual NPLs, securitization, and other restructuring/liquidation methods (debt collection, sale or lease of real property, restructuring of debt terms, and bankruptcy settlement). The remainder of this section discusses each of these strategies in greater detail.

1. Debt-for-Equity Swaps

The program was adopted in 1999 and consisted of the Chinese government trying to increase the profitability of SOEs by removing debt obligations worth 1,400 billion Yuan and replacing these NPLs with equity ownership of the AMC(s) that took over the NPLs. This gave the AMCs first priority in exercising their equity stake through public listings and entitled them to "dividends and subsequent repurchase from the SOEs at agreed-upon prices within 10 years, should the latter ever become profitable."⁹² Following the enactment of the program, companies decreased their debt levels from 73

⁹² Xu, Min. "Resolution of Non-Performing Loans in China" The Leonard N. Stern School of Business, Glucksman Institute for Research in Securities Markets, 2005.

percent of total capital in 1999 to 50 percent of total capital in 2000, 80 percent of the 580 SOEs included in the program recording profits during the year.⁹³

Although AMCs were given ownership in the SOEs, they were not entitled to any rights in managing the affairs of these companies or in deciding on the appointment of their leaders. The negative outcome of the debt-for-equity swap program was that it resulted in moral hazard, as it actually provided incentives for SOEs to no longer honor their financial obligations and it encouraged bankers to continue extending funding to these institutions, despite their poor prospects of paying back their loans. As a result, although the national banking system's NPLs level had been reduced from 35 percent in 1999 to 25 percent at the end of 2000, an extra 400 billion Yuan worth of NPLs was recorded during 2000, which represents about a third of the debt obligations that were eliminated following the enactment of the debt-for-equity swaps.⁹⁴

2. Direct Sale to Investors

The most widespread types of direct sale to investors transactions consist of sales of settled assets and debt and equity rights to third parties, who have the potential of recording significant profits if they can implement successful price recovery strategies. This strategy has proved very successful at increasing

⁹³ Idem.

⁹⁴ Steinfeld, Edward. "China's Program of Debt-Equity Swaps: Government Failure or Market Failure?" Paper presented at Financial Sector Reform in China Conference, Harvard University, 2001.

China's FDI and economic growth, while the country maintained a low level of financial account openness. Foreign investors have shown considerable interest in purchasing NPLs, as the recovery rates on these loans have proved to be significantly higher than the amounts paid for their purchase. For example, Morgan Stanley has received a cash recovery rate of more than 20 percent on 10.8 billion Yuan worth of NPLs which it bought at 8.125 percent of face value, while Goldman Sachs generated a \$50 million profit on a \$16 million investment it made in a similar transaction.⁹⁵ In trying to acquire NPLs at the lowest possible cost, foreign investors have also adopted strategies other than direct purchases. For example, Citigroup acquired a 16.4 percent equity stake in Silver Grant International Industries, a buyer of NPLs having close business relationships with Cinda AMC.⁹⁶ Table 8 provides an overview of the major foreign investors that have acquired NPLs since 2001. However, despite the impressive gains made by some foreign investors, obstacles including lengthy regulatory approval processes, unclear legislation about the rights of foreign investors, significant miscellaneous fees, expenses and taxes associated with purchasing NPLs, and poor loan transparency have resulted in only US\$6.6 billion out of a total of US\$500 - US\$650 billion worth of NPLs being sold to foreigners through 2004. This suggests that investors have significant doubts regarding the viability of their investments, which could reveal that, were China to significantly open its

⁹⁵ Steinfeld, Edward. "China's Program of Debt-Equity Swaps: Government Failure or Market Failure?" Paper presented at Financial Sector Reform in China Conference, Harvard University, 2001.

⁹⁶ Idem.

financial account, it could be subject to investors withdrawing massive amounts of capital in a short period of time, which could result in financial crises.

Table 8: Direct NPL Sales to Foreign Investors

AMC/Bank	Year	Asset Nature	Book Value (BV)	Sale Value	Recovery/B V for the Seller	Investor (s)
Cinda	2001		\$145 MM (RMB 1.2 Bn)			Chenery Associates
Orient	2001		\$217 MM (RMB 1.8 Bn)	\$21 MM upfront	10% upfront (50% JV after)	Chenery Associates
Orient	2002		\$210 MM (RMB 1.7 Bn)			Chenery Associates
Huarong	2002	Debt rights, 60% secured/ Guaranteed	\$ 1.3 Bn (RMB 10.8 Bn)	RMB 877.5 MM upfront	8.125% upfront (exp. 21% recovery)	Consortium led by Morgan Stanley
Huarong	2002	Debt rights, 60% secured/ guaranteed	\$240 MM (RMB 1.97 Bn)	RMB 197 MM upfront	10% upfront (exp. 21% recovery)	Goldman Sachs
BOC (Cayman)	2003		\$1.8 Bn (RMB 14.9 Bn)			Citigroup
Huarong	2004	Debt rights, 40% secured/ guaranteed	\$2.2 Bn (RMB 18.4 Bn)		7 - 15% upfront (Huarong retained some interest through JVs)	Morgan Stanley, Citigroup, UBS, Goldman Sachs, JP Morgan, Lehman, Ao Yi, Er (domestic)
CCB	2004	Settled Assets (Real Estate)	\$513 MM (RMB 4.2 Bn)	178 MM (RMB 1.5 Bn)	34.75%	Morgan Stanley, Deutsche Bank
CCB	Signed 2003	Debt Rights	\$524 MM (RMB 4.3 Bn)		70% sold to MS, 30% JV	Morgan Stanley
Huarong	Signed 2004		\$215 MM (RMB 1.8 Bn)			Morgan Stanley, GE
Great Wall	Signed 2004		\$281 MM (RMB 2.3 Bn)			Citigroup
Great Wall	Signed 2004		\$1 MM (RMB 8.3 Bn)			Goldman Sachs
Great Wall	Signed 2004	Unsecured Debt Rights	About \$140 MM	About \$14-15MM	10 - 11% (unofficial)	1 Domestic, 1+ Intl. Buyer(s)
Orient	Signed 2004		\$290 MM (RMB 2.4 Bn)			CSFB
Cinda	Signed 2004	Debt rights Backed by Real Estate	\$29.7 MM (RMB 246 MM)	\$10.2 MM (RMB 85.1 MM)	34.6%	1 Domestic, 1 Intl., Buyer

Source: PwC China NPL Investor Survey 2004, PwC NPL Asia Report 2004, EIU Country Finance China (2004) and AMC website releases. Presented in: Xu, Min. "Resolution of Non-Performing Loans in China" The Leonard N. Stern School of Business, Glucksman Institute for Research in Securities Markets, 2005.

Foreign investors have also been acquiring NPLs that are secured by real estate collateral, especially since recent years have brought increases in real estate prices in China. NPLs guaranteed by corporate entities or local governments are of great interest as well, as they give foreign investors the chance to “negotiate a settlement price with the borrower and their guarantor that is below their acquisition price.”⁹⁷ The financial gains recorded by the above-mentioned foreign financial institutions, suggest that China’s NPLs will undoubtedly attract even more investors in the years to come, if it continues implementing reforms for economic development. It is estimated that the earlier a foreign company establishes itself on the Chinese NPL market, the more successful it will be. For example, Goldman Sachs was one of the first companies to enter the Korean NPL market, at a time when other investors were hesitant to enter due to the associated uncertainty.⁹⁸ This allowed Goldman Sachs to gain significant market knowledge, such that when its competitors finally decided to implement similar NPL acquiring strategies, it was able to win a significantly larger number of NPL auctions and achieve higher returns on its investments.

3. Securitization

AMCs define securitization as the creation of securities that are “primarily serviced by the cash flows of a discrete pool of receivables or other financial assets, either fixed or revolving, that by their terms convert into cash within a

⁹⁷ Steinfeld, Edward. “China’s Program of Debt-Equity Swaps: Government Failure or Market Failure?” Paper presented at Financial Sector Reform in China Conference, Harvard University, 2001.

⁹⁸ Idem.

finite time period plus any rights or other assets designed to assure the servicing or timely distribution of proceeds to the security holders.”⁹⁹ In the case of NPLs, securitization permits for upfront recovery of part of the cash by the AMCs, who can then choose to employ other agents for recovering the NPLs. Securitization in China has so far been conducted in accordance with the 2001 *Trust Law*, which enables sellers to retain upside residual benefits.¹⁰⁰ Given that asset securitization implies that the cash flow of a wide spectrum of NPLs is repackaged into tradable securities with various yields and maturity dates, a significant number of investors can be targeted, and sellers can thus benefit from increased cash recovery rates. Table 9 below provides an overview of the primary securitization/quasi-securitization projects initiated till 2004.

Table 9: Primary Securitization/Quasi-Securitization Projects Overview

Year	AMC/Bank	Securitized Assets	Details
2003	Huarong	RMB 13.3 Bn (\$1.6 Bn)	Repackaged 256 NPLs; Sold only to domestic investors; Two classes of trust certificates: RMB1.0 trillion of senior trust certificates were issued to investors → recovery rate of about 10 percent; the subordinated tranche was retained by Huarong; Interest rate on the senior trust certificates: 4.17 percent; 80 percent of senior trust certificates have changed hands; Used the Trust Law; Three-year maturity.
2004	Cinda	RMB 2 Bn (\$240 MM)	Assets dispersed in ten regions; Engaged Deutsche Bank as servicer; Sold to international investors (U.S. and Southeast Asia); Promised term: three to five years
2004	ICBC	RMB 2.6 Bn (\$314 MM)	Assets in Ningbo; Securitized portfolio included non-performing and sub-performing loans; First securitization project by a commercial bank; Partnered with CSFB; Three classes of trust certificates: Class A Senior, Class B Junior

⁹⁹ “Asset Securitization: What did Cinda’s Experience Tell Us?” Finance Daily, April 20, 2004. <http://www.chamc.com>

¹⁰⁰ Idem.

			and Class B, both rated AAA per 2 domestic ratings and guaranteed by ICBC; 820 MM RMB (\$99 MM) in certificates issue to investors → recovery rate of 31.5 percent; Marked only to domestic investors; Used the Trust Law
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Source: Various News Releases. Presented in: Xu, Min. "Resolution of Non-Performing Loans in China" The Leonard N. Stern School of Business, Glucksman Institute for Research in Securities Markets, 2005.

4. Other Restructuring/Liquidation Methods

In addition to the above mentioned methods, the government also implemented debt collection, sale or lease of real property, restructuring of debt terms, and bankruptcy settlements. During 2004, the government closed 3,500 insolvent SOEs, "allocating about \$6 billion to SOE bankruptcy subsidiaries, financing the settlement of laid-off liability relating to 6.2 million workers, and writing off about \$27 billion of bad loans."¹⁰¹

D. Improving the Competitive Position of Chinese Banks

Following the AFC, the Chinese government has also addressed the issue of improving the competitive position of domestic banks by way of encouraging partial foreign ownership of these institutions. However, foreign investors were not allowed to hold more than 25 percent of a domestic bank's shares, and each individual investor was limited to holding less than 20 percent.¹⁰² Foreign ownership is perceived as bringing benefits that include improved bank

¹⁰¹ Xu, Min. "Resolution of Non-Performing Loans in China" The Leonard N. Stern School of Business, Glucksman Institute for Research in Securities Markets, 2005.

¹⁰² Hope, N., and Hu, F. "Reforming Chinese Banking: How much can foreign entry help" Fourth Annual Conference on Chinese Policy Reform, Stanford Center for International Development, 2005.

restructuring, management and control; development and marketing of new products; higher levels of capital inflows; increased returns to equity; better credibility and reputation; and overall increased financial soundness, all of which are of great importance in ensuring that financial account openness can lead to positive outcomes.¹⁰³

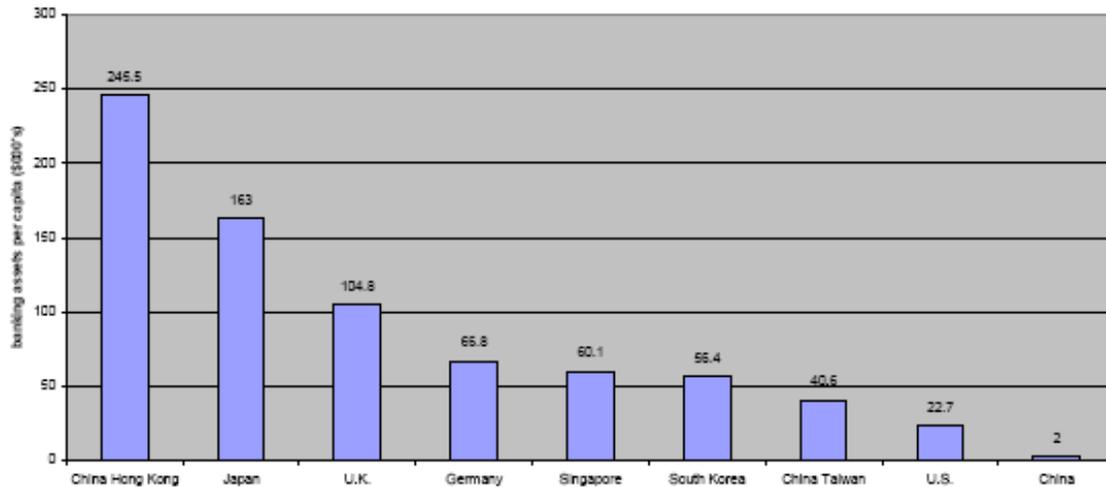
As it is in the foreign investors' interest to clearly understand the financial status of potential domestic partners as well as to assess the risks and opportunities they face, domestic banks can take great advantage of being provided with comprehensive expert reviews on the way in which they conduct activity. In addition, foreign investors can provide training to the Chinese bank personnel by bringing officers from their home banks, who then receive the responsibility to assist their Chinese workmates in learning efficient banking practices. In selecting foreign strategic partners, the Chinese government is using selection factors like reputation, product offerings, marketing and distribution expertise, management quality, core competencies, and strategic fit.¹⁰⁴ Currently, as seen in Figures 2 and 3 below, the Chinese financial market is highly under-penetrated, given the country's high level of financial reserves. However, the banking sector is expected to experience significant growth in the years to come.¹⁰⁵

¹⁰³ Arteta, C., Eichengreen, B., Wyplosz, C. "When does financial account liberalization help more than it hurts?" NBER Working Paper No. 8414, 2001.

¹⁰⁴ Hope, N., Hu, F. "Reforming Chinese Banking: How much can foreign entry help?" Fourth Annual Conference on Chinese Policy Reform, Stanford Center for International Development, 2005.

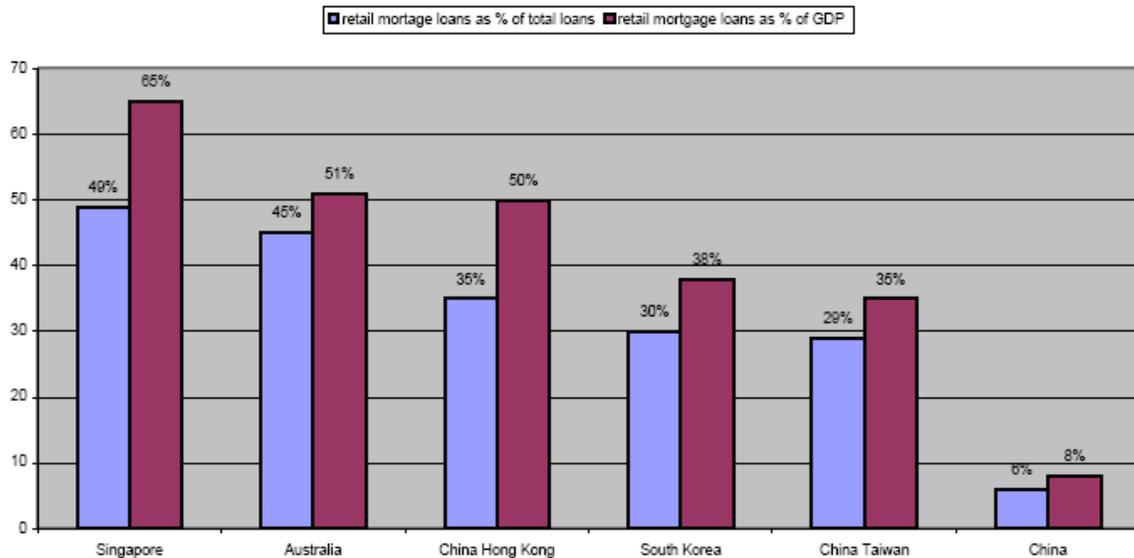
¹⁰⁵ Idem.

Figure 2: China's Under-penetrated Financial Markets (2003)



Sources: CEIC, The Banker. Presented in: Hope, Nicholas and Fred Hu. "Reforming Chinese Banking: How much can foreign entry help" Fourth Annual Conference on Chinese Policy Reform, Stanford Center for International Development, (2005).

Figure 3: China's Under-penetrated Financial Markets (2002)



Source: Various Central Banks, CEIC, Brokers' research estimates. Presented in: Hope, Nicholas and Fred Hu. "Reforming Chinese Banking: How much can foreign entry help" Fourth Annual Conference on Chinese Policy Reform, Stanford Center for International Development, 2005.

By investing in Chinese domestic banks, foreign investors can take advantage of large distribution networks and not only record gains from increased bank lending but also from selling their own products like credit cards, insurance, fund management and trustee services. In addition, better understanding of financial innovations, close ties with international markets, qualified personnel and incentive-based salaries are clearly significant advantages that foreign institutions can exercise. Currently, there are five kinds of financial companies that have shown interest in investing in China: universal banks, commercial banks, specialty finance companies, asset managers and insurers.¹⁰⁶

Universal banks provide a wide array of financial services (consumer banking, commercial banking, investment banking, asset management, and insurance). While they can offer their Chinese partners a great deal of expertise, universal banks can threaten domestic businesses in that they provide similar product offerings. In recent years, universal banks like Citigroup, Deutsche Bank, HSBC, J.P. Morgan Chase, and Union Bank of Switzerland/Credit Suisse First Boston have established subsidiaries in China.

Commercial banks, whose expertise can be of great help in improving areas like credit and risk management, provide commercial banking and wealth management services. Foreign firms operating on the Chinese market are the Bank of America, Banque National de Paris, the Royal Bank of Scotland, and Standard Chartered Bank.

Specialty finance companies offer services like credit card, consumer finance, commercial finance and leasing. While their area of business is not as extensive as that of universal banks, they have the ability to develop specific niche products; however, a potential disadvantage is the possibility that multiple partners will be required to cover a range of specialty markets. Foreign companies

¹⁰⁶ Hope, N., Hu, F. "Reforming Chinese Banking: How much can foreign entry help" Fourth Annual Conference on Chinese Policy Reform, Stanford Center for International Development, 2005.

that entered the Chinese market are American Express, CIT, Countrywide, Ford Motor Credit, GE Capital, GMAC and MBNA.

Asset management companies, despite not being able to bring in significant additional financial resources, are expected to complement the services offered by the large Chinese banks. Entities already operating in the Chinese market consist of Capital Group, Fidelity, Franklin, and Putnam.

Insurers provide a wide variety of insurances—life, property, casualty, etc.; despite their limited ability to improve the performance of the Chinese banking sector, the services they provide would bring in funding to their partner Chinese banks. Foreign companies that are operating in the Chinese market are Aegon, Allianz, Aviva, Axa, Fortis, ING, Metlife, and Munich Re.

Table 10 below provides a more detailed description of the criteria foreign institutions are required to meet to be selected by Chinese banks as Strategic Partners (SPs). As the table suggests, a significant number of factors (profile, strategic fit, management/cultural fit, core competencies, acquisition appetite and ability to pay), are taken into consideration when selecting foreign partners.

Table 10: Criteria Commonly Used by Chinese Banks in Selecting Potential Investors

Categories	Criteria	Relevancy/Benefits
Profile	Asset size; Market cap; Financial strength/credit ratings.	Strong world-class profile and powerful endorsement of Chinese banks; Financial strength provides long-term stability.
Strategic Fit	Strategic focus: Product, Customer,	Strategic fit as foundation for

	Geography; International revenues/profits as share of total revenues/profits; China strategy and presence; Expansion strategy (organic vs. mergers and acquisition).	exploring and reaping benefits; Level of interest in Chinese banks; Only a subset of investors have an international mindset and knowledge of Asia
Management/ Cultural Fit	Vision and capabilities; Cohesive management culture and disciplined management system; Interest in working with partners	Willingness and ability to help Chinese bank to reinvent itself by committing management resources
Core Competencies	Business mix: retail banking, corporate banking, risk control, wealth management; Cross-selling capabilities; Infrastructure; Distribution: IT, MIS, back office, operating and financial performance	Availability of international best practices; Tangible benefits to Chinese banks in its execution of strategy
Acquisition Appetite	Mergers and acquisition experience in financial services industry; Experience in minority stake investment	Interest in committing to an investment in Chinese banks; willingness to negotiate reasonable terms
Ability to Pay	Market cap; Impacts of potential investment on capital adequacy and earnings; Accounting treatment	Indication of ability to pay for an investment; Impact on transaction structure (composition of investors)

Source: Hope, Nicholas and Fred Hu. "Reforming Chinese Banking: How much can foreign entry help" Fourth Annual Conference on Chinese Policy Reform, Stanford Center for International Development, 2005.

Potential foreign investors have the option of choosing between three types of investment targets: greenfield banks, smaller banks, and the big four SCBs. While greenfield banks have the advantage of having small levels of NPLs and being more open to adopting effective international banking practices, foreign firms would have to incur significant costs in implementing new business practices. Similar to greenfield banks, smaller banks have the advantage of having lower levels of NPLs and increased levels of transparency than the big four SCBs, in addition to being more open to adopting foreign leadership practices. However, they present disadvantages in that they have complex

shareholder structures (which is indicative of slower decision making process) and limited market share and distribution networks.¹⁰⁷

In regards to the big four SCBs, foreign investors have the advantage of being able to reach large distribution networks which have permitted the marketing of products like credit cards, insurance, and mortgage finance, each of which has become very popular in recent years in China. Given that consumer lending has increased from 0.2 percent of total loans in 1997 to 9.3 percent in 2003, foreign financial institutions have great opportunities for expanding in the under-penetrated Chinese financial market.¹⁰⁸ Also, given that Chinese financial institutions have already adopted international accounting procedures and risk management practices, it is clear that foreign investors are increasingly finding it more attractive to establish subsidiaries in the Chinese market.

E. Primary Shortcomings of the Chinese Financial and Banking Sectors

A significant shortcoming of the Chinese financial system is that AMCs are under the supervision of three government agencies (the Ministry of Finance (MOF), the PBOC – having a supervisory role, and the State Economic and Trade Commission – responsible for determining appropriate levels of debt-for-equity swaps), which often times have conflicting interests. Also, being state owned,

¹⁰⁷ Hope, N., Hu, F. “Reforming Chinese Banking: How much can foreign entry help” Fourth Annual Conference on Chinese Policy Reform, Stanford Center for International Development, 2005.

¹⁰⁸ Idem.

AMCs are many times expected to protect the interests of SOEs, which makes it harder for them to collect the debts these companies incur. In the words of a SOE manager to an AMC manager: "I am state owned, you are state owned. I don't have to pay you back because we are brothers."¹⁰⁹ Given that the MOF often times chooses to address the problem of NPLs by simply employing a debt-for-equity swaps, SCBs are actually taking fewer measures than before to ensure that the SOEs whom they lend have the ability to repay their loans. Moreover, SOEs usually suspend their loan payments in order to qualify for debt relief, which is clearly indicative of a moral hazard problem. Since AMCs do not have the necessary influence to force banks to restrict credit to defaulted borrowers, often "as the old NPLs are liquidated, new NPLs from the same borrowers continue to surface."¹¹⁰ In many cases, in order to evade paying debts, SOEs simply declare bankruptcy after transferring all their assets into newly established companies.¹¹¹

The financial system is also inefficient in that corruption has proven to affect NPL recovery rates. Officials from the China Banking Regulatory Commission (CBRC), the MOF, and the China Securities Regulatory Commission (CSRC) are also on the Supervisory Board of all the AMCs and the president of the big four SCBs is also the Party Secretary of the four AMCs, which indicates that AMCs are suffering from a lack of independence, which

¹⁰⁹ Xu, Min. "Resolution of Non-Performing Loans in China" The Leonard N. Stern School of Business, Glucksman Institute for Research in Securities Markets, 2005.

¹¹⁰ Allen, F., Qian, J., and Qian, M., "China's Financial System: Past, Present and Future," Working Paper, 2006.

¹¹¹ Idem.

could at least partially explain the cause of inefficient NPL recovery rates.¹¹² The Chinese National Audit Office has determined that there were 38 cases of illegal practices like “collusion, insider trading, connected transactions, improper appraisal processes, fraudulent bidding and auction processes, lack of internal controls, embezzlement and mismanagement of assets”¹¹³ involving the four AMCs.

Due to selective disclosure on the financial condition of banks, the accuracy of the information released is questionable. Although recent years have been marked by an increase in the transparency of the Chinese financial sector, independent auditors believe that NPLs are as much as twice the official level and that financial reports are mostly inaccurate due to corrupt officials. For year 2000, official data show NPLs as a percentage of total loans as being 18.9 percent (see Table 11 below). However, a number of bank officials seem to disagree with the government’s publications. Liu Mangkang, former president of BOC (the second largest SOCB) declared that the bank’s NPLs accounted for 28.8 percent of total loans by the end of 2000, despite it already having transferred about 267.4 billion Yuan to its AMC, which suggests that “the four large SCBs had a combined NPL ratio of 50-60 percent of the domestic loan portfolios.¹¹⁴ As Table 11 below suggests, although the government claims that the NPLs ratio

¹¹² Xu, Min. “Resolution of Non-Performing Loans in China” The Leonard N. Stern School of Business, Glucksman Institute for Research in Securities Markets, 2005.

¹¹³ Idem.

¹¹⁴ Huang, Y., Saich, T., Steinfeld, E. “Introduction.” in Financial Sector Reform in China. Eds. Huang, Y., Saich, T., Steinfeld, E., Cambridge, Massachusetts: Harvard University Asia Center, 2005.

has fallen in recent years, NPLs still represent a significantly larger problem for China than for other Asian countries or Hong Kong. Given that starting in 2002, China has been experiencing a significant rise in borrowing, the decrease in NPLs as a percentage of total loans does not also mean an increase in efficiency, as the soundness of the newly made loans still needs to be demonstrated.¹¹⁵

Table 11: A Comparison of Non-performing loans of Banking Systems

	1997	1998	1999	2000	2001	2002
China	n/a	2.0 (2.2)	9.5 (10.6)	18.9 (24.9)	16.9 (22.7)	12.6 (15.2)
Hong Kong	1.3 (3)	4.3 (10.2)	6.3 (13.9)	5.2 (12.6)	4.9 (12.9)	3.7 (9.6)
India	n/a	7.8 (1.6)	7.0 (1.6)	6.6 (1.6)	4.6 (1.7)	2.2 (0.8)
Indonesia	0.3 (0.2)	11.8 (4.6)	8.1 (2.0)	13.6 (3.2)	9.9 (2.2)	4.5 (0.9)
Japan	2.7 (5.4)	5.1 (10.8)	5.3 (10.9)	5.8 (11.5)	9.2 (15.3)	7.4 (12.8)
South Korea	2.9 (5.1)	4.8 (6.3)	12.9 (12.9)	8.0 (8.6)	3.4 (3.4)	2.5 (2.6)
Taiwan	2.4 (3.2)	3.0 (3.9)	4.0 (5.7)	5.2 (7.6)	6.2 (9.4)	4.1 (5.2)

Notes: NPL is measured as percent of total loans made, and as percent GDP (numbers in brackets). Both the loan and the NPL are the aggregate of all banks in a country.

Source: The Asian Banker data center 2003, <http://theasianbanker.com>. Presented in: Huang, Y., Saich, A., and Steinfeld, E., "Introduction." *Financial Sector Reform in China*. Eds. Huang, Y., Saich, A., and Steinfeld, E., Cambridge, Massachusetts: Harvard University Asia Center, 2005.

Since profits of non-state commercial banks rose by more than 100 percent, from 7 billion Yuan in 1999 to 16 billion Yuan in 2003, it seems that recent years have brought an increase in financial sector efficiency.¹¹⁶ This is also suggested by fact that the concentration ratio CRn index (measuring the relative size of firms versus that of the industry as a whole), suggests that the collective market share of the four largest SCBs has decreased from an average of 85

¹¹⁵ Idem.

¹¹⁶ Liu, S., Hamdoun, H., Dickinson, D. "Foreign banks - can Chinese banks compete?" in *The China Boom and its Discontents*. Eds. Ross, G., and Song, L., Asia Pacific Press at the Australian National University, 2005.

percent in 1995 to 75 percent in 2002.¹¹⁷ Table 12 below shows a decrease in financial sector ownership of SCBs (state-owned commercial banks) and an increase in the influence of other commercial banks, city commercial banks, foreign-funded banks, urban credit cooperatives, rural credit cooperatives and other financial institutions, which is indicative of the fact that the government's policy for encouraging the development of alternative financial institutions besides the SCBs has been successful. However, given that by the end of the first quarter of 2005, SCBs still owned more than half of the financial sector assets, it is obvious that their influence is still significant and needs to be further decreased.

Table 12: Asset Distribution of Financial Institutions.

	End of 2002 Q1		End of 2003 Q1		End of 2004 Q1		End of 2005 Q1	
	Assets (RMB tr.)	Share (%)						
State-owned Commercial Banks	12.53	66.2	14.26	59.4	16.42	55.8	18.06	53.9
Other Commercial Banks	2.41	12.4	3.08	12.8	4.14	14.1	4.86	14.6
City Commercial Banks	0.85	4.0	1.17	4.9	1.47	5.0	1.69	5.1
Foreign-funded Banks	0.28	1.5	0.29	1.2	0.41	1.4	0.55	1.9
Urban Credit Cooperatives	0.10	0.4	0.11	0.5	0.14	0.5	0.17	0.5
Rural Credit Cooperatives	1.96	9.6	2.34	9.7	2.84	9.6	3.14	9.5
Other Financial Institutions	1.12	5.9	2.76	11.5	3.99	13.6	4.86	14.5
Totals	19.25	100	24.01	100	29.41	100	33.33	100

Source: The POB, Quarterly Statistical Bulletins, 2005-2, 2004-2, 2003-2, 2002-2. Presented in: Hope, Nicholas and Fred Hu. "Reforming Chinese Banking: How much can foreign entry help" Fourth Annual Conference on Chinese Policy Reform, Stanford Center for International Development, 2005.

¹¹⁷ Idem.

In an effort to increase investors' confidence in domestic capital markets (which, as showed by existing studies, can result in a decreased likelihood of financial crises¹¹⁸), the government took steps towards developing the country's stock exchanges. However, despite improvements, equity markets are not as developed as those of other economies, as SOE shares are mostly non-tradable, capital is inefficiently allocated, and state control is still heavily exercised.¹¹⁹ At the end of 2003, only 3.4 trillion Yuan was invested in bonds and 4.2 trillion Yuan was invested in the Shanghai and Shezen stock exchanges. At the same time, deposits in financial institutions consisted of 20.8 trillion Yuan, which increased to 24.1 trillion Yuan by the end of 2004 and reached 28.3 trillion Yuan at the end of 2005. This clearly indicates that the financial system is underdeveloped and it is dominated by the country's banking system.¹²⁰ In addition, despite an increase in the number of foreign banks and smaller sized banks, the banking system remains dominated by SCBs and state policy banks (urban commercial banks, rural commercial banks, rural cooperative banks), which are reluctant to lend to private entities (e.g. consumers and firms), due to concerns on portfolio recovery rates (banks have limited information available about most private firms and

¹¹⁸ Bekaert, C., Lundblad, C. "Equity Market Liberalization in Emerging Markets" *Journal of Financial Research* 26.3 (2003): 275-299.

¹¹⁹ Liu, S., Hamdoun, H., Dickinson, D. "Foreign banks - can Chinese banks compete?" in *The China Boom and its Discontents*. Eds. Ross, G., and Song, L., Asia Pacific Press at The Australian National University, 2005.

¹²⁰ Hope, N., Hu, F. "Reforming Chinese Banking: How much can foreign entry help?" Fourth Annual Conference on Chinese Policy Reform, Stanford Center for International Development, 2005.

individuals, which sets these potential borrowers in the “high default risk” category), as well as high transaction and monitoring costs.¹²¹

Inefficiencies in the financial and banking systems (which are reflected in lowered profitability and liquidity) can be seen in the fact that SOEs enjoy a significant number of advantages compared to privately held firms. Not only are they given larger loans for fixed asset investments, but they also are offered lower interest rates than are non-state firms. Even though jointly-owned and private firms are far more profitable than the state-owned firms, despite their smaller size, non-state owned firms enjoy fewer privileges. For example, in 1995, despite jointly-owned and private firms accounting for 54 percent of total net profits in the economy, they only enjoyed 14.6 percent of bank loans.¹²² Thus, the greatest obstacle private firms face in their development is lack of capital funding, only 5.1 percent of the representatives of privately-owned companies (out of a sample 2,564 entities) considered bank loans to be the top funding source for their business in 1995.¹²³ Moreover, SOEs are advantaged in that they hold most of the positions in the Chinese security market. Despite a liberalization in the government’s policy towards the private sector after 1997, only 11 non-state-owned companies out of a total of 976 are traded on the Shanghai and

¹²¹ Hope, N., Hu, F. “Reforming Chinese Banking: How much can foreign entry help” Fourth Annual Conference on Chinese Policy Reform, Stanford Center for International Development, 2005.

¹²² Idem.

¹²³ Idem.

Shenzhen stock exchanges as of 1999.¹²⁴ Despite a decrease in the number of inefficient branches and in the number of banking sector employees (between 2000 and 2003, China's big four SCBs managed to reduce their employment by 11.6 percent and their branches by 26.8 percent, while other larger banks have registered reductions of 8 percent in employment and 25 percent in the number of branches), SCBs still incur high administrative overheads and their employees are inadequately supervised and improperly trained, such that they cannot efficiently fulfill duties like "loan recovery, venture capital activities, strategic consulting, and investment banking."¹²⁵

Foreign investors in Chinese banks are significantly disadvantaged by the banks' large levels of NPLs and large capital requirements for investments, in addition to facing the risk of having limited influence in the decision-making process, due to the high levels of power of the Chinese political class. Foreign firms are also likely to face significant risks as a result of the weak corporate structure of the country's financial sector. Banks are inefficiently governed due to a lack of independent directors and effective board committees, and the non-adoption of a centralized organization and leadership instead of the geographic-based leadership that is currently being practiced. It is thus of crucial importance for banks to increase the amount of information they disclose, as the present

¹²⁴ Hope, N., Hu, F. "Reforming Chinese Banking: How much can foreign entry help" Fourth Annual Conference on Chinese Policy Reform, Stanford Center for International Development, 2005.

¹²⁵ Idem.

level does not comply to international standards for best practice.¹²⁶ Although in the last few years foreign firms have experienced an increase in ownership of Chinese banks, they only held a 2 percent share of the banking system as a whole, as of 2005, which suggests that they have limited opportunities to trigger changes as a result of high market share.¹²⁷ Since foreign ownership in Chinese banks is restricted to 25 percent, foreign SPs could be limited in their ability to influence the decisional process of the banks they invest in and face the risk of not being able to recover their investment in case the Chinese SPs go bankrupt.¹²⁸ Currently, the only law providing regulation on bankruptcy procedures is the *Enterprise Bankruptcy Law of the PRC*, which was enacted more than 20 years ago. However, the law is solely targeted to dealing with SOE bankruptcy. None of the newly implemented legislation – the *Civil Procedure Law* (1991), the *Company Law* (1993), the *Measures on Liquidation Procedures for Foreign Invested Enterprises* (1996) – offers detailed regulations on the rights of creditors in case of bankruptcy.¹²⁹ Given that the legal system currently provides limited support to the financial system, it is of crucial importance for supporting institutions to be developed, such that effective financial intermediation which provides clear information on “contract enforcement, recovery of collateral,

¹²⁶ Hope, N., Hu, F. “Reforming Chinese Banking: How much can foreign entry help” Fourth Annual Conference on Chinese Policy Reform, Stanford Center for International Development, 2005.

¹²⁷ *Idem.*

¹²⁸ *Idem.*

¹²⁹ Xu, Min “Resolution of Non-Performing Loans in China” The Leonard N. Stern School of Business, Glucksman Institute for Research in Securities Markets, 2005.

adequate standards of disclosure, and the vexed issues associated with bankruptcy and creditors' rights"¹³⁰ is achieved.

F. Discussion

The years following the AFC have been marked by a significant increase in the number of reforms taken for implementing sound macroeconomic and institutional development policies, such that China can ensure a better integration in the global economic system and reduce its vulnerability to possible future crises.¹³¹ Some of the most important improvements achieved include (1) decrease in the level of NPLs, (2) increase in partial foreign ownership of domestic banks, (3) the adoption of the international standard accounting system, (4) increase in the level of information firms need to provide before being awarded listing rights in the country's Shanghai and Shezen stock market exchanges, (5) increase in the profit level of non-state commercial banks, (6) decrease in the monopoly power of the four largest SCBs, and (7) increase in the influence of smaller commercial banks, city commercial banks, foreign-funded banks, urban credit cooperatives, rural credit cooperatives and other financial institutions.

However, a significant number of other weaknesses need to be addressed. The most important deficiencies include (1) a still high level of NPLs,

¹³⁰ *Idem.*

¹³¹ Socorro, M. "The Past Performance of the Philippine Banking Sector and Challenges in the Postcrisis Period" University of the Philippines, 2003.

(2) inefficient lending policies of banks, (3) high corruption, (4) poor regulatory system, (5) high level of interference of the Communist Party in conducting the country's financial and banking sectors, (6) inefficient leadership of banking institutions due to a lack of independent directors and effective board committees, (7) inefficient securities markets, (8) selective disclosure on the financial condition of banks, (9) low degree of funding available for privately held firms, (10) poorly trained banking employees, and (11) significant risk of moral hazard and adverse selection.

V. Conclusion

The period following the AFC has been characterized by a general increase in the level of financial account openness for the sample of countries included in this study. A significant increase, however, can be seen in the pace at which lesser-developed countries have opened their financial account, while more moderate rates of growth characterize countries classified as being at high or medium levels of development and those countries classified as high or middle income.

Both low HDI and low income countries, which are characterized by macroeconomic deficiencies and low institutional development, have experienced negative economic growth after opening their financial account (with low HDI countries having the highest rate of financial account openness).

This seems to confirm previous research (Edwards,¹³² Bailliu,¹³³ Klein,¹³⁴ Arteta et al.,¹³⁵ Chinn and Ito,¹³⁶ Tornell et al.,¹³⁷ and Leblang,¹³⁸), which argues that economic growth is only possible if countries achieve a certain degree of macroeconomic and institutional development prior to opening their financial account and that financial account openness can actually decrease economic growth for countries with significant structural deficiencies. Since financial account openness introduces significant fragility in underdeveloped economies, it can be argued that countries in these categories are more susceptible to future financial crisis.¹³⁹

The reforms the Chinese government started implementing following the AFC seem to be in line with the ones recommended prior to increasing a country's financial account openness (UN¹⁴⁰, Edwards,¹⁴¹ Bailliu,¹⁴² Klein,¹⁴³

¹³² Edwards, Sebastian. "Capital Flows and Economic Performance: Are Emerging Economies Different?" NBER Working Paper No. 8076, 2001.

¹³³ Bailliu, Jeannine "Private Capital Flows, Financial Development, and Economic Growth in Developing Countries" Bank of Canada Working Paper No. 15, 2001.

¹³⁴ Klein, M., and Olivei, G. "Capital Account Liberalization, Financial Depth, and Economic Growth," NBER Working Paper No. 7384, 1999.

¹³⁵ Arteta, C., Eichengreen, B., and Wyplosz, C. "Do the Effects of Capital Account Liberalisation Depend on the Stage of Financial and Institutional Development? University of California, Berkeley, 2001.

¹³⁶ Chinn, M., and Ito, H. "What Matters for Financial Development? Financial Controls, Institutions, and Interactions" La Follette School Working Paper Series No. 007, 2005.

¹³⁷ Tornell, A., Westermann, F., and Martinez L. "The Positive Link Between Financial Liberalization, Growth, and Crises." NBER Working Paper No. 10293, 2004.

¹³⁸ Leblang, David. "Domestic and Systematic Determinants of Capital Controls in the Developed and Developing World" *International Studies Quarterly*, 41 (1997): 435 - 454.

¹³⁹ Ito, Hiro. "Is Financial Openness a Bad Thing? An Analysis on the Correlation Between Financial Liberalization and the Output Performance of Crisis-Hit Economies" UCSC Working Paper Series, 2004.

¹⁴⁰ United Nations "Development and Institutional Reform of Financial Markets: Issues and Policy Options for the Escwa Region," 2004.

¹⁴¹ Edwards, Sebastian. "Capital Flows and Economic Performance: Are Emerging Economies Different?" NBER Working Paper No. 8076, 2001.

Arteta et al.,¹⁴⁴ Chinn and Ito,¹⁴⁵ Tornell et al.,¹⁴⁶ and Leblang,¹⁴⁷). China experienced a higher economic growth than the average country in all the categories discussed throughout the paper, despite having a lower level of financial account openness than even the average low income country and the average low HDI country.

The research is of significant importance as it strengthens previous literature arguing that institutional development is crucial in ensuring economic growth for countries that open their financial account. It can be argued that, contrary to governments of less developed countries, the Chinese government has understood the importance of adopting reforms for strengthening the country's macroeconomic and institutional development prior to significantly opening the country's financial account. Deficiencies still characterizing the Chinese economy could represent a significant hindrance in the process of financial account openness and are likely to result in China maintaining lower levels of financial account openness in the future as well.

¹⁴² Bailliu, Jeannine "Private Capital Flows, Financial Development, and Economic Growth in Developing Countries" Bank of Canada Working Paper No. 15. 2001

¹⁴³ Klein, M., and Olivei, G. "Capital Account Liberalization, Financial Depth, and Economic Growth," NBER Working Paper No. 7384, 1999.

¹⁴⁴ Arteta, C., Eichengreen, B., and Wyplosz, C. "Do the Effects of Capital Account Liberalization Depend on the Stage of Financial and Institutional Development? University of California, Berkeley, 2001.

¹⁴⁵ Chinn, M., and Ito, H. "What Matters for Financial Development? Financial Controls, Institutions, and Interactions" La Follette School Working Paper Series No. 007, 2005.

¹⁴⁶ Tornell, A., Westermann, F., and Martinez L. "The Positive Link Between Financial Liberalization, Growth, and Crises." NBER Working Paper No. 10293, 2004.

¹⁴⁷ Leblang, David. "Domestic and Systematic Determinants of Capital Controls in the Developed and Developing World" *International Studies Quarterly*, 41 (1997): 435 - 454.

Appendix A: List of Countries included in the study sample (“a” denotes OECD membership; “b”, “c”, and “d” denote High, Medium and Low Human Development (HDI), respectively (UN, 2004)); “e”, “f”, “g”, and “h” denote High, Upper Middle, Lower Middle, and Low Income countries, respectively (World Bank, 2006))

Argentina^{b,f}, Australia^{a,b,e}, Belgium^{a,b,e}, Bolivia^{c,g}, Botswana^{d,f}, Brazil^{c,g}, Burkina Faso^{d,h}, Burundi^{d,h}, Chile^{b,f}, China^{c,g}, Colombia^{b,g}, Dominican Republic^{c,g}, Ecuador^{c,g}, Egypt^{c,g}, Finland^{a,b,e}, France^{a,b,e}, Germany^{a,b,e}, Ghana^{d,h}, Guyana^{d,g}, Iceland^{a,b,e}, India^{d,h}, Indonesia^{c,g}, Israel^{b,e}, Japan^{a,b,e}, Jordan^{c,g}, Kenya^{d,h}, Madagascar^{d,h}, Malawi^{d,h}, Mauritius^{b,f}, Mexico^{a,b,f}, Netherlands^{a,b,e}, New Zealand^{a,b,e}, Nigeria^{d,h}, Oman^{c,f}, Pakistan^{d,h}, Paraguay^{c,g}, Peru^{c,g}, Philippines^{c,g}, South Africa^{c,f}, Spain^{a,b,e}, St. Vincent & The Grenadines^{b,f}, Swaziland^{c,g}, Sweden^{a,b,e}, Tanzania^{d,h}, Thailand^{c,g}, Togo^{d,h}, Trinidad and Tobago^{b,f}, Turkey^{a,c}, United States^{a,b,e}, Uruguay^{b,f}, Zambia^{d,h}.

Appendix B: Multicollinearity Testing

Table 13 presents variance inflation factors (VIF) and tolerance levels (the reciprocal of VIF). These statistics can be used to measure the possible collinearity of the explanatory variables. Table 14 represents the correlation matrix between the variables used in the study, while table 15 represents t-statistics that correspond to the correlation coefficients. Generally, standard errors of regression coefficients are considered to be inflated when VIF is greater than 10, which suggests that multicollinearity might be a problem.¹⁴⁸

Multicollinearity is also an issue when the tolerance (1/VIF) is smaller than 0.1.¹⁴⁹

¹⁴⁸ Pardoe, Ian. “Applied Regression Modeling: A Business Approach” Chapter 5: Regression Model Building IIWiley, 2006.

¹⁴⁹ Mansfield, E., Helms, B. “Detecting Multicollinearity” *The American Statistician*, 36.3 (1982)

None of the values of VIF, in Regressions A, B, and C seem to indicate multicollinearity among the variables employed. In Regression D, however, both the VIF values for the *average total reserves_{t-1|t-5}* and *average total reserves_{t-1|t-5} x post-AFC* variables are above 10 and the 1/VIF values for both variables are below 0.1. The VIF value for the *post-AFC* variable is also greater than 10. However, it is expected that any variable is highly correlated with an interaction variable constructed using itself. If that were not the case, that would mean that the variable construction was improperly done. The same reasoning can be employed in justifying a VIF value higher than 10 for the *average GDP per capita_{t-1|t-5} x post-AFC* variable in Regression E. In Regression F, since placement of countries in each income classification category is ordered more or less by GDP per capita, it is expected that the classifications are correlated with one another. Also, just like in the case of Regression D, it is expected that any variable is highly correlated an interaction variable constructed using itself.

An analysis of the correlation coefficients (a correlation greater than 0.8 is generally described as strong, while a correlation of less than 0.5 is described as weak),¹⁵⁰ reveals that there is a high correlation between *financial openness_{t-5}* and *financial openness_t, OECD* and *average GDP per capita_{t-1|t-5}, high income* and *average GDP per capita_{t-1|t-5}, high income* and *OECD*, and *low income* and *low HDI* variables. However, in regards to the correlation between *financial openness_{t-5}* and *financial*

¹⁵⁰ Rummel, R. "Understanding Correlation" University of Hawaii
<http://www.mega.nu/ampp/rummel/uc.htm>

openness_t, since the explanatory variables should be correlated with the dependent variable, it is expected that explanatory variables may be correlated with a lagged dependent variable. In what concerns the correlation between *OECD* and *average GDP per capita_{t-1|t-5}*, by comparing the coefficients of *average GDP per capita_{t-1|t-5}* in Regression A (when the *OECD* variable was not included) and in Regression B (when the *OECD* variable is included), it can be seen that when the *OECD* variable is included the sign of the coefficient does not change and its magnitude suffers a very small change, which suggests that including the *OECD* variable does not result in an alteration of results. Given that the *high income* variable is not used in any of the regressions, the correlation between *high income* and *average GDP per capita_{t-1|t-5}* and *high income* and *OECD* has not affected the results in any way. Also, since the *low income* and *low HDI* variables have not been used together in a regression, their correlation has not affected the results either.

Despite correlation coefficients reflecting a level of collinearity between *financial openness_{t-5}* and *financial openness*, when regressions in Tables 2A and 2B are run without the inclusion of the *financial openness_{t-5}* variable (as seen in Table 16 below), although coefficients do change magnitude, they mostly maintain the same signs and level of significance, which reflects that interacting the two variables does not significantly alter the regressions' results.

