Currency Convertibility, Cost of Capital Control and Capital Account Liberalization in China

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This paper provides a synthetic view of the capital account liberalization, capital control and currency convertibility issues in China. A quantitative analysis following Henry's study[1] fails to provide clear links between liberalization, diminishing capital controls and Chinese stock market returns. An institutional explanation is then offered to complement the quantitative analysis. We suggest that the property rights regime is an indispensable institutional variable when studying this topic. Originating from the current property rights regime; price distortion, moral hazard and monetary overhang are the main impediments towards capital account liberalization and full convertibility. Therefore, property rights reform should be given the first priority in Chinese economic reform.

Key words: *Capital control, China, Convertibility, Liberalization, Property Rights*

INTRODUCTION

Prior to the post-Mao reform, China was a command economy in which the government typically exercised monopolistic power over foreign trade and foreign financial transactions which tended to erect barriers between external and internal market environments. Domestic price structure was distorted and economic performance of protected domestic firms was largely unrelated to the competitive international market. Liberalization began in the late 1970s, with direct investment inflows, gradual liberalization of the foreign trade regime and some opening up of credit markets. Since then, China's integration with the world economy has advanced rapidly and its transition to a market economy has been unique for its combination of experimentation and incremental reforms which have led to rapid progress in external sectors.

In 1994, substantial reform measures were introduced to restructure China's foreign exchange control system which resulted in the establishment of a nationwide foreign exchange interbank market, the unification of dual exchange rates and the managed floating exchange rate regime. In December 1996, China made the Renminbi (RMB) convertible for current account transactions, removing both quantitative and regulatory restrictions on the use of foreign exchange for current account transactions. China's WTO accession in 2001 has also been seen as a catalyst for capital account liberalization and currency convertibility.[2]

However substantial controls remain; e.g. discretionary control of capital flows and approval and verification of both current and capital account transactions. The present status of the Chinese balance of payments is that current account transactions are regulated primarily for verification purposes. For trade in goods and services, existing exchange controls are mainly to verify that foreign exchange is being used for a valid and legal underlying transaction.

China's full convertibility[3] issue has been widely studied in the last two decades. Most of the contemporary studies of this issue are conducted following either the traditional international economic theory with a quantitative analysis or a purely qualitative methodology. For example, Yang and Leatham's research is among many of the quantitative studies.[4] Employing the ADF unit root test and Error Correction Model, the authors investigate the impact of currency convertibility under the current account on the informational linkage between official and swap market exchange rates for the RMB and suggest that more complete currency convertibility is needed for more informed RMB exchange rates. In the qualitative group, the most recent study is conducted by Li in 2004.[5] Li analyzes the current situation and the main reasons for the massive circulation of the RMB in China's neighboring economies and indicates that this expansion is the beginning of the process of RMB regionalization and internationalization. According to Li's study, the regionalization will impact China's capital control regime directly and will also be a critical step for China's move toward global economic integration.

Little work has been done previously to study the RMB convertibility in a synthetic manner. This paper attempts to contribute to the literature by synthesizing both quantitative and qualitative methodologies on the RMB convertibility and capital account liberalization issue.

This paper is organized as follows: Section 2 reviews the previous literature on the currency convertibility and capital account liberalization; Section 3 analyzes the effect of liberalization and the cost of capital control following a quantitative approach. The estimation results show that, for China's reality, a purely quantitative analysis is incomplete; Section 4 provides a complementary explanation suggesting that the property rights regime should be treated as an endogenous institutional variable and incorporated in the empirical study; Section 5 offers some concluding remarks and policy suggestions.

LITERATURE REVIEW

Current literature has well established that capital account convertibility should be built on a sound domestic financial system as shown in recent works regarding the Mexican peso crisis and the Asian financial crisis.[6] One debate on capital account convertibility has emerged in the wake of the crises; that is the desirability of full capital account liberalization. Or, in other words, is capital account liberalization beneficial?

It is widely accepted that beneficial effects can be expected if capital account convertibility follows trade liberalization.[7] General arguments are put forward to support a radical opening of the developing economy – free trade will make it possible to identify the country's comparative advantages; world prices will correct price distortions and improve resource allocation; international competition will clamp down on domestic monopolies and help increase the productivity of domestic suppliers; the general public will benefit from a richer supply of foreign goods, which will broaden the base of supporters for the reform program.

On the other hand, a great number of economists argue that these benefits would only be captured in the long run.[8] They are more concerned with the immediate consequences of sweeping trade liberalization, such as bottlenecks caused by the low productivity of domestic producers, price jumps triggered by nominal revaluation and an adverse trade balance due to insatiable import demands and weak export performance.

Arguments for the benefits of capital account convertibility are also covered by Alesina *et al*, Quinn and Inclan, and Edison *et al*.[9] Their arguments are: the cross-border transfer of funds deepens the international division of labor and thus increases the welfare of a society; allowing domestic residents to hold internationally diversified portfolios reduces financial risks; removing restrictions on capital mobility tends to attract capital inflows and thus uses foreign savings for financing domestic projects; foreign competition improves the efficiency of the domestic financial system.

There is much less consensus about the benefits of capital account liberalization. However, the risks of supposedly rash actions force some economists to support a more cautious approach rather than using shock therapy.[10] The underlying rationales are as follows: First, capital flows are frequently thought of as excessively volatile and speculative in their nature, driven by rumors rather than by economic fundamentals. Second, capital controls in transition economies should ensure that scarce domestic savings are used to finance domestic investment rather than to acquire foreign assets. Finally, different markets have different structural characteristics.

Reforms should first address distortions in sectors with slower adjustment speeds; e.g. the trade in goods and services. Because financial markets adjust more rapidly, a premature opening of the capital account may destabilize the reform through either exchange rate appreciation or mounting inflationary pressures.

Very few economists doubt the benefit of capital account liberalization in China. Instead, another debate on capital account liberalization, which is more salient in China than anywhere else, is the proper sequencing of reforms. Conventional theory dictates that there are several preconditions[11] that should be met first before a country liberalizes its capital account.[12] In 1997, the Chinese government announced the goal of achieving capital account convertibility by 2000. Four years later, that goal has yet to be achieved and while Chinese leaders acknowledge the ultimate goal of achieving liberalization of China's capital account, no firm timetable has been provided. However, economists provide many different versions of the timetable. For instance, McKinoon points out that liberalization of the capital account should be 20 or 30 years behind liberalization of the current account,[13] Liao believes China would achieve full convertibility five years after WTO accession[14] and Wu expects that full convertibility might be achieved by 2010.[15]

Another prominent trend in liberalization research is that financial theory has also been employed to study the impact of market liberalization.[16] For example, the standard international asset pricing models (IAPMs) predict that stock market liberalization may reduce the liberalizing country's cost of equity capital by allowing for risk sharing between domestic and foreign agents.[17] In the next section we use this approach to measure the effect of liberalization and the cost of capital control in China.

THE EFFECT OF LIBERALIZATION AND THE COST OF CAPITAL CONTROL

In December 1996, China liberalized its current account but its capital account remains closed. This has served China well in some respects, notably in that it prevents speculators from stirring up an exchange crisis. It also provides a good event window for quantitative study since an analysis of the effects of current account liberalization may shed light on the prospective capital account liberalization.

Table 1 gives some descriptive statistics of the monthly Chinese stock market return, while Figure 1 plots the Chinese stock market volatility for the period from 1993 to 2004. Data of monthly Chinese stock market return and volatility are calculated from the Morgan Stanley Capital International (MSCI) China index, obtained from Datastream.

The important findings that emerge from the descriptive analysis can be summarized as follows: first, the means of stock market returns did not show much difference for the sample period and two sub-periods, but the range between the maximum and minimum return has increased from 1996:12 to 2004:12; a second point that emerges from Figure 1 is the extremely high volatility of the Chinese stock market between October 1997 and February 2002. The volatility in two periods, June 1995 to September 1997 and February 2002 to December 2004, was relatively low.

Table 1   The Descriptive Statistics of Monthly Chinese Stock Market Returns

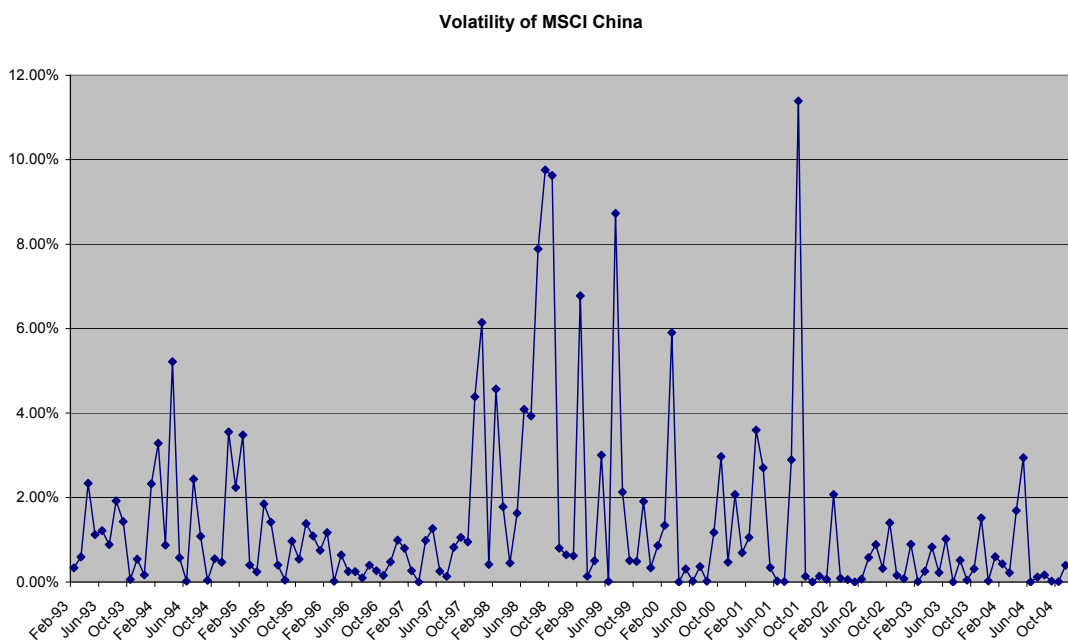|	1993:01-2004:12	1993:01-1996:11	1996:12-2004:12
Mean	-0.0095	-0.0093	-0.0096
Standard Error	0.0090	0.0136	0.0116
Median	-0.0140	-0.0257	-0.0112
Standard Deviation	0.1073	0.0935	0.1139
Sample Variance	0.0115	0.0087	0.0130
Kurtosis	0.8863	-0.5500	1.1040
Skewness	0.2264	0.3811	0.1858
Range	0.6478	0.3809	0.6478
Minimum	-0.2999	-0.1908	-0.2999
Maximum	0.3479	0.1901	0.3479
Sum	-1.3549	-0.4364	-0.9184
Count	143	47	96
Correlation with United States	0.4081	0.3802	0.4233

SOURCE: Datastream

FIGURE 1 The Volatility of MSCI China

To estimate the effect of current account liberalization, we follow the basic set-up by Henry and estimate the following equation.[18]

(1) $R_t = \alpha + \beta_1 LIB + \beta_2 \phi_t + \beta_3 R_t^{US} + \varepsilon_t$

where R_t is the continuously compounded monthly stock market return in domestic currency in China at time t, R_t^{US} is the US stock market return, calculated from the MSCI US price index, ϕ is the monthly rate of inflation in China. *LIB* is a dummy variable set equal to 1 for the 12-month period centered on the implementation month, starting with the fifth month before implementation, and ending with the sixth month afterwards. If T is the implementation month, our event window extends from $T-5$ to $T+6$, giving 12 months in all. It is a common practice to extend the period during which the dummy is set to 1 so as to include the announcement date.[19] The adjustment may start to take effect before the implementation because of the expectations, or after the implementation, due to asymmetric information. Since the current account of China was liberalized on December 1, 1996, we set December 1996 as T. Therefore the event window expands from July 1996 to June 1997. The sensitivity of our results with respect to the event window is tested below.

Table 2 Stock Market Reaction to Current Account Convertibility

Estimation method	OLS		
Regression	1	2	3
LIB	0.037	0.022	0.022
	(1.16)	(0.75)	(0.74)
R^{US}		1.043***	1.042***
		(5.20)	(5.17)
ϕ			0.001
			(0.06)
Adjusted R^2	0.002	0.158	0.152
F-statistic	1.335	14.32	9.48
DW stats	1.75	1.72	1.72
N	143	143	143

NOTE: *,**,*** indicate significance at 10%, 5% and 1% level, respectively. Sample period is 1993:01 to 2004:12.

Table 2 shows that the abnormal return was trivial and statistically insignificant at the 10 percent level. This contradicts the effects found by Henry in the case of stock market liberalizations.[20] He estimates average monthly returns of

3.3 percent over an eight-month period for 12 emerging markets. The significance and magnitude of the coefficient on liberalization is not affected if we control for US stock returns or for the domestic inflation rate. Thus we can conclude that current account liberalization does not seem to have a strong effect on the equity returns of the Chinese stock market.

  Another factor that has received more attention in recent empirical studies is the possibility that capital controls may increase the cost of equity finance.[21] From a theoretical view, the consequences should be negative. It would be profitable to test this consequence for China after we fail to find a robust effect of current account liberalization.

  China's capital account has been partially opened but capital controls are comprehensive. Long-term capital account convertibility has been achieved for foreign direct investment (FDI) subject to the approval of the underlying direct investment project by the appropriate authorities. Long-term loans from foreign and multilateral financial institutions do not have convertibility problems with the People's Bank of China (PBC)'s approval. The goals that remain to be achieved for full capital account convertibility are (a) long-term RMB-denominated loans from Chinese financial institutions to borrowers outside of China; (b) long-term portfolio investment in either equity or debt instruments, both inbound and outbound; (c) short-term foreign-currency-denominated loans from foreign and multilateral financial institutions; and (d) short-term portfolio investment, both inbound and outbound, in either monetary equity or debt instruments.

  We revise equation (1) slightly to examine the effects of capital control on stock return. Equation (1) is then rewritten as Equation (2):

$$(2) \quad R_t = \alpha + \beta_1 CTCROL + \beta_2 \phi_t + \beta_3 R_t^i + \varepsilon_t$$

  where R_t and ϕ are still the continuously compounded monthly stock market return and the monthly rate of inflation in China at time t. R_t^i is either the world stock market return or the US stock market return, calculated from the MSCI world and US price index. It is difficult to find an accurate proxy to measure the extent of capital control. The difference between domestic and foreign interest rate is widely employed as a good indicator of the efficacy of capital controls.[22] In this study we use the square of interest rate difference between China and the United States as the proxy for capital control ($CTCROL$) in equation (2). The interest rates are the 3-month term deposit rate in China (CHSRW3M) and the 3-month negotiable certificate of deposit (CD) rate in the United States (USCOD3M), obtained from Datastream. (see Figure 2)
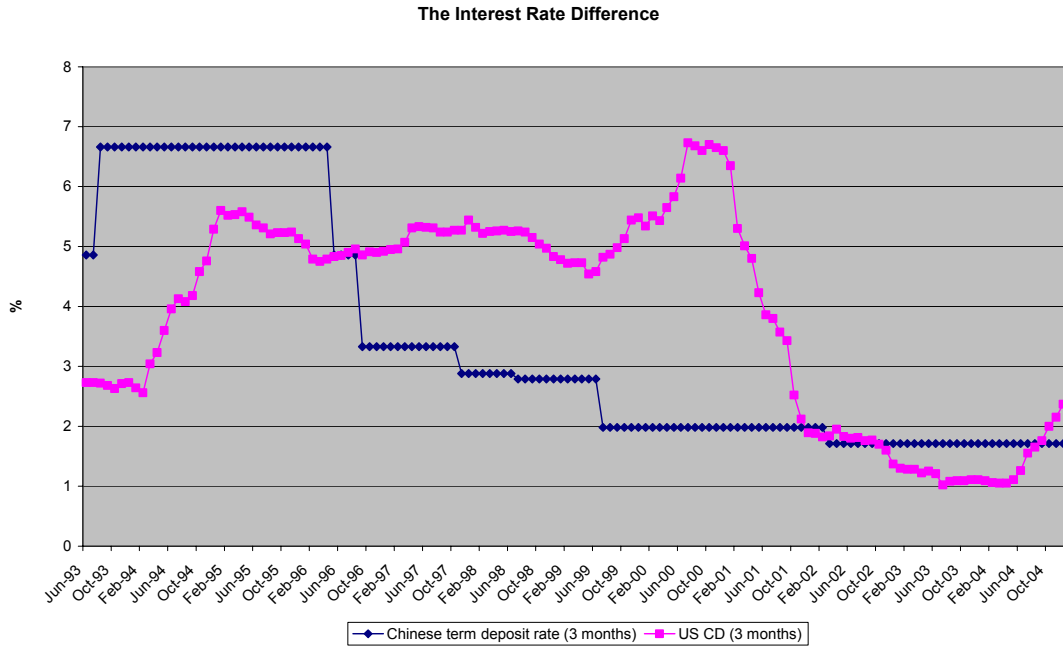
The Interest Rate Difference

FIGURE 2 The Interest Rate Difference Between China and the United States

Table 3 Stock Market Reaction to Capital Controls

Estimation method	OLS			
Regression	1	2	3	4
CTCROL	-0.001	-0.001	-0.0004	-0.0009
	(-0.68)	(-0.60)	(-0.25)	(-0.65)
R^{US}		1.033***		
		(4.96)		
R^w			1.058***	1.028***
			(5.25)	(4.89)
ϕ				0.002
				(0.26)
Adjusted R^2	-0.004	0.143	0.159	0.137
F-statistic	0.47	12.55	14.07	8.33
DW stats	1.73	1.73	1.69	1.72
N	139	139	139	139

NOTE: *,**,*** indicate significance at 10%, 5% and 1% level, respectively. Sample period is 1993:06 to 2004:12.

Table 3 demonstrates the effects of capital control on stock market return. We find a consistent negative effect of greater square of interest rate spread, indicating that the greater the wedge between domestic and international interest rates produced by intervention, the lower the stock returns.[23] But the magnitude of this negative effect is trivial and t-statistic reports insignificant results for all regressions.

There are good theoretical reasons to believe current account convertibility and the diminishing of capital control should be economically beneficial. However, the empirical evidence does not support such a view for China. The regression results contradict the findings by Quinn, Henry and Edwards, in which they favor a clear link between liberalization and growth.[24] We do not think the traditional international economic theory fails in explaining the effects of Chinese liberalization. For a fast-growing transition economy such as China, a complementary institutional explanation would make a quantitative study more convincing.

AN INSTITUTIONAL EXPLANATION

There is a strong incentive for China to eventually open up its capital account, moving toward the ultimate goal of full convertibility. Generally, capital account liberalization is an inevitable and unavoidable step on the path of development. Almost all developed economies have open capital accounts. Nevertheless, current circumstances and policies do not provide a solid ground for capital account convertibility. These implicit economic problems are also the reasons that the empirical study, mentioned above, failed to measure the effects of liberalization and the costs of capital controls.

An institutional explanation—that we are trying to complement the economic theory and quantitative study for China—is from the property rights perspective. Before examining the role of property rights in the journey toward achieving RMB full convertibility, it is instructive to consider the definitions of *ownership* and *property rights*. Their fundamental role in determining the success or failure of full convertibility can then be examined.

As Waters pointed out in 1987, "*Property rights are the rights of human beings to control and dispose of property as they see fit. Property rights are human rights over property, as against state ownership and hence detailed rights over humans…. Ownership refers to the rights to assets and resources, and that all such rights are inevitably circumscribed in some way.*"[25] It is obvious that property rights must be perceived to be permanent while belonging to any individual, and if individuals cannot capture the net benefits they could produce, they cannot be expected to produce those incremental benefits. If we see institution as an endogenous variable and analyze China's property rights regime in depth, we may find that property rights are not well-defined and the current state ownership may retard full convertibility in the following dimensions.

Price Distortion

Alchian said nearly four decades ago: "*Every question of pricing is a question of property rights…. The existing system of property establishes the system of price determination for the exchange or allocation of scarce resources. Many apparently diverse questions come down to the same element—the structure of property rights over scarce resources. In essence, economics is the study of property rights.*"[26]

Although China has been implementing economic reform toward a market economy for over 20 years, price distortion cannot be thoroughly eliminated unless an effective property rights regime is established.

Achieving a market-oriented price mechanism would not be as simple as releasing the price controls, but would also need to diversify ownership and grant each economic entity authentic private property rights. The lack of thorough ownership reform results in less development of factor markets and distortion of factor prices.

Moral hazard and overinvestment

It has long been known that financial institutions such as state-owned commercial banks (SOCBs) in China, whose liabilities are guaranteed by the government, pose serious moral hazard problems. Because depositors were guaranteed by government, they had no incentive to police the lending of the institutions in which they placed their money. And the borrowers are largely state-owned enterprises (SOEs). Because residual claims and residual control rights are irrelevant, effective incentive and restraint mechanisms are difficult to establish in SOEs. SOEs therefore have a strong incentive to overborrow from SOCBs and overinvest in high risk or low return projects.

State ownership in SOCBs offers explicit guarantees to the creditors of SOCBs. Most creditors who provided SOCBs with funds believed that they would be protected from risk—an impression reinforced by the state ownership. For example, depositors in Hainan Development Bank were protected, so that as a general rule the SOCBs did in fact turn out to have guaranteed liabilities.[27] It is a familiar point that SOCBs then have an incentive not merely to undertake excessively risky investments, but to pursue investments with low expected returns as long as they hand attractive financial reports to the government.

Monetary overhang[28]

Monetary overhang comes with the poorly-defined property rights in SOCBs and SOEs. The M2/GDP ratio grew rapidly between 1979 and 2002 (see Table 4). It was only 46.25 percent in 1985 but reached 176.55 percent in 2002. There was a 130 percent increase on the M2/GDP ratio over 17 years. The major reason is the high-speed growth of the money supply in the past 24 years. The average growth rate of M2 between 1990 and 2002 was 25.5 percent, 9.9 percent higher than the nominal GDP growth rate. The budget balance of China has been in persistent deficit since 1989 and the budget balance/GDP ratio shows the fiscal position has deteriorated.

Table 5 shows the international comparison of M2/GDP ratio. It indicates that Chinese M2/GDP ratio is among the highest in the world, much higher than that in both developed and developing countries. The relevant consequence of an excess money supply is the substantial bad assets in the banks. The bad assets ratio in China was 25.37 percent at the end of 2001 and the amount was 1765.6 billion Yuan.[29]

Table 4 Chinese budget balance and M2/GDP ratio (1978-2002)

Year	GDP (100 million Yuan)	GDP growth rate (%)	Budget Balance (100 million Yuan)	Budget Balance/GDP (%）	M2 (100 million Yuan)	M2 Growth (%)	M2/GDP
1978	3624.1	-	10.07	0.28	-	-	-
1980	4517.8	-	-68.90	-1.53	-	-	-
1985	8964.4	-	0.57	0.01	4146.3	-	46.25
1989	16909.2	-	-158.88	-0.94	10099.6	-	59.73
1990	18547.9	9.69	-146.49	-0.79	15293.7	51.43	82.46
1991	21617.8	16.55	-237.14	-1.10	19439.9	27.11	89.93
1992	26638.1	23.22	-258.83	-0.97	25402.1	30.67	95.36
1993	34634.4	30.02	-293.35	-0.85	34879.8	37.31	100.71
1994	6759.4	35.01	-574.52	-1.23	46923.5	34.53	100.35
1995	58478.1	25.06	-581.52	-0.99	60750.0	29.47	103.89
1996	67884.6	16.09	-529.56	-0.78	76094.9	25.26	112.09
1997	74462.6	9.69	-582.42	-0.78	90995.3	19.58	122.20
1998	78345.2	5.21	-922.23	-1.18	104498.5	14.84	133.38
1999	82067.5	4.75	-1743.59	-2.12	119897.9	14.74	146.10
2000	89468.1	9.02	-2491.27	-2.78	134610.3	12.27	150.46
2001	97314.8	8.77	-2516.54	-2.59	158301.9	17.60	162.67
2002	104790.6	7.68	-3149.51	-3.01	185007.0	16.87	176.55

SOURCE：China Statistical Yearbook 2003, National Bureau Statistics of China
NOTE: GDP, Budget and M2 are calculated at current prices.

Table 5 International comparison of M2/GDP ratio in 1999 and 2000

Country	1999			2000		
	M2 (Billions)	GDP (Billions)	M2/GDP (%)	M2 (Billions)	GDP (Billions)	M2/GDP (%)
Argentina	89.2	283.5	31.46	90.5	284.2	31.84
Australia	431.0	608.1	70.88	447.4	652.2	68.60
Boliva	23.9	48.2	49.59	24.0	51.7	46.42
Brazil	301.1	963.9	31.24	314.2	1086.8	28.91
Canada	592.2	975.3	60.72	674.5	1056.0	63.87
Czek	1246.2	1887.3	66.03	1445.6	1959.6	73.77
Hungary	5319.6	11393.5	46.69	5981.0	13150.8	45.48
India	10105.3	19296.4	52.37	11693.4	20879.9	56.00
Indonesia	639789	1109980	57.64	741824	1290680	57.48
Japan	622800	512530	121.51	629620	511836	123.01
Korea	329318	482744	68.22	413049	521959	79.13
Malaysia	316.9	300	105.63	348.4	340.7	102.26
Mexico	1200.5	4599.5	26.10	1132.0	5491.0	20.62
New Zealand	95.7	105.8	90.45	97.9	110.6	88.52
Philippines	1910.1	2977.0	64.16	2056.2	3302.59	62.26
Poland	263.5	615.1	42.84	294.5	685.6	42.96
Singapore	174.5	140.0	124.64	170.9	159.9	106.88
Thailand	5018.8	4632.1	108.35	5190.1	4904.7	105.82
United States	5712.1	9268.6	61.63	6110.7	9872.9	61.89
Vietnam	145470	399942	36.37	196994	444139	44.35

SOURCE：International Financial Statistic CDROM 2002, International Monetary Fund.
NOTE：M2 and GDP are in local currency unit.

Persistent public deficit, excess money supply and substantial bad loans reflect that the Chinese financial sector is fragile and that the macroeconomy is unstable and under the threat of inflation and the revaluation expectation of the RMB. Apparently, opening the capital account when the revaluation expectation exists may accelerate the capital flight and eventually trigger financial crisis.

In the canonical crisis models, a government with persistent budget deficits and excess money supply was assumed to use a limited stock of reserves to peg its exchange rate.[30] This policy would ultimately be unsustainable because speculators would attack the currency when reserves fell to a critical level. Other economists revealed that a much faster growth rate—of money supply and credit scale—than that of the GDP was an important reason for the Asian Financial Crisis.[31] The deterioration of bank assets' quality could be another reason for the crisis.[32]

The Chinese macroeconomic intervention mechanism is not sufficient while there is volatility. For example, The People's Bank of China does not have effective intervention tools to offset the impact of international hot money. Moreover, the interest rate has not been liberalized. It would be difficult to establish an automatic stabilizer mechanism to adjust the capital flows.

To conclude, the property rights regime is an endogenous institutional variable we cannot avoid when studying China's full convertibility issue. Without the incorporation of this variable into an economic model, the empirical results fail to reflect the effect of liberalization and the cost of capital control.

CONCLUSION AND POLICY SUGESSTION

This paper attempts to use a quantitative approach to examine the effects of liberalization and the cost of capital controls in China from 1993 to 2004. However, the empirical result fails to provide any clear links between current account liberalization, diminishing capital controls and the Chinese stock market returns. An institutional explanation is then offered to complement the quantitative results. Originating from the poorly-defined property rights regime, price distortion, moral hazard and overinvestment and monetary overhang are among the major impediments toward capital account liberalization and full convertibility. This imperfect institutional arrangement also prevents traditional economic theory and quantitative analysis from being successful in the case of China.

In accordance with many other studies, we suggest that capital account liberalization and full convertibility should go hand in hand with the following conditions. Microeconomic fundamentals need to be established and improved. A modern corporate system should be set up in the corporate sector to make enterprises responsible for their business operations and losses/profits, to improve corporate governance and to strengthen market transparency. Macroeconomic stability needs to be achieved in the form of appropriate economic growth, stable price levels, a sound

fiscal position and a basic balance of the current account. Sound and healthy financial systems need to be developed. Financial institutions should be encouraged to learn advanced financial techniques from foreign countries with a view to improving financial services and cleaning up balance sheets. Domestic financial markets should be expanded and deepened to cultivate an efficient money market and capital market. Financial supervision needs to be strengthened to guide sound development of the financial system.

Above all, the most essential prerequisite of capital account liberalization and full convertibility should be a sound institutional arrangement regarding ownership and property rights regime. Thorough ownership reform would establish a firm institutional foundation for RMB full convertibility and accelerate progress toward achieving this goal.

The property rights reform should be given first priority and involve two different elements; protecting private property rights and diversifying state ownership. This reform will grant Chinese market entities both the ability and a persistent incentive to make the best decisions within different market environments.

Notes

[1] Peter Blair Henry, "Stock Market Liberalization, Economic Reform, and Emerging Market Equity Prices," *Journal of Finance,* vol.55, no.2, 2000, pp.529-565.

[2] China has been a member of the WTO since December 11, 2001. See http://www.wto.org/english/thewto_e/countries_e/china_e.htm.

[3] Full convertibility is not the same as a freely floating exchange rate. It is perfectly possible to have one without the other.

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[23] The reason for using the square of the difference in interest rates is that we are trying to simply measure the extent to which the authorities succeeded in driving a wedge between the domestic and the international capital markets. The difference between the Chinese 3-month term deposit rate and the US 3-month CD rate appeared positive and negative alternately in the sample period. Squaring the difference makes the measure of capital control a variable with only positive value.

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[28] One referee comments that it is difficult to see the necessary link between monetary overhang and nonperforming loans at the banks. We agree China's relatively large share of M2 compared to other financial instruments is mainly due to a lack of consumption credit. However, other than the culture difference, the underdevelopment of consumption credit reflects the fact that property rights are poorly defined in China, that is, the individual property rights have not been protected well and individual is uncertain about the future, and the average collateral quality is not sufficient to support the consumption credit system, so that the consumption credit is difficult to develop.

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