Cross-border Capital Flow Movement on the Chinese Currency Exchange Rates

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Objective of the Study

- There has been a concern that the flow of short-term speculative funds, so-called hot money, may destabilize the Chinese foreign exchange market and economy. (Martin and Morrison (2008), WSJ (July 6, 2010))

- The objective of the study is to examine whether such threat is a serious possibility in the near future.

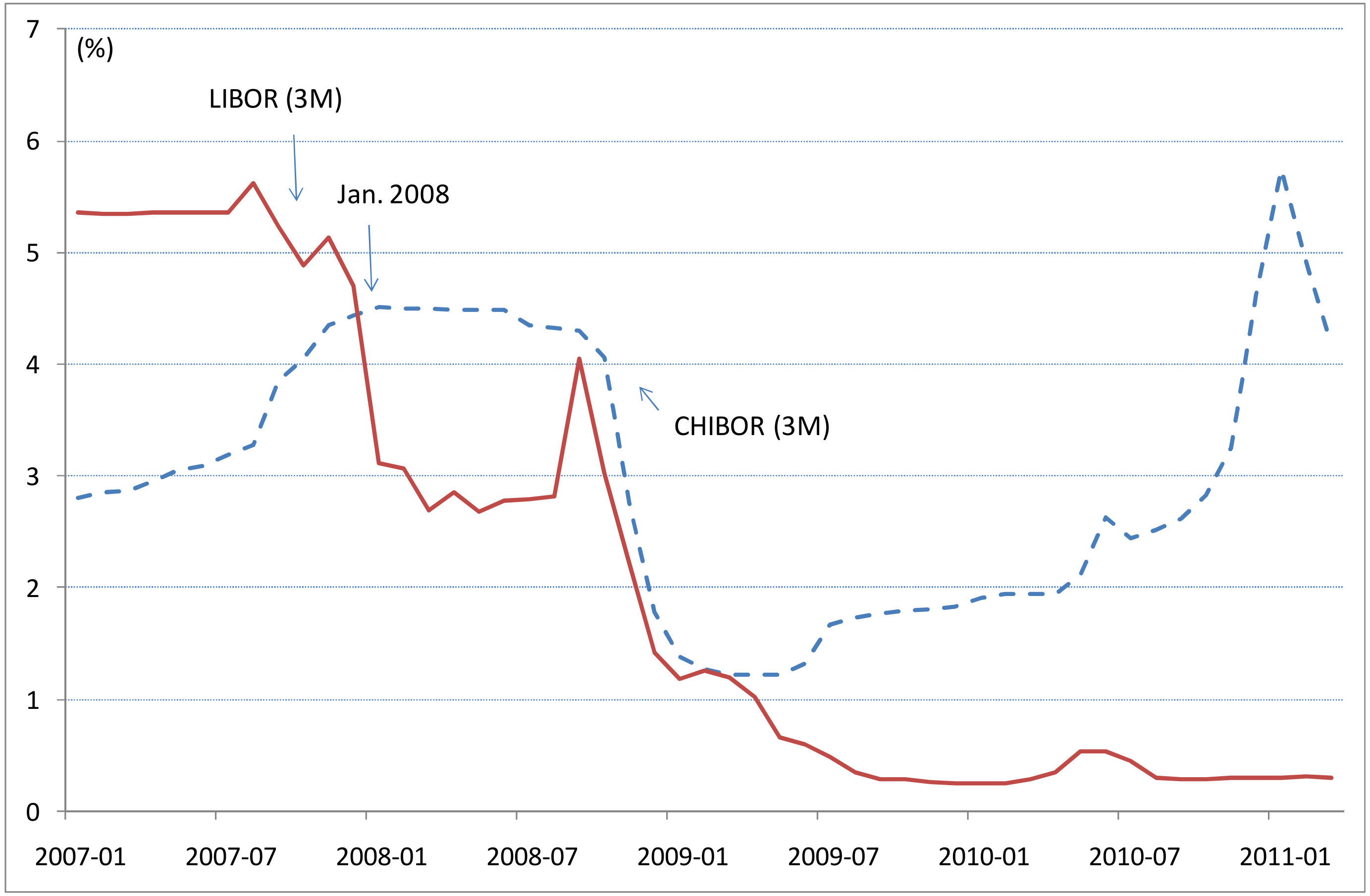
What is Hot Money?

- Hot money is usually defined as the flow of funds (or capital) from one country to another in order to earn a short-term profit on interest differences and/or anticipated exchange rate shifts. (Martin and Morrison (2008))

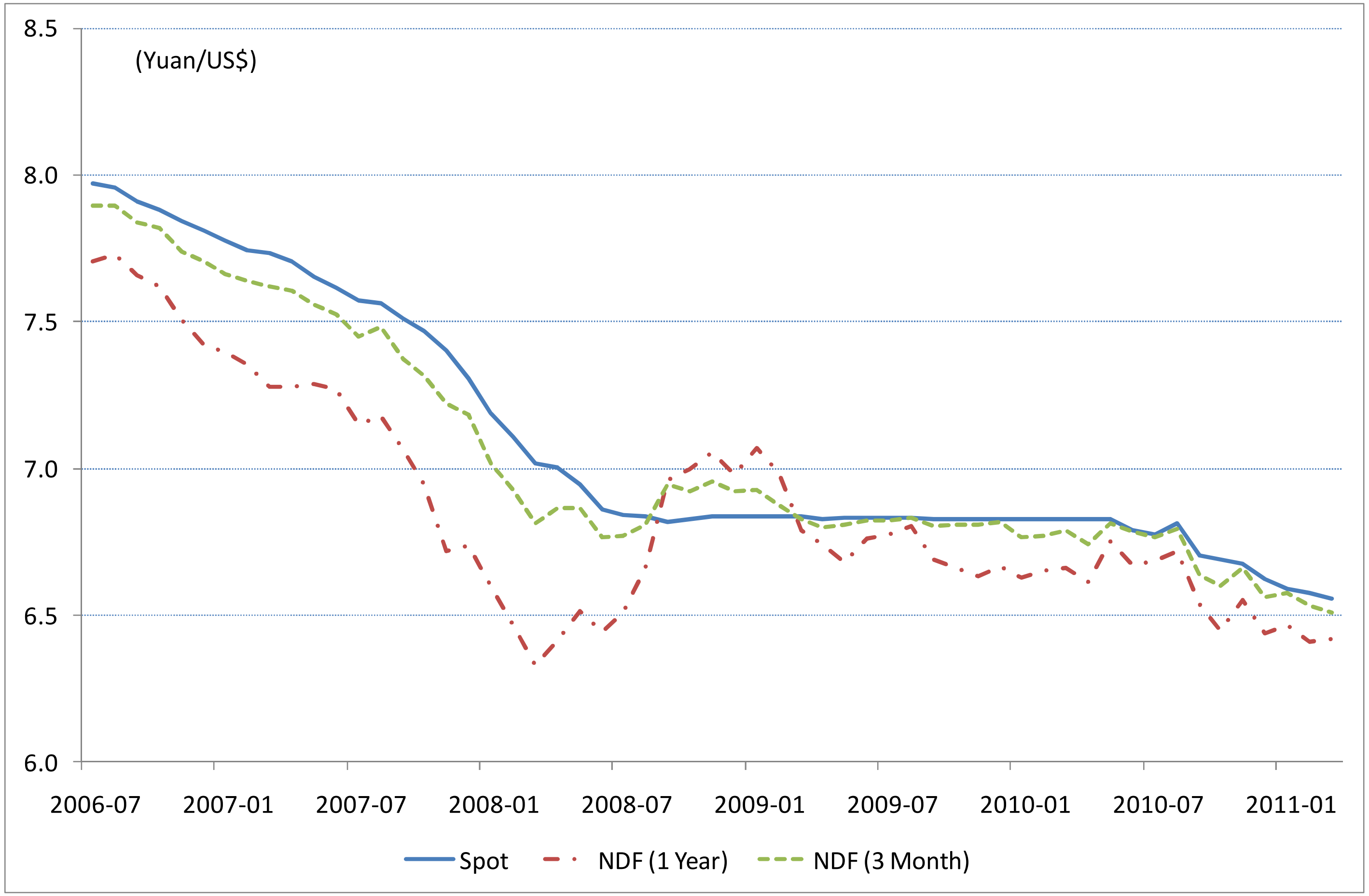
Possible Causes of Hot Money Inflow into China

- Higher interest rate in China than that in the U.S.
- Expectation of future appreciation in the value of China’s currency
- Anticipation of higher stock and property prices in China

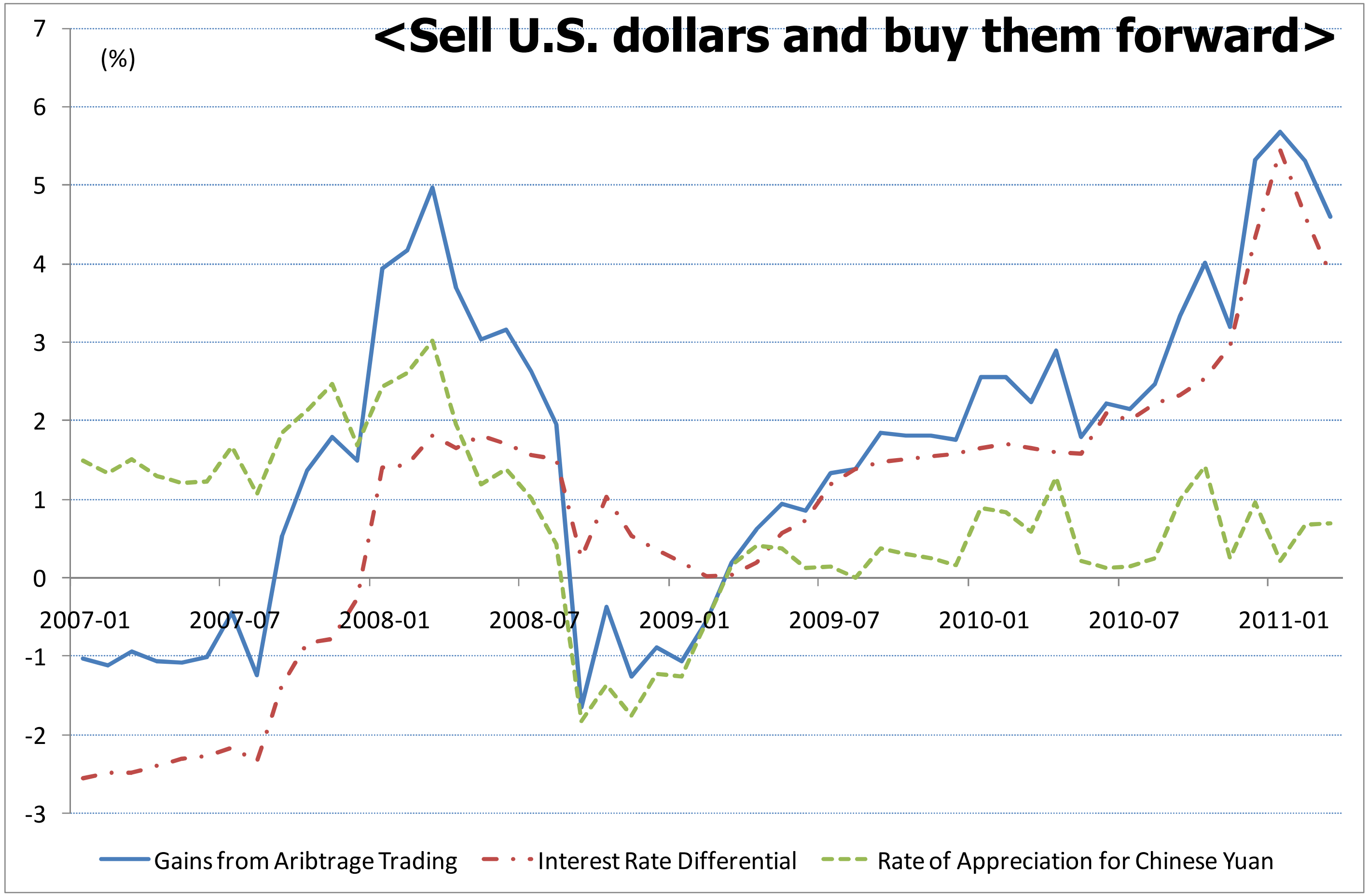
Trends in 3-Month CHIBOR and LIBOR



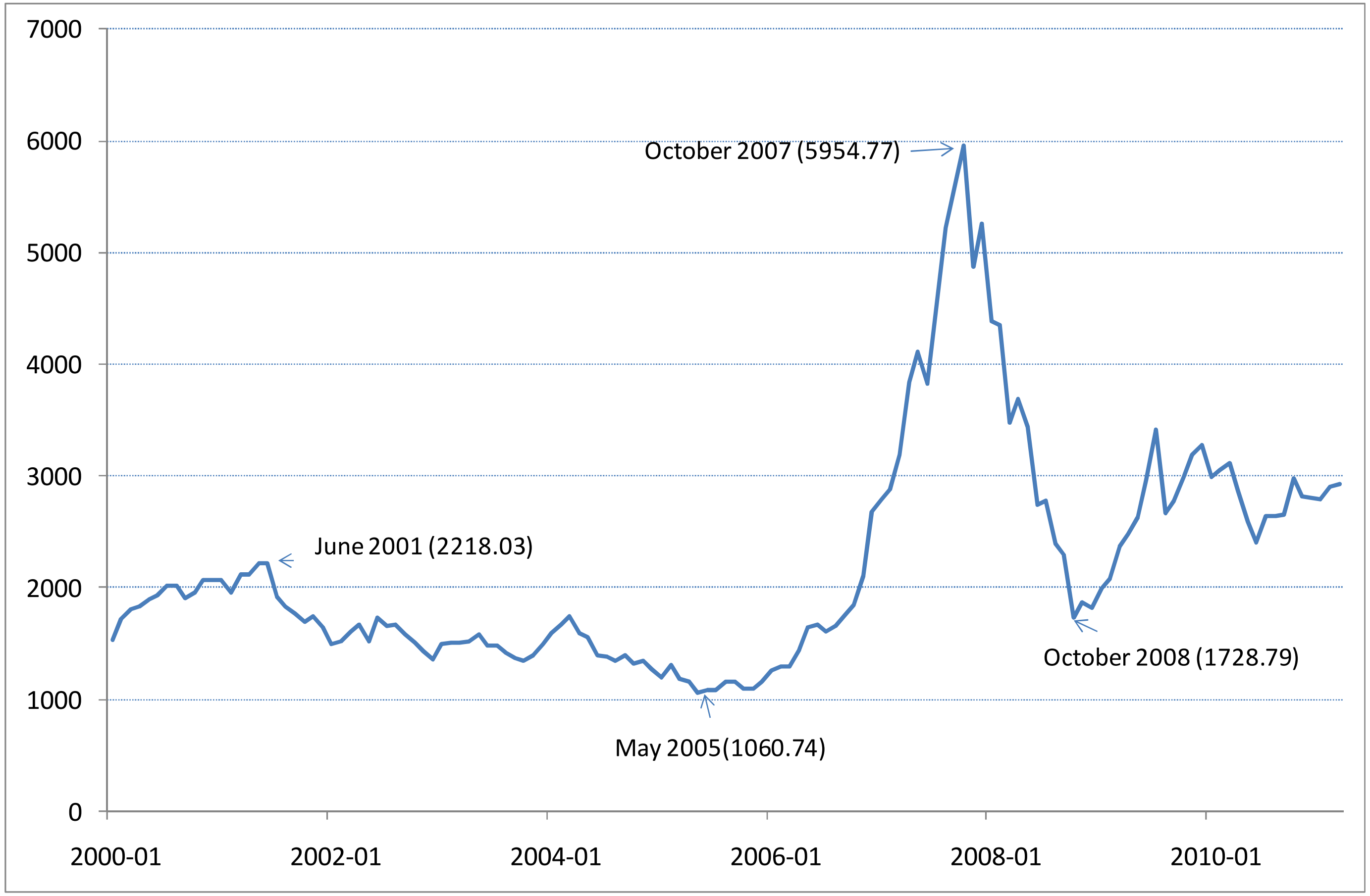
Spot FX rate and NDF for Chinese Yuan



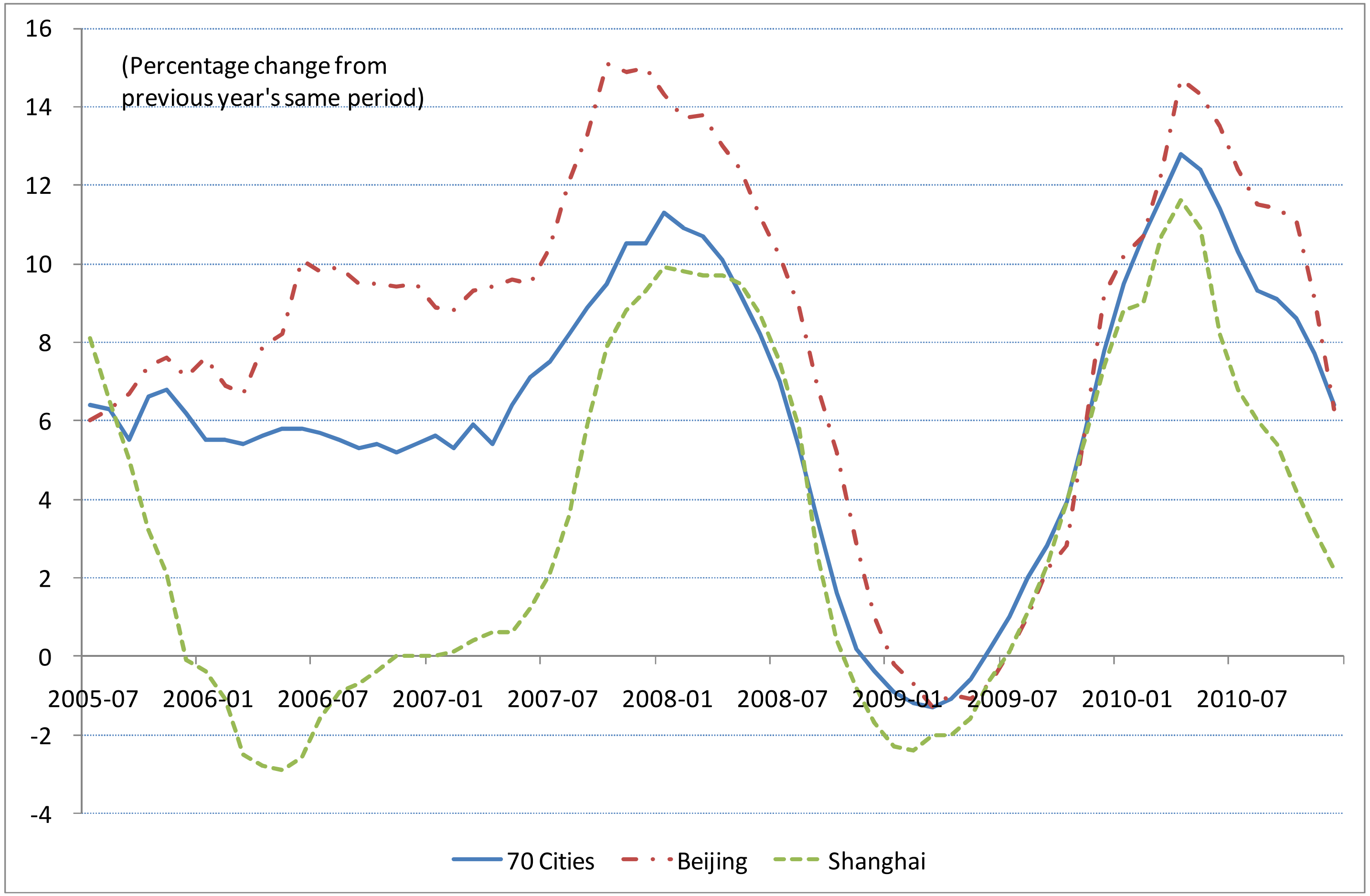
Possible Gains from Arbitrage Trading (Covered Interest Differential)



Shanghai Stock Exchange Composition Index



Property Price Indices for 70 Chinese Cities, Beijing and Shanghai (Building)



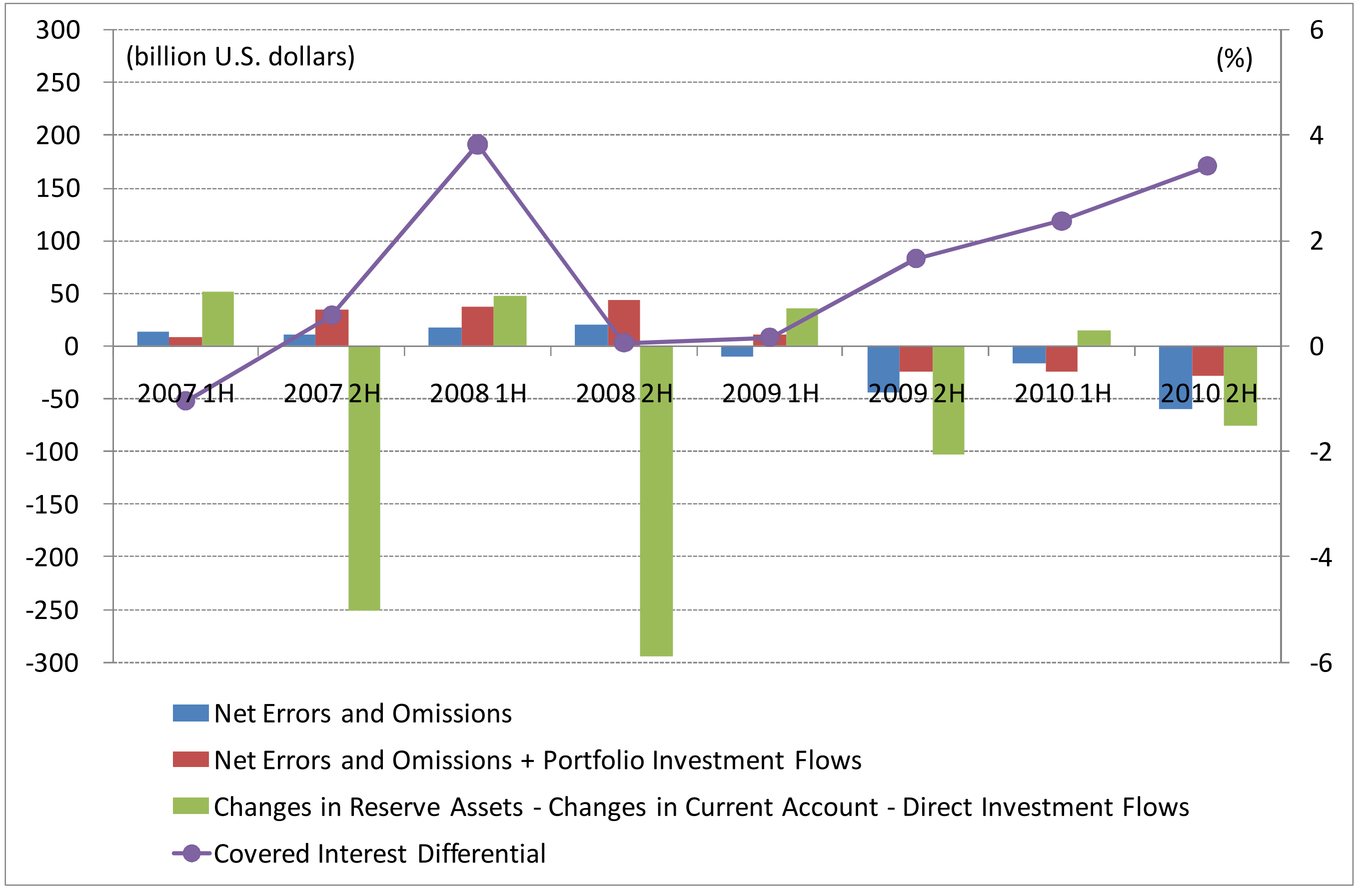
How to Estimate Hot Money Flow?

- Three approaches are suggested for the estimation of hot money flow in the literature
  - Hot Money 1 = Net Errors and Omissions in the Balance of Payment (Prasad and Wei (2005))
  - Hot Money 2 = Net Errors and Omissions + Portfolio Investment Flows (Liang, Ouyang, and Willett (2009))
  - Hot Money 3 = Changes in Reserve Assets – Changes in Current Account – Direct Investment Flows (Martin and Morrison (2008), Guo and Huang (2010))

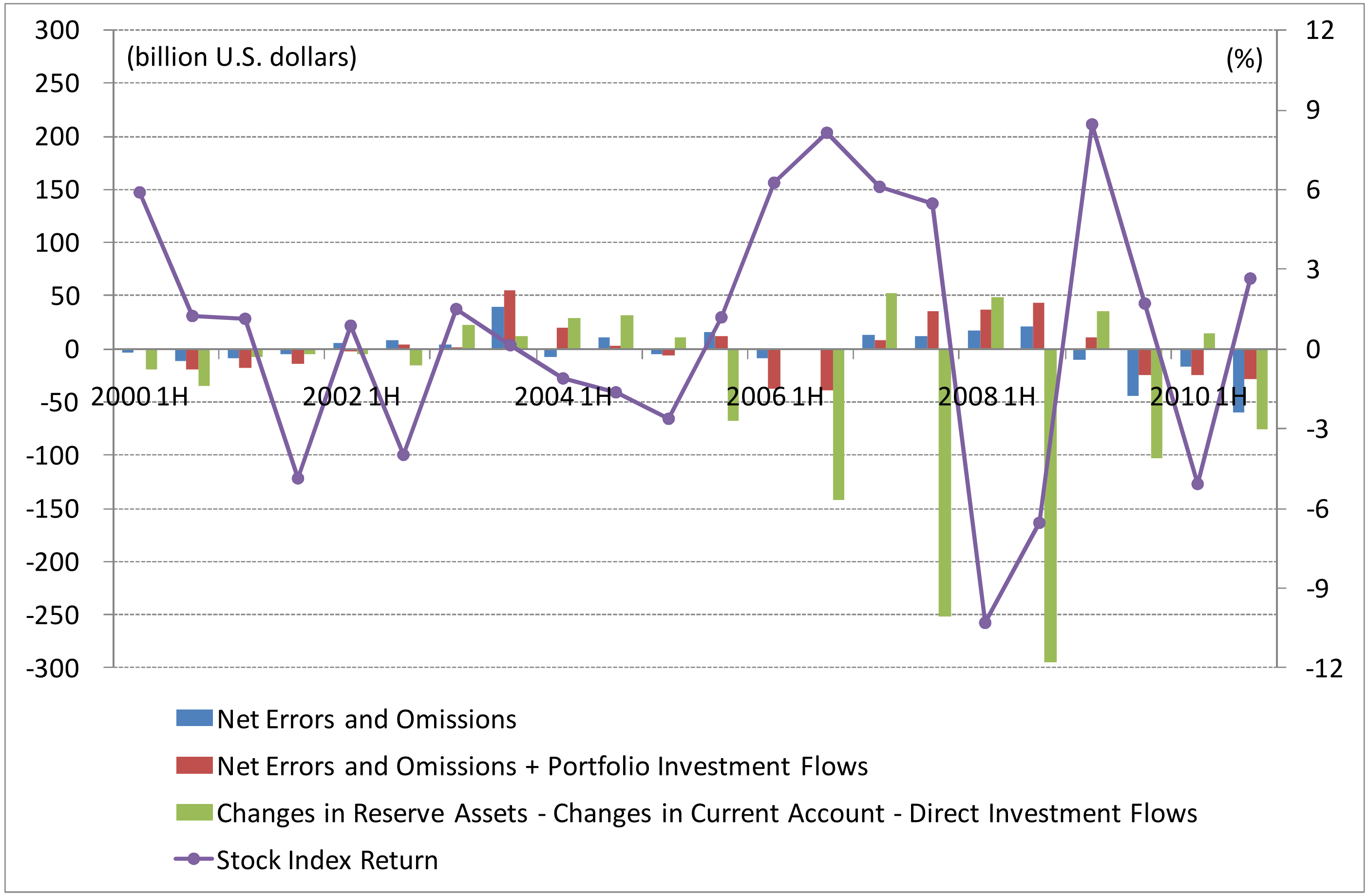
Can We Explain Hot Money Flow in China?

- Sample period : 2000 ~ 2010 (11 years)
- I compute (1) the estimate of hot money flow in China and (2) the gains from trading in Chinese FX market, money market, stock market and property market for each semi-annual period over my sample period.
- Then, I examine whether there is any relationship between the estimate of hot money flow and the gains from trading.

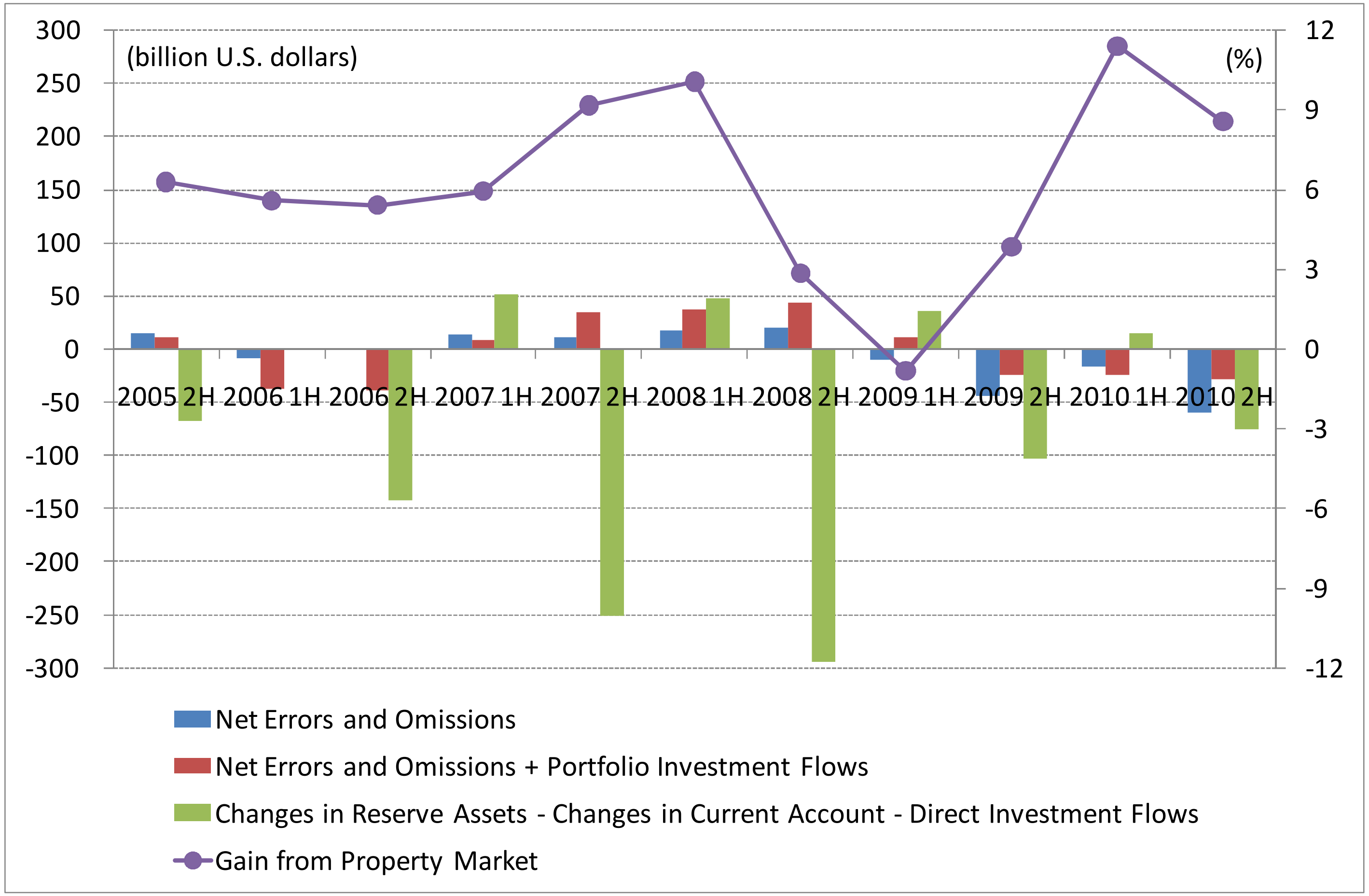
Estimated Hot Money Flows and Covered Interest Differential



Estimated Hot Money Flows and Stock Index Return



Estimated Hot Money Flows and Gain from Property Market



Can We Explain Hot Money Flow in China?

< Correlation Matrix >

	Hot Money 1	Hot Money 2	Hot Money 3	Covered Interest Differential	Stock Index Return	Gain from Property Market
Hot Money 1						
Hot Money 2	0.777 (0.000)					
Hot Money 3	0.184 (0.368)	0.307 (0.128)				
Covered Interest Differential	**-0.368 (0.371)**	**-0.422 (0.297)**	**0.008 (0.986)**			
Stock Index Return	**-0.284 (0.201)**	**-0.317 (0.151)**	**-0.179 (0.426)**	-0.396 (0.331)		
Gain from Property Market	**0.070 (0.839)**	**0.009 (0.979)**	**0.186 (0.585)**	0.622 (0.010)	-0.424 (0.194)	

Note : The numbers in Parentheses are p-values.

Can We Explain Hot Money Flow in China?

- The three factors which are said to make hot money flow into China, do not explain the estimated flow of hot money in China.

- Most of the approaches to estimate the flow of hot money presuppose that the country concerned has few controls on international capital flows.

- Since China maintains a few measures of capital controls, this may be one of the reasons why the three factors do not explain the estimated flow of hot money in China.

Can We Explain Hot Money Flow in China?

- In addition, when a country substantially controls international capital flows, these approaches may not properly estimate the flow of hot money for the country.

- Thus, in this case, we need (1) to consider the details of rules and regulations on international capital flows and (2) to examine the characteristics of international capital flows in more depth under the context of these rules and regulations

  in order to estimate the flow of money which moves in and out of the country within a short period.

Three Possible Routes Through Which Hot Money May Flow in China

- Disguised as current account transactions or foreign direct investment
- Portfolio investment
- Other investment such as lending and deposit

Current Rules and Regulations on FX Transactions in China

- Financial institutions conducting foreign exchange operations should open "foreign exchange account" for their clients and handle foreign exchange operations through such accounts.
  - Even for the same client, separate accounts should be open for current account transactions and capital account transactions.

- The exchange administration agencies (SAFE: State Administration of Foreign Exchange) have the responsibility for the regulation of foreign exchange operations.

Current Rules and Regulations on FX Transactions in China (Current Account Transaction)

- In principle, there is no restriction on international payments and transfers due to current account transactions.

- However, foreign exchange receipts and payments for current account transactions should be based on “bona fide and legal” transactions.

Current Rules and Regulations on FX Transactions in China (Current Account Transaction)

- Financial institutions conducting foreign exchange settlement and sales operations should exercise due diligence in checking the authenticity of the transaction documents and their consistency with the receipts and payments in foreign exchange.

- The exchange administration agencies (SAFE) have the power to conduct investigations of foreign exchange operations.

Current Rules and Regulations on FX Transactions in China (Current Account Transaction)

- In February 2010, the SAFE launched a campaign to combat the inflow of hot money.

  During the campaign, the SAFE examined 3.47 million cases of cross-border foreign exchange transactions (with the total amount of more than $ 440 billion) and found some violations of foreign exchange regulations only in 190 cases (with the amount of $ 7.35 billion).

Current Rules and Regulations on FX Transactions in China (Capital Account Transaction)

- Foreign exchange and RMB funds converted for capital account transactions should be used only for the purpose approved by Chinese authorities.

- The exchange administration agencies (SAFE) have the power to supervise and inspect the use of foreign exchange and RMB funds converted for capital account transactions .

Current Rules and Regulations on FX Transactions in China (Inward Direct Investment)

- Inward FDI is generally permitted except in several strategic sectors and should be registered with the exchange administration agencies.

- Foreign companies are free to withdraw from their foreign exchange accounts or convert local currency to make external current account payment consistent with their business scope.

Current Rules and Regulations on FX Transactions in China (Outward Direct Investment)

- Overseas direct investments should be registered and the approval procedures should be completed prior to the registration if prior approval is required.

- Purchase of foreign currency for outward FDI is allowed for projects approved by the National Development and Reform Commission and the Ministry of Commerce, for imports of materials for processing, and for foreign-aid related projects.

Current Rules and Regulations on FX Transactions in China (Inward Portfolio Investment)

- Purchase of domestic money and capital market instruments by non-residents is generally confined to Qualified Foreign Institutional Investors (QFII) except for B equity shares, which are open to non-residents generally.

- QFIIs may invest, within their quotas, in RMB-denominated (1) exchange-traded stocks, bonds and warrants, and (2) mutual funds. However, they are not allowed to invest in real estate.

Current Rules and Regulations on FX Transactions in China (Inward Portfolio Investment)

- By the end of 2010, a total of 97 foreign institutions had obtained QFII status from the China Securities Regulatory Commission (CSRC) and had been granted an aggregate investment quota of "$19.7 billion" by the SAFE.

- The Chinese authorities have imposed significant restrictions aimed at encouraging QFIIs to make longer-term investments in the capital markets and to discourage sudden outflows.
  - Their investments are subject to a certain lockup period before the full amount placed can be repatriated.

Current Rules and Regulations on FX Transactions in China (Outward Portfolio Investment)

- Purchase of foreign money and capital market instruments by residents is generally confined to Qualified Domestic Institutional Investors (QDII).

- QDIIs may invest, within their quotas, in foreign securities such as treasury and corporate bonds. However, they are not allowed to invest in foreign real estate or most derivatives.

Current Rules and Regulations on FX Transactions in China (Outward Portfolio Investment)

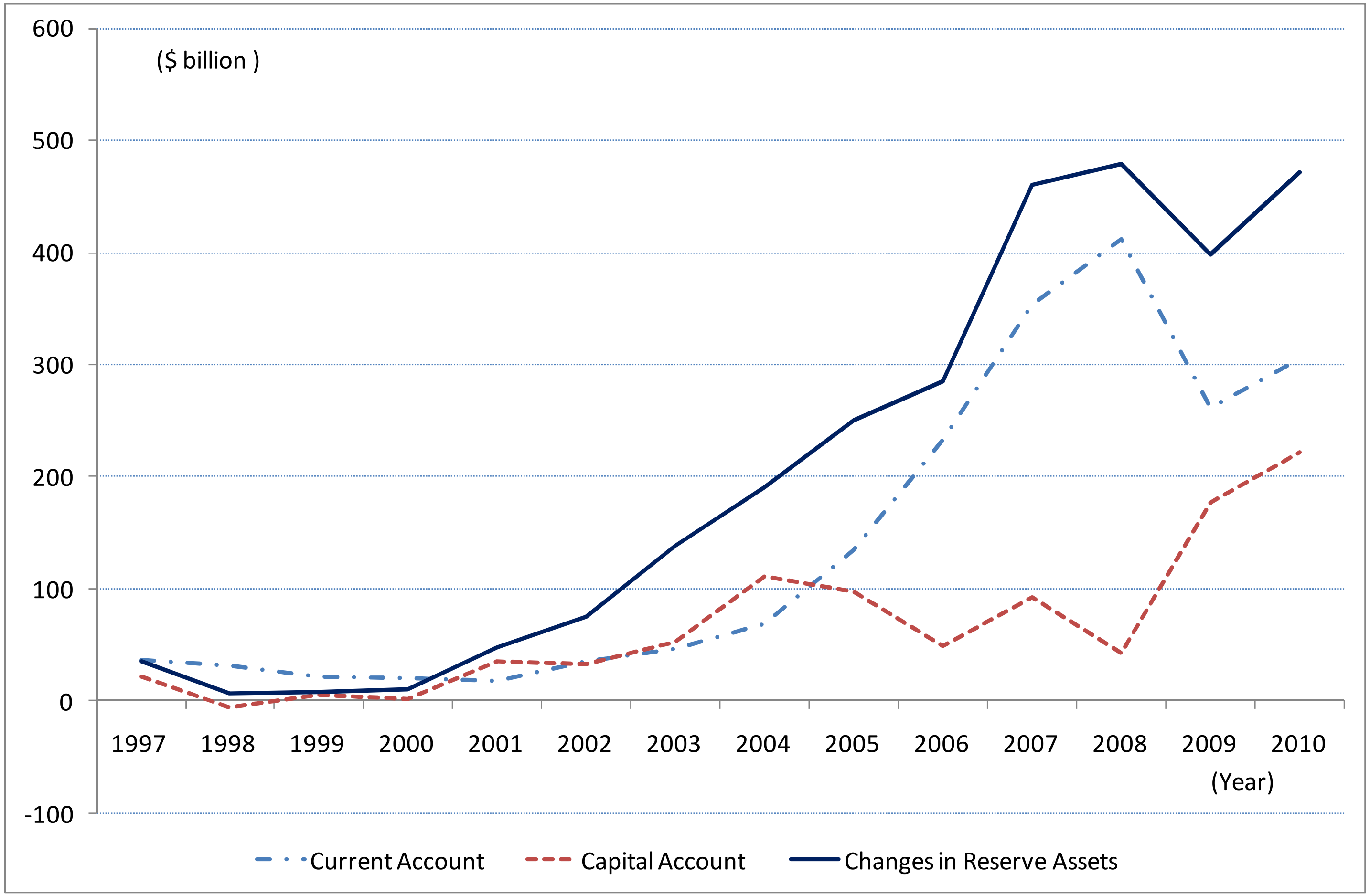
- By the end of 2010, a total of 88 domestic institutions had obtained QDII status from the CSRC and had been granted an aggregate investment quota of “$68.4 billion” by the SAFE.

Current Rules and Regulations on FX Transactions in China (Other Investment)

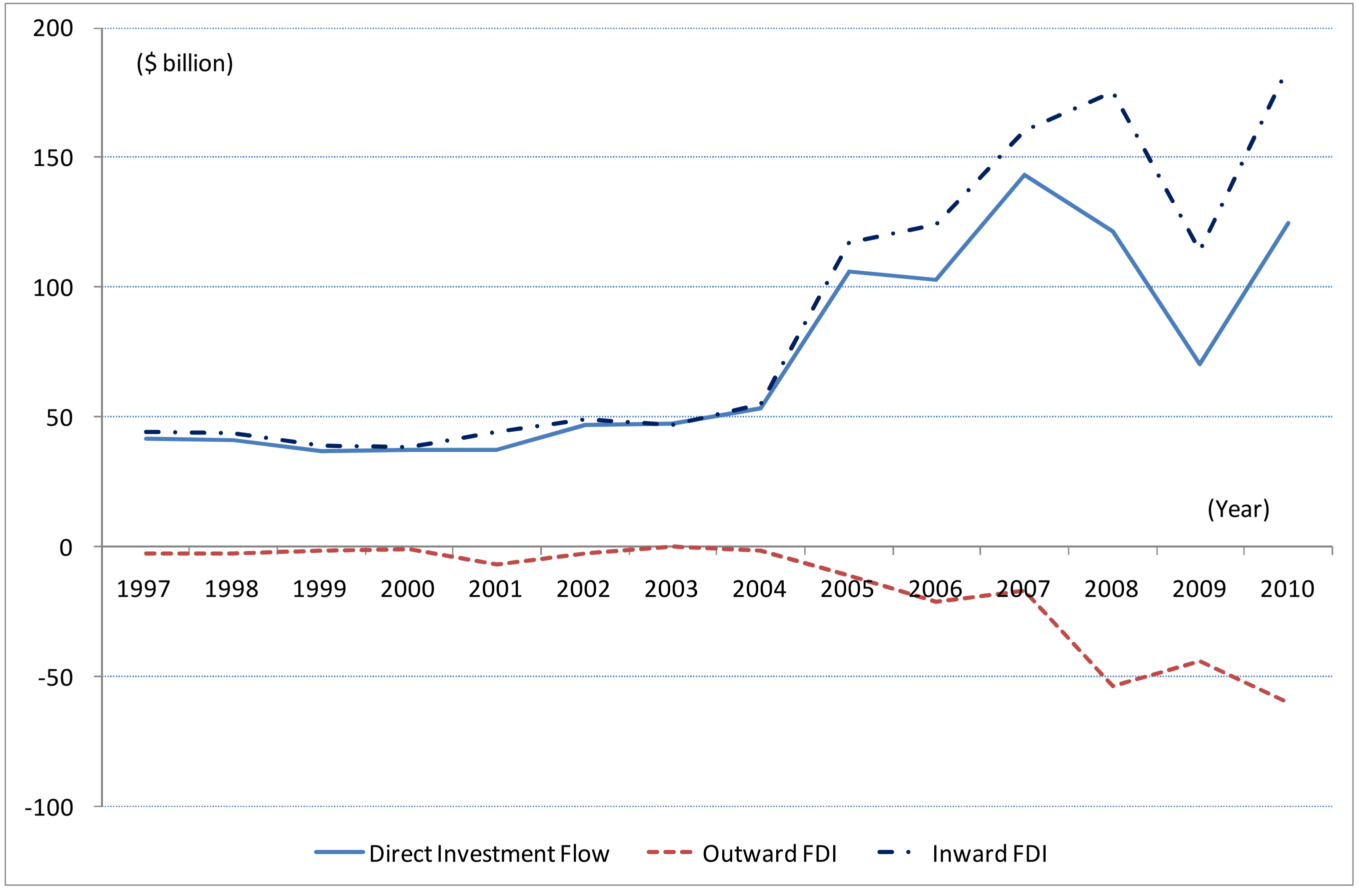
- The Chinese authorities use a quota system to manage external debt.
  - The short-term external debt quotas for domestic financial institutions in 2010 totaled to $32.4 billion.

- The SAFE carries out comprehensive supervision over financial institutions' foreign exchange positions.
  - Financial institutions must avoid mismatching their assets and liabilities denominated in domestic and foreign currencies.

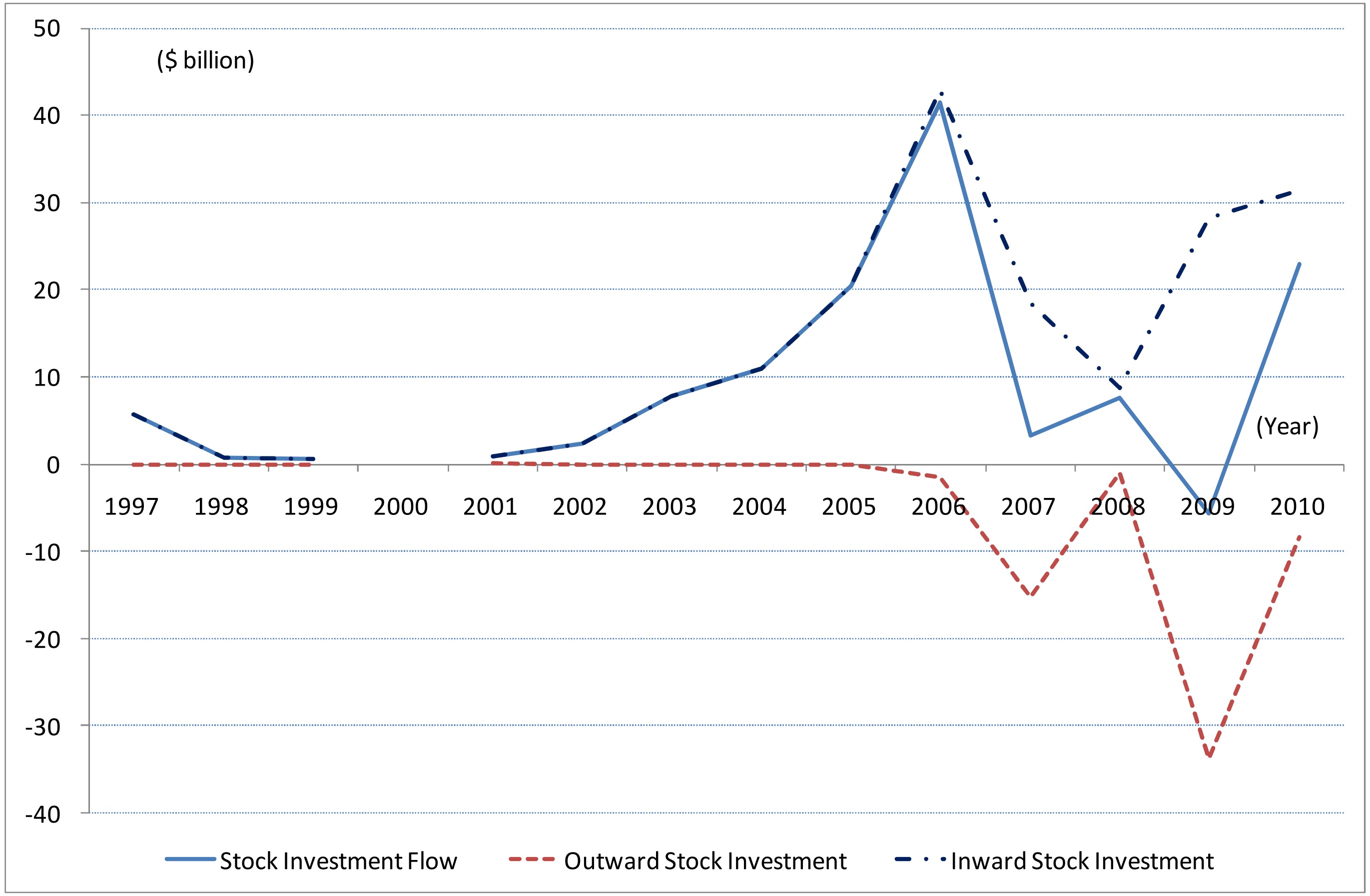
Current Account, Capital Account and Changes in Reserve Assets (China)



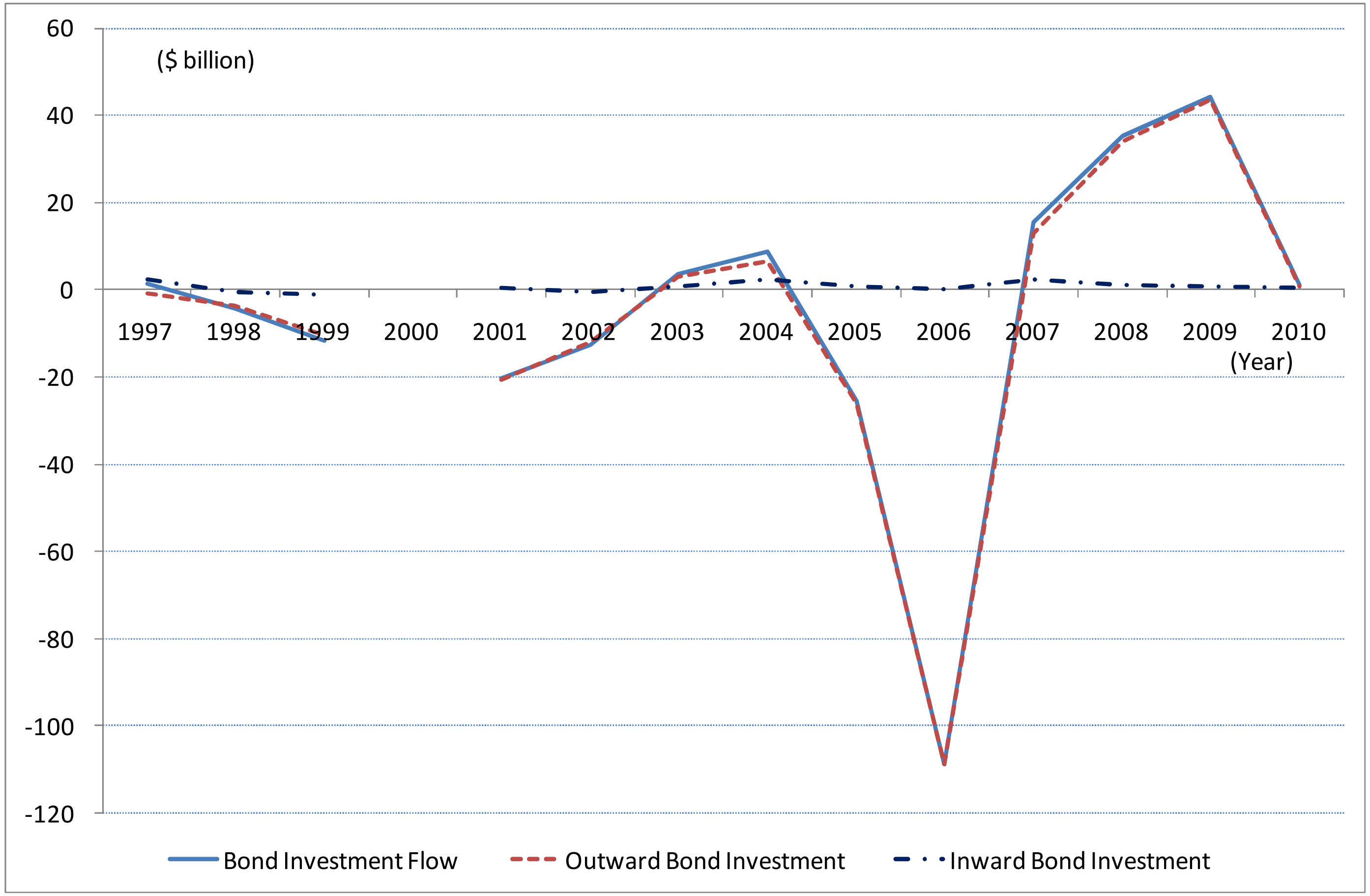
Foreign Direct Investment (China)



Stock Investment (China)



Bond Investment (China)



Will Hot Money Flow Destabilize Chinese Foreign Exchange Market In The Near Future?

- Probably not!

- Due to the tight controls on international capital flow by Chinese authorities, it is hard to imagine that foreign funds will be in and out of China massively within a short period.

- Also, China has foreign exchange reserves much larger than its foreign debt.
  - At the end of 2010, the foreign exchange reserves for China amounted to $ 2,847 billion, while the total and short-term external debts were $ 549 billion and $ 376 billion, respectively.

Evaluation of China's Vulnerability to Currency Crisis Through An Early Warning System

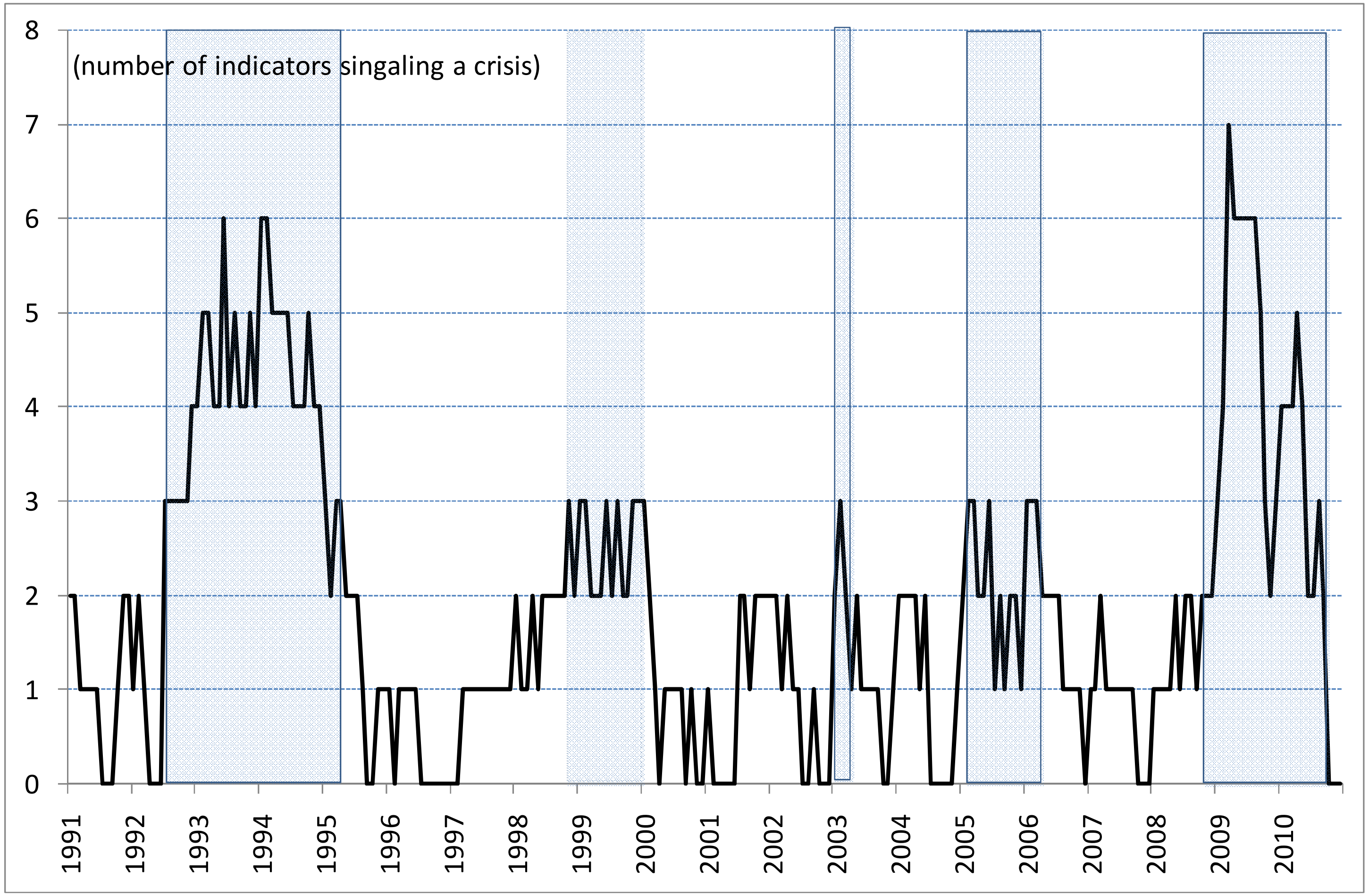
- We may evaluate China's vulnerability to currency crisis through an early warning system where leading indicators of currency crisis are used.

- I use leading indicators of currency crisis suggested in the literature. (Kaminsky, Lizondo, and Reinhart (1998), Edison (2003), Peng and Bajona (2008))

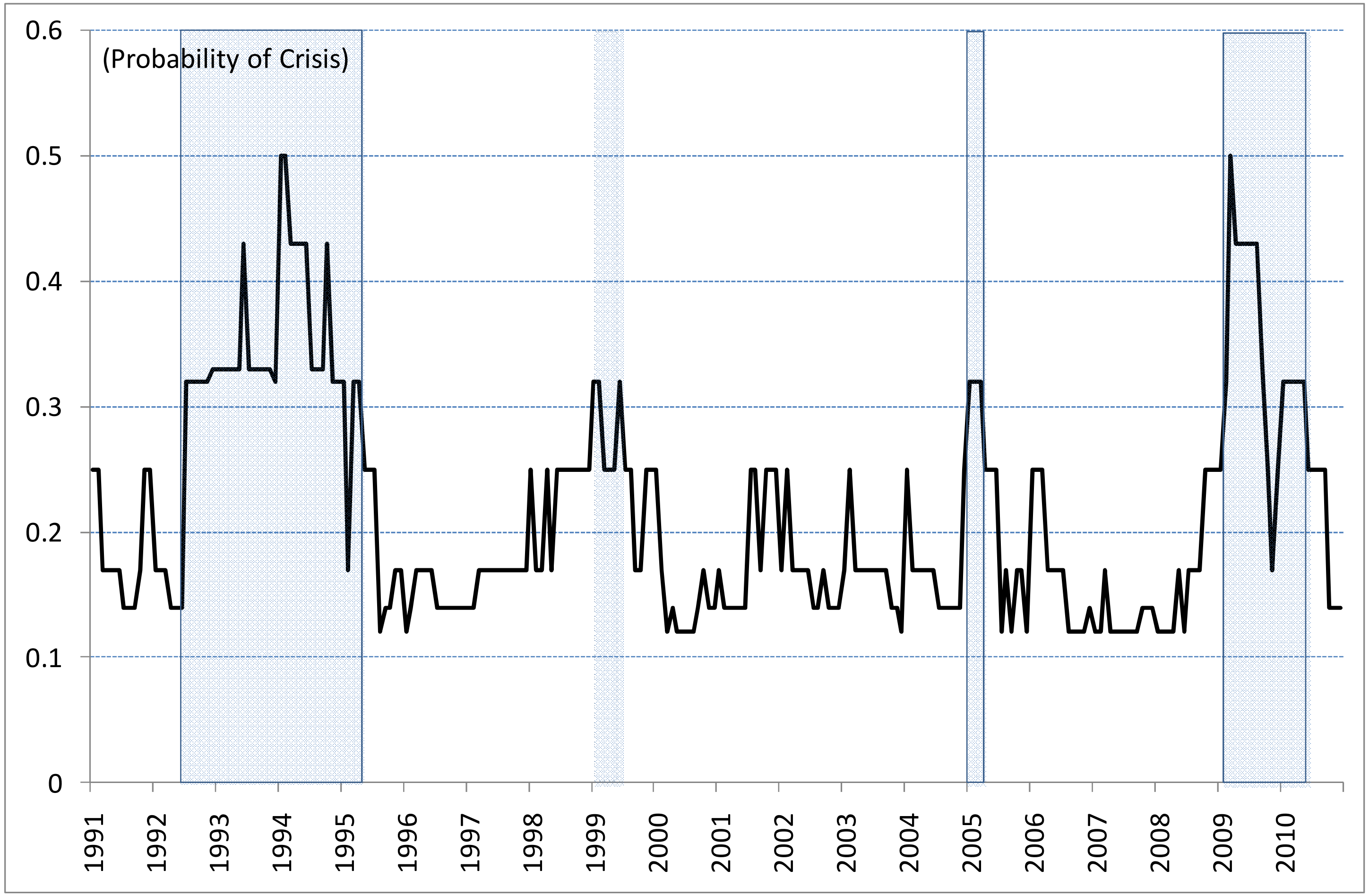
Leading Indicators of Currency Crisis (Edison(2003))

Category	Indicator
Current Account	Deviation of Real Exchange Rate
	Imports
	Exports
Capital Account	Foreign Exchange Reserves
	M2/Foreign Exchange Reserves
	Real Interest Rate Differential
	Short-term Debt/Reserves
Real Sector	Industrial Production
Domestic Financial Sector	M2 Multiplier
	Domestic Credit/GDP
	Domestic Real Interest Rate
	Excess Real M1 Balances
	Commercial Bank Deposits
Global	G-7 Output
	U.S. interest rate
	Oil Prices

Number of Leading Indicators Signaling a Crisis



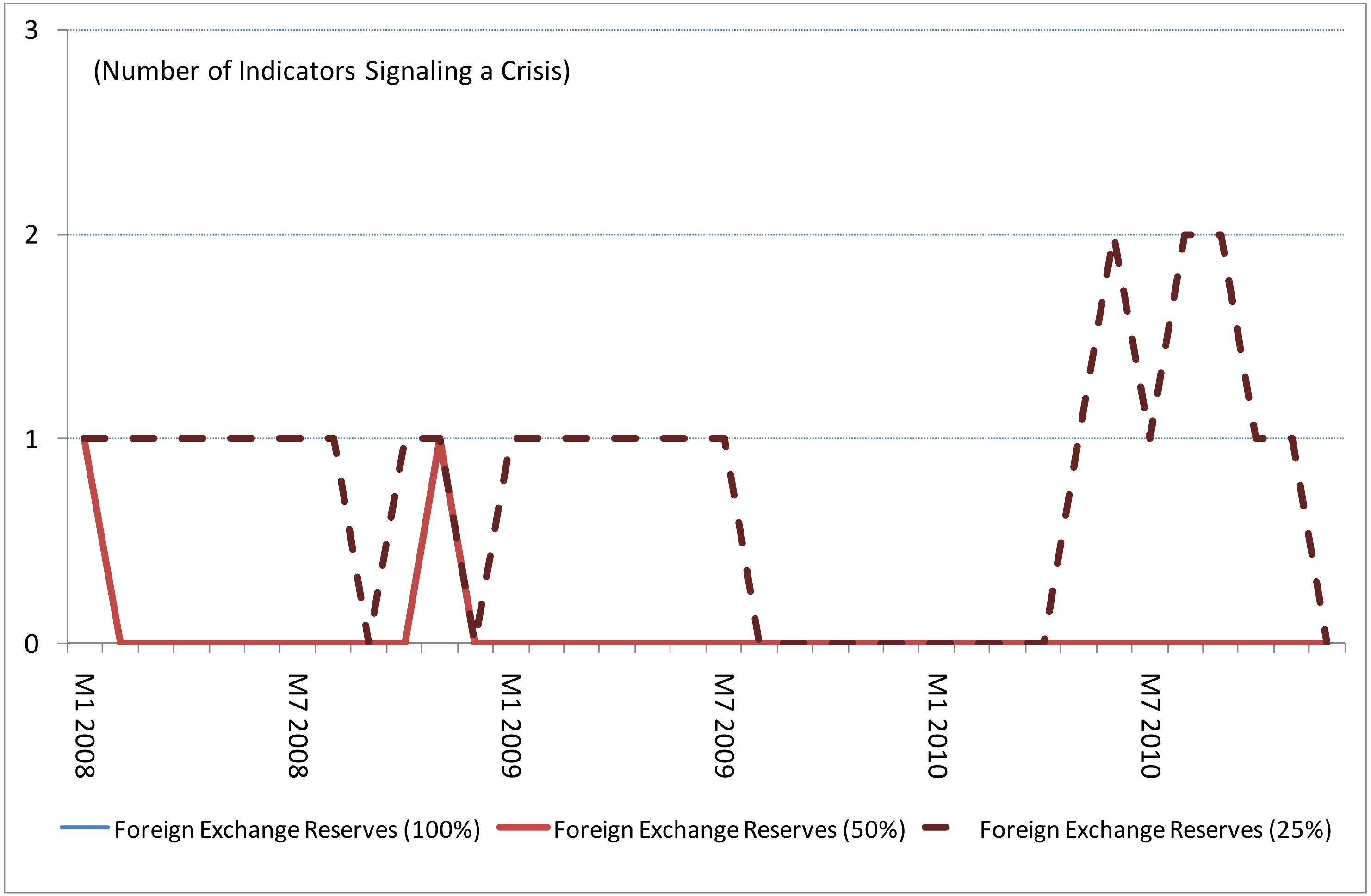
Probability of a Crisis Within 24 months



Indicators Signaling a Currency Crisis in 2009

Category	Indicator
Current Account	Deviation of Real Exchange Rate
	Imports
	Exports
Capital Account	Foreign Exchange Reserves
	M2/Foreign Exchange Reserves
	Real Interest Rate Differential
	Short-term Debt/Reserves
Real Sector	**Industrial Production**
Domestic Financial Sector	**M2 Multiplier**
	Domestic Credit/GDP
	Domestic Real Interest Rate
	Excess Real M1 Balances
	Commercial Bank Deposits
Global	**G-7 Output**
	U.S. interest rate
	Oil Prices

Indicators Related to Foreign Exchange Reserves Under Hypothetical Scenarios



Summary and Concluding Remarks

- Due to the tight controls on international capital flow by Chinese authorities, it is unlikely that foreign funds will be in and out of China massively within a short period.

- China has foreign exchange reserves large enough to alleviate a pressure from hot money flow.

- However, China shows some structural weaknesses which might make its foreign exchange market unstable if its capital account liberalization were substantially advanced.