Financial Strategies in Recovering from Currency Crises

Argentina, Korea, Mexico, and Thailand Compared—with an Addendum on China and the United States

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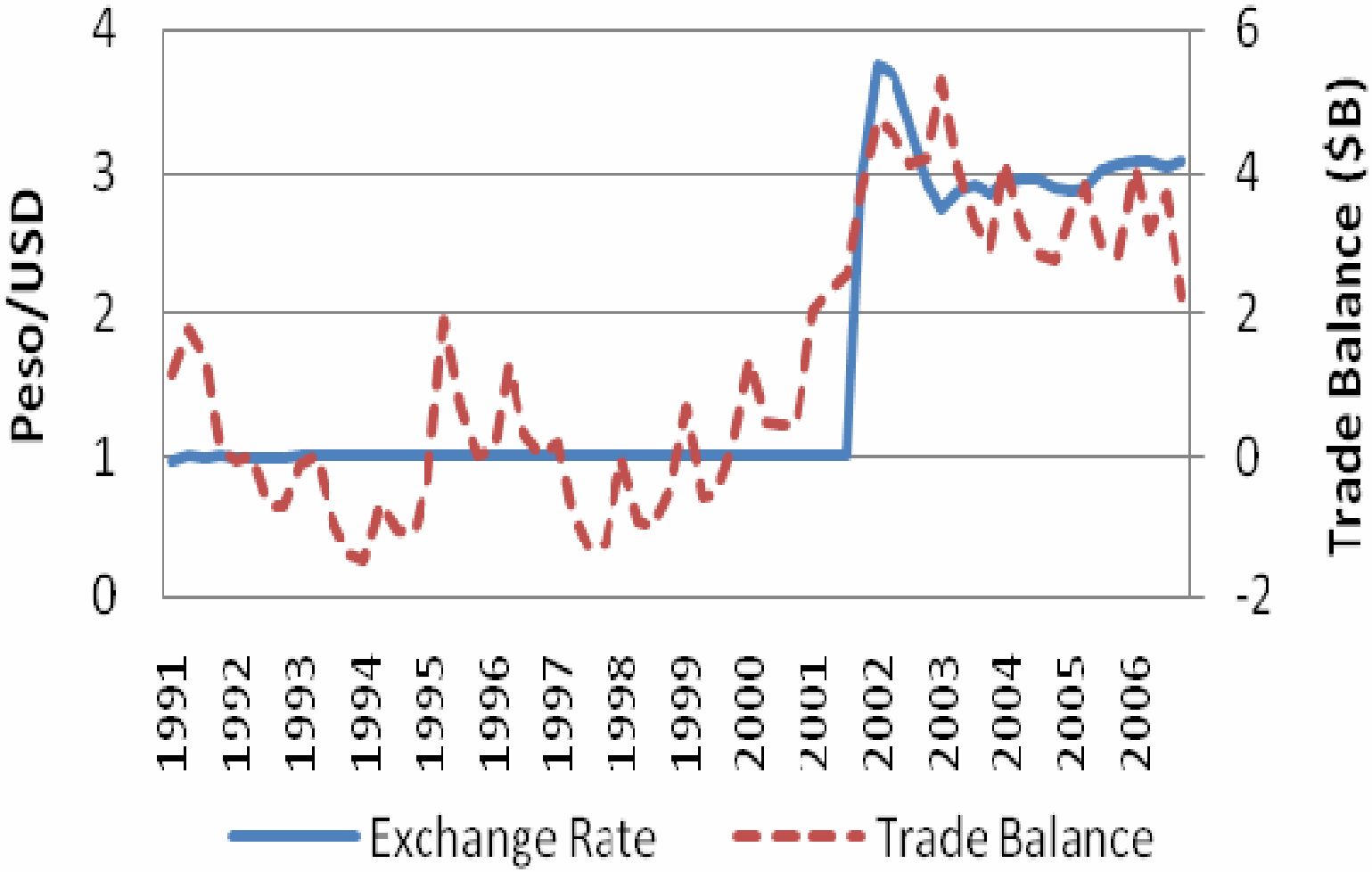
April 24, 2008

Exchange Rates and the Trade Balance under the Dollar Standard

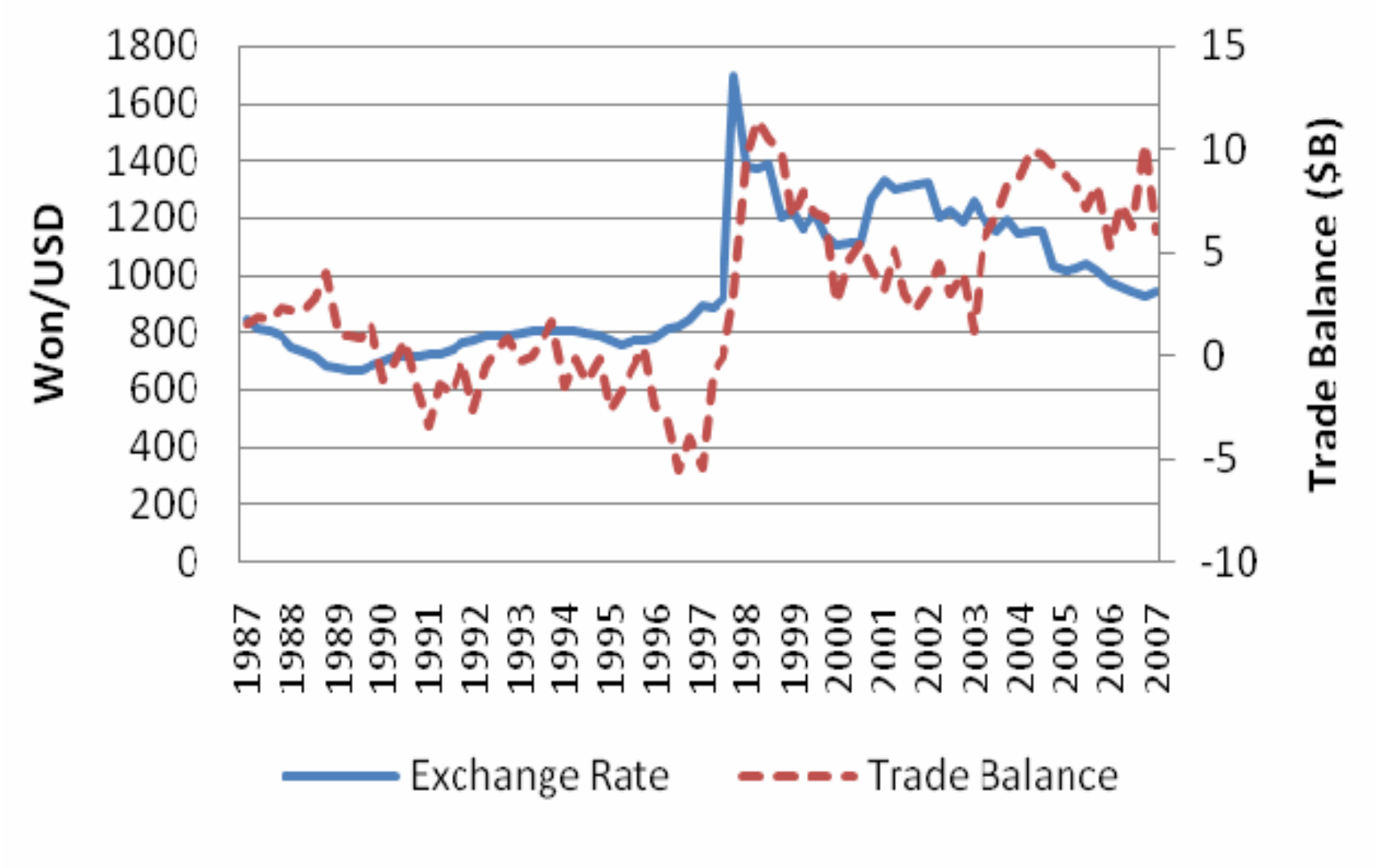
- Pre-Crisis: each country had run large current account deficits and built up large debts denominated in foreign currencies (dollars)
- Crisis and deep devaluations: very strong negative wealth effects where consumption and imports are compressed.
- Trade balances improve quickly leaving governments with some choice over post-crisis exchange rate and monetary strategies

Argentina: Exchange Rate and Trade Balance



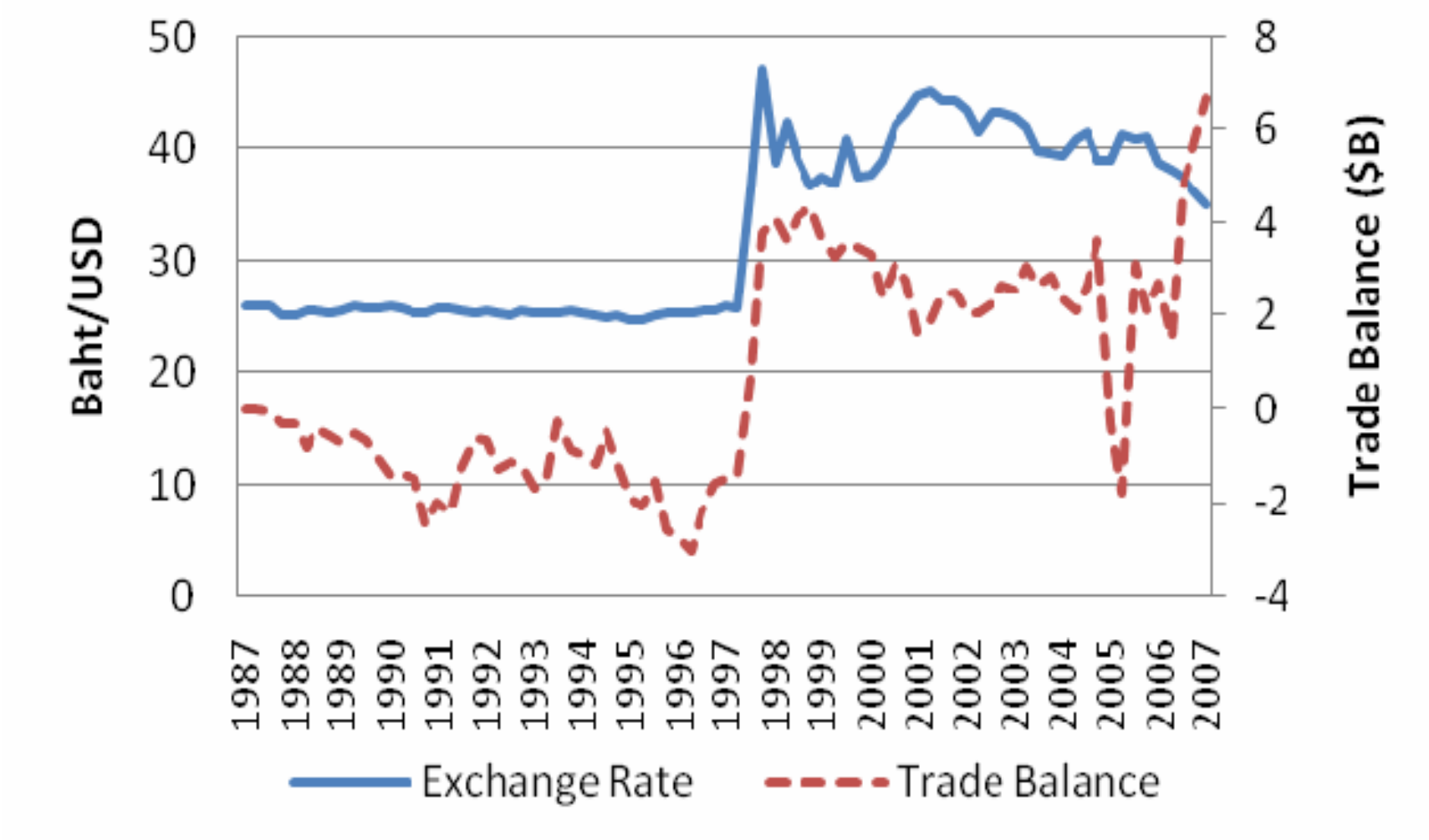
Source: Parapiboon *(2008)*

Korea: Exchange Rate and Trade Balance



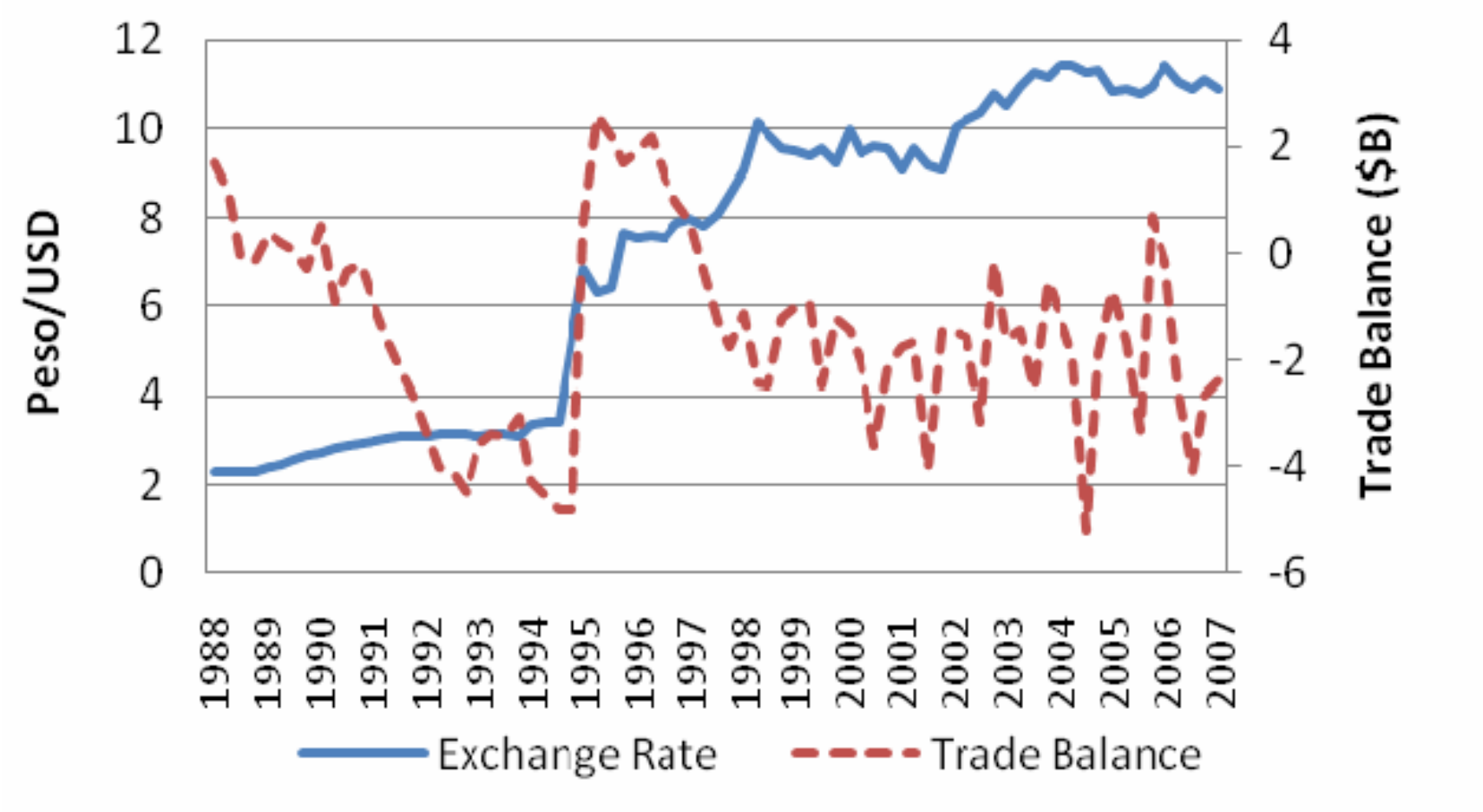
Source: Parapiboon *(2008)*

Thailand: Exchange Rate and Trade Balance



Source: Parapiboon *(2008)*

Mexico: Exchange Rate and Trade Balance



Source: Parapiboon *(2008)*

Caution: Effect of Exchange Appreciation on Creditors' Trade Surpluses is Ambiguous

- Appreciations ambiguous in affecting China's trade surplus now and Japan's earlier
- The elasticities approach to the exchange rate: emphasizes changes in relative prices from appreciating the renminbi
- But, in creditor countries, declines in short- and medium-run spending offset the relative price effect of appreciations:

  -Contraction in tradables sector

  -Fall in Investment

  -Negative wealth effect for holders of dollar assets.
- Long run: internal deflation tends to restore the initial real exchange rate. Appreciation washes out except for push into deflation as in Japan.

Figure 2-1 Japanese Trade Balance, Imports, Exports and Exchange Rate: 1978 - 2004

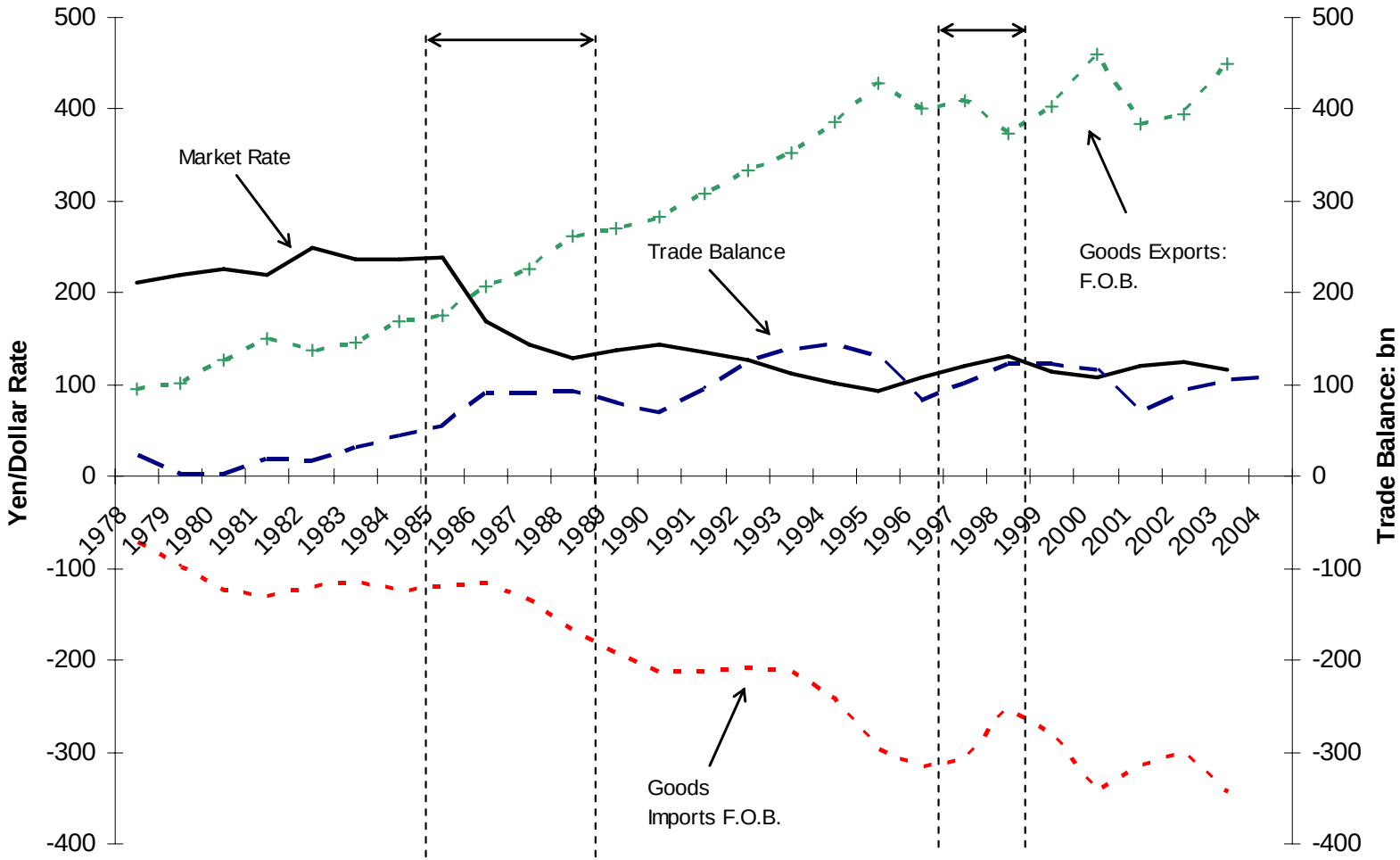


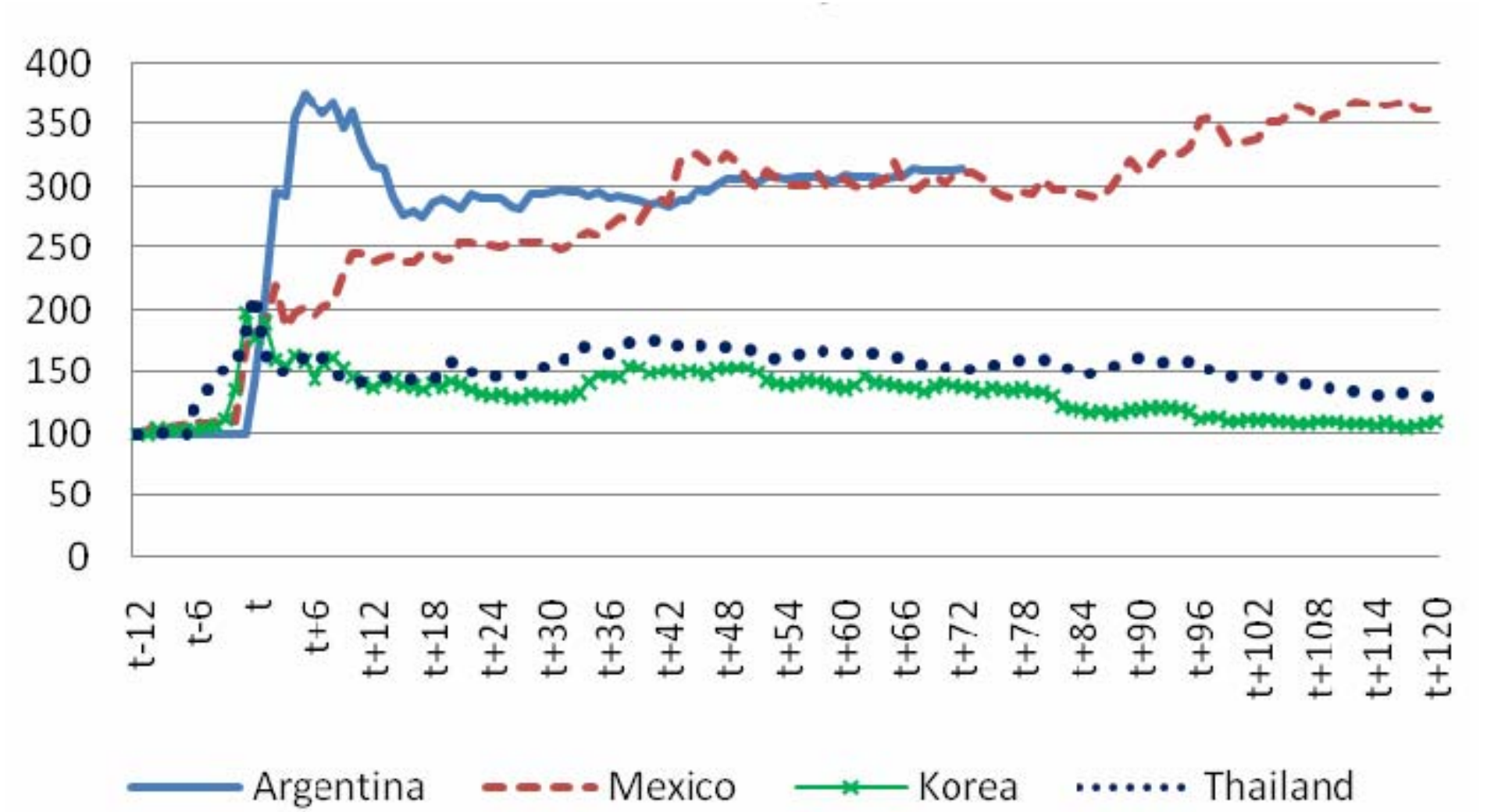
Tableau 2-4 Creditor's appreciation against Dollar

	Wealth Effect	Investment Effect	Domestic Absorption	Import	Export	Trade Surplus
Creditor	↓	↓	↓	↓	↓	?
US	-	↑	↑	↑	↑	?
ROW						?

Exchange Rate Cum Monetary Policy after Currency Crashes

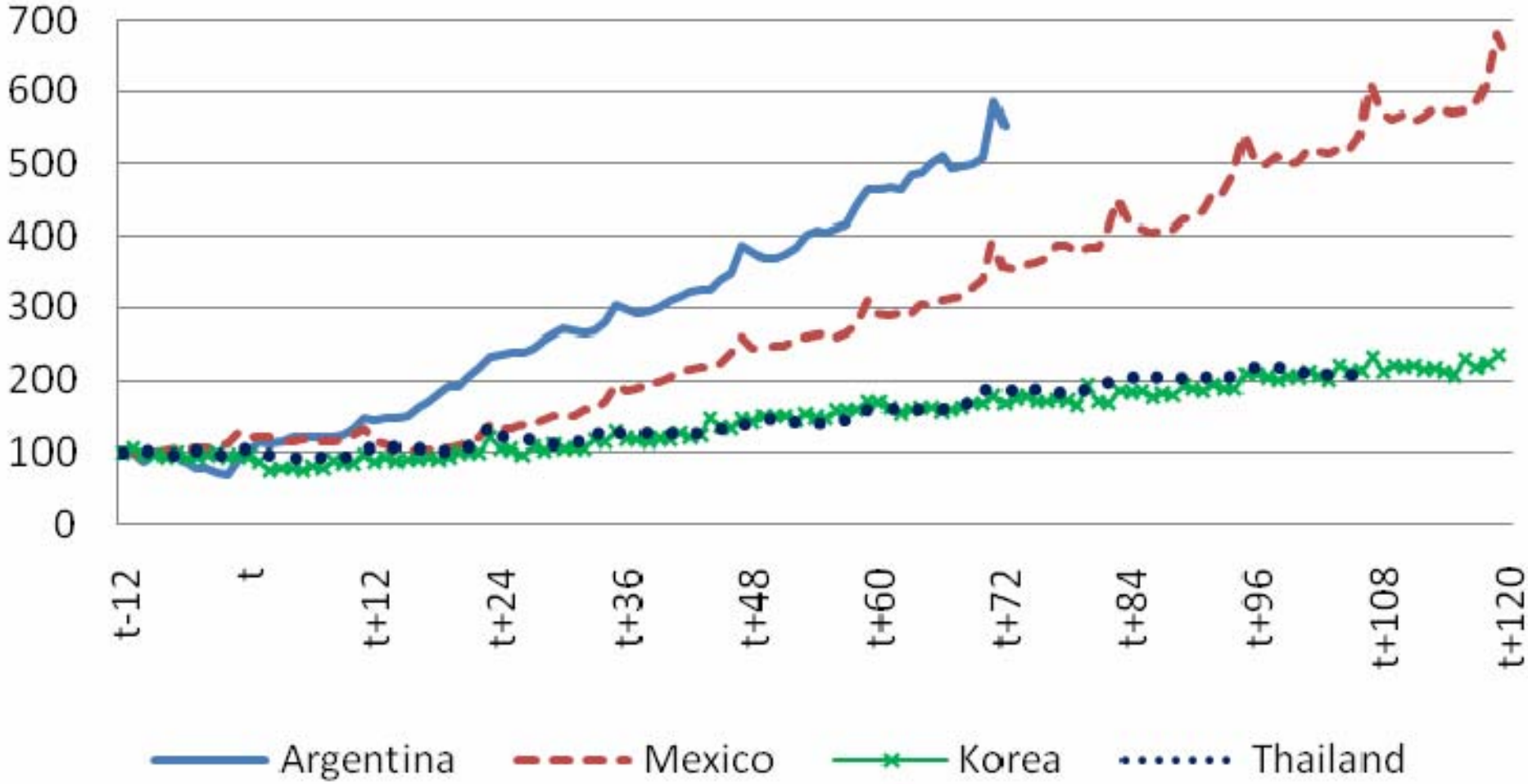
- Start with trade surpluses from devaluations and some return of flight capital.
- Central bank has some flexibility
  - -Let exchange rate gradually appreciate back through monetary restraint by sterilizing some of the buildup of exchange reserves (Korea and Thailand), or
  - - Keep foot on monetary accelerator to prevent exchange appreciation (Argentina)
  - - "Excessive" capital inflows because of a shortage of domestic bank credit, leading to some loss of monetary control and inflation, necessitating further devaluations (Mexico)

Nominal Exchange Rates



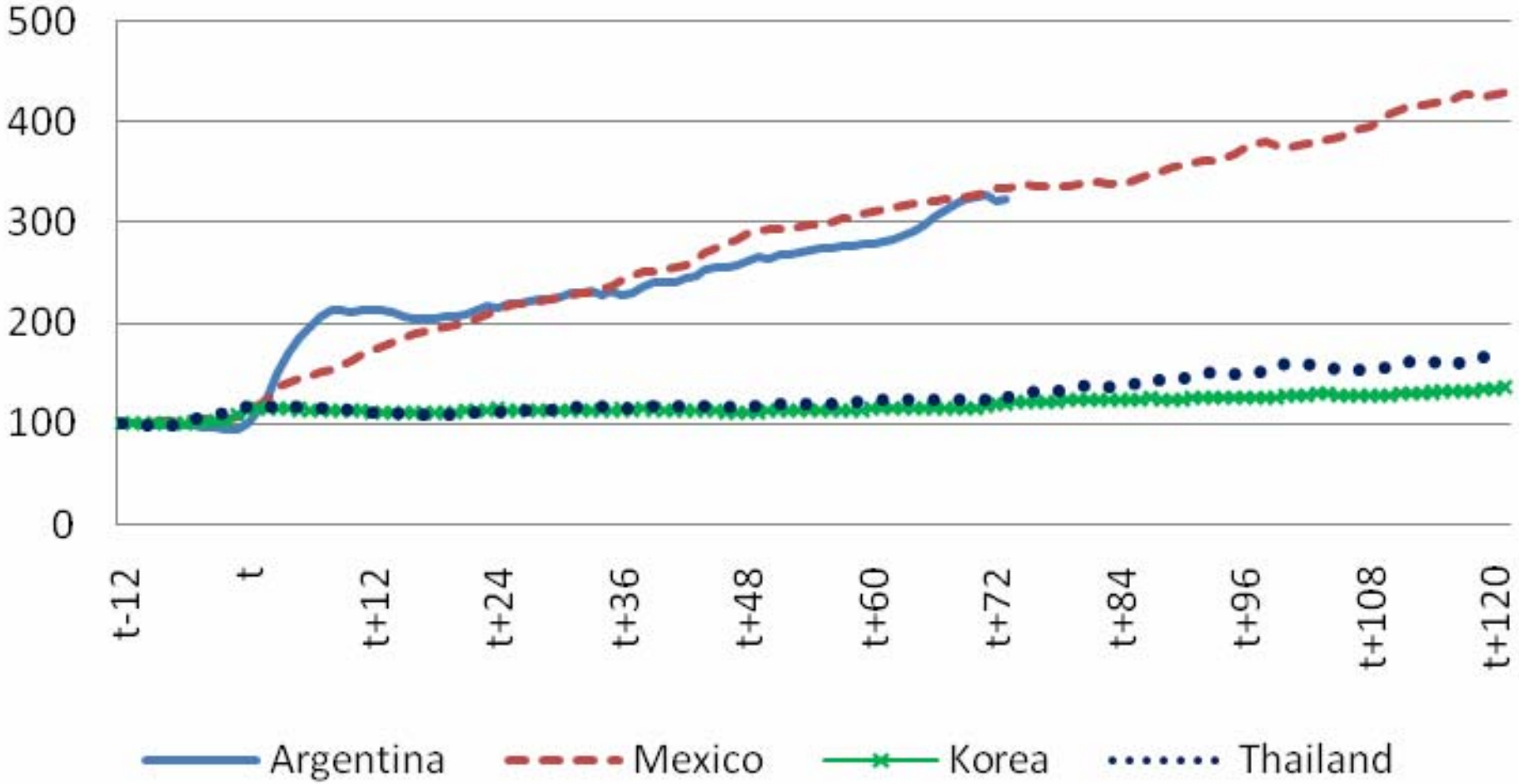
Source: Parapiboon *(2008)*

Normalized M1



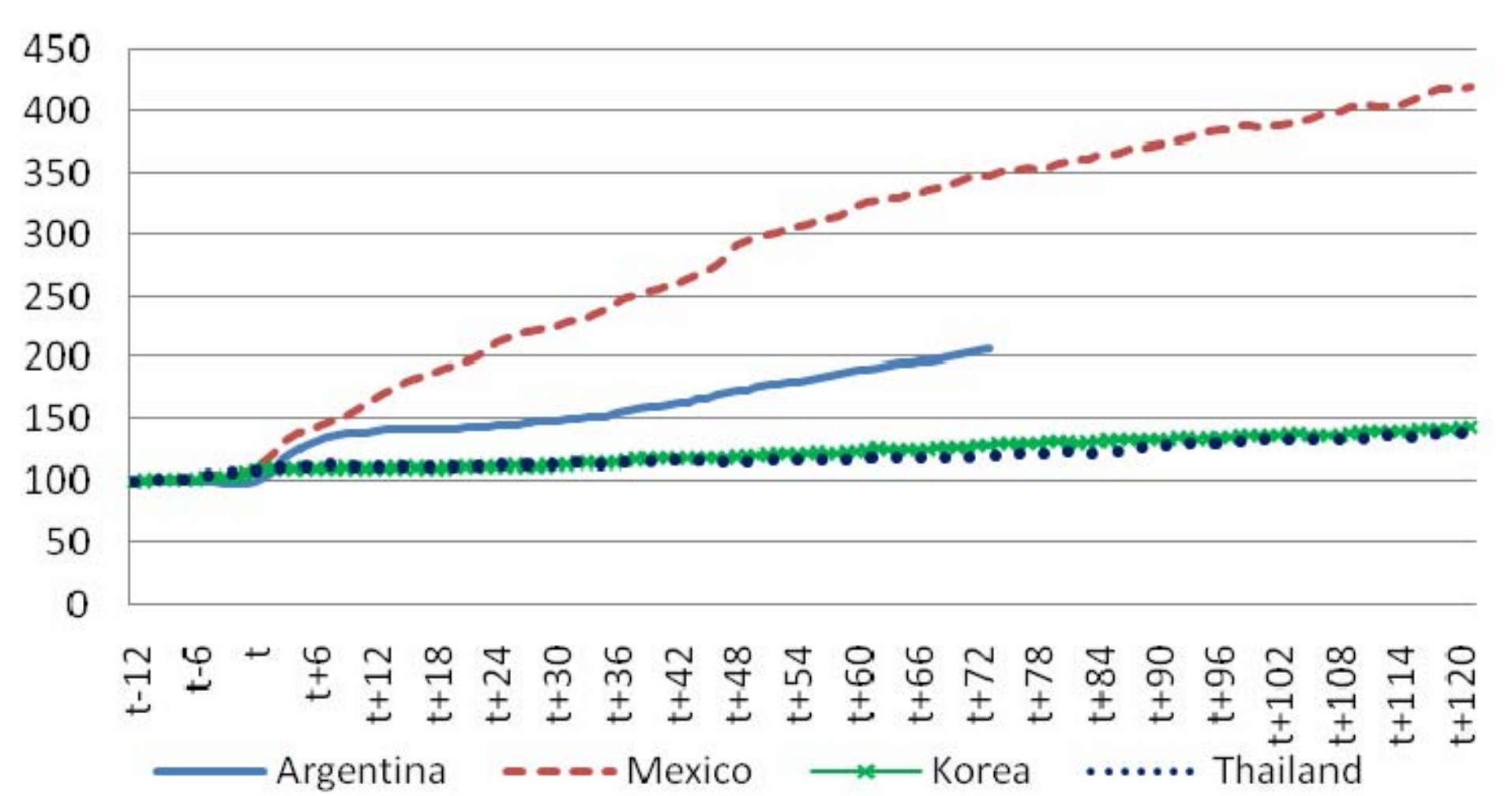
Source: Parapiboon *(2008)*

Wholesale Price Index



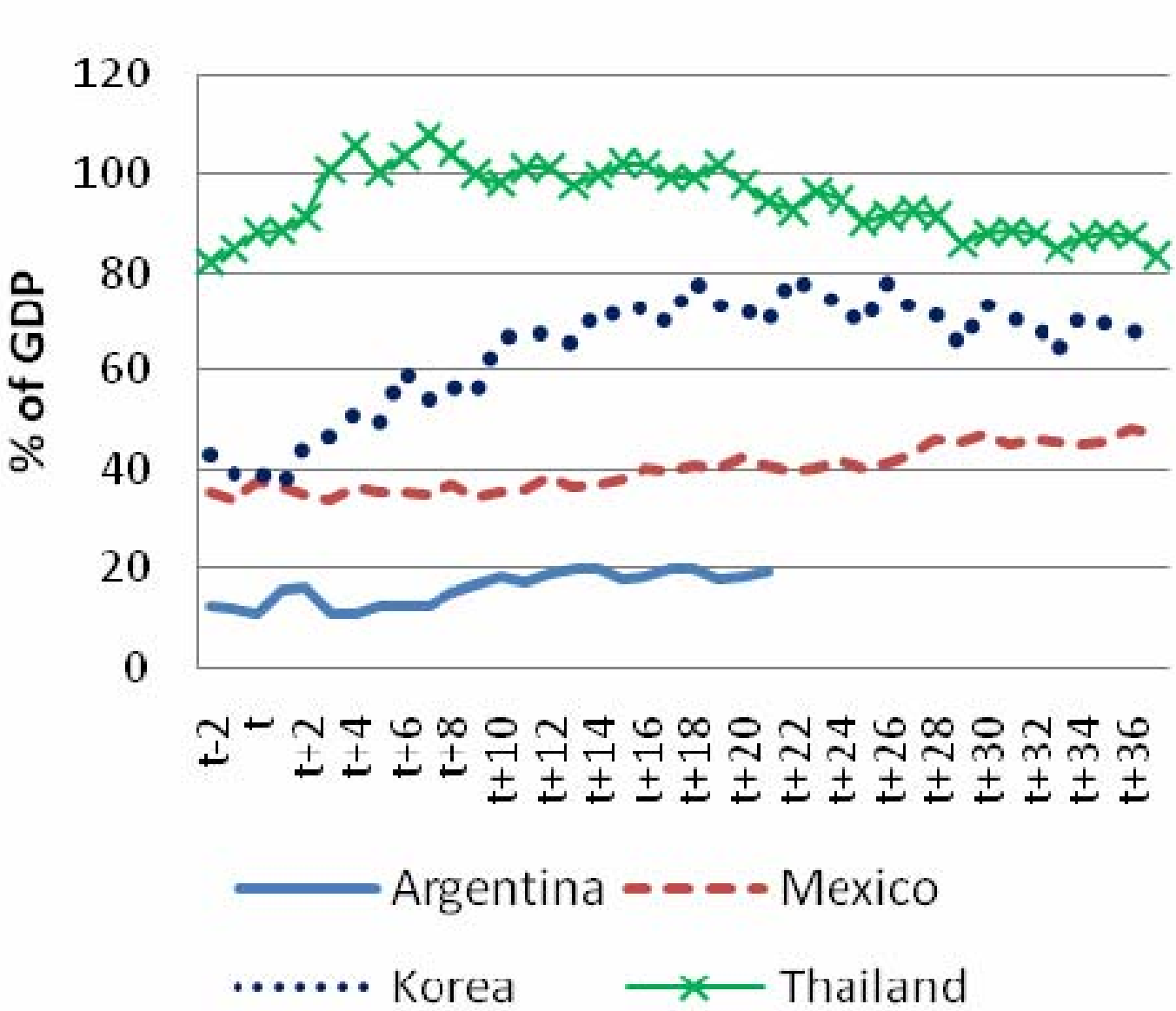
Source: Parapiboon *(2008)*

Consumer Price Index



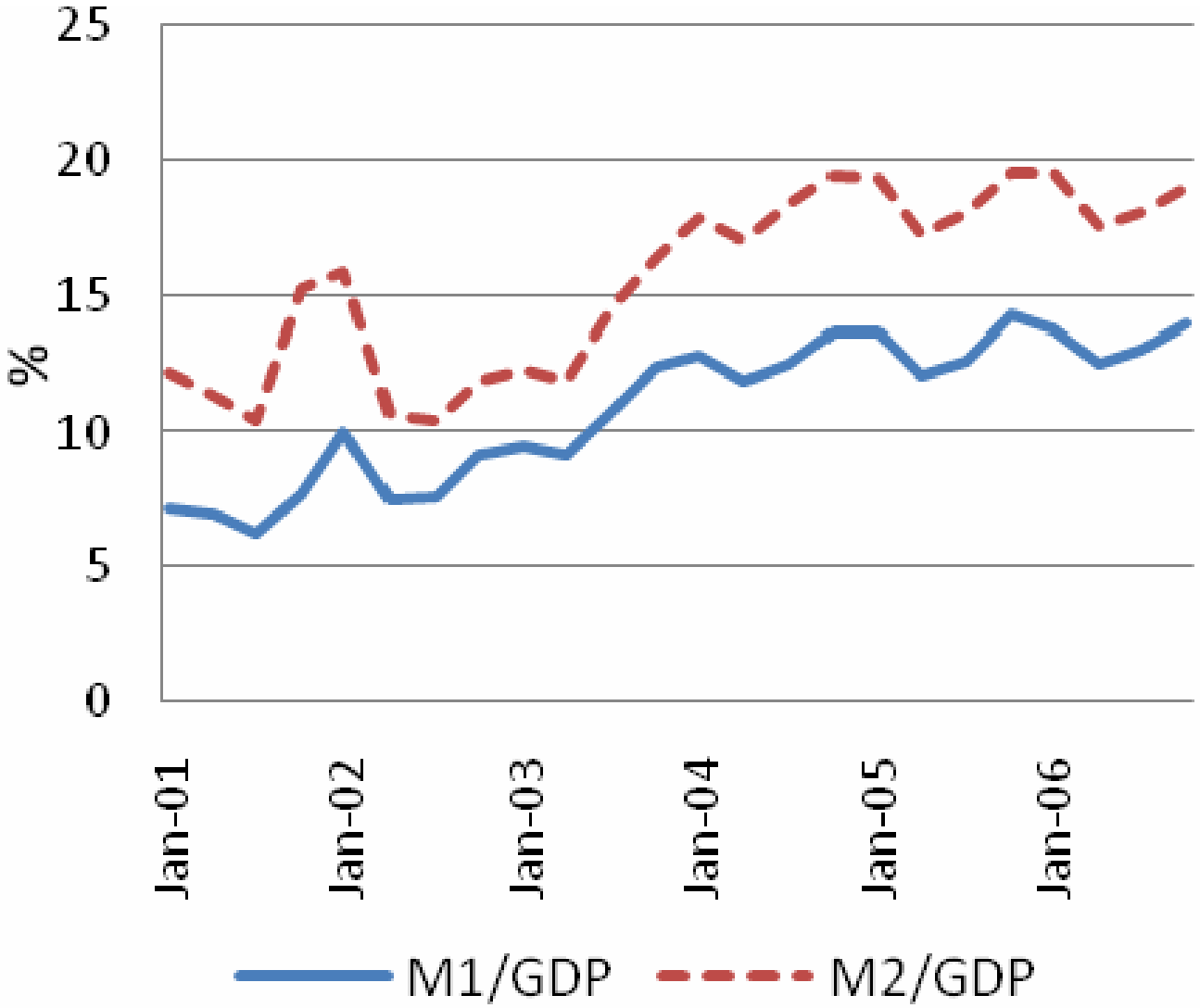
Source: Parapiboon *(2008)*

M2/GDP



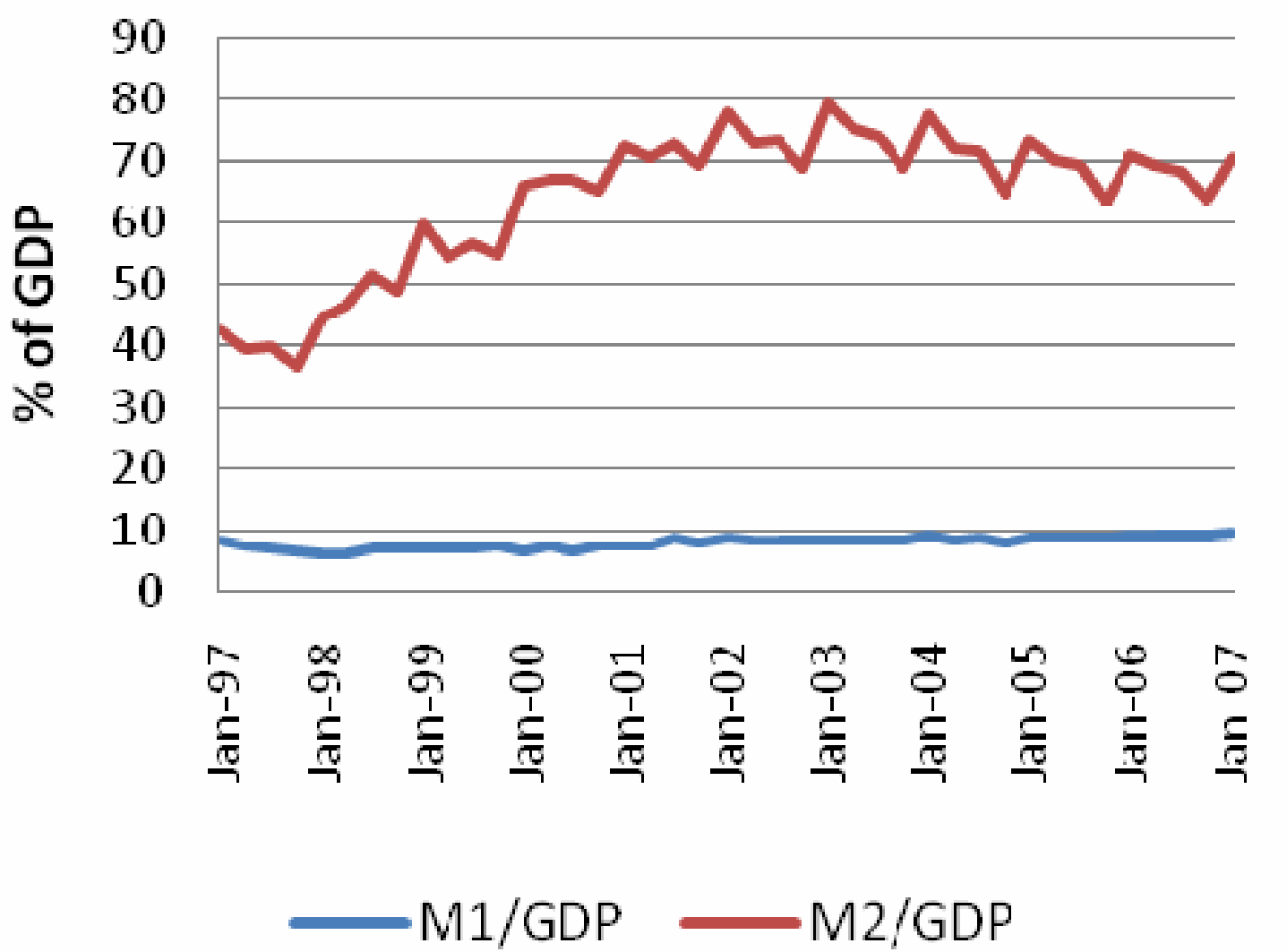
Source: Parapiboon *(2008)*

Argentina's M1/GDP and M2/GDP



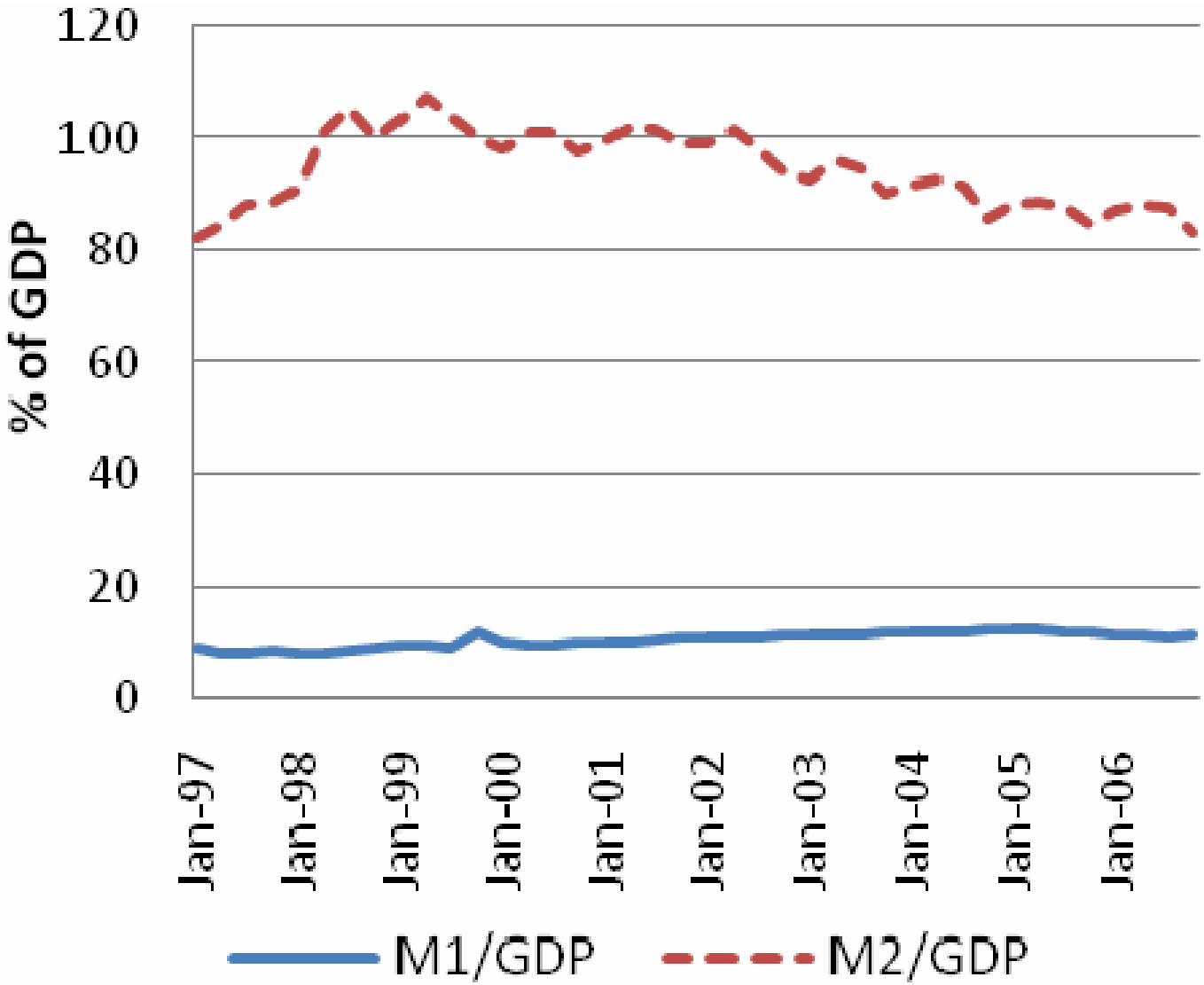
Source: Parapiboon *(2008)*

Korea's M1/GDP and M2/GDP



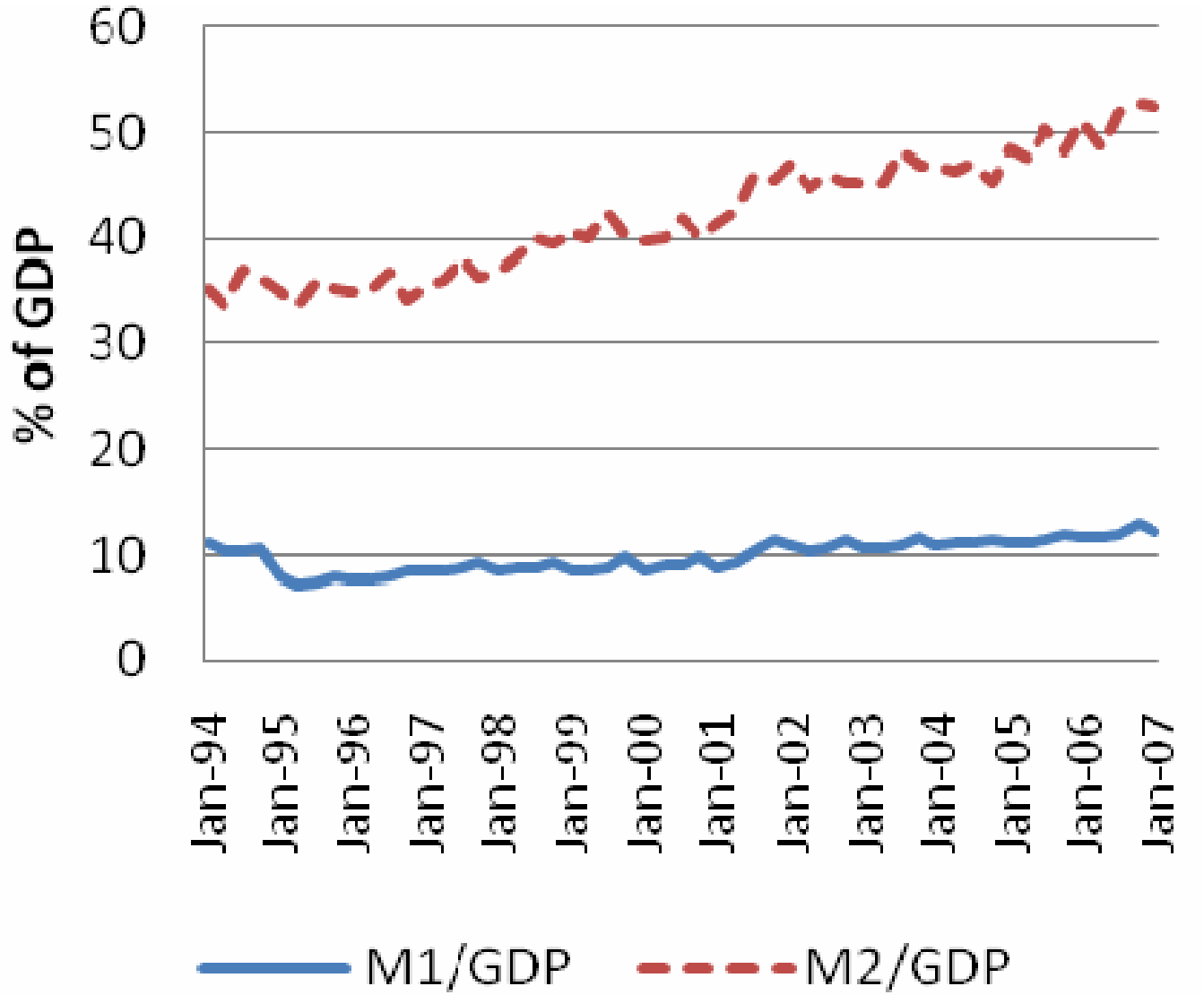
Source: Parapiboon *(2008)*

Thailand's M1/GDP and M2/GDP



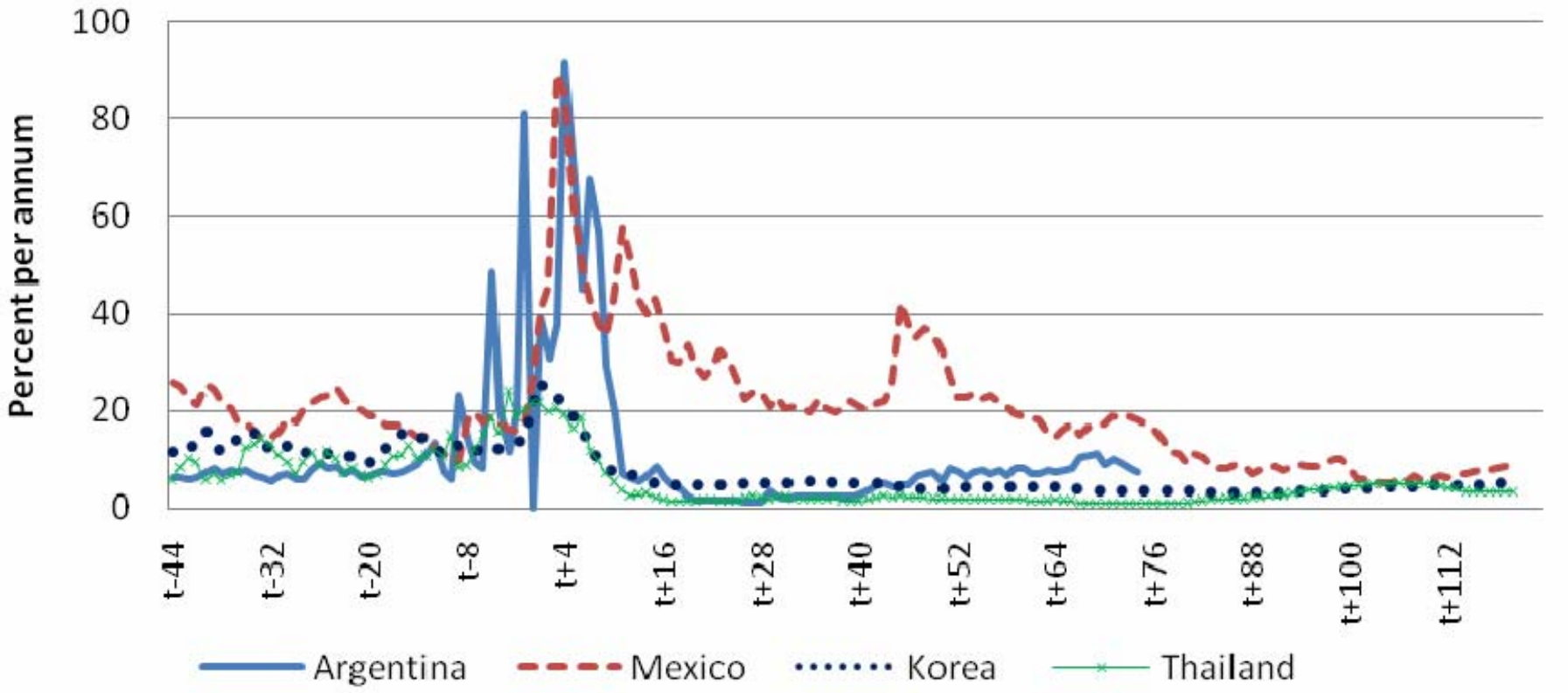
Source: Parapiboon *(2008)*

Mexico's M1/GDP and M2/GDP



Source: Parapiboon *(2008)*

Nominal Interest Rates



Source: Parapiboon *(2008)*

The Monetary Problem: The rate of post-crisis exchange appreciation

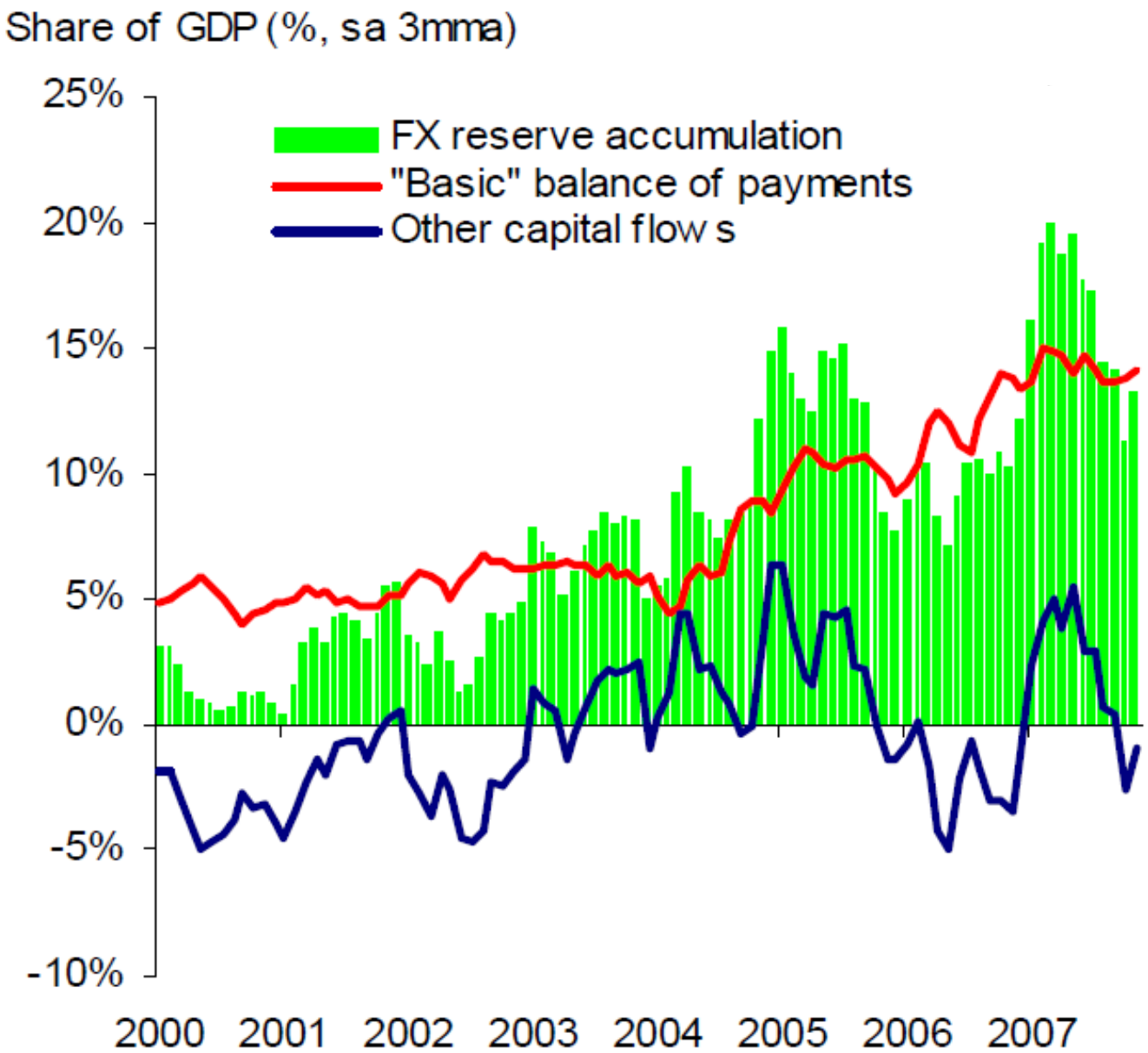
Exchange appreciation can be faster and more complete when:

- The stronger the improvement in the trade balance as in Korea, Thailand, and Argentina--but Mexico was problematic
- The stronger the improvement in domestic private credit expansion to revive domestic demand without depending so much on exports (Korea and Thailand). Argentina has particularly small M2/GDP
- Low nominal domestic interest rates to repel hot money inflows in anticipation of appreciation (Korea and Thailand). Mexico with a problem of higher nominal interest rates, reflecting residual domestic Inflation, being inconsistent with appreciation.
- The rate of appreciation should be randomized to be somewhat unpredictable—unlike Argentina's trap and China's current predictably ever-higher renminbi

China's Exchange Rate Dilemma

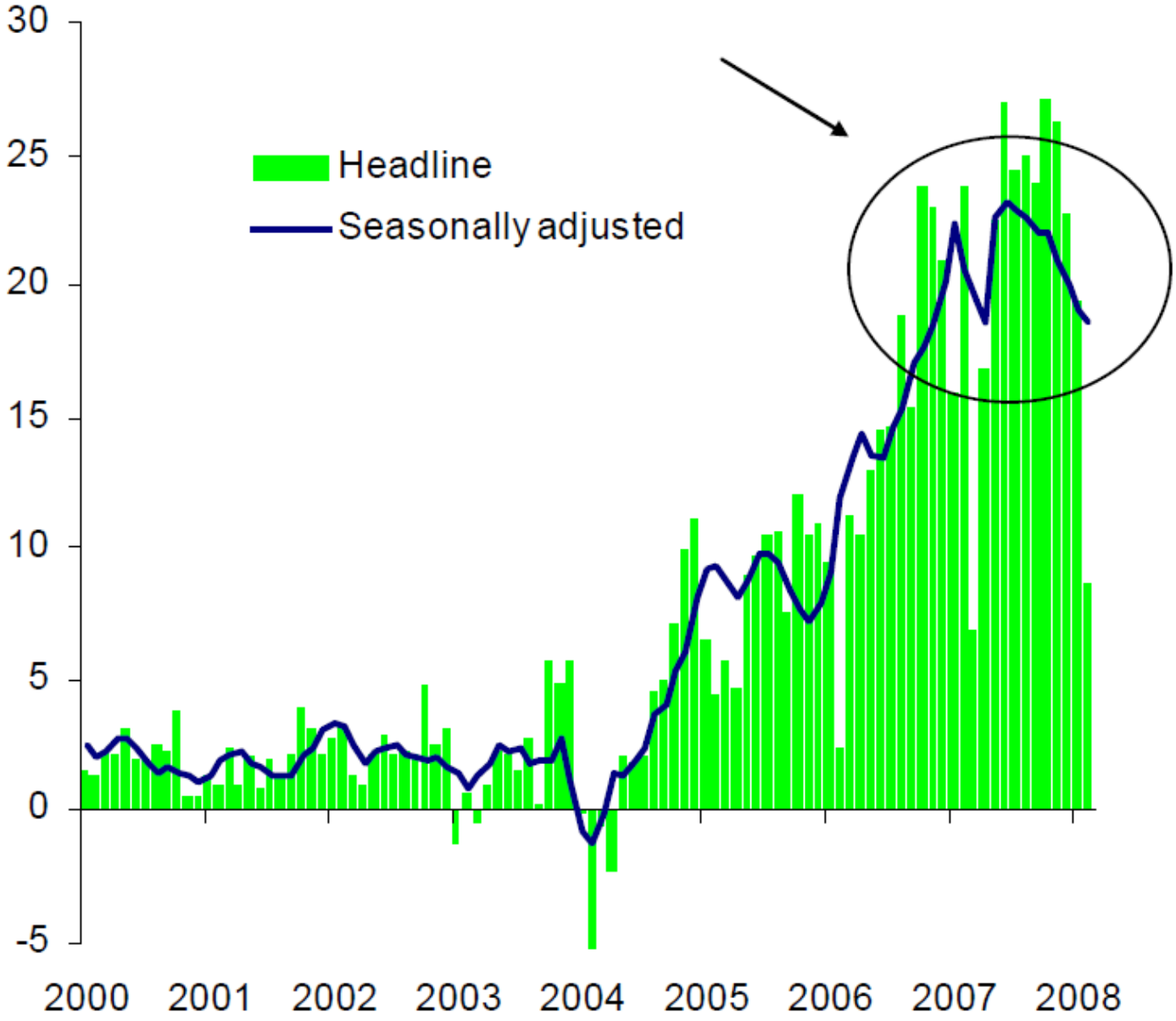
- U.S. arm twisting to appreciate RMB
- China begins slow appreciation in July 2005
- When still modest (3 to 4 percent per year) monetary control still possible in 2005-06 with low interest rates and sterilization
- PBC loses monetary control in 2007-08 as appreciation speeds up and U.S. Fed cuts interest rates
- Now, no private capital outflows to finance trade surplus and huge hot money inflows
- To "fight: inflation, China raises interest rates above U.S. levels: hot money inflows even greater so China loses monetary control.

Reserve growth by source



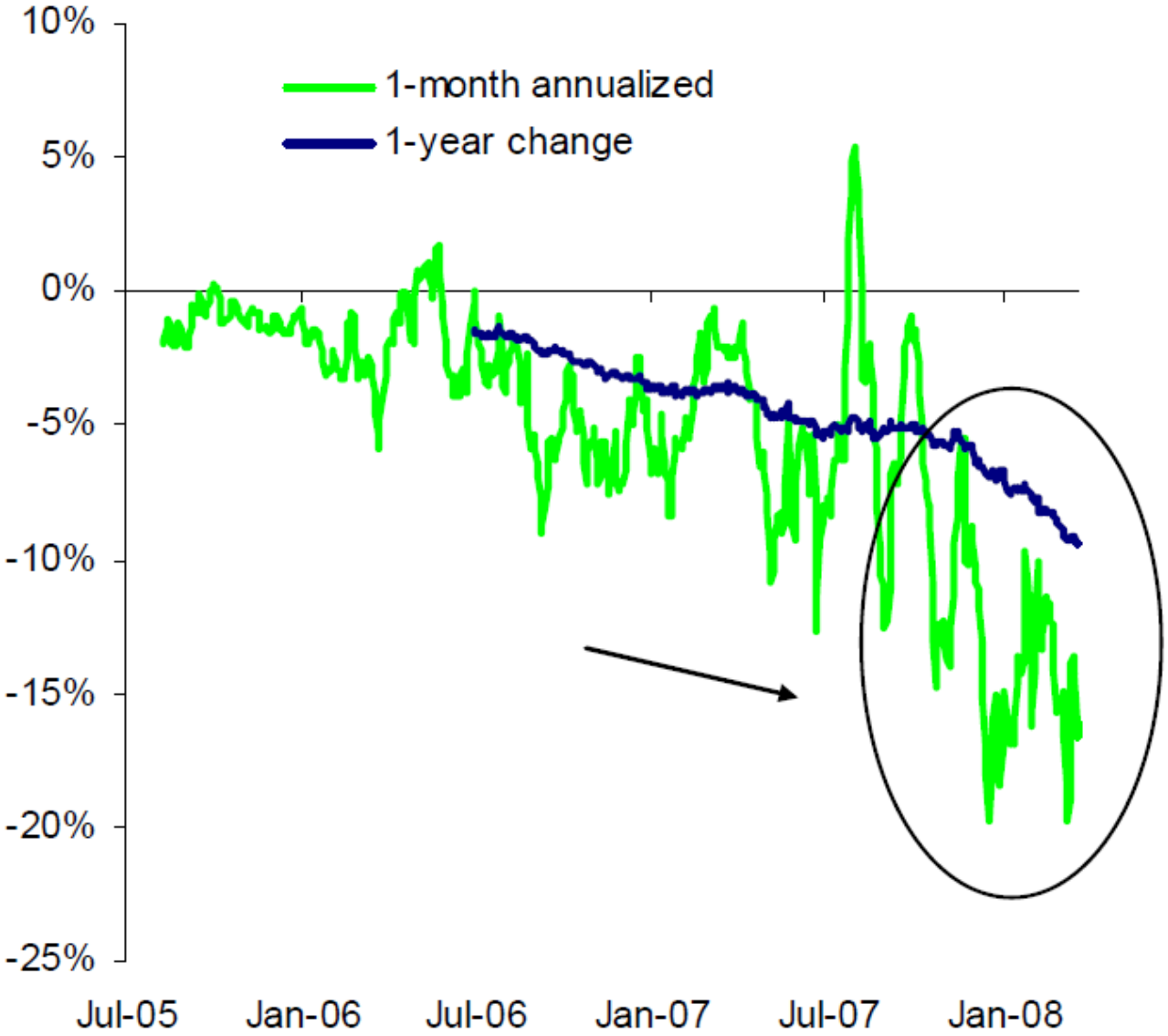
Source: UBS

China's trade surplus



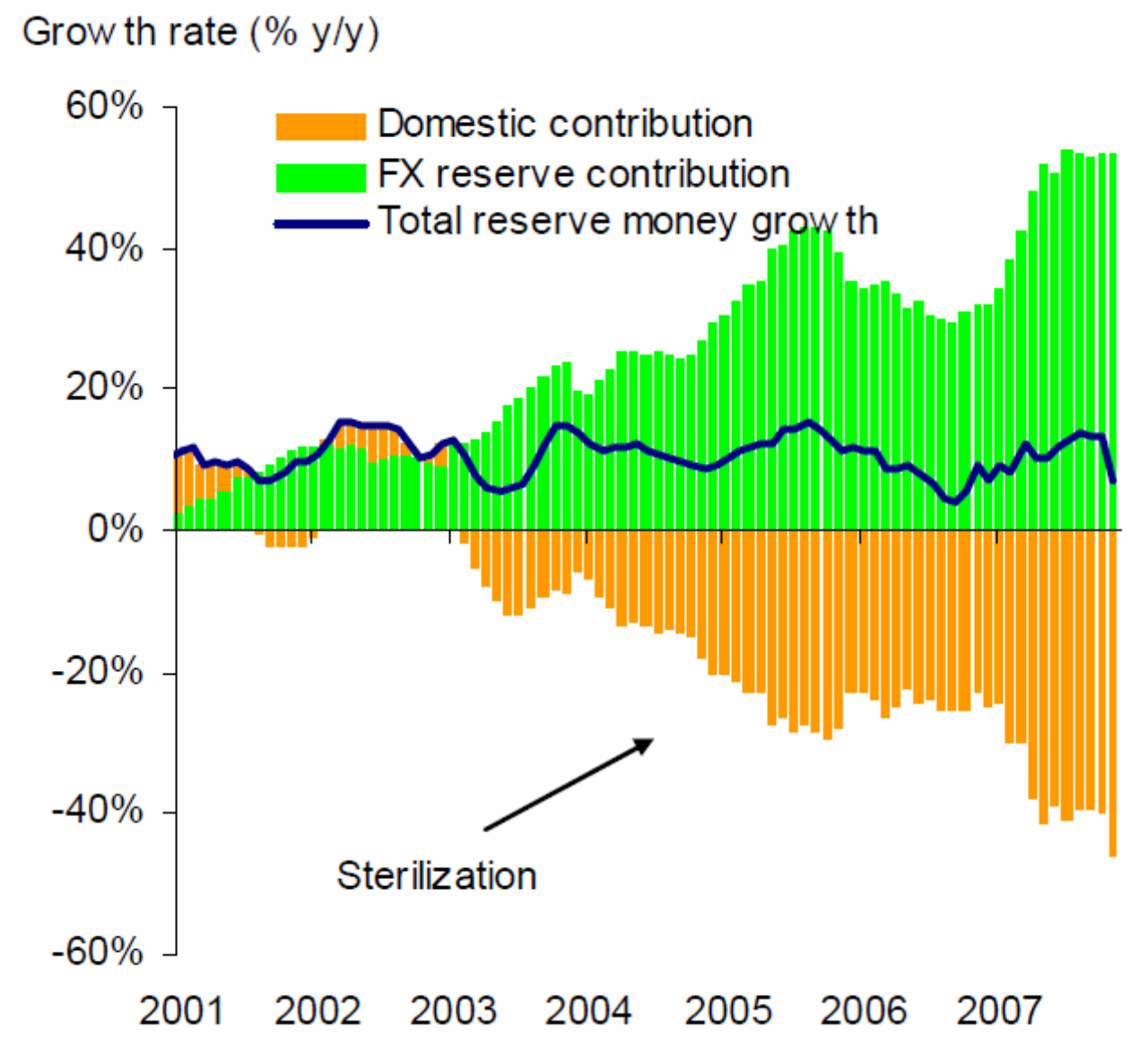
Source: *UBS*

Sequential and annual appreciation rates of RMB



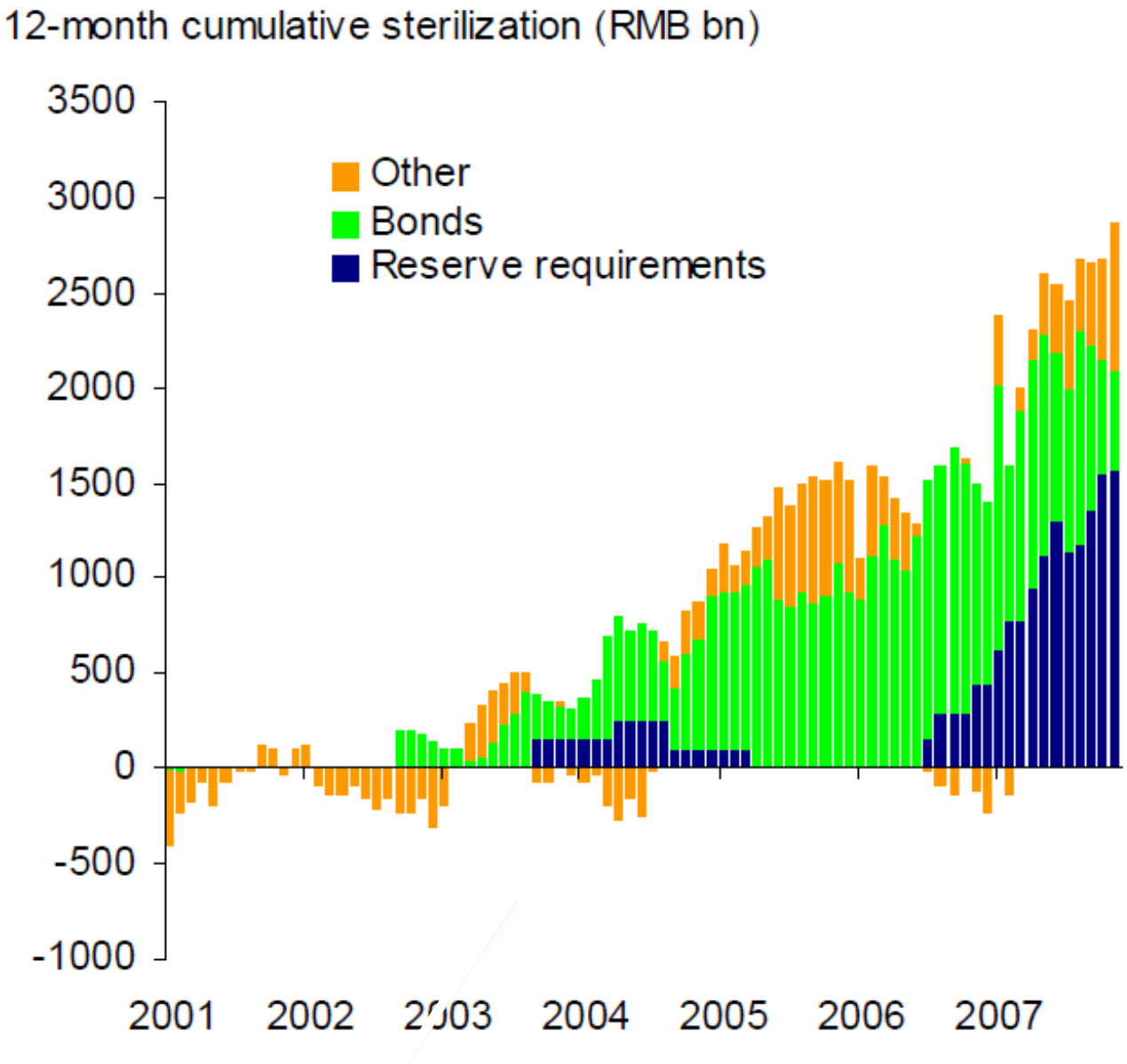
Source: *UBS*

Sterilization Operations



Source: UBS

Sterilization by components



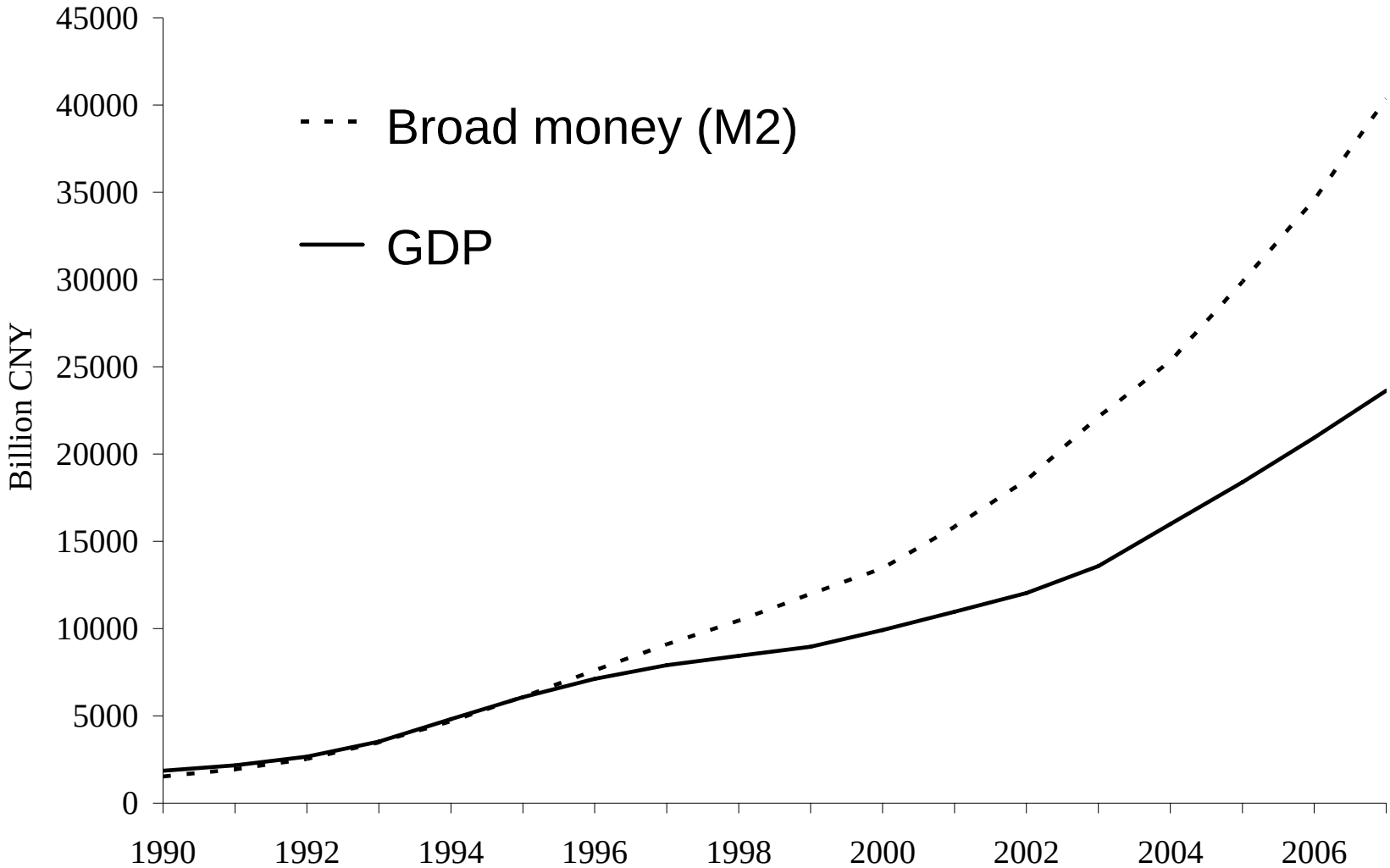
Source: UBS

Foreign Reserve Holdings and Base Money of the PBC
(1990-2007)

	Reserves	Base Money	Reserves/ Base Money	ΔReserves	Δ Base Money	ΔReserves/ Δ Base Money
1990	82.0	638.7	12.8%	41.5	147.6	28.1%
1992	133.0	922.8	14.4%	-6.9	129.7	-5.3%
1994	445.1	1721.8	25.9%	290.2	407.1	71.3%
1996	956.2	2688.9	35.6%	289.3	612.9	47.2%
1998	1376.2	3133.5	43.9%	31.0	70.3	44.1%
2000	1558.3	3649.2	42.7%	72.5	287.2	25.3%
2002	2324.3	4513.8	51.5%	338.3	528.7	64.0%
2004	4696.0	5885.6	79.8%	1581.8	601.5	263.0%
2006	8577.3	7775.8	110.3%	2233.3	1341.5	166.5%
2007	12217.1	9243.3	132.2%	3639.8	1467.5	248.0%

Source: *IFS, WEO; OECD. Billion CNY.*

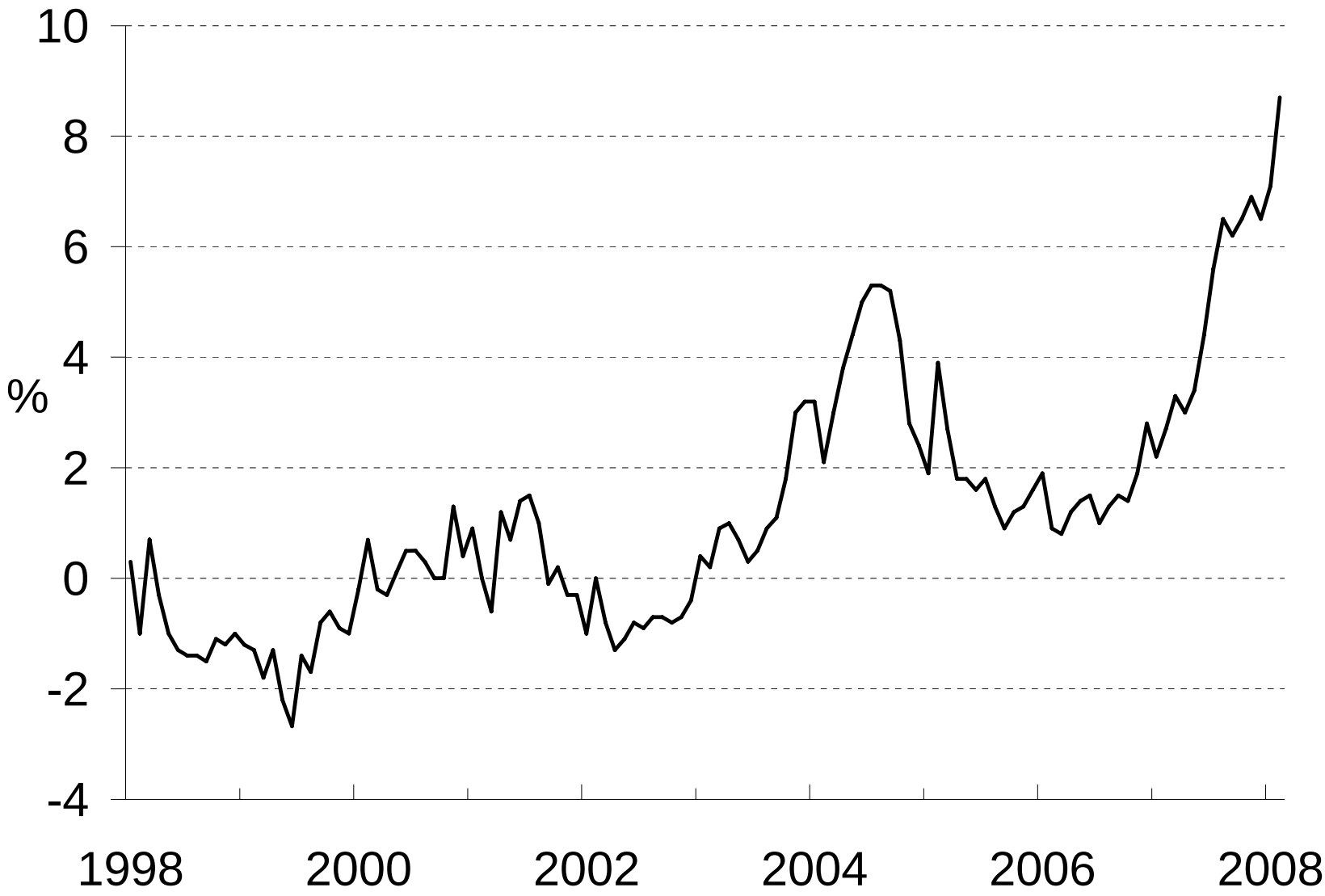
Broad Money (M2) and Nominal GDP
(1990-2007)



Source: *OECD, WEO*

China's Inflation

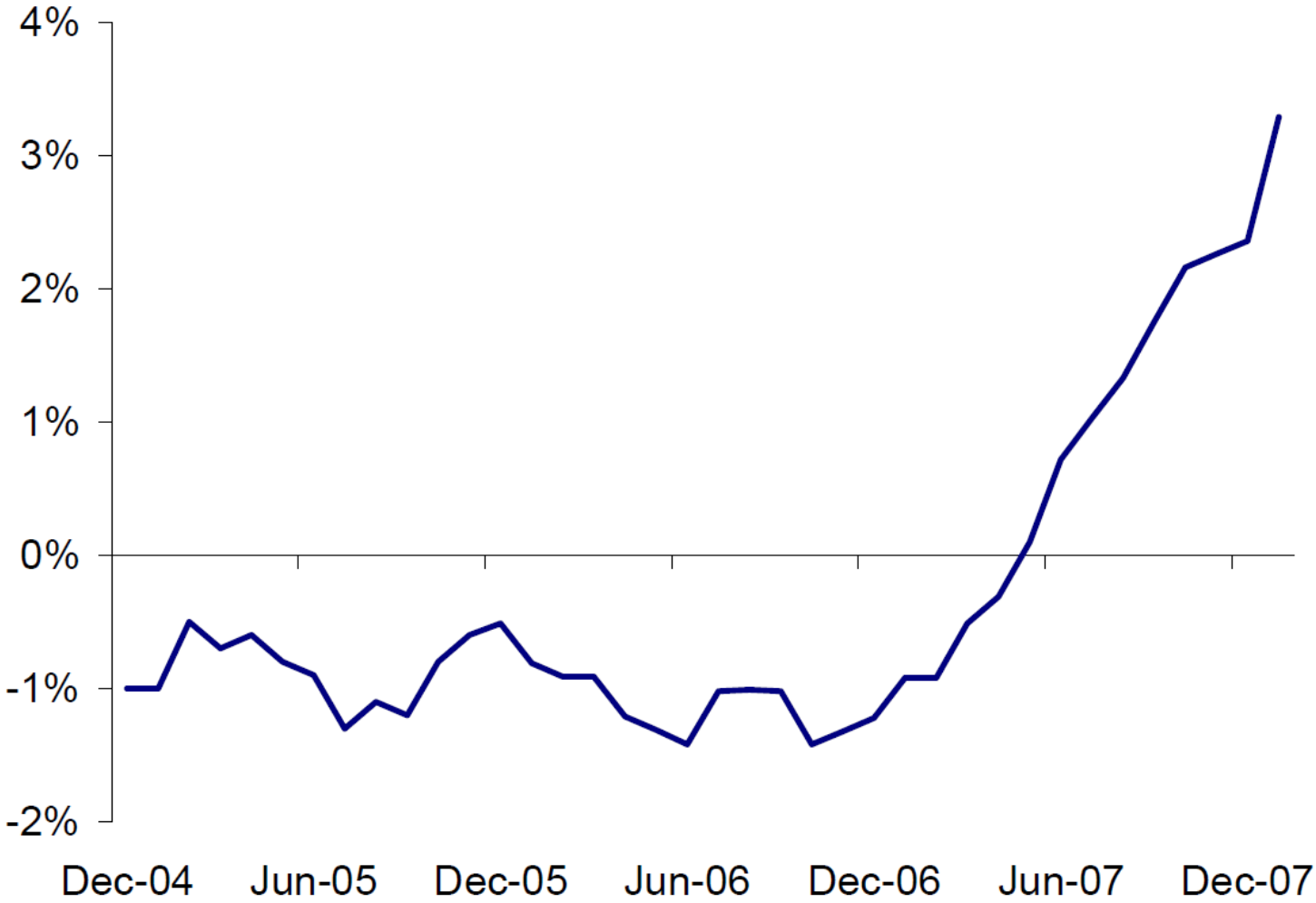
(CPI,YoY %)



Source: IMF and Financial Times

US Price Inflation in Imports from China

(%yoy)



Source: Deutsche Bank

II. China's Monetary cum Exchange Rate Strategy in 2008: Implications for the United States

- With conflicted virtue from the currency mismatch, floating the RMB against the dollar would be a big mistake--leading to an upward spiral in China's exchange rate, eventual deflation, and a slowdown in wage growth.

- Re-establishing credible stability in the yuan/dollar rate is necessary to
  (1) regain near-term monetary control and curb near-term inflation in China
  (2) restore normal international financial intermediation with China's private (non-state) sector investing directly in private U.S. financial markets thus helping to relax the U.S. credit crunch. No need for SWFs.
  (3) Return more U.S. Treasury bonds to private circulation thus overcoming their "shortage" currently impairing interbank credit markets in the U.S.
  (4) Reduce or eliminate imported inflation in the dollar prices of Chinese (and other Asian) goods sold in the United States

- *After* monetary cum exchange rate stabilization, China should consider reducing its current account (net saving) surplus by
  (1) reducing taxes
  (2) increasing government spending
  (3) paying higher dividends from SOEs.

Why is there a “shortage” of U.S.Treasury bonds in American and some foreign financial markets?

Wednesday, March 12,2008 THE WALL STREET JOURNAL.

Dow Rallies 416.66 Points;

Best Day in Five Years, But Caution Remains; U.S. Aid Near $1 Trillion

BY SERENA NG
AND PETER A. MCKAY

Stocks chalked up their biggest one-day gain in five years after the Federal Reserve applied a new dose of emergency medicine to heal convulsing credit markets.

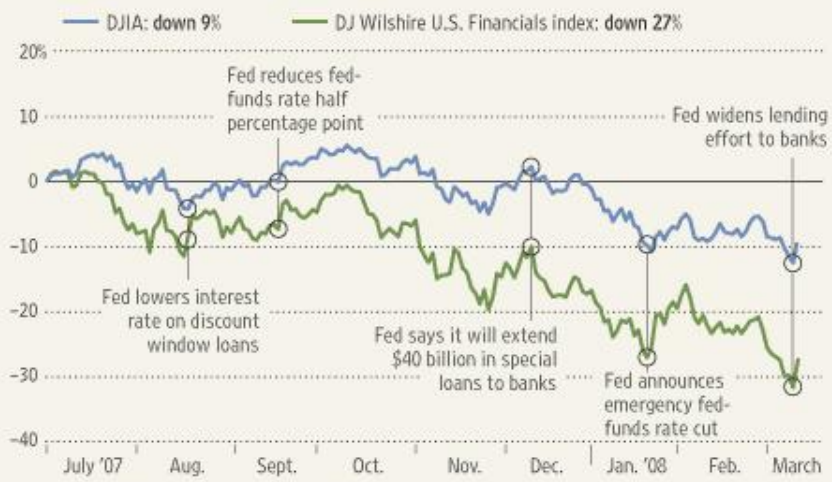
The Fed unveiled a broadened securities-lending program for banks and bond dealers, offering to lend them as much as $200 billion of much-sought Treasurys from its own portfolio for as many as 28 days in return for a variety of collateral, including bonds backed by mortgages that aren't guaranteed by government-sponsored Fannie Mae and Freddie Mac.

The Dow Jones Industrial Average rocketed 416.66 points, or 3.6%, to 12156.81, its gains accelerating toward the end of the session. Twenty-nine of its 30 components posted gains, including jumps of more than 9% in Citigroup and American Express. (Boeing was the one decliner.)

Bloomberg News/Landov

The Fed Makes Its Point

Performance of the Dow Jones Industrial Average and financial stocks since July, and key actions of **Ben Bernanke** (above) and the Federal Reserve.



Sources: WSJ Market Data Group; Dow Jones Indexes

Table 1: The dollar proportion of foreign reserves

Year	Total Foreign Reserves (excl.U.S.)	Foreign Reserves in U.S dollars	Foreign Reserves in U.S dollars (distributing unallocated amount proportionally)	Proportion of U.S dollar in total foreign reserves
1995	1,399	610	862	62%
1996	1,584	760	999	63%
1997	1,649	829	1,082	66%
1998	1,687	889	1,149	68%
1999	1,822	979	1,256	69%
2000	1,966	1,079	1,372	70%
2001	2,088	1,122	1,462	70%
2002	2,457	1,204	1,608	65%
2003	3,079	1,464	1,961	64%
2004	3,791	1,747	2,416	64%
2005	4,190	1,898	2,721	65%
2006	5,036	2,167	3,223	64%
2007	6,350	2,445	3,768	59%

Source: FRB,IMF and World Bank Beijing. All values in billions of USD.

Table 2: The U.S. TBs held by foreigners and foreign governments and Chinese official reserves

Year	Total Liabilities in Treasury Securities	Treasury Securities held by the rest of the world	Foreign Official Assets Held at Federal Reserve Banks (Custodial)	Total Official Foreign Exchange Reserves of China	Official Foreign Exchange Reserves of China, dollar component (1)
1995	3,609	817	522	74	43
1996	3,755	1,040	638	105	65
1997	3,778	1,153	621	140	91
1998	3,724	1,166	608	145	100
1999	3,653	1,058	632	155	110
2000	3,358	1,021	594	166	118
2001	3,353	1,095	593	212	152
2002	3,610	1,285	678	286	192
2003	4,008	1,514	845	403	266
2004	4,371	1,814	1,041	610	402
2005	4,678	1,984	1,069	819	548
2006	4,862	2,115	1,134	1066	698
2007	5,099	2,324	1,192	1529	975

Source: FRB. All values in billions of USD

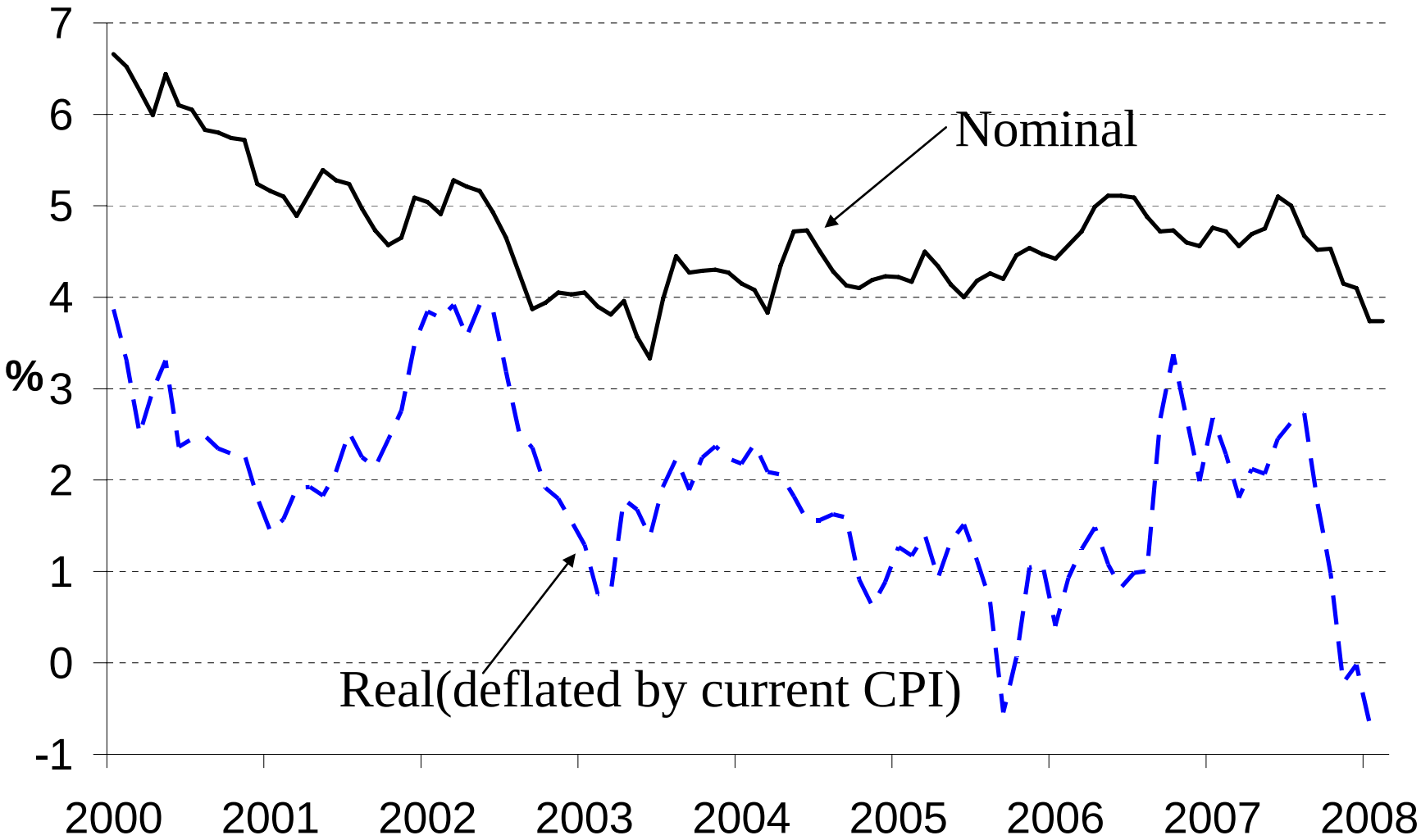
(1) The dollar component is calculated under assumption that the dollar share of Chinese reserves are the same with that of rest of the world.

Major Foreign Holders Of Treasury Securities and their Net Purchases in 2007 (in billions of dollars)

Country	2008 Feb	2008 Jan	2007 Dec	2006 Dec	2007 Net purchase
Japan	587	587	581	623	-42
China	487	493	478	397	81
United Kingdom	181	160	157	93	65
Brazil	147	142	130	52	78
Oil Exporters	146	141	138	110	28
Others	889	880	869	828	41
Total	2436	2403	2353	2103	250
				U.S. Fiscal Deficit in 2007	237

Source: *U.S Treasury*

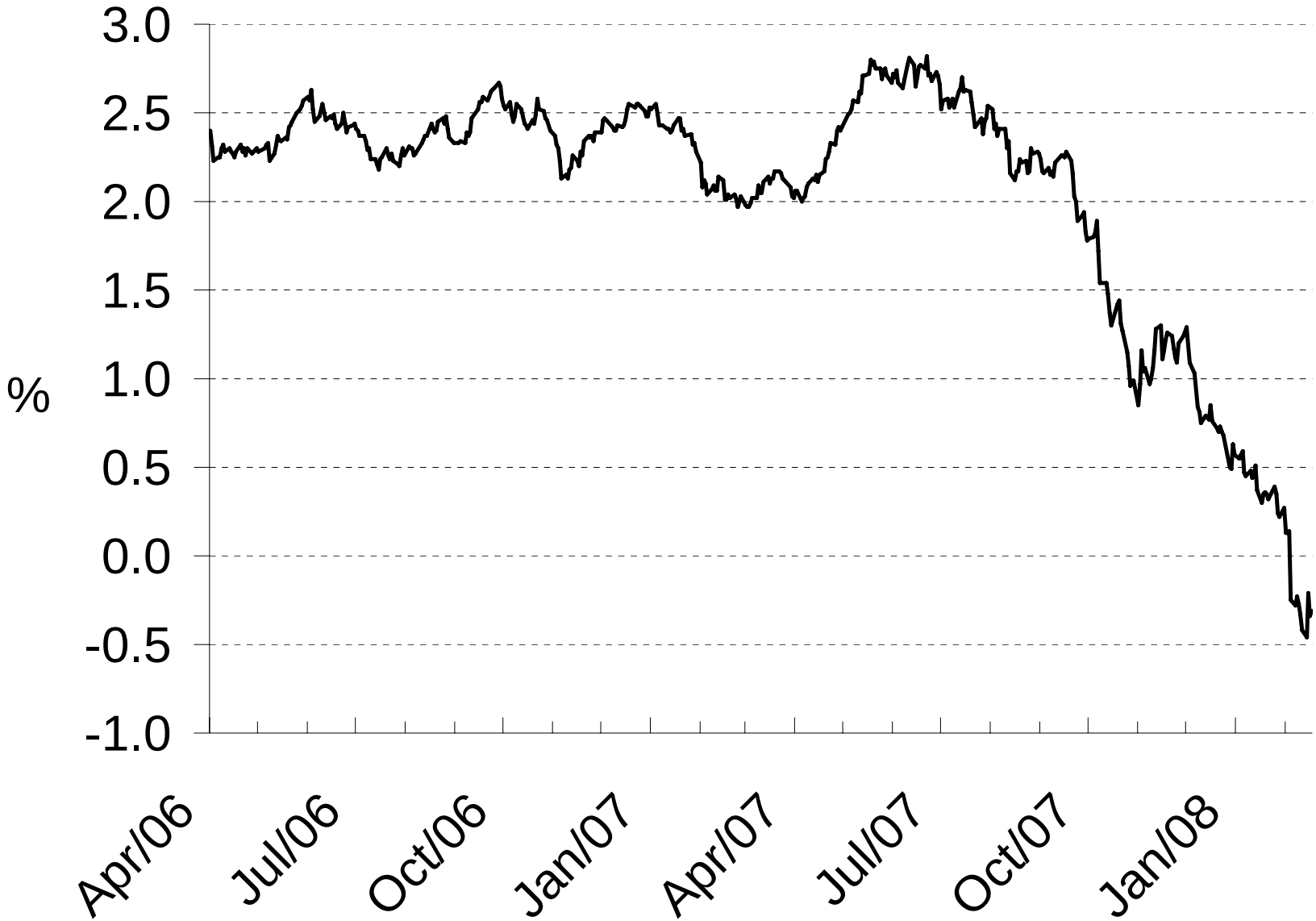
Interest Rates on 10-Year U.S Treasury Bonds



Source: FRB

Negative TIPS Yields

(5-Year Treasury Inflation-Indexed Note, Due 4/15/2011)



Source: FRB

III. Relaxing the U.S. Credit Crunch by Following Bagehot's Rule

- Two essential Ingredients for halting capital flight from the U.S. leading to excess liquidity in ROW and worldwide inflation

  (1) stop slashing the federal funds rate and return to a more normal monetary policy of positive "real" interest rates

  (2) Cooperate with foreign governments to halt or reverse appreciations of the their currencies against the dollar

- Interim policies to unblock specific domestic credit markets are okay:

  -swapping of Treasury bonds for less safe private bonds

  -opening the Fed's discount window to borrowers with less than sterling collateral.

  - relaxing capital constraints on agency lending for housing

- **The Rule**: When faced with both an internal and an external drain, raise interest rates to prevent capital flight but lend freely at those high interest rates to impacted domestic markets.

  Walter Bagehot, *Lombard Street, 1873*