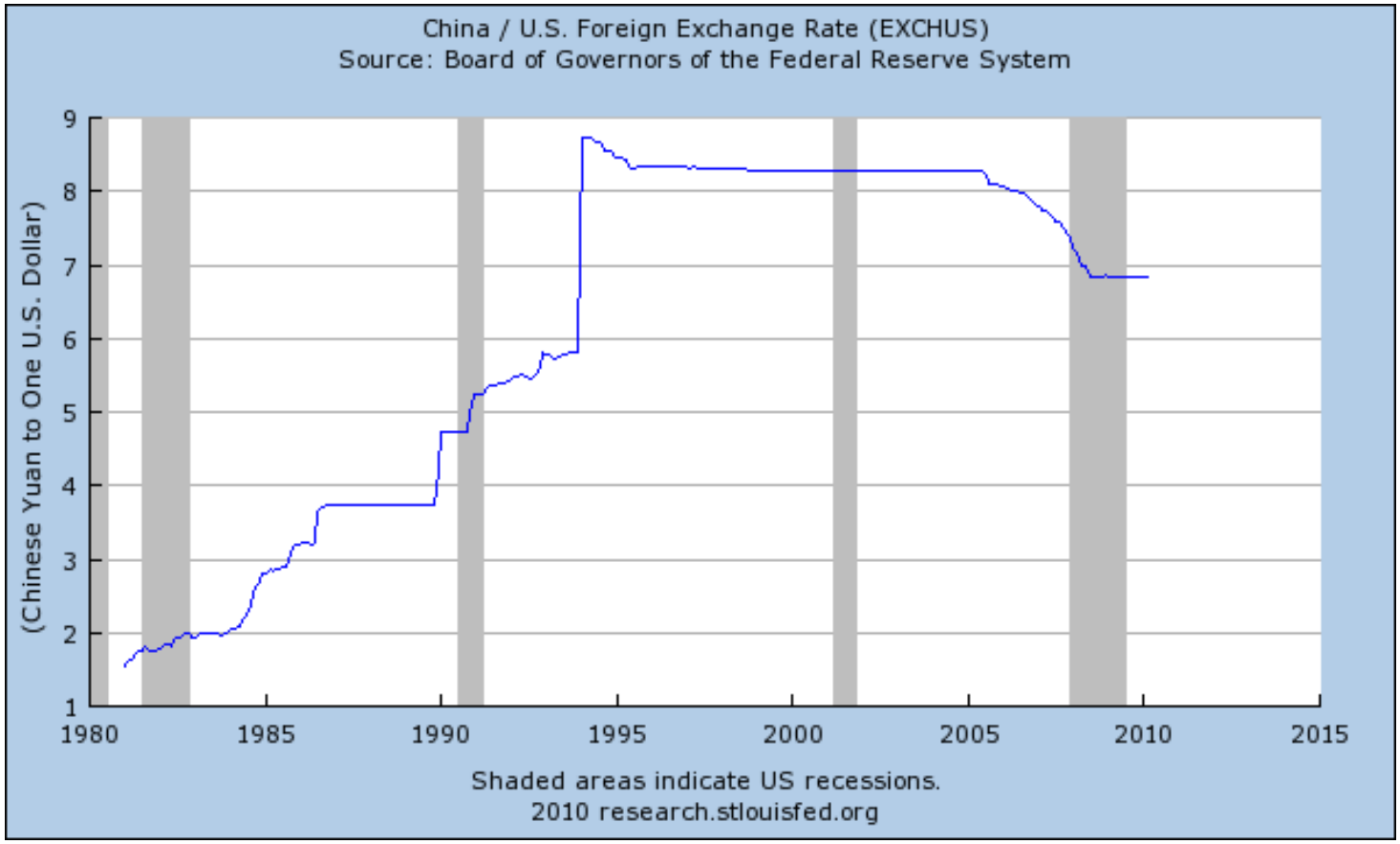
China’s Exchange Rate Policy

Exchange Rates, Trade, and Macroeconomics

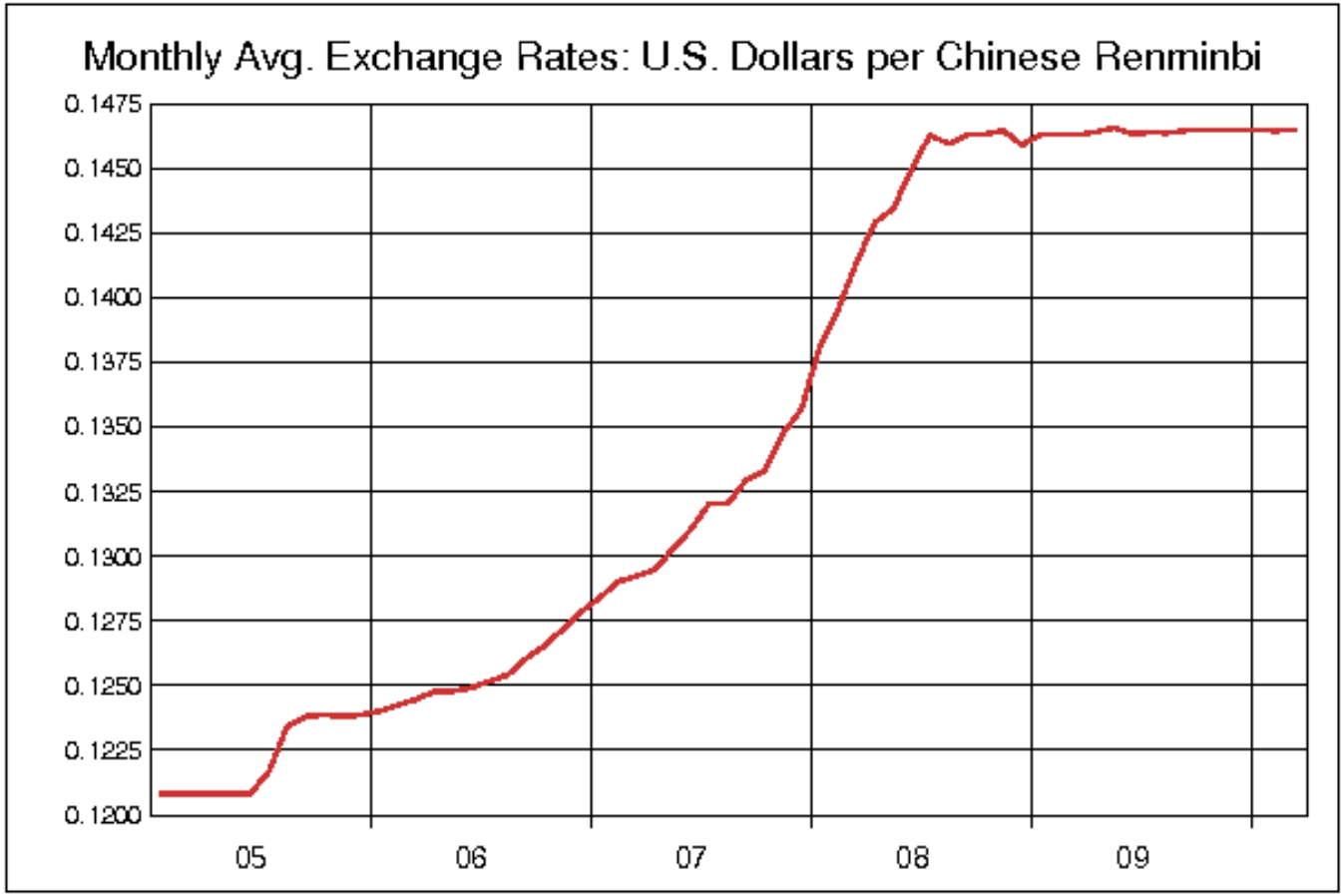
Interactions

- Exchange Rate: currently (March 2010) fixed against the US$
- China's Current Account: large surplus
- China's Money Supply: growing at about 20%
- Chinese Foreign Exchange Reserves: increasing
- Inflation: beginning to heat up in 2010

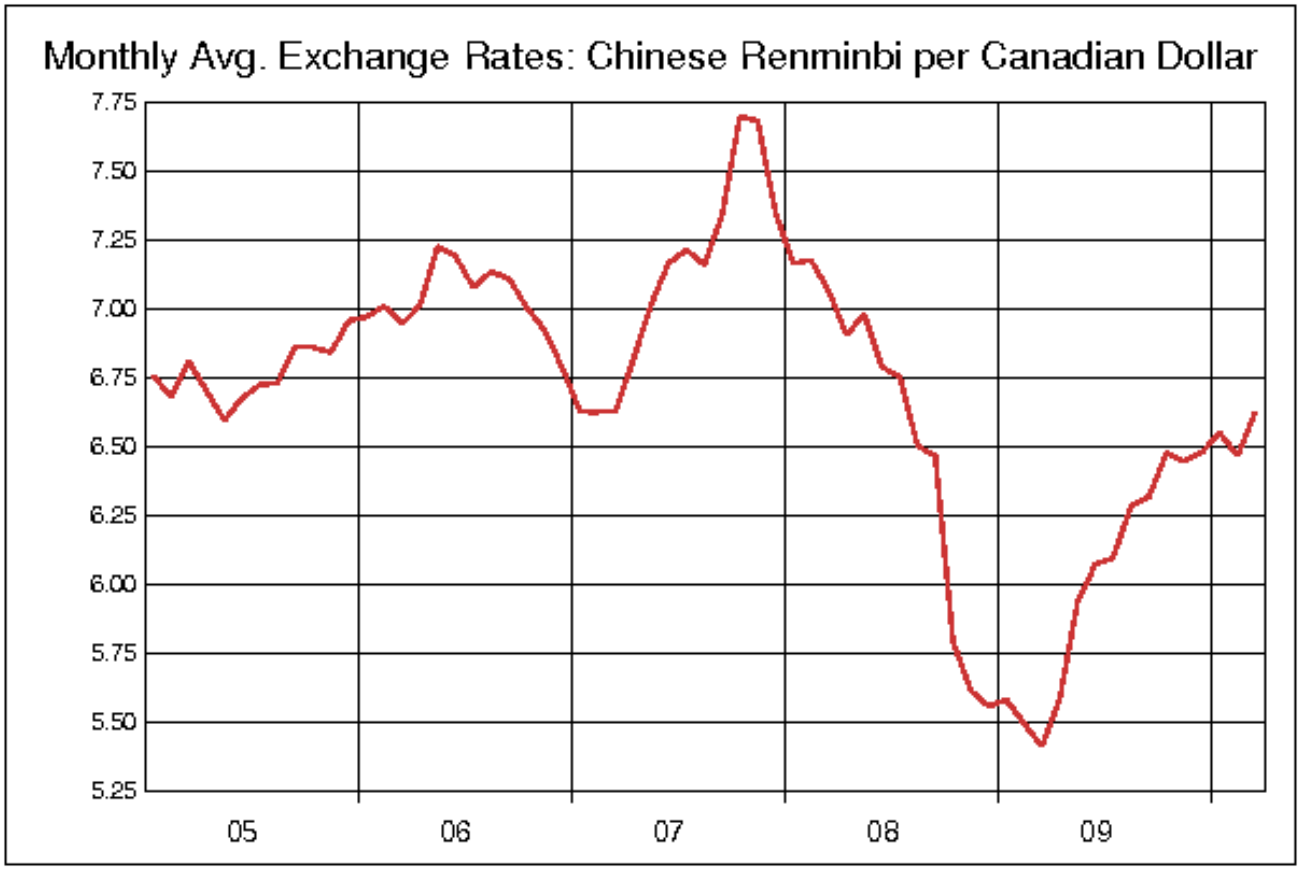
Chinese RMB – 1980-2010



US$/RMB - 2005-2010

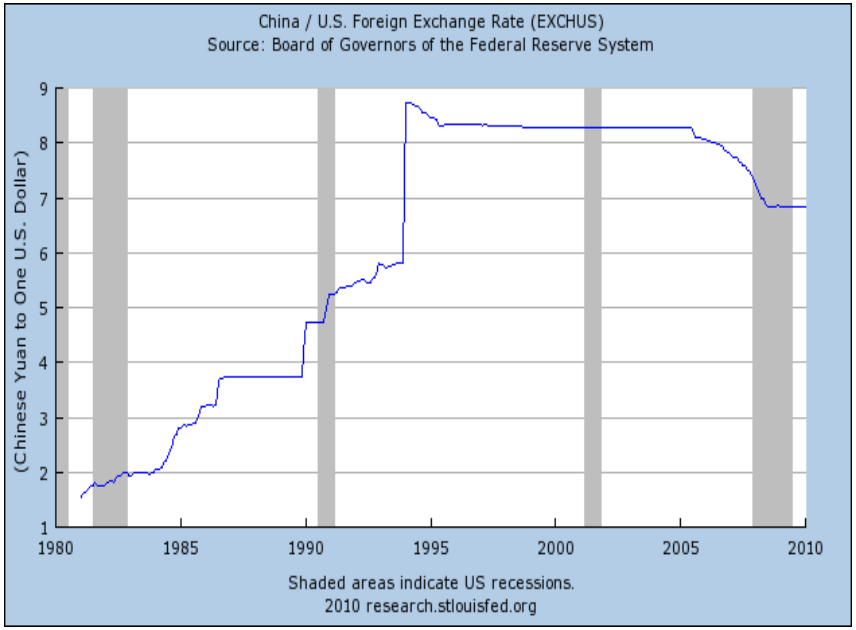


Chinese RMB/Euro - 2005-2010



The RMB in the 1980s
Overvalued and Gradual Appreciation

Like most other planned "socialist" economies, China's exchange rate was overvalued at the beginning of the reform. The over valued exchange rate subsidized the importation of capital goods needed for the economic plan. It also led to an excess demand for foreign currency, a rigid system of controls, limitations on who could legally hold foreign exchange, and a vibrant black market.

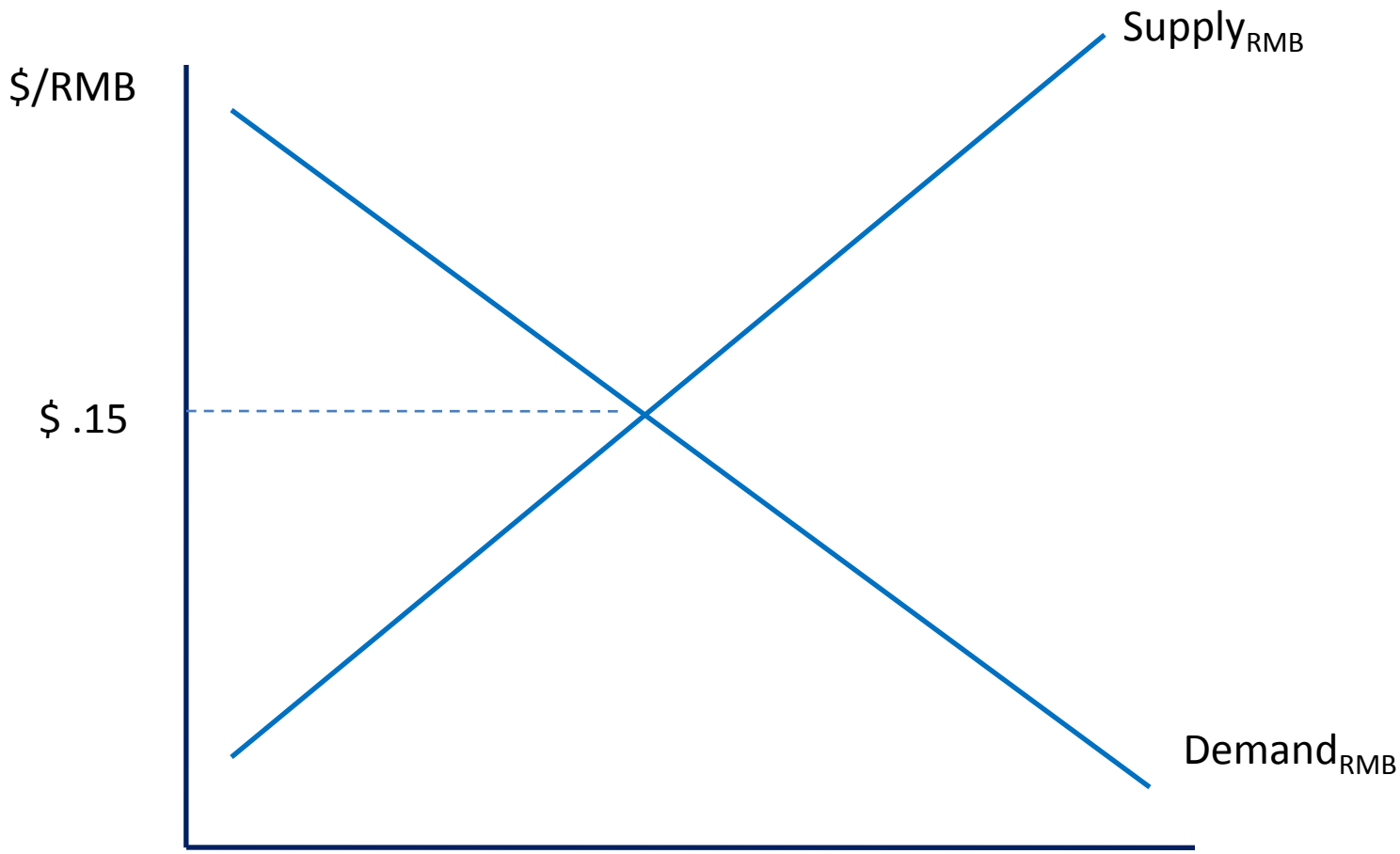


The RMB in the 1980s
Dual Currencies

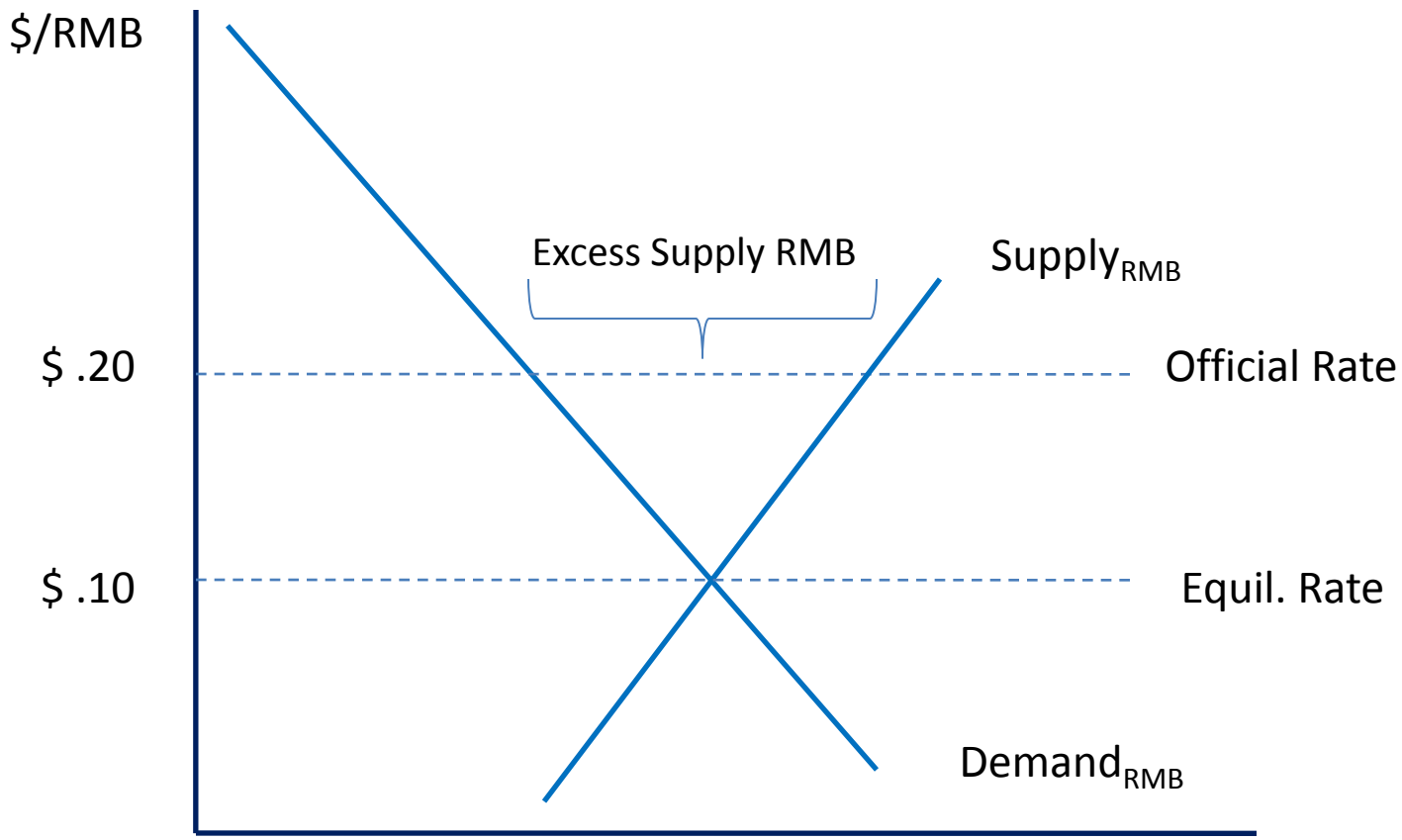
The RMB was not convertible and foreign currency could not be owned or traded by Chinese. The FEC was a domestic substitute for foreign. Officially the exchange rate was $1 = about 5FEC with no legal conversion to RMB

The domestic currency was not convertible (could not be exchanged for foreign currency. The black market rate was about $1= 10RMB)

Exchange Rate Market

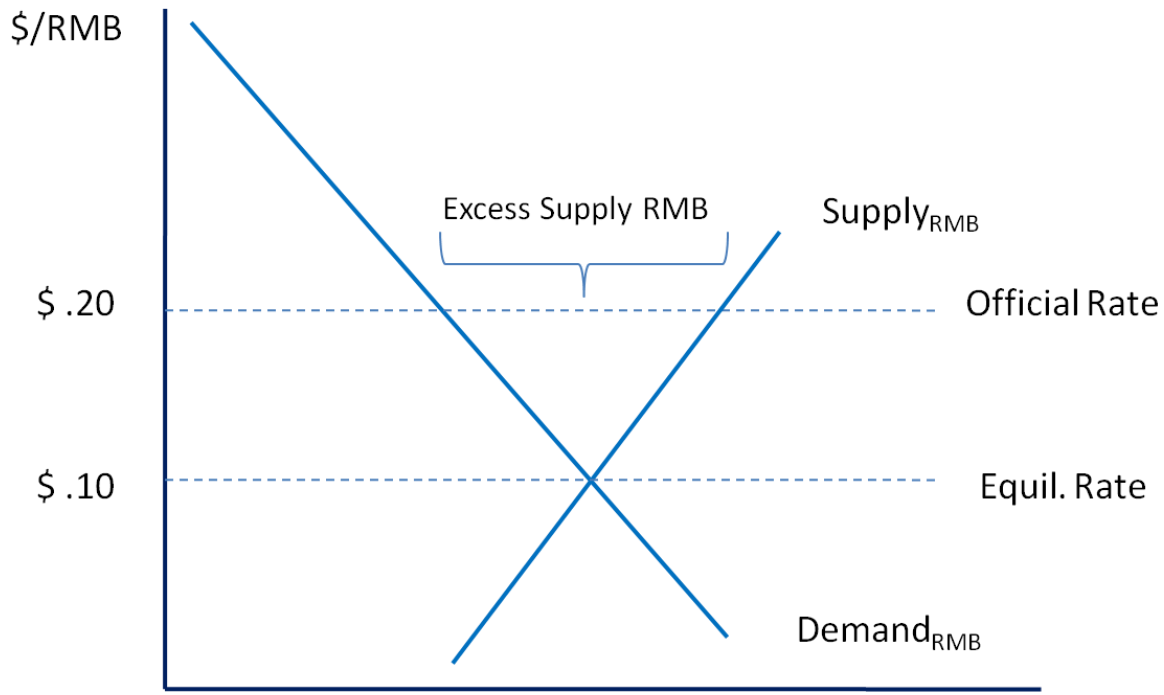


Overvalued RMB (1980s)

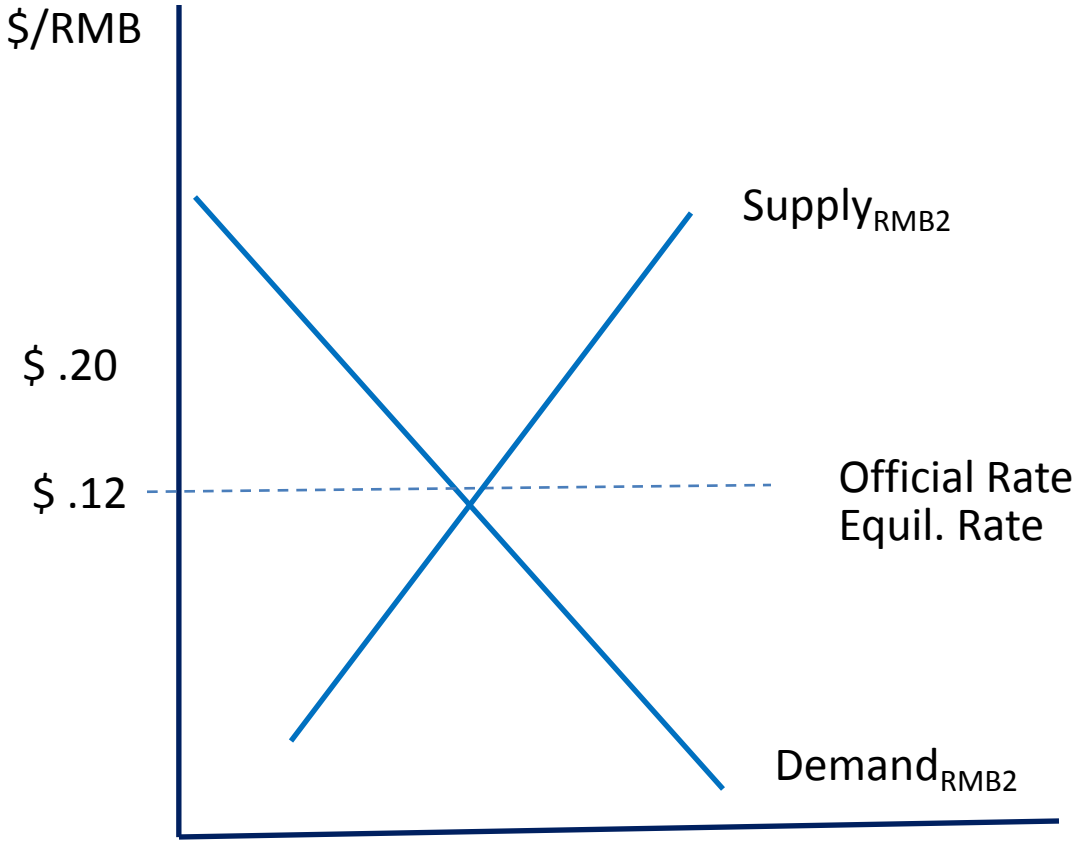


Overvalued RMB (1980s)

With an overvalued exchange rate, foreign goods appears artificially inexpensive and so there was an excess demand for foreign exchange and an excess supply of RMB available for exchange at the official rate = $ .20 per RMB (5RMB per US$).

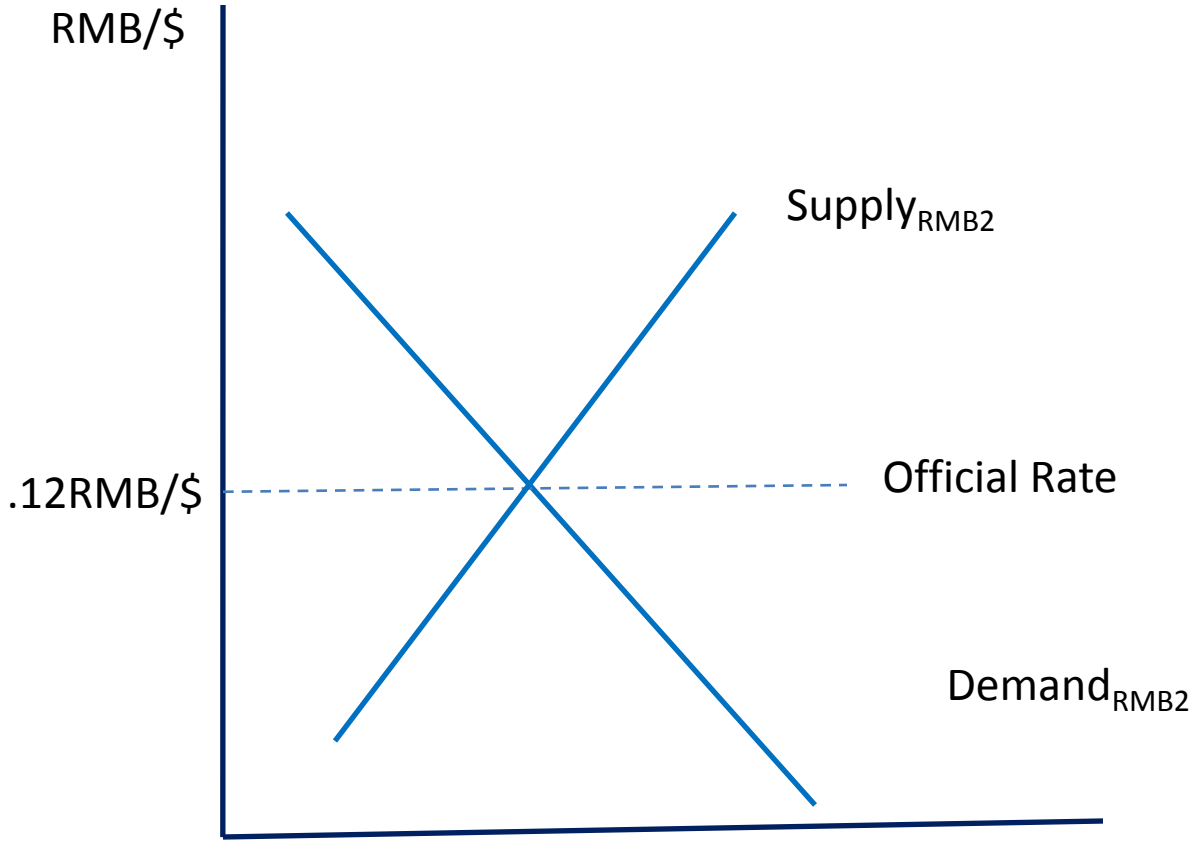


RMB Devaluation (1980s-90s)



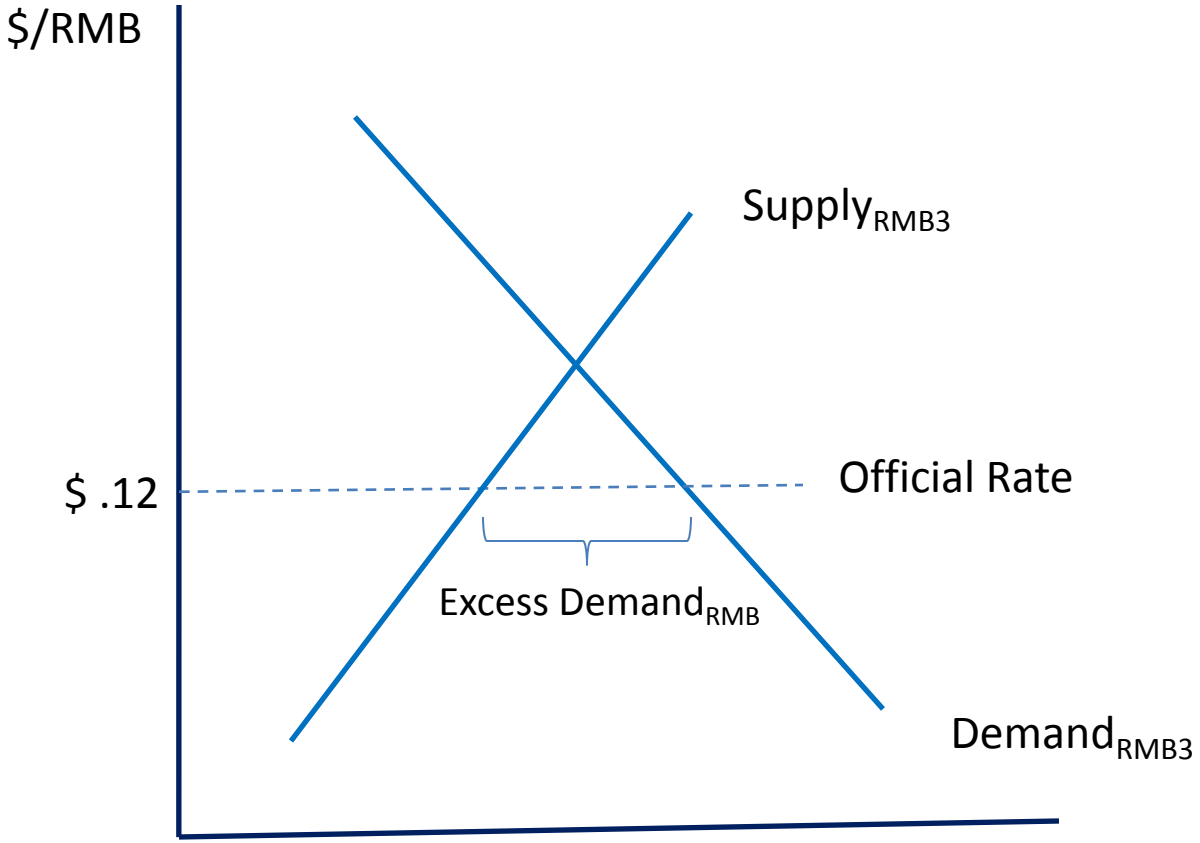
Starting with a grossly overvalued exchange rate in 1980 (about $ .43 per RMB), the Chinese gradually depreciated the RMB until in 1995 they settled at the rate = $.12 and at some point the official rate was equal to the equilibrium rate.

Emerging Trade Surplus and Undervalued RMB



After 2000, Chinese exports grew, and so the demand for the RMB grew, but the exchange rate remained fixed at 1RMB = $ .12. At this rate, China began to have trade surpluses, and there emerged an excess demand for the RMB

Emerging Trade Surplus and Undervalued RMB



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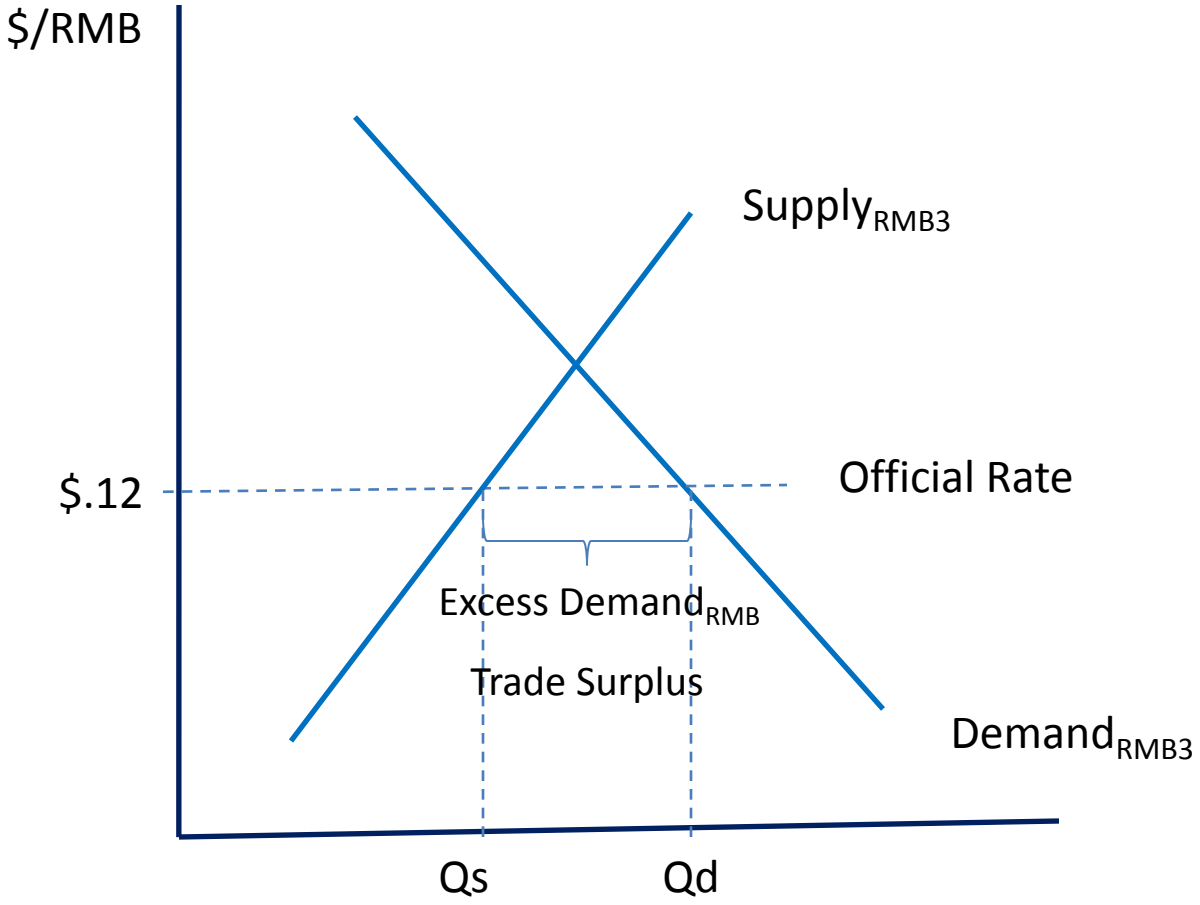
Emerging Trade Surplus and Undervalued RMB (after 2000)



At the fixed rate ($ .12) Chinese exports are relatively inexpensive and Foreign imports are relatively expensive in RMB. At this rate the Q demanded of RMB exceeds the Q supplied. This excess demand is closely related to China's emerging trade surplus.

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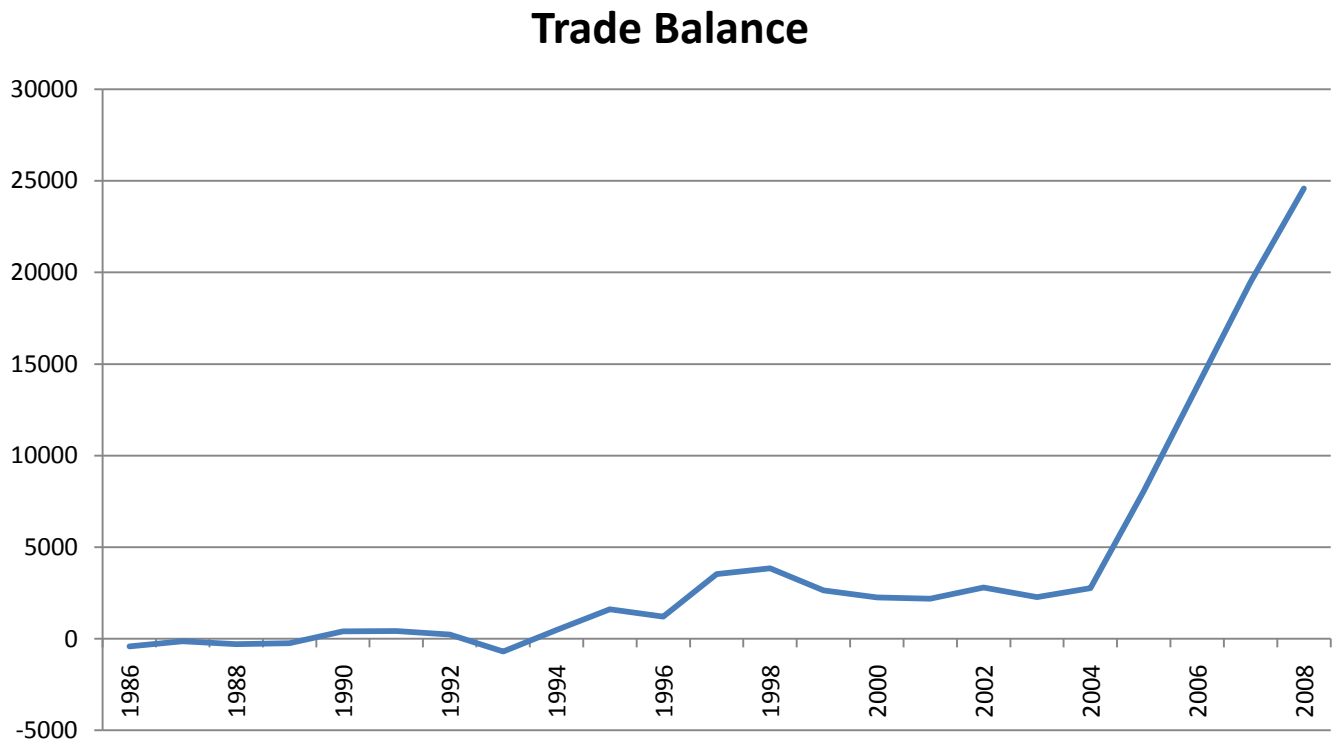

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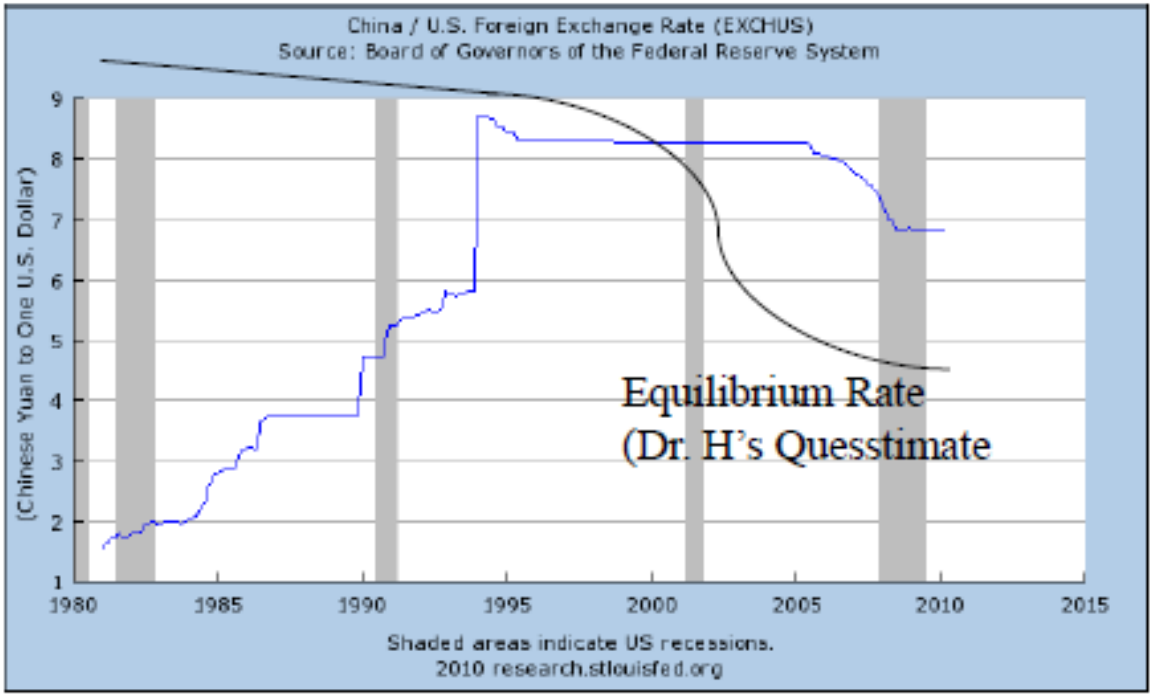
RMB Devaluation (1980s-90s)

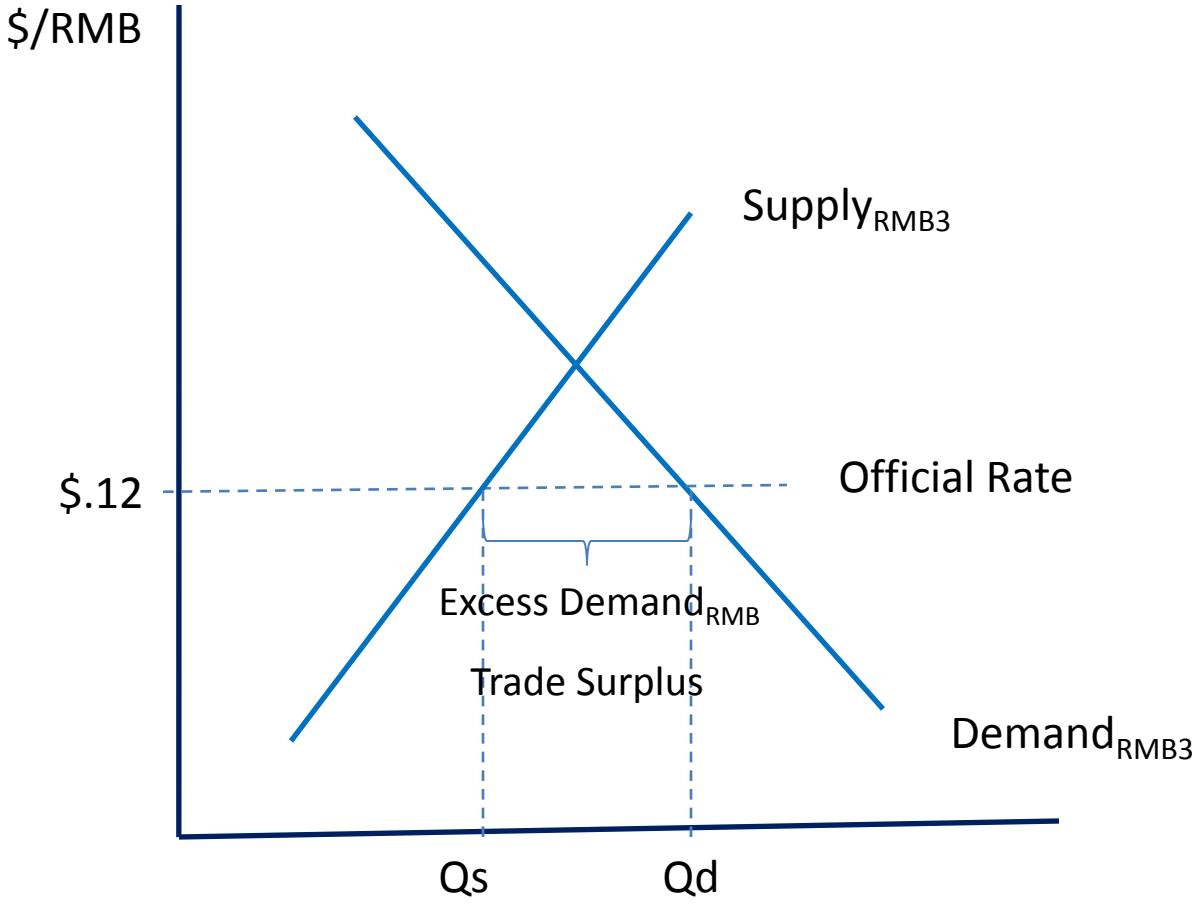
Starting with a grossly overvalued exchange rate in 1980 (about 1.8RMB/$), the Chinese gradually depreciated the RMB until in 1995 they settled at the rate 8.27RMB/US$.

After (about 2002) the equilibrium rate became lower than the fixed rate.



From mid 2005 to 2009, China allowed its exchange rate to appreciate. In $ terms, the official exchange rate steadily appreciated from 8.27 (RMB/$) to 6.83 (RMB/$) where it has remained until the present. In RMB terms this is an appreciation from about $ .12 to $ .15.

Emerging Trade Surplus and Undervalued RMB (after 2000)



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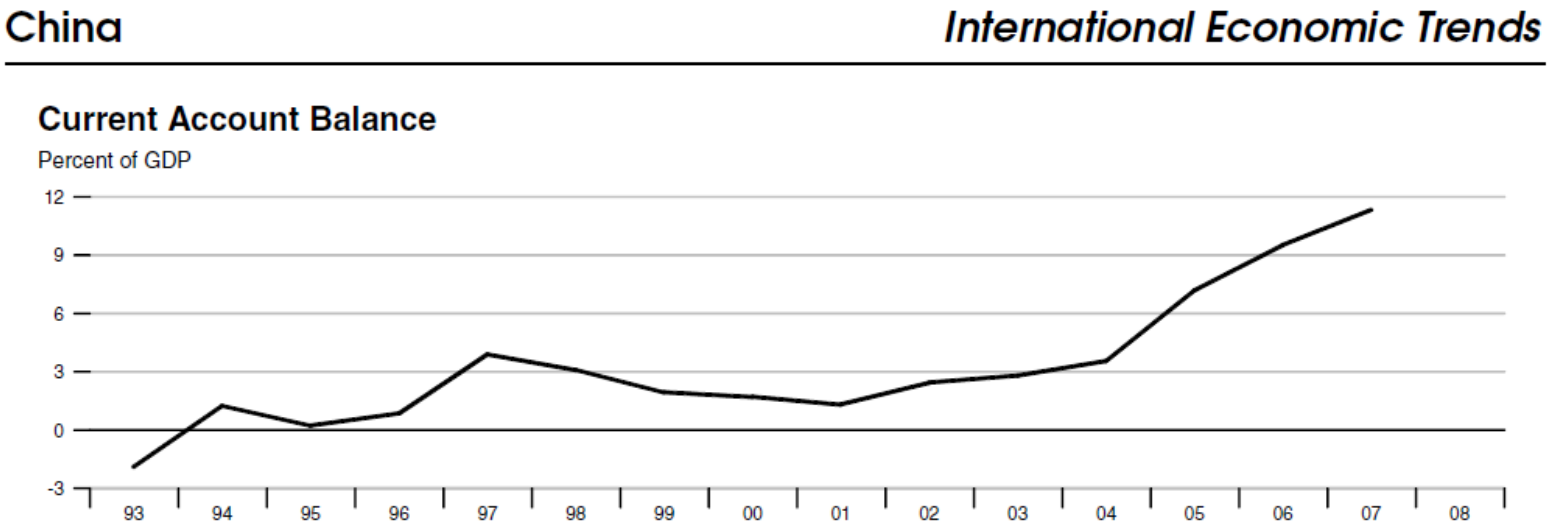
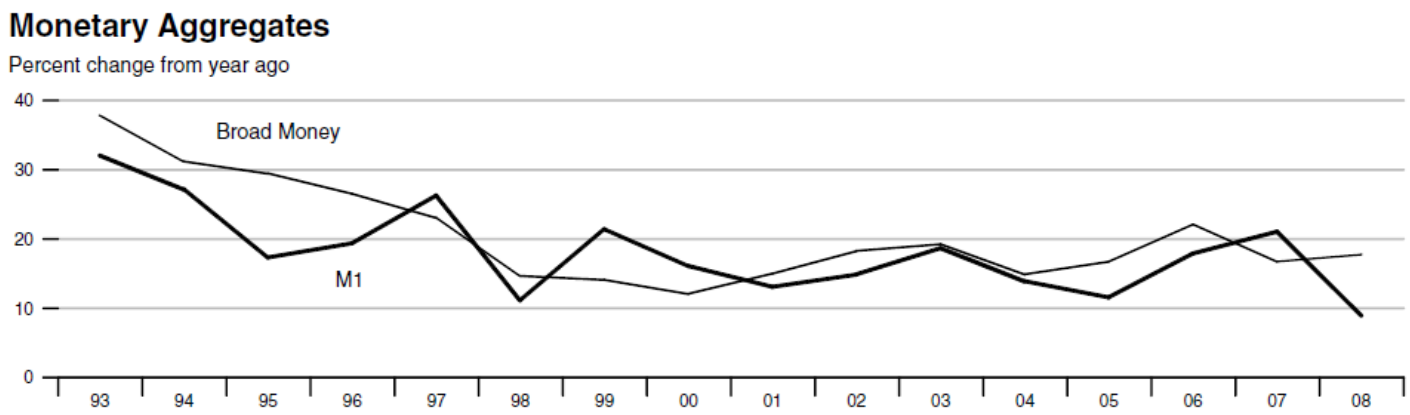
Chinese Current Account



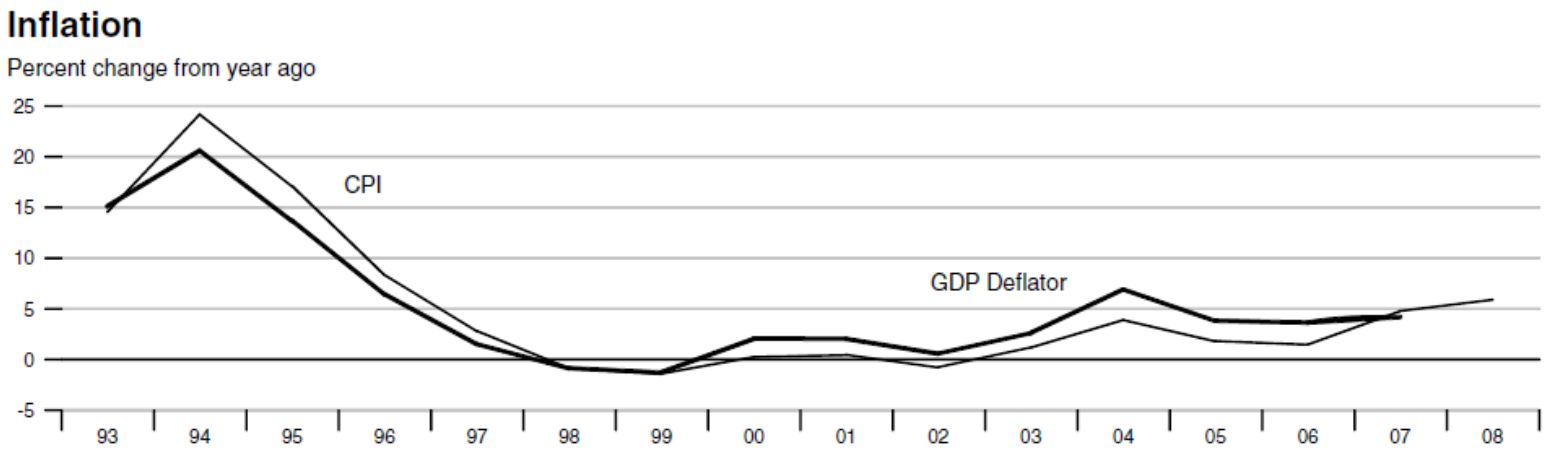
A 10% (of GDP) current account surplus is large and will not persist in the long run. (see international comparisons for the current account)

Chinese Money Supply Growth for 2007: M1 growth: 10%- 20%

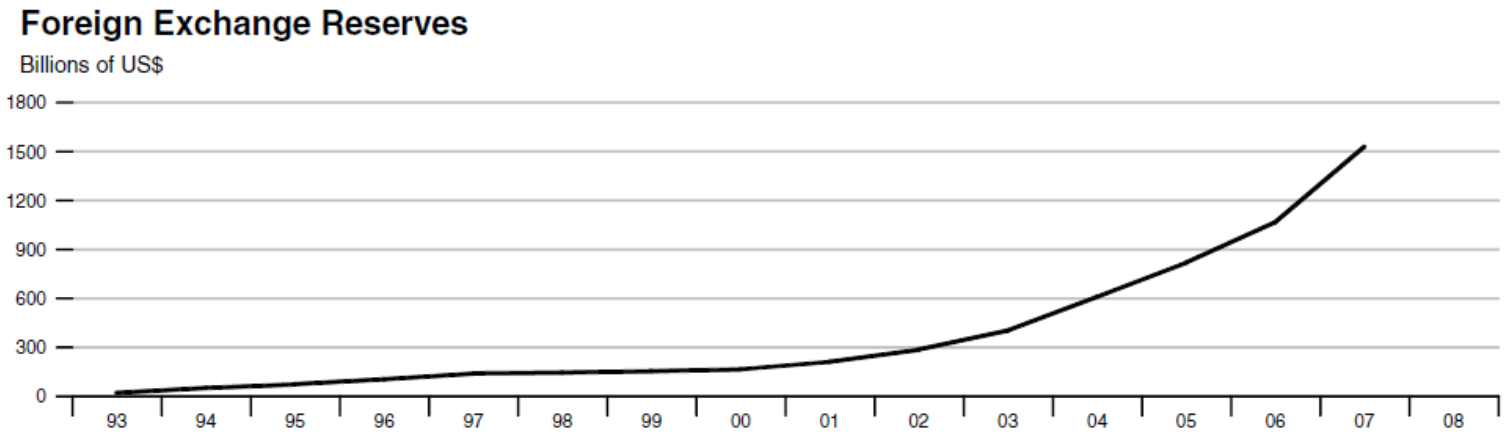


GDP growth of about 8% - 10% absorbs part of this monetary growth, but the rest of it will put pressure on rates of Chinese inflation

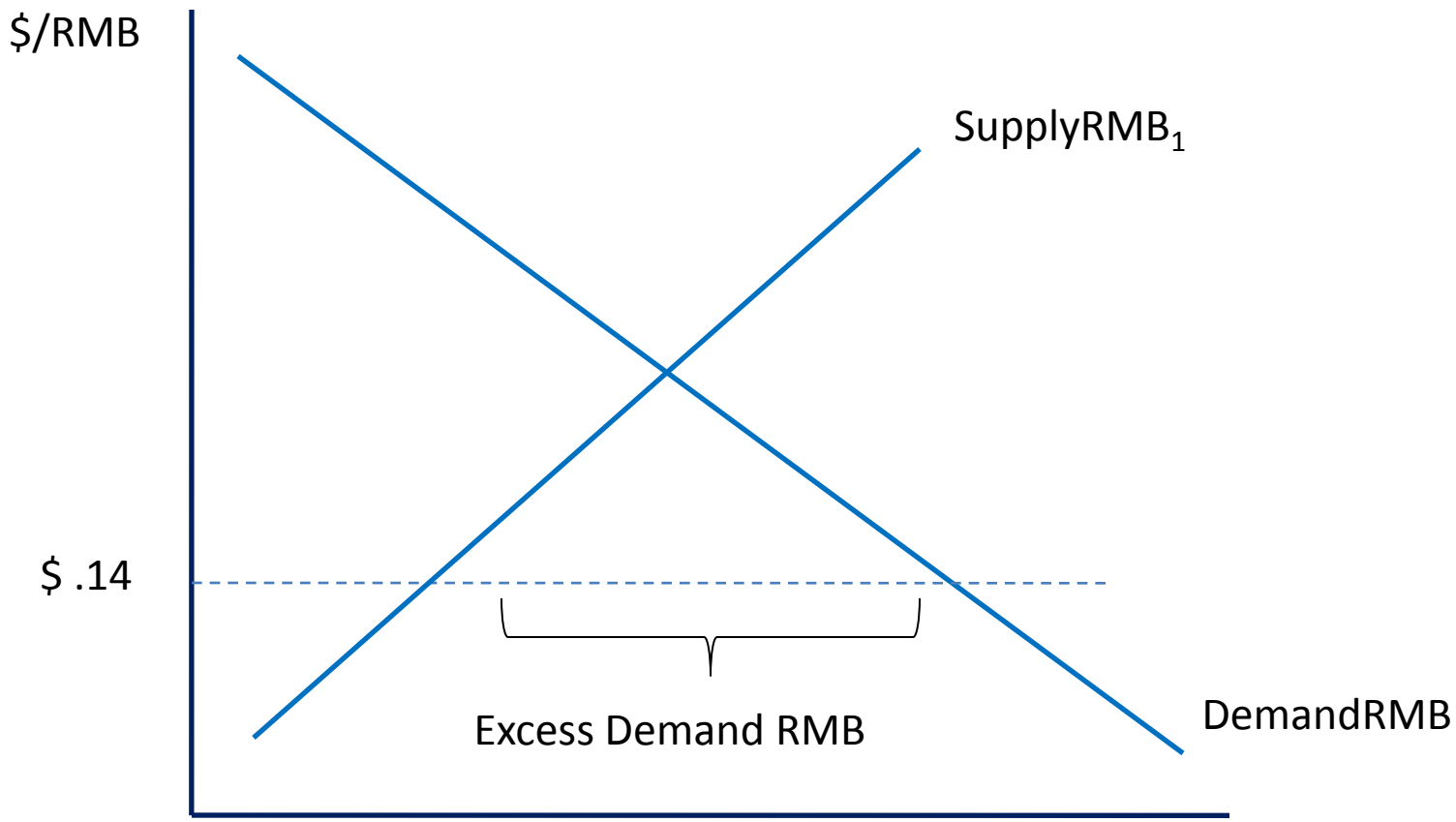
Chinese Domestic Inflation



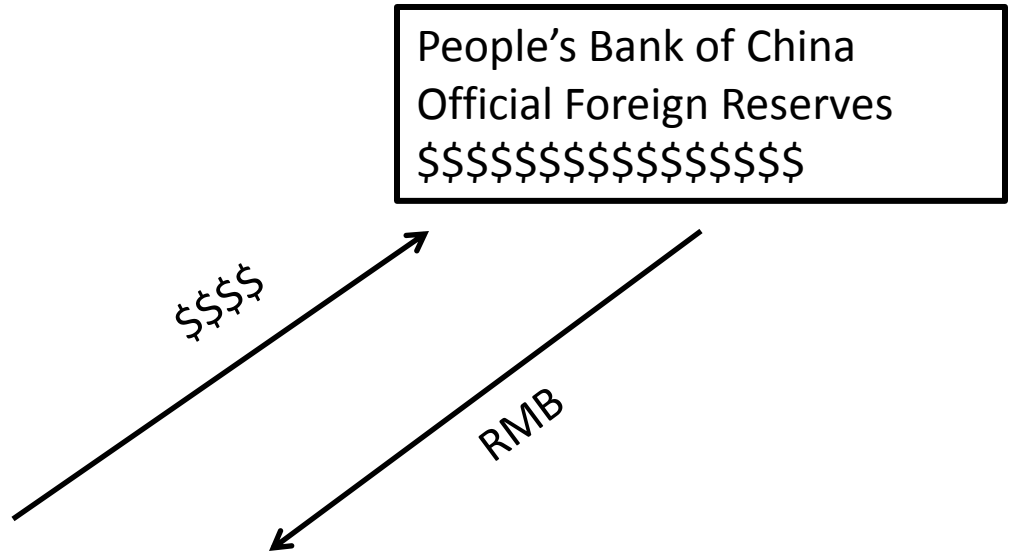
Chinese Official Foreign Reserves For 2007 ~ $1.5 trillion

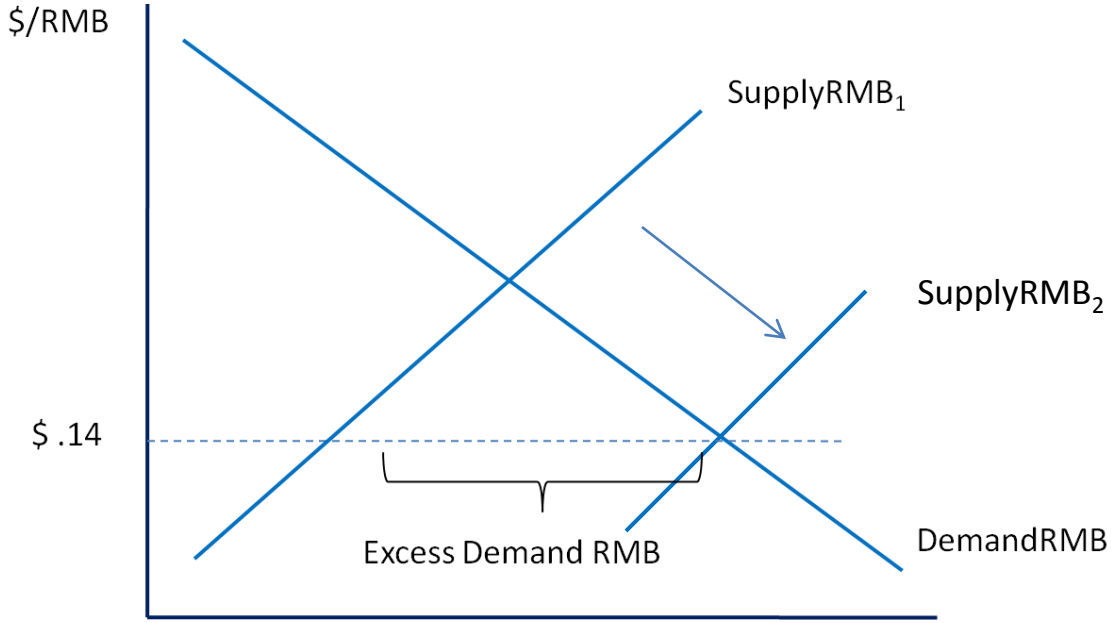


Excess Demand for RMB

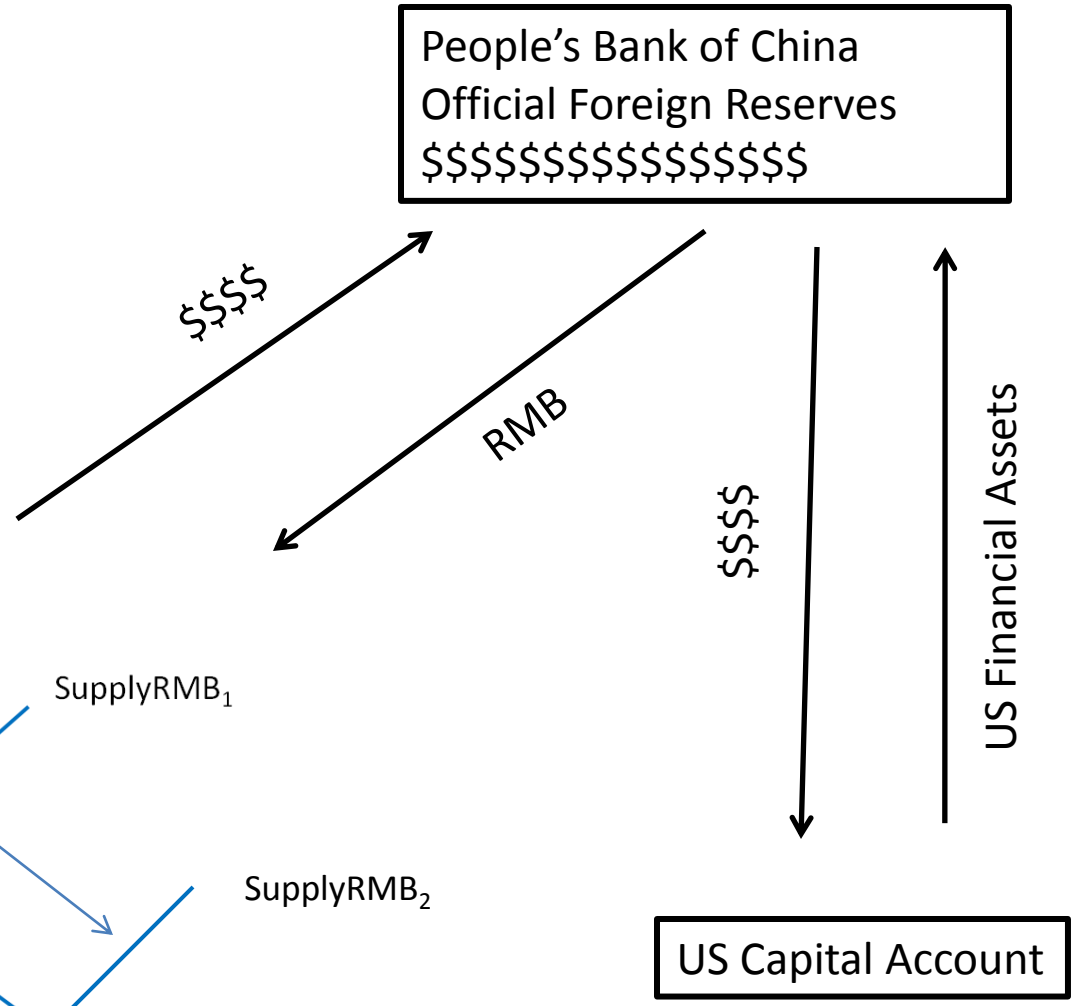


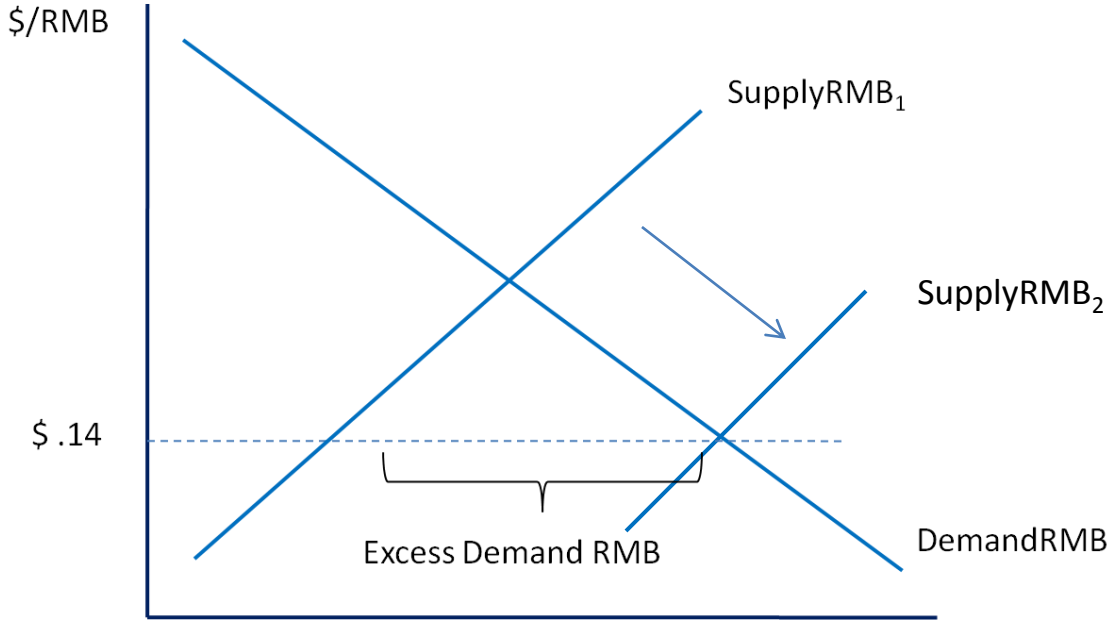
Chinese Central Bank "prints" RMB to fill the excess demand for RMB. To maintain an undervalued exchange rate, China expands the RMB money supply. In the process the central bank soaks up the excess supply of foreign exchange that results from the trade surplus.





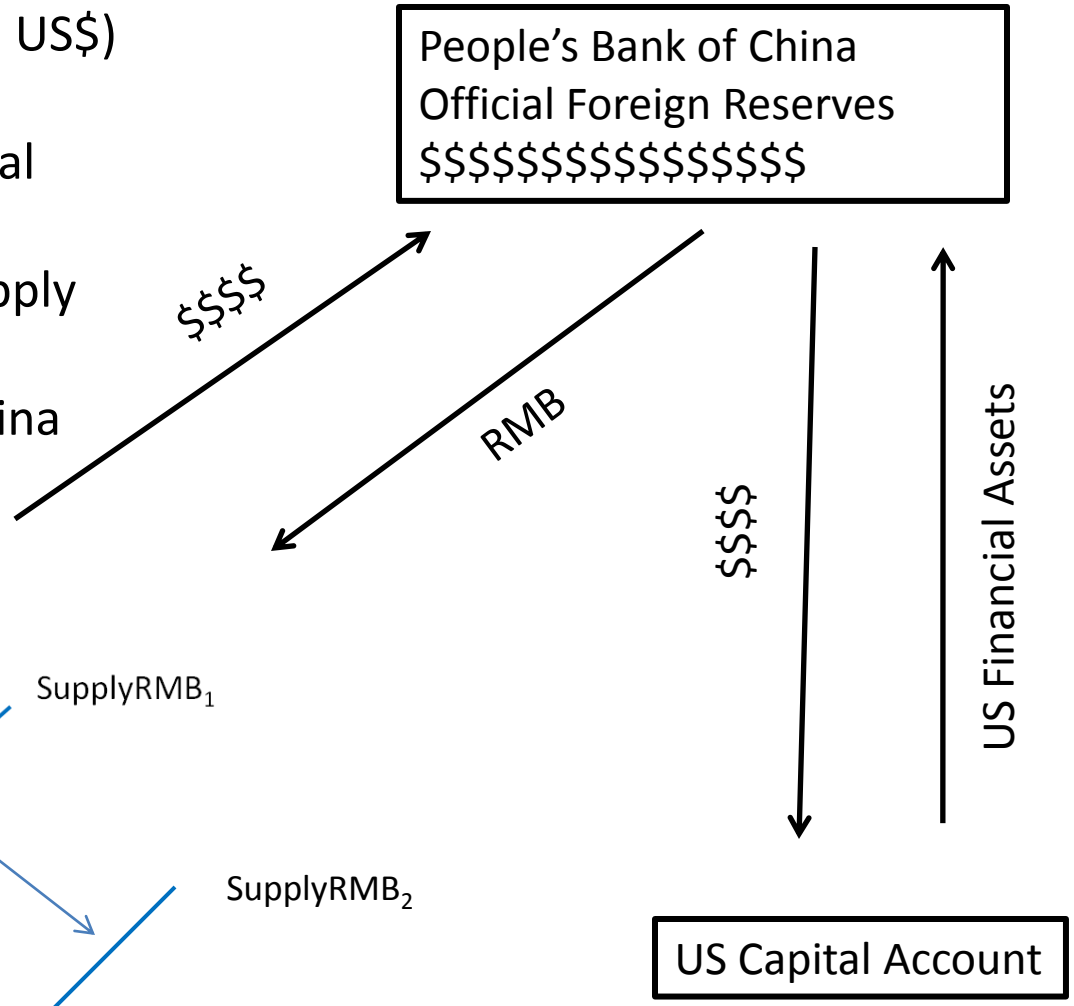
As the central bank accumulates reserves it purchases interest bearing assets in the US and elsewhere

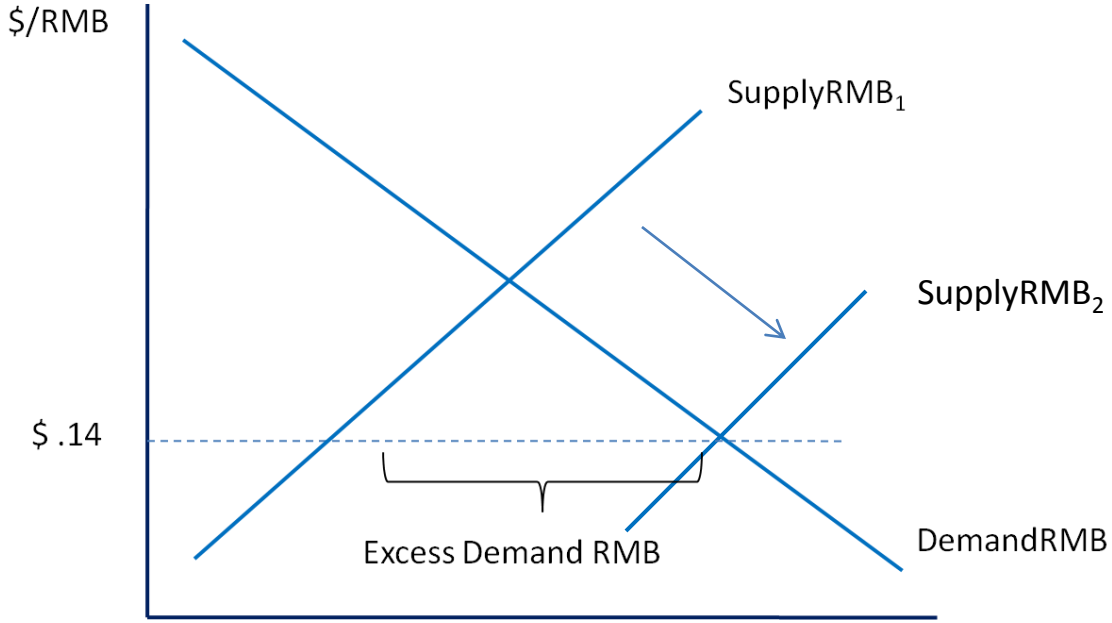




These Things Fit Together

- Undervalued RMB (overvalued US$)
- China Trade Surplus
- Chinese accumulation of Official Reserves
- Increase in Chinese Money Supply
- Low
- Rising Domestic Inflation in China





Longish Run Equilibrium

- PPP, law of one price, and long run equilibrium
- Big Mac Example
- New York Price: $3.41
- Exchange Rate: 7RMB/$
- Beijing Price: 11RMB

Longish Run Equilibrium

- New York Price: $3.41
- Exchange Rate: 7RMB/$
- Beijing Price: 11RMB
- At the current price and exchange rate, Big Macs are cheap in Beijing
- 11RMB/(7RMB/$) = $1.57
- This violates PPP (or LOOP)

Longish Run Equilibrium

- New York Price: $3.41
- Exchange Rate: 7RMB/$
- Beijing Price: 11RMB = $1.57
- In long run equilibrium the prices, when expressed in the same currency have to be the same
- Holding the US price constant, either
  - The exchange rate has to decrease (RMB appreciation) and/or
  - The Beijing price has to increase (Chinese inflation)

Longish Run Equilibrium

- New York Price: $3.41
- Exchange Rate: 7RMB/$
- Beijing Price: 11RMB = $1.57
- So either
  - The exchange rate has to decrease (RMB appreciation) to 3.22RMB/$
    - 11RMB/3.22RMB/$ = $3.41

  And/or
  - The Beijing price has to increase (Chinese inflation)
    - Beijing Big Mac = 23.87RMB = $3.41 times 7RMB/$

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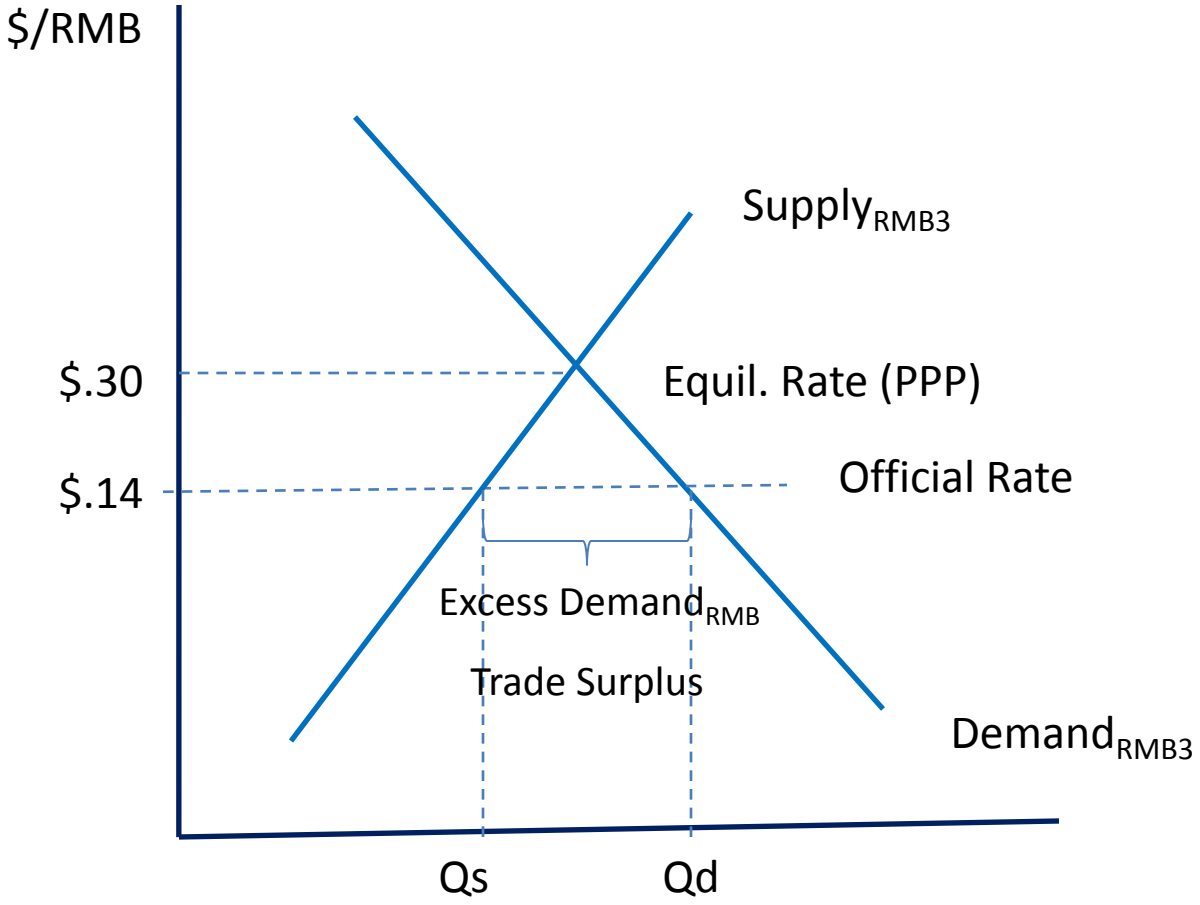

Longish Run Equilibrium

- Current Chinese policy is a mixture
  - Gradual appreciation of the RMB, but still undervalued with a current account surplus

  and

  - Increase in the RMB money supply leading to inflation