

# Trans National Research

London, 12 January 2007

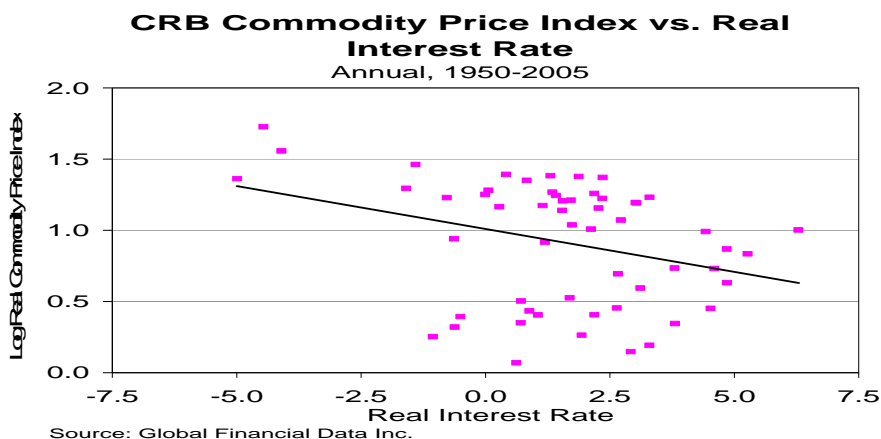
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1. Commodities and carry trade
2. Emerging markets
3. US Current Account deficits
  - a. Mainstream view
  - b. Seven challenges
4. Predictions of future corrections
5. Addenda

## 1. Commodities and carry trade

- Boom in commodity prices over last few years.
  - Mankind has to live in the physical world after all!
  - E.g., Copper, platinum, nickel & zinc all hit record highs in 2006
- Many causes. One neglected cause is monetary policy
- Central argument of “The Effect of Monetary Policy on Real Commodity Prices:” high real commodity prices can be a signal of low real interest rates.
- High interest rates reduce the demand for storable commodities, or increase the supply through a variety of channels:
  - By increasing the incentive for extraction today rather than tomorrow
  - By decreasing firms’ desire to carry inventories
  - By encouraging speculators to shift from commodity contracts to T bills
- Theory: Dornbusch overshooting model, with spot price of commodities replacing exchange rate, and convenience yield replacing foreign interest rate.
- Empirical: I find statistically significant inverse relationship between commodity prices and real interest rates
  - Example of a channel: oil inventories depend negatively on interest rates, when other factors are also controlled for.
- Similar “carry-trade” arguments apply to other markets as well: easy monetary policy among FRB, BoJ & PBoC (and to lesser extent ECB) has sent liquidity not only into commodities, but also into housing, securities, and emerging markets.
- This phenomenon should be reversing now.



- Table 1 reports commodity price regressions for 1950-2005.
- Results are statistically significant at 5% level for all 3 major price indices available since 1950 -- from Dow Jones, Commodity Resources Board, & Moody's -- and significant for one of two with a shorter history (Goldman Sachs).
- All are of hypothesized negative sign.
- The estimated coefficient for the CRB index,  $-.06$ , is typical.  
=> when the real interest rate goes up 1 % point (100 basis pts.), real commodity price falls by  $.06$ , i.e., 6 %.
- => estimate for  $1/\theta = 6$ , so  $\theta \approx .16$ . I.e., expected speed of adjustment  $\approx 16\%/yr$ .  
=> The expected half-life  $\approx 3$  years ( $\approx .843 = .53$ ).

**Table 1: Regression of log real commodity prices on real interest rates (in %)**

Aggregate Results sample: 1950-2005 (56 annual observations)

Index	Coefficient	Std error	sig. 5%
Goldman Sachs (1969-)	-0.080	0.029	*
Dow Jones	-0.070	0.023	*
CRB	-0.060	0.024	*
PANEL (fixed effect)	-0.046	0.006	*

**UK regression: real commodity prices in £ on real interest rates**

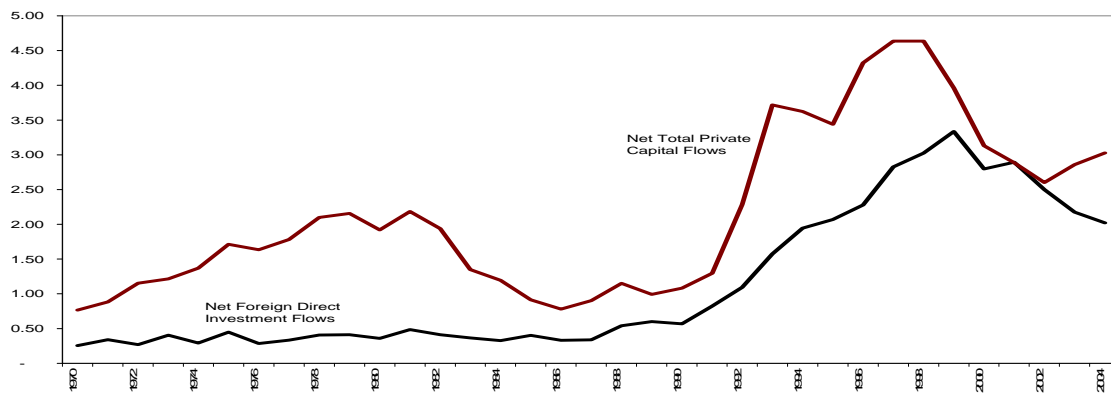
Short Rates	US r	r differential	Long Rates	US r	r differential.
	-0.053*	-0.086*		-0.106*	-0.023*
s.e.	0.010	0.007		0.007	0.006

\* indicates coefficient significant at the 5% level of significance. Robust s.e.s.

## 2. Cycle in emerging markets.

- Strong capital inflows 1975-1982, net outflows 1983-1989.
- Inflows again 1990-96. And outflows 1997-2003.
- Contrary to the language of “bubble” and “burst,” the down phase (bust) tends to last as long as the up phase (boom).
- More like “7 fat years followed by 7 lean years.”
- We are now in the third boom phase, whether judged by high capital flows

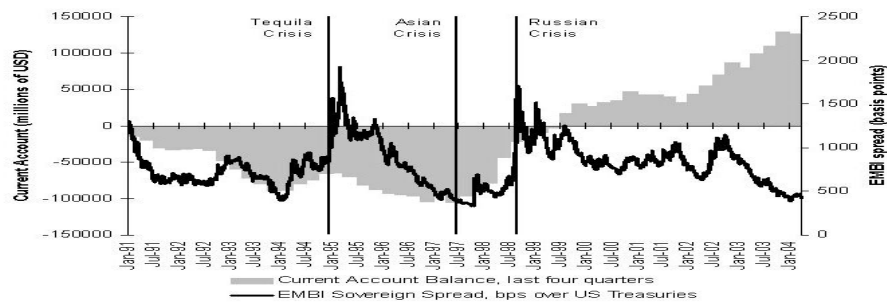
**Capital Inflows to Developing Countries as percent of Total GDP (Low and Middle Income)**



Source: World Development Indicators

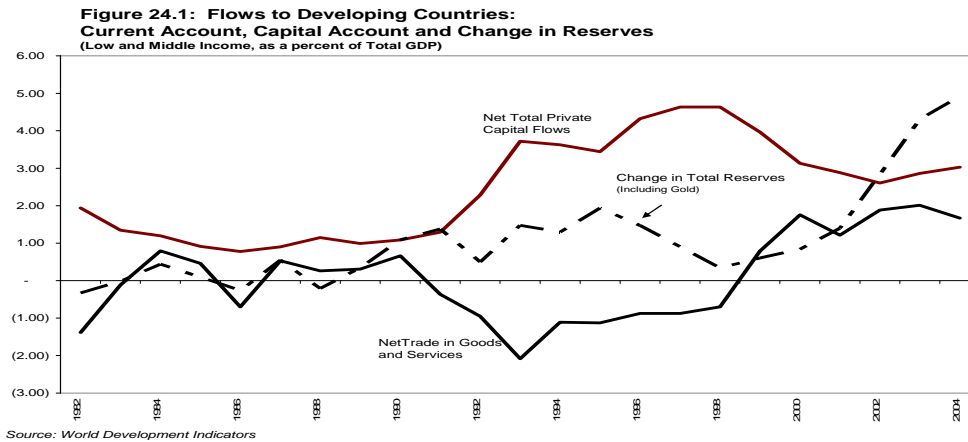
- or judged by low spreads.

**Figure 1. The Asia/Russia 1997/8 Crisis: Effects on EMs.**



Note: Includes Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Korea, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Slovak Republic, South Africa, Thailand, Turkey and Venezuela. Source: J.P. Morgan and IMF Balance of Payments Statistics.

- But it is too soon for a new round of crises. Memories are still fresh.
- Also the fundamentals are stronger: more flexible currencies, less \$-denominated debt, and higher reserves.
  - Though emerging market spreads had by 2004 fallen back to pre-1990s-crises levels, the money is not going to finance current account deficits this time. Non-industrialized countries are running surpluses (esp. Asia + oil producers).
  - Rather the money is going to reserves.



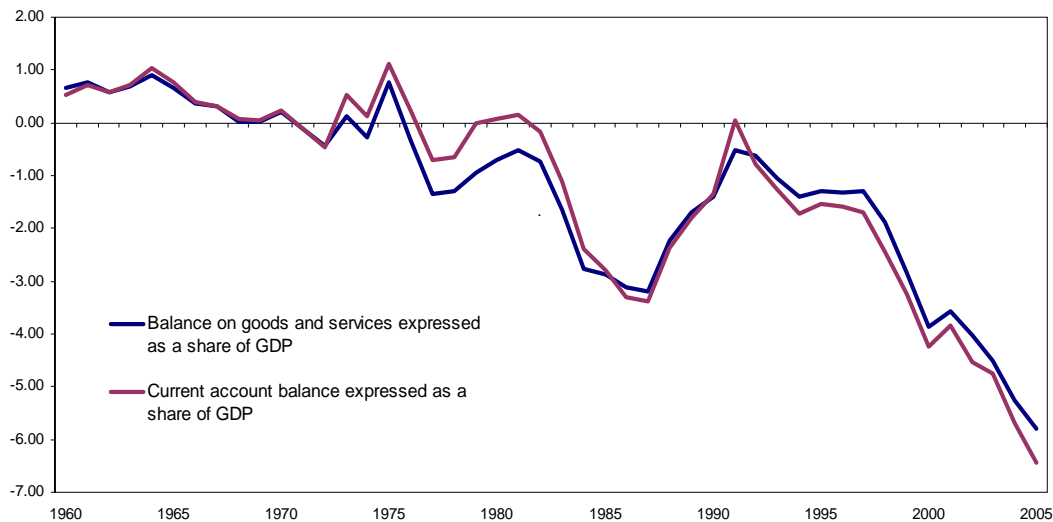
- The counterpart to emerging market CA surpluses is US surpluses. For the first time, the emerging markets are large enough to constitute half the global story!

### 3. US Deficits

- US external deficits have hit record levels:
  - Goods & services = 6 % GDP.
  - Current account = 6 ½ % GDP
  - Would set off alarm bells in Brazil or Turkey or anywhere else.
- Short-term danger: Protectionist legislation, scapegoating China.
- Medium-term danger:
  - Rising dependence on foreign investors may => possible hard landing
- Long-term danger:
  - US net debt to RoW now ≈ \$3 trillion.
  - Dependence on foreign central banks eventually may => loss of US global hegemony .

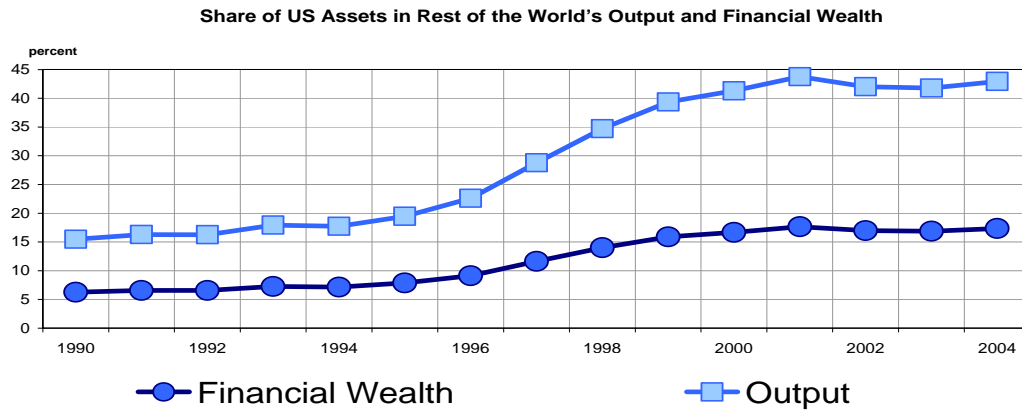
**Fig. 1: U.S. Trade Balance and Current Account Balance, 1960-2005**

**percent of GDP**



Sources: Department of Commerce (Bureau of Economic Analysis)

## What denominator is most relevant for assessing sustainability of US debt?

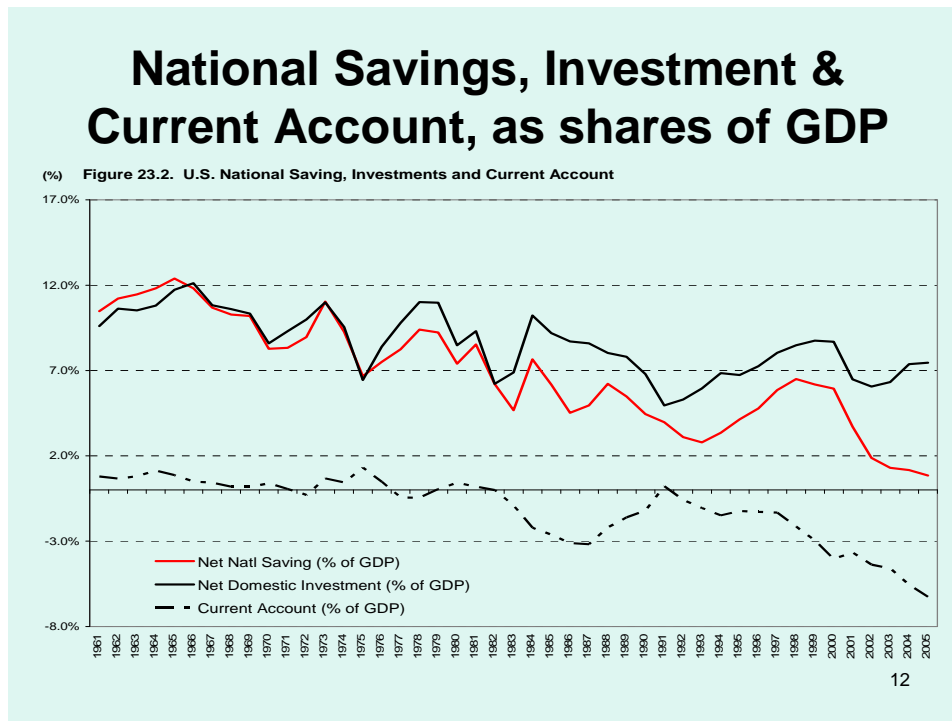


Source: Caballero, Farhi and Gourinchas (2006)

- If the US were any other country...
- The denominator of US debt would be
  - not the size of the world portfolio, but
  - ability to pay
    - Measured by US GDP, or
    - By US exports or tradable goods production
      - Empirically, exports are the relevant denominator for currency crises -- Cavallo & Frankel (2005).
      - That is unfortunate, in light of low US X/GDP ratio – which is why Obstfeld & Rogoff (2001, 05) predict big \$ fall.
- Debt ratio paths appear explosive, absent major dollar depreciation

## “Mainstream” View of Origins of US Current Account deficits

- Deficits affected by exchange rates & growth rates.
  - But these are just the “intermediating variables”
- More fundamentally, the US trade deficit reflects a shortfall in National Saving
  - US CA deficit widened rapidly in early 1980s, & esp. 2001-05, associated with National Saving fall.



### Why did National Saving fall in early 1980s, and 2001-05?

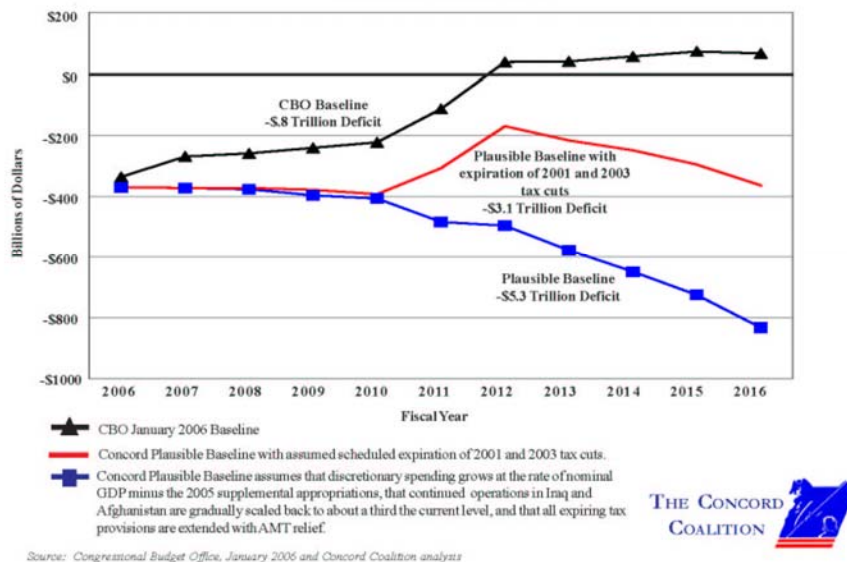
- Federal budget balance fell abruptly both times
  - From 1970s deficit = 2% of GDP, **to 5% in 1983.**
  - From 2000 *surplus* = 2% GDP, **to 3% deficits now.**
- According to some theories, pro-capitalist tax cuts were supposed to result in higher household saving.
- But both times, saving actually *fell* after tax cuts.
- U.S. household saving is now < 0 !
- So both components of US National Saving fell.

## What gave rise to the record federal budget deficits?

- Bush Administration: Large tax cuts, together with rapid increases in government spending
- Parallels with Reagan & Johnson Administrations:
  - Big rise in defense spending
  - Rise in non-defense spending as well
  - Unwillingness of president to raise taxes to pay for it.
  - Leads to declining trade balance
  - Eventual gradual decline in global role of the \$.
- The current bout of fiscal irresponsibility is actually worse than the 1980s
  - The retirement of the baby boom generation is that much closer than it was in 1981.
  - The national debt is that much higher.
  - We now have other new fiscal time bombs as well, e.g., phony sun-setting of tax cuts, need to fix AMT (Alternative Minimum Tax), exacerbated Medicare shortfall & hidden cost of Iraq war.
  - The current administration seems to lack ability -- which Reagan Administration and elder Bush did have -- to perceive when reality diverges from speech-writers' script, & to respond with mid-course correction.
  - To the contrary, the White House continues to propose more tax cuts
- White House forecast of eliminating budget deficit by 2012 will not be met
- WH/CBO projections still do not allow for:
  - the ongoing cost of Iraq
  - Fixing the Alternative Minimum Tax
  - Making tax cuts permanent as it has asked for
  - More realistic forecasts of spending growth, e.g., in line with population. (Actual spending growth since 2001 has far exceeded even that.)
- More likely, deficits will not fall at all, after this year



### Baseline Deficit Projections: January 2006 Fiscal Years 2006-2016



#### Further, the much more serious deterioration will start after 2009.

- The 10-year window is no longer reported in White House projections
- Cost of tax cuts truly explode in 2010 (if made permanent), as does the cost of fixing the AMT
- Baby boom generation starts to retire 2008
  - => soaring costs of social security and,
  - Especially, Medicare

#### Conundrum: Then what has kept long-term interest rates low?

- Easy monetary policy by FRB, ECB, BoJ & PBoC has kept short-term rates low since 2001 (Fig.5)
  - Carry trade => money has gone into bonds, stocks, real estate, emerging markets, & commodities.
  - Why little reversal since 2004? Probably bubbles in some markets.
  - Those bubbles may just now have peaked.
- Foreign central banks buying US securities
- Investors have not yet fully understood how bad is the US fiscal outlook (as in Europe & Japan also).
- All three factors are coming to an end.
- Prediction: long-term interest rates will rise.

## Many economists have come up with ingenious counter-arguments to the concerns over the US Deficits.

### 7 challenges to the “twin deficits” worry

- But I don’t buy them: The low national saving that faces us now and in the future should indeed be a source of concern

1. The siblings are not twins
2. Alleged Investment boom
3. Low US private savings
4. Global savings glut
5. It’s a big world
6. Valuation effects will pay for it; the US enjoys special privilege
7. China’s development strategy entails accumulating unlimited \$

1. “The ‘**twin** deficits’ view is wrong, because the budget and current account deficits do not always move in lockstep”<sup>[1]</sup>
  - This is a “straw man.”
  - The term “twin deficits” does not mean current account & budget deficits *always* move together.
    - a. Nobody pretends that they do.
    - b. Of course BD & CAD can move in opposite directions, as in US investment boom of 1990s.
    - c. *But in 1980s & current decade, U.S. fiscal expansion led to BD & CAD.*

<sup>[1]</sup> Bernanke (2005) is one of many making this point.

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### 2. Capital flows to US due to favorable investment climate & high returns

- But
    - The return to foreign investment in US has been low, not high
    - Current US business investment < 1990s IT boom.
    - Foreign Direct Investment is flowing *out* of the US not in.
    - The money coming in is largely purchases of short-term portfolio assets, esp. acquisition of \$ forex reserves.
- 

3. “Fall in **US private saving** has been as big a part of the fall in national saving as has been the budget deficit.”

- True
- But recall that Bush tax cuts were supposedly designed to be pro-saving (abolition of the estate tax, near-abolition of taxes on dividends & capital gains, etc.).

- That was the excuse for their regressivity.
  - As the private saving rate has not subsequently risen, this is a further indictment of our current fiscal policy.
  - The same characterization applies to the Reagan tax cuts of 1981: were supposed to boost saving but were instead followed by a fall in US private saving rates.
- 

#### 4. “The problem is a **global savings glut**, not a US saving shortfall.”<sup>[1]</sup>

- True, foreign net lending to US is determined by conditions among foreign lenders as much as in US.
- “Savings glut” misleading: Global saving & investment not up.
  - Rather, global investment is way down.
  - E.g, Japan’s household saving rate = 7% disp.income, vs. 23% in 1975.<sup>[2]</sup>
- This pattern is inconsistent with the hypothesis that the exogenous change is an increase in saving abroad: that would have shown up as a rise in investment.
- The pattern is consistent, rather, with the hypothesis that the US shortfall is sucking in capital from rest of world.

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[1] Again, Bernanke (2005)

[2] By 2004, saving/GDP outside US had climbed to a level slightly > that of 1990s (while still < 1980s).

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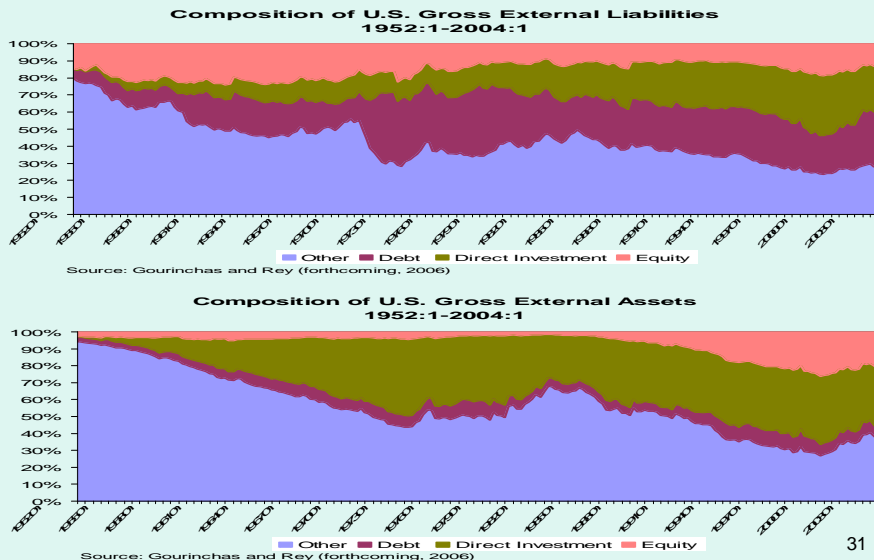
#### 5. “It’s a big world.”

- Richard Cooper, Alan Greenspan, & others:
  - world financial markets are big, relative even to the \$3 trillion of US debt, & increasingly integrated.
  - => Foreign investors can bail us out for decades to come.
  - After all, some have been warning about a hard landing since the early 1980s.
  - If foreign investors keep moving, even slowly, toward fully diversified international portfolios (away from “home country bias” in their investments), they can absorb US current account deficits for a long time.
  - True. **But**, as already noted,
    - When it comes to default or country risk, GDP or exports are more relevant denominators for debt than is global portfolio size.
  - Debt dynamics => US Debt/Export ratio on explosive path.
-

## 6. “ The US current account deficit need not imply rising debt & debt-service; despite years of deficits, net investment income is still in surplus.”

- Gains in \$ value of assets held abroad, particularly via \$ depreciation => US net debt has risen “only” to \$3 tr., despite much larger increase in liabilities to foreigners.
  - Lane & Milesi-Feretti (2005) compute valuation effects.
  - *But how many times can the US fool foreign investors?*
- US earns a higher rate of return on its assets abroad (especially FDI) than it pays on its obligations (especially treasury bills).
  - In 1960s, Kindleberger said US was World Banker, taking short-term deposits & investing long-term.
  - Gourinchas & Rey (2005) call US global “venture capitalist.”
- Hausmann & Sturzenegger (2006) speak of “dark matter,” by which they mean US hidden assets of know-how that are not properly reflected in service export numbers.
- Cline (2005) calls the US an *economic* net creditor, though a net international debtor in an accounting sense.

### Composition: US assets give more weight to high-return equity & FDI than do US liabilities

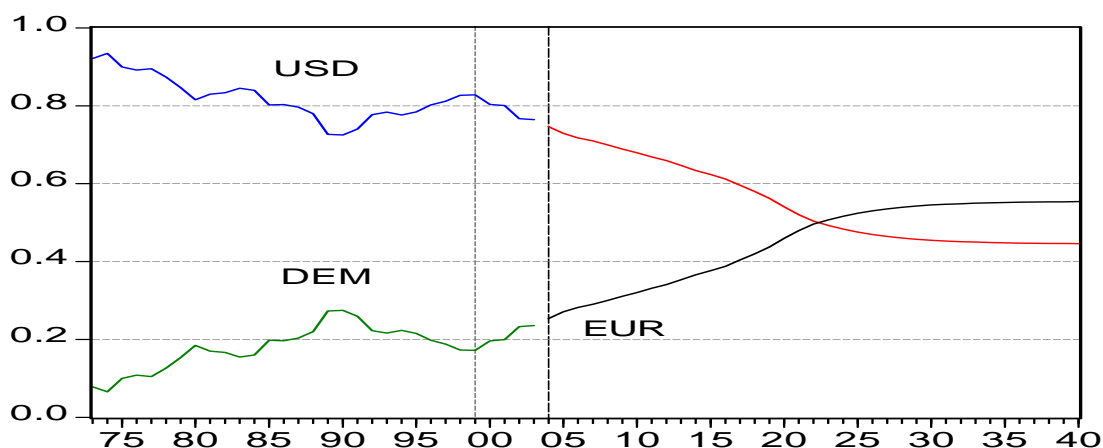


## Some of these arguments rely on \$ retaining its unique role in the world monetary system forever.

- The French in the 1960s called it the “exorbitant privilege:” the rest of the world gives up real goods and companies in exchange for pieces of paper (\$).
- Arguments assume that the \$ stays premier international reserve currency held by central banks, and that the US treasury security market will continue to be the preferred liquid asset for private investors as well.
- Has been true since World War II, but one can no longer assume that it will necessarily always be true:  
€ now exists as a plausible rival for the longer term.
- US could lose hegemony.

### Chinn & Frankel (2007) Simulation of shares in central bank reserve holdings

Case 2, Scenario D: Assumes no entry of UK, Sweden, Denmark or CEE countries into € ; but continued depreciation of \$ at 2001-04 rate.



## 7. “China’s development strategy entails accumulating unlimited \$.”

- The Deutschebank view (Dooley, Folkerts-Landau, & Garber, 2005)
- Today’s system is a new Bretton Woods, with Asia playing role that Europe played in 1960s.
- I think that much is right.
- DFL ideas ingenious: China is piling up \$ not because of myopic mercantilism, but as part of an export-led development strategy that is rational given China’s need to import workable systems of finance & corporate governance.

### **But it is not sustainable.**

- It may be a Bretton Woods system, but we are closer to 1971 (date of collapse)
  - than to 1944 (date of BW agreement)
  - or 1958 (when convertibility first restored).
- (1) Capital mobility is much higher now than in 1960s.
- (2) The US can no longer necessarily rely on support of foreign central banks, either economically or politically.
- (3) China eventually will have to develop a workable domestic system of finance and corporate governance, or else suffer a domestic banking crisis.
  - The latter is perhaps the more likely outcome;
  - but either outcome => end to excess liquidity pouring from China to US.

## **Prediction of future corrections**

Predicting when the further decline of the dollar might come is too hard (though I think it is possible to say that the Asian currencies are undervalued, not the European ones). Predicting when a recession might occur is too hard.

But I am willing to go out on the following limbs:

- The US bond market is too high, long-term interest rates will rise. Probably in the rest of the world as well.
- Interest rates on high-yield corporate bonds are especially too low, and will rise.
- The implicit volatilities in options prices are substantially too low, and will rise.

The common element is that market estimates of risk are lower than they should be. In each case, my view is that the market is basing its perception of risk on recent history, not on a forward-looking assessment of the risks facing the US and global economies. Such risks include further falls in housing or rises in oil, a hard landing for the dollar, and geopolitical risks arising from the Middle East.

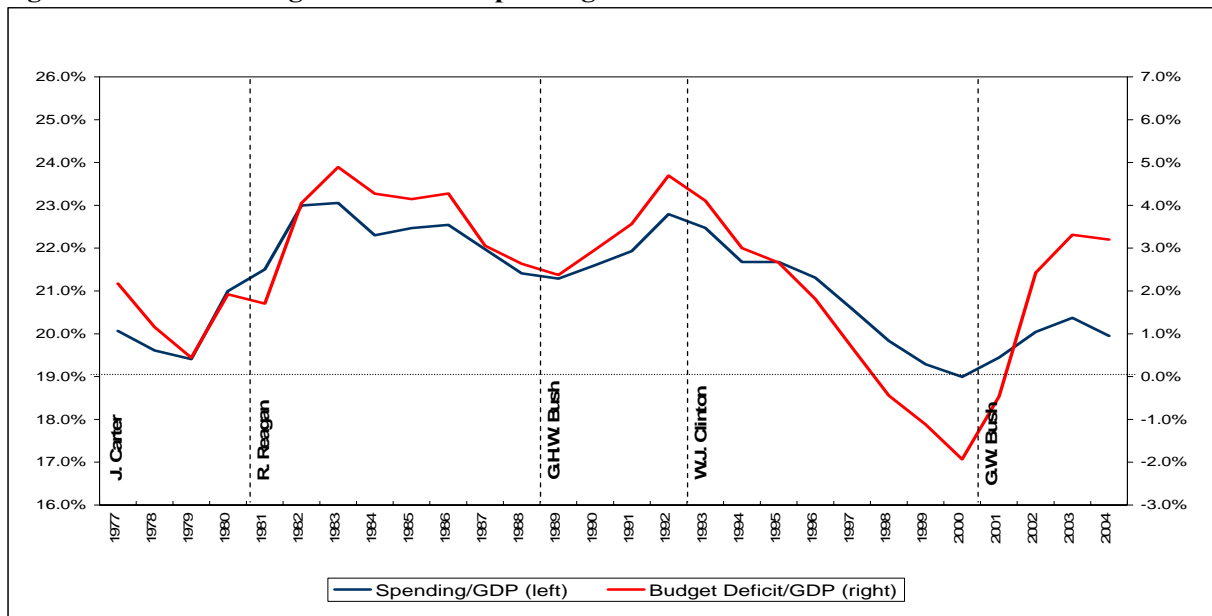
- **Addenda**

- Addendum 1: “Starve the Beast” hypothesis & misforecasting US budget deficits
- Addendum 2: Possible loss of US hegemony
- Addendum 3: The RMB
- Addendum 4: Trade is the denominator for judging sustainability of debt

**Addendum 1: Starve the Beast claim: tax revenue↓ => spending↓.**

- “Congress can’t spend money it doesn’t have” (!)
- History shows that the claim does not describe actual spending behavior.  
The pattern:
- Spending is only cut under a regime of “shared sacrifice” that simultaneously raises tax revenue (regime of caps & PAYGO in effect throughout 1990s).
- Spending is not cut under a tax-cutting regime (1980s & current decade).
- See Figure 2.

**Fig. 2: US Federal Budget Deficit and Spending as % of GDP.**



**Three Presidents who indulged in excessive fiscal expansion, sometimes ignoring the advice of their economic advisors.**



### **Addendum 2: Possible loss of US economic hegemony.**

- US \$ can no longer necessarily rely on the support of foreign authorities.
- China may allow appreciation of RMB, as US politicians demand.
- Even if China keeps RMB undervalued, it can diversify its currency basket out of \$
  - There now exists a credible rival for international reserve currency, the € .
  - Chinn & Frankel (2007): under certain scenarios, the € could pass the \$ as leading international currency.
  - US would lose, not just seignorage, but the exorbitant privilege of playing “banker to the world “

### **Possible loss of US political hegemony.**

- In the 1960s, foreign authorities supported \$ in part on geopolitical grounds.
- Germany & Japan offset expenses of stationing U.S. troops on bases there, so as to save the US from balance of payments deficit.
- In 1991, Saudis, Kuwait, & others paid the financial cost of the war against Iraq.
- Repeatedly the Bank of Japan bought \$ to prevent it from depreciating (e.g., late 80s)
- Next time will foreign governments be so willing to bail out the U.S.?



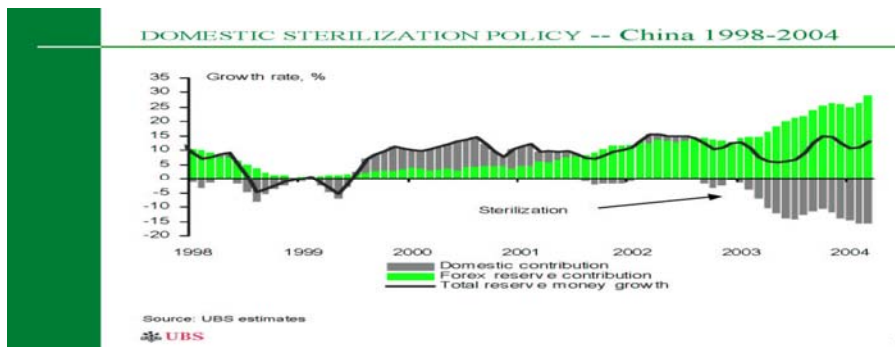
### Historical precedent: £ (1914-1956)

- With a lag after US-UK reversal of size & net debt, \$ passed £ as #1 intl. currency.
- “Imperial over-reach:” the British Empire’s widening budget deficits and overly ambitious military adventures in the Muslim world.
- Suez crisis of 1956 is often recalled as occasion when US forced UK to abandon its remaining pretensions to an independent foreign policy;
- Important role played by simultaneous run on £.

### Addendum 3:

#### Five reasons China should let RMB appreciate, in its own interest

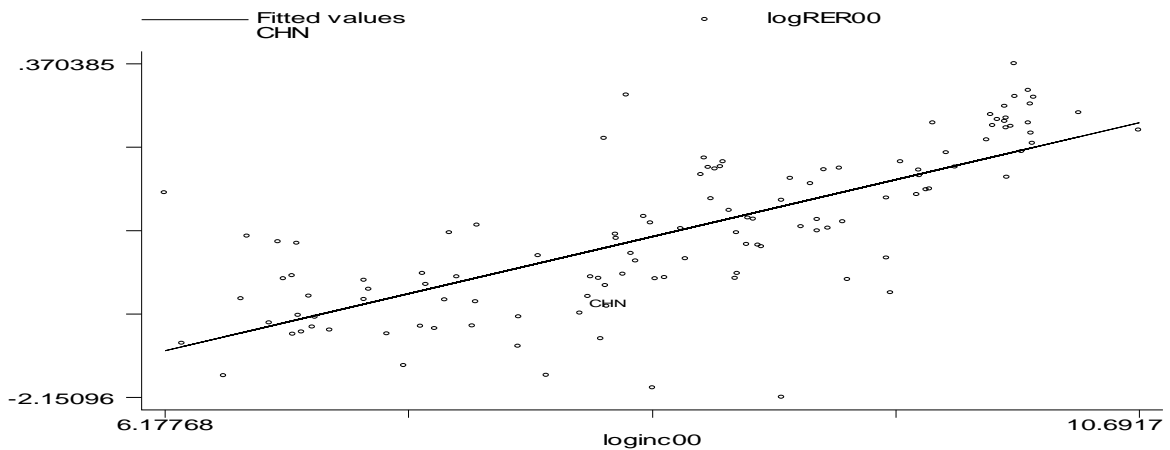
- Excessive reserves (> \$1 trillion > Japan’s)
  - Although a useful shield against currency crises, by now China has enough, and US treasury securities do not pay a high return.
  - It becomes harder to sterilize the inflow over time.
- True, can attain external balance with just spending policy, but 2nd goal is internal balance; to attain both, need 2 policy instruments.
- Avoiding crisis: Experience suggests it is better to exit from a peg when times are good and the currency is strong, than to wait until the currency is under attack.
- RMB undervalued 40% by Balassa-Samuelson.
- 



## Longer-run perspective: Balassa-Samuelson relationship

- Prices of goods & services in China are low
  - not just low relative to the United States (.23)
  - but also low by standards of Balassa-Samuelson relationship estimated across countries (which predicts .36).
- In this specific sense, the yuan was undervalued by approx. 35% in 2000
  - and is by at least as much today.
  - But doesn't imply need for sudden change of this size. Rather, gradual.

### Estimation of B-S relationship for 2000 (118 countries, PWT)



### Does B-S relationship have predictive power?

- Typically across countries, gaps are corrected halfway, on average, over subsequent decade. => 2.2% /yr. for China
- => 4 % real appreciation/yr., including effect of further growth differential of 6%
- Correction could take the form of either inflation or nominal appreciation, but the latter is preferable.

## Nevertheless, it is foolish for US politicians

- to accuse China of manipulation, or
- to give the issue high priority politically in bilateral dealings with China --
  - in light of possible back-firing politically, and
  - other far more important priorities (e.g., re N.Korea) --
- or even to expect effects clearly favorable to US, if China were to comply.

## What about the currency reform announced in July 2005?

- Tactically well-timed to head off Schumer-Graham bill in US Senate
- The 2 ½% appreciation against \$ was trivial,
  - vs. 2005 appreciation of \$ against € & ¥.
- China did not in 2005 do what it said: basket peg (with cumulatable +/- .3% band)
- De facto weight on \$ was still 100%
  - inferred from Frankel-Wei estimation technique.
  - In the rest of 2005, RMB was as tightly pegged to US \$ as was the HK \$ !
  - a good time to switch to true basket peg,
    - before \$ resumed its depreciation against € & ¥.
- But by now (January 2007), the RMB's weight on the US\$ has fallen to 60%.
  - If China were to switch the composition of its reserves correspondingly, this could set off a hard landing for the dollar.
    - => one of several reasons why we may come to regret what we wished for.
    - Along with lack of boost to US TB or manufacturing employment from RMB
- China will take further gradual steps, before long
  - It's just a matter of Hu and Wen.
  - If China ever gave us what we say we want we'd regret it.
    - esp. if it included reserve shift to match switch in basket wts.
    - US TB & employmnt wouldn't rise, but US interest rates would.

## The post-July-2005 de facto regime for the RMB

(1) What is estimated weight on \$, vs. other 11 currencies?

7/22-10/31/05	11/1/05-1/31/06	2/1-4/26/06.
0.99	0.97	0.67

(2) How much variability is allowed around the central peg?

	7/22-10/31/05	11/1/05-1/31/06	2/1-4/26/06
SER RMB	0.0003	0.0002	0.0004

For comparison, over the whole sample, SER yen (a known floater) 0.0036, SER HK \$(a known pegger) 0.0002 .  
I.e., the RMB in late 2005 was still as tightly pegged as the HK \$.

It started to give less weight to the \$ in 2006. Shifted most weight to...Korean won !  
By January 2007, \$ weight is down to 60%.

## Addendum 4: Trade is the proper denominator for judging debt sustainability.

### Cavallo-Frankel (2005) results Dependent variable: **Sudden Stops**

	Probit	IV Probit	IV Linear	IV-GLS RE (linear)
<b>Trade/GDP<sub>t</sub></b>	<b>-0.53</b> (0.259)**	<b>-2.451</b> (0.813)**	<b>-0.066</b> (0.022)***	<b>-0.066</b> (0.026)**
<b>Foreign Debt / GDP<sub>t-1</sub></b>	<b>-0.080</b> (0.217)	<b>0.196</b> (0.275)	<b>0.0066</b> (0.0182)	<b>-0.006</b> (0.0155)
<b>Liability Dollarizatn<sub>t-1</sub></b>	<b>0.316</b> (0.195)	<b>0.591</b> (0.256)**	<b>0.027</b> (0.0169)	<b>0.027</b> (0.0149)*
<b>CurrentAcctn /GDP<sub>t-1</sub></b>	<b>-4.068</b> (1.297)**	<b>-7.386</b> (2.06)***	<b>-0.317</b> (0.10)***	<b>-0.317</b> (0.095)***
<b>Obs.</b>	<b>778</b>	<b>1062</b>	<b>1040</b>	<b>1040</b>

\* Statistically significant at 10%, \*\*5%, and \*\*\* 1%

Additional Controls: Constant term, Year FE, Regional Dummies, International Reserves / Months of Imports, Institutional Quality, GDP per capita, Short Term Debt, FDI/GDP, Dummy for Exchange Rate Rigidity.

9

### Dependent variable: **Currency Crashes**

	Probit	IV Probit
<b>Trade/GDP<sub>t</sub></b>	<b>-0.57</b> (0.269)**	<b>-1.73</b> (0.918)**
<b>Foreign Debt / GDP<sub>t-1</sub></b>	<b>0.23</b> (0.231)	<b>0.59</b> (0.373)*
<b>Liability Dollarization<sub>t-1</sub></b>	<b>0.027</b> (0.249)	<b>0.18</b> (0.234)
<b>Exchange Rate Rigidity Index<sub>t-1</sub></b>	<b>0.13</b> (0.094)	<b>0.22</b> (0.113)*
<b>Ln Reserves in Mo.s of Imports<sub>t-1</sub></b>	<b>-0.26</b> (0.082)***	<b>-0.37</b> (0.099)***
<b>Obs.</b>	<b>557</b>	<b>841</b>

Additional Controls: Constant term, Year FE, Regional Dummies, CA/GDP, Institutional Quality, GDP per capita, Short Term Debt, FDI/GDP.

10