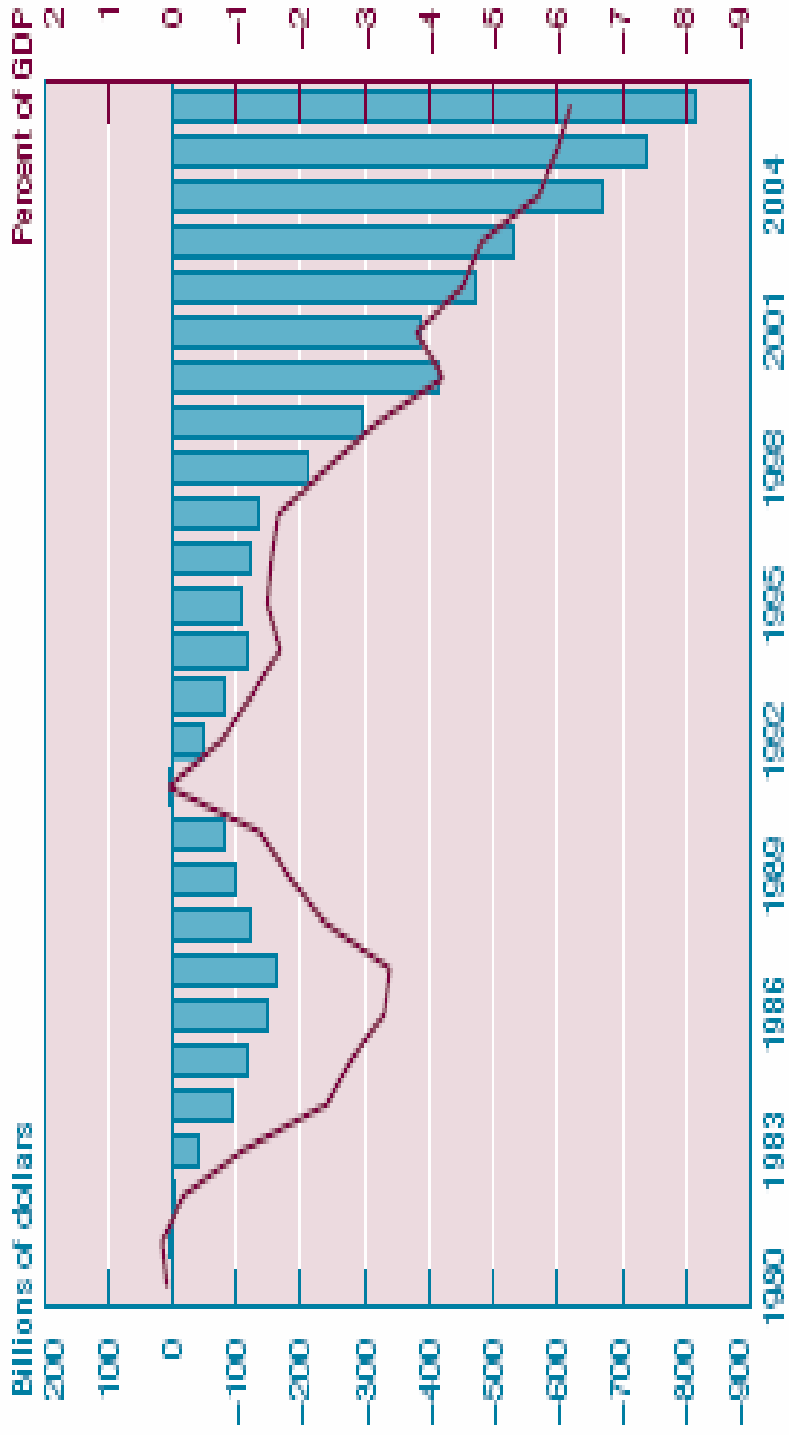


Global Imbalances

January 23rd

Fact #1: The US deficit is big

FIGURE 1 CURRENT ACCOUNT BALANCE



NOTE: Data plotted for 2005 and 2006 are based on the author's estimate.

But there is little agreement on why, or on how much we should worry about it

- Global current account identity ($CA = S - I = I^* - S^*$) is a useful way of understanding the debate.
- The identity must hold; after all, it's an identity.
- But one can imagine that any one of the four components (S, I, S^*, I^*) could be driving the imbalance.
- Depending on which variable one emphasizes, the global imbalance may or may not be a problem.
 - *New economy view* (emphasizing productivity of investment in US) says not.
 - *Inadequate US savings view* (decline in household and gov savings) says it is.
 - *Global savings glut view* (emphasizing rise in global saving since 1997) says not.
 - *Global investment strike view* (emphasizing decline in investment in Japan since 1992 and Asia since 1997-8) says that it is.

What about the new economy
view?

What about the new economy view?

- Yes, U.S. productivity growth, however measured, has risen to Europe's.
- The next slide shows this for labor productivity...

TABLE 1

**Growth Rate and Level of GDP per Hour Worked,
U. S. vs. Europe, 1870-2003**

Annual Average Growth Rate _____ **Europe Level, U. S. =100**

	U. S.	Europe	U. S. - Europe	Europe / U. S.
1870-1913	1.92	1.55	0.37	1870 71
1913-1950	2.48	1.56	0.92	1913 61
1950-1973	2.77	4.77	-2.00	1950 44
1973-1995	1.48	2.25	-0.77	1973 79
1995-2003	2.33	1.15	1.18	1995 94
				2003 85

Here is some additional detail

TABLE 2				
Annual Rate of Change of Output, Hours, and Output per Hour, U. S. vs. Europe, 1990-2003				
	1990-95	1995-2000	2000-03	1995-2003 vs. 1990-95
United States				
Output	2.4	4.1	2.0	3.3
Hours	1.4	2.2	0.1	1.4
Output per Hour	1.0	1.9	1.9	0.9
European Union				
Output	1.5	2.6	1.2	2.1
Hours	-1.0	1.1	0.3	0.8
Output per Hour	2.5	1.5	0.9	1.3
				-1.2

But there are also objections

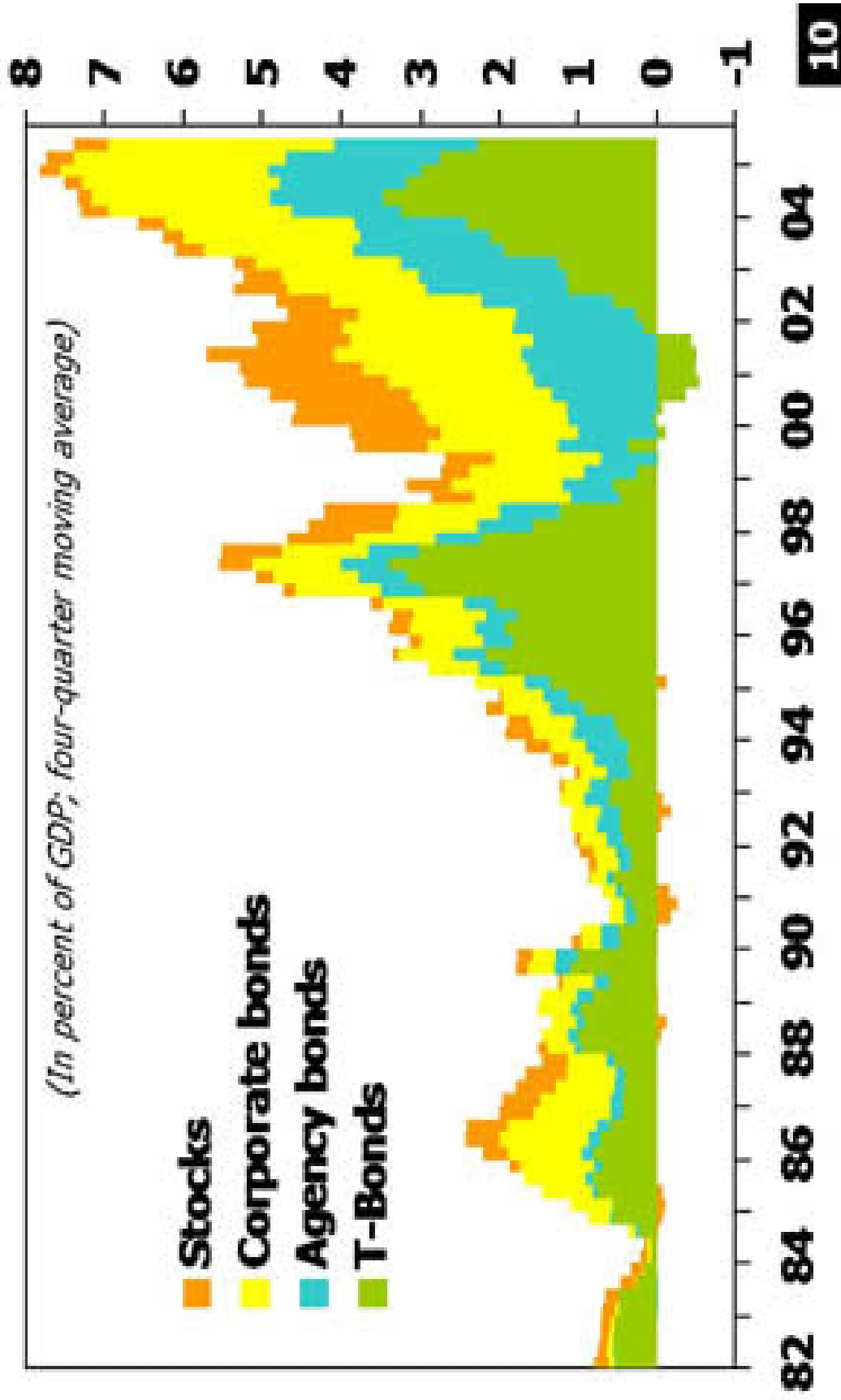
- Labor productivity is rising at 6-7% per annum in China.
- Productivity is now picking up in Europe and Japan as well.
- Is it plausible that investors really believe that investments in the US will continue to outperform that in these other countries?

And there has been no investment surge in the United States.

Since the collapse of the High Tech Bubble in 2000, foreign funds have been flowing mainly into debt, not into US stocks as this story would predict.

U.S. Long-Term Securities Purchased by Foreigners

(In percent of GDP; four-quarter moving average)



And the principle foreign investors have been foreign central banks, not private foreign investors.

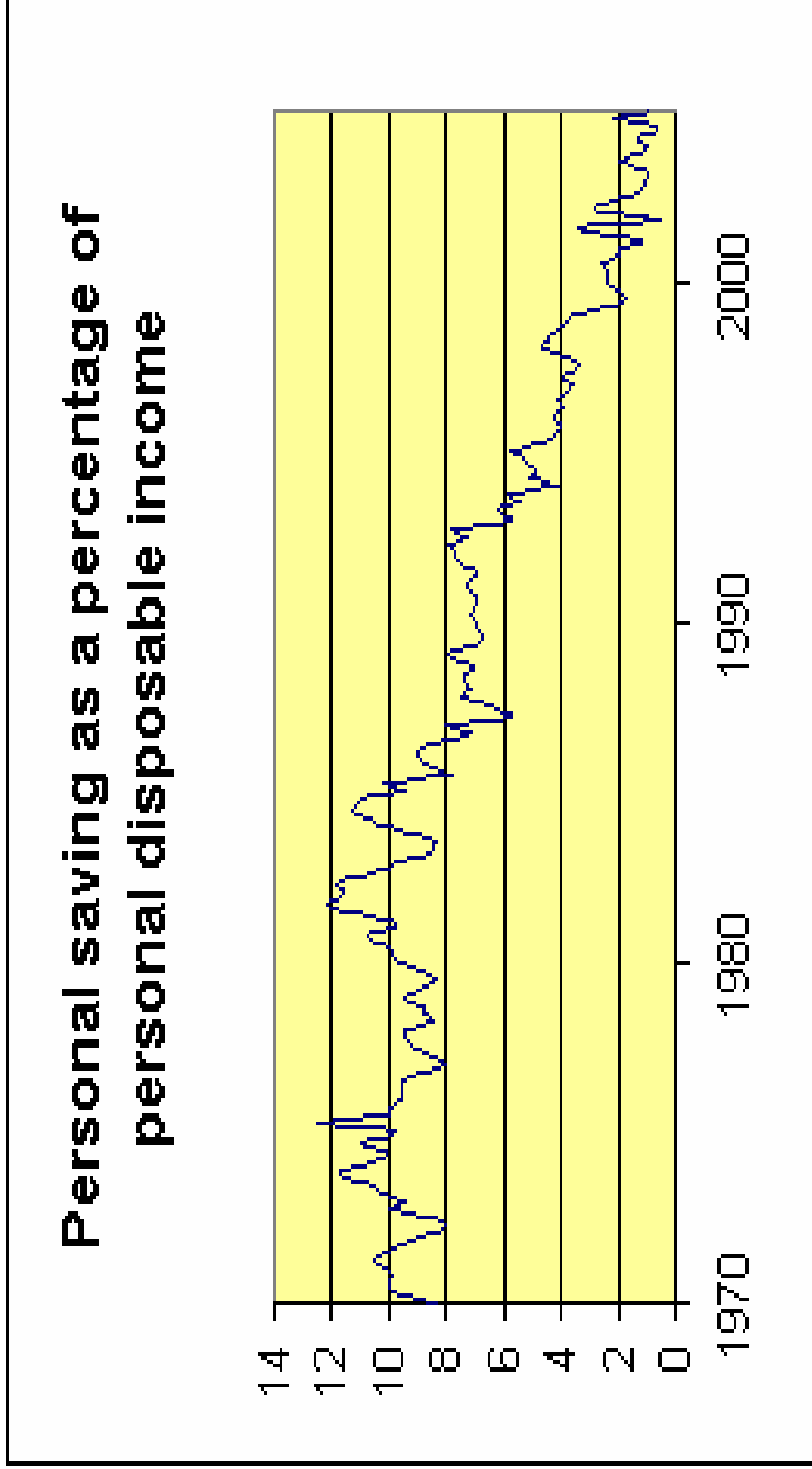
Indeed, so far as we can tell, foreign central banks have accounted for some 75 percent of finance for the US current account balance in recent years.

All of this is a bit difficult to square with the New Economy story.

What about the inadequate US savings view?

- The fact that household savings rates have fallen to near zero is consistent with this emphasis.
 - [See the next slide]

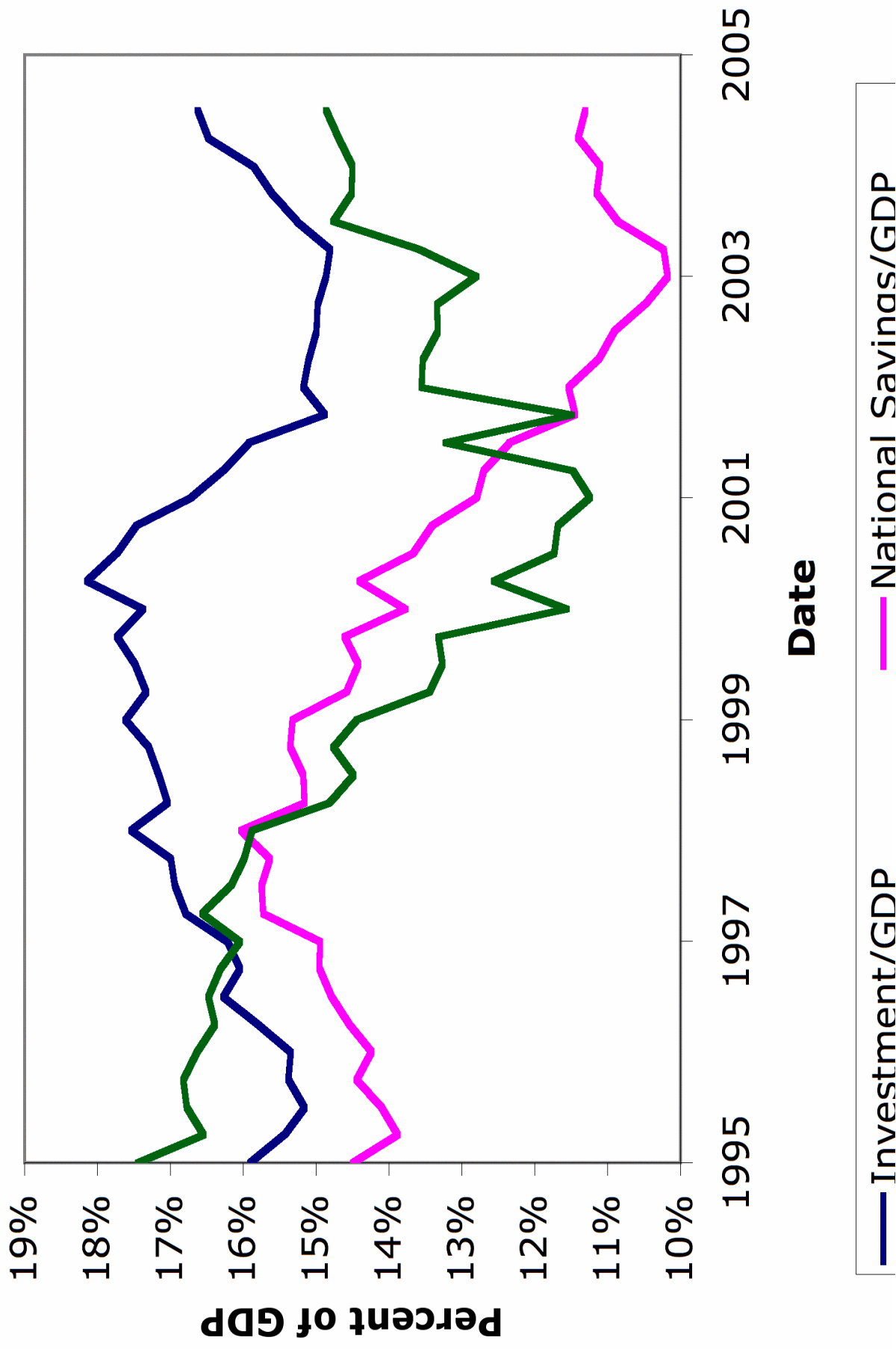
Yes, there has been a personal savings decline



Two objections to this emphasis on low U.S. savings

- Low household saving is the rational reaction to the high stock market and high housing prices. And the latter reflect the healthy fundamental condition of the US economy.
 - But this assumes the validity of the new-economy argument.
- Household saving is not all that matters. Corporations save too, and corporate saving is at all-time highs.
 - So the next graph shows a more comprehensive measure.
 - It is still not all that reassuring.
 - Note: Private +S&L adds State and Local Government (dis)saving to household and corporate saving. The other saving line then adds federal government (dis)saving.
- Thus, it is hard not to conclude that there is something to the inadequate U.S. savings view.

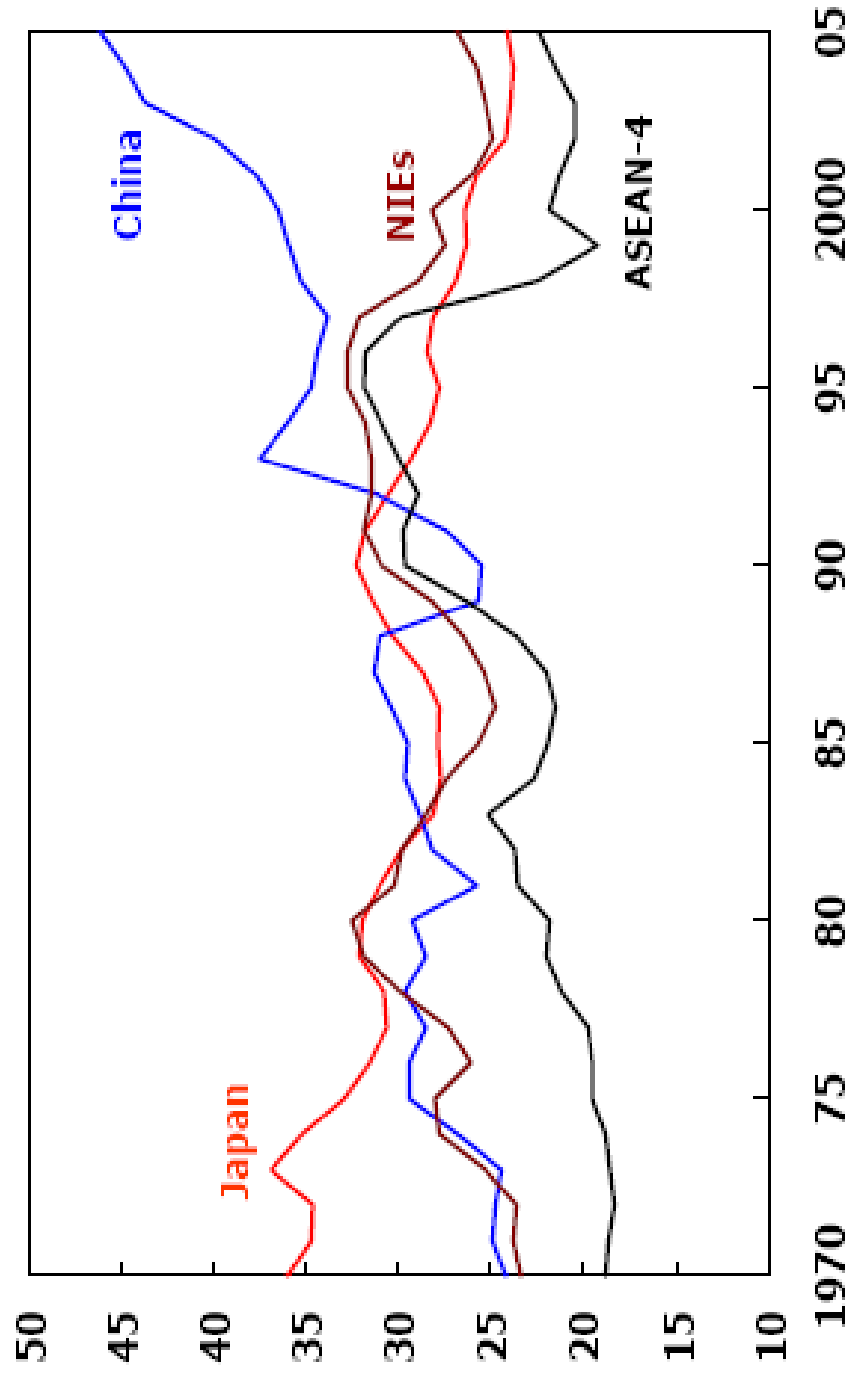
National Savings and Investment



What about the foreign investment strike?

- It is true that European and Japanese investment have been stagnant, while Asian investment declined after 1997 (after the Asian financial crisis).
- The latter is not necessarily a bad thing, if you believe, as many do, that much of the investment of the prior period was relatively inefficient.
- But this generalization ignores China, where investment has been rising sharply.

Asia: Investment
(in percent of own GDP)



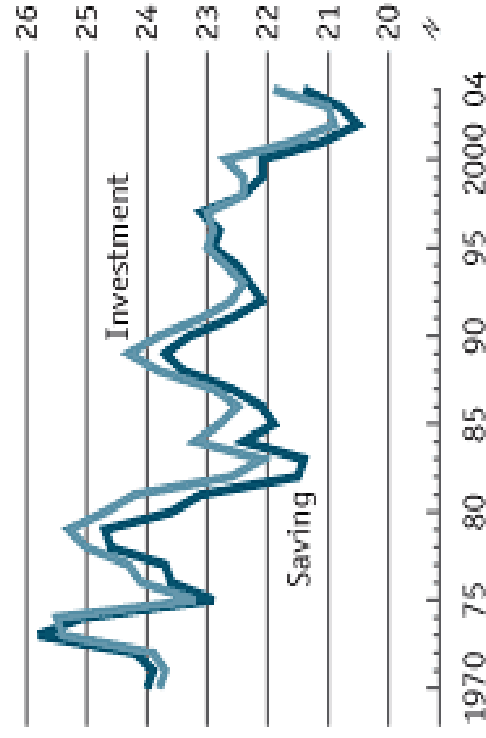
Of course, S^* has been rising faster than I^* in China

- This brings us to the final “high S^* ” explanation.
- This is Chairman Bernanke’s famous “global savings glut” story.
- With the world economy growing rapidly, there is lots of savings, outside the United States in particular. It has to go somewhere, and it flows toward the U.S., financing our current account deficit.
- This story has the singular merit of explaining how it could be that even though the U.S. is running big deficits, global interest rates are low.
- But the data do not obviously bear it out.

1

What glut?

Global saving and investment as % of world GDP



Source: IMF

- If the data were perfect, the two lines could have to coincide.
- But they do not obviously point to excess global savings as the driving force.

Where does this leave us?

- It is probably less appropriate to talk about a global saving glut than a regional saving shift, down in the US, up in the rest of the world.
- US investment has held steady, while investment has declined modestly in the rest of the world from mid-1990s levels.
- Foreigners thus may be willing to park some of their savings, of which they have many, in the U.S. To the extent that this is the driving force, external deficits at the current level are sustainable and benign.
 - To the extent that investors' portfolios have been inadequately diversified internationally, financial globalization points in the same direction.
- But the global imbalance is also being driven by the failure of Americans to finance investment in their economy out of their own savings. To the extent that this is the driving force, external deficits at the current level are not sustainable and benign.
- This eclectic view would then suggest that the U.S. can support a higher external debt/GDP ratio than before, but not without limit.
 - U.S. debt/GDP ratio is currently on the order of 25 per cent.
 - A consensus view would be that, in the future, levels as high as 50 per cent might be feasible.

So what kind of adjustment is needed?

- What adjustments will be needed to stabilize US debt at 50% of GDP?
 - In equilibrium, $n = c/g$
 - Where $c = \text{deficit/GNP}$, $g = \text{nominal growth}$
 - If $g = 0.05$, then c has to fall to 0.025.
 - Thus, the deficit has to fall by 4 percentage points of GDP.
 - And this will require the \$ to fall by some 40 %.
 - The rule of thumb economists use is that a 10% fall in the dollar produces a 1% of US GDP improvement in the current account
 - Optimists would note that the dollar has fallen by 20 % since 2002, and argue that half the adjustment is already in the pipeline. Do recent data suggest this?

Aside: how does a falling dollar improve the savings/investment balance?

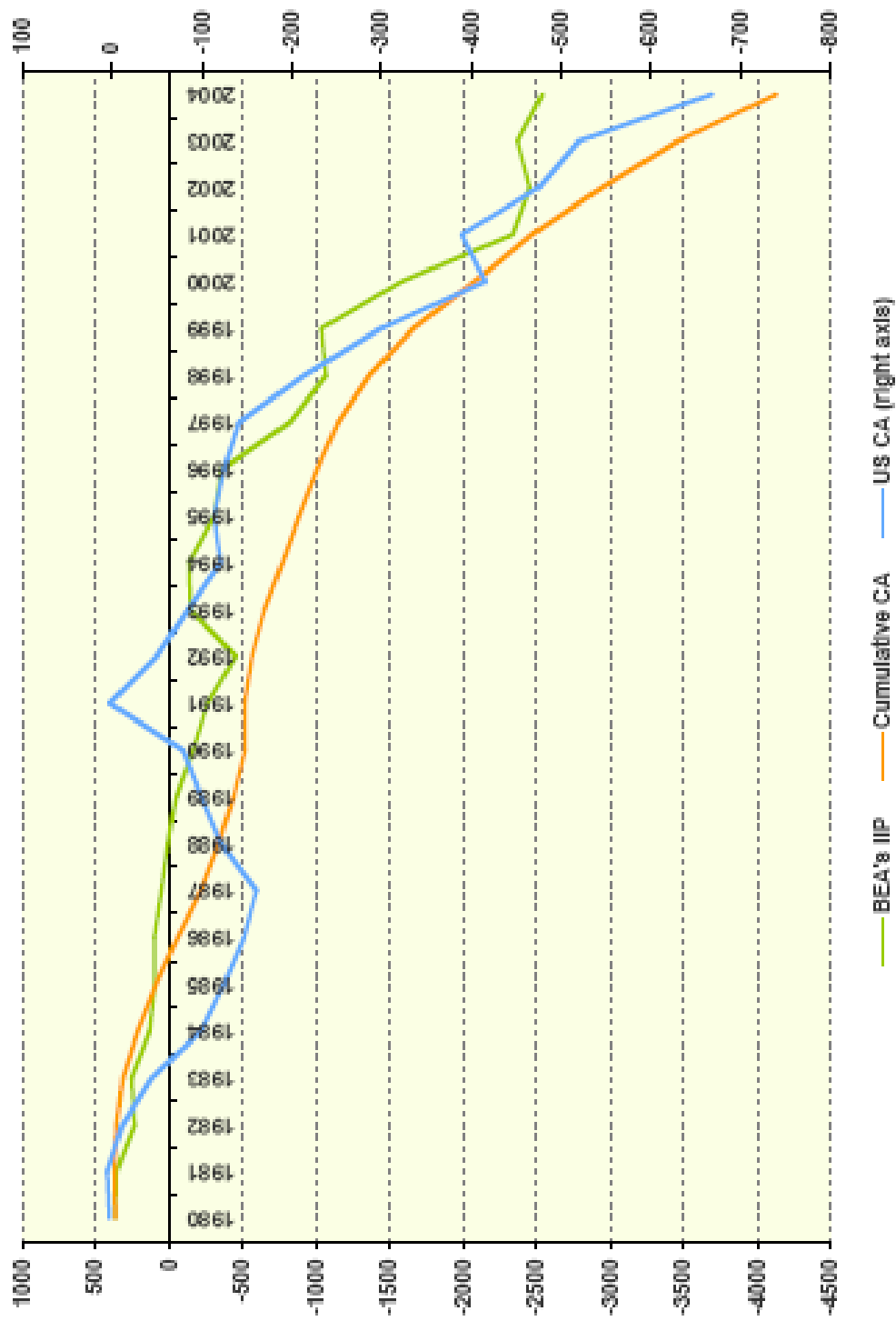
Aside: how does a falling dollar improve the savings/investment balance?

- Falling dollar raises import prices
- Higher inflation forces the Fed to normalize interest rates (as we have seen)
- Higher interest rates mean higher costs of borrowing for households, lower housing prices (as we have seen), less of a tendency for households to use their homes and ATM machines.
- Lower consumption means more saving.
- The less happy side for growth is that less consumption demand and higher financing costs also mean less investment.
- Both more saving and less investment means a stronger U.S. current account, but likely at the cost of a US recession.

Aside: “dark matter”

- But, if you looked at Figure 1 of the Chinn article, you will see that the US current account has moved into deep deficit recently without also increasing US net foreign debt.

Figure 1. The US Current Account and it's International Investment Position (in billions of US dollars)



- **Why is this?**
 - The current account really isn't in deficit. There is something unmeasured holding it together (like dark matter holding together the universe). Unmeasured earnings from the value of US brands (Disney, Apple etc.).
 - There is a deficit, but since US foreign liabilities are in dollars while our foreign assets are in, inter alia, euros, when the dollar loses value we enjoy capital gains and they suffer capital losses. In other words, the balance sheet effects work in our favor.
- **Is this plausible?**
- **And will it continue?**

Won't foreigners catch on?

- Won't they demand that we borrow from them in their own currencies?
 - This will occur, in practice, by their diversifying out of existing dollar balances.
- If so, balance sheet effects won't automatically work in our favor.
- On these and other grounds, I am inclined to dismiss the reassuring “dark matter view.”

If so, the dollar must fall by at least another 20%

- US trade with Asia equals US trade with Europe to a first approximation.
- So this can be accomplished either by:
 - A 20% fall against both the euro and Asian currencies
 - Or a 10% fall against the euro and a 30% fall against Asian currencies (more appropriate given the strength of their respective economies).
- But it implies a “brutal” 40% appreciation of the euro against the dollar if Asian currencies don’t move.
 - And whether Asian currencies move hinges on what the big dog, China, does.

China objects:

- Its economy is growing at capacity
- Social stability requires moving 10 million peasants a year into the modern manufacturing sector. And that means growing exports by 20% per annum.
- It lacks the sophisticated financial markets and hedging instruments needed to cope with a variable exchange rate.
 - Significantly greater flexibility, in the Chinese view, should wait on the development of deeper and more sophisticated financial markets.

But is the RMB in fact undervalued?

- Economists, not for the first time, don't agree.
- They take two approaches to answering this question:

So is the RMB undervalued?

- Economists take two approaches to answering this question:
 - The simple or augmented PPP approach
 - The external balance approach
- Everyone knows what these are?

Simple PPP approach

- $P = e P^*$ should hold in equilibrium
- If P is 10% lower than eP^* , then the currency is 10% undervalued.

But are there problems with the
simple PPP approach?

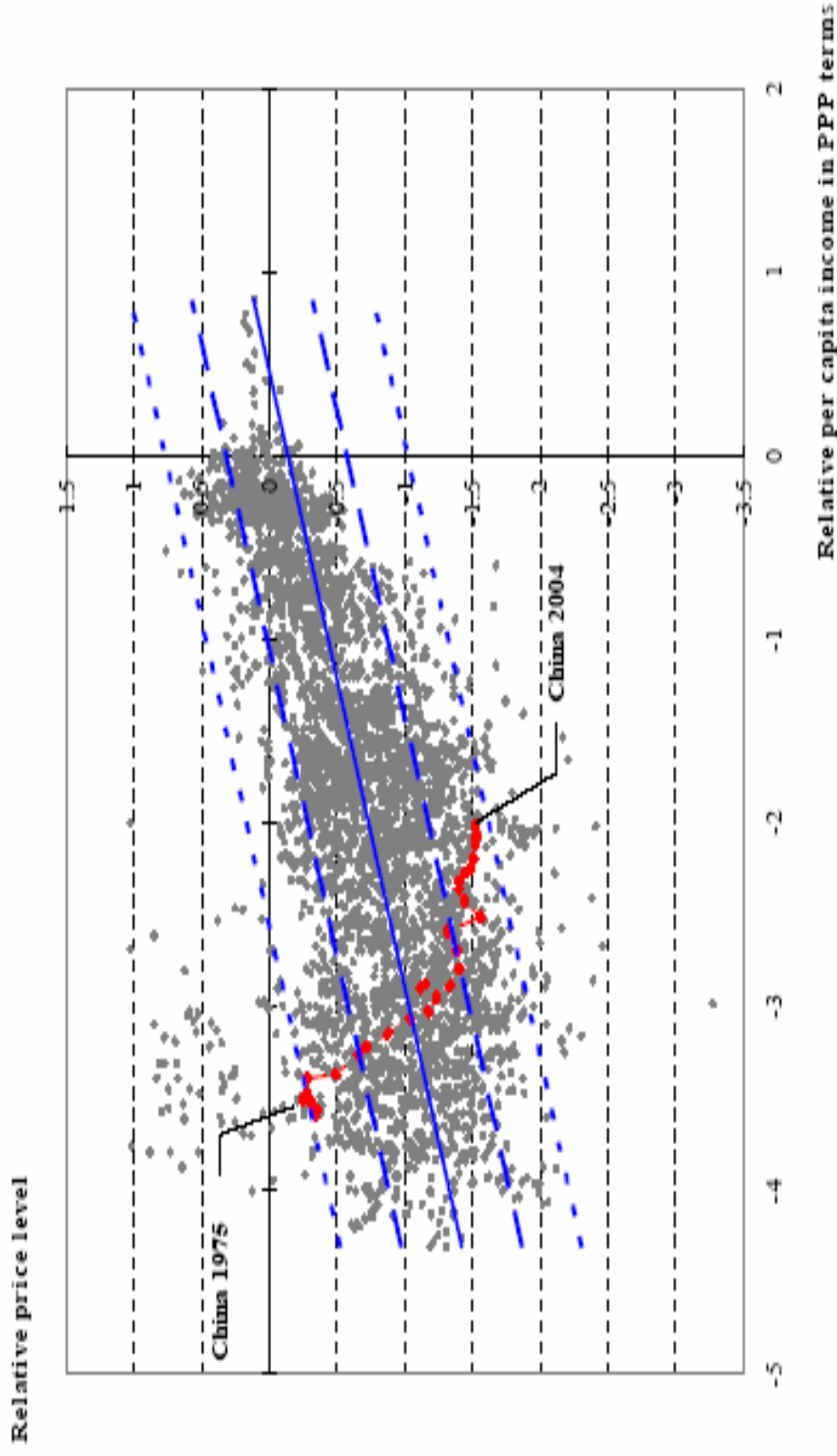
But are there problems with the simple PPP approach?

- Absolute PPP plausibly holds for traded goods.
- But not for traded goods.
 - The cost of a shoeshine or a haircut in India is much lower than the cost of a shoeshine or haircut in America.
 - Everyone understands why?
 - This tendency for the price of nontraded goods to be higher where incomes are higher even has its own name, the Balassa-Samuelson effect.
 - But how much higher? How do Chinn et al. attempt to answer this?

They use the augmented PPP approach

- They regress P/eP^* on Y_{PC} / Y_{PC}^*
- This then generates the typical (“equilibrium”) relationship.
- Then look to see by how much a country deviates from that to judge by how far its currency is “out of equilibrium.”

Here's the typical relationship (solid line), 1 & 2 s.e. bands, and actual for China. So they conclude: China's currency is 40% too low



What's wrong with this picture?

What's wrong with this picture?

- Answer depends on your null hypothesis.
 - China is still within the 2 s.e. bands
 - We also cannot reject the null that the renminbi is 0% undervalued.
 - So the test is at best very weak.

What else is wrong with this
picture?

What else is wrong with this picture?

- The test assumes that nothing besides relative incomes affects relative prices.
- In particular, as the authors acknowledge (you will have had to be a careful reader to find the footnote), it assumes “external balance” (that current accounts are in equilibrium).
- And the current account balance between the US and China is, in fact, far from zero.

So is it possible to augment the augmented
PPP approach to take this fact on board?

So is it possible to augment the augmented PPP approach to take this fact on board?

- Imagine regressing P/eP^* on Y_{PC} / Y_{PC}^* and also on the Current Account Balance.
- But the CAB and relative prices are simultaneously determined. So estimating this relationship is easier said than done. (Doing so requires an instrument. Might be an interesting subject for a final paper for this course. I have the authors' data set if you'd like to try.)

Alternative is the external balance approach

- We have already seen how this works. You make assumptions about:
 - By how much a 10% depreciation of the dollar will improve the U.S. CA deficit (recall: typically, economists assume by 1% of US GDP)
 - What CA/GDP ratio is sustainable for the US
 - Recall: typically economists assume 2.5%, since together with nominal income growth of 5% this yields a 50% debt/GDP ratio in equilibrium.

Reminder of the underlying arithmetic

- In equilibrium: $n = c/g$, where:
 - n = ratio of net external debt relative to GDP
 - 50% would be a very high ratio for a country like the United States. We have never seen a large country with a ratio that high during peacetime.
 - c = current account deficit relative to GDP
 - g = nominal growth rate of the economy
 - So if $g=5$ (3% growth + 2% inflation), we must cut the deficit to 2 1/2% of GDP from its current 6 1/2 per cent

- Then to cut the U.S. deficit ratio by 4 points, the dollar has to fall by 40% (hopefully, only an additional 20%, since 20% has already occurred).
 - Note that now we are talking about the dollar's value against all foreign currencies (its "trade weighted value"), and not just its value against the renminbi.
 - But for the reasons just described, it is hard to imagine that we will see a smooth adjustment without Chinese participation.

So what should the Chinese do?

- Move more quickly in the direction of greater flexibility, and let the renminbi appreciate.
- Realize that the financial market development they prize responds to asset market flexibility (it is not merely a precondition).
 - That is a lesson of Japanese experience in the 1970s.
- And if China moves, the rest of Asia can continue moving.
- The entire burden will not fall, in this case on Europe.
- Meanwhile, China and other Asian countries can stimulate demand.
- And one can then at least hold out hope for the possibility of smooth rebalancing of the global economy.