

Comments on: “Demography and International Capital
Flows”

by David Backus, Thomas Cooley and Epsen Henriksen

Charles Engel

University of Wisconsin

ISOM meetings, Rome, June 2013

Demography and Capital Flows

- A large literature has examined the influence of demographic factors on saving and capital flows.
- The contribution of this paper is to calibrate the population transition matrix to mortality data for specific countries to see how much of the current account can be accounted for by demographics.
- Feeding in data on a hypothetical world interest rate (whatever that is) that loosely matches the data, the model does well in matching current account balances for Japan and the U.S.
- It would be better to have the real interest rate compatible with the rest of the model, but that would require modeling multiple countries simultaneously.
- China is the big problem here.

Questions

The rest of my comments focus exclusively on China – there has been much research on China's capital flows that includes examination of demographic and related factors.

- Why is China's saving rate so high?
- Why did the saving rate grow so much from 2000-2008?
- Why is investment less than saving ($S - I = CA > 0$)?
- Can we talk about the determination of the current account without talking about determinants of exports and imports ($S - I = CA = X - M$)?

Is a NeoClassical Model Appropriate?

There are many distortions in Chinese economy that may play a role:

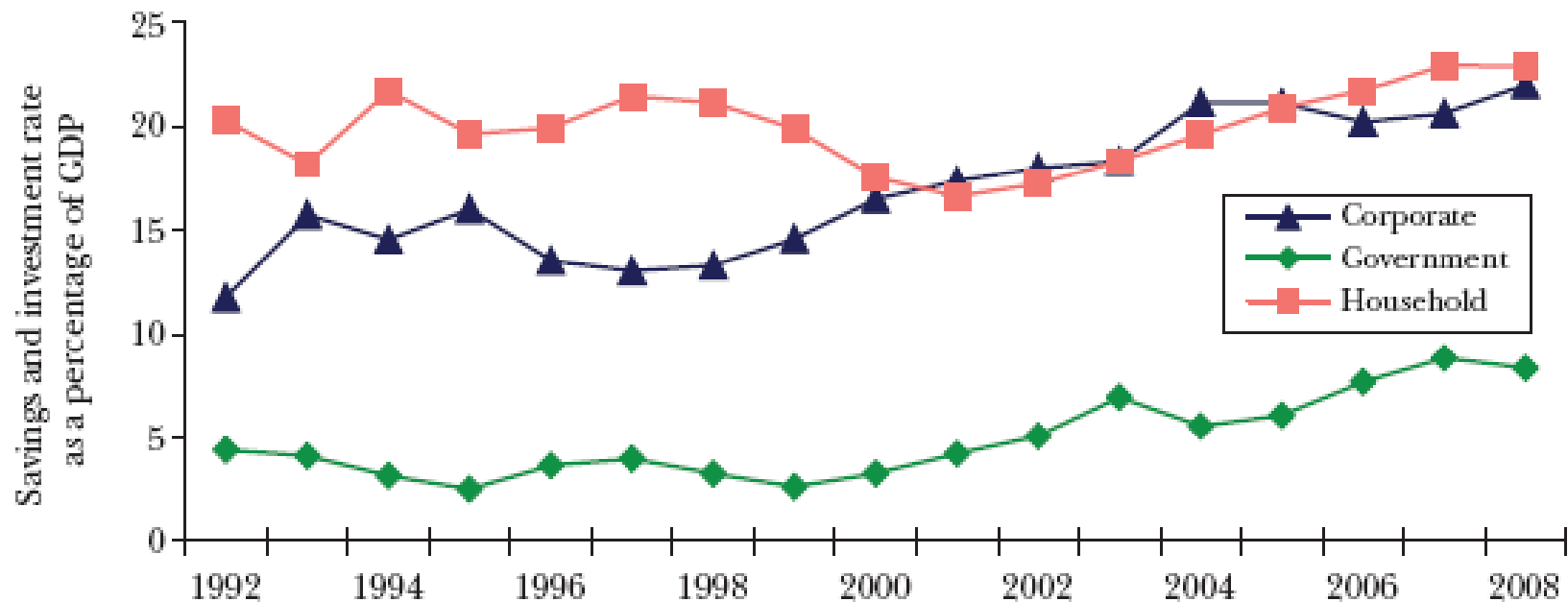
- Lack of savings vehicles for Chinese households
- Underdeveloped credit markets for private enterprises (PEs) and households.
- Bank lending is directed by government; mostly toward SOEs and not PEs
- Capital controls on inflows and outflows
- Foreign exchange rate stabilization and reserve accumulation
- Size of the SOE sector
- Not to mention the role of poorly defined and enforced property rights, corruption, favoritism toward Party insiders, fear of appropriation, etc.

Why is China's Saving High and Rising?

- High and rising corporate saving
- High and rising government saving
- High and rising household saving

Corporate, Government and Household Saving

C: Savings rate by sector



Yang, Dennis Tao, "Aggregate Saving and External Imbalances in China." *Journal of Economic Perspectives* 26 (4), 125-146.

High and Rising Corporate Saving

- In private sector, investment is financed through saving. PEs lack access to bank loans and credit markets
- SOEs do not rebate profits to government
 - buy safe assets
 - reinvest to build empires

Yang, op. cit.

Song, Zheng; Kyetel Storesletten; and, Fabrizio Zilibotti. 2010. "Growing Like China." *American Economic Review* 101, 196-233.

High and Rising Government Saving

- Tax collections grew in 2000s as taxes on PEs rose
- Rising income taxes and social insurance taxes
- Overall level of taxes still low compared to advanced economies
- Spending on social insurance, health, education, etc., is low and not rising as fast as tax collections.
- State spending on retirement has fallen as SOE sector has shrunk.

Yang, op. cit.

Chamon, Marcos, and Eswar S. Prasad. 2010. "Why Are Saving Rates of Urban Households in China Rising?" *American Economic Journal: Macroeconomics* 2 (1), 93-130.

High Household Saving: I

- Households and small businesses have less access to formal credit markets
- They save to finance investment and purchases of durables
- Privatization of housing stock (new housing purchases and investment in upkeep and upgrade of old housing.)
- During transition, saving may even exceed investment in fixed capital and durables, as savers must accumulate funds first to buy capital and durable goods.

Song, et. al., op. cit.

Chamon and Prasad, op. cit.

Blanchard, Olivier, and Francesco Giavazzi. 2006. "Rebalancing Growth in China: A Three-Handed Approach." *China and the World Economy* 14, 1-20.

Buera, Francisco J., and Yongseok Shin. 2010. "Productivity Growth and Capital Flows: The Dynamics of Reform." Working paper, Dept. of Economics, UCLA.

High Household Saving: II

- Saving across age cohorts in China has a U-shape in recent years
 - Highest saving rates are among the young and the old
 - The opposite of the prediction of the life-cycle hypothesis

Chamon and Prasad, op. cit.

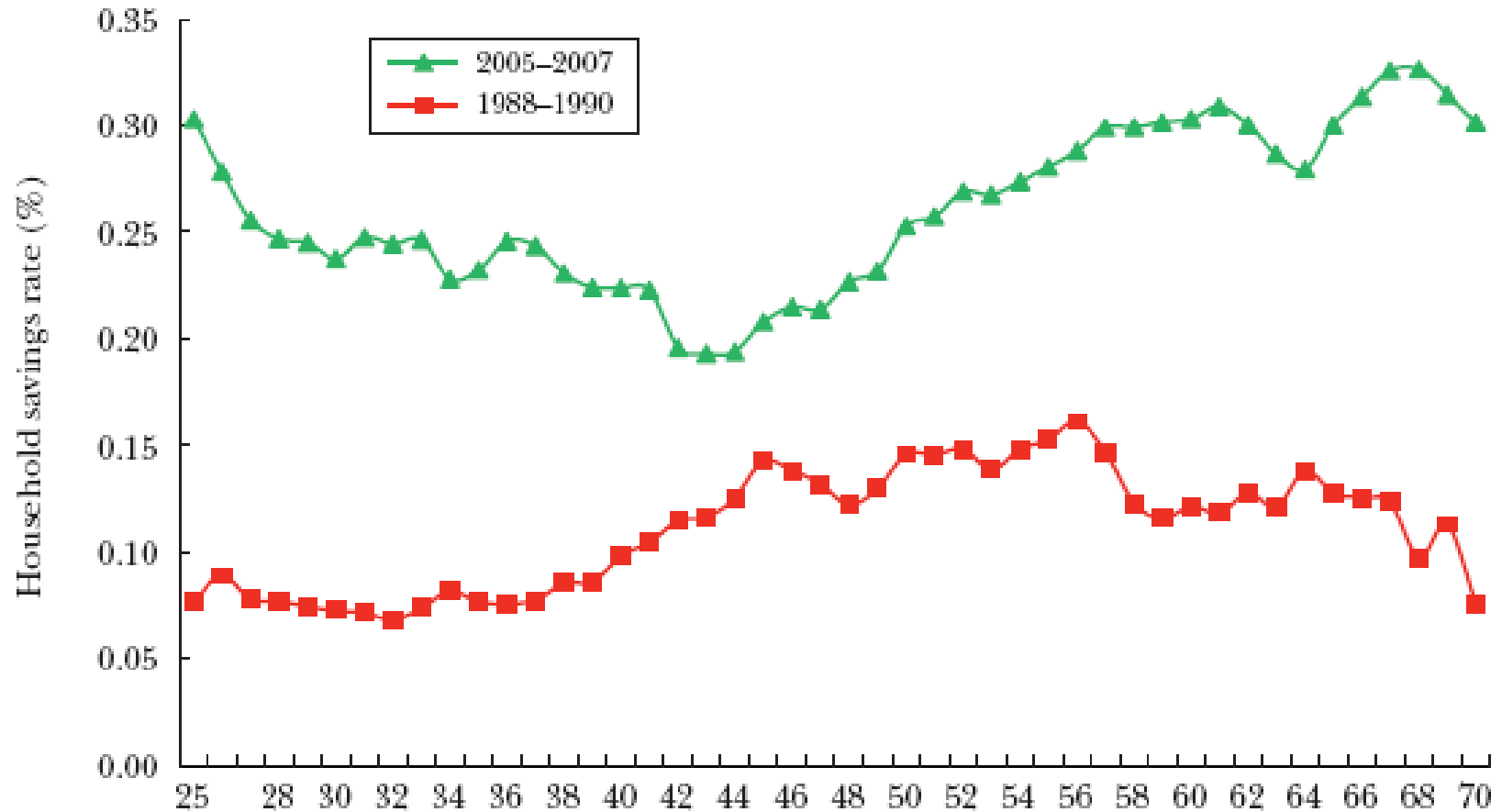
Yang, op. cit.

Chamon, Marcos; Kai Liu; and, Eswar Prasad. 2011. "Income Uncertainty and Household Savings in China." Working paper, Dept. of Economics, Cornell.

Song, Zheng Michael, and Dennis T. Yang. 2010. "Life Cycle Earnings and the Household Saving Puzzle in a Fast-Growing Economy." Working paper, Chicago Booth.

Saving is Lowest at Age 45

Average Household Savings Rate by Age of Household Head



Yang, op. cit.

Why Do the Young Save So Much Now?

- Increased income uncertainty
- Increased private burden for education expenses
- Saving for housing
- Rising income has flattened earnings profile across young and middle-aged (so not the same as Modigliani assumed in formulating life-cycle hypothesis.)

Chamon and Prasad, *op. cit.*

Blanchard and Giavazzi, *op. cit.*

Chamon, et. al., *op. cit.*

Song and Yang, *op. cit.*

Why Do the Old Save So Much Now?

- Public retirement system broke down as SOEs declined
- Fewer children to support retirees (one-child policy)
- Expectations of declining income growth lead older workers to save more

Blanchard and Giavazzi, *op. cit.*

Chamon and Prasad, *op. cit.*

Chamon, et. al., *op. cit.*

Song and Yang, *op. cit.*

Curtis, Chadwick; Steven Lugauer; and Nelson C. Mark. 2013. "Demographic Patterns and Household Saving in China." Working paper, Dept. of Economics, Notre Dame.

Choukhmane, Taha; Nicolas Coeurdacier; and, Keyu Jin. 2013. "The One-Child Policy and Household Savings." Working paper, LSE.

Demographics and One-Child Policy

Channels through which the one-child policy increases saving:

- “Fewer mouths to feed” so more income can be saved
- More saving for old age since there are fewer children to rely on
- Composition effect – the size of the “prime working age group” (20-63) increased from 46% in 1970 to 65% today, as there are fewer children.

Curtis, et. al., op. cit.

Choukhmane, et. al., op. cit.

Other Implications of One-Child Policy

- The one-child policy led to a gender imbalance, with more male children
- Parents of male children save more so their sons will be more attractive on the marriage market

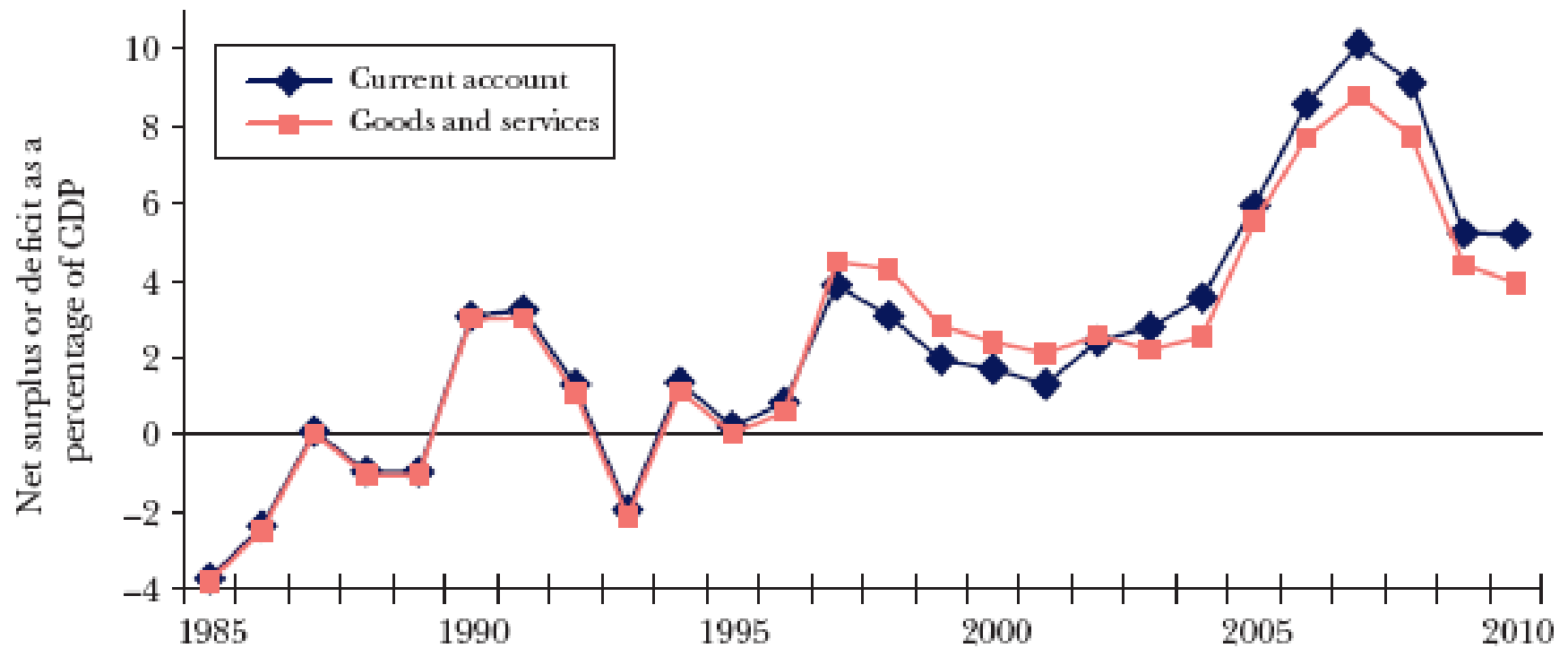
Wei, Shang-Jin, and Xiaobo Zhang. 2011. "The Competitive Saving Motive: Evidence from Rising Sex Ratios and Savings Rates in China." *Journal of Political Economy* 119, 511-564.

Why is $I < S$?

- In a world of perfect capital mobility, I need not be financed by S , and S need not be channeled into I .
 - However, in the large literature on the Feldstein-Horioka puzzle, there are many endogenous changes that lead high S countries to have high I even when capital is perfectly mobile.
- In any case, capital is not mobile in China. There are tight controls on inflows and outflows
- Private capital inflows exceed outflows, but the central bank has massively acquired reserves ($CA + PKA = -(ORT)$)
+ + -

Current Account

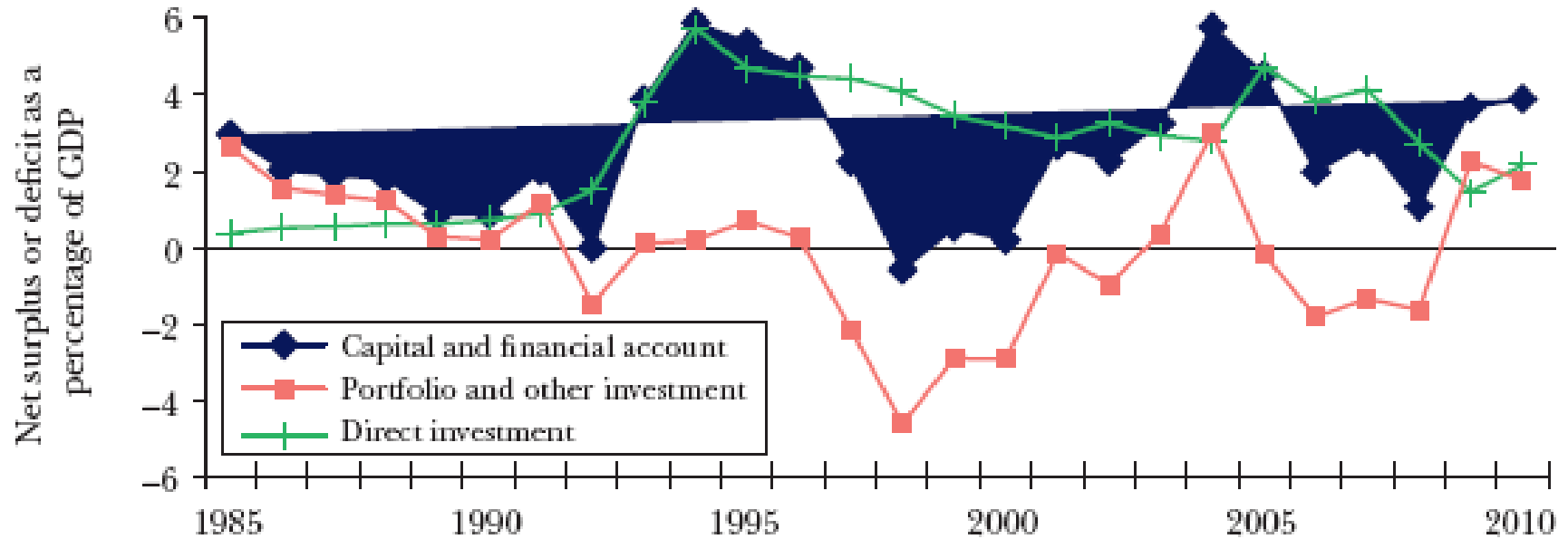
A: Current account



Yang, op. cit.

Private Capital Account

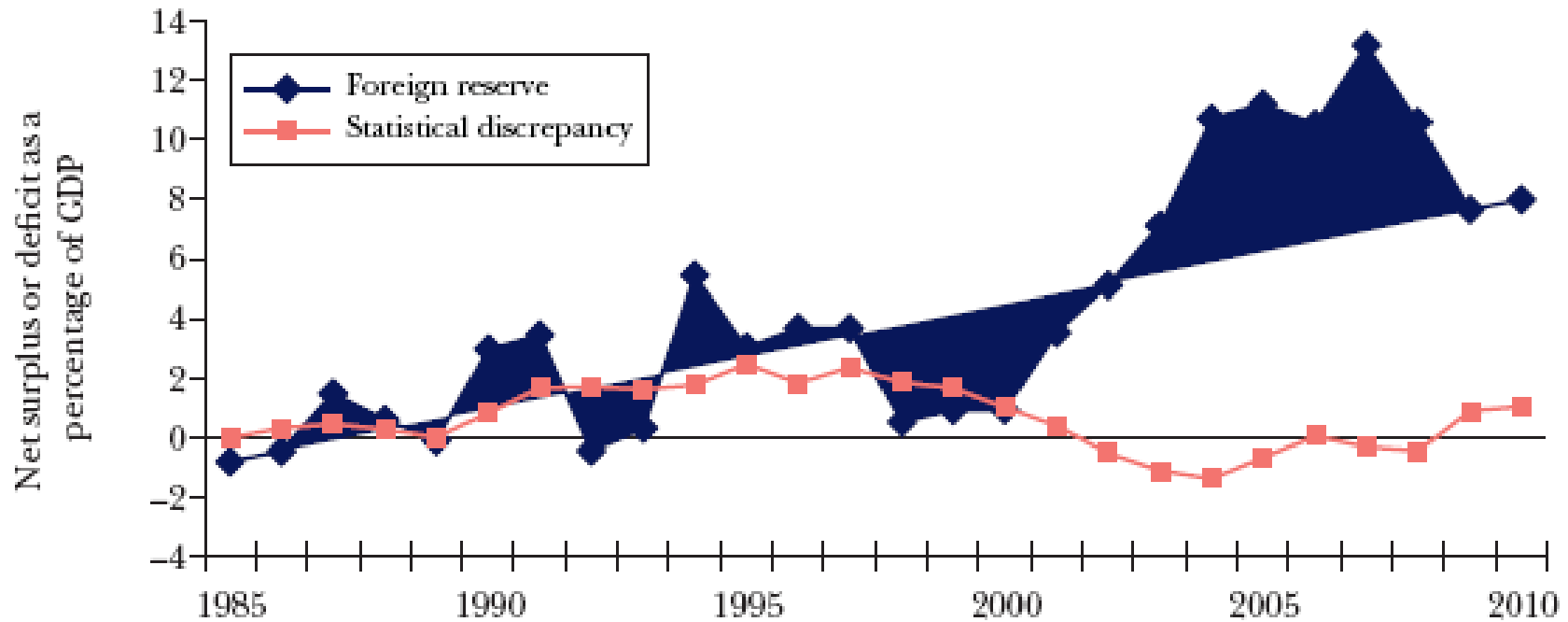
B: Capital and financial account



Yang, op. cit.

Foreign Reserve Accumulation

C: Foreign reserve and statistical discrepancy



Yang, op. cit.

Balance of Payments Identities

If

1. PBoC acquires reserves (perhaps in order to stabilize the exchange rate, or possibly for other reasons),
2. Reserve accumulation exceeds net capital inflows allowed by government
3. Then CA must be positive

In this sense, CA is “controlled” by government decisions on reserve accumulation and net capital flows.

If ORT and PKA are determined exogenously by government policy, CA is determined exogenously

- Economic models will only tell us how markets adjust to policy-determined CA. S and I would not be independently determined, and $S - I$ is not determined at all by markets.

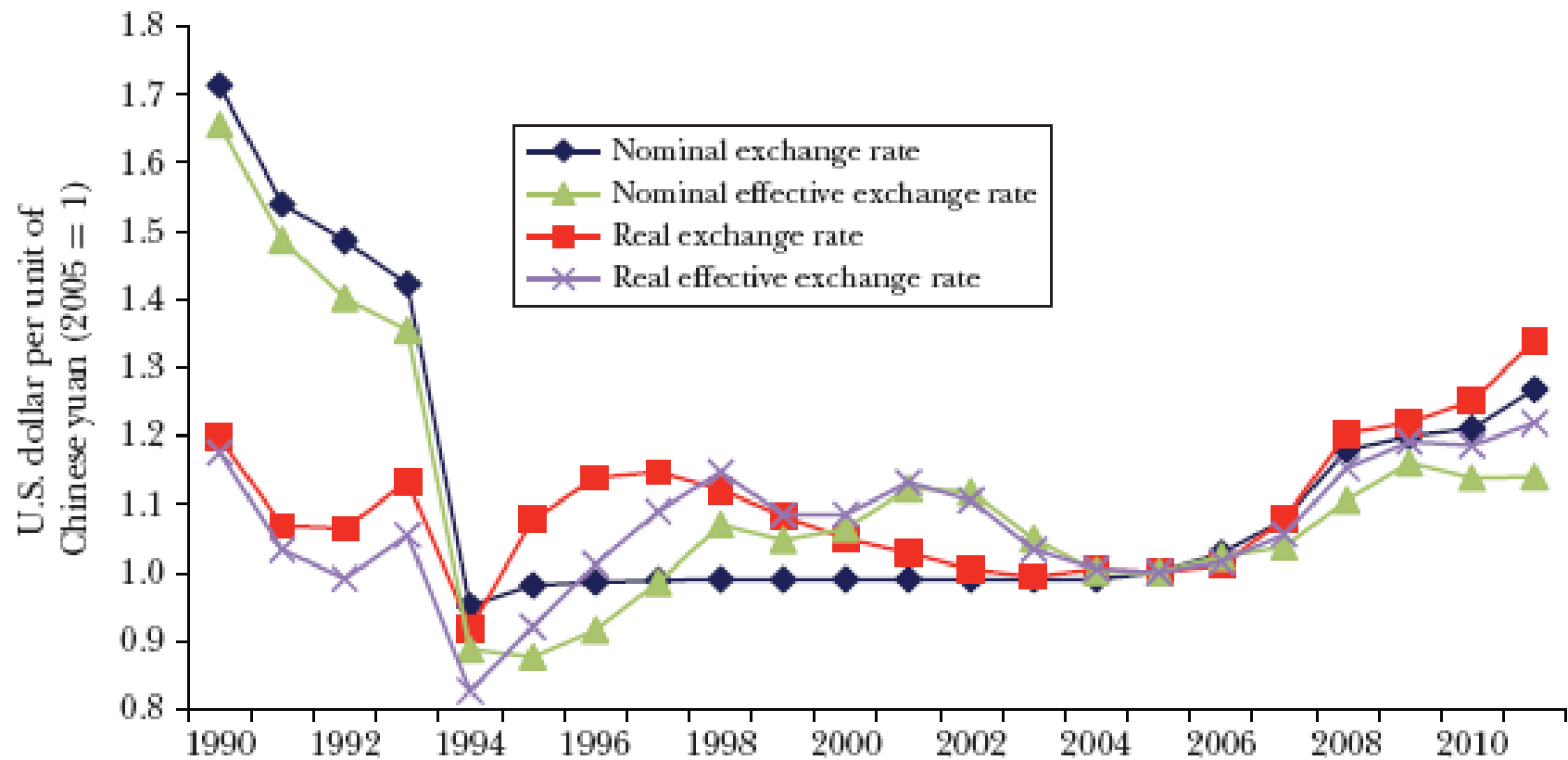
What is Exogenous?

- As I said, if ORT and PKA are exogenously determined by policy, CA is exogenously determined
- What is China's exchange rate policy?
 - Are they targeting the nominal exchange rate and ORT is endogenous?
 - Are they targeting the exchange rate, and ORT is determined endogenously by $ORT = -(CA + PKA)$?
 - Or do they target both the ORT and the exchange rate?
- My general point is that a full model of China's current account cannot simply model S and I in a vacuum, without considering China's controls on PKA, and their policy for ORT/exchange rates.

Does the Exchange Rate Matter?

- China could control the real exchange rate for long periods. It does not require nominal price or wage stickiness.
- Capital controls breaks the Trilemma. They can have independent monetary policy (controlling P), and use sterilized intervention to target E.
 - This is true even with no nominal stickiness
 - Alternatively, recognize that capital controls are a real distortion that can affect real prices.
- Nonetheless, I believe the real exchange rate has not been the channel of adjustment in China. (No time for details now. Discuss over a very large bottle of Chianti.)

^c
Index of Renminbi Exchange Rate against the U.S. Dollar, 1990–2011



Yang, op. cit.

Conclusions

- Absent capital controls and foreign reserve accumulation, I expect China would still have a current account surplus
- This would be driven by high household, corporate and government saving
- So, in this sense, the focus on saving in understanding China's current account is appropriate – the outcome, I think, would be the same without the controls and intervention.
 - But this is only a (wild) guess. I think serious models of the implications of high Chinese saving need to take into account the identities:

$$-(ORT + PKA) = CA = S - I$$

and recognize that ORT and PKA are at least to some extent, policy choices in China and not endogenously determined.

- To the extent that saving is the proper focus, there are many valid explanations of high Chinese saving, including demographics.

Extra Slide: Role of Exchange Rates

I will stipulate the following. There's no time to discuss it here – maybe over a nice bottle of Chianti:

- Renminbi is mildly undervalued (by Balassa-Samuelson standards)
- The adjustment to the policy choice of $CA > 0$ has mostly not occurred through the effects of exchange rates on prices, but through other channels
- If China chose a lower CA , the adjustment would probably not happen through the channel of the effect of exchange rates on prices
 - Unless they allowed a truly massive appreciation.

Extra Slide: Countefactual I

Suppose PBoC stops buying foreign assets, but capital controls not relaxed

- Then CA must adjust toward 0 (or < 0 if $PKA > 0$)
- Channels of adjustment:
 - Increase in investment? I/Y may be near its “speed limit”, at 40%.
 - Financial system may be allowed to reallocate lending toward more efficient private sector.
 - Policymakers would encourage lower saving. This cannot work through lower interest rates on saving, but perhaps through greater access to credit.

Extra Slide: Countefactual II

- Suppose capital controls are relaxed and PBoC stops buying foreign assets
- But there is no reform of internal financial sector
- My guess is we would see a large net financial outflow.
- Banks and households would acquire a lot of foreign assets – replacing, in essence, the PBoC's purchases of foreign assets

Portfolio might shift toward riskier foreign assets (though maybe not, at least now when there has been a worldwide flight to safety.)