Thinking About International Capital Flows

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Plan of attack

Thoughts about capital flows

Evidence

Demography

Parts of a model

Speculating about China

Thoughts

Thoughts about capital flows

Michael Bordo, "Globalization in historical perspective," 2002

> *The fifty years before World War I saw massive flows of capital from Western Europe to (mainly) the Americas and Australasia. At its peak, the outflow from Britain reached nine percent of GNP and was almost as high in France, Germany, and the Netherlands. Private capital moved essentially without restriction ... into bonds that financed railroads and other infrastructure — and into government debt.*

Link: http://econweb.rutgers.edu/bordo/nabe.pdf

Thoughts about capital flows

Lars Jonung, “Sweden under the gold standard,” 1984

> *In the second half of the nineteenth century, Sweden began a process of industrialization financed by considerable capital imports which transformed a basically agrarian country into an industrialized society.*

From Bordo & Schwartz, *Retrospective on the Gold Standard*

Thoughts about capital flows

Michael Bordo, "Globalization in historical perspective," 2002

> *A striking feature is the size and persistence of current account deficits in this period, esp in Australia, Canada, Argentina, and the Nordic countries, as well as the surpluses of the UK and France.*
>
> *This globalization of finance had its dark side — in periodic crises when capital flows abruptly reversed themselves.*

Link: http://econweb.rutgers.edu/bordo/nabe.pdf

Thoughts about capital flows

John Maynard Keynes, 1941-42

> *I disagree most strongly that the control of capital movements may be unnecessary. ... I see no reason to feel confidence that the more stable conditions [of the post-war era] will remove the more dangerous movements [of capital].*
>
> *Central control of capital movements, both inward and outward, should be a permanent feature of the post-war system.*

Quoted by Crotty, JEL, 1983

Thoughts about capital flows

Daniel Gross, *New York Times*, May 8, 2005

> *[US] imbalances are eerily reminiscent of recent economic crises. Could we see a perfect storm [for the US economy]? If so, what would it look like?*
>
> - ⋆ *Nouriel Roubini estimates that long-term interest rates in the US could rise sharply and the dollar fall.*
> - ⋆ *Jeffrey Frankel adds: "some of us have been warning of this hard-landing scenario for more than 20 years."*

Thoughts about capital flows

Øystein Olsen, Norges Bank, March 2011

> *Global trade imbalances have been reduced somewhat over the past two years, but there is a considerable risk that they will persist. They must be corrected.*

Group of 20, Communique, April 15-16, 2011

> *We agreed on a set of indicative guidelines ... to address persistently large imbalances. We now launch ... an in-depth assessment of the nature of these imbalances and the root causes of impediments to adjustment. ... We will ascertain for our next meeting the corrective and preventive measures.*

Thoughts about capital flows

Dick Caves and Ron Jones, *World Trade and Payments*, 1973

> *By the accounting rule, a preponderance of credits (or receipts) makes the balance positive or "favorable." A balance with a preponderance of debits is called "unfavorable." Notice the gravitational pull of semantics! The receipts side owns all the good words, and has done so since the eighteenth-century mercantilists made a virtue of "storing up treasure."*

Thoughts: summary

Long history of debate about capital flows

- Facilitator of economic growth?
- Or source of instability?

Suggestion: don't let the words decide

- Global find and replace:
  "global imbalances" $\rightarrow$ "international capital flows"

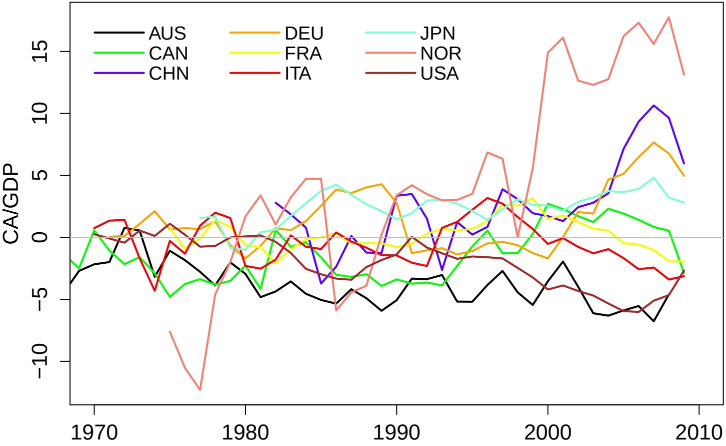
Evidence

Evidence: current accounts

Largest deficits	Amount (b$)	Largest surpluses	Amount (b$)
United States	–470	**China**	306
Italy	–72	**Japan**	195
Spain	–63	Germany	176
United Kingdom	–56	**Mideast oil**	150
France	–53	Switzerland	75
India	–49	Russia	71
Turkey	–49	Netherlands	56
Canada	–49	**Norway**	53
Brazil	–47	Taiwan	41
Greece	–32	Sweden	30
Australia	–32	Korea	28
Portugal	–23	Malaysia	28
Total deficits	–1183	Total surpluses	1466

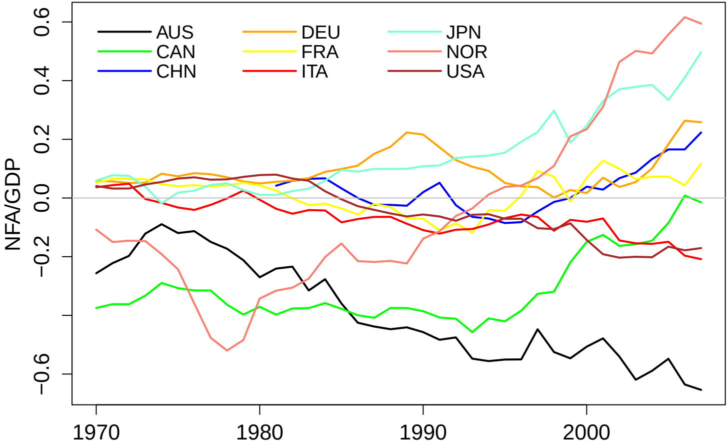
Source: IMF, WEO, April 2011 version, data for 2010

Evidence: current accounts



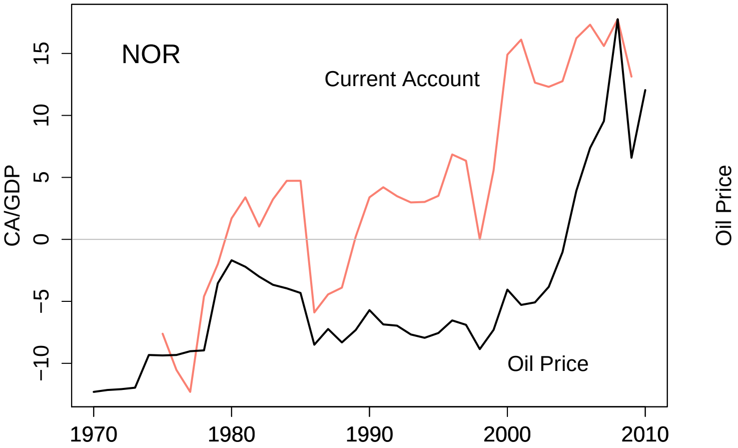
Source: World Bank, World Development Indicators

Evidence: net foreign assets



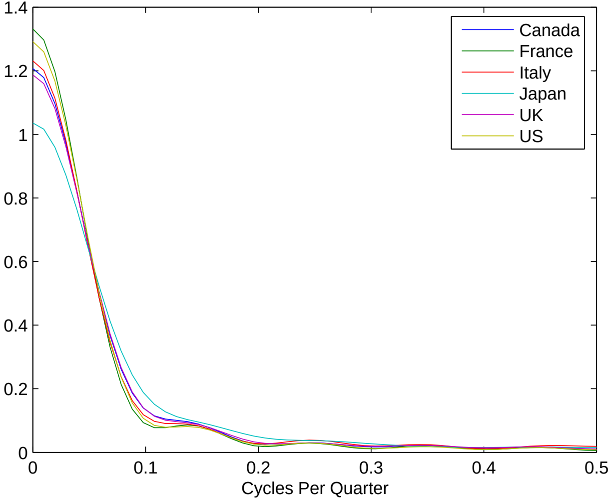
Source: Lane and Milesi−Ferretti

Evidence: capital flows and oil



Source: Oil price from IMF, International Financial Statistics

Evidence: current account spectra



Evidence: summary for capital flows and stocks

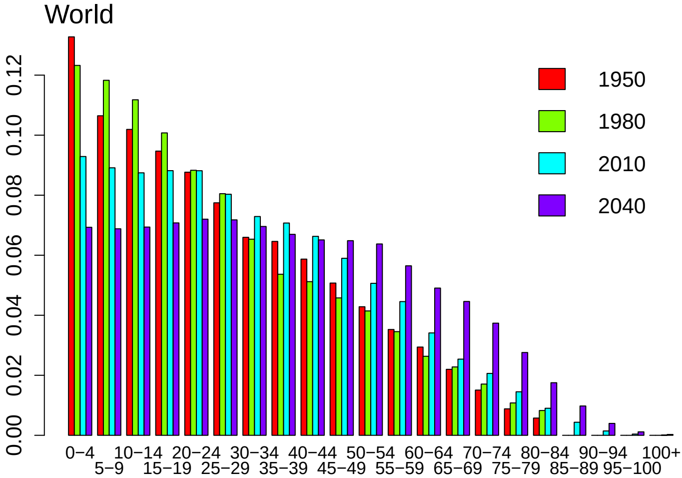
Capital flow variation is low-frequency [so much for HP filtering]

Ditto net foreign assets

Needed: an explanation for low-frequency movements

Demography

Evidence: demography



Source: United Nations, Population Estimates and Projections

Evidence: summary

Capital flows are persistent

- Ditto net foreign assets

Demography inherently persistent

- With sharp differences across countries

Worth exploring a connection?

[Apparently yes: Attanasio-Kitao-Violante, Bloom-Canning, Boersch-Supan-Winter, Brooks, Domeij-Floden, Feroli, Ferrero, Henriksen, Krueger-Ludwig, and others had the same idea]

Model

Model: mechanics

One-good deterministic world

Countries: G7 (for now)

Each has OG structure

Power utility, fixed labor supply [+ age-specific adjustments]

Identical production functions, country-specific productivity

Fixed retirement age: 65

No bequests: perfect insurance for mortality risk

No frictions either within or across countries

Model: how it works

NFA is difference between net worth and capital stock

- Think of each as a function of age
- Aggregates are sums across age groups

Net worth follows from life-cycle saving

- Net worth varies by age
- Aggregate net worth depends on age distribution

Capital allocated to equate marginal products

- Connected to age distribution via effective labor input
- Equates K/Y across countries

Model: questions

Individual saving rates differ across countries

- Not clear why
- Should we add "wedges" to mimic?

Capital-output ratios differ across countries

- Ditto

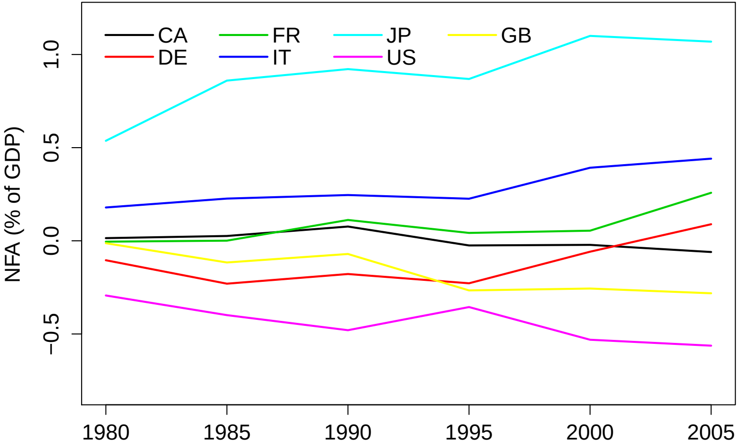
Market value $\neq$ capital stock

- Ditto

Model: parameter values

Time interval	one year
Capital share (α)	1/3
Risk aversion (σ)	4
Discount factor (β)	1/1.025
Depreciation rate (δ)	2.5%
Fertility and mortality	UN data
Cohort sizes	UN data

Model: net foreign assets



China

What about China?

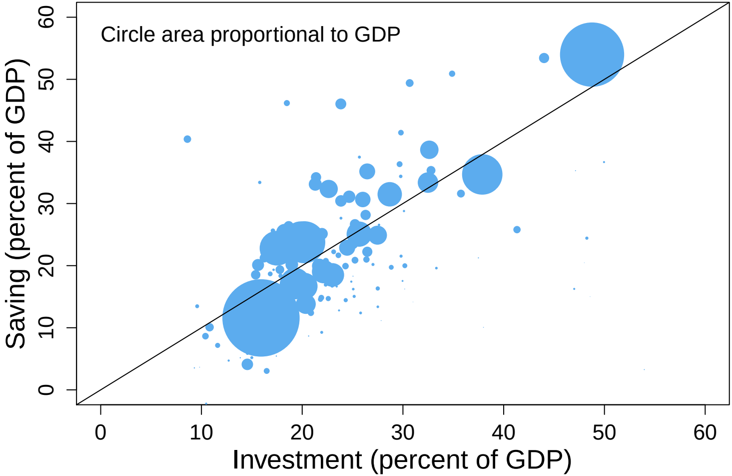
Investment

- Lots of investment
- But capital-output ratio seems fine
- What's missing?

Saving

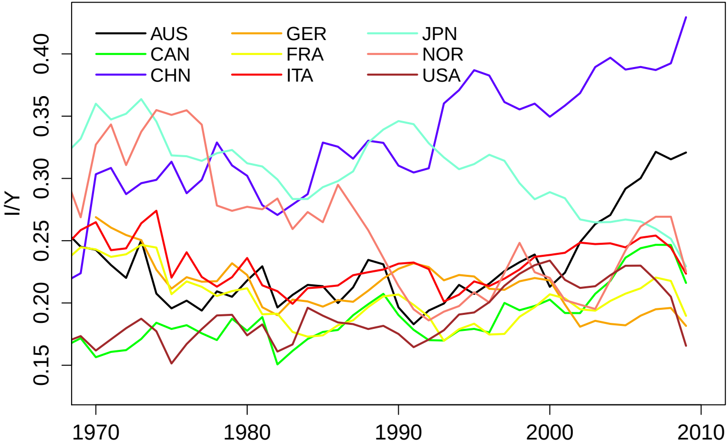
- We can explain a high saving rate
- But not as high as we see
- What's missing?

Why are China's saving and investment so high?



Source: IMF, WEO, April 2011, data for 2010

Does China have too much capital?



Source: Penn World Tables

Does China have too much capital?

No! Capital-output ratio not unusual

Why not?

- PWT implies part of investment is high prices
- Growth central to steady state capital-output ratio

$$K/Y \quad = \quad \frac{I/Y}{g+\delta}$$

[When you grow this fast, you need a lot of investment]

Does China have too little capital?

Stories — and a look around — suggest lots of capital projects

Esp public infrastructure

Also shortage of funds for private firms

Can both be true?

Why is saving so high?

Demography gets us only part way

Precautionary saving?

High "business saving"?

Is China like Norway?

Norwegian Petroleum Fund ("Pension Fund Global")

- Oil royalties not income to households
- Invested abroad by government

Story about China

- Business saving primarily SOEs
- Not income to households
- Invested abroad by government
- Like Norway?

Is convertibility an issue?

Category	Assets (tr$)	Liabilities (tr$)
Direct investment	0.230	0.997
Portfolio investment	0.243	0.190
Other	0.535	0.451
Official reserves	**2.453**	—
Total	3.460	1.638
Net foreign assets	**1.822**	

Source: IMF, IFS, May 2011 version, data for 2009

Last thoughts

Capital flows

- A fact of life
- Persistent
- A role for demography?
- What else would you suggest?

Open questions

- Why are capital-output ratios so different across countries?
- Why are saving rates so different across countries?
- Why is China's so high?