

Exchange Rates and Macroeconomic Fundamentals

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Outline

- Models of real exchange rate
- Just how unpredictable are exchange rates
- The US current account and the dollar
- Exchange Rate Regimes and Growth
- Are crises a thing of the past?

Real exchange rate models

- Purchasing Power Parity: Long run?
- Belassa Samuelson: limited power
 - New theory suggests ambiguous results
- Commodity Currencies
- Current Accounts

Purchasing Power: Big Mac Index

(July 2007)

Switzerland	\$5.05
Sweden	\$4.59
Euro Area	\$3.82
US	\$3.22
Mexico	\$2.66
Japan	\$2.31
Philippines	\$1.85
Russia	\$1.85
China	\$1.42

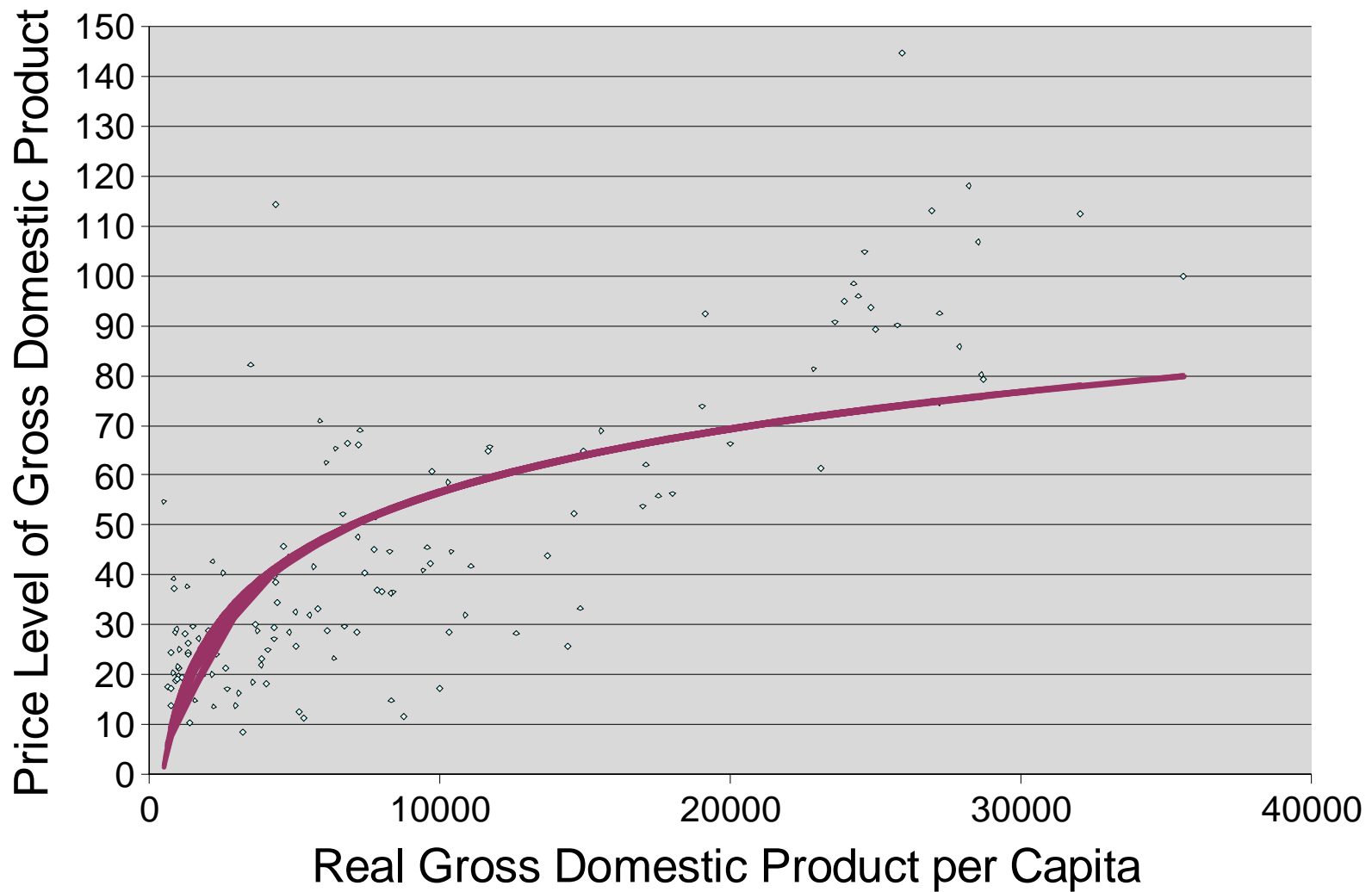


PPP literature

- The most robust evidence in the entire exchange rate literature is that there is convergence to PPP over long horizons.
- Rogoff (1996) over hundreds of studies, “half life” of real exchange rate deviations seems to be 3-5 years.
- Current literature still seems to suggest that real exchange rate shocks last a long time
 - hump-shaped response (Steinson (2007))?
 - nonlinear response
 - aggregation issues

- **Belassa Samuelson Model** suggests that country with relatively higher productivity growth in traded goods sector has appreciating real exchange rate
- Has some power for comparing rapidly developing poor countries with rich countries
- Much less power across rich countries

GDP/Capita vs. Price Level of GDP



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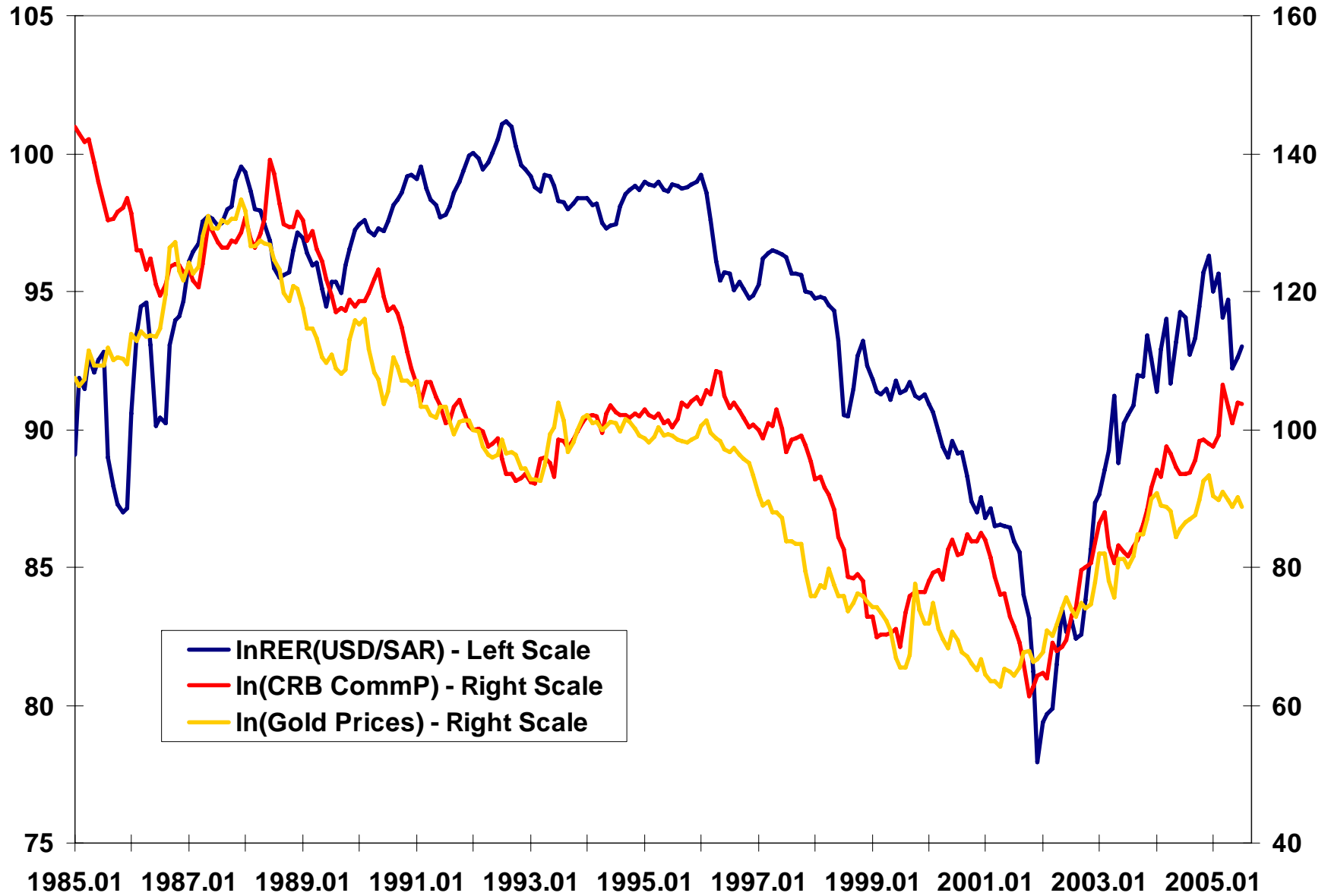
Theoretical Ambiguity

- If countries produce differentiated tradables, a productivity gain in home countries tradable goods sector can lead to lower price and terms of trade, LOWER real overall real exchange rate if home bias in tradables consumption (Fitzgerald, 2005)
- Belassa Samuelson effect assumes FIXED LABOR supply

Commodity currencies

- Chen and Rogoff (2003)
 - “Commodity currencies” (Canada, Australia, New Zealand, South Africa, Chile....) have very strong correlation between commodity export price index and real exchange rate.

South Africa: Real Exchange Rate, Gold and Commodity Prices



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Commodity Prices 2005-2007

Commodities - CRB

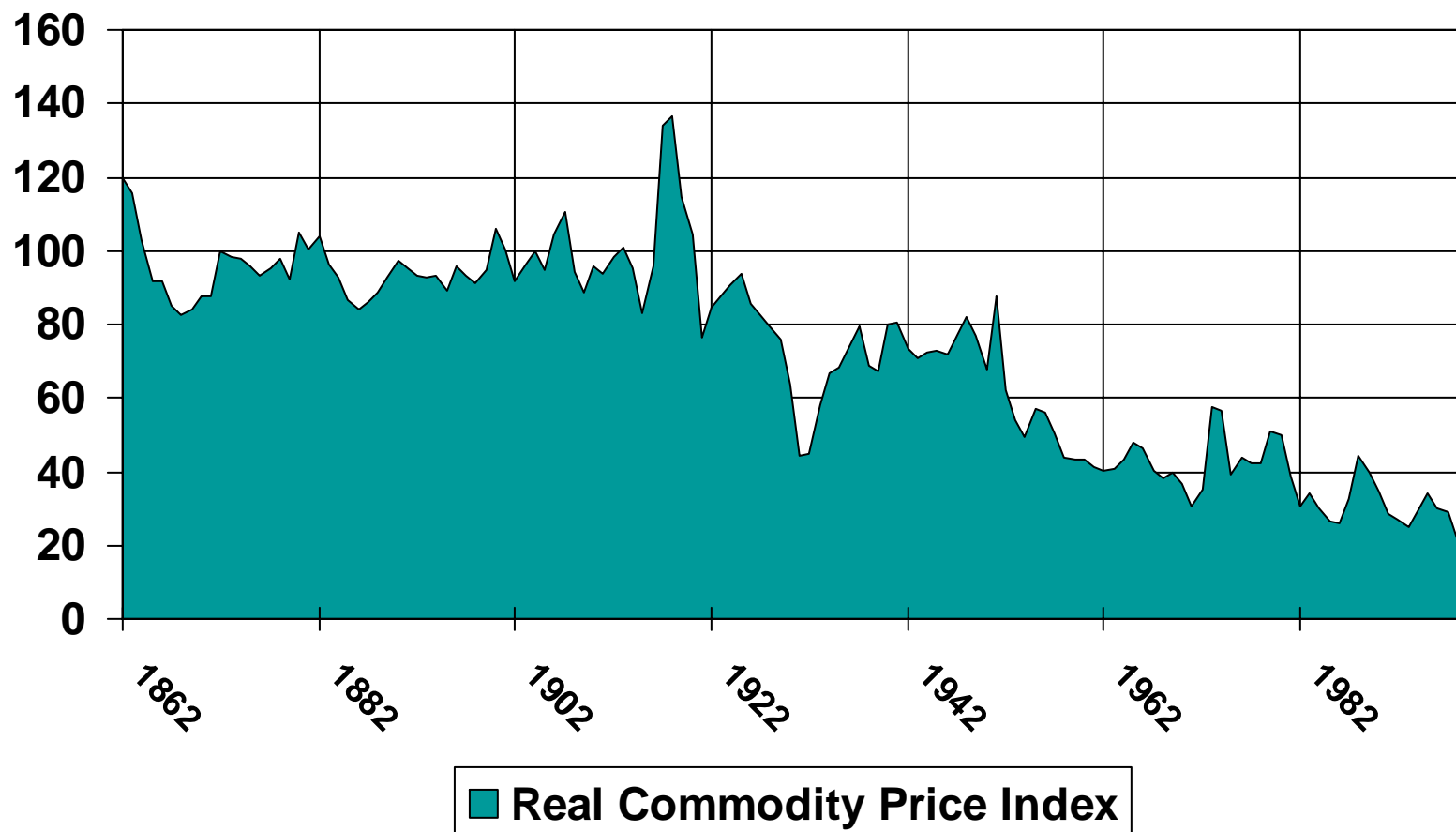


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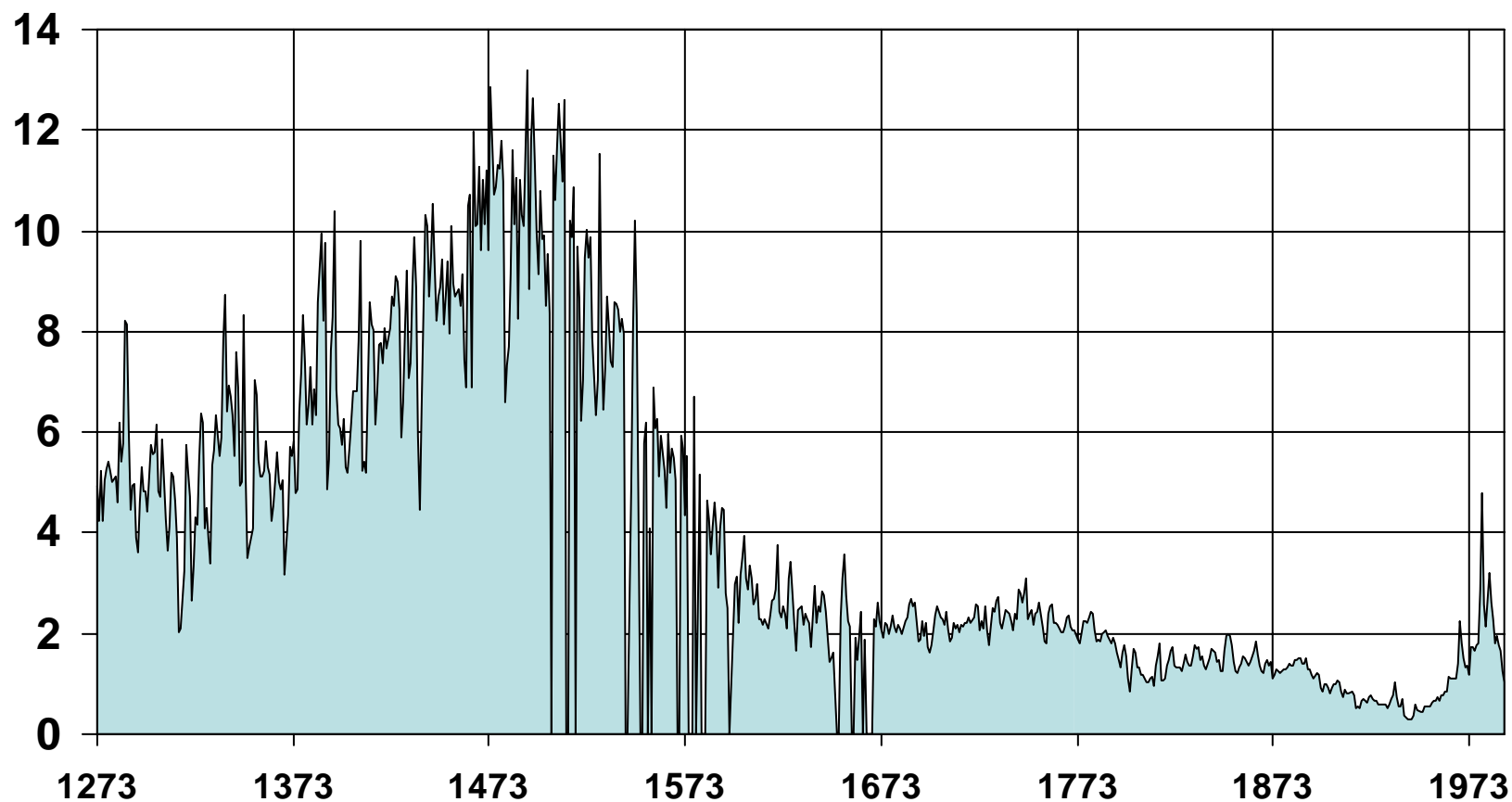
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— Metals (LHS) — Food (RHS)

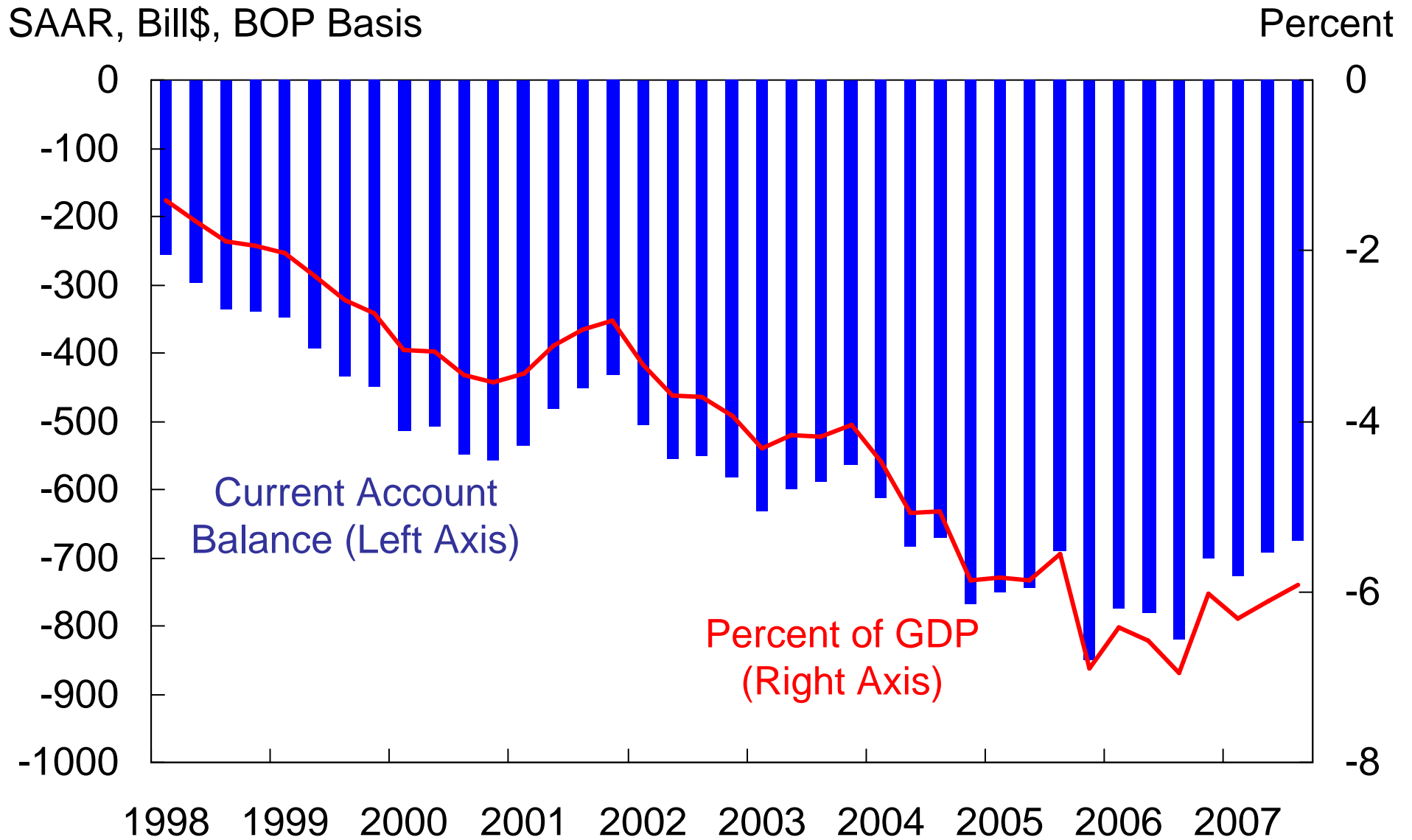
Real Commodity Price Trend, 1862-2000



Real Value of Silver in the VERY long run (1273-2000)



US Current Account Balance: Is a turn coming?

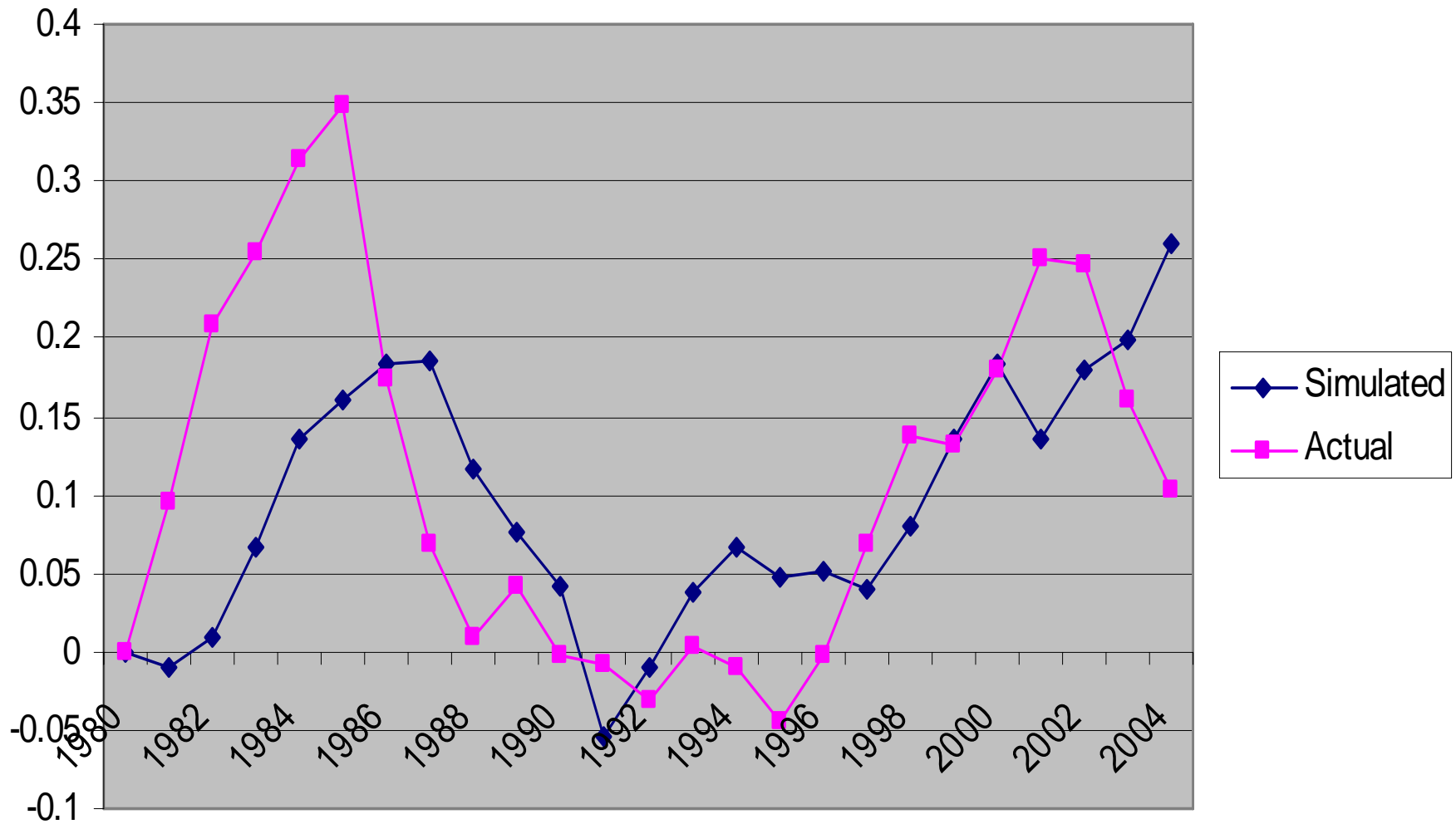


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Source: BEA, Federal Reserve Bank of NY

Simulated vs. actual real effective dollar exchange rate movements
(Obstfeld Rogoff model)
Effects of Current Account and Net Foreign Assets only



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Xa1: US CA to 0 Adjustment Scenarios

	Europe CA adjusts	All CAs adjust	Asia Fix
Real €/ \$	44.6	28.6	49.5
Real Asia/ \$	19.4	35.2	-0.5
Real Asia/ €	-25.2	6.7	-50.0

Forecasting exchange rates is
very difficult!

Short review of Meese Rogoff (1983a,b) and 1988

- Simple monetary models initially appeared to be highly successful in explaining exchange rate fluctuations after collapse of Bretton Woods in 1973
- Meese and Rogoff look at these models in addition to a wide variety of univariate and multivariate time series models and the forward rate

Main Result

- Structural models fail to outperform random walk forecasts for horizons from one month to one year. (\$/yen, \$/pound, \$/mark, trade-weighted dollar) **MAJOR CURRENCIES**
 - Same results hold for cross rates

Exchange Rate Policy

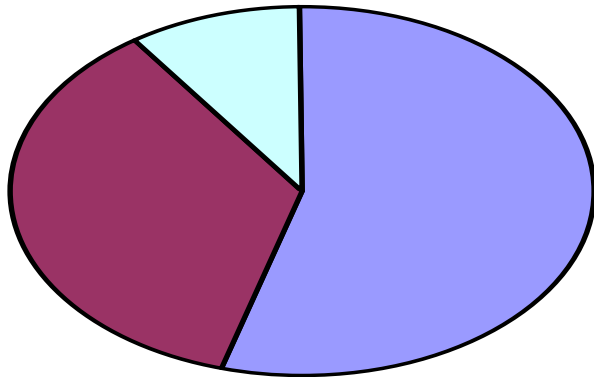
- Summary of recent research on exchange rates, growth and inflation
 - For poor developing countries, fixed exchange rate regimes have performed reasonably well, highly durable.
 - For rich countries, true floating exchange rates works best
 - For emerging markets --countries more integrated with international markets -- an intermediate flexible system is desirable.

Intermediate exchange rate regimes – where some exchange rate movements are permitted but extreme volatility is avoided– are already most popular. In 1975, almost 2/3s of all countries had a pegged exchange rate. Today, almost 2/3s of all countries have an intermediate regime. Likely many more by 2020.

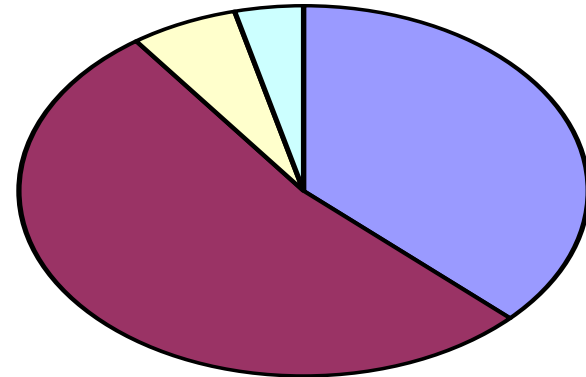
Few countries have pure floats (euro-dollar, pound dollar, Australian dollar and South African Rand are examples of pure floats.)

Regimes of the Future(?)

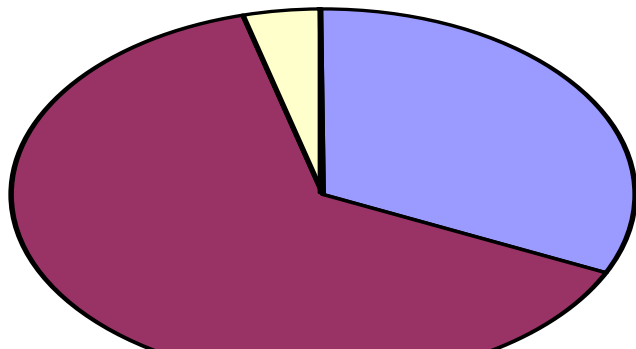
1975



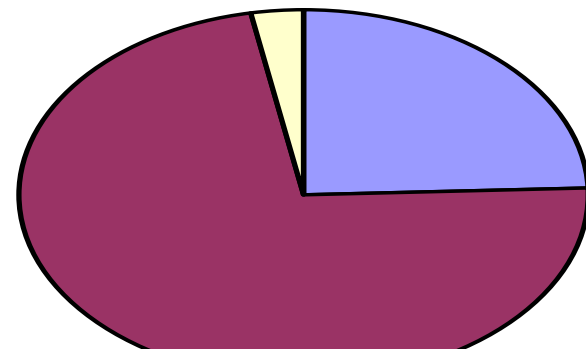
2001



2020



2020*



■ Peos
 ■ Intermediates
 ■ Floats
 ■ Freely Falling

Where *should* the world exchange rate system be in 2050?

- Mundell: One world currency!
- My view: At least three to four major currencies (to ensure competition). Yuan, Dollar, Euro, plus “commodity linked” currencies for oil exporters and major commodity exporters. Also, there will always be problem countries on periphery.

Crises Likely to be an ongoing part of global financial system

External Debt Defaults in Emerging Markets 1824-2001

	<i>Number of default or restructuring episodes</i>	<i>Percent of years in a state of default or restructuring</i>	<i>Number of years since default</i>
Argentina	4	26.1	0
Brazil	7	25.6	7
Chile	3	23.3	17
Colombia	7	38.6	57
Mexico	8	46.9	12
Philippines	1	18.5	10
Turkey	6	16.5	20
Venezuela	9	38.6	4
<i>Group average</i>	<i>5.2</i>	<i>27.4</i>	<i>16</i>

China default

- China defaulted on external debt 1924-1936
- Earlier financial crises?

Today's Emerging Markets didn't invent serial default

An Early History of Default

Number of defaults

	<i>1501-1800</i>	<i>1801-1900</i>	<i>1501-1900</i>
Austria	n.a.	5	5
France	8	n.a.	8
Greece	n.a.	4	4
Germany	1	5	6
Portugal	1	5	6
Spain	6	7	13
