

Capital Flow Cycles: A Long Global View

Carmen M. Reinhart, *Harvard University*

Vincent Reinhart, *Standish Mellon Asset Management*

Christoph Trebesch, *Kiel Institute*

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What we do

- Construct a comprehensive data base on cross border flows back to 1815
- Date turning points in the global capital flow cycle, in the Burns and Mitchell, Harding and Pagan approach. Features of the cycles are documented.
- Role of external factors financial and through commodity markets—an expanded version of Calvo, Leiderman, and Reinhart (1993). Unlike the recent literature, we do not include the VIX or focus on gross flows (post WWI).
- Study the interaction among these global cycles and their connection to sovereign default and global capital mobility. Explore time variation in those interactions.

What we do (continued)

- Construct (this is not complete) a more comprehensive (beyond short and long rates) profile of financial center conditions to incorporate the impacts of regulatory changes and debt management practices and consider secondary financial centers (Japanese banks in Kaminsky and Reinhart, 2000 and 2001 and UK and Euro area banks, Cerutti, Claessens, and Ratnovski, 2017).
- Highlight the particulars of individual episodes.
- Compare the current capital flow cycle to its historical counterparts.

Is there a global financial cycle?

There is a global cycle in capital flows

- When observed over a long period and many countries, with identifiable peaks and troughs--we count 14 such cycles from 1815.
- The “mega-cycles in capital flows” are connected to global capital mobility.

There is a global cycle in real commodity prices

- Despite considerable variation across individual commodities. Commodity price cycles occur more often (22 cycles) but large ones are rarer.

There is a cycle in the stance of policy at the global financial centers

- That are evident in the peaks and troughs of real short-term interest rates of dominant economies. But the policies also involve manipulating the central bank balance sheet, managing sovereign debt, and determining regulatory standards
- But there may be multiple centers with uneven regional influence, and they vary over time

Is there a global financial cycle?

These cycles combine to influence finance around the world

- The impact of financial center interest rates on capital flows depends on the extent of capital market integration at the time (both globally and at the level of the capital importer).
- Comovement: It is suggestive that two factors explain about $\frac{1}{2}$ the variation in “global” flows (our priors did not suggest a single global factor) Reducing these global factors to a single indicator of the “global financial cycle” and a single “push” factor consistently influencing finance is expecting too much.

Other highlights of our findings

- International capital flow cycles have displayed similar patterns over the past 200 years. The magnitudes of the booms are comparable to the busts while booms last longer than the often abrupt busts (9 years versus 5 years)
- The cross-country “incidence” of capital inflows (and reserve accumulation) suggest a cycle that has become more global or inclusive
- Real interest rates were 4-to-10 times as volatile pre-WWII as in the more modern era and cycles distinctly differ. Nominal rates were far more stable and “cyclical” in the 19th century.
- Capital flow and commodity flow booms often overlap with lower interest rates in the financial center. These “triple bonanzas” are often followed by “triple busts” and rising defaults. All of the six major spikes in new defaults (1800-2016) occurred after a global capital inflow bonanza ended.
- The connection of sovereign defaults with commodity cycles is not as systematic as with capital flows.
- All but 2 (1890s and the present one) of the double busts in commodities and capital flows overlapped with a spike in “global” interest rates.

The Global Capital Flow Database, 1815-2016

1918 - 2016: net flows using current account (CA) and reserves (gold and FX)

Construct capital account from BOP identity:

$$CA + KA + \Delta RA \equiv 0$$

- Interwar: UN / League of Nations data for 34 countries
- Post-WW2: own constructed series for 61 capital-importing countries and 7 capital exporters (some series back to 1800s)
- Eurozone post-1999: incorporate Target2 as reserves to capture within-EZ capital flows

1815-1914: gross flows based on bond issuance

- 1869-1914: UK capital exports to 25 countries Stone (1999)
- 1815-1868: sovereign bond issuance in London, 38 countries, own data, multiple sources

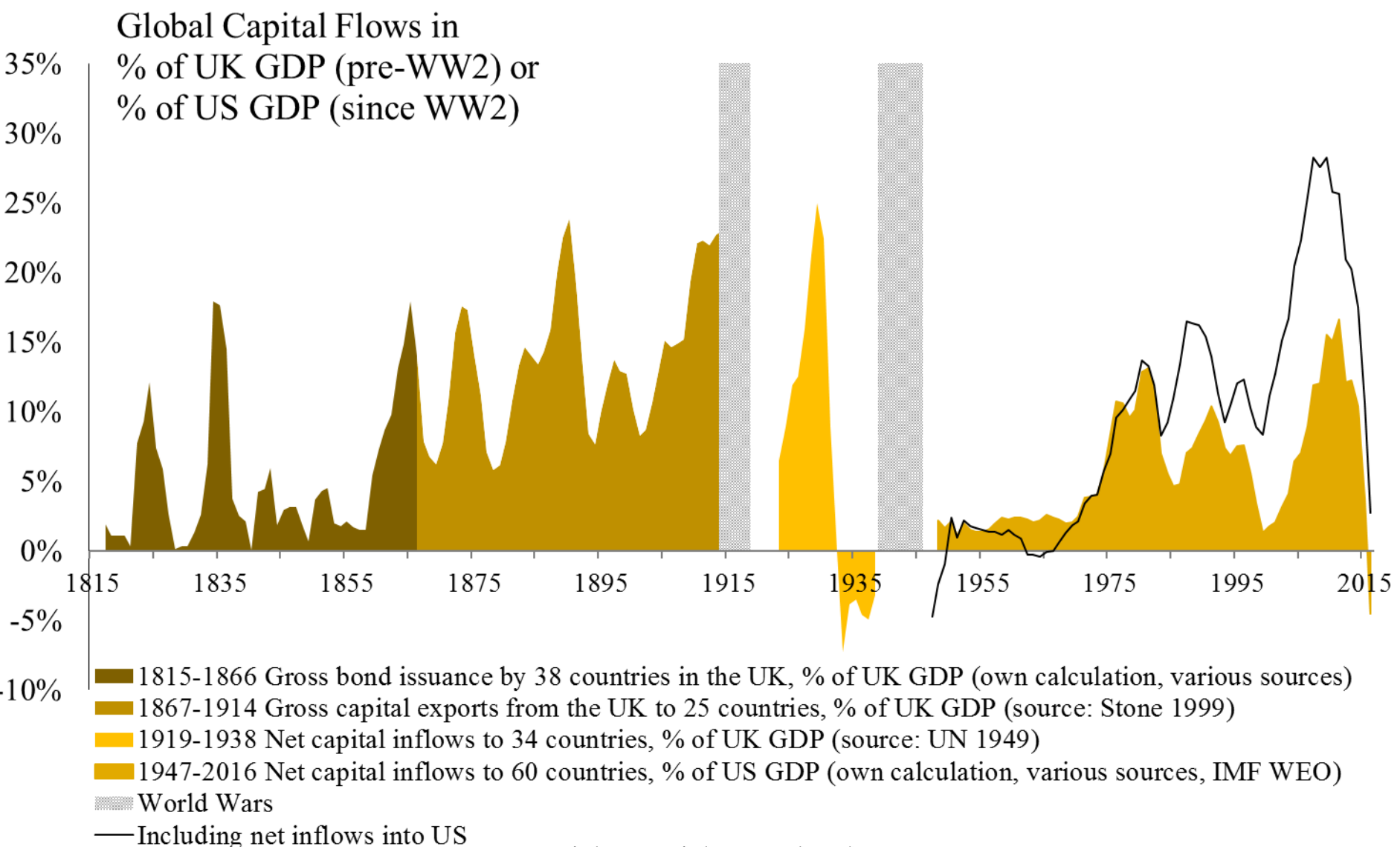
Other data and ongoing work

- Also constructed the capital account balance for the larger sample of 145 countries, 1980-2016
- Non-oil primary commodity prices, 1790-2016
- Nominal/real short-/long-term interest rates in financial centers
- Chronologies of regulation/debt management in fin. centers
- New and existing sovereign defaults
- Indices of capital mobility

In progress:

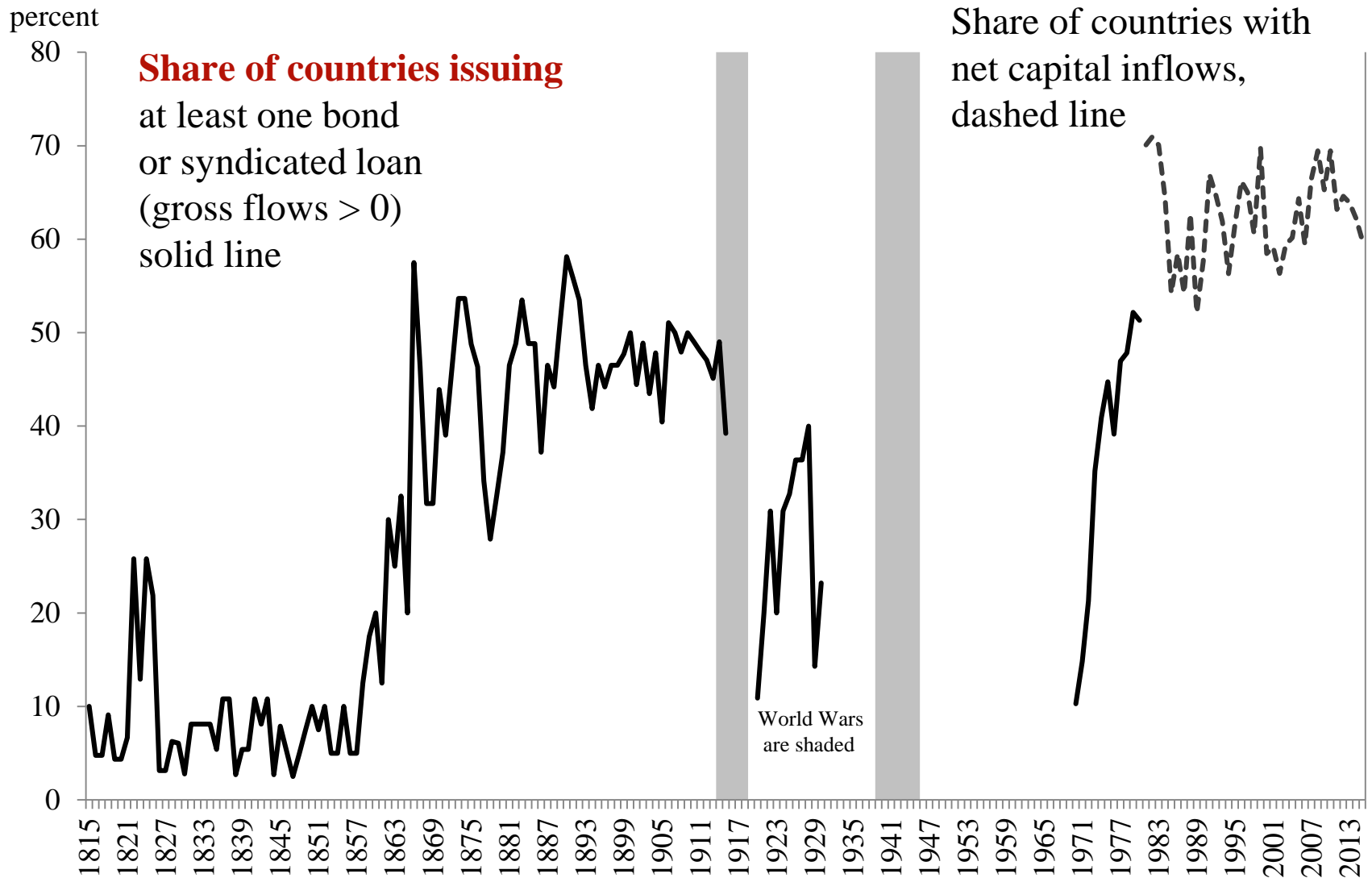
- Integrating gross flows (US, 1920-1930, bank loans 1970-1980, post-1990 data e.g. Forbes and Warnock)
- Financial conditions in “secondary” financial centers – expanding role of China

Capital flow cycles: Magnitudes of flows, 1815-2016



Capital flow cycles: Incidence of cross border flows

(How “global” is “global”? Capital mobility matters)



Co-movement of capital flows across countries

Factor Analysis and Principal Components, 1870-2016

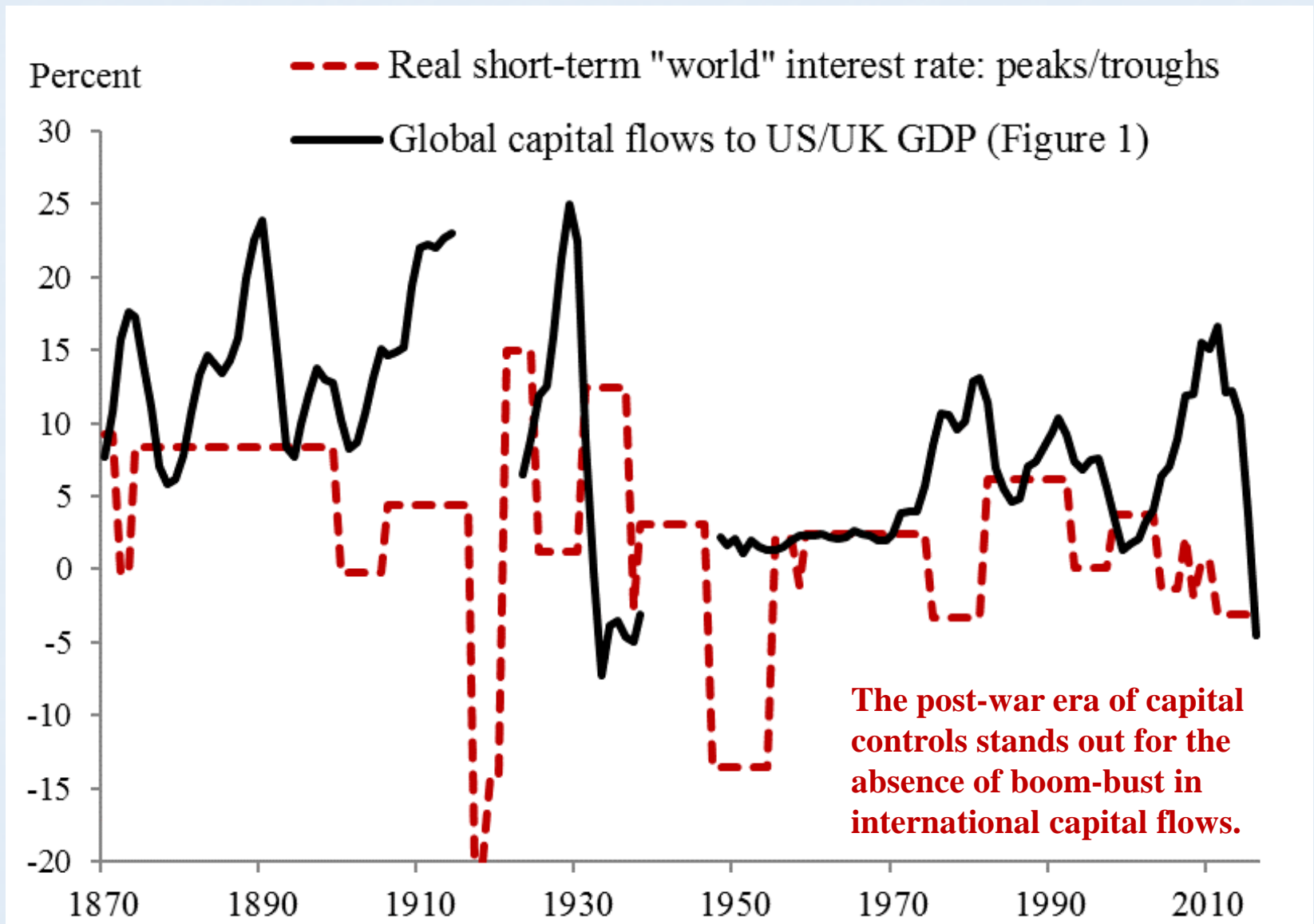
	<i>1870 - 1914</i>		<i>1950 - 2016</i>	
	Percent Explained	Total	Percent Explained	Total
First Factor	26%	26%	32%	32%
Second	24%	50%	18%	51%
Third	17%	67%	13%	64%

→ Not a WOW.... but two factors explain about ½ of the variation in “global” flows – now and then

The interaction of cycles in capital flows and...

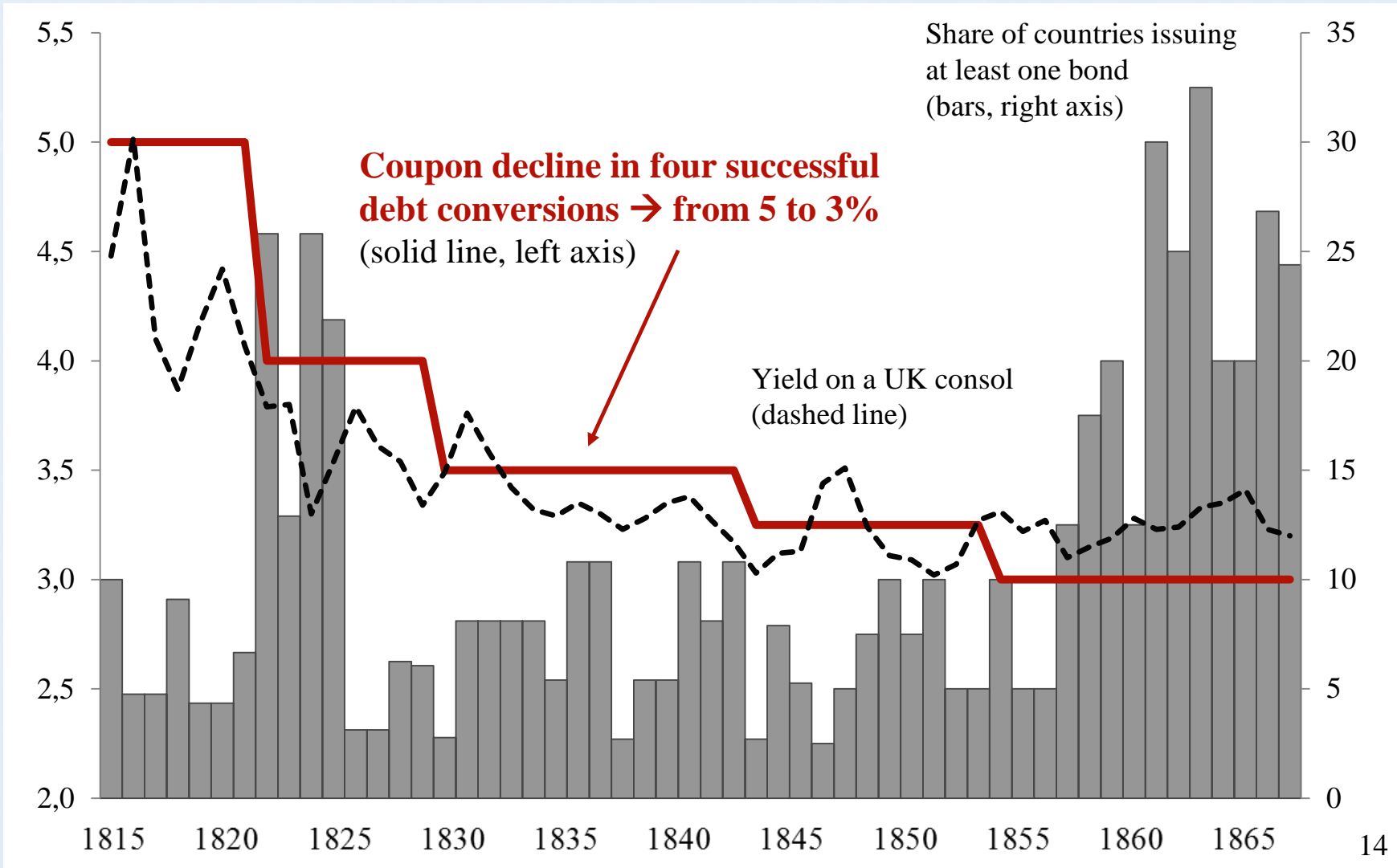
- 1) interest rates in financial center
and global financial conditions
- 2) commodity prices (non-oil)
- 3) sovereign default

Interest rates and capital flows: 1870-present



Early 19th century: capital flows & long-term rates

Debt management matters: Debt conversions in the UK helped foster the search for yield in the periphery



“Global” interest rates and capital flows 1815-2016 – the role of capital mobility

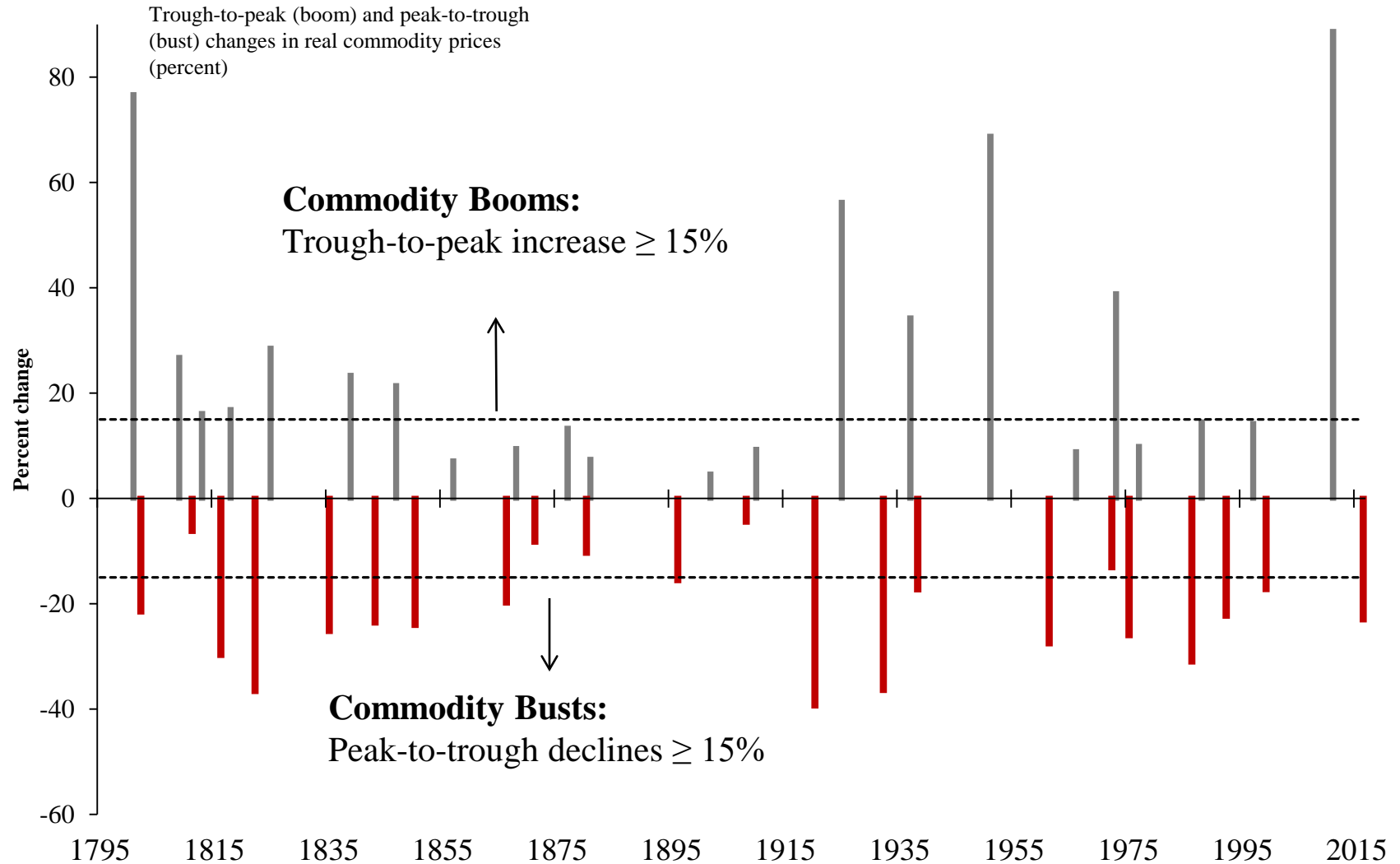
Time Period Capital Mobility	1815 - 1869 Low post-1820 defaults	1870 - 1914 High Gold standard, financial global.	1918 - 1975 Low Wars and capital controls	1976 - 2016 High Rising to a new peak
<i>Real</i> interest rate in financial center	0.216 (0.163)	-1.317** (0.494)	0.582* (0.305)	-0.936*** (0.327)
Observations	53	45	50	41
R ²	0.023	0.098	0.114	0.120

Notes: The dependent variable is the value of global capital flows as percent of GDP. The explanatory variable is the interest rate in the financial center (UK until 1918, US thereafter, see Data Appendix) Robust s.e. in parentheses. *, **, and ***, indicate significance at the 10%, 5% and 1% - level, respectively.

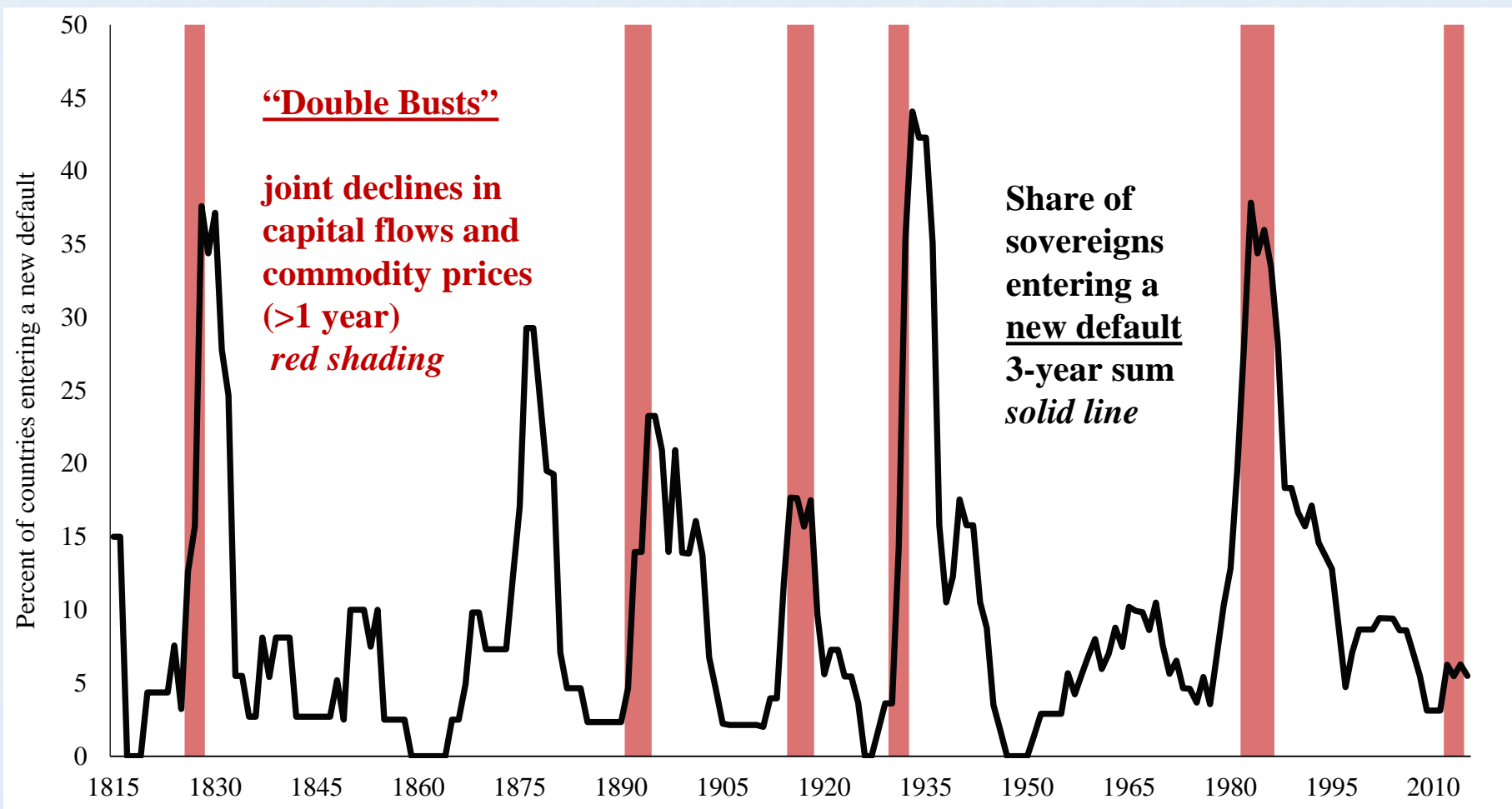
The relationship between capital flows and sovereign default goes in both directions. Furthermore, defaults can dampen the role of international interest rates

Commodity cycles: 1790-2016

(real, non-oil prices)



Dangerous liasons: commodity and capital flow “double busts” and sovereign defaults



**The current cycle
in historical perspective**

Double and Triple Busts and the “missing” defaults since 2011

Double bust episodes	Capital flow Bust	Commodity Bust	Interest Rate Spike (real)?	Share of Countries in Default (in peak year)
1824 - 1828	yes	yes	yes	43.75
1890 - 1894	yes	yes	<i>no</i>	18.60
1914 - 1918	yes	yes	yes	17.65
1929 - 1933	yes	yes	yes	46.43
1981 - 1986	yes	yes	yes	42.74
1991 - 1999	yes	yes	yes	46.34
2011 - 2016	yes	yes	<i>no</i>	13.82

About 15-20 new defaults “missing” since 2011 (in hist. comparison)

- Lower rates (post inflation stabilization in US)?
- Better macroeconomic management? Mismeasurement?
- China’s emergence as a push factor (both real and in finance)?

Thank you

Example: Interwar – Capital Flows & Defaults

