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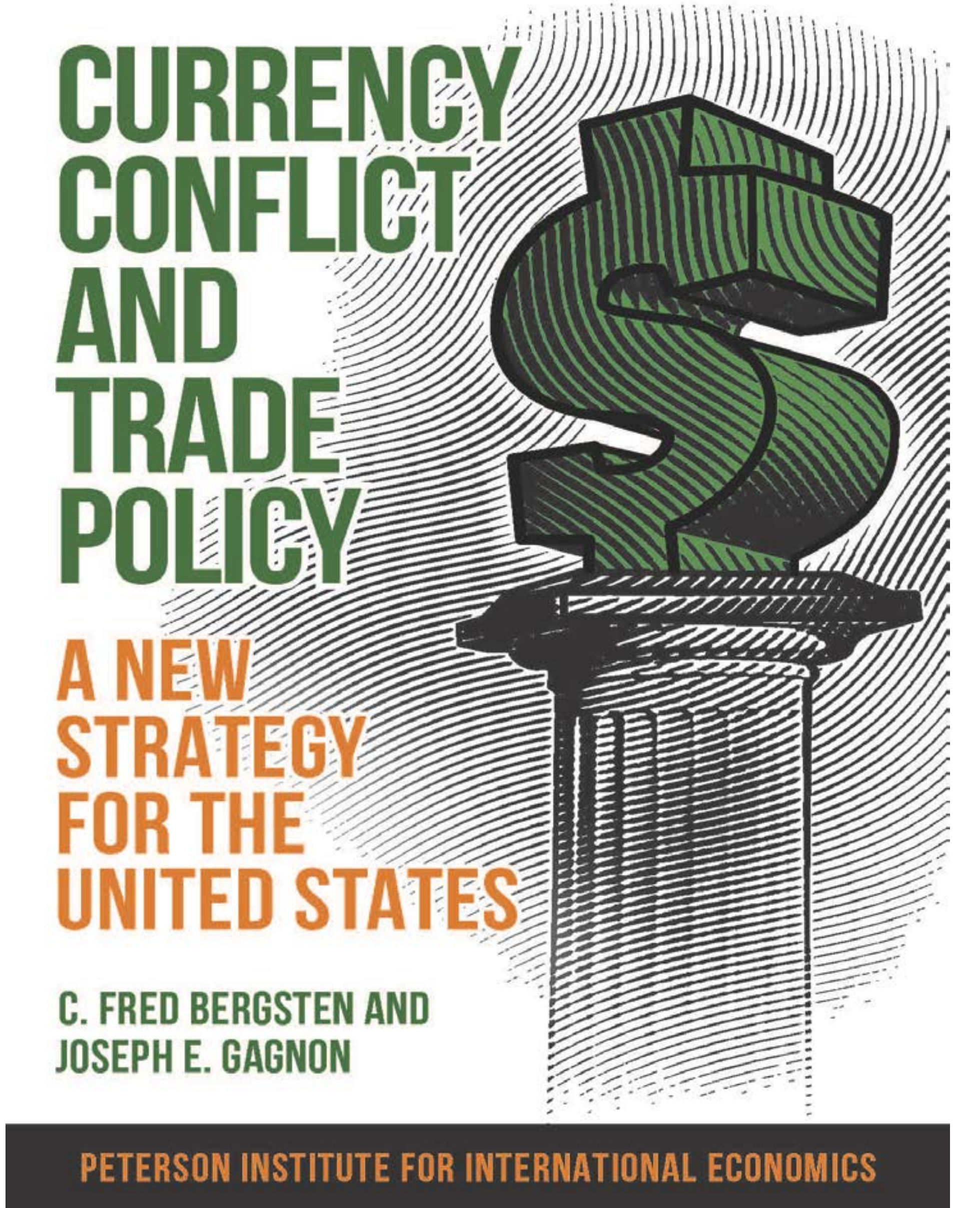


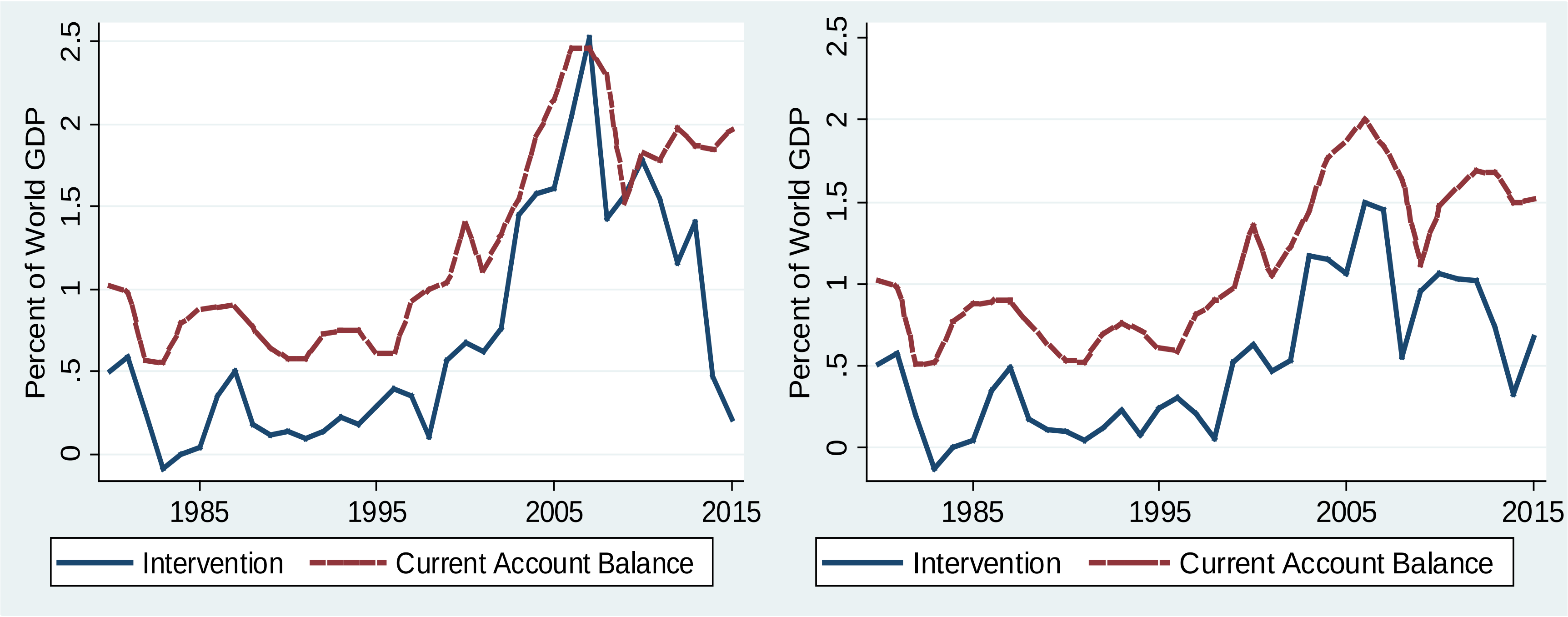
Currency Conflict Has Deep Historical Roots

- Unsynchronized devaluations contributed to trade protectionism in the 1930s.
- Desire for dollar devaluation led to the Nixon import surcharge of 1971.
- Protectionist pressures from the large US trade deficit precipitated the Plaza Agreement of 1985.
- Fundamental asymmetry of global monetary system.
    - No financial pressure on surplus countries to adjust.
    - Pressure on US often takes the form of political pressure for trade protection.

The “Decade of Manipulation” 2003-13

- We focus on all government claims and liabilities in foreign currency: **net official assets**.
  - Foreign exchange reserves + sovereign wealth funds - public external debt.
- **Currency intervention** is the net acquisition of official assets.
- Currency intervention soared in 2003 and remained elevated through 2013:
  - the decade of manipulation.
- Currency intervention is the largest single factor behind record trade (current account) imbalances in 2003-13.

Intervention by Surplus Countries



All countries with trade surplus

All countries with trade surplus, except China

Official Assets and Intervention of Currency Manipulators, 2003-13

		2013 official assets		Inter-vention	Current account
Economy	Years of Man.	Billions of dollars	Percent of GDP	2003-13 average (percent of GDP)	
Manufacturing exporters					
Taiwan	9	417	81	6	8
China	7	4,023	42	8	5
Korea	4	396	30	3	2
Malaysia	3	82	25	3	12
Thailand	3	190	45	4	2
Israel	3	80	27	2	3
Japan	2	1,204	25	1	3
Sweden	1	68	12	1	7
Financial centers					
Macao	11	16	31	16	30
Singapore	10	603	201	22	21
Hong Kong	6	311	113	7	9
Switzerland	4	522	76	6	11

Official Assets and Intervention of Currency Manipulators, 2003-13

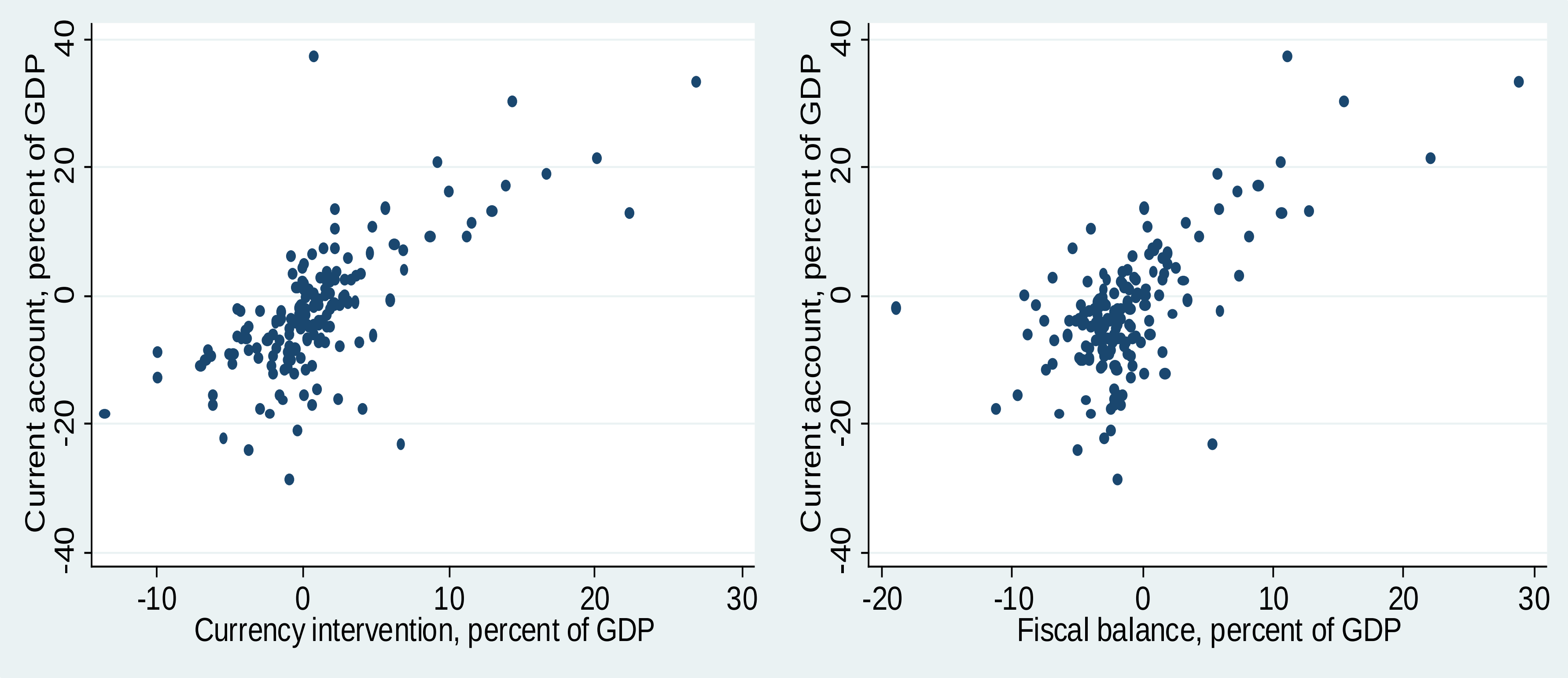
		2013 official assets		Inter-vention	Current account
Economy	Years of Man.	Billions of dollars	Percent of GDP	2003-13 average (percent of GDP)	
Resource exporters					
Norway	11	883	169	13	13
Algeria	6	191	91	13	12
United Arab Emirates	5	863	222	24	12
Russia	5	384	17	5	6
Libya	5	179	271	22	23
Trinidad and Tobago	3	16	60	6	17
Kuwait	3	324	186	29	36
Oman	1	41	53	8	9

Currency Intervention and Trade Imbalances: Statistical Estimates

- Effect on trade balance of

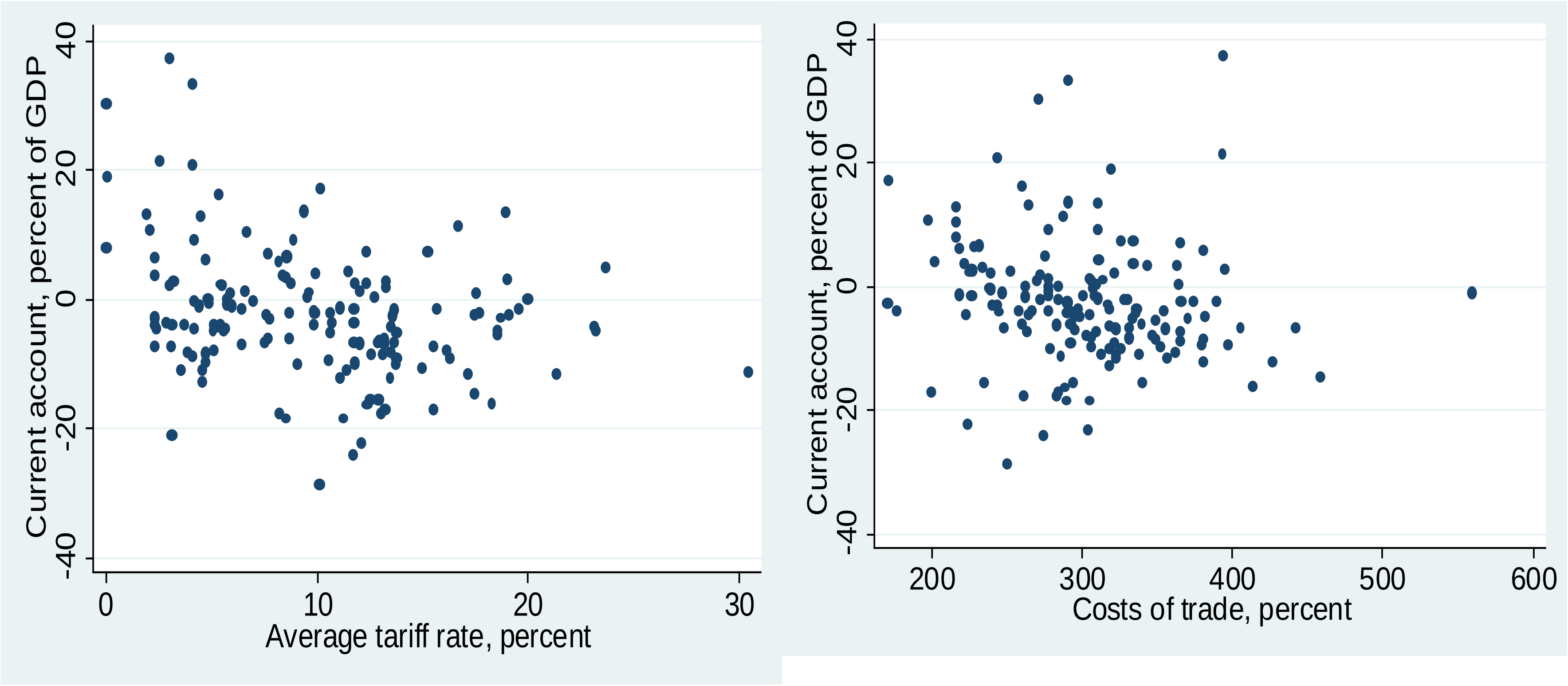
	Low Capital Mobility	High Capital Mobility
Currency Intervention	0.72	0.31
Net Official Assets	-0.01	0.03
Fiscal Balance	0.17	0.54

Policies That Matter



Note: Each dot represents one country. The data are averages over the years 2000-14.

A Policy That Does Not Matter



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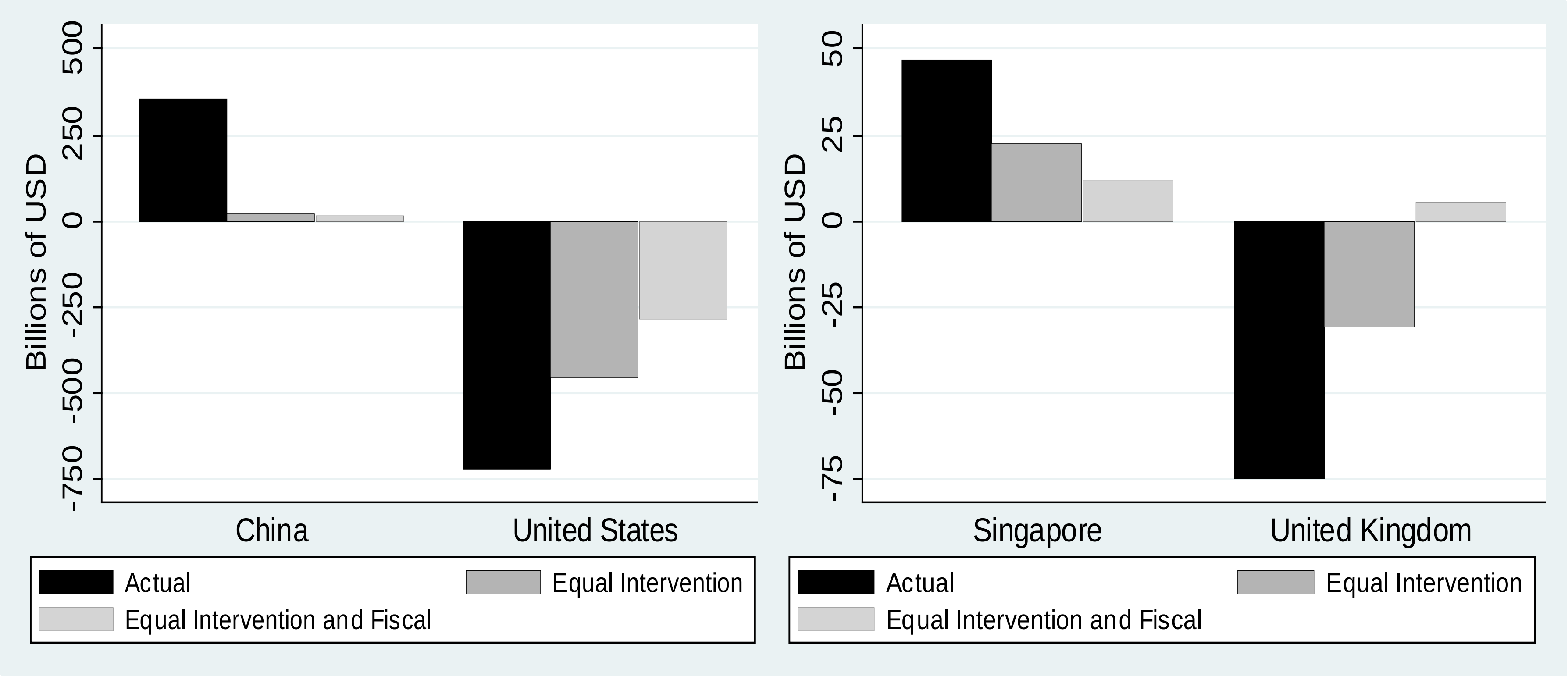
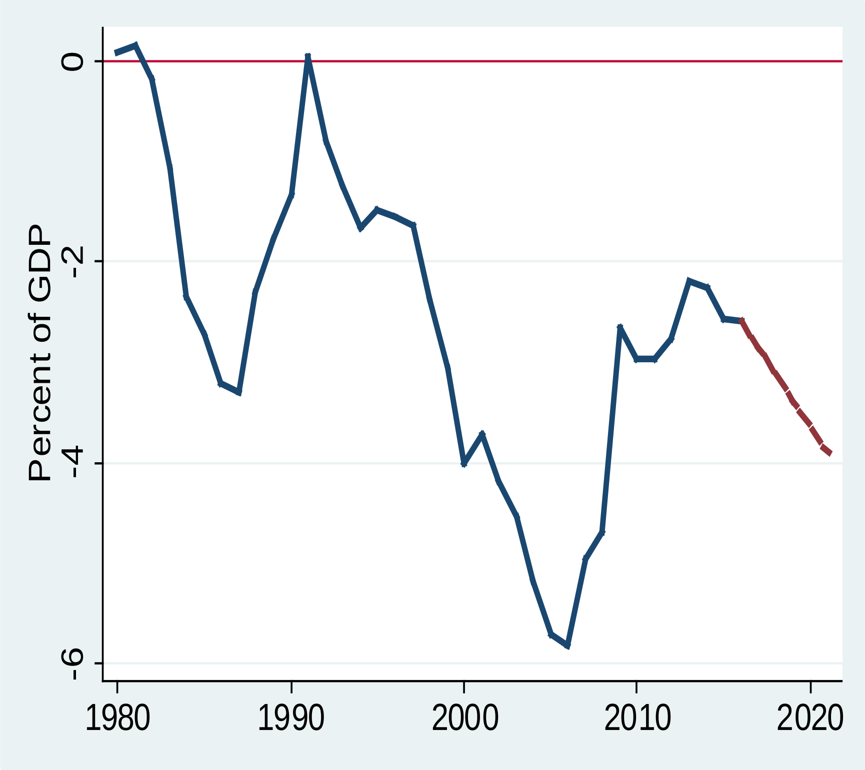
Effects of Currency and Fiscal Policies in 2007: Selected Economies



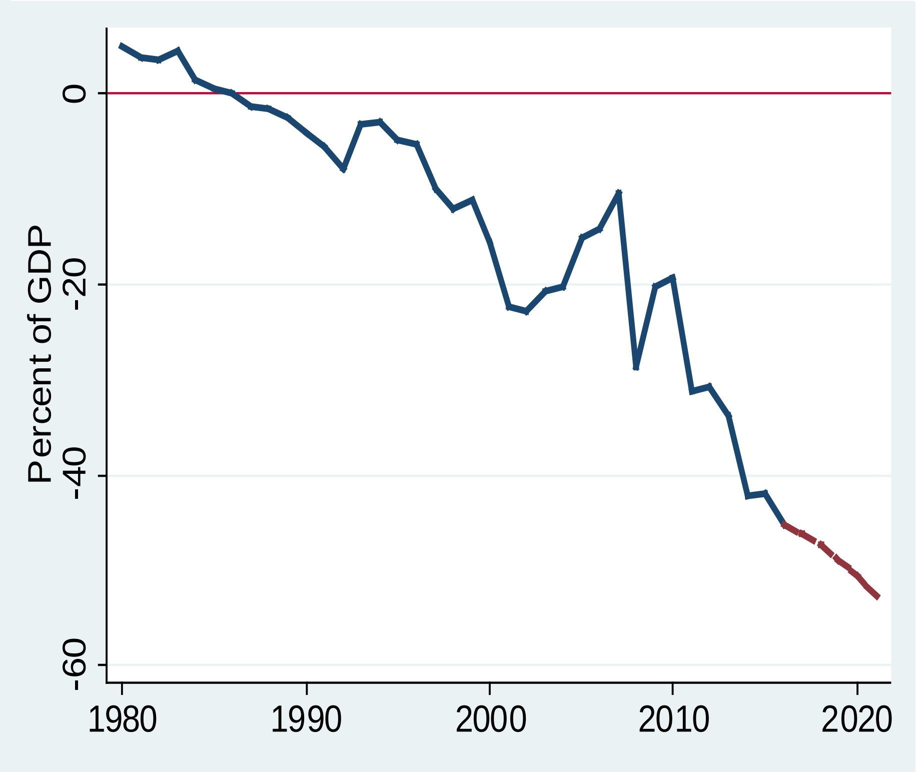
Effects on US Employment

- Manipulation accelerated China’s export expansion:
  - Chinese exports estimated to cost 1 million US manufacturing jobs and perhaps 1 million related jobs (Autor, Dorn, and Hanson 2016).
- Manipulation enlarged the housing bubble, making the crash deeper.
- Manipulation retarded recovery.
- US macro policy should have done more, but given macro policy in place, currency manipulation cost at least 1 million jobs from 2009 through 2013.

US Trade Deficit Is Not Sustainable



US current account balance, 1980-2021



US net international investment position, 1980-2021

Note: Dashed line is forecast based on PIIE Policy Brief 16-22, November 2016, by William Cline.

Official Assets and Intervention of Currency Manipulators, 2015-16

		2016 official assets		Inter-vention	Current account
Economy	Years of Man.	Billions of dollars	Percent of GDP	2015-16 average (percent of GDP)	
			Financial centers		
Switzerland	2	699	106	14	10
Hong Kong	1	381	121	9	3
Macao	1	27	62	5	28
Singapore	1	582	196	1	20
			Manufacturing exporters		
Israel	1	98	31	2	4
Thailand	1	199	51	4	9
Taiwan	1	440	85	2	15
			Resource exporters		
United Arab Emirates	1	1213	323	34	2
Norway	1	902	240	5	8

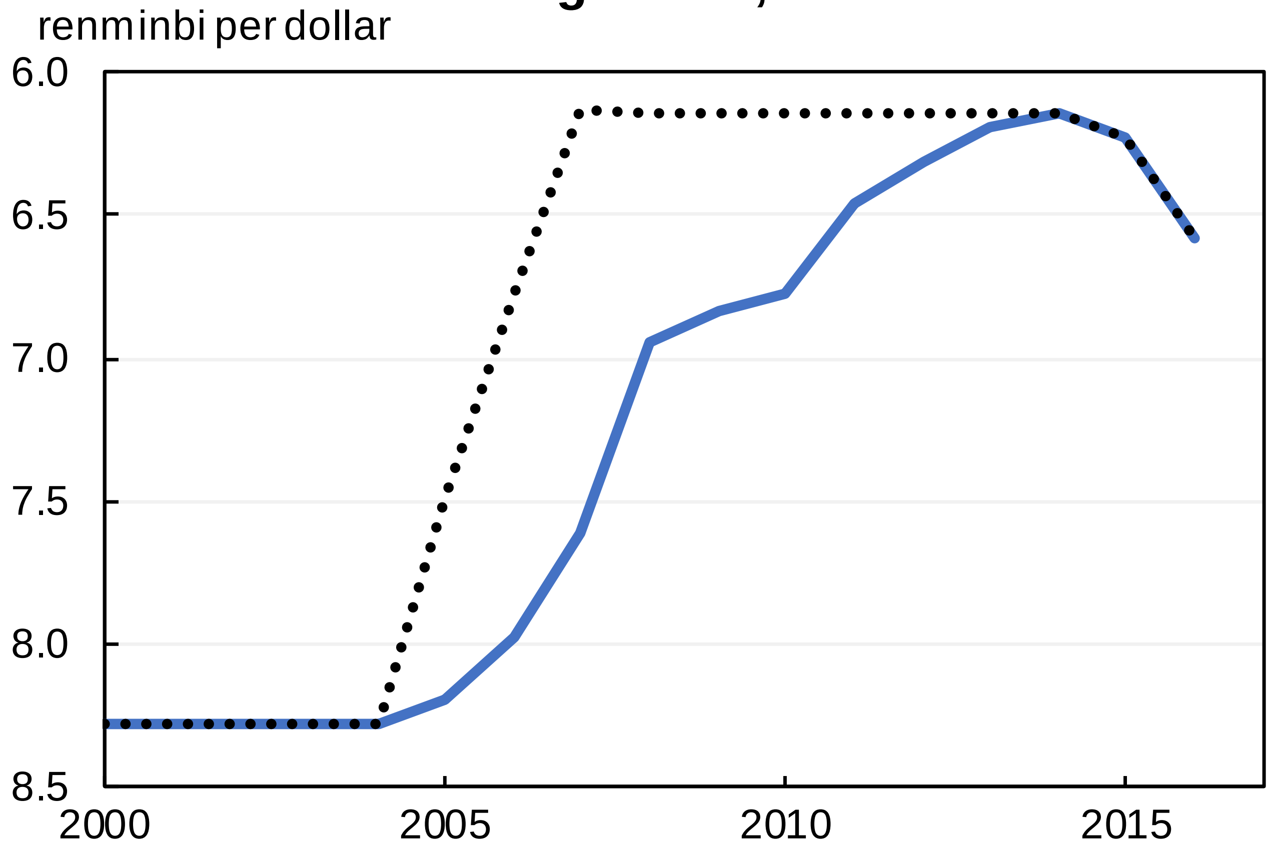
The Policy Matrix

Approach	Macro/monetary policy	Trade Policy	
Multilateral	Invocation of IMF rules Reform of international monetary system (e.g., reference rates)	Imposition of import surcharges (WTO Article XV (4)) Imposition of countervail-ing duties (WTO Subsidy Code)	
Plurilateral	Use of G-7 or G-20 (e.g., in the Plaza Accord)	Currency provisions in free trade agreements (e.g., TPP Macroeconomic Group)	
Unilateral	Use of fiscal policy Use of monetary policy Defensive intervention Countervailing currency intervention Imposition of capital controls	Import surcharges Countervailing duties	[Subject to retaliation if not ultimately ap-proved by WTO]

IMF = International Monetary Fund; WTO = World Trade Organization; TPP = Trans-Pacific Partnership

Would countervailing currency intervention by the United States against China in 2005 have made sense?

Historical and hypothetical Chinese exchange rates, 2000-16



Note: The solid line is actual exchange rate and dotted line is hypothetical exchange rate.
Source: IMF, *World Economic Outlook* database; and authors' calculations.

How to Determine Manipulation?

Our Criteria

1. Current account surplus exceeds 3 percent of GDP
2. Intervention exceeds 2 percent of GDP over previous year
3. Net official assets exceed 3 months of imports
4. Net official assets exceed 100 percent of short-term external debt, public and private
5. Country is classified as high-income or upper-middle income by World Bank—though we would indict only systemically important currency manipulators (SICMs) as defined by G-20 membership