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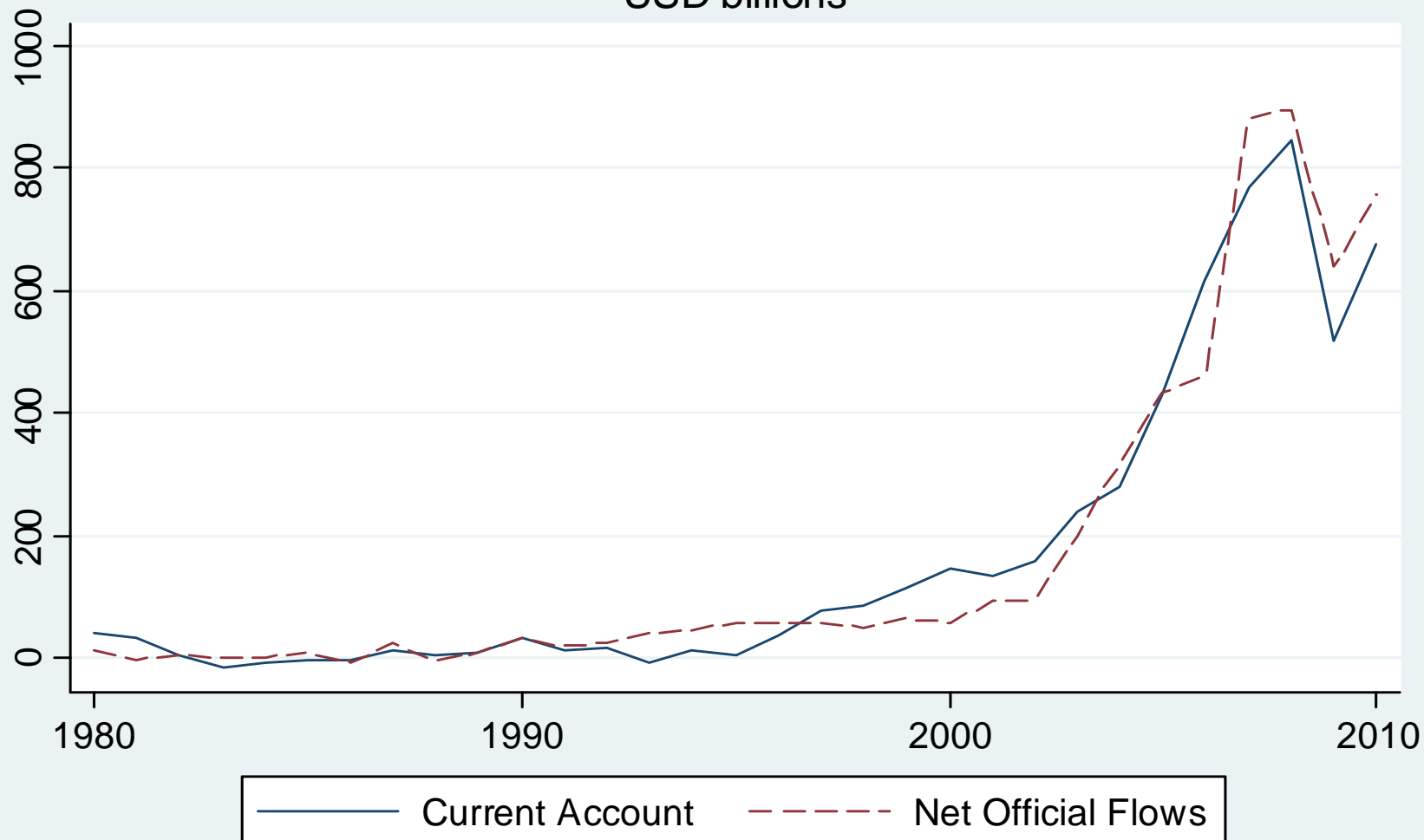
# The Elephant Hiding in the Room: Currency Intervention and Trade Imbalances

Joseph E. Gagnon

March 2013

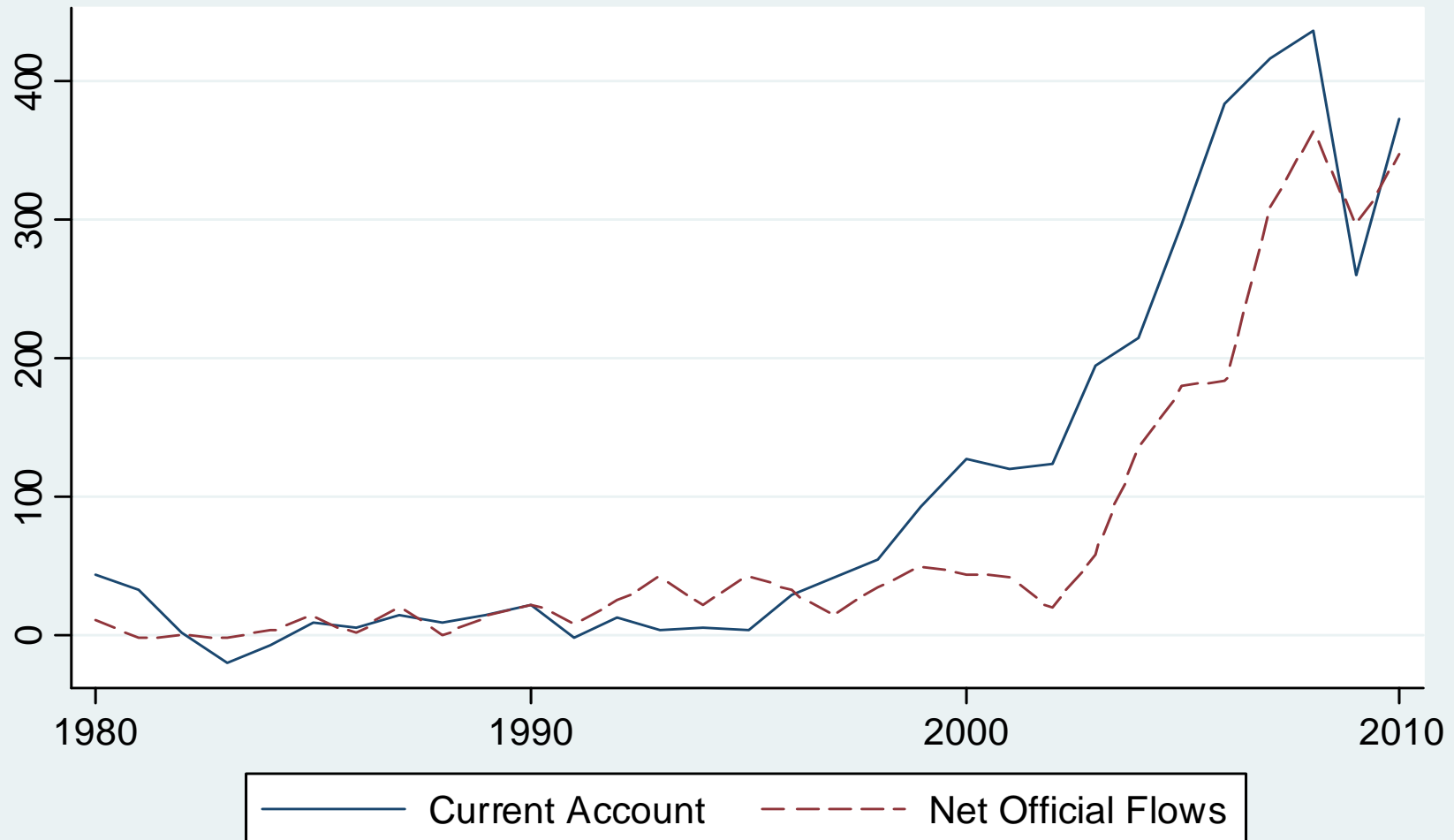
## Trade Surpluses of the Largest Interveners

USD billions



Note: Aggregates for countries in the top decile of net official foreign assets to GDP in 2010.

## Trade Surpluses of the Largest Interveners exc. China USD billions



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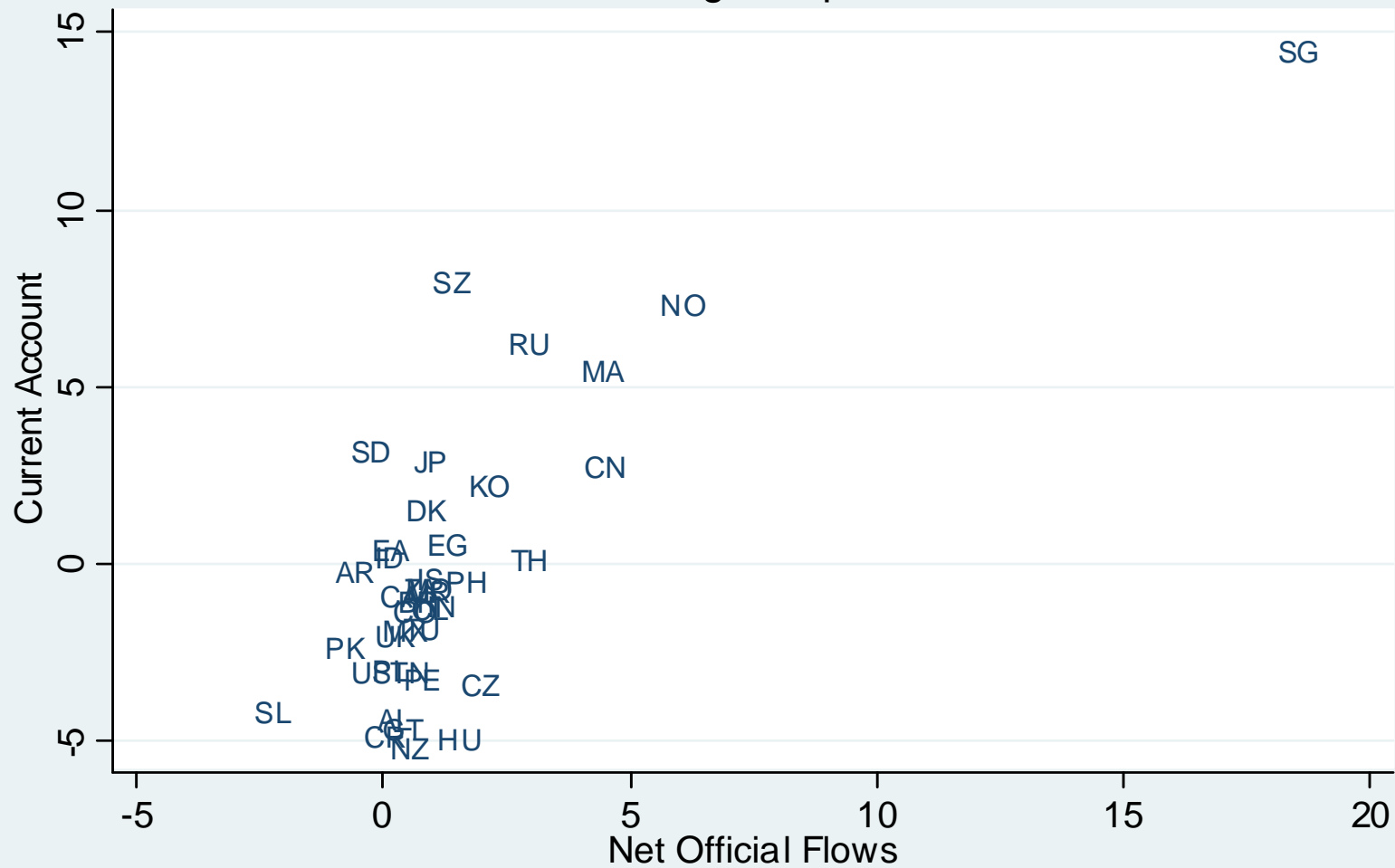
- Current account, or trade, balance equals exports minus imports.
- Exports and imports are determined by prices, spending, productive capacity, and trade barriers at home and abroad, as well as the exchange rate.
- But prices, spending, the exchange rate, and some elements of productive capacity are themselves affected by exports and imports.
  - Complicated inter-causality at work.
  - Prices are not measured in a useful way (for this purpose).

- Current account balance (CAB) also equals the difference between saving and investment.
  
- Recent series of papers seeks to explain CABs over the medium to long run in terms of relatively exogenous factors:
  - Demographics
  - Fiscal policy
  - Wealth
  - Stage of economic development
  - Institutions
  - Other factors

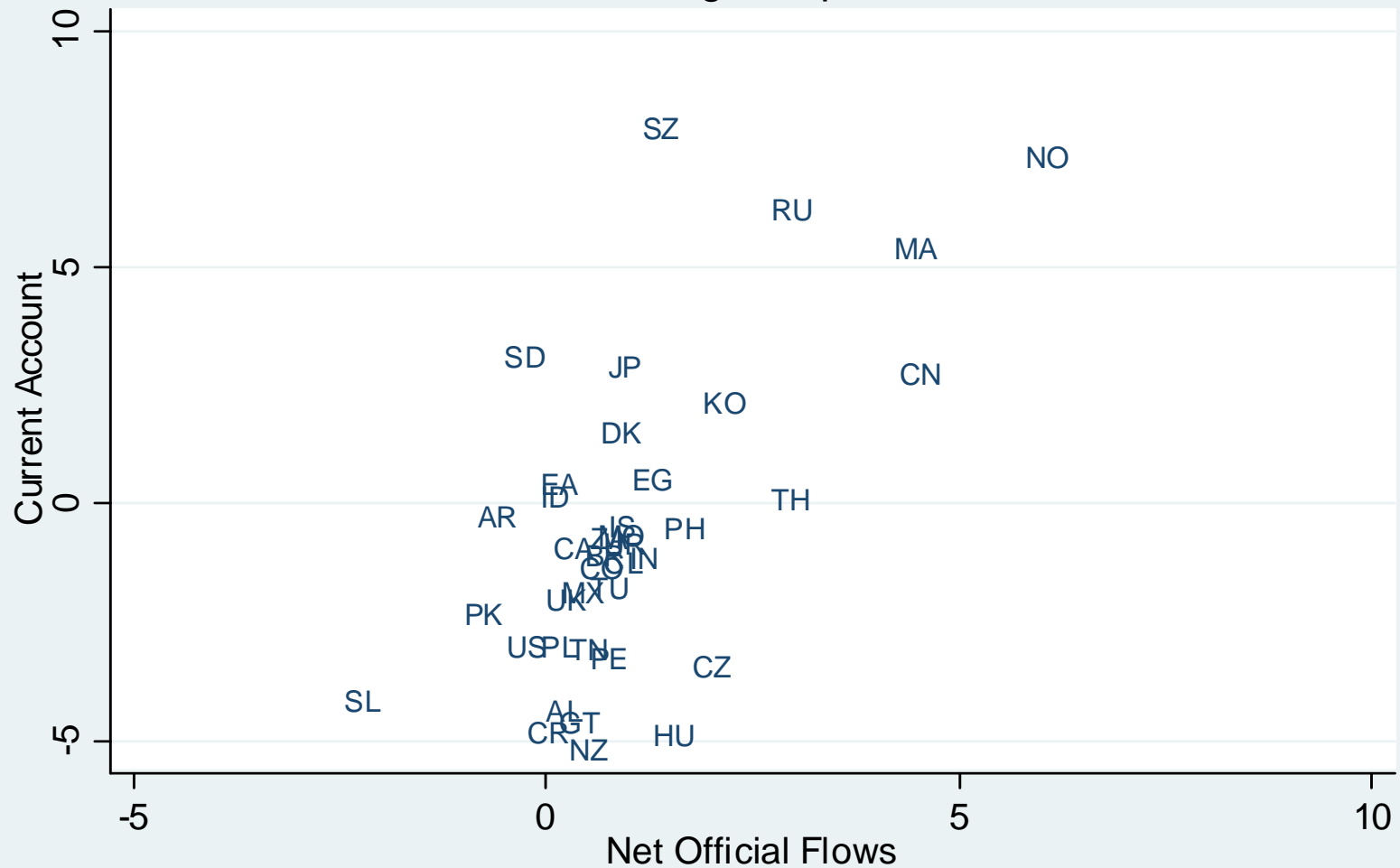
- My contribution is to add government exchange rate policy as measured by currency intervention.
- A broad measure of currency intervention is net official flows (NOF) or government investment in foreign assets minus government borrowing in foreign markets.
  - Accumulation of foreign exchange reserves is the most important element of NOF.

## Current Accounts and Net Official Flows

1986-2010 averages in percent of GDP



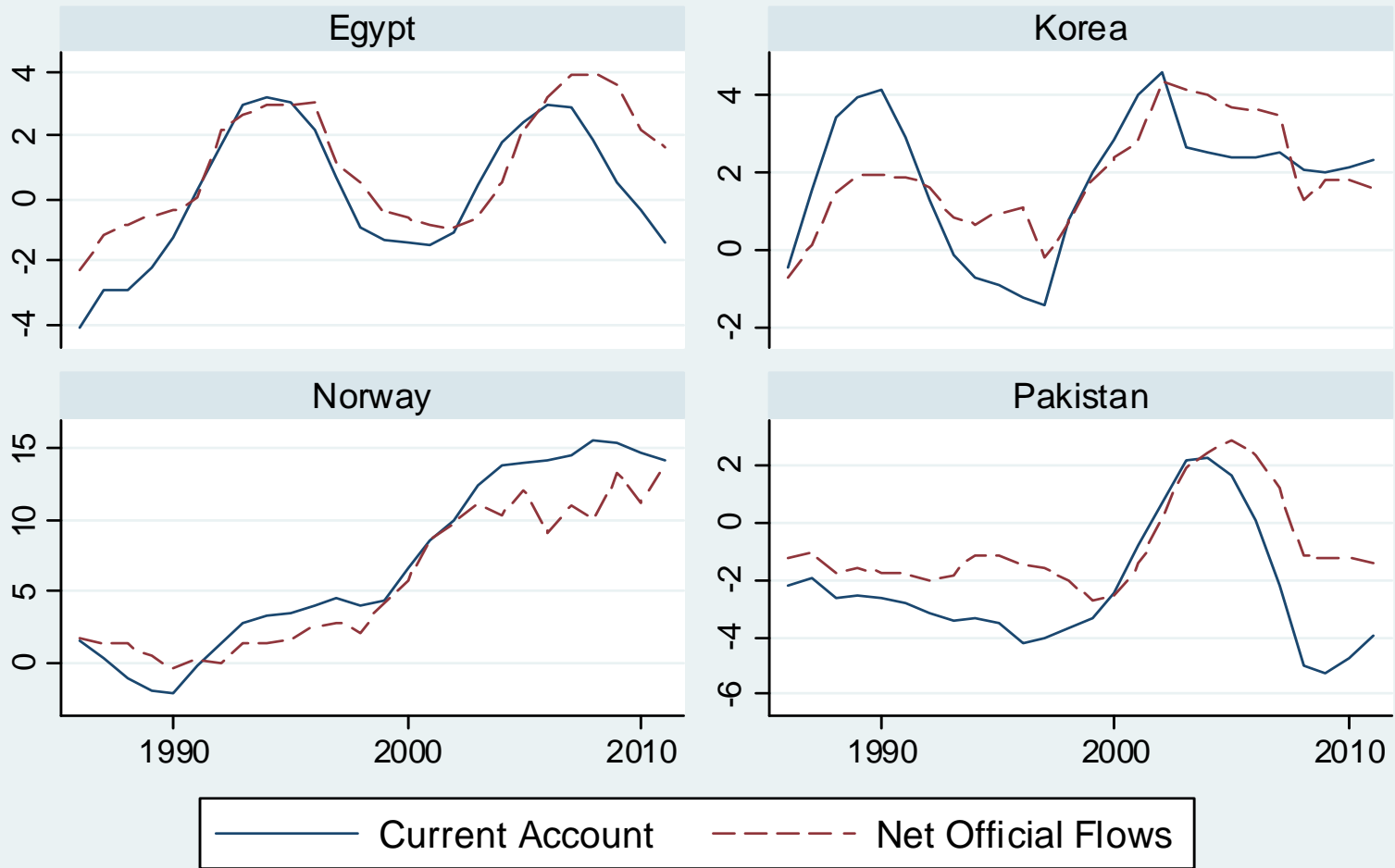
## Current Accounts and Net Official Flows exc. Singapore 1986-2010 averages in percent of GDP





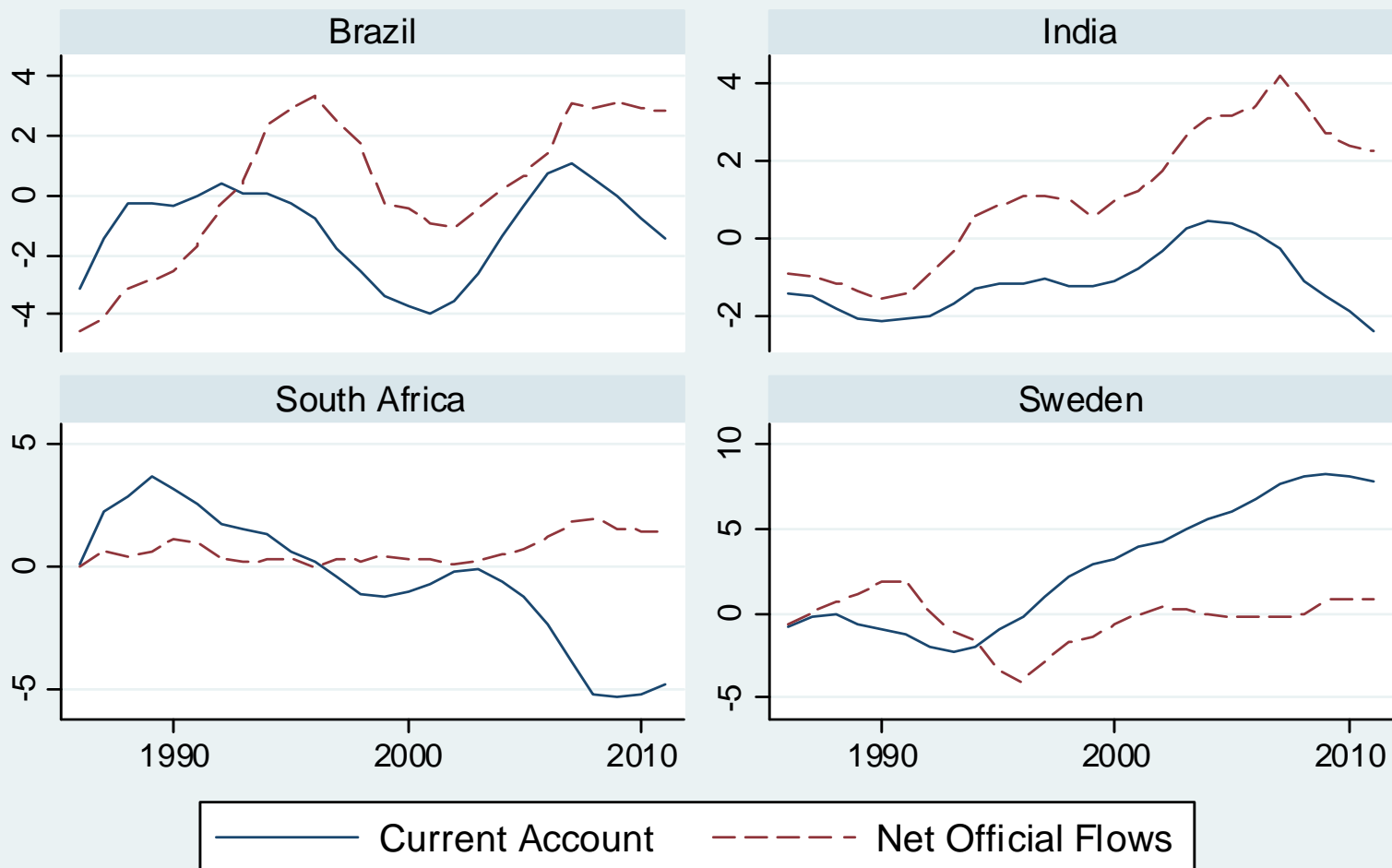
## Current Accounts Moving with Net Official Flows

percent of GDP, 5-year moving averages



## Current Accounts Not Moving with Net Official Flows

percent of GDP, 5-year moving averages



## Controlling for Other Factors

$$\text{CAB} = \text{NOF} + \text{NPF} + \text{ERR}$$

$$\text{NPF} = \lambda \times \text{NOF} + C \times X + u$$

$$\text{CAB} = (1+\lambda) \times \text{NOF} + C \times X + v$$

CAB: Current Account Balance

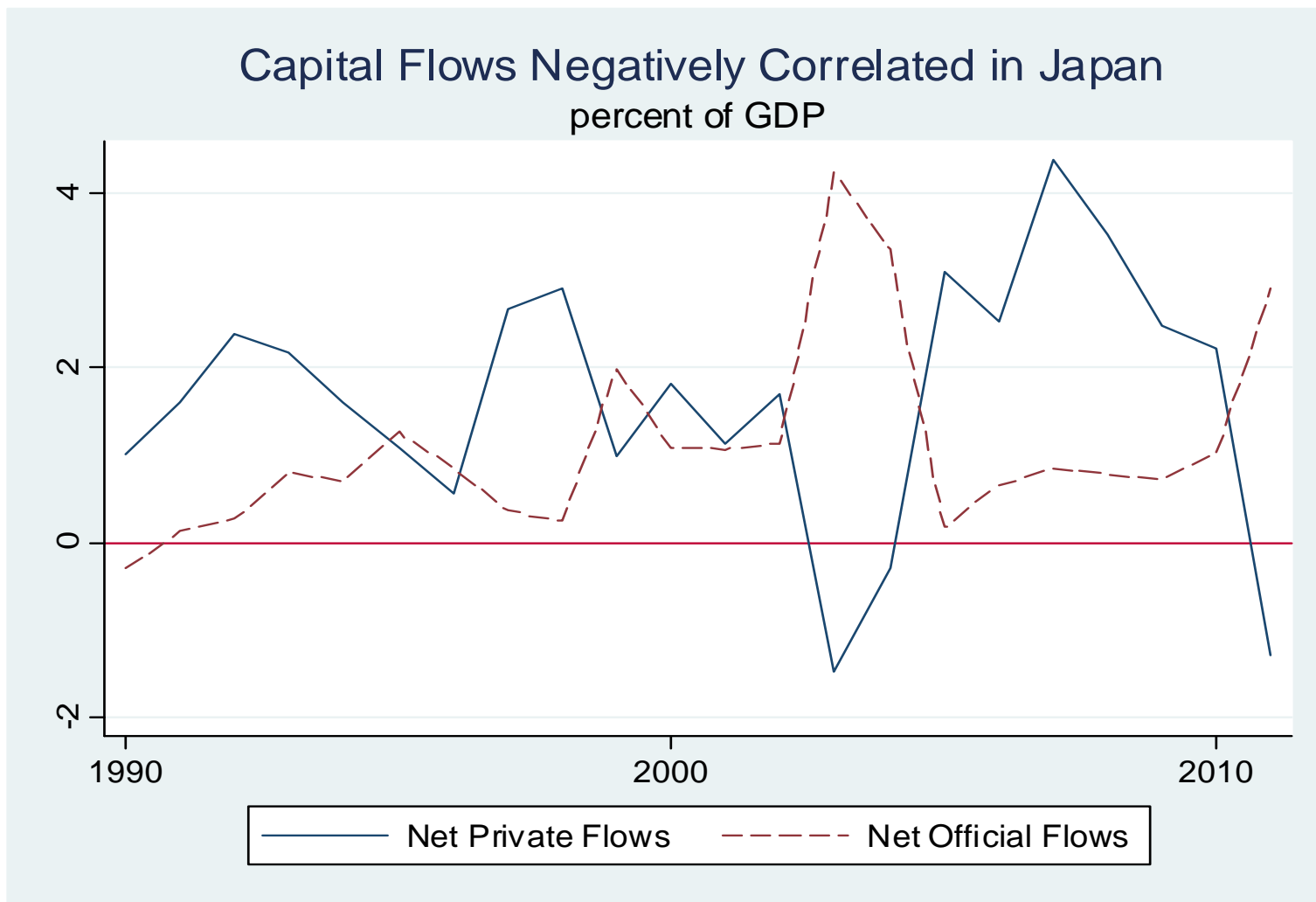
NOF: Net Official Flows

NPF: Net Private Flows

ERR: Errors and Omissions

X: Exogenous Factors

## But, NOF is not exogenous



## Need Instrumental Variables

- Reasons for governments to buy foreign assets independent of stabilizing exchange rate in face of trade or financial shocks.
  - Lagged ratio of stock of foreign assets (reserves) to imports or short-term debt or GDP.
  - Natural resource sovereign wealth fund.
  - History of currency crisis—IMF program.

## Regression Analysis

Baseline: 40 Countries, 5 5-year periods, 1986-2010

Alternates: 115 Countries, 25 annual obs., different instrumental variables, different X variables

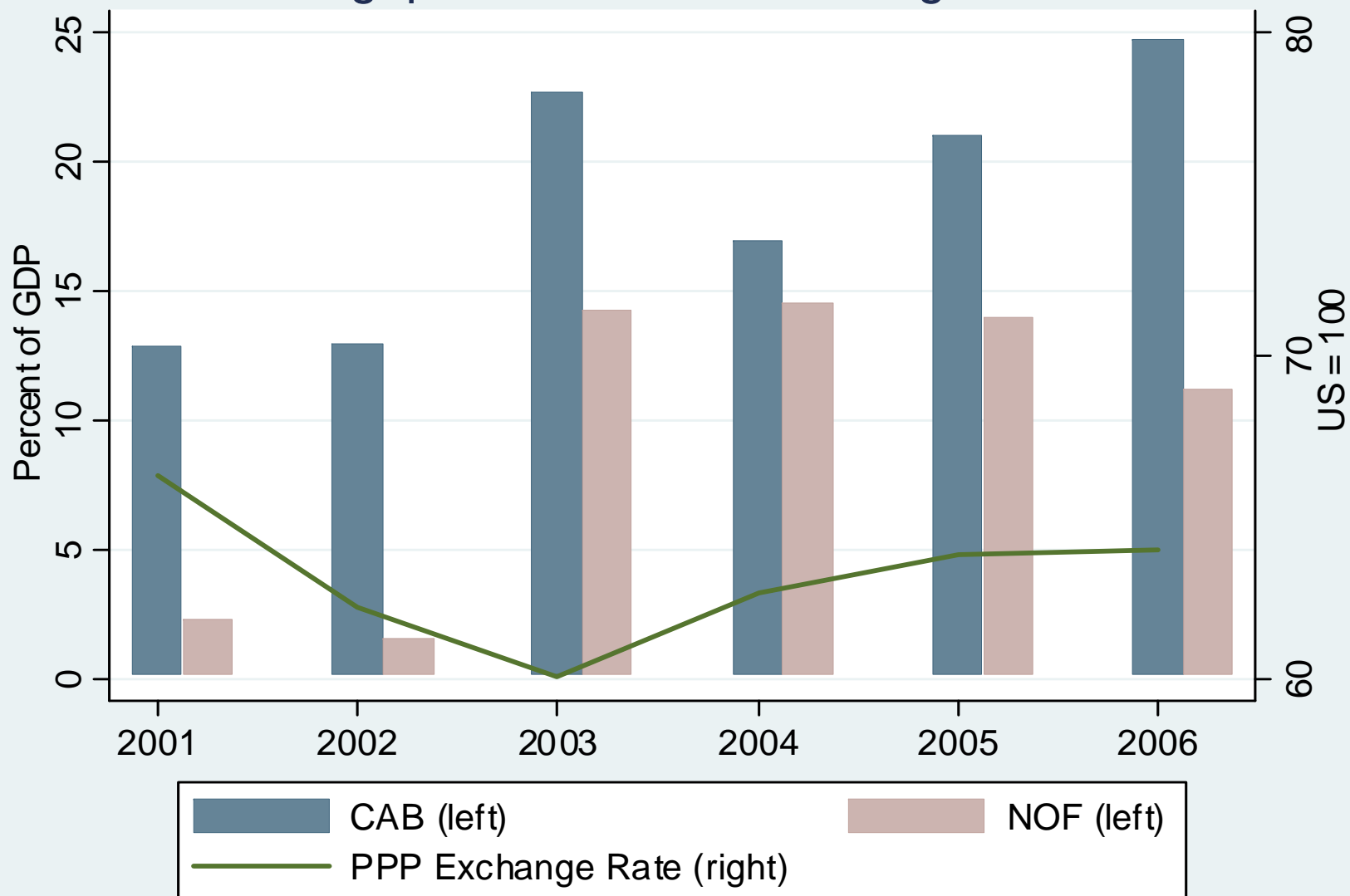
Regress both equations:

$$\text{NPF} = \lambda \times \text{NÔF} + C \times X + u$$

$$\text{CAB} = (1+\lambda) \times \text{NÔF} + C \times X + v$$

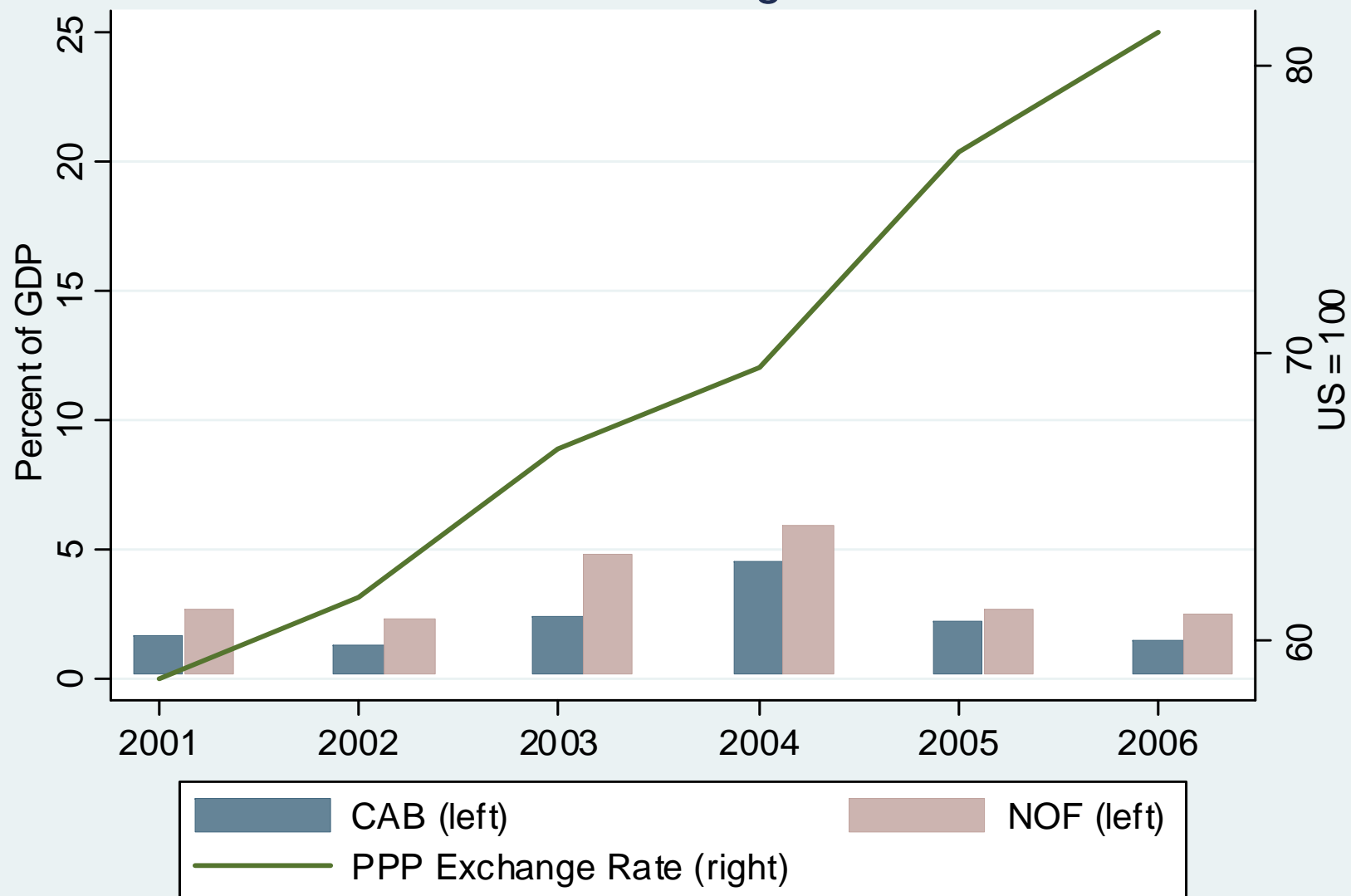
<u>Baseline Results</u>	<u>NPF</u>	<u>CAB</u>	
NÔF ( $\lambda$ )	-0.21	-0.21	$\rightarrow 1+\lambda = 0.79$
FISCAL	0.06	0.07	
NPFA	0.02*	0.02*	
YPPP	0.05*	0.06*	
YFORE	-0.87*	-0.86*	
HEALTH	-0.96*	-0.87*	
ENERGY	0.07	0.10*	
AGING	0.16*	0.14*	
CAPCON	0.03*	0.04*	
$R^2$	.33	.58	
No. Obs.	172	172	

## Singapore Stabilizes Exchange Rate





## Korea Lets Exchange Rate Rise



## Conclusions

- Currency intervention matters!
  - Each \$1 of intervention raises CAB about \$0.80
- Financial markets are not efficient
- Counter-intervention most direct response:
  - Potential budgetary cost and risk exposure
- Capital controls (taxes) are budget-friendly alternative
  - May be difficult to target at manipulators