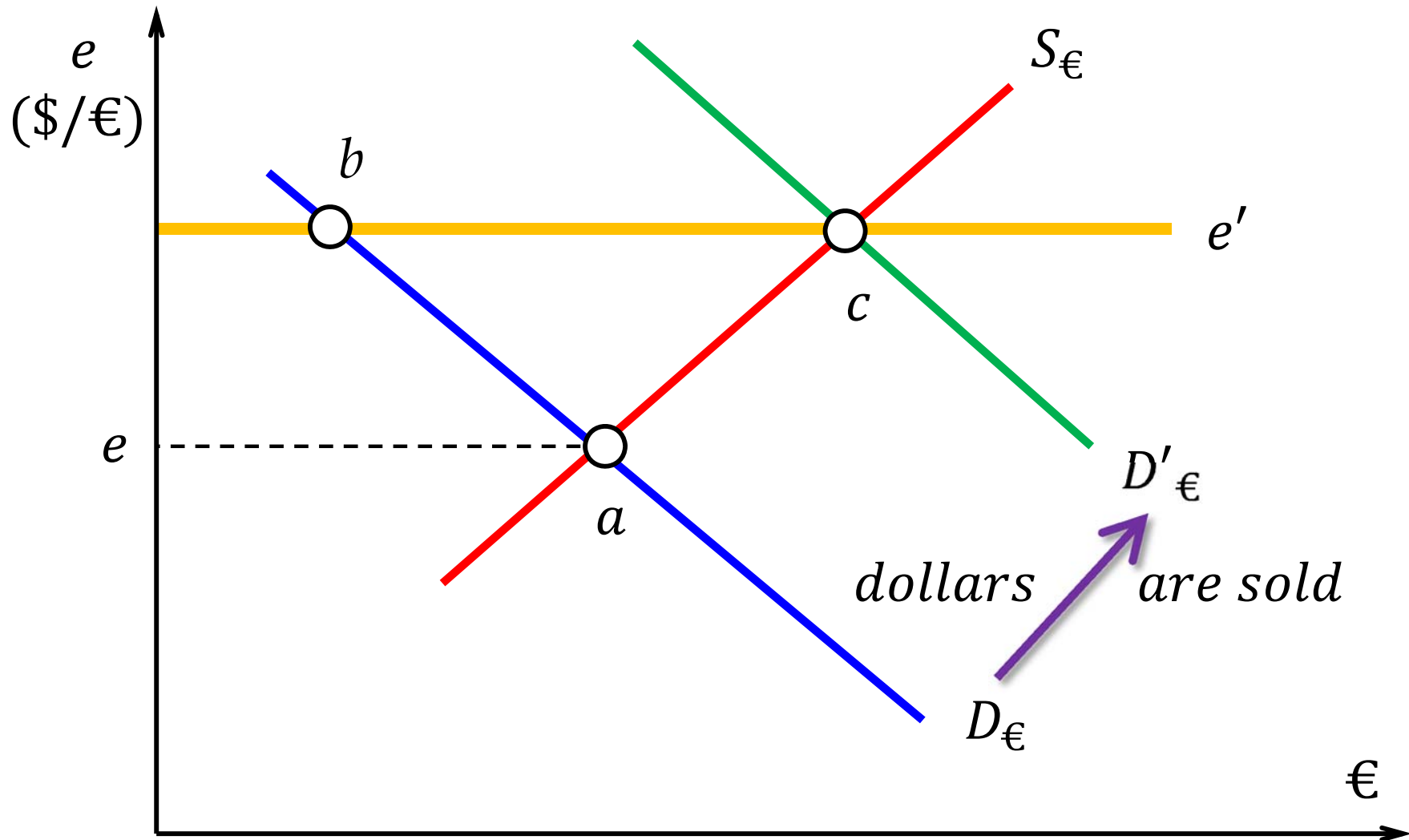


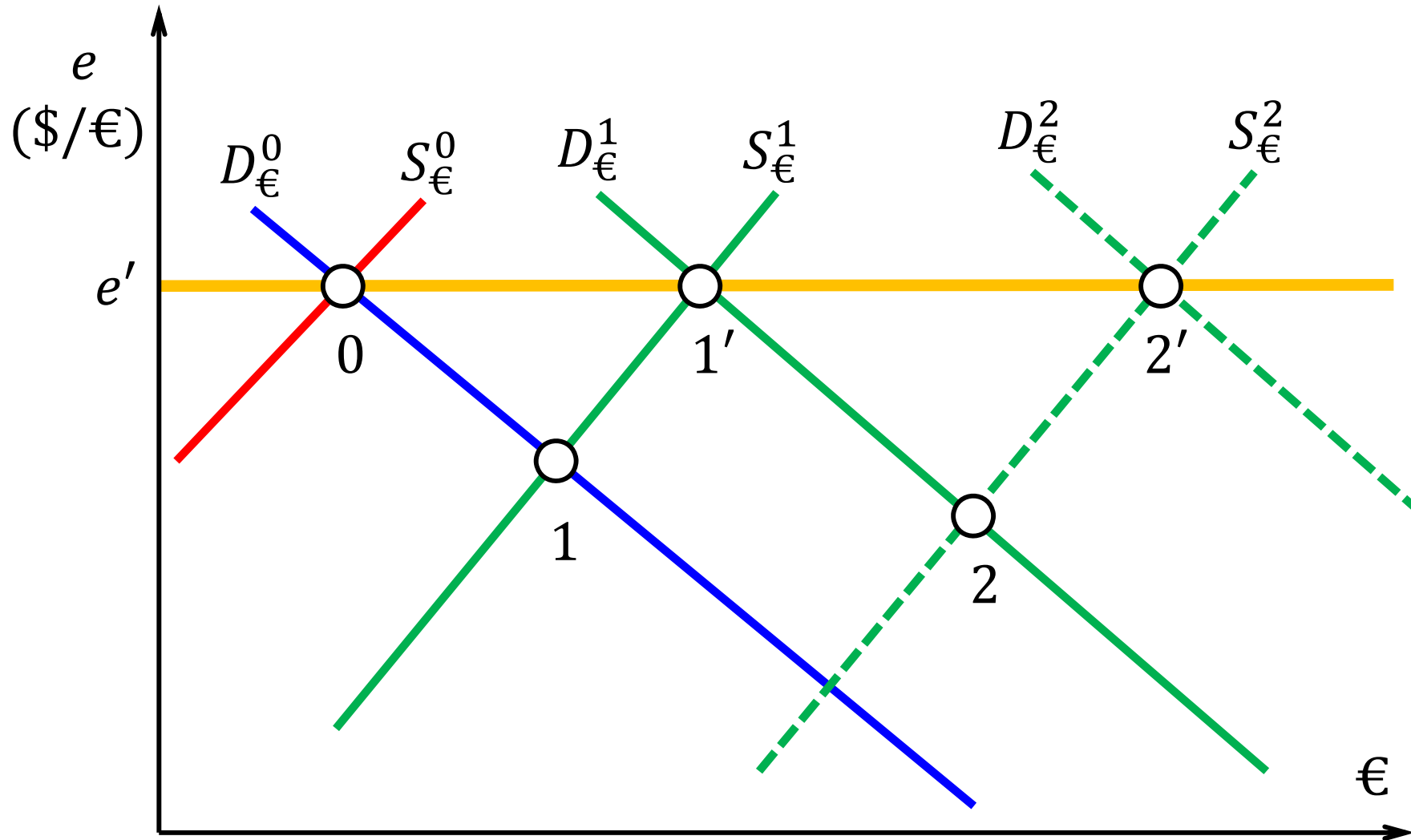
# 1. Exchange rate regimes

- Flexible or floating exchange rate
- Fixed exchange rate: revaluation / devaluation
- Managed float
- CB intervention in the currency market
- Anatomy of a typical currency crisis and speculative attacks

# Intervention in the currency market



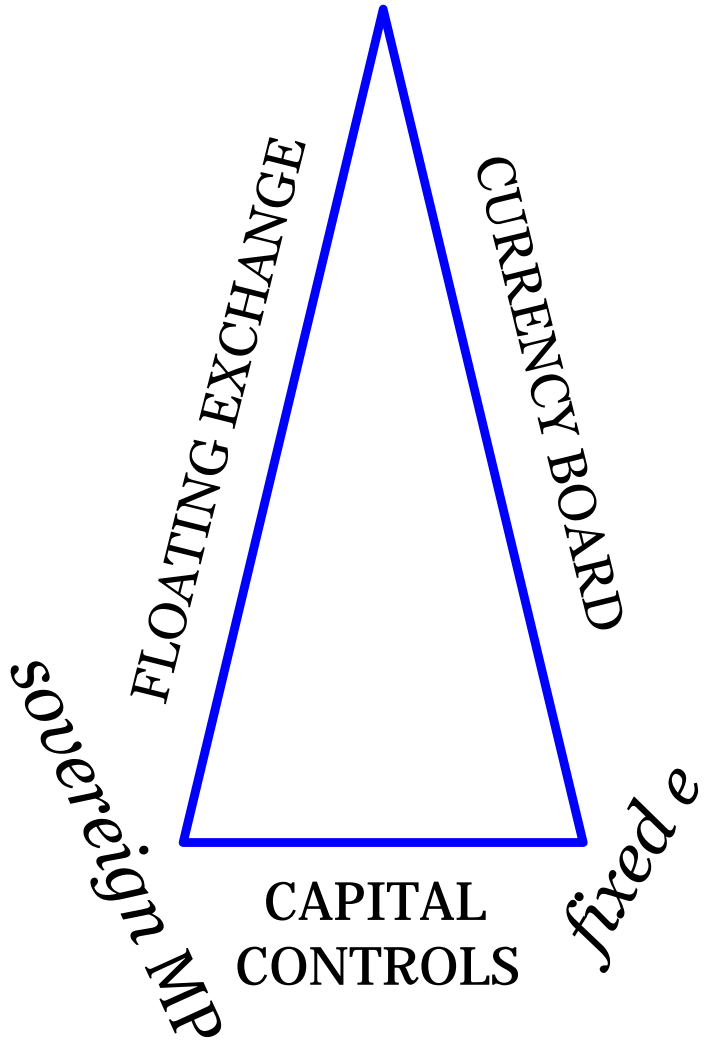
# Currency crises



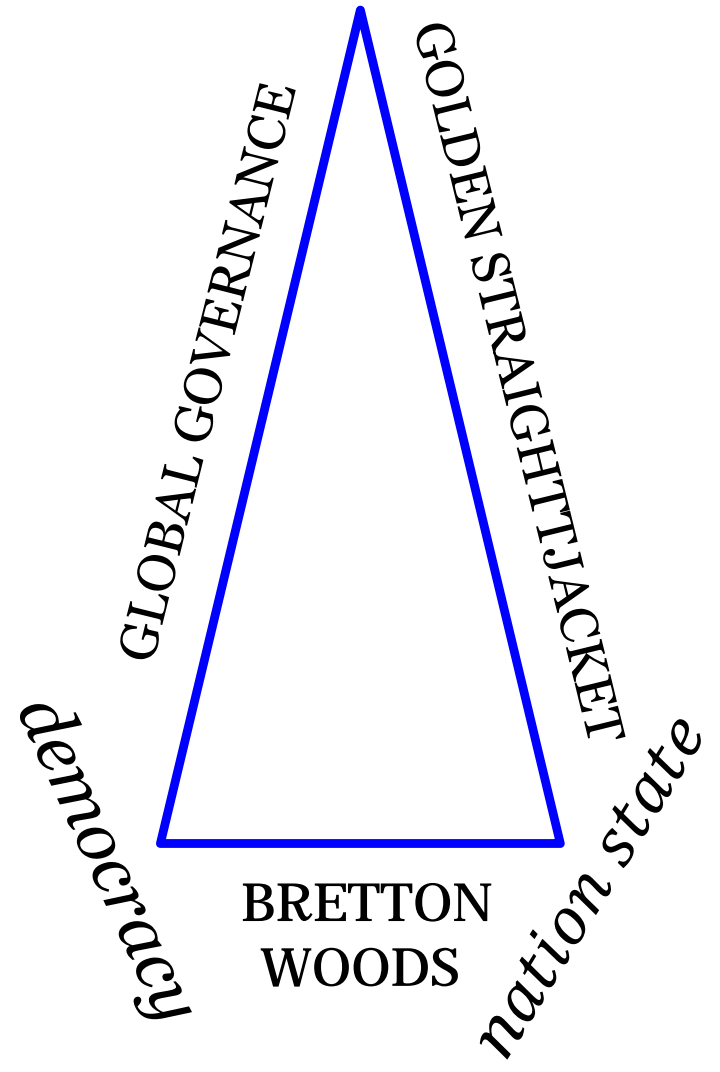
## 2. Trilemmas

- Impossible trinity: you can only have two of
  - fixed exchange rate
  - independent monetary policy
  - unrestricted international mobility of capital
- Rodrik's trilemma: you can only have two of
  - domestic democracy
  - independent domestic policy (sovereign state)
  - hyperglobalization

*free capital flows*



*hyperglobalization*



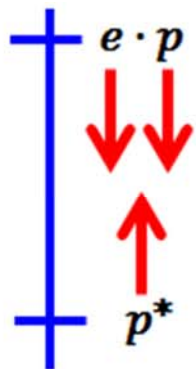
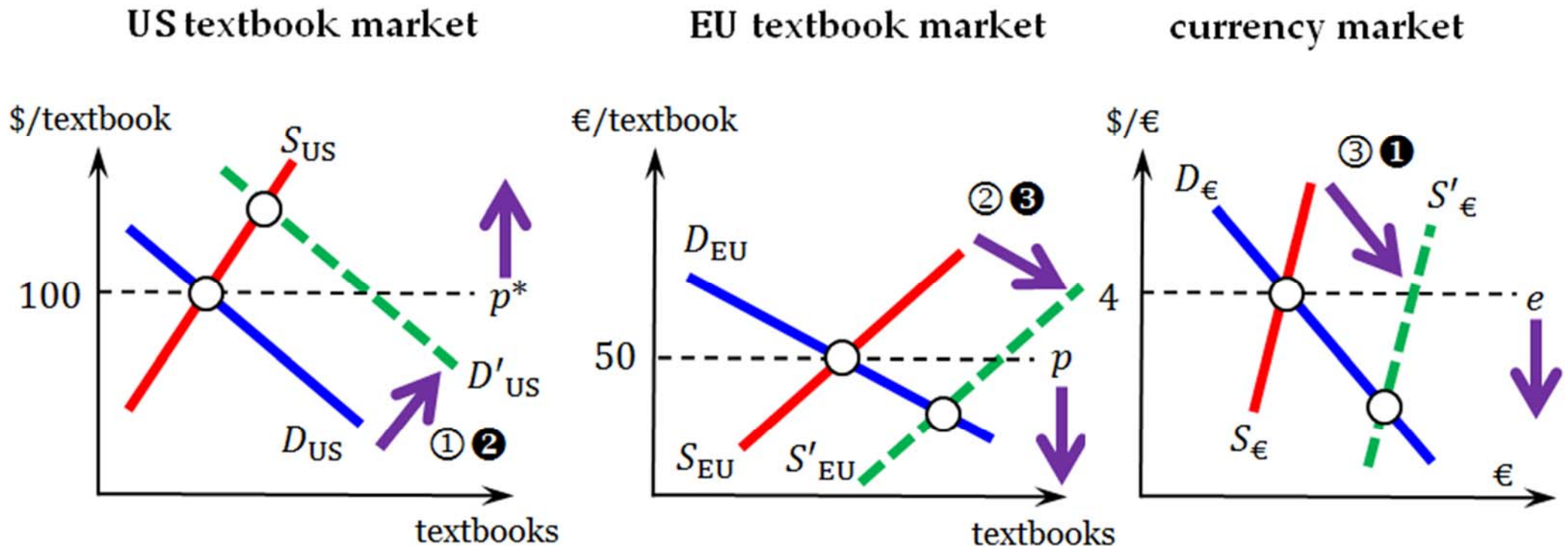
### 3. Real exchange rate

- Defined as 
$$e_r = e \cdot \frac{P}{P^*}$$
- Competitiveness / real appreciation & depreciation
- Purchasing power parity exchange rate

$$e_{PPP} = \frac{P^*}{P}$$

- Commercial arbitrage and PPP
- The Big Mac index

# Commercial arbitrage



- ① = Americans buy textbooks in US    ② = sell them in EU    ③ = and convert € in to \$  
 ① = Europeans convert € into \$    ② = buy textbooks in US    ③ = and sell them in EU

## Big MacCurrencies

Hamburger prices round the world

Country	Price* in local currency	Implied† purchasing power parity of the dollar	Actual exchange rate Sept 1st	% over (+) or under (-) valuation of US\$
Australia	A\$1.75	1.09	1.64	+50
Belgium	BFr90	56	42	-25
Brazil	Cz\$2.5	7.80	13.80	+78
Britain	£1.10	0.69	0.67	-3
Canada	C\$1.89	1.18	1.39	+18
France	FFr16.4	10.30	6.65	-35
Hongkong	HK\$7.60	4.75	7.80	+64
Ireland	IR£1.18	0.74	0.74	-1
Japan	Y370	231	154	-33
Holland	Fl4.35	2.72	2.28	-16
Singapore	S\$2.80	1.75	2.15	+23
Spain	Ptas260	163	133	-18
Sweden	SKr16.5	10.30	6.87	-33
United States	\$1.60	—	—	—
W Germany	DM4.25	2.66	2.02	-24

$$e_{PPP} = \frac{p^*}{p} = \frac{1.60 \text{ USD/BM}}{260 \text{ Pts/BM}} = 162.5 \frac{\text{Pts}}{\text{USD}}$$

$$\% \text{ overvaluation} = \frac{e - e_{PPP}}{e_{PPP}} \cdot 100 = \frac{133 - 162.5}{162.5} \cdot 100 = -18.15\%$$



US = home economy	$P^*$ = BM home price	BM price in \$ = $P^*/e$	PPP of \$ = $P^*/P$	market $e$ on 22 Jan 2014	Over (+) under (-) valuation against the \$
US	$P = 4.62$	—	—	—	—
Brazil	12.4 R\$	5.25	2.68	2.36	13.48
UK	2.79 £	4.63	1.66 \$/£	1.66 \$/£	0.06
China	16.6 ¥	2.74 \$	3.59 ¥/\$	6.05 ¥/\$	-40.68
Eurozone	3.65 €	4.96	1.26 \$/€	1.35 \$/€	7.3
India	95 ₹	1.54	20.54	61.85	-66.78
Russia	89 руб	2.62	19.25	33.94	-43.29
Sweden	40.7 kr	6.29	8.8	6.47	35.97
Venezuela	45 Bs.F.	7.15	9.73	6.29	54.66

US = home economy	$P^*$ = BM home price	BM price in \$ = $P^*/e$	PPP of \$ = $P^*/P$	market $e$ on 22 Jan 2015	Over (+) under (-) valuation against the \$
US	$P = 4.79$	—	—	—	—
Brazil	13.5 R\$	5.21	2.82	2.59	8.70
UK	2.79 £	4.63	1.66 \$/£	1.66 \$/£	0.06
China	17.2 ¥	2.77 \$	3.59 ¥/\$	6.21 ¥/\$	-42.19
Eurozone	3.68 €	4.26	0.77 \$/€	0.86 \$/€	-10.98
India	116.25 ₹	1.89	24.27	61.62	-60.61
Russia	89 руб	1.36	18.58	65.23	-71.51
Sweden	40.7 kr	4.97	8.50	8.19	3.73
Switzerland	6.5 CHF	7.54	1.36	0.86	57.49
Venezuela	132 Bs.F.	2.53	27.56	52.10	-47.119

# 4. More parities

- Relative purchasing power parity

$$\hat{e} \approx \pi^* - \pi$$

- Uncovered interest rate parity

$$\hat{e}^e \approx i^* - i$$

