























Euro foreign exchange reference rates: 2 June 2020

All currencies quoted against the euro (base currency)

Currency	↕	Spot	Chart
 USD US dollar	↑	1.1174	
 JPY Japanese yen	↑	120.83	
 BGN Bulgarian lev	=	1.9558	
 CZK Czech koruna	↓	26.645	
 DKK Danish krone	↓	7.4541	
 GBP Pound sterling	↓	0.89083	
 HUF Hungarian forint	↑	345.67	
 PLN Polish zloty	↓	4.3993	
 RON Romanian leu	↓	4.8423	
 SEK Swedish krona	↓	10.4520	
 CHF Swiss franc	↑	1.0741	

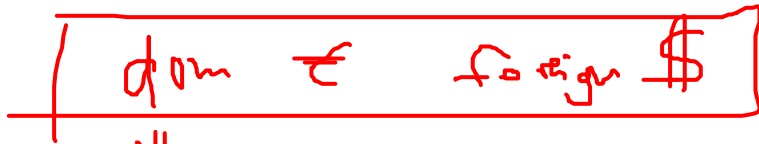


Summer term 2020

Chapter 2



Exchange rate



⇒ w
(direct)

$$\underline{\underline{0.89 \frac{\text{€}}{1\$}}}$$

price of the foreign currency

indirect $1.1184 \frac{\$}{1\text{€}}$ (June 3rd 2020)

⇒ $\left. \begin{array}{l} \text{€ ↓ deprecates} \\ \text{\$ ↑} \end{array} \right\} w \uparrow (\Rightarrow x' \uparrow)$

real exchange rate

$$w^r = \frac{p_a}{P} w$$

$$w^r = \frac{5.28 \$ \cdot 0.89 \frac{\text{€}}{1\$}}{3.90 \text{€}} = 1.2$$

market basket - BigMac
US 5.28 \$ DE 3.90 €

$\frac{\text{BigMDE}}{\text{BigM.US}}$ € under-valued by 20%

Law of one price (PPP)

$$w^r = 1 \Rightarrow P = p_a w \Rightarrow 3.9 \text{€} = 5.28 \$ \cdot w \Rightarrow w = 0.7386 \frac{\text{€}}{\$}$$

■ Exchange rate Euro per 1\$ (direct quotation)



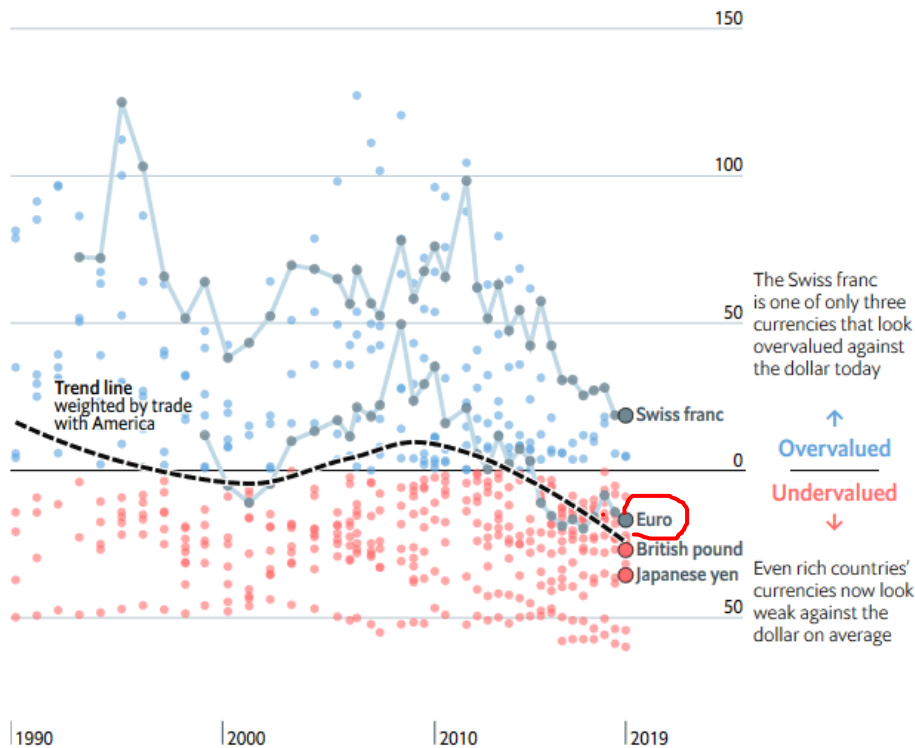
Source: ecb.int

■ Big Mac Index

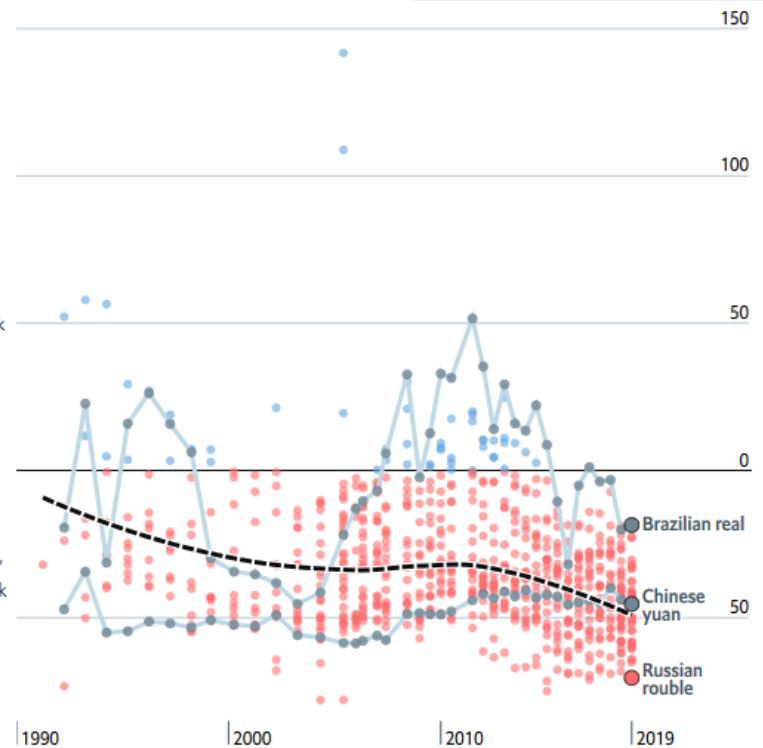


Over/undervaluation against the US dollar, selected currencies, %

Advanced-economy currencies



Emerging-economy currencies



Sources: McDonalds; Thomson Reuters; The Economist

Quelle: <https://www.economist.com/graphic-detail/2019/01/12/the-big-mac-index-shows-currencies-are-very-cheap-against-the-dollar>

■ Problem 2.4

PPP $w^* = 1$

dom € foreign \$

deflationary trend in US: $p \downarrow$

a₁ law of one price

$$\downarrow p = p_{\text{ab}} w \uparrow$$

TG

ass: homogenous, tradable goods

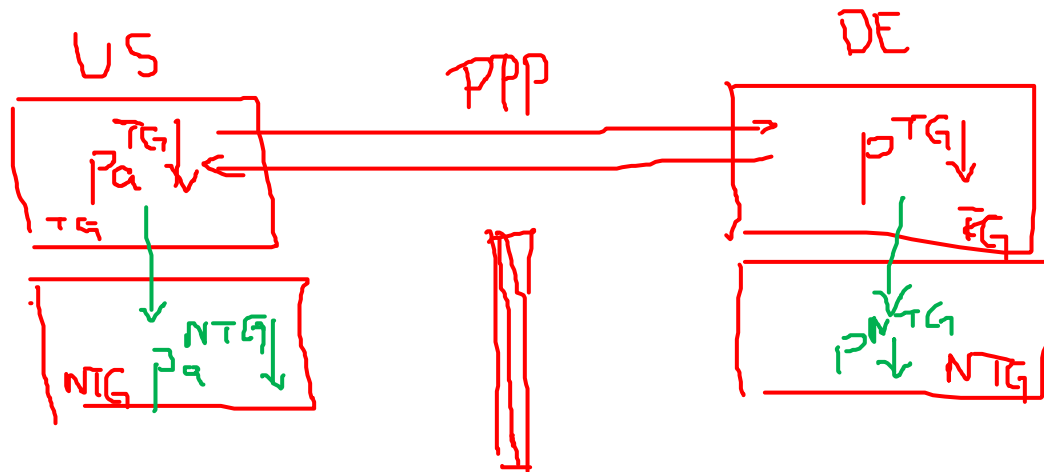
→ product cheaper in the US

→ Demand in US \uparrow (\$ are needed $\Rightarrow w \uparrow$)

→ demand in DE $\downarrow \Rightarrow p \downarrow$
for that good

■ Problem 2.4

$h, NTG / TG$



- PPP only for tradable goods
- transmission to NTG (partly)
 - ↳ labor mobility / unions (same wages in both sectors)
 - ↳ TG are intermediate inputs for NTG