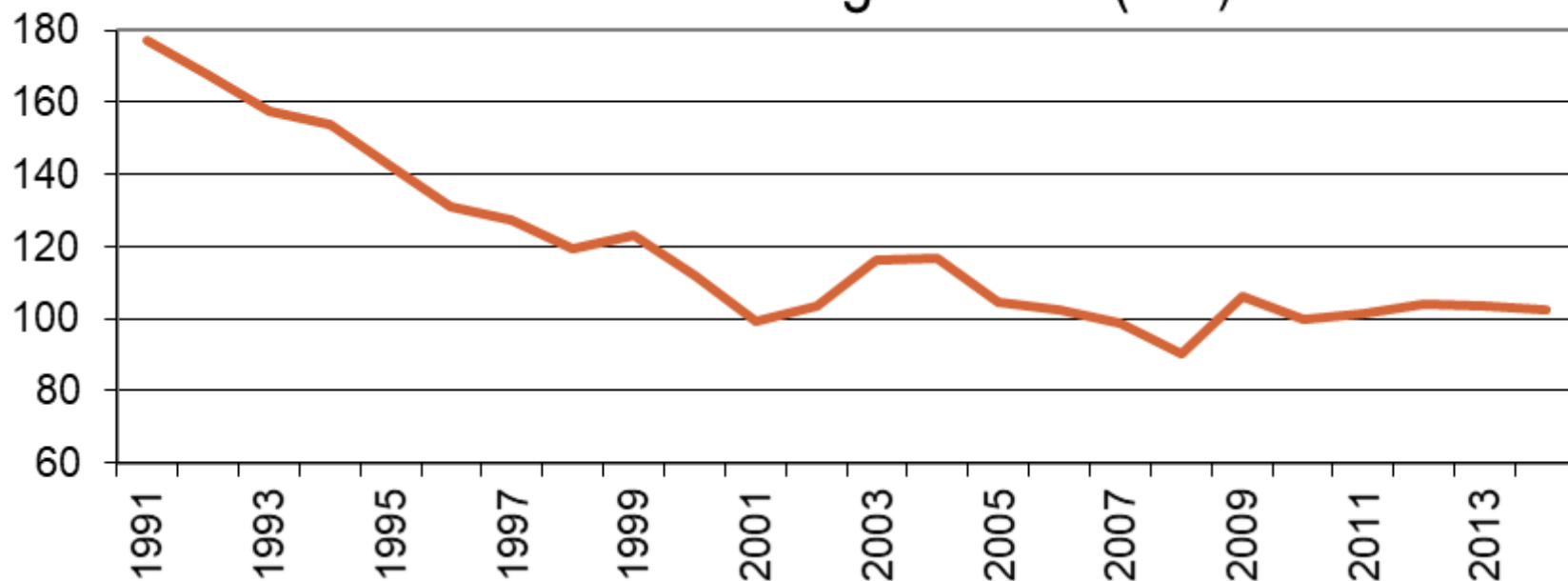


## ■ Problem 2.5

Domestic: Poland (złoty) foreign: DE (DM → €)

Real exchange rate  $w^r$  (€/zł)

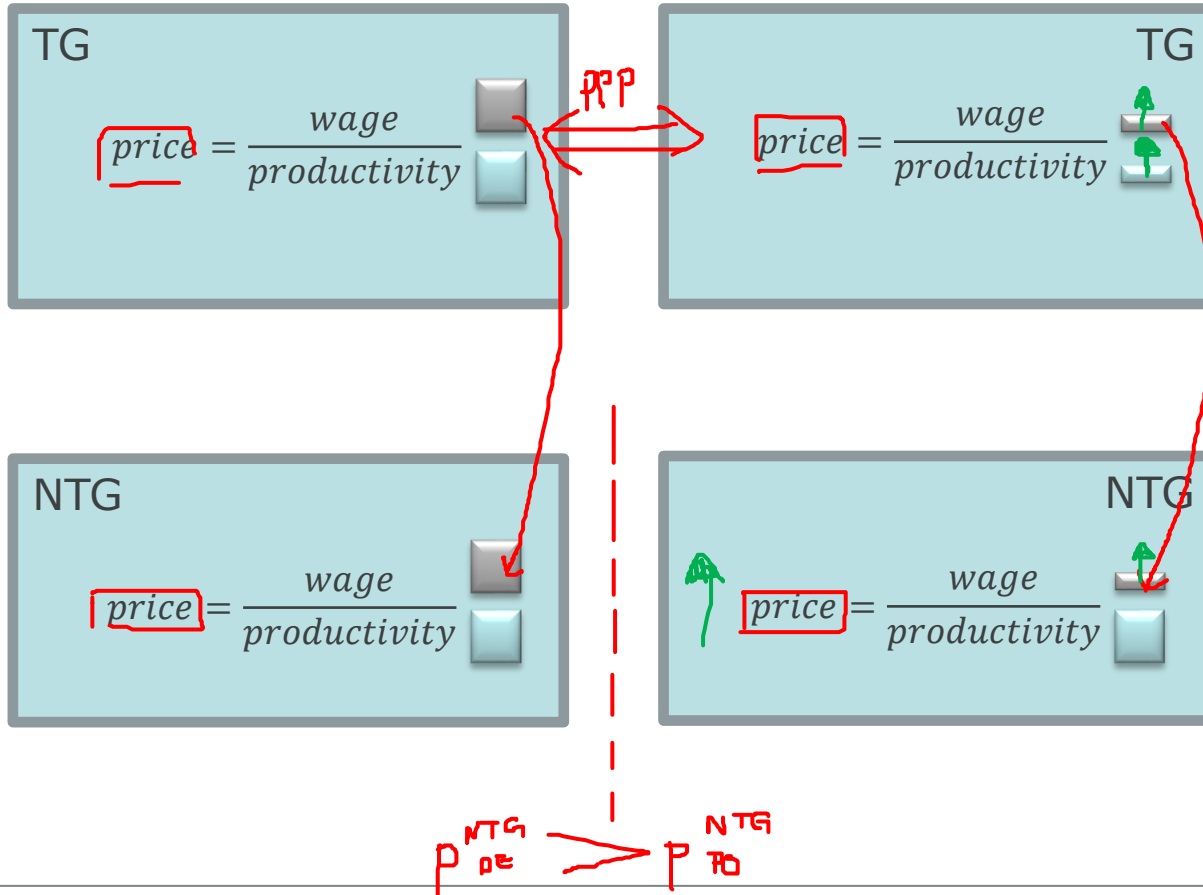


2 sectors/goods TG/NTG  
2 countries → developed → DE  
→ developing → PO

# Problem 2.5

DE

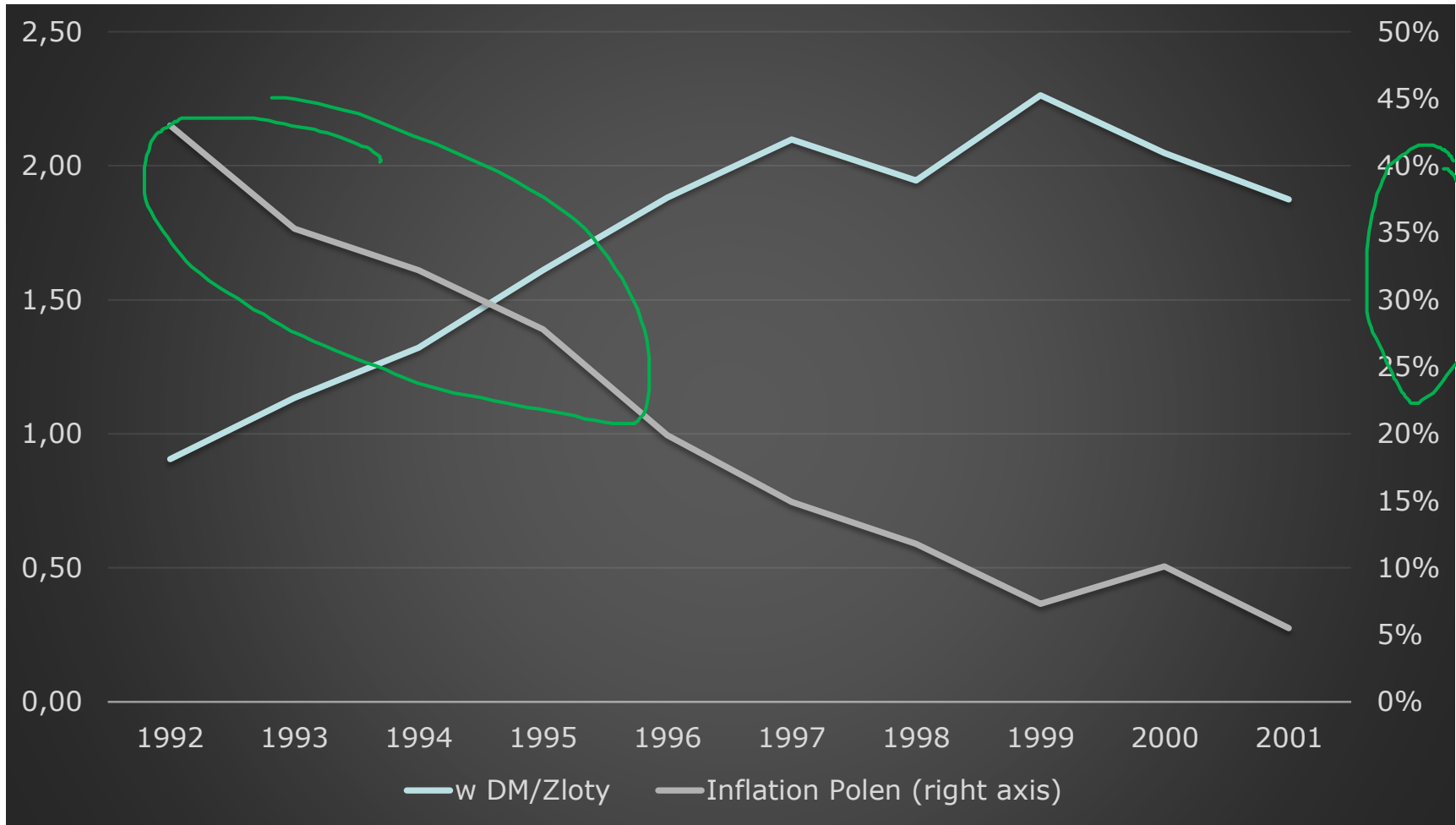
- 1)  $prod_{DE}^{TG} > prod_{PO}^{TG} \Rightarrow wage_{DE}^{TG} > wage_{PO}^{TG}$
- 2)  $prod_{DE}^{NTG} = prod_{PO}^{NTG}$
- 3) Labor mobility btw. sectors



Poland in 90ties

$\Rightarrow prod_{PO}^{TG} \uparrow$   
 $\Rightarrow wage_{PO}^{TG} \uparrow$  due to PPP  
 $\Rightarrow wage_{PO}^{NTG} \uparrow$  due to labor mobility  
 $\Rightarrow P_{PO}^{NTG} \uparrow \Rightarrow \pi \uparrow$   
 $\downarrow w^r = \frac{p_w}{P} \uparrow$   
 not always constant in the long run


# ■ Inflation in Poland



## ■ Problem 2.6

***Pricing to Market* deviates from the *Law of one Price*. Explain why and in which countries will exporters choose such a strategy?**

- Price differentiation between countries
- high willingness to pay and low price elasticity => high  $p$
- also for *traded goods* the PPP is limited


$$\frac{\% \text{ change in demand}}{\% \text{ change in price}}$$

## ■ Problem 2.6

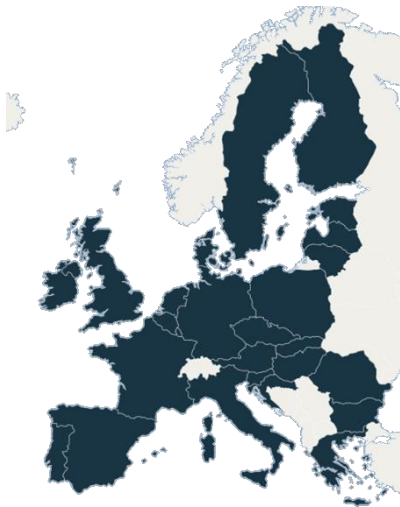
***Pricing to Market* deviates from the *Law of one Price*. Explain why and in which countries will exporters choose such a strategy?**

Criteria

SIZE

STABILITY OF  
CURRENCY

*Example: American exporter*



- many competitors, adaption to local prices
- Invoicing in €, no inclusion of w-fluctuations



- few competitors
- Invoicing in \$

## ■ Problem 2.3

$$W_r = \frac{P_{\$W}}{P}$$

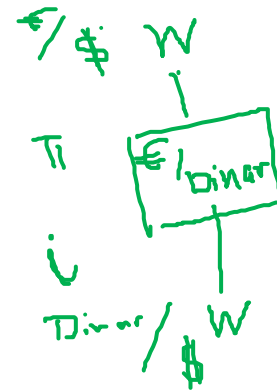
$$\pi = \frac{P - P_{-1}}{P_{-1}}$$

Online you will find a dataset from the International Financial Statistics of the International Monetary Fund with annual data on the exchange rate of the euro and the Serbian dinar to the US dollar as well as the inflation rates of the two regions. Use this data to determine the real exchange rate between the euro and the dinar. Explain to what extent the data confirm the theory of the purchasing power parity.

Country	Concept	Data Source	Status	Unit	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Euro Area	Consumer Prices, All items	International Financial Statistics (IFS)	Published	Percent Change over Corresponding Period of Previous Year	2.428	2.254	2.131	2.181	2.178	2.203	2.141	3.292	0.295	1.624	2.720	2.496
Euro Area	Interest Rates, Money Market Rate	International Financial Statistics (IFS)	Published	Percent per Annum	4.263	3.259	2.262	2.046	2.123	3.006	3.981	3.783	0.695	0.481	0.816	0.064
Euro Area	National Currency per U.S. Dollar, period average	International Financial Statistics (IFS)	Published	National Currency per US Dollar	1.118	1.063	0.886	0.805	0.804	0.797	0.731	0.683	0.720	0.755	0.719	0.778
Serbia, Republic of	Consumer Prices, All items	International Financial Statistics (IFS)	Published	Percent Change over Corresponding Period of Previous Year	95.005	19.491	9.876	11.026	16.120	11.724	6.392	12.411	8.117	6.143	11.137	7.330
Serbia, Republic of	Interest Rates, Money Market Rate	International Financial Statistics (IFS)	Published	Percent per Annum	31.909	15.481	12.692	12.861	20.510	16.510	10.310	15.551	11.010	13.100	11.040	11.890
Serbia, Republic of	National Currency per U.S. Dollar, end of period	International Financial Statistics (IFS)	Published	National Currency per US Dollar	67.670	58.985	54.637	57.936	72.219	59.976	53.727	62.900	66.729	79.280	80.866	86.176

$\pi$

$i$



## ■ Problem 2.1a

domestic: €  
 $W = 1 \text{€} / \$$

\$	Sell orders	Buy orders	€
16.0	1	1	10.0
14.4	1	1	8.8
11.4	1	1	8.0
10.0	1	1	7.6
8.8	1	1	7.2
7.5	1	1	6.4

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## ■ Problem 2.1b

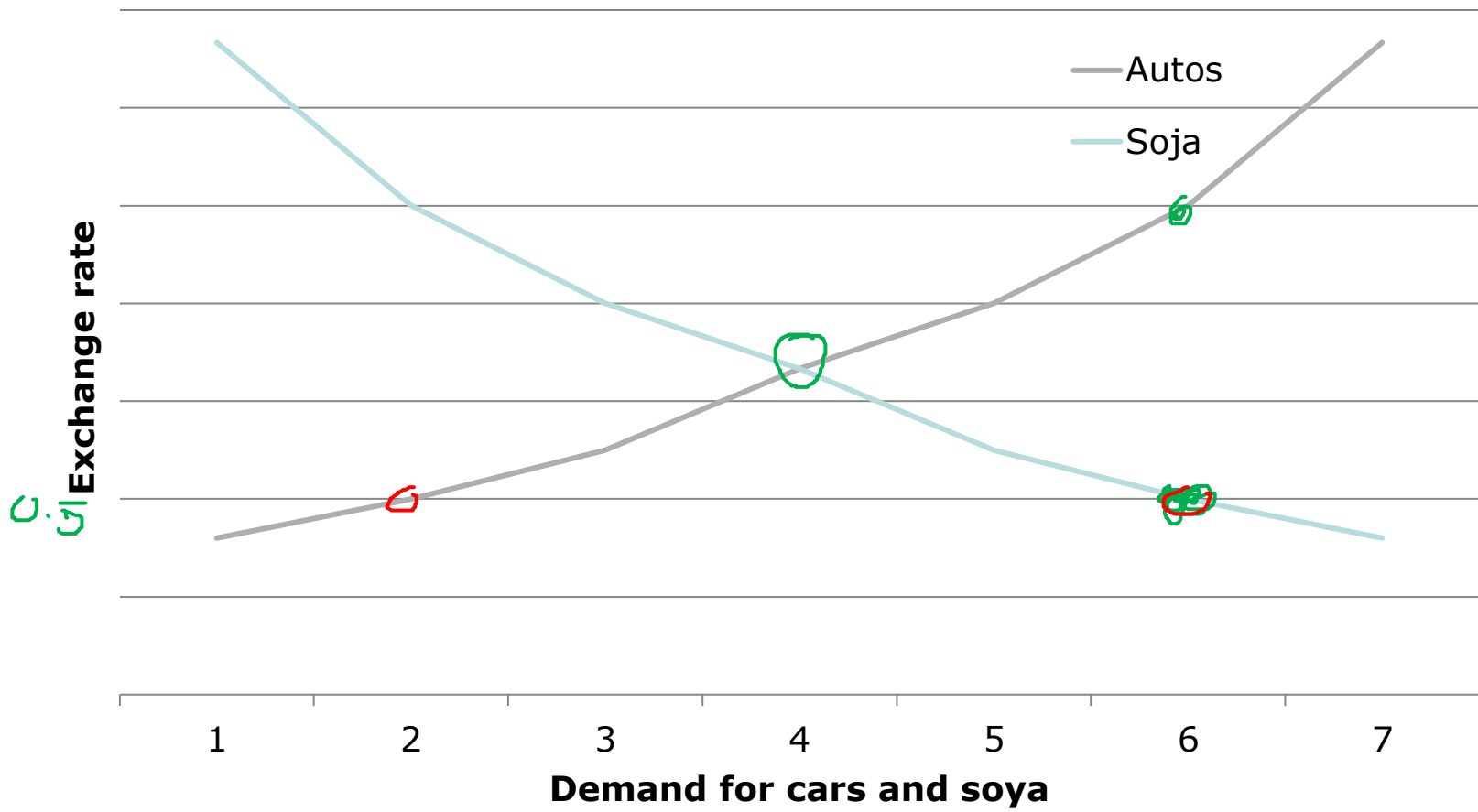
$$W = 0.5 \text{ €}/\$$$

\$	Sell orders	Buy orders	€	
16.0	1	1	10.0	20\$
14.4	1	1	8.8	17.6\$
11.4	1	1	8.0	16\$
10.0	1	1	7.6	15.2\$
8.8	1	1	7.2	14.4\$
7.5	1	1	6.4	12.8\$

6 trades



# Two countries



# ■ Problem 2.2

dom. UK

UK £

China CNY

Whisky

sell offer  
14.30 £

!

buy offer  
110 CNY

$w > 0.13 \frac{£}{CNY}$

Hedsets

90 CNY

≡

10 £

$w < 0.11 \frac{£}{CNY}$

↓

No trade opportunity!

e.g.  $w = 0.1$   
14.30 £  
9 £

≡

11 £  
10 £ ✓

$w = 0.2$   
14.30 £  
18 £

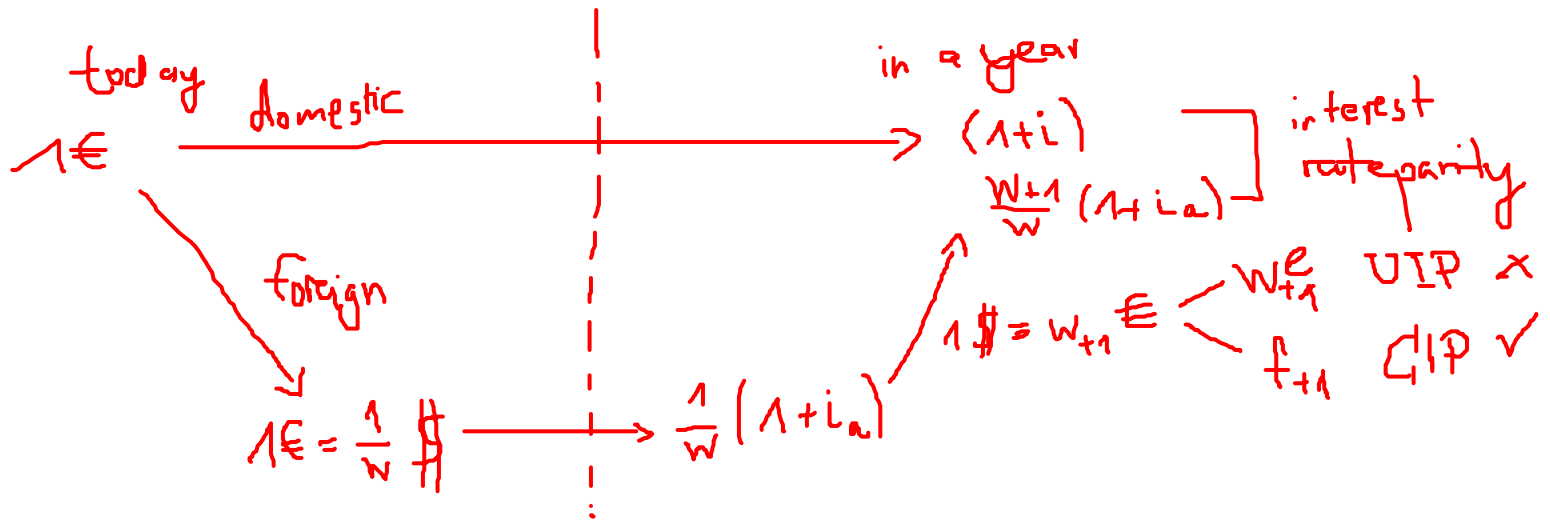
≡

22 £ ✓  
10 £

# Chapter 3

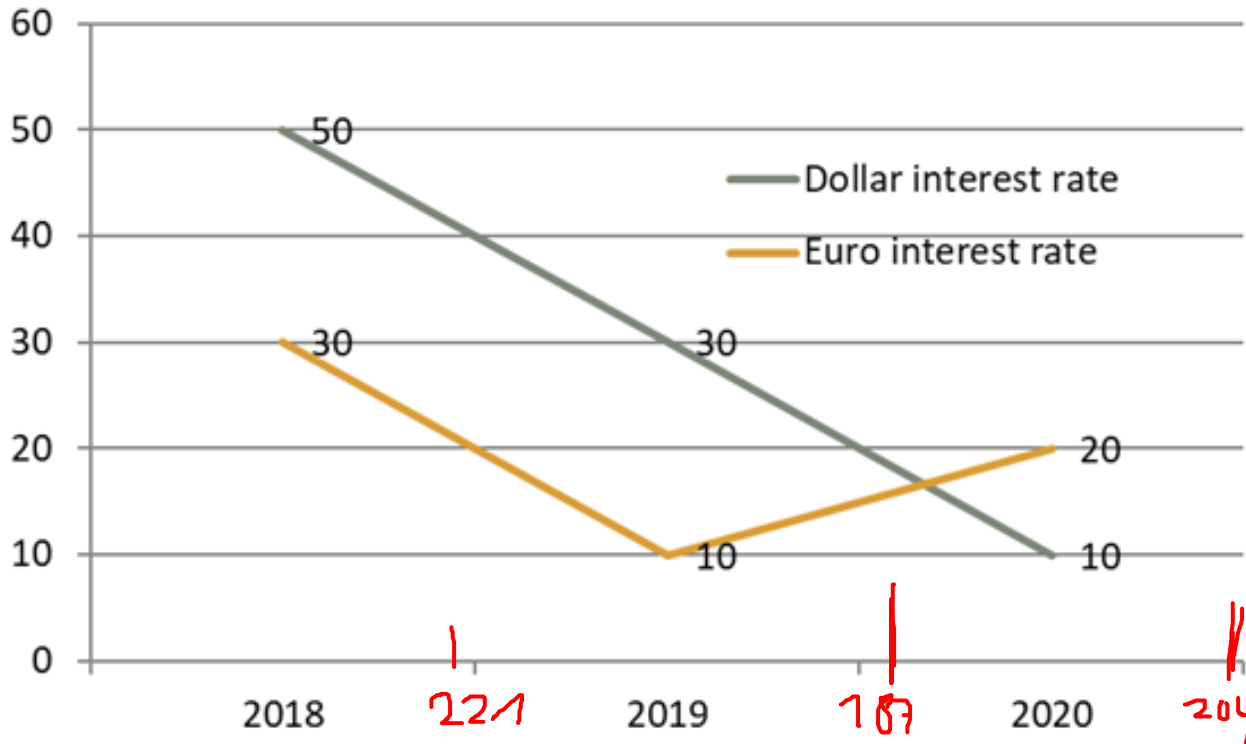
interest rate parity + PPP = real interest rate parity  
 $r = r_a$

domestic: €      foreign US       $\pi = \pi_a$



# Problem 3.3

$$(1+i) = \frac{W_{t+1}}{W_t} (1+i_a) \Rightarrow W_t = \frac{W_{t+1} (1+i_a)}{1+i}$$



$$W_{2020} = 204 \frac{\text{€-Cent}}{\$}$$

$$W_{2019} = 204 \frac{1+0.1}{1+0.2} = 187$$

$$W_{2018} = 187 \cdot \frac{1+0.3}{1+0.1} = 221$$

$$W_{2017} = 221 \cdot \frac{1+0.1}{1+0.3} = 255$$