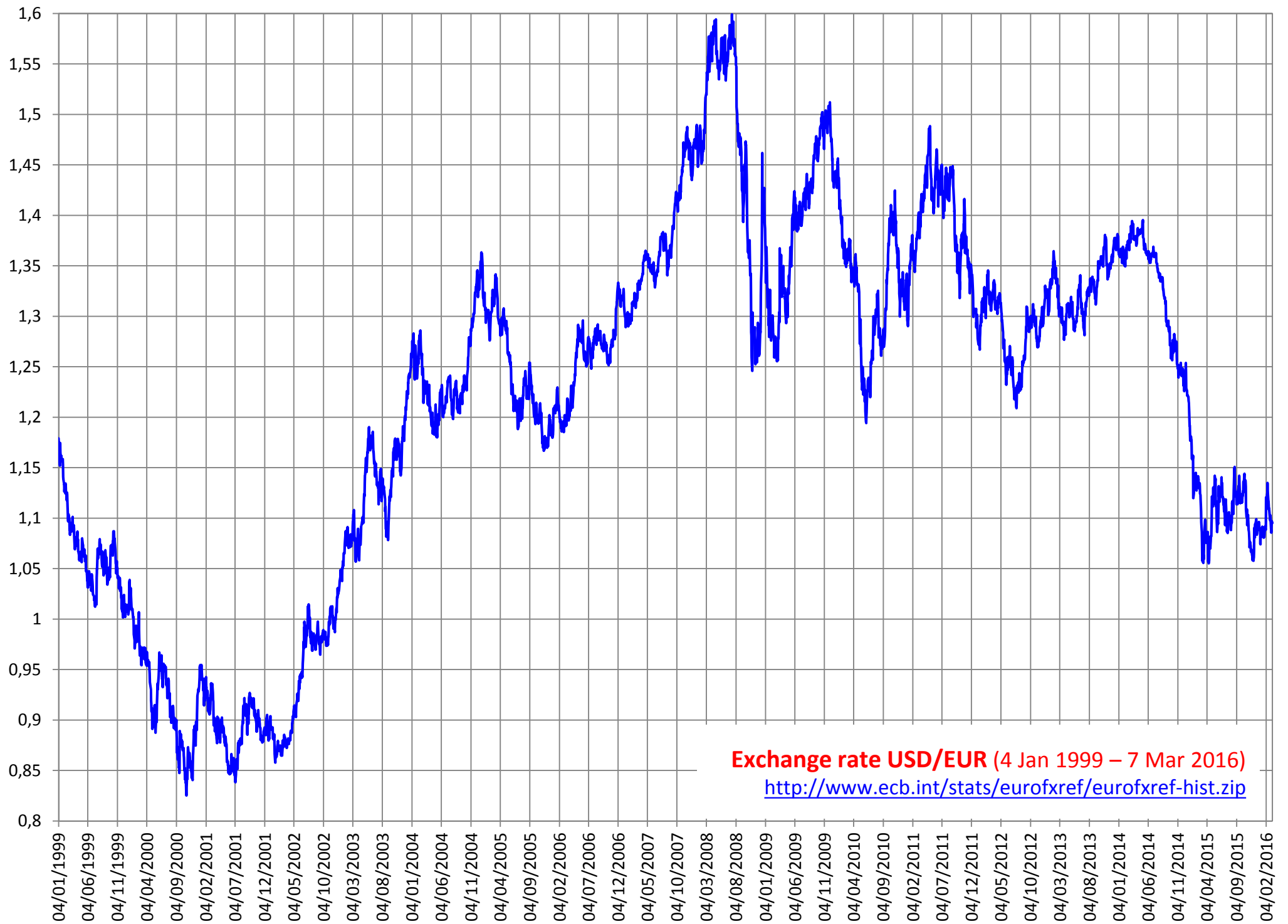
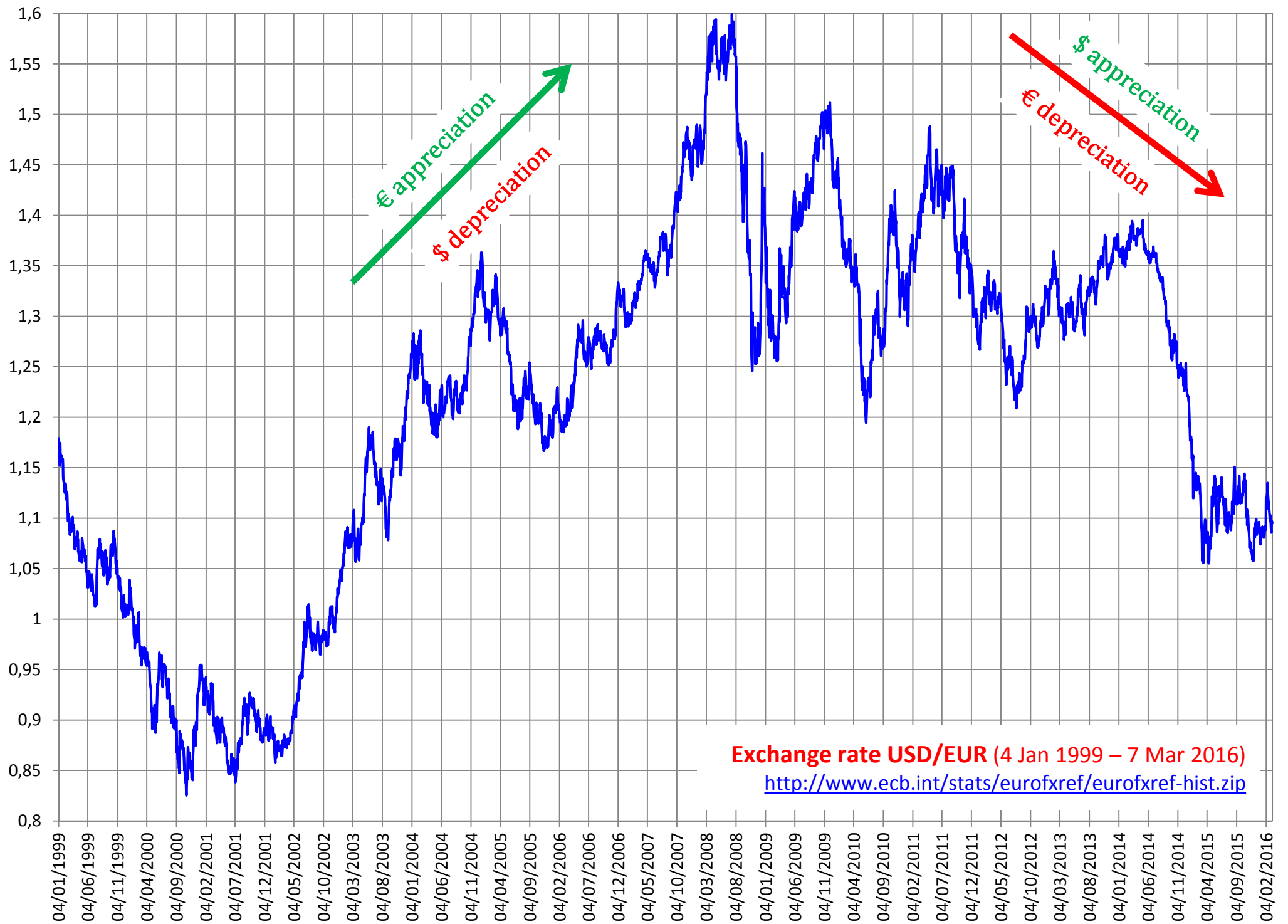


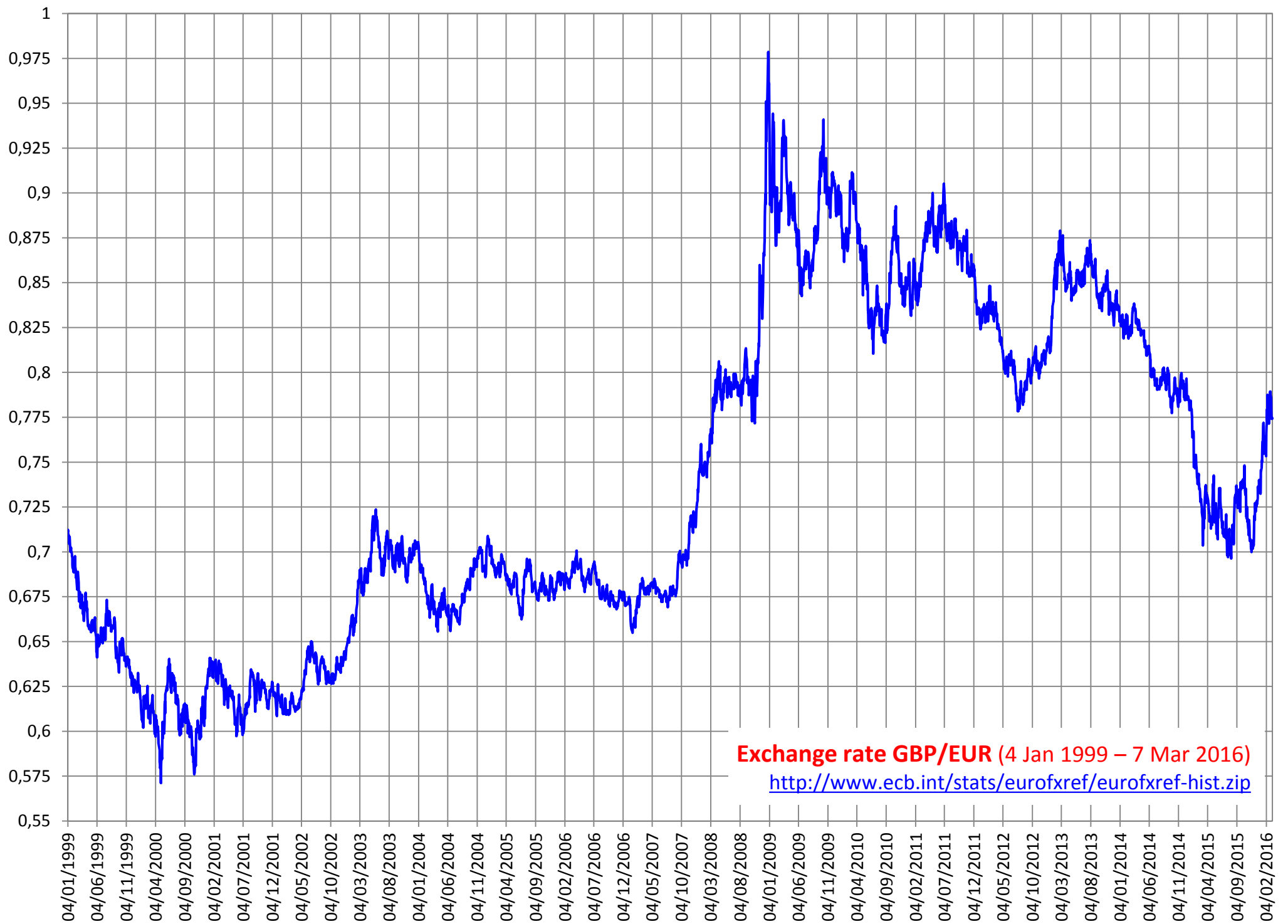
**Triskai-
deka-
phobia!**



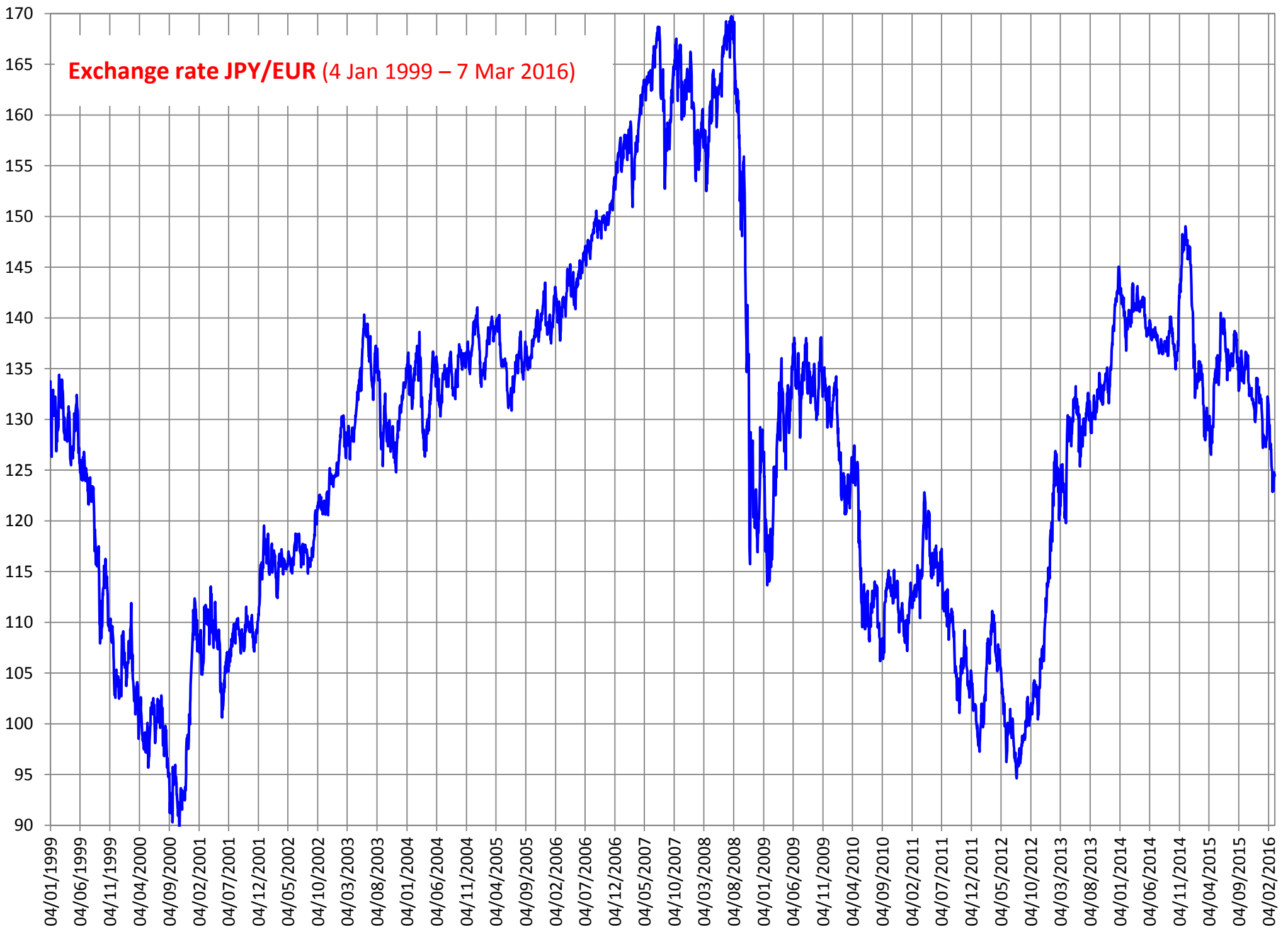
Exchange rate USD/EUR (4 Jan 1999 – 7 Mar 2016)
<http://www.ecb.int/stats/eurofxref/eurofxref-hist.zip>



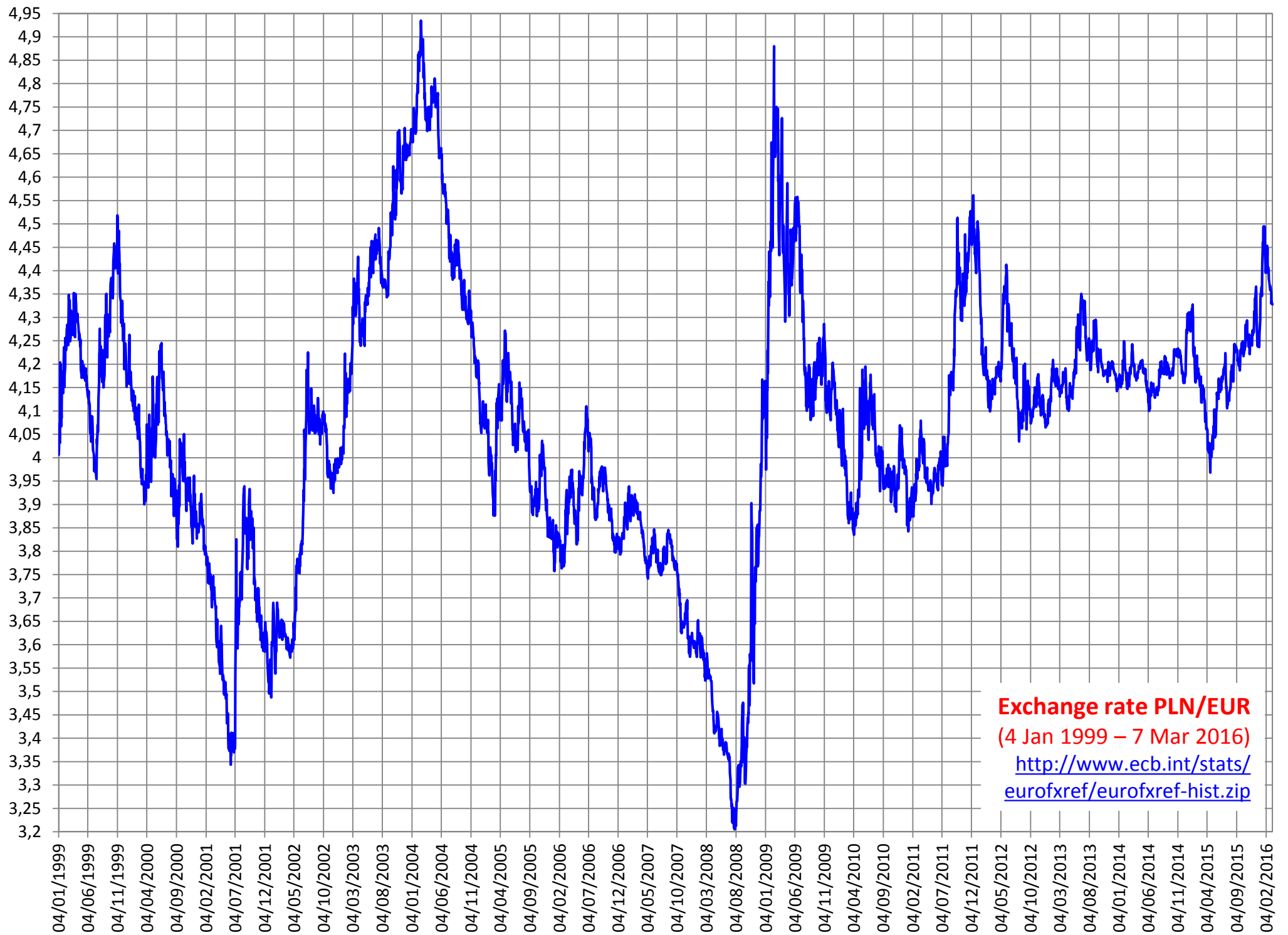
Exchange rate USD/EUR (4 Jan 1999 – 7 Mar 2016)
<http://www.ecb.int/stats/eurofxref/eurofxref-hist.zip>



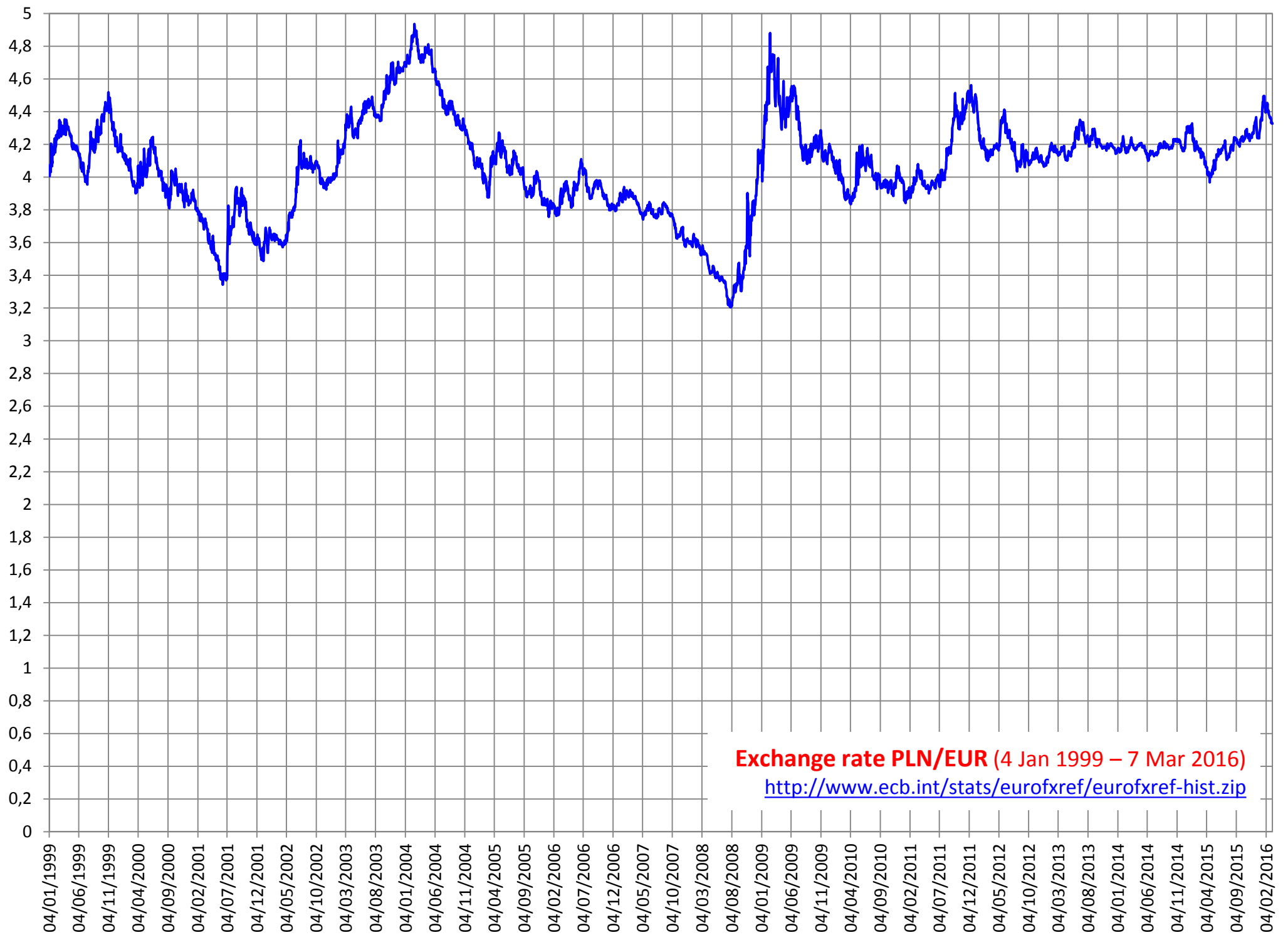
Exchange rate GBP/EUR (4 Jan 1999 – 7 Mar 2016)
<http://www.ecb.int/stats/eurofxref/eurofxref-hist.zip>



Exchange rate JPY/EUR (4 Jan 1999 – 7 Mar 2016)



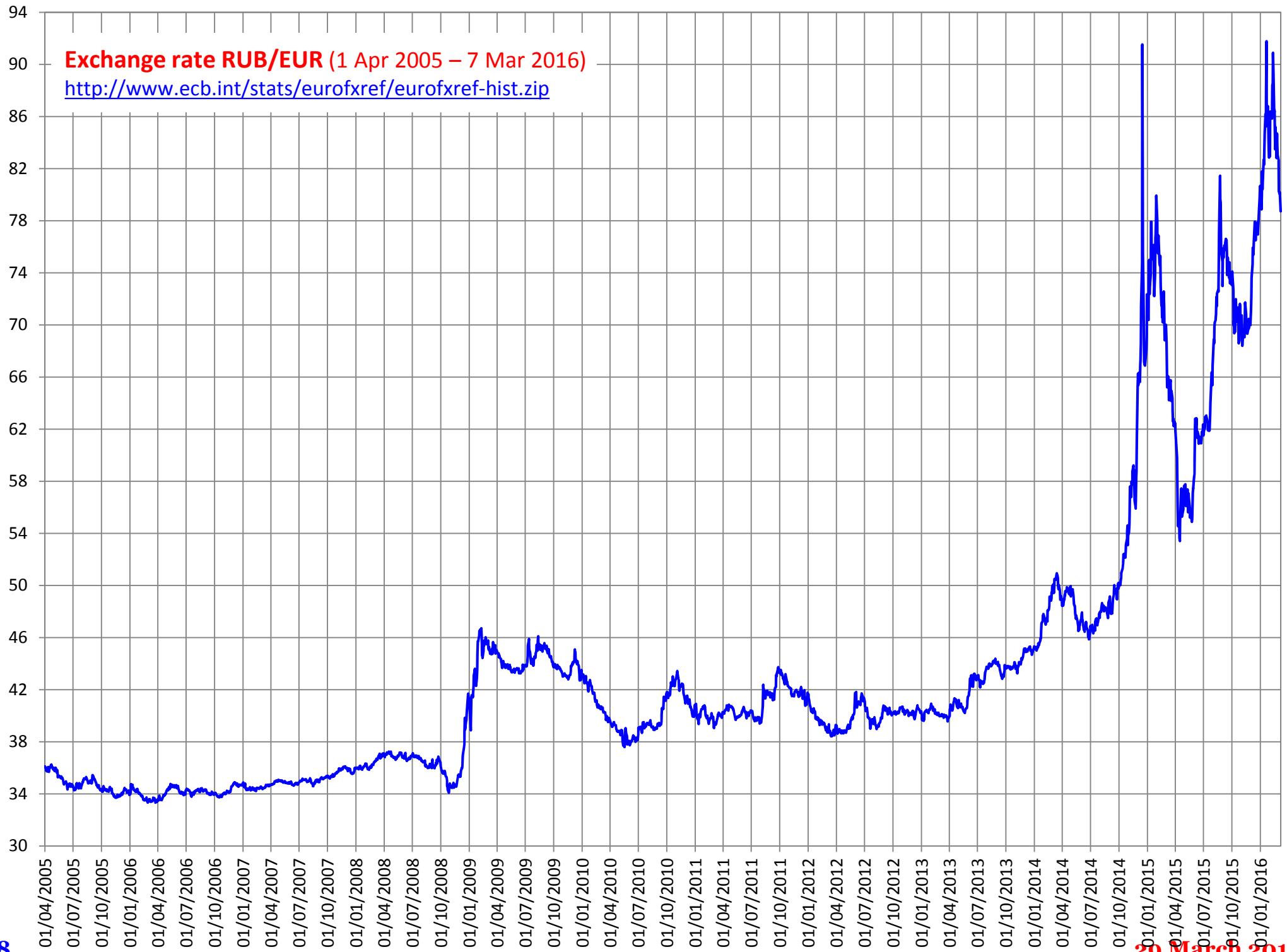
Exchange rate PLN/EUR
(4 Jan 1999 – 7 Mar 2016)
<http://www.ecb.int/stats/eurofxref/eurofxref-hist.zip>

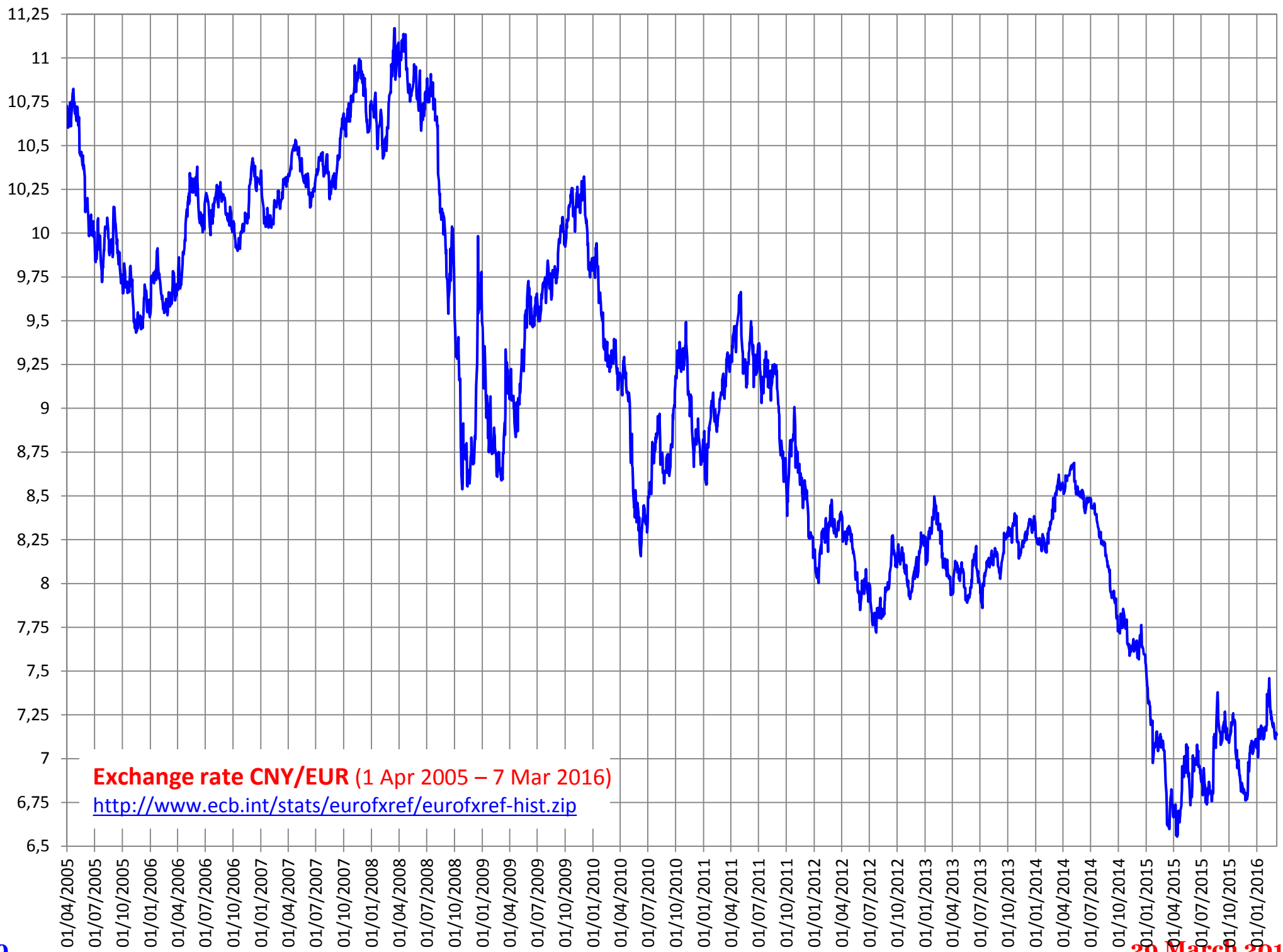


Exchange rate PLN/EUR (4 Jan 1999 – 7 Mar 2016)
<http://www.ecb.int/stats/eurofxref/eurofxref-hist.zip>

Exchange rate RUB/EUR (1 Apr 2005 – 7 Mar 2016)

<http://www.ecb.int/stats/eurofxref/eurofxref-hist.zip>





Exchange rate CNY/EUR (1 Apr 2005 – 7 Mar 2016)

<http://www.ecb.int/stats/eurofxref/eurofxref-hist.zip>

29 March 2016

VEF por 1 EUR

Venezuelan Bolivar

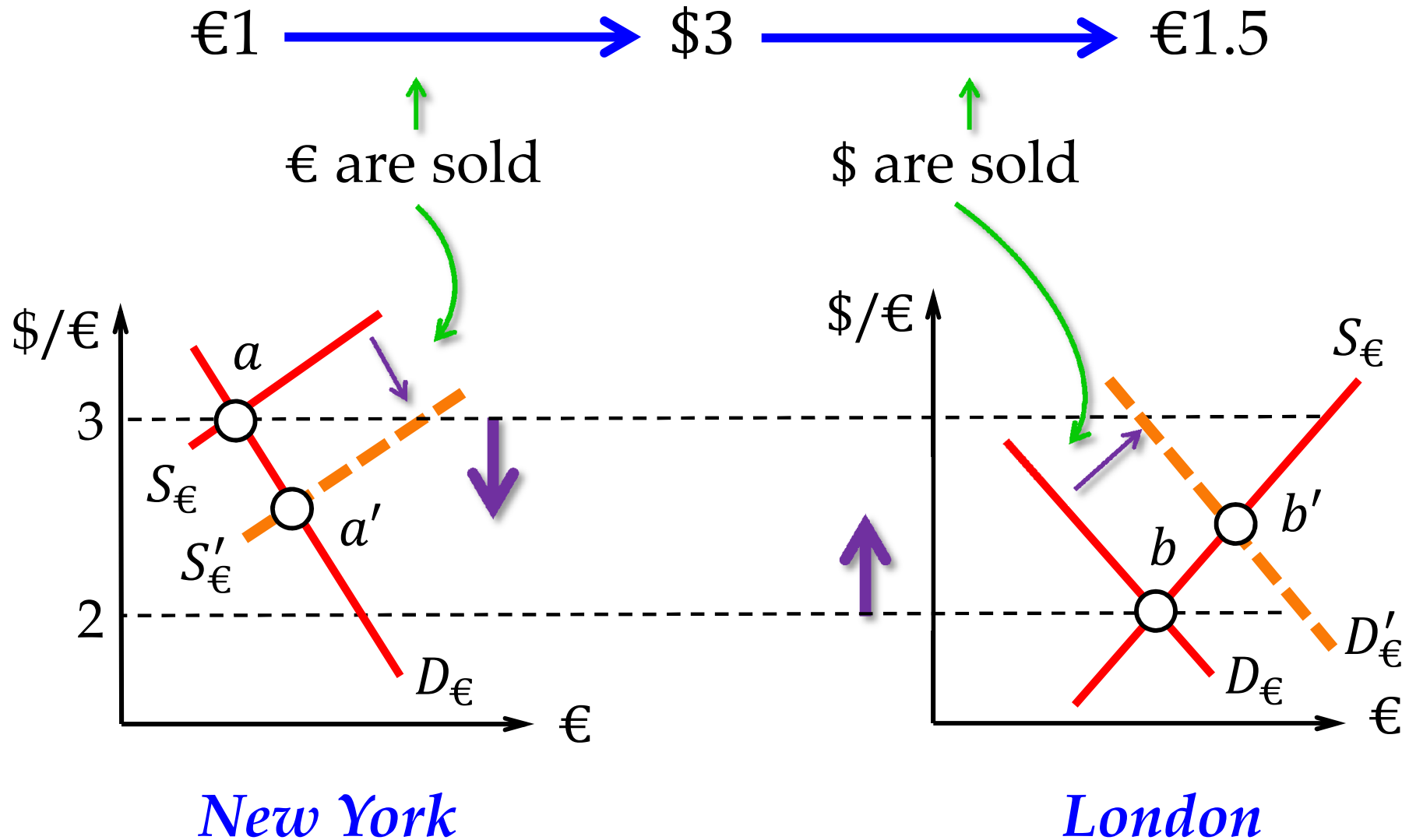
<http://www.xe.com/es/currencycharts/?from=EUR&to=VEF>

7 Mar 2015 00:00 UTC - 7 Mar 2016 16:53 UTC

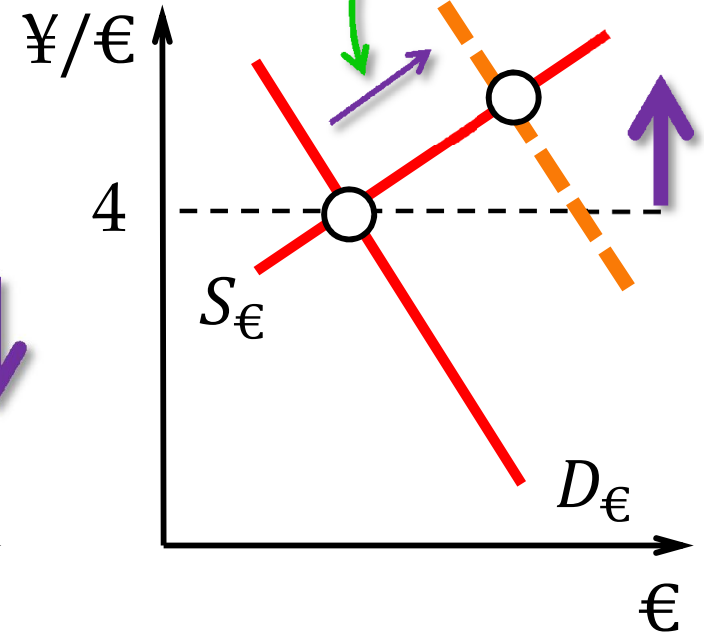
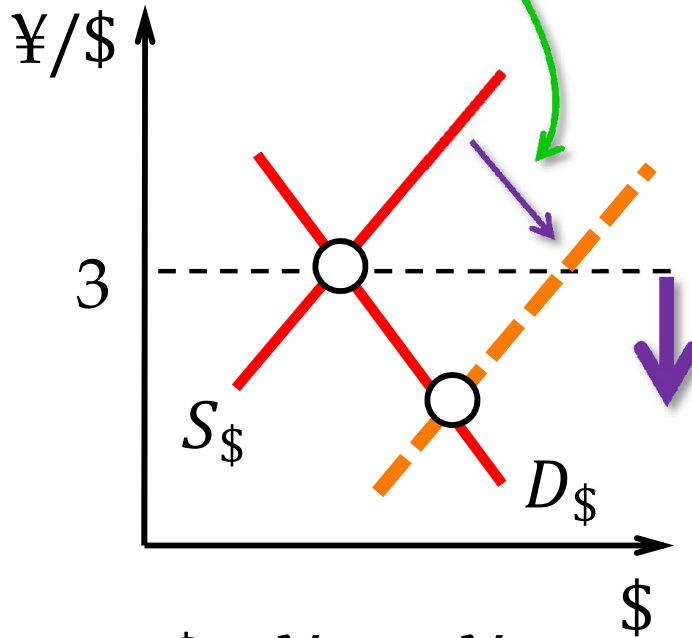
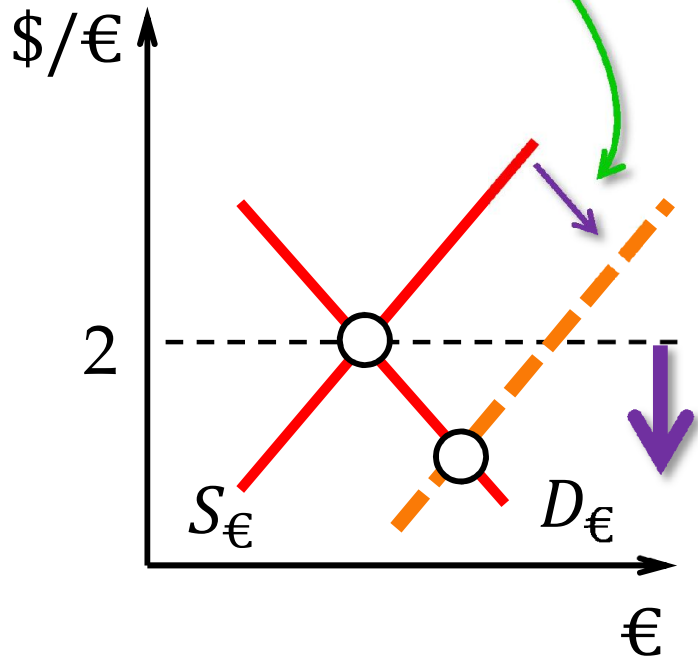
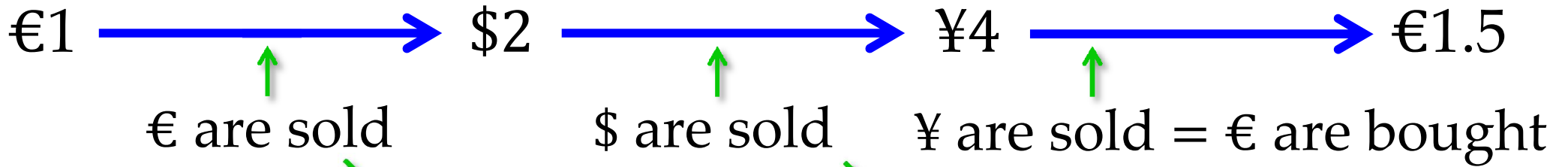
EUR/VEF close:6.95282 low:6.61654 high:7.36665



Spatial arbitrage



Triangular arbitrage



$$\frac{\$}{\text{€}} \frac{\text{¥}}{\$} > \frac{\text{¥}}{\text{€}} \quad \leftarrow \text{initially}$$

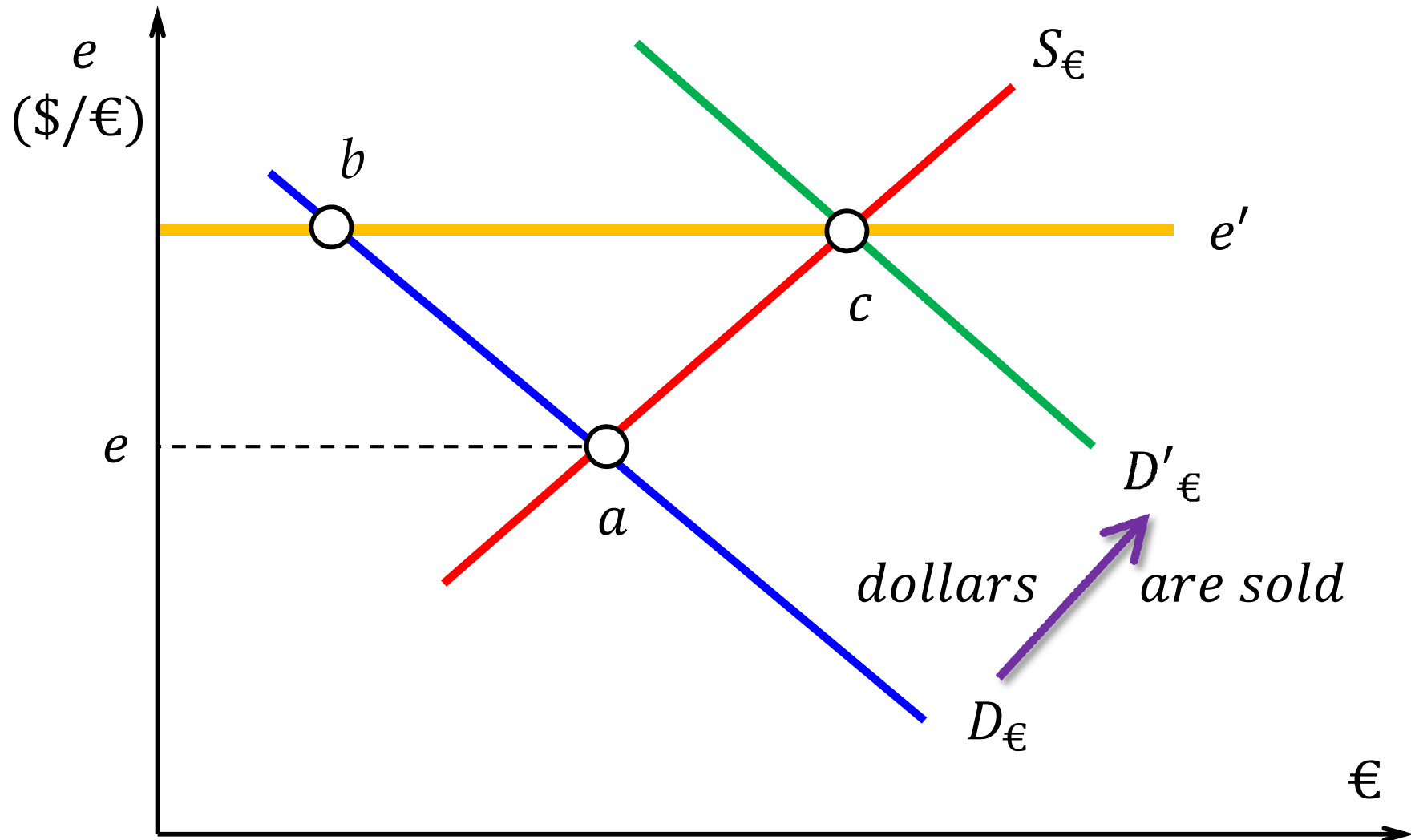
with arbitrage \rightarrow

$$\begin{matrix} \downarrow & \downarrow & \uparrow \\ \text{€} & \text{\$} & \text{€} \end{matrix}$$

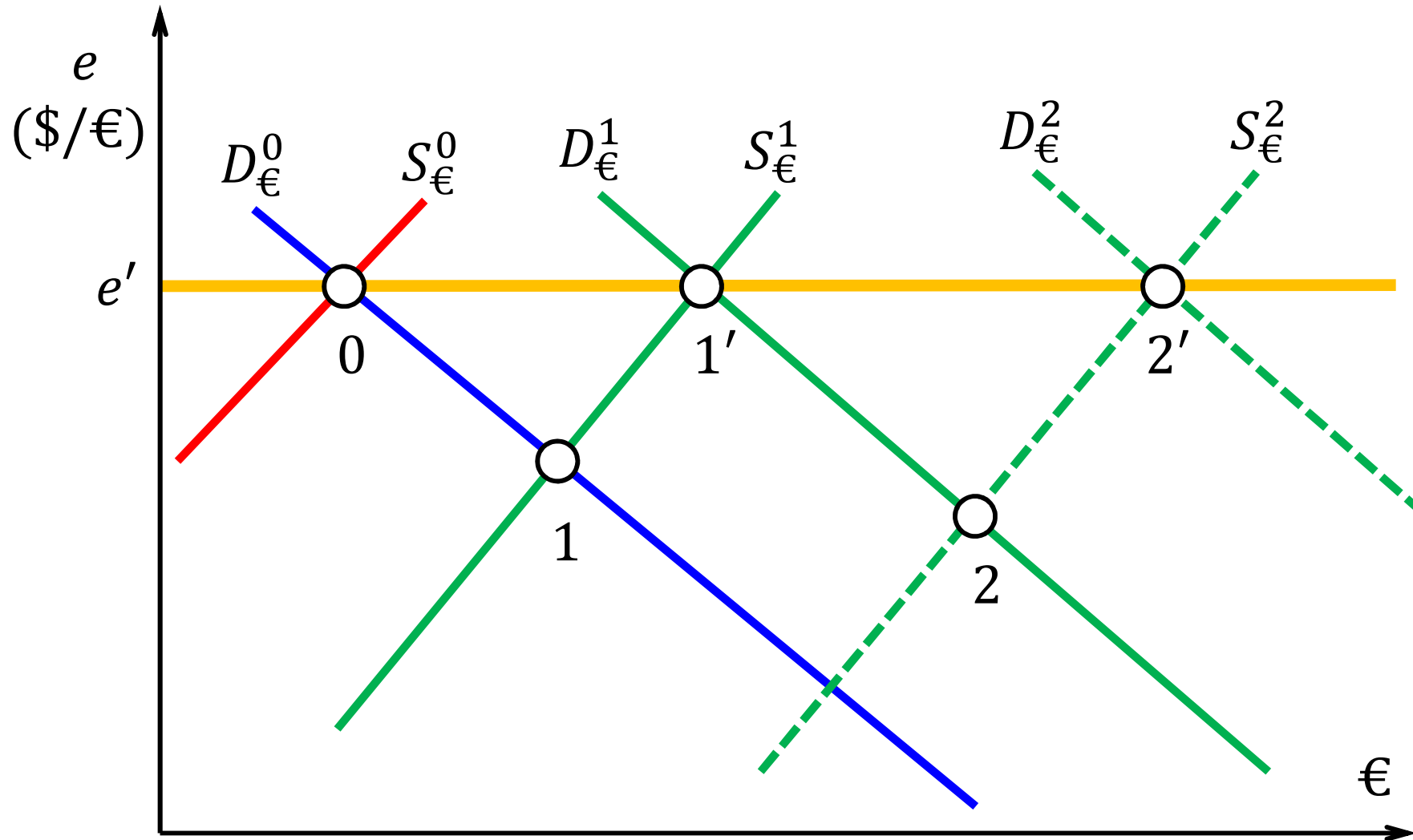
Exchange rate regimes

- 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 crisis

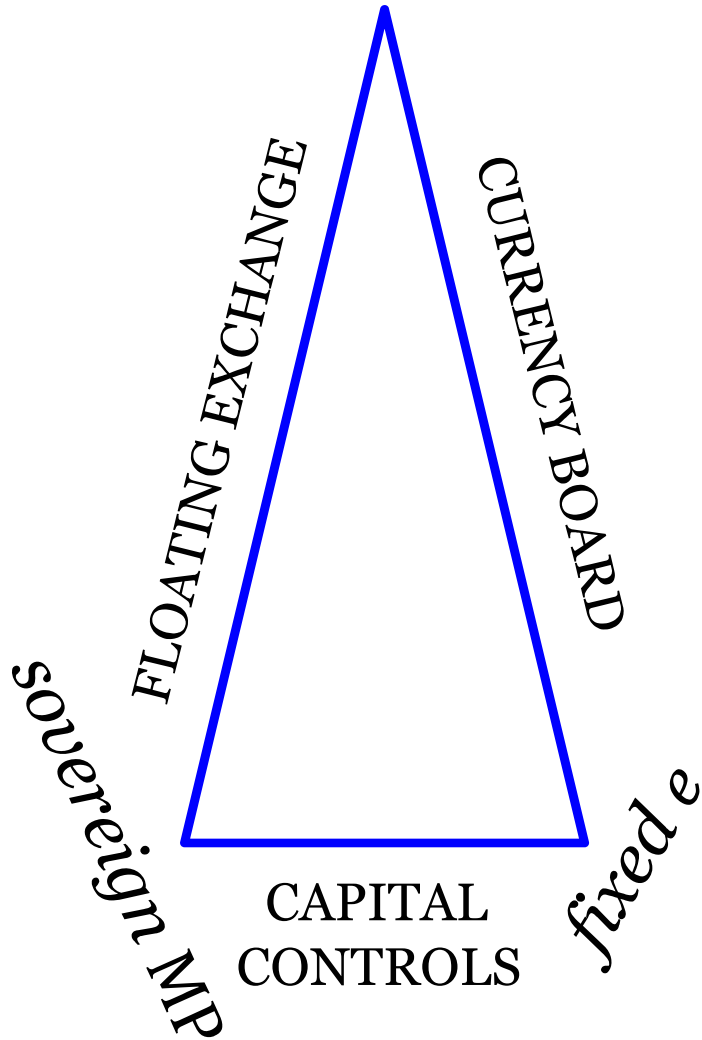


Trilemmas

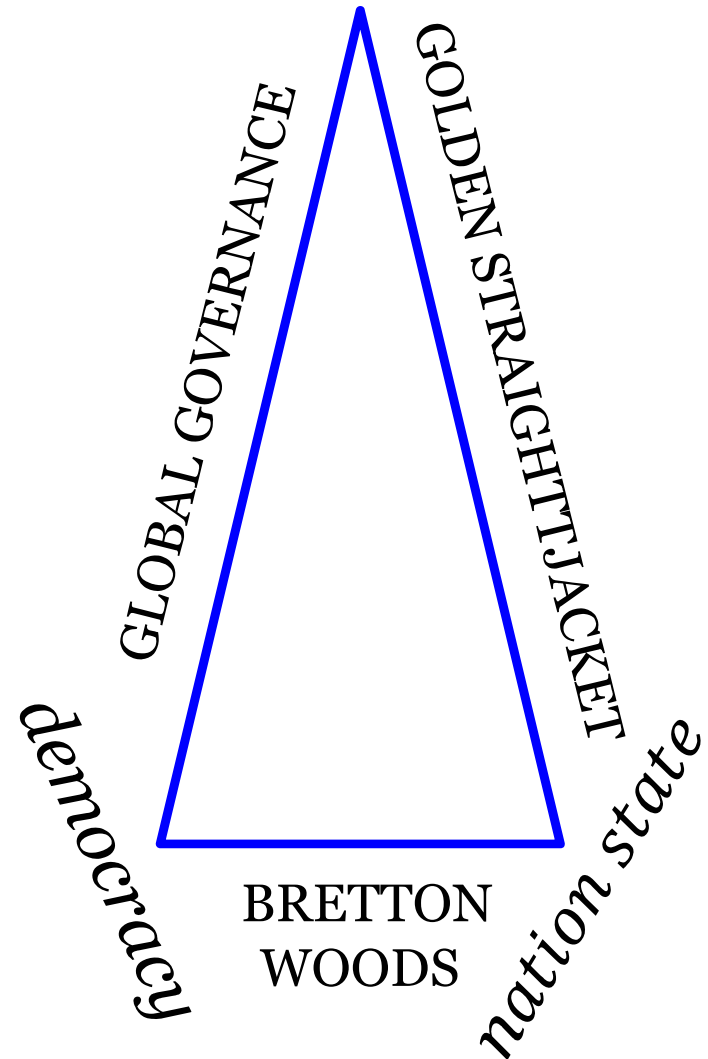
- Impossible trinity: you can only have two of
 - fixed exchange rate
 - independent monetary policy
 - unrestricted international mobility of capital
- Rodrik's trilemma: you can only have two of
 - domestic democracy
 - independent domestic policy (sovereign state)
 - hyperglobalization

Trilemmas

free capital flows



hyperglobalization



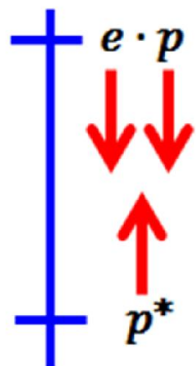
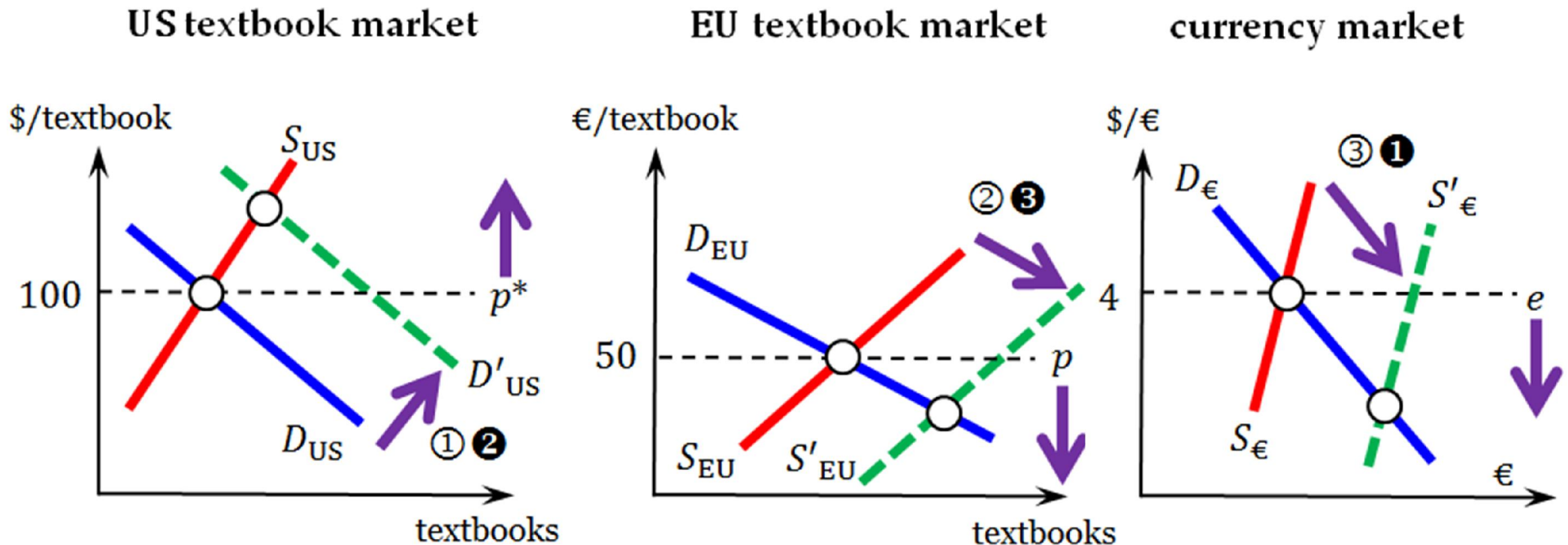
Real exchange rate

- 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

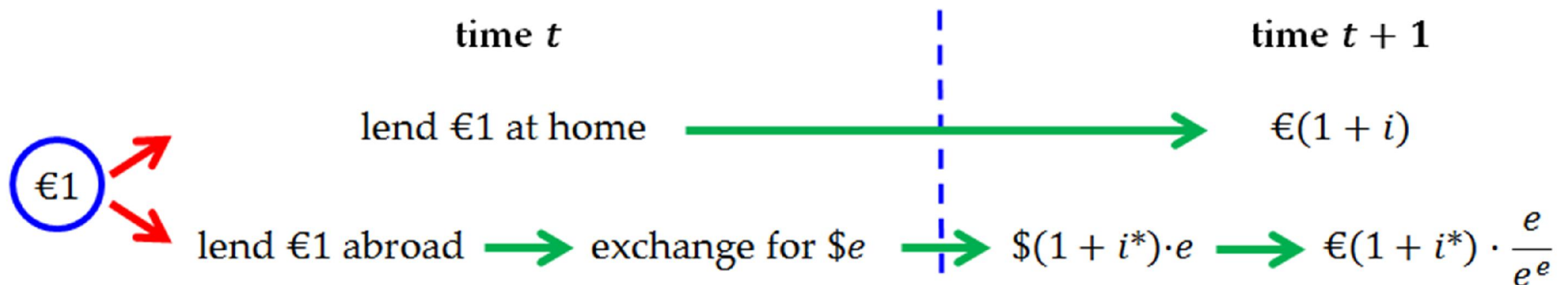
More parities

- Relative purchasing power parity (PPP \Rightarrow relative PPP)

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

- Uncovered interest rate parity

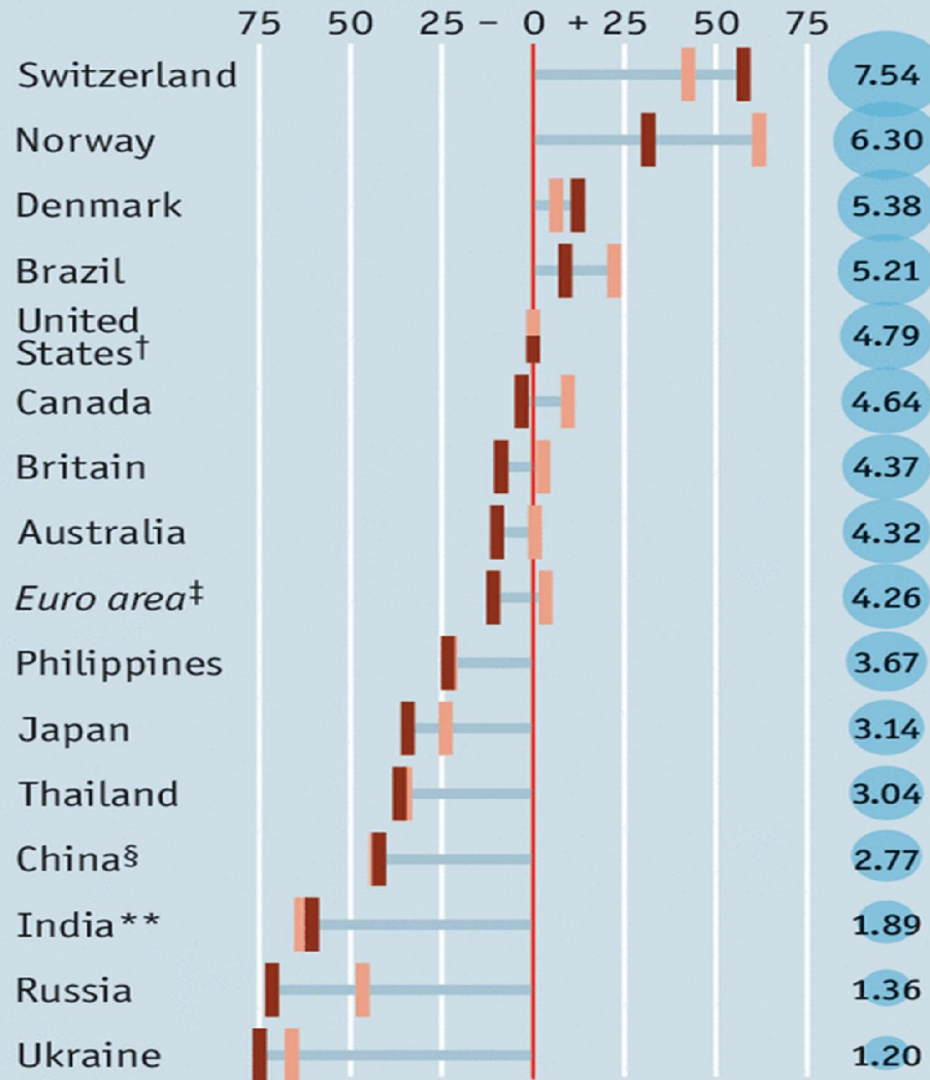
$$\hat{e}^e \approx i^* - i$$



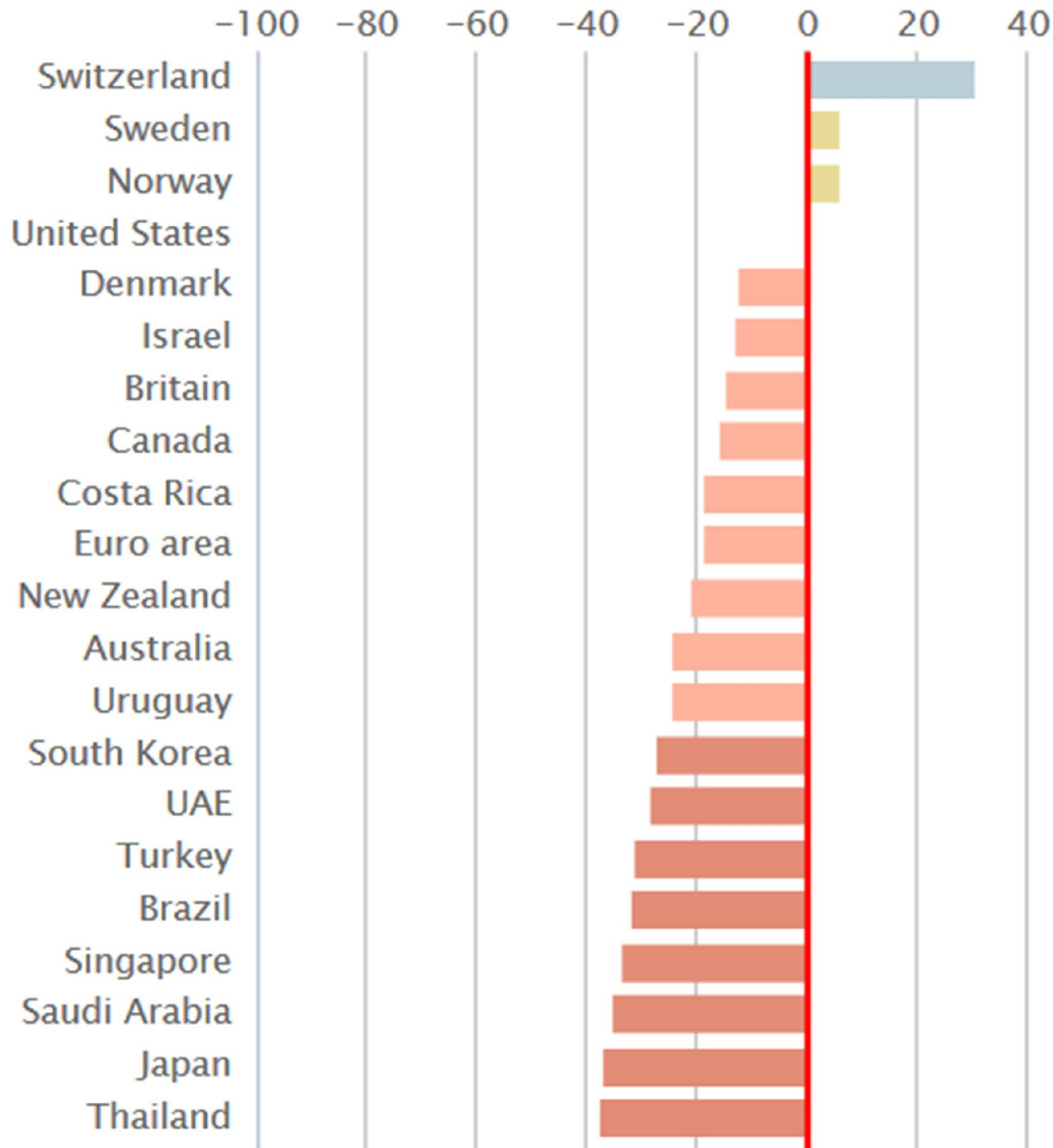
The Big Mac index

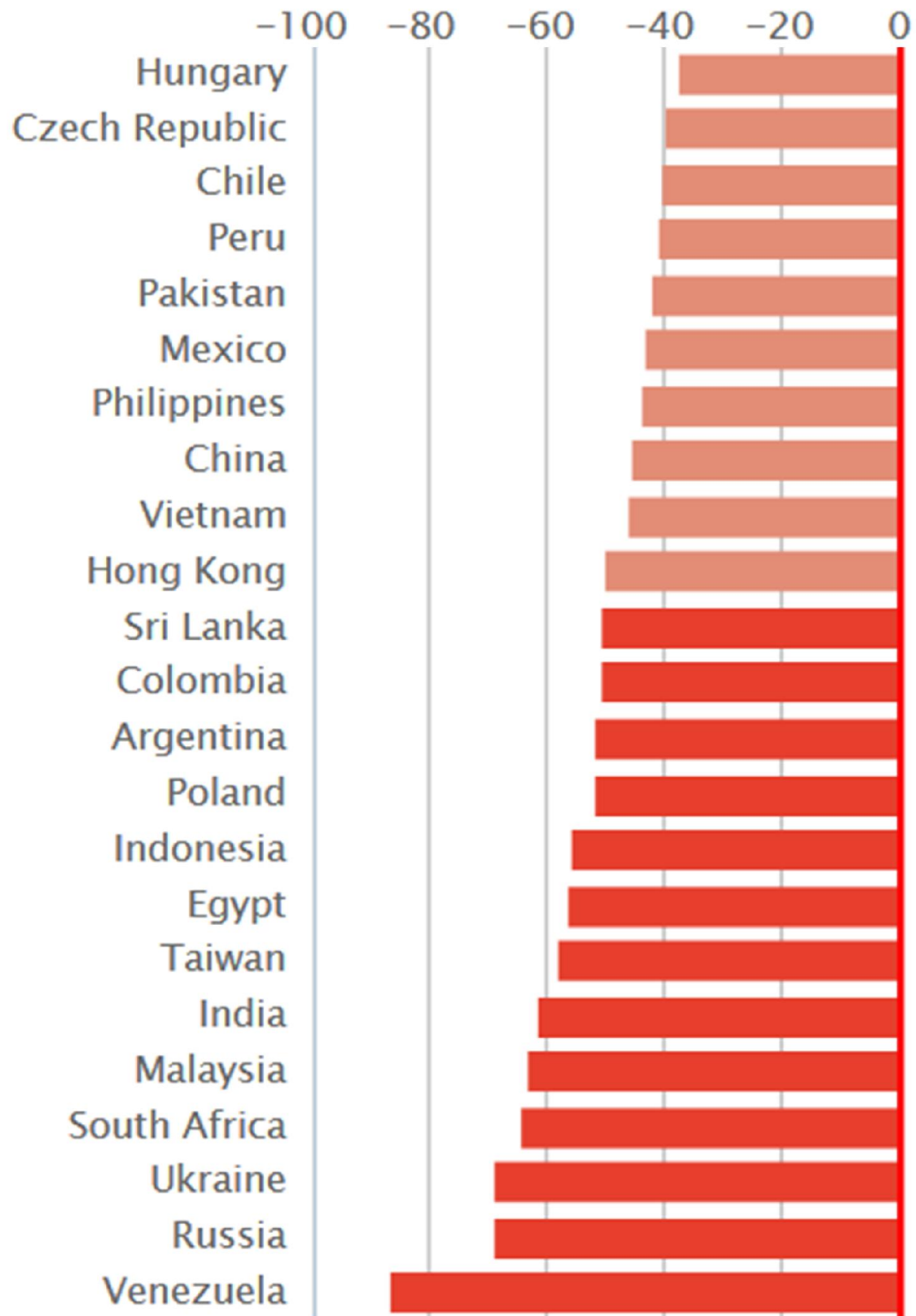
Local currency under(-)/over(+) valuation against the dollar, %

July 2014 January 2015 Big Mac price*, \$



*At market exchange rates (Jan 21st 2015) †Average of four cities ‡Weighted average of member countries §Average of five cities **Maharaja Mac
Sources: McDonald's; The Economist





<http://www.economist.com/content/big-mac-index/>