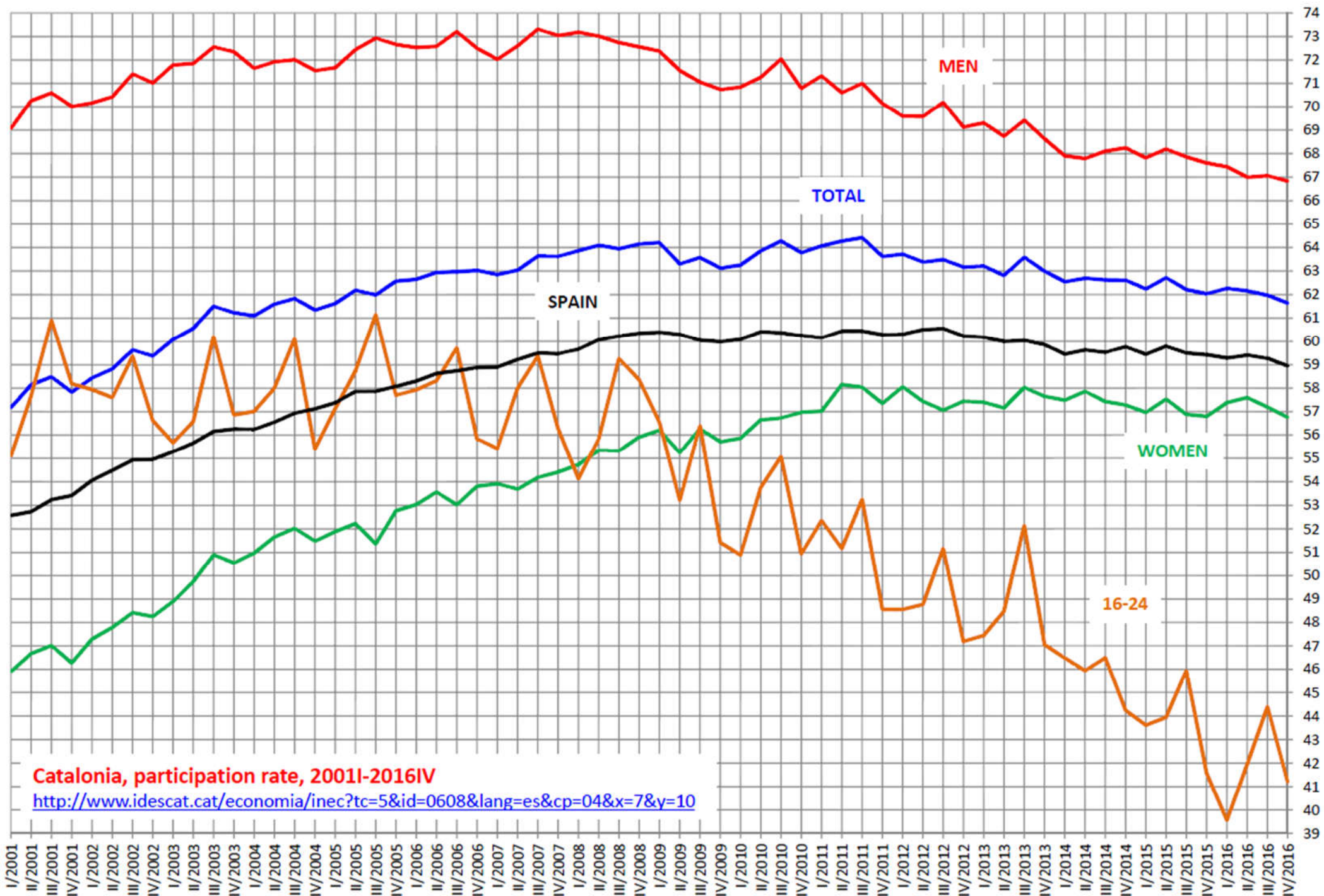


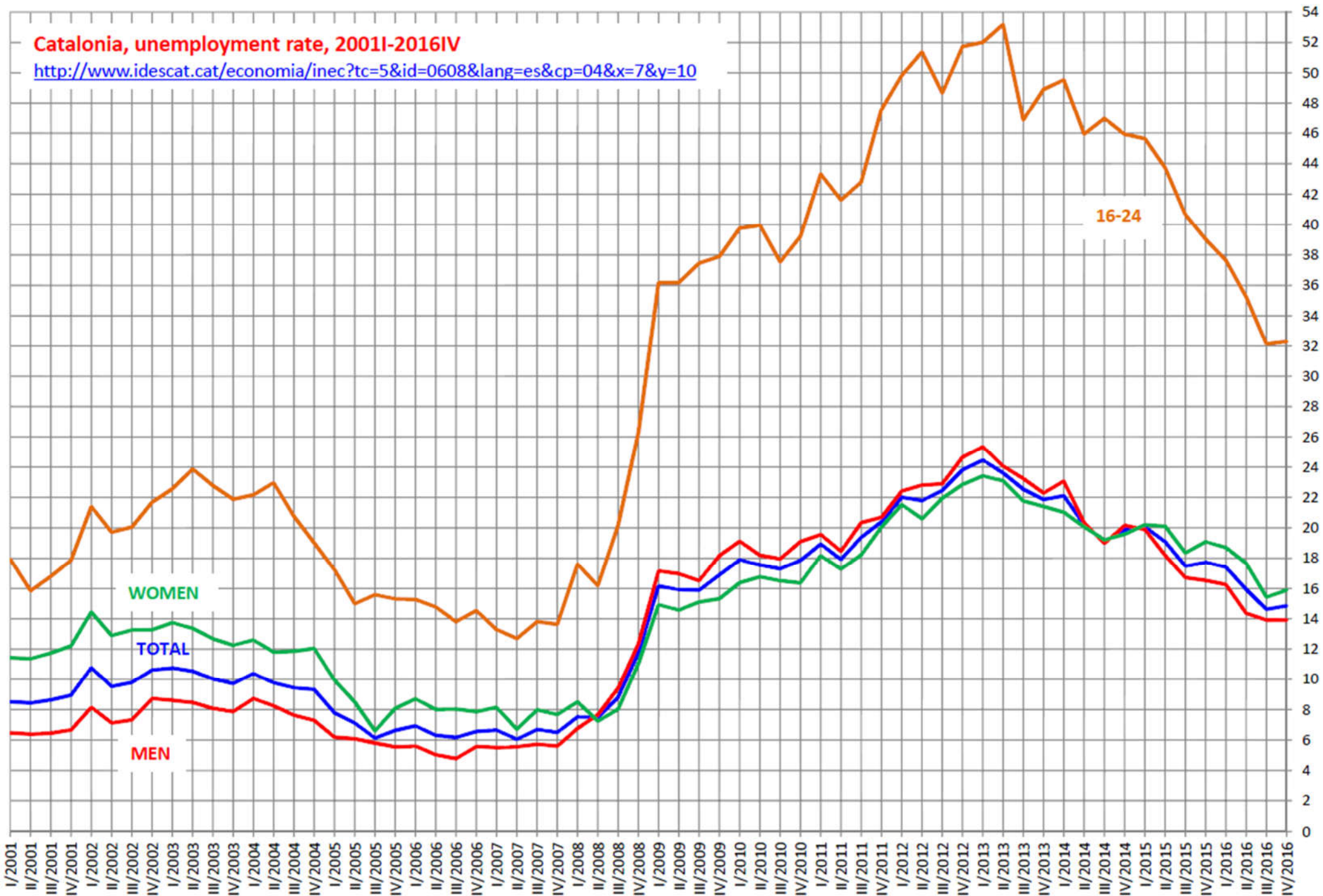
Unemployment rate

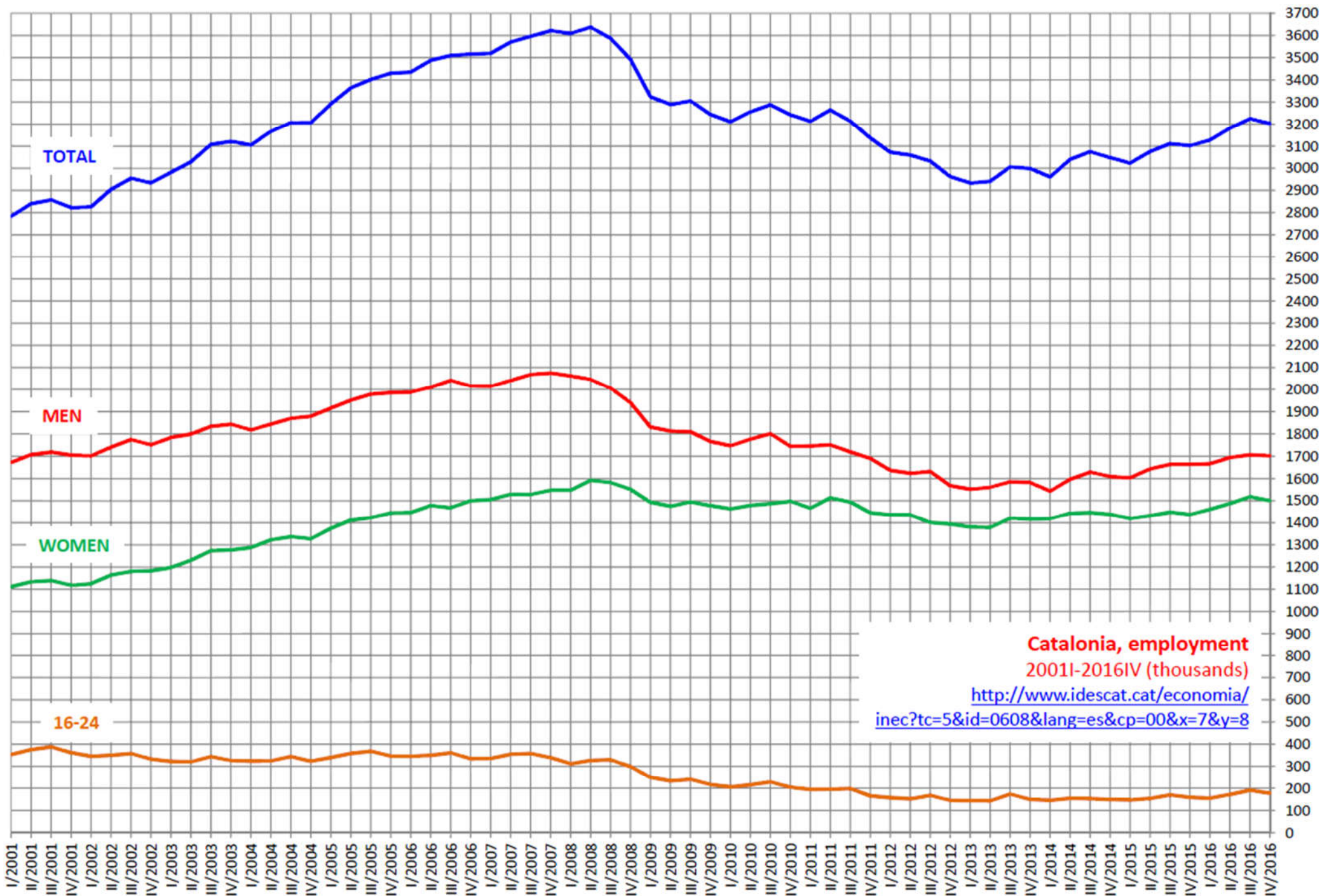
- Important rates in an economy: interest rate, exchange rate, inflation rate, and unemployment rate.
- Employment = number of people having a job.
- Unemployment = number of people not having a job but looking for one.
- Labour force = Employment + Unemployment
- Unemployment rate = $\frac{\text{Unemployment}}{\text{Labour force}}$
- Participation rate = $\frac{\text{Labour force}}{\text{Economically active population}}$

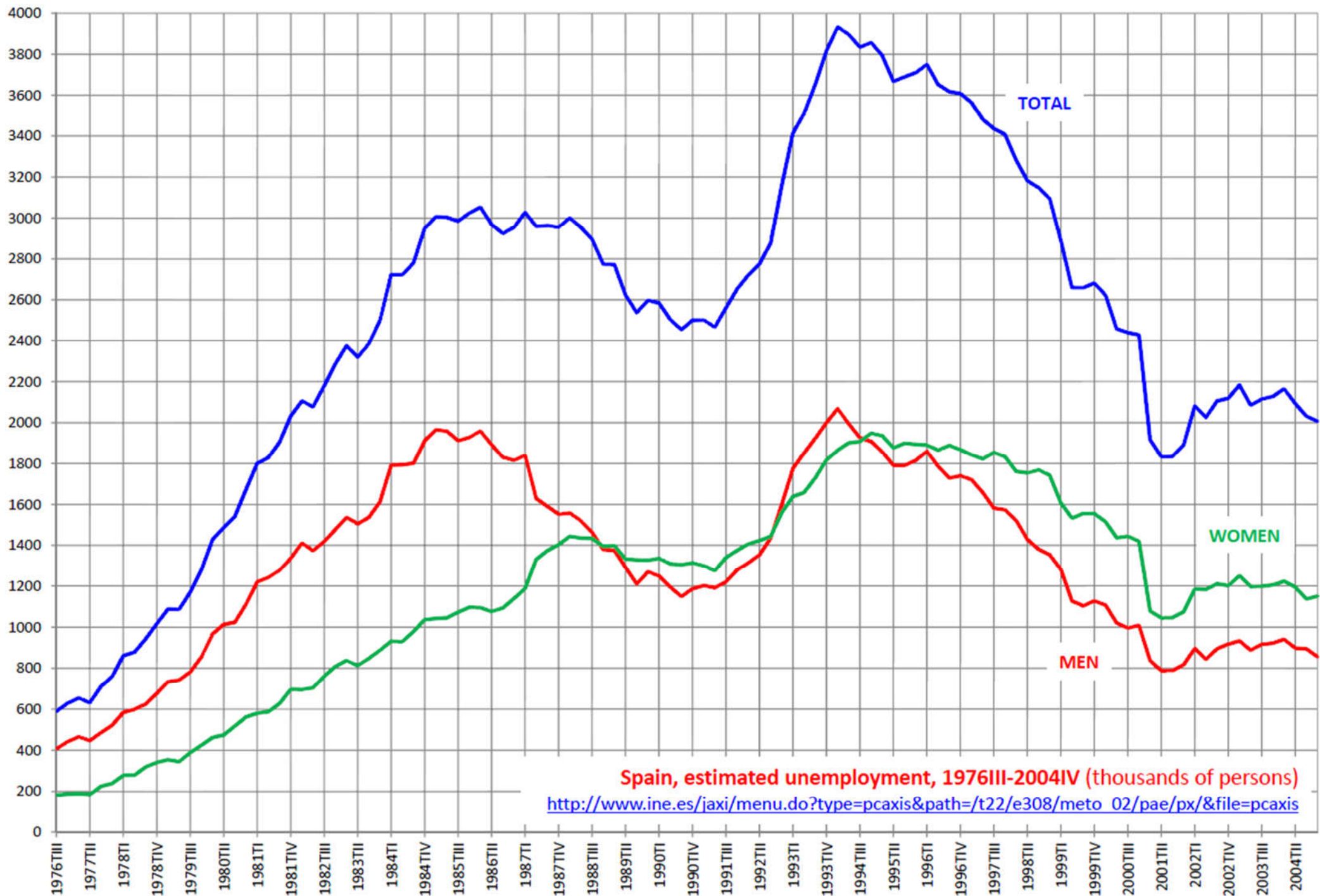


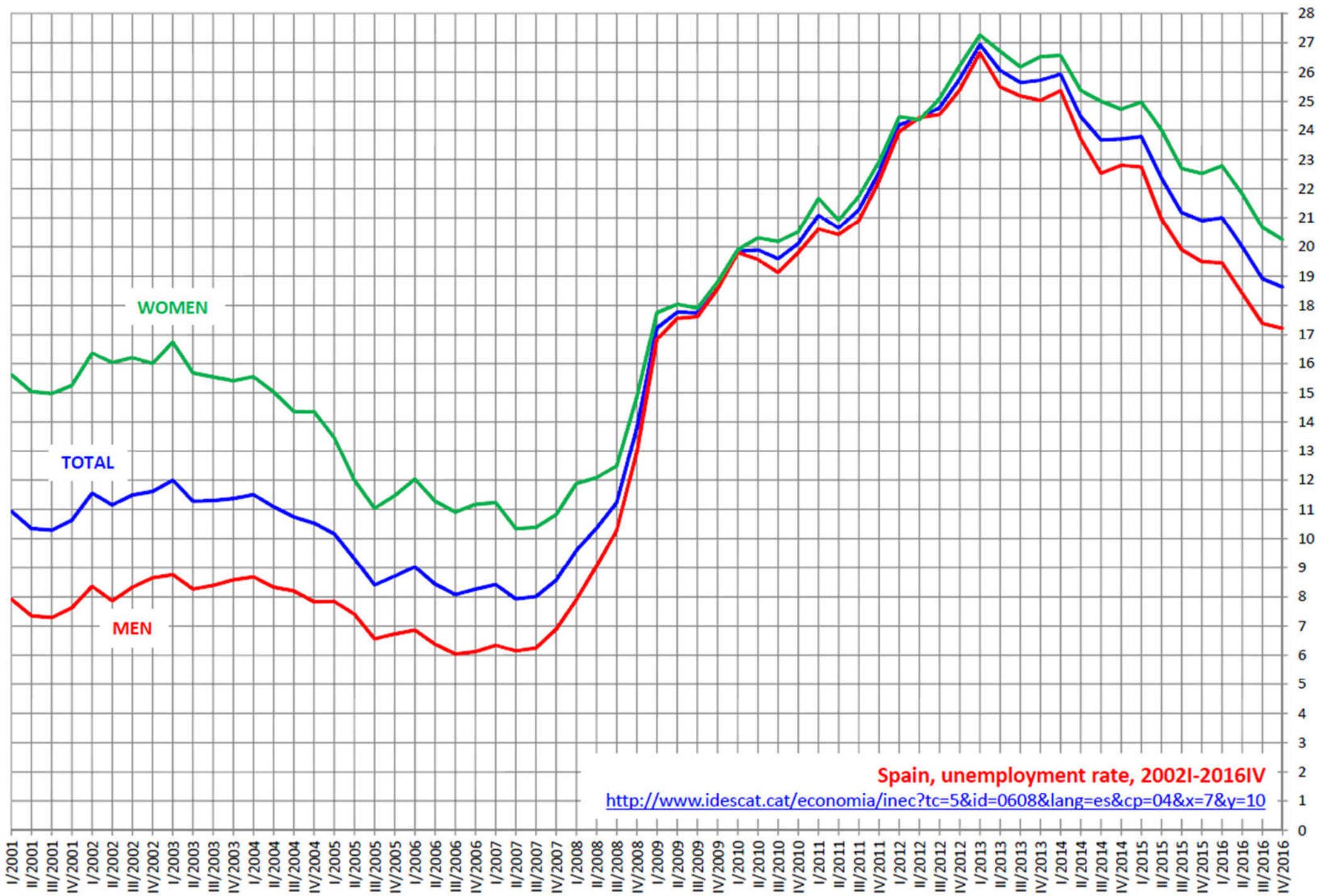
Catalonia, participation rate, 2001I-2016IV

<http://www.idescat.cat/economia/inec?tc=5&id=0608&lang=es&cp=04&x=7&y=10>



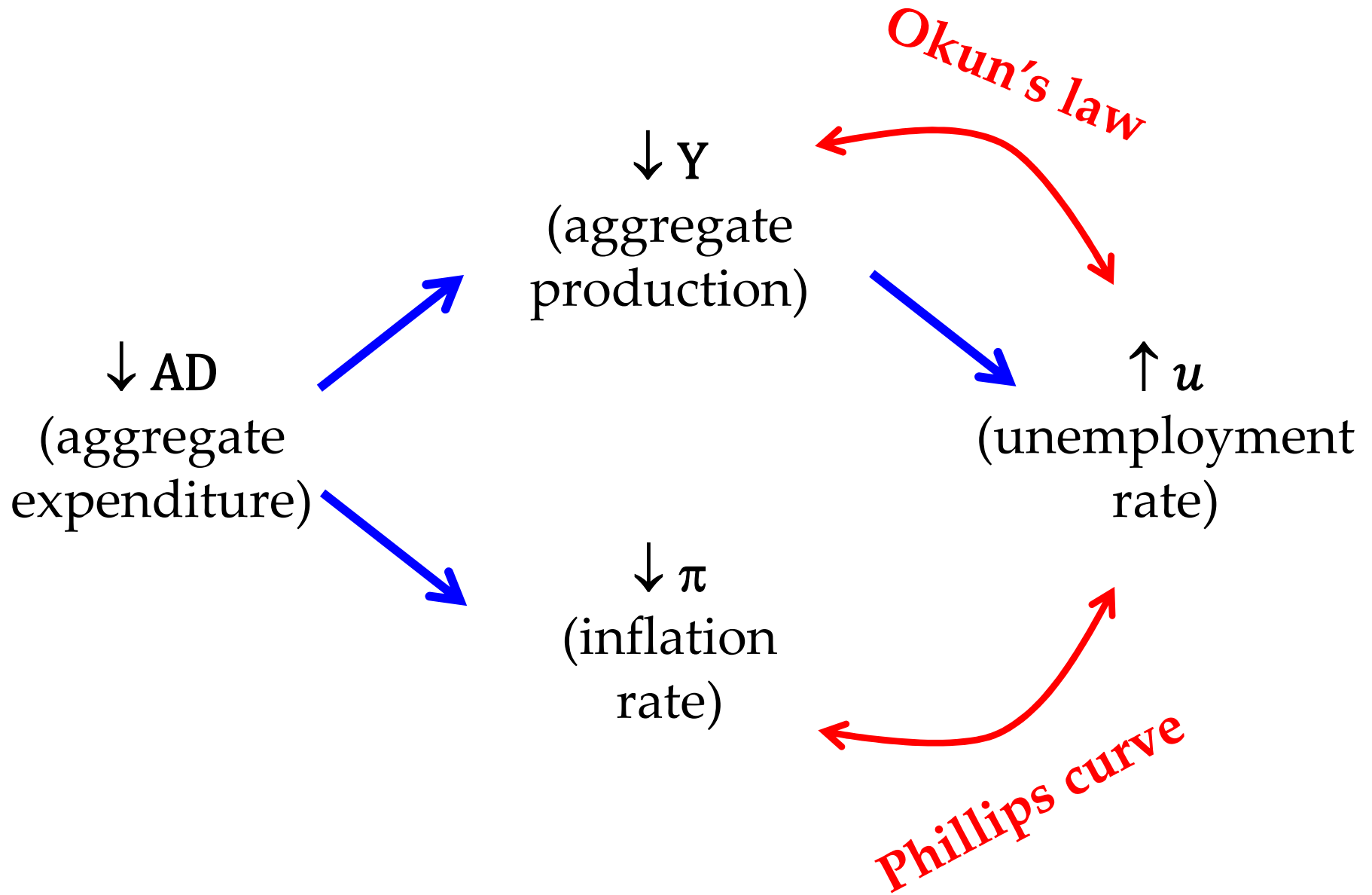


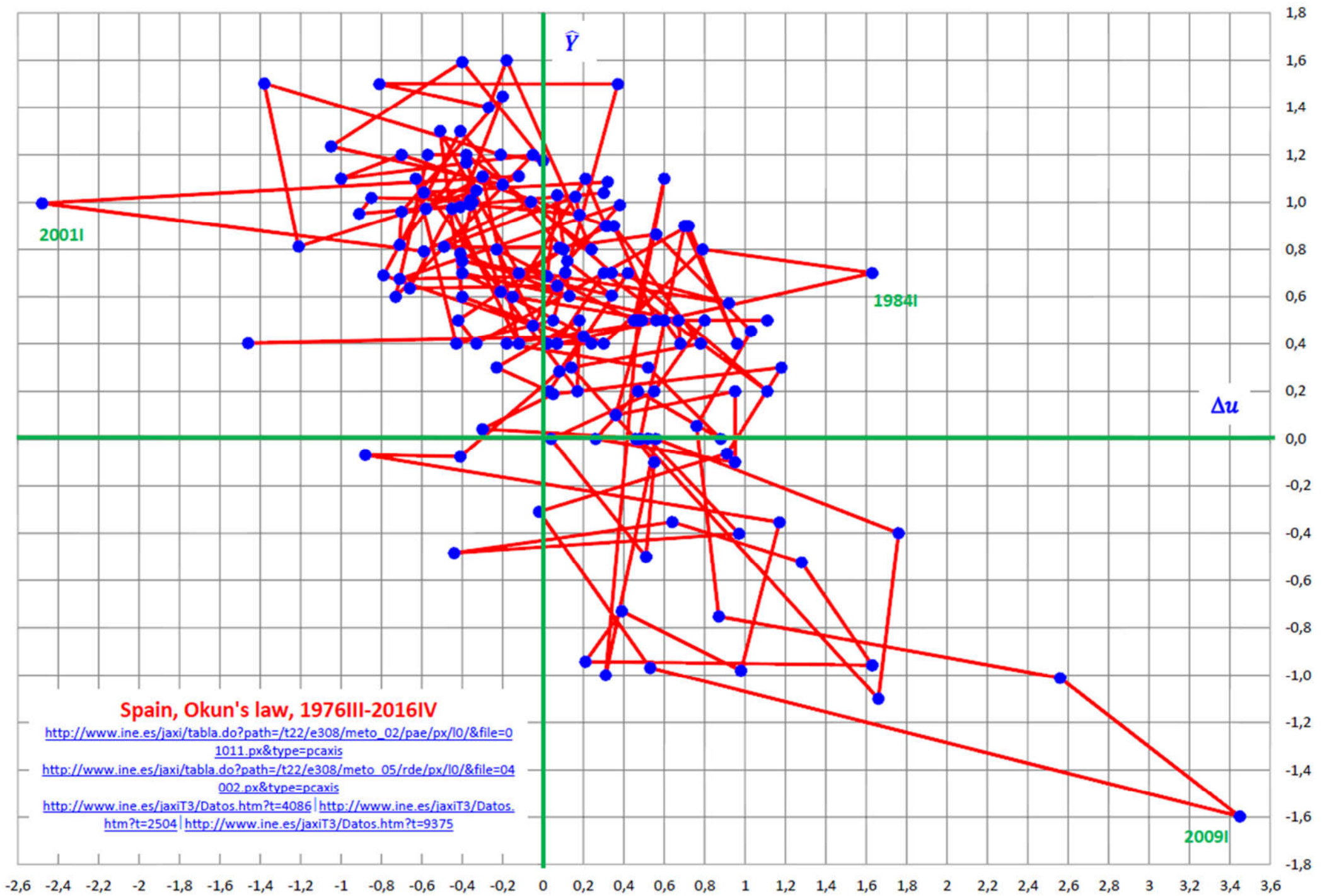


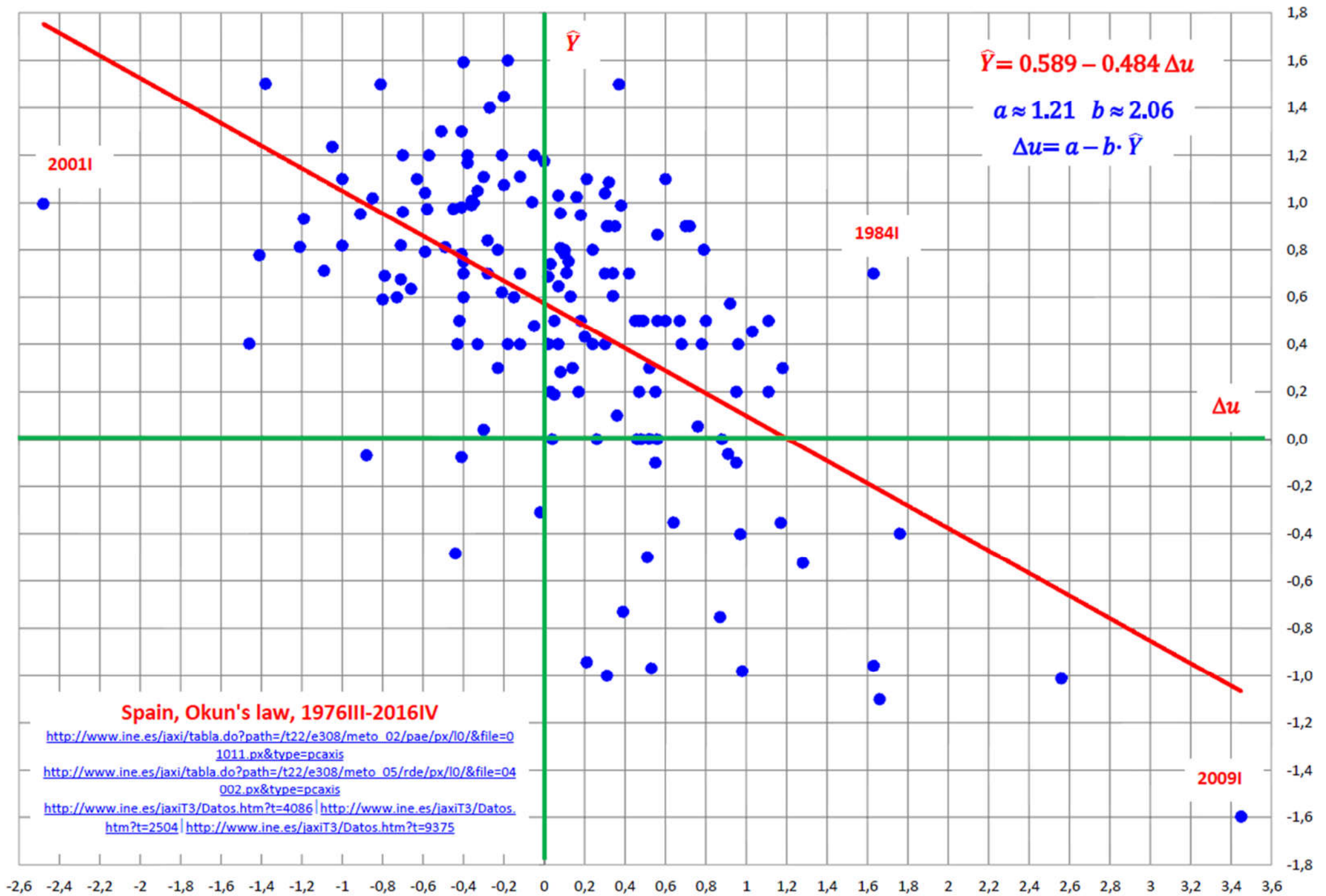


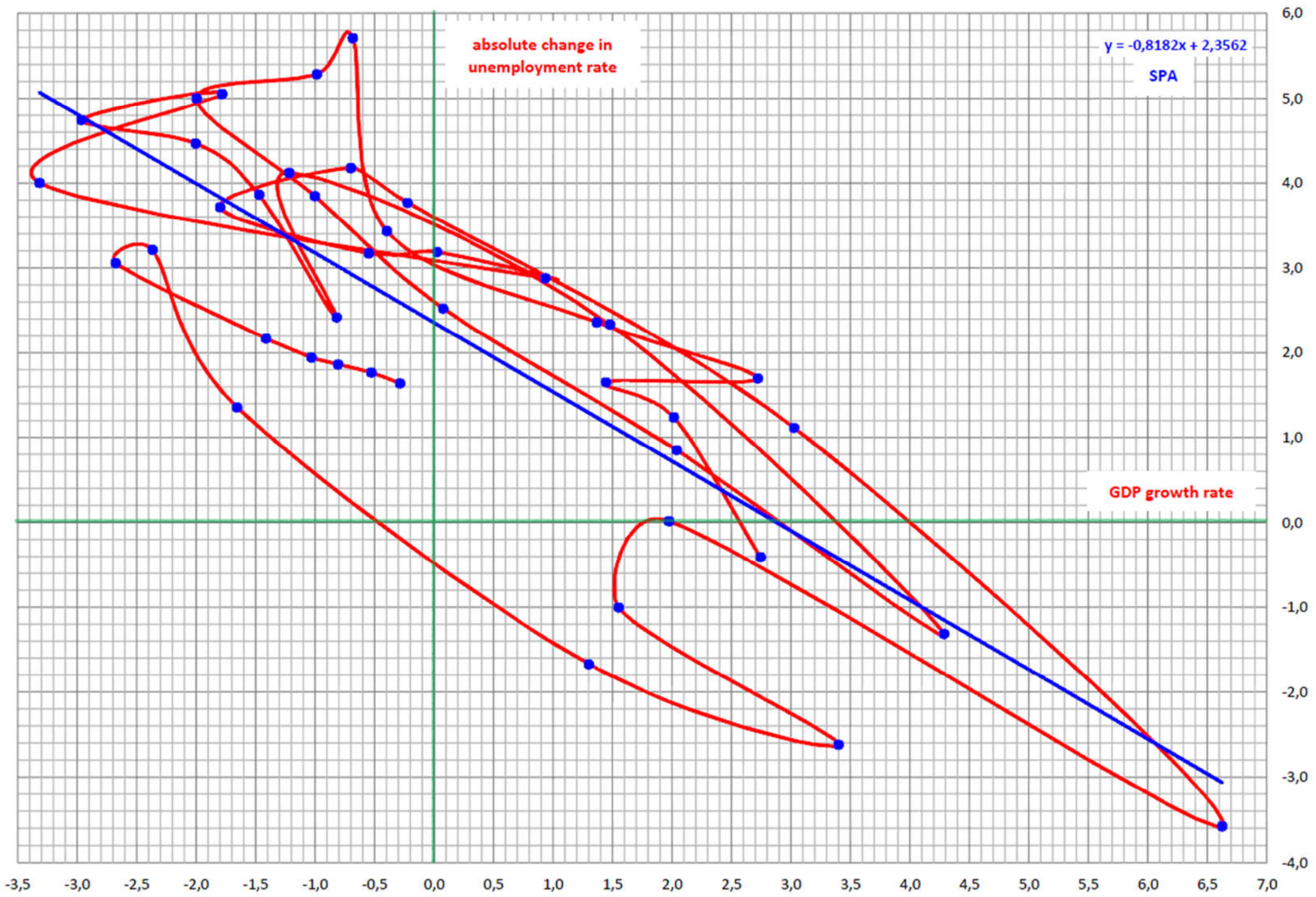
Spain, unemployment rate, 2002I-2016IV

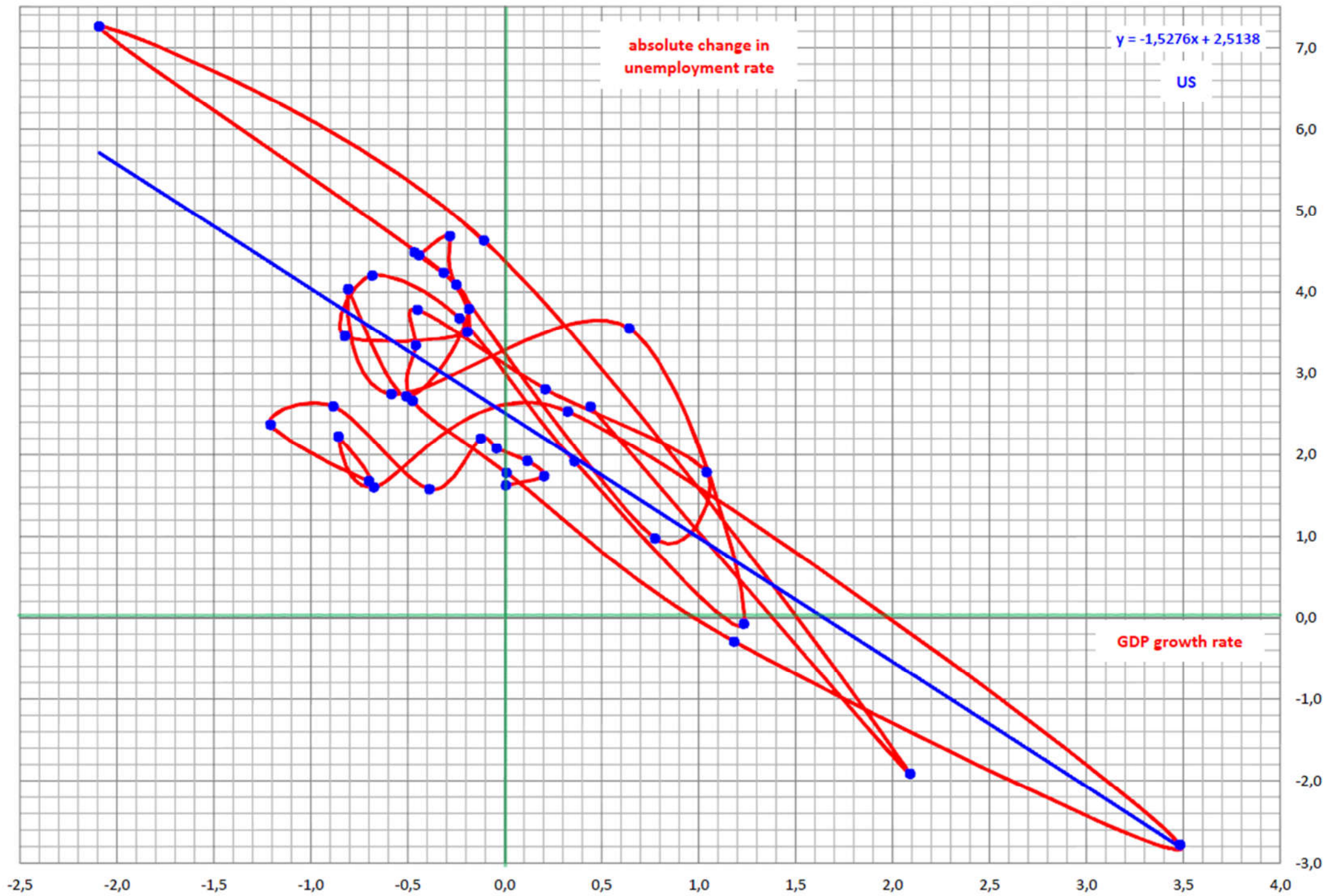
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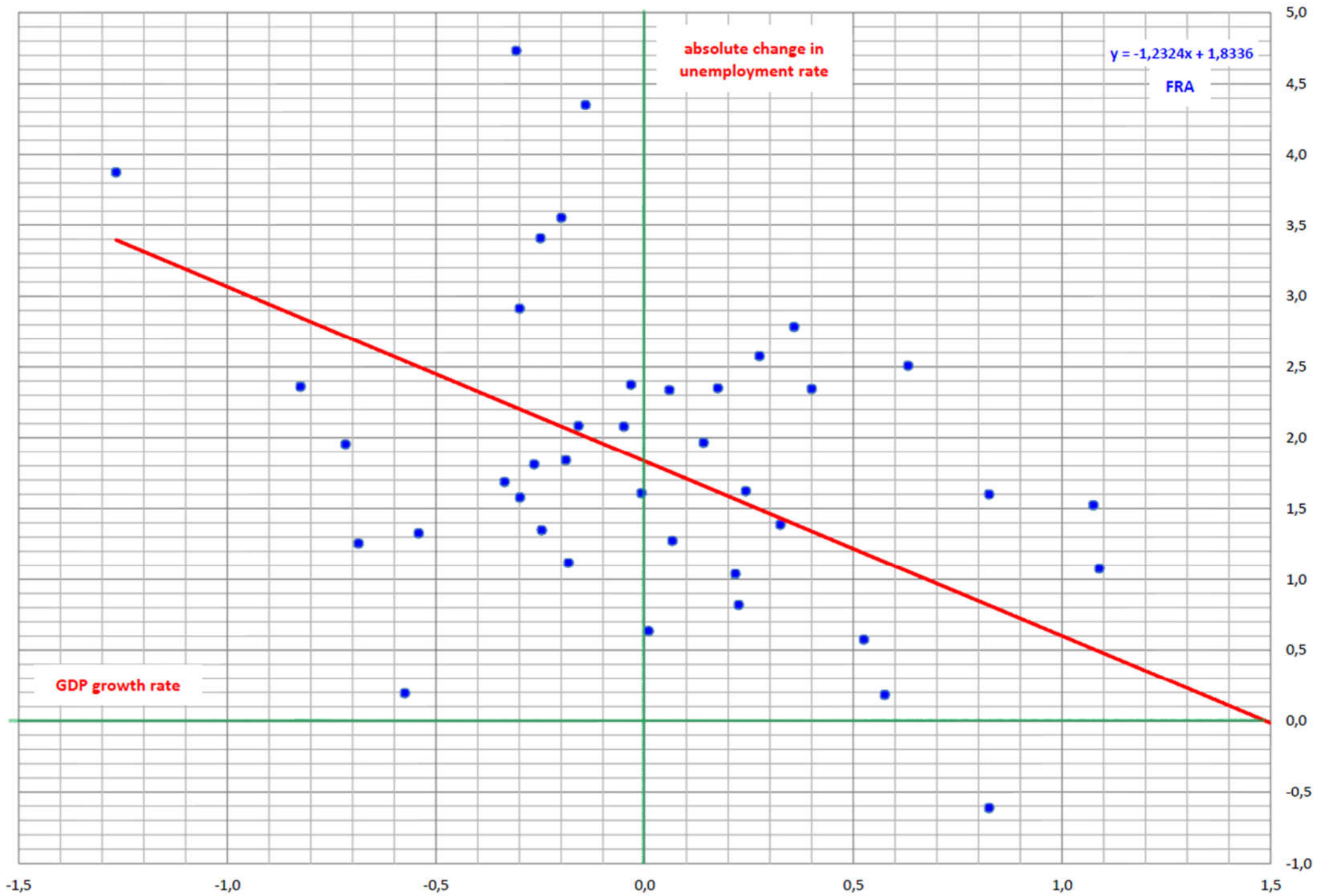


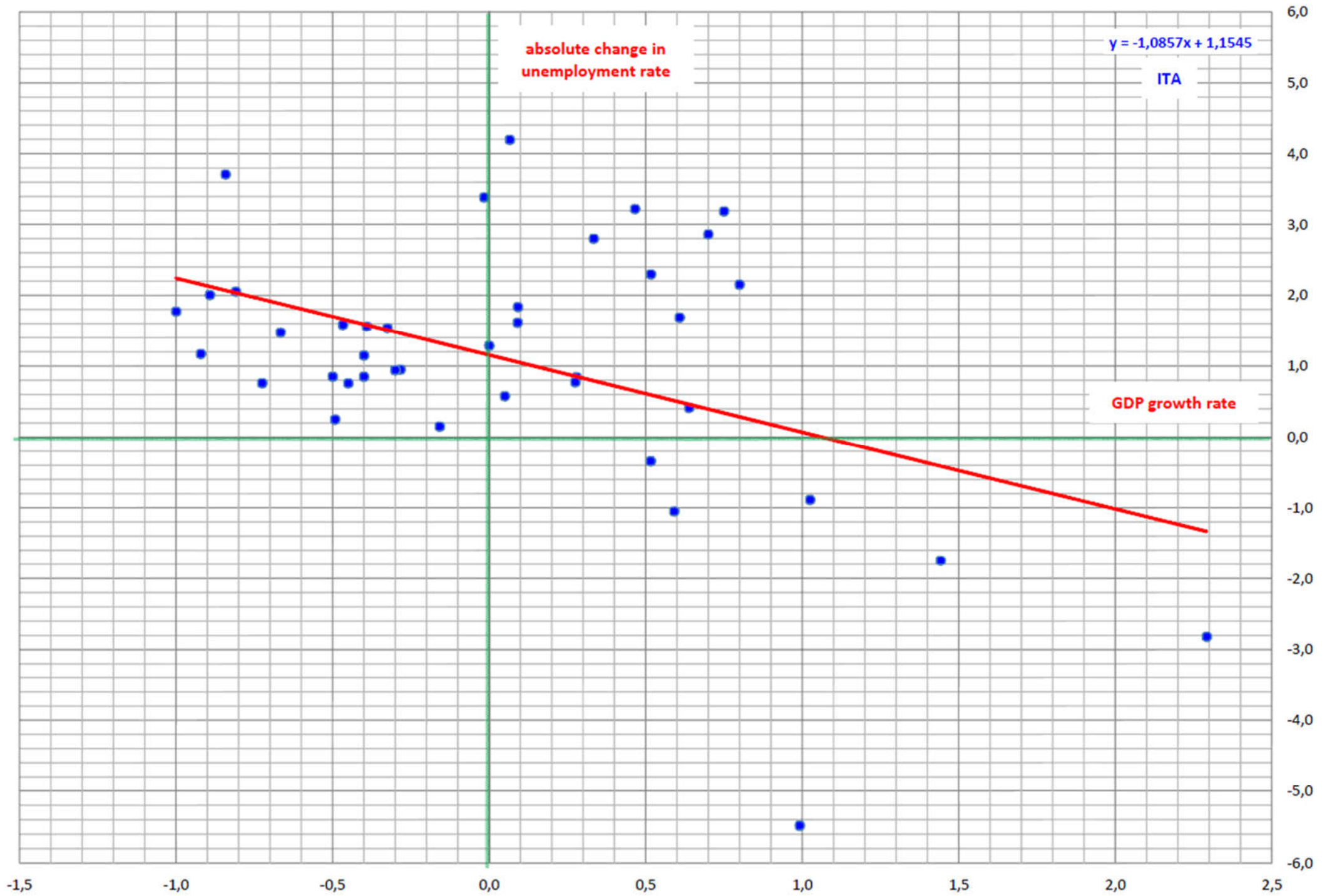










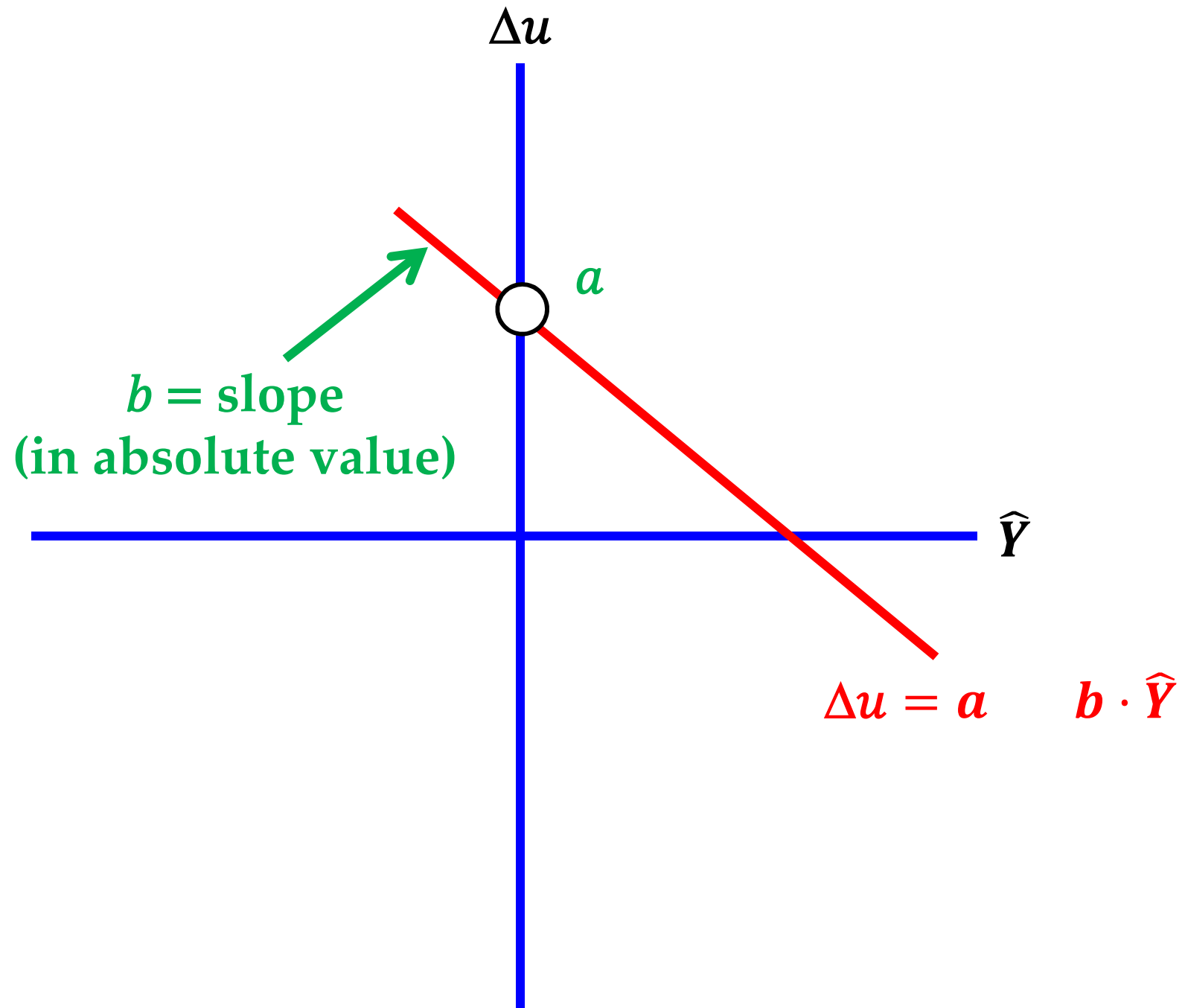


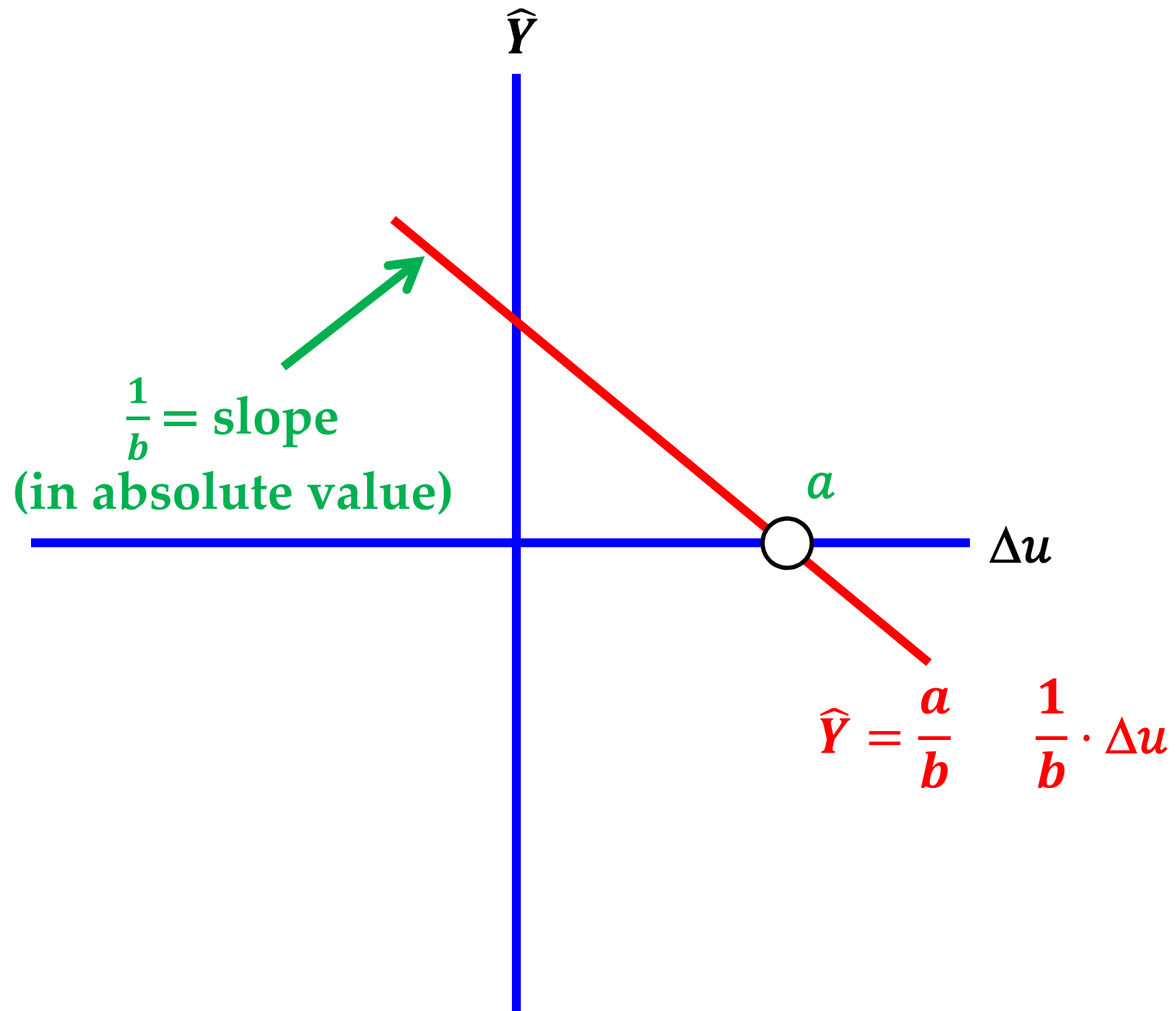
Okun's law

- Okun's law is an empirical relationship suggested in 1962 by the US economist Arthur Okun (1928-80).
- Okun's law: there is a negative relationship between the change $u = u - u_{-1}$ in the unemployment rate and $\hat{Y} = \frac{Y - Y_{-1}}{Y_{-1}}$, the rate of growth of real GDP. A simple formal expression of the law is

$$u = a - b \cdot \hat{Y}$$

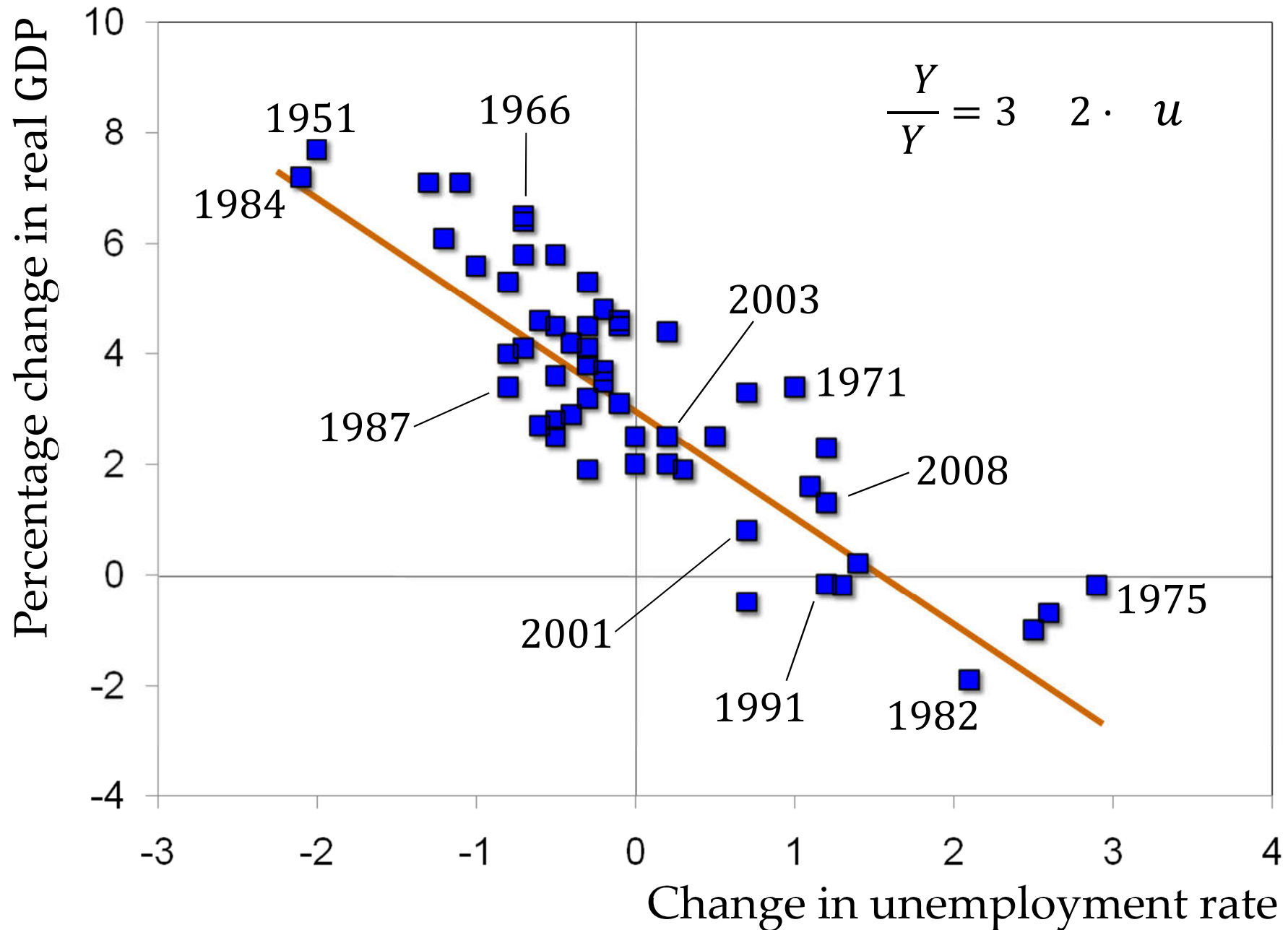
where a and b are positive constants that depend on the economy considered and the period with respect to which variables u and \hat{Y} are measured.

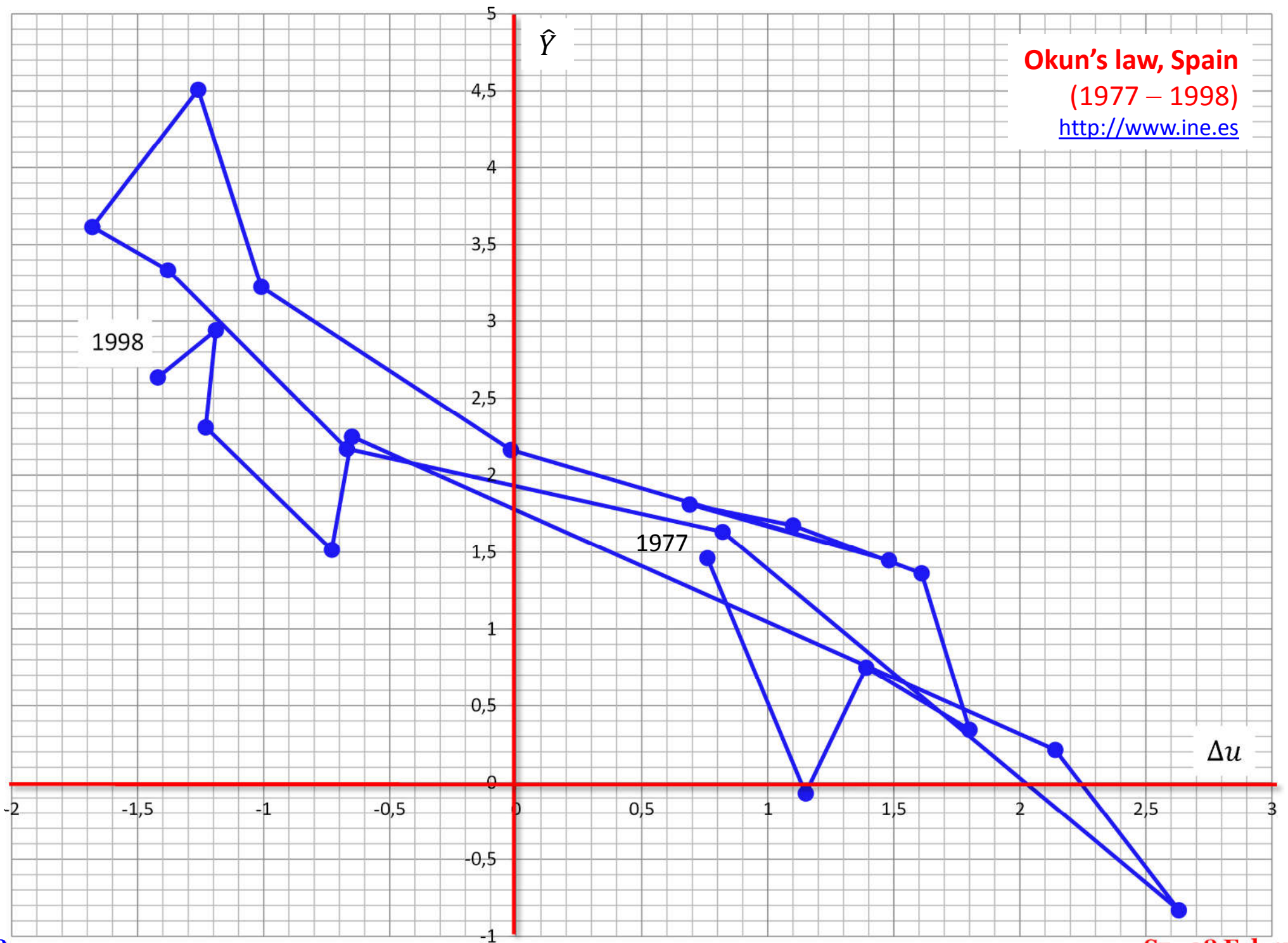




Okun's law, US, 1951-2008

<https://www2.bc.edu/~murphyro/EC204/PPT/CHAP09.ppt>





Okun's law, Spain
 (1977 – 1998)
<http://www.ine.es>

The Phillips curve

- It is an empirical relationship described in 1960 by Paul Samuelson and Robert Solow based on a 1958 paper by the New Zealand economist Alban William Housego Phillips (1914–1975).
- The Phillips curve expresses a negative relationship between the unemployment rate u and the inflation rate π : the lower u , the higher π .
- With α and β positive constants, a linear Phillips curve is represented by an equation of the sort

$$\pi = \alpha - \beta \cdot u .$$

