



Real GDP per capita since 1870

Ivan Kitov, Oleg Kitov

(Submitted on 25 May 2012)

The growth rate of real GDP per capita in the biggest OECD countries is represented as a sum of two components - a steadily decreasing trend and fluctuations related to the change in some specific age population. The long term trend in the growth rate is modelled by an inverse function of real GDP per capita with a constant numerator. This numerator is equivalent to a constant annual increment of real GDP per capita. For the most advanced economies, the GDP estimates between 1950 and 2007 have shown very weak and statistically insignificant linear trends (both positive and negative) in the annual increment. The fluctuations around relevant mean increments are characterized by practically normal distribution. For many countries, there exist historical estimates of real GDP since 1870. These estimates extend the time span of our analysis together with a few new estimates from 2008 to 2011. There are severe structural breaks in the corresponding time series between 1940 and 1950, with the slope of linear regression increasing by a factor of 4.0 (Switzerland) to 22.1 (Spain). Therefore, the GDP estimates before 1940 and after 1950 have been analysed separately. All findings of the original study are validated by the newly available data. The most important is that all slopes (except that for Australia after 1950) of the regression lines obtained for the annual increments of real GDP per capita are small and statistically insignificant, i.e. one cannot reject the null hypothesis of a zero slope and thus constant increment. Hence the growth in real GDP per capita is a linear one since 1870 with a break in slope between 1940 and 1950.

Comments: 30 pages, 18 figures

Subjects: **General Finance (q-fin.GN)**

Cite as: **arXiv:1205.5671 [q-fin.GN]**

(or **arXiv:1205.5671v1 [q-fin.GN]** for this version)

Submission history

From: Ivan Kitov O. [[view email](#)]

[v1] Fri, 25 May 2012 11:59:05 GMT (684kb)

[Which authors of this paper are endorsers?](#)

Download:

- [PDF only](#)

Current browse context:

q-fin.GN

[< prev](#) | [next >](#)

[new](#) | [recent](#) | [1205](#)

Change to browse by:

[q-fin](#)

References & Citations

- [NASA ADS](#)

Bookmark([what is this?](#))

