**Methodology – Very-long-range GDP and per capita GDP forecasts for 161 countries, to 2100 (2010 version)**

We utilize the data set of Angus Maddison (2008), which gives population, real GDP, and per capita GDP data for 161 modern countries, during the period 1-2006; for most countries, there are between 60 and 190 observations.

We convert Maddison’s real GDP figures into Geary-Khamis International Dollars (base year = 2000), to allow for international and temporal comparison. GDP data for the period 2006-2012 is taken from the IMF’s *World Economic Outlook* (2010), also expressed as Geary-Khamis International Dollars, and adjusted to the same base year.

Using these data, for each country we estimate the following equation:

ln (real GDP) = *α* + *β* \* ln (population)

where *β* gives the coefficient for the elasticity of real GDP with regard to population. That is, *β* indicates the percentage by which GDP will increase if population increases by 1%.

Using these estimated values of *β*, and the median estimates from the 2010 revision of the UN’s long-run population forecasts (UN 2011), we then forecast the real GDP and per capita real GDP for every country, for each year until 2100. In cases where historical data are limited, forecasts are made until 2017.

Our forecasts will be revised in summer 2013, following the release of the 2012 revision of the UN population forecasts (published June 2013).

**References**

IMF (2012), *World Economic Outlook Database*, June 24.

(http://www.imf.org/external/pubs/ft/weo/2011/02/weodata/index.aspx)

Maddison, Angus (2008), *Contours of the World Economy 1-2030 AD: Essays in Macroeconomic History*, Oxford University Press.

United Nations Department of Economic and Social Affairs (2011)m World Population Prospects, the 2010 Revision

(http://esa.un.org/wpp/Excel-Data/population.htm)