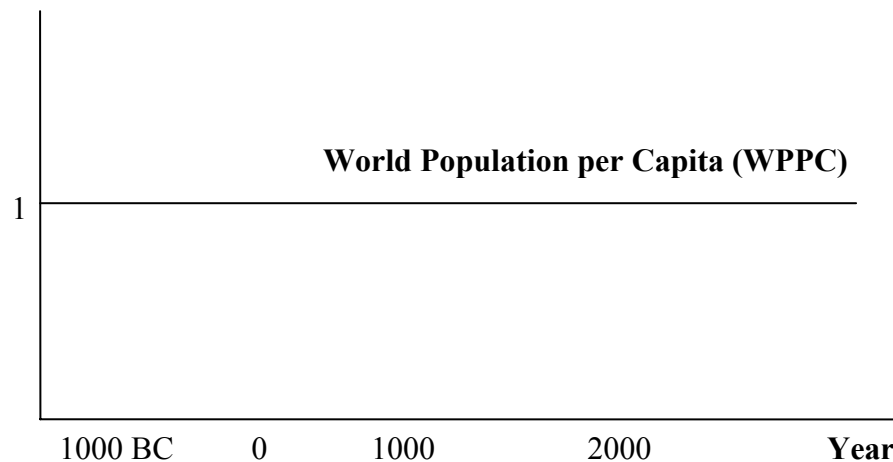


## WPPC: A Universal Demographic Constant

Ran Spiegler, Tel Aviv University

Economic historians have been fascinated by historical trends in world population, and sought to trace them to economic factors. Needless to say, given that we are dealing with epochs prior to the invention of modern statistics, economic historians have learned to develop a healthy skepticism about historical population data.

However, it turns out that they may have been too skeptical, so as to overlook a most remarkable quantitative regularity in the annals of history. The following graph describes the evolution of a quantity called "*world population per capita*", from 1000BC — the earliest period from which we have a more-or-less reliable record — till our own days:



This is a remarkable figure. It suggests that despite difficulties in gathering historical data about world population, there is an empirical regularity that nevertheless shines through, namely the constancy of WPPC. This is one of the rare "universal constants" in the field of economic history.

Jeff Ely (who surprisingly did not wish to stay anonymous) has noted that since the literal meaning of the term "per capita" is "per head", the uniform regularity

of the above graph is somewhat misleading, because the number of heads per person may be subjected to some variation. However, casual empiricism suggests that this source of variation is negligible, relative to the measurement errors that are inevitable when dealing with historical data.

Given such a remarkable constancy, we should allow ourselves to extrapolate backwards in time, and — in a more speculate vein — perhaps to other planets as well, under the proviso that they inhabit living creatures. (Otherwise, WPPC is not well-defined mathematically.)