COMMENT TO "THE EVOLUTION OF WORLD WELFARE INEQUALITY" BY DAVIDE FIASCHI AND MARZIA ROMANELLI

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1 Introduction

In their well written and very elaborate analysis Davide Fiaschi and Marzia Romanelli take on several issues in the area of welfare measurement and welfare dynamics, going beyond the standard *GDP per capita* measure of material well-being. In particular, the authors look to expand existing results in the relevant literature (Becker *et al.*, 2005; Bourguignon and Morrisson, 2002) in several directions. On the theoretical front, the authors assume relevant utility functions to be cardinally measurable in order to gain further insights. On the empirical front, the authors introduce more sophisticated non-parametric techniques in order to infer future trends in world welfare and identify potential polarization among countries.

In this comment I will briefly describe reasons for measuring welfare beyond traditional GDP per capita statistics and show major trends in GDP per capita and life expectancy over the last two centuries. Then I will highlight major results presented by Davide and Marzia, elaborate how these results fit into existing literature and make a couple of suggestions how to strengthen existing results and possibly expand them.

2 Background

It is well known that GDP (per capita) is not a perfect measure of well-being or welfare. Standard GDP statistics are an imperfect measure of material well-being since they fail to capture some relevant aspects, such as the household production of goods and services, or to incorporate undesirable effects of the production process, such as the deterioration of natural environment or climate change. Furthermore, the welfare of people is a multi-dimensional concept that goes beyond material well-being. The existing literature on welfare dynamics tries to incorporate other aspects of well-being, most notably the life expectancy. The idea is basically not only to capture the quality of life (as measured by GDP per capita) but also the quantity of life (measured by life expectancy). This has been done in the existing literature either by relying on the *lifetime income* concept (Bourguignon and Morrisson, 2002) or on the *lifetime utility* approach (Becker *et al.*, 2005; Rosen, 1988). In their paper, Davide Fiaschi and Marzia Romanelli follow the latter lifetime utility approach. They augment this approach by assuming lifetime (indirect) utility function to be cardinally measurable, which allows them to directly compare welfare level across countries and also to analyze the effects of (expected) income growth on the welfare (inequality) across the world.

Since the dynamics of GDP per capita and life expectancy are driving the empirical results in this strand of literature, it is instructive for readers to be familiar with basic dynamics of these two (related) variables in a longer time perspective. Namely, it is interesting to note that both GDP per capita and life expectancy were basically stagnant for centuries, until the start of industrial revolution in early 19th century, which resulted in parallel increase in both GDPpc and life expectancy inequality across (industrial and non-industrial) countries. This parallel increase lasted until the first half of 20th century, when trends in GDPpc and life expectancy (inequality) diverged.

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Most of the results from the empirical literature seem to suggest that income inequality (measured by GDPpc) increased until 1950's and has stagnated since (or decreased slightly). On the other hand, the divergence of life expectance inequality turned into strong converge after 1930's, as a result of less developed countries catching up with the developed ones (mostly by implementing non-expensive measures to reduce mortality at early stages in life).

Table 1

Graph from Bourguignon and Morrisson, 2002

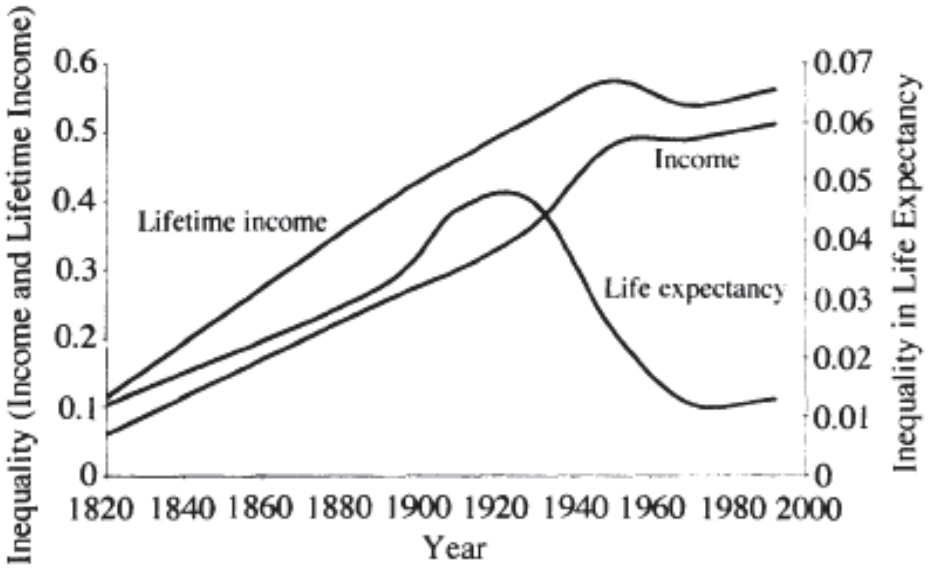

FIGURE 3. EVOLUTION OF INTERNATIONAL INEQUALITY IN INCOME, LIFETIME INCOME, AND LIFE EXPECTANCY (THEIL INDEX)

Davide Fiaschi and Marzia Romanelli focus on the 1960 to 2011 period by analyzing GDP per capita, life expectancy and consequently welfare dynamics on a panel consisting of 103 countries. Most of their paper is based on the between-country analysis of inequality, although in one (very preliminary) section the authors try to incorporate within-country inequality in order to measure the overall inequality among all individuals in the world. This preliminary section tries to expand the approach used by Bourguignon and Morrisson (2002) that included the analysis of within-country inequality of income but not the within-country inequality of lifetime (which was assumed to be zero). Davide and Marzia instead build a (log-linear) model of joint distribution of income and life expectancy within countries. As the authors themselves note, assuming invariant relationship between relative life expectancy and relative income across countries might be a restrictive research approach. Nonetheless, it represents a welcome improvement over the zero life expectancy inequality assumption made by Bourguignon and Morrisson (2002).

3 Results

As mentioned earlier, Davide and Marzia use non-parametric estimation techniques to analyze welfare dynamics on the panel of 103 countries over the 1960-2011 period. In doing so, the authors confirm the results and dynamics in the existing literature. Namely, that life expectancy inequality has been on the downward trend throughout the referenced time period, while the reduction in income (GDPpc) inequality was less clear-cut and less pronounced. Overall, these two trends combined into unambiguous decline in welfare inequality over the entire period (Table 1). The use of more sophisticated non-linear empirical analysis allows the authors to test for the existence of polarization among countries, and also to extrapolate the likely trend of welfare inequality in the future.

The results presented do indicate polarization among countries, into two or likely three clusters. Besides the cluster of countries with high standard of living and high life expectancy, countries with low-to-medium standard of living seem to be forming two different clusters depending on their ability to catch-up with more developed countries or being trapped at low levels of development and low life expectancy. Analysis also indicates that the trend of reduced welfare inequality observed over the 1960-2011 period would be stopped and even reversed in the future, due to the stagnation of life expectancy convergence and increase in income (GDPpc) inequality. The results from preliminary section that includes within-country inequality seem to confirm these conclusions.

4 Comments

The authors conclude that the (expected) growth rate g has rather negligible influence on the final results and have thus been assuming growth rate $g = 0$ throughout the paper. Although the authors state that simulations and scenario analysis of different growth rate assumptions confirm their conclusions, it could be beneficial to include some more (intuitive) evidence on this result, which might contradict *a priori* expectations that vastly heterogeneous growth rates across the would should/could more tangibly influence welfare dynamics.

The authors conclude that ignoring within-country inequality "seems to have a non-negligible impact on the magnitude and the dynamics of the world welfare distribution". While the impact on magnitude is obvious and documented not only by the authors but also in the existing literature, the impact of ignoring within-country inequality on the welfare dynamics seems to be less clear-cut (to me at least). In fact, my reading of Table 6 that the authors present in the (preliminary) section that includes within-country inequality is that within-country inequality tangibly impacts the magnitude but not the trend or dynamics of welfare inequality.[1]

When making policy recommendations in the concluding section, the authors explore whether (very) poor countries should focus on improving health outcomes or increasing GDP per capita. Implicit in these considerations seems to be the assumption of exclusive influence on one of these two outcomes. However, these considerations could be broadened to common factors that seem to improve both health and income, such as the quality of institutions and government capacity (Deaton, 2015).

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[1] A small note on the terminology – the authors could consider using the term "between-country" inequality instead of "cross-population" inequality, in order to make the wording more comparable to the terminology used in other papers in the literature.

REFERENCES

Becker, G.S., T.J. Philipson and R.R. Soares (2005), "The Quantity and Quality of Life and the Evolution of World Inequality", *The American Economic Review,* Vol. 95, No. 1.

Bourguignon, F. and C. Morrisson (2002), "Inequality among World Citizens: 1820-1992", *The American Economic Review*, Vol. 92, No. 4.

Deaton, A. (2015), *The Great Escape: Health, Wealth, and the Origins of Inequality.*