

The US is, indeed, the exceptional nation: Income dynamics in the bottom 50%

by Danny Quah

Lee Kuan Yew School of Public Policy

January 2019

Abstract:

This paper establishes the unique and extreme dynamics of incomes in the bottom half of the US population since 1980. First, over the subsequent three decades the US bottom half had its average income decline. This occurred in no other major bloc or economy in the world. Nowhere else did the poor systematically become poorer. Second, the ratio of the average income in the US top 1% relative to that in the US bottom half rose three-fold between 1980 and 2010. Nowhere else in the world saw such a large absolute increase in this ratio; in 2010 nowhere else experienced a rich-poor average income ratio this high. Income dynamics in the US population is extreme. US experience is not representative of income trajectories elsewhere.

Introduction

One of the leading themes of contemporary debate on globalisation relates to another, powerful idea in public policy, namely that of inequality. This globalisation-inequality theme runs in three links: First, globalisation has benefited some but left many others behind. Second, the rise of inequality worldwide bears testimony to the polarising power of globalisation. Third, if globalisation is to continue, its effects need to be managed.

Optimistic observers suggest that with such management, properly executed, the global system can be put again to rights, inequality will remain controlled, and the international system need change only around the edges. Other thinkers reckon, instead, that globalisation and inequality have set in motion large destructive forces: one, nationalistic populism within societies, and, two, those nations that are great powers in ever greater contention with one another. World order has moved to where the international system will irrevocably change.

This paper concerns the first of the three links just described. Is it true that, over the last three decades of rising globalisation, many worldwide have been left behind? Rather than construct new data to address this question—which would then raise questions about the validity of those alternative statistics—this paper instead chooses to use old data, i.e., the same statistics that many others have used to describe rising inequality. Only, instead of income shares—the fraction of total income accruing to a specific group, presented in, e.g., the World Inequality Database—this paper presents a “representative agent” perspective on incomes data, i.e., it analyses the income that accrues to that individual who is representative of that group in his income being the group’s mean income.

This therefore simply re-organises well-established incomes inequality data, but it does so with an eye to addressing questions different from that of just gaps between rich and poor. Instead, it asks about the experiences of individuals, not entire groups. Further, this analysis sharpens a focus on differences across countries, or more specifically, between the US and the rest of the world. Should the policy conclusions from the US experience be projected to nations everywhere else?

The [World Inequality Database](#) (WID) has greatly advanced understanding of income inequality dynamics around the world. In this note I present calculations from [WID](#), in a way that I have not seen used directly elsewhere. For reasons described in the next section, this note will look at actual incomes, not just ratios or relative incomes or income shares. The most interesting results show that in terms of growth and inequality the US experience over the last three decades is unlike that anywhere else in the world. Inequality might indeed have risen everywhere. But among major blocs and large economies, only in the US have the poor systematically become poorer.

Conceptual Analysis

Gini coefficients and other summary measures were historically used as default empirical quantifications on income inequality. Readers learnt that a 0 Gini coefficient meant everyone in society had the same income level, and so inequality was as low as it could go; that a Gini coefficient equal to 1 meant all society’s income went to a single individual, so inequality was maximal. In between 0 and 1, readers intuited that a rising Gini coefficient meant increasing inequality but otherwise had to navigate using much less structured, less rigorous analysis.

Because of this gap, tracking Gini coefficients over time—where, with real-world incomes data, Gini coefficient values can range from 0.3 to 0.6 or higher—does not make transparent what increasing inequality really means. One of the remarkable conceptual achievements in [WID](#) is to provide statistics that go beyond summary measures across a wide range of historical episodes and across economies. What [WID](#) does is to give us data on income shares at different parts of the income distribution.

It helps intuition greatly to look at data on income shares accruing to the top 1% or top 10% or the middle 40% or bottom 50%. However, conceptual gaps remain: A top 1% share equal to one-quarter of total income will mean one thing in a rich country, and mean yet something else quite different in a poor country. Knowing the value of the top 1% share does not tell us, in easily understandable terms, just how rich individuals in that top 1% are. A top 1% share growing from one-eighth to one-quarter will mean one thing in a stagnant economy; it will mean something very different in a fast-growing nation. Therefore, while income shares give useful information beyond Gini coefficients, yet more detail would be helpful.

In this author's view, greater insight on income inequality comes from an individual's seeing the changes over time of their actual income, and then comparing those directly to those same measures of individuals around her. This is meaningful and easily related to personal experience. Income shares alone don't provide that granularity. What does so is a simple transformation of readily available data, combining inequality measures in [WID](#) with other statistics (perhaps total population, total income, and so on). I present two tables showing the end result of such calculations I have undertaken.

Empirical Results

The underlying data I use are exactly the same as that already provided by [WID](#). Whatever imperfections or doubts a reader might have about [WID](#) data will be transmitted to what I provide below. On the other hand, someone who uses [WID](#) data to decry inequality cannot, as a matter of logic, fault the data that appear in this note, should the conclusions here seem inconsistent to their thinking.

Table 1 shows the evolution over time of the income of an individual in the bottom 50% of the population in different blocs or nations, averaging across all individuals in that bottom half. Think of this, roughly, as the income of a typical person in the bottom half of a given nation:

Income in thousand Euros	1980	1990	2000	2010	2015
US	7.8	7.3	6.6	6.8	(na)
EU	8.3	8.2	8.1	9.9	10.3
China	0.8	1.2	1.3	2.6	3.9
Asia ex Middle East	1.1	1.5	1.7	2.3	2.8
World	1.7	2.0	2.1	2.7	3.0

Table 1: Average income of an individual in the bottom 50% of the nation or region.

We see from Table 1 that the US is the only case where average income in the bottom half of the population has declined over these last three decades. Everywhere else, that income has risen, even if—as previously reported in [WID](#)—the bottom 50%’s income shares in China, Asia, and the EU have all turned out lower in 2015 than in 1980. The reason: Economic growth has been more important for raising incomes in those regions than has inequality been in depressing them. Only in the US has the bottom half of the population seen a decline in economic fortunes. In other words, in the US the poor have systematically gotten poorer; everywhere else in the world the poor have gotten richer.

That China has become a more unequal society will be a statement many readers deem consistent with observations not just previously noted in [WID](#) but widely reported elsewhere. An interesting fact in Table 1, therefore, is that, at the same time, China’s bottom 50% have seen average income rise nearly 5-fold, a rate of increase seen nowhere else in the world. This is, of course, consistent with World Bank calculations showing hundreds of millions of Chinese lifted out of extreme poverty.

(The numbers in Table 1 are calculated from [WID](#) data on pre-tax national income shares, together with per capita incomes. If income share accruing to the bottom 50% is denoted σ , per capita income y , and the total population N , then average income of an individual in the bottom 50% can be calculated as $(N y \sigma)/(0.5 N) = (y \sigma)/0.5$, so that knowledge of total population size is never actually needed. A more intricate calculation would be needed,

together with restrictive distributional assumptions, to obtain the income of the average individual in the group, rather than, as here, the average income of individuals in the group. But it is only the latter that I use, not the former.)

Immiserisation of the poor is not, however, the only way the US is distinct.

Thanks to the excellent work at [WID](#) and elsewhere, the entire world has become sensitised to seeing growing inequality everywhere it looks. However, the scale with which this is happening in the US is unmatched in the rest of the world. To document this, the next table compares average income in the bottom 50% with average income in the top 1% (calculated using the obvious change in the equation above):

Ratio of average income in the top 1% to average income in the bottom 50%	1980	2015
US	41	138 (2010)
EU	24	32
China	12	47
Asia ex Middle East	38	66
World	100	108

Table 2: The ratio of average income in the top 1% to that in the bottom 50%.

To get a sense of this comparison, think of it as just measuring one individual against another, not some group against another where the groups might be differently-sized. The first individual happens to be in the top 1%; the second, the bottom 50%. In the US this ratio of rich person to poor person was 41 in 1980. It then more than tripled, to 138, in the thirty years following. Looking down the rows of Table 2, we see that, indeed, inequality has increased everywhere in the world. By this measure, that in China has quadrupled in the last 30 years; in Asia, almost doubled. However, nowhere has inequality risen to the extent it has in the US.

Conclusion

The findings of this paper are two-fold. First, in the US the representative individual in the bottom 50% of the population had average income decline over these last three decades. This happened in no other major bloc or economy in the world. Nowhere else did the poor systematically become poorer. Second, in the US the ratio of average income in the top 1% of the population to that in the bottom 50% skyrocketed to 138, more than three times its level in 1980. This ratio of rich to poor income is strikingly high, compared to all other major blocs and economies: nowhere else in the world of large national landscapes did inequality rise as much. The US is, indeed, the exceptional nation.