

THE DYNAMICS OF SOCIAL INEQUALITIES IN THE PRESENT WORLD

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It is apparent that not only are there high levels of inequalities within most countries, but those inequalities have been growing over time. They are much larger today than they were a third of a century ago. It is also clear that there is far from equal opportunity: the life prospects of children of rich and well-educated parents are far better than those with poor and less well-educated parents. Indeed, in the US, it appears that the prospects of a child from an underprivileged family that does well in school are poorer than that of a child from a well-off family that does not perform well in school. At one time, economists and other social scientists tried to justify these inequities through the marginal productivity theory, which says that individuals' incomes correspond to their social contributions to society. Even a cursory look at the data shows that none of the individuals who have made the greatest contributions to our society, say through the inventions of the laser or the transistor or the discovery of DNA, are among the richest. And among the richest are many who got their money from the exploitation of market power and/or political connections.

In this essay, I discuss the dynamics of social inequalities at three levels – the global macro, at the forces shaping the dynamics of the distribution of income across countries; the country-macro, at the forces shaping the dynamics of the distribution of income *within* a country; and at the micro – the forces shaping the dynamics of individuals' opportunities. The central thesis of this short paper is that to understand the dynamics of social inequality at any of these levels, though the competitive model may provide a useful benchmark, it is departures from that benchmark that are really driving the changes in inequalities today.

1. The data

The US has the best data, and the worst inequality, so I illustrate the basic issues by looking at what is happening there. Figure 1a shows that the

¹ Notes prepared for presentation at the Pontifical Academy of Social Sciences, April 28, 2017.

Top 1% vs Bottom 90% Average Income

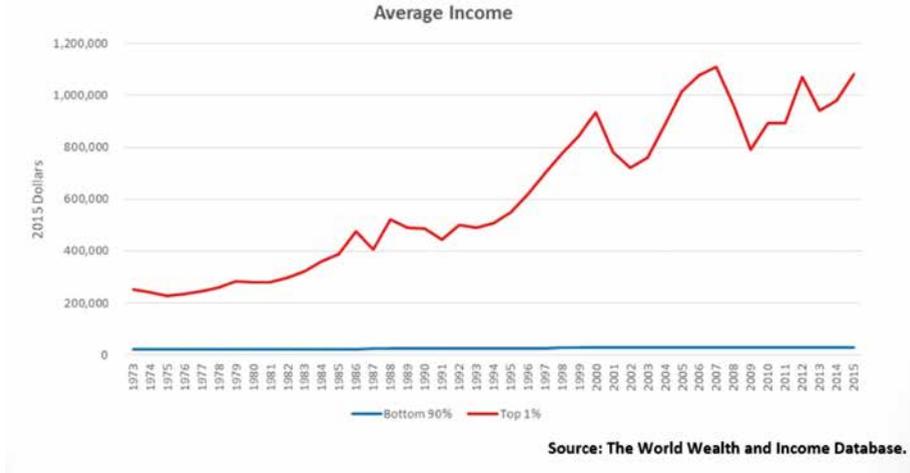


Figure 1a.

Europe: less increase in inequality in some countries than in others

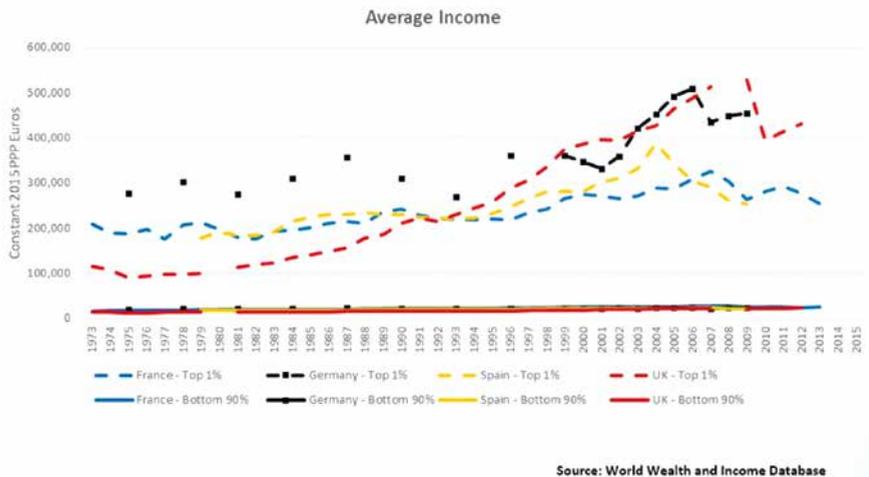


Figure 1b.

average income, adjusted for inflation, of the bottom 90% has been essentially stagnant for the past 42 years. At the same time, the average income of the 1% has multiplied 4.3 times. This pattern is seen in most other countries – though the US stands out. France, the Netherlands and Sweden are three countries where the increase in their share has been nonexistent or more limited. The UK, which in many respects has followed the US model, has an increased share almost as large as that of the US (See Figure 1b).

Global Inequality: Share of Income Earned by Top 1%, 1975-2015

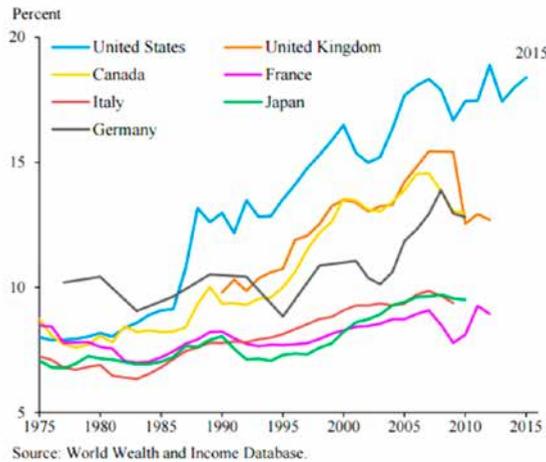


Chart from: US Economic Report of the President, January 2017.

Figure 1c.

Median income in the US has been stagnant for the past quarter century (see Figure 2a). But more striking – and reflected in American politics – is that median income of a full time male work is the same level that it was more than four decades ago (see Figure 2b). And it is increasingly difficult for these workers in the middle to get full time jobs – so if we looked at median income of a male worker, things would be even worse. Unfortunately, the standard source of European data, Eurostat, doesn't have data going back that far. Not surprisingly, in the crisis countries, like Spain, median income is lower than it was before the crisis (see Figure 2c).

Stagnation: U.S. median household income (constant 2015 US\$)

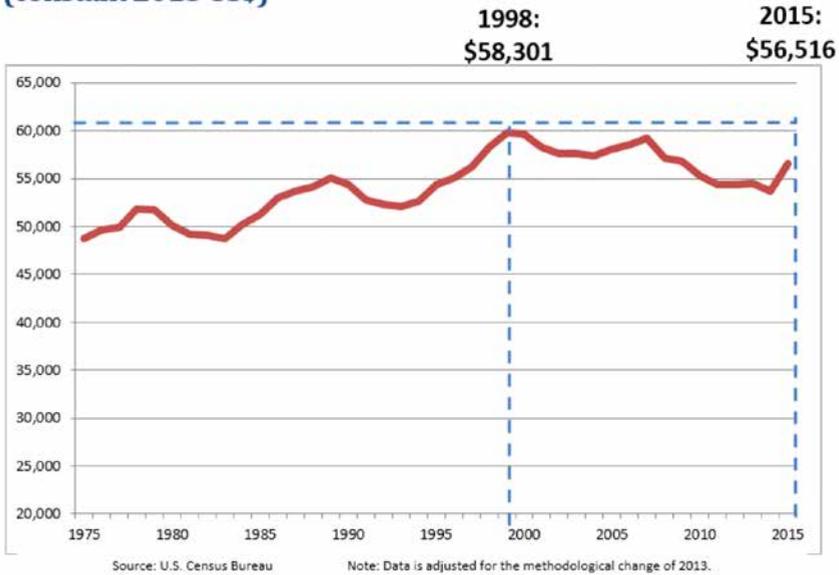


Figure 2a.

US: Median income of a full time male worker is at the level that it was more than 4 decades ago

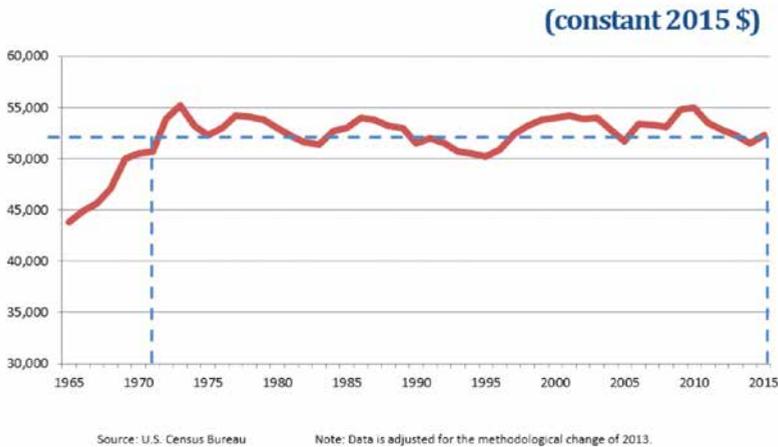


Figure 2b.

Median household income in Europe

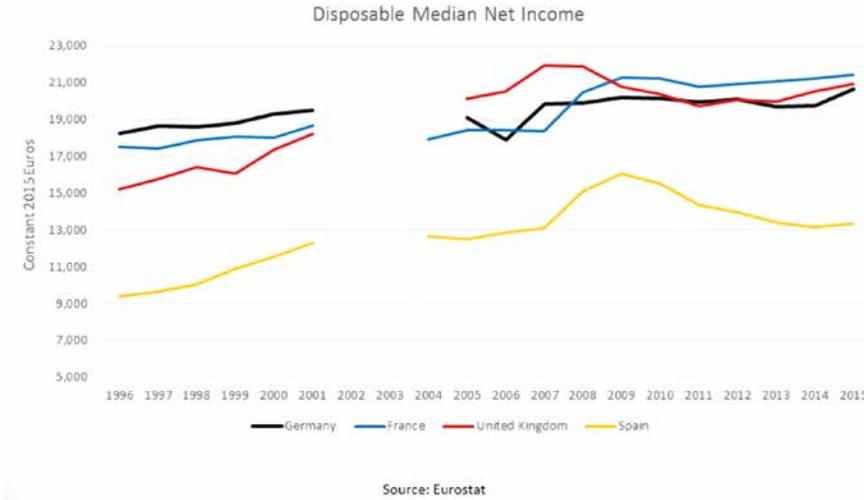


Figure 2c.

Worse is what has happened in the US to those at the bottom, where the real wage is at the level it was sixty years ago (see Figure 3a). In this arena, things are unambiguously better in Europe (see Figure 3b).

In most of the advanced countries, there are three major changes to the income distribution: more of the income is going to the top, more people are in poverty, and there has been an evisceration of the middle class – the median income has been stagnating, and the fraction of individuals around the median, say with an income of .5 to 1.5 times the median, is decreasing. More individuals are in the tails of the distribution.

We typically summarize the distribution of income in a measure called the Gini coefficient, and in most countries that has been increasing (see Figure 4). There are, however, a few countries that have resisted this trend, such as France and Norway; and a few, mostly in Latin America, where there has been a decrease in inequality.

There is an important lesson from this – the economic forces at play in all of the advanced countries are similar, but the outcomes are markedly different. The explanation of the difference is that different countries have

US: Real wages at the bottom are at the level that they were roughly sixty years ago



Figure 3a.

Europe: Real Minimum Wages

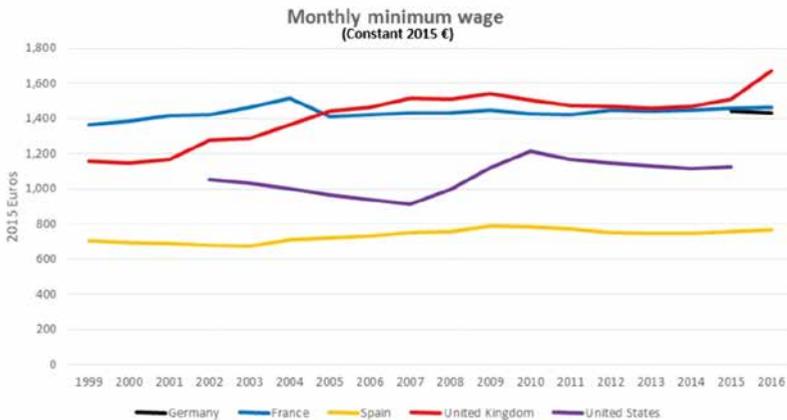


Figure 3b.

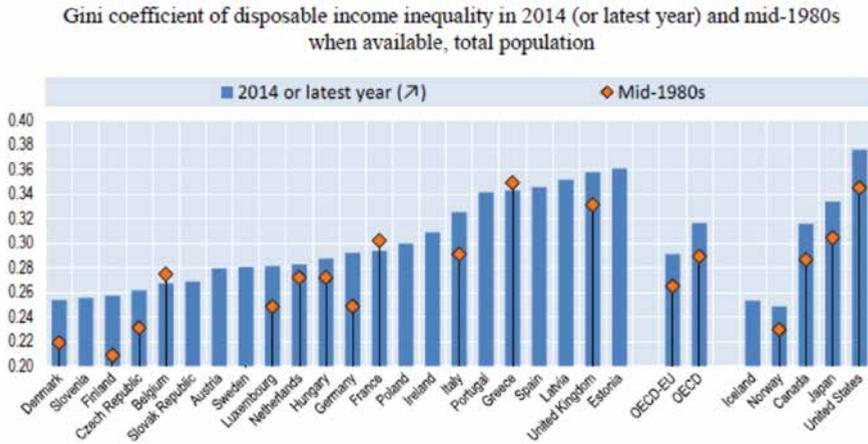


Figure 4.

pursued different policies. In short, inequality is a choice. Had countries pursued different policies, there would have been different results. Those countries that followed the Anglo-American model have wound up with more inequality.

Before turning to the other dimensions of inequality, I want to emphasize that those countries that have chosen to have more inequality have not had better overall economic performance. I emphasized in my book *The Price of Inequality* that society pays a high price for inequality, including poorer economic performance.² Empirical research at the IMF has provided substantial statistical support for the theoretical ideas that I had put forward.³

Income is only one dimension of inequality. There are several areas that are very important, but which are hard to quantify, including access to justice. The discriminatory nature of the mass incarceration in the US,

² *The Price of Inequality: How Today's Divided Society Endangers Our Future*, New York: W.W. Norton, 2012 (published in Italian by Einaudi). A short summary is available in a paper by the same title in *Sustainable Humanity, Sustainable Nature: Our Responsibility*, PASS Acta 19/PAS Extra Series 41, P.S. Dasgupta, V. Ramanathan, M. Sánchez Sorondo (eds.), Vatican City: The Pontifical Academy of Sciences, 2015, pp. 379-399.

³ Jonathan D. Ostry, Andrew Berg, and Charalambos G. Tsangarides, "Redistribution, Inequality, and Growth", *IMF Staff Discussion Notes*, 2014.

though, shows that the issue is deep.⁴ So too, during the Great Recession, many ordinary Americans were thrown out of their homes – even when they owed no money – on the basis of a mere false claim by a financial institution. This illustrated the lack of access of justice for large numbers of Americans.⁵

Another dimension that is hard to quantify is inequality in voice – in effective participation in the political process. When I was chief economist of the World Bank we surveyed 10,000 poor people about what aspects of their life were of most concern. Obviously, the lack of income was key. But there were two others: insecurity and the lack of voice, the fact that so much of what happened to them was beyond their control.

There are, however, two other dimensions that are easy to measure. One is the inequality in health – differences in life expectancy. Nature itself leads some individuals to live longer than others. But if some individuals do not have access to health care or cannot get adequate nutrition, then there will be even greater inequities in health. Not surprisingly, the US has large disparities, because it is the one advanced country that does not recognize that access to healthcare is a basic right.⁶ Figure 5 shows dramatically the consequence – those at the bottom, those with a high school education (or less) have seen an increase in their mortality, at the same time that elsewhere in the world mortality is decreasing. Of most concern is that one of the major sources of morbidity are “social diseases”, alcoholism, drug overdose, and suicide.

The magnitude of these adverse effects is so large that, by 2015, they had overwhelmed other factors contributing to increasing life expectancy, and life expectancy for Americans as a whole have decreased.⁷

⁴ See, for instance, Oliver Roeder, Lauren-Brooke Eisen and Julia Bowling, “What Caused The Crime Decline?”, *Brennan Center for Justice Paper*, 2015; Michelle Alexander and Cornel West, *The New Jim Crow: Mass Incarceration in the Age of Colorblindness*, New York: The New Press, 2012.

⁵ See J.E. Stiglitz, *Freefall: America, Free Markets, and the Sinking of the World Economy*, New York: W.W. Norton, 2010.

⁶ See Anne Case and Angus Deaton, “Rising morbidity and mortality in midlife among white non-Hispanic Americans in the 21st century”, *Proceedings of the National Academy of Sciences*, 1-6, 2015; Anne Case and Angus Deaton, “Mortality and Morbidity in the 21st Century”, *Brookings Papers on Economic Activity*, Spring 2017, forthcoming.

⁷ See National Center for Health Statistics, “Mortality in the United States, 2015”, *NCHS Data Brief*, 267, 2016.

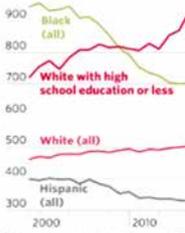
Even health and life expectancy is in decline

A Rising Toll

New research shows the increasing mortality rate among white Americans spans age groups and is most acute among the less-educated.

White deaths are rising...

Mortality rate by race, ages 50-54

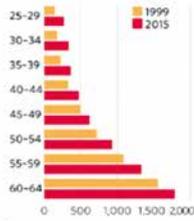


Mortality rate=deaths per 100,000

Anne Case and Angus Deaton of Princeton University

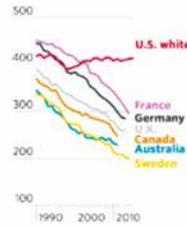
...among all age groups of less-educated whites...

Mortality rate for whites with high school education or less, by age



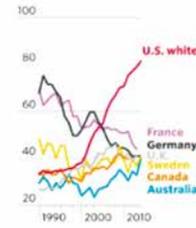
...in contrast to elsewhere...

Mortality rate for all causes, ages 45-54



...due in part to increases in 'deaths of despair'.

Mortality rate due to alcohol, drugs and suicide, ages 50-54



Source: Anne Case and Angus Deaton of Princeton University, charts published in Wall Street Journal.

Figure 5.

More Inequality is Associated with Less Mobility Across Generations



Figure 6.

The other very important dimension of inequality – related to the main theme of this talk, the dynamics of inequalities – is equality of opportunity. Countries differ markedly with regards to opportunity. Figure 6 shows the relationship between equality of opportunity and equality: countries with more inequality (as measured by the Gini coefficient) have less mobility across generations. Countries with the least opportunity include US, UK, and Italy, while those with the best are the Scandinavian countries and Canada, sometimes referred to as the Scandinavia of North America.

2. Basics analytics

The income of a household consists of income from labor and income from assets that the individual owns other than human capital. Thus, income inequality is related to disparity in the ownership of these assets and the returns to different factors. The dynamics of inequality is related to the dynamics of asset ownership. If the wealthier transfer a large fraction of their wealth to their children, there will be an intertemporal transfer of advantage. At the same time, in a period of growth, families divide their wealth among their children, and this “division” can lead to a process of regression towards the mean.

The mathematics of this process, which I developed in my Ph.D. thesis some time ago, enables us to show that typically, there is an equilibrium income and wealth distribution, the result of a balance between centrifugal forces pulling the economy apart and centripetal forces bringing the economy together. Changes in the income distribution then are a result of changes in these forces, leading to a new balance. For instance, with less progressive taxation, and especially with lower estate taxes, the wealthier can pass on more to their children. This results in an equilibrium with more inequality. With better public education, all young people get a more similar endowment of human capital, and that helps pull the economy together. The resulting equilibrium distributions entail less inequality. With greater diversity in the population, differences in the number of children, larger differences in the returns to capital, etc., the centrifugal forces creating more inequality will be greater.

By the same token, if capital is more unequally distributed than labor (as it is) an increase in the returns to capital relative to labor will (for any given distributions of labor and capital) lead to more inequality.

Piketty's model

Piketty's analysis⁸ is, in fact, a special case of my model. He points out that if the rate of return to capital is greater than the rate of growth, and if capitalists save all of their income, then the wealth of the capitalists will grow faster than the economy – and if the return to capital does not fall, then there will be increasing wealth and income concentration.

But there are several critical assumptions. Those at the top, while they save more than poorer individuals, have a savings rate that is far less than one. What matters is the relationship between sr (where s is the savings rate and r is the return to capital) and g , the rate of growth. For plausible numbers, $sr < g$, i.e. the capitalists would get a declining share of capital.

Moreover, if capital were increasing as rapidly as predicted by Piketty's model, the return to capital should have declined – the principle of diminishing returns is one of the most important principles in economics. Eventually, the return would come down to the level of g – in which case the share of capital would not be increasing.

The fundamental problem with the model is posed when looking at national income data – one would have predicted a decline in the capital income ratio, while Piketty shows that there has been an increase in the wealth income ratio. The reason is simple: large fractions of wealth are not capital – wealth includes the capitalized value of rents, including land, monopoly, and intellectual property rents. Wealth can be increasing but capital decreasing. This distinction is going to be critical in the discussion below: a major source of the growth in inequality is an increase in the share of wealth that is associated with rents. If, as I suggest below, there are reasons for an increase in rents, and those rents go disproportionately to the wealthy, then there will be an increase in inequality; and if there is also less capital, wages may go down, and again inequality will increase.

Summary of key determinants of inequality in the model

We can divide the analysis of inequality into the determinants of the distribution of the ownership of assets and the determinants of returns to assets. The analysis above emphasized that the dynamics of distribution of asset ownership is driven by the intergenerational transfer of wealth, human advantage, and other advantages and disadvantages. Of special concern

⁸ Thomas Piketty, *Capital in the Twenty-First Century*, Cambridge: The Belknap Press of Harvard University Press, 2014.

is education. As we noted, strong public education systems enable all children, regardless of the income of their parents, get the amount of human capital that is related to their abilities. (Indeed, strong public education, which invests more in those children who have lower ability endowments, can reduce the level of inequality from what it otherwise would be).

3. Dynamics of inequalities within a country

The model I just described provides a framework for understanding the dynamics of inequality. The changes in the dynamics of inequality can be simply described in terms of changes in the underlying centripetal and centrifugal forces determining the income and wealth distribution. In the United States, the education system is local, and with increasing geographical economic segregation, there is increasing inequality in educational opportunity. (Studies also show the high correlation between educational opportunity and income).⁹ The reduction in progressivity of the income tax system (indeed, now it is regressive) also increases the inequality of income and wealth.

A reduction in savings rate reduces inequality; a reduction in family size (on average) increases inequality.

An increase in dispersion in any of the relevant variables – including the returns to labor or capital – increases the level of inequality. There are some who have argued that technological change is skilled biased, increasing the education premium, and thus the dispersion of wages.

Beyond the competitive model

All of this analysis has been conducted with the framework of the competitive model. But there are multiple reasons to believe that that model provides an inadequate description of the economy. I already referred to the evidence concerning the increasing importance of rents, including monopoly rents, consistent with evidence of increasing concentration in many industries.¹⁰ Weakening of anti-trust enforcement and changes in

⁹ Other relevant factors include the extent of assortative mating. Again, in the US, with its education system increasing economically segregated, there is increasing assortative mating.

¹⁰ See Jason Furman and Peter Orszag, “A Firm-Level Perspective on the Role of Rents in the Rise in Inequality”, Presentation at “A Just Society” Centennial Event in Honor of Joseph Stiglitz, Columbia University, 2015. Retrieved from: https://obamawhitehouse.archives.gov/sites/default/files/page/files/20151016_firm_level_perspective_on_role_of_rents_in_inequality.pdf.

technology¹¹ as well as changes in the structure of the economy, towards sectors which are naturally less competitive, all may have contributed to an increase in the average “market power” with in the economy.

Other forces too have led to increased income at the top: changes in corporate governance have allowed executives to take away an increasing share of corporate income. Increased financialization of the economy, combined with weaker corporate governance and what I have described as heightened levels of moral turpitude have resulted in those in the financial sector exploiting the rest of the economy.

Similarly, weakening of workers’ bargaining power, both the result of weaker unions, changes in legal frameworks, and globalization have lowered the income of ordinary workers.

More generally, the rules of the game have been changed to advantage those at the top and to disadvantage those below, increasing inequality. Markets don’t exist in a vacuum. We have to structure them. For the past third of a century the rules of the game have been rewritten in ways that increase inequality and simultaneously weaken the economy, for instance, by increasing short-termism.¹²

The effect of all of this is that a huge gap has opened up between productivity growth and compensation growth (leading to a marked decrease in the share of labor). Figure 7a shows that before the mid-70s, the two moved together. This was the pattern that had been observed over a large number of countries and sectors for long periods of time. It was viewed almost as a “law” in economics. But then, suddenly, matters changed. There was no huge change in technology or in the quality of the labor force. There were rapid changes in the rules of the game. This is the only way that one can account for the dramatic change.

While we don’t have easily accessible data for Europe going back in time, the same disparity between productivity and compensation is evident in Europe in recent years (see Figure 7b).

¹¹ An increase in fixed costs (e.g. associated with research) or in network externalities. See, e.g. chapters 5 and 6 of J.E. Stiglitz and Bruce Greenwald, *Creating a Learning Society: A New Approach to Growth, Development, and Social Progress*, New York: Columbia University Press, 2014. Reader’s Edition published 2015.

¹² *Rewriting the Rules of the American Economy*, with Nell Abernathy, Adam Hersh, Susan Holmberg and Mike Konczal, A Roosevelt Institute Book, New York: W.W. Norton, 2015. There is a forthcoming version *Rewriting the Rules of the European Economy*.

US: Disconnect Between Productivity and a Typical Worker's Compensation, 1948-2015



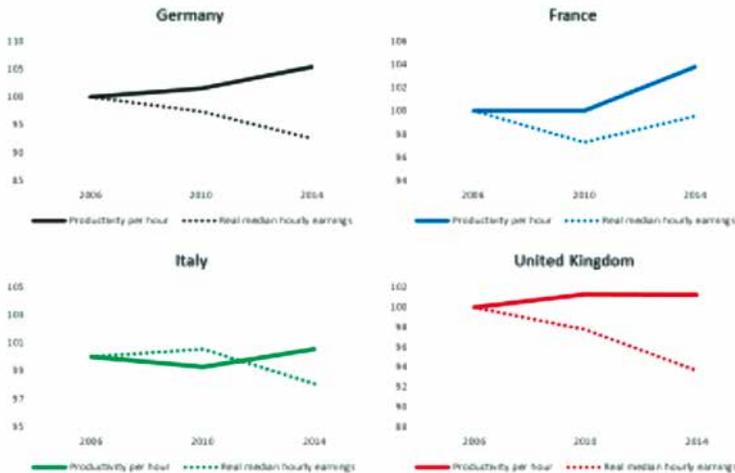
Note: Data are for average hourly compensation of production/nonsupervisory workers in the private sector and net productivity of the total economy. "Net productivity" is the growth of output of goods and services minus depreciation per hour worked.

Source: EPI analysis of data from the BEA and BLS (see technical appendix of *Understanding the Historic Divergence Between Productivity and a Typical Worker's Pay* for more detailed information)

Economic Policy Institute

Figure 7a.

Europe: Disconnect in Productivity and Compensation



Source: Eurostat.

Figure 7b.

One particularly invidious manifestation of “power” is discrimination, evidence of which is pervasive. Women and minorities get paid significantly less than those with comparable skills who are white men. Discrimination in America is more subtle than it was in the days of Jim Crow (except in areas like the criminal justice system, with its mass incarceration), but is nonetheless real. Economic theory (in particular, game theory) has shown how such discriminatory equilibria can persist (contrary to the assertions of Chicago economists like Gary Becker).¹³ What is surprising is that while overt racial and gender discrimination has been reduced, the wage gaps persist.

4. Inequalities across countries

In recent years, with the growth of the emerging markets, some of the inequalities across countries have been reduced; yet the inequalities between the poorest countries and the rest persist. The rules of globalization have much to do with both. Globalization, in the form of export-led growth, was essential to the success of the East Asian countries. But the rules of globalization are designed to keep the poorest countries producing raw materials. The agricultural subsidies in advanced countries reduce prices of agricultural commodities, and while they improve the well-being of a few thousand rich Western farmers and agricultural corporations, they move millions of those in Africa and India into deeper poverty. Trade agreements have kept generic drugs off the market, reducing access to life saving medicines across the developing world.

For years, the Washington Consensus policies, particularly the structural adjustment policies, imposed on Africa and other poor countries by the World Bank and the IMF as a condition for their assistance, impoverished these countries.¹⁴ These policies led to a quarter century of stagnation and the deindustrialization of these countries. Fortunately, there have in recent years been major reforms, which have reduced the extent to which these oppressive policies have been imposed.

There are other forces reinforcing these trends. Climate change, in particular, has had its most devastating effects on poor countries, and on the poorest people in those countries.

¹³ See, for instance, Dasgupta, Partha, 2005, “The Economics of Social Capital”, *Economic Record*, Vol. 81, Issue Supplement S1, pp. S2-S21; and Dasgupta, Partha, 2012, “Dark Matters: Exploitation as Cooperation”, *Journal of Theoretical Biology*, 299, pp. 180-187.

¹⁴ I describe this extensively in my book *Globalization and its Discontents*, W.W. Norton, 2002.

5. Remedies

The policies to “undo” the adverse dynamics of inequality follow much from the analysis of the source. We need to rewrite the rules of the market economy, once again, doing a better job in curbing market power, exclusion, and discrimination; ensuring that there is less intergenerational transmission of advantage – including less intergenerational transmission of human and financial capital – in part by improving public education (including pre-school and access to tertiary education), introducing stronger inheritance taxes and more progressive income taxes.

Some of the observed inequality in today’s society arises from those whose human capital and undiversified financial capital has been hit by a shock, that is, who have been living in places and working in jobs in industries where there has been a marked decrease in demand – as steelworkers in the Midwest lose the jobs, they also see the value of their main asset, their home, plummet. There is no insurance provided by the market against these risks. There is a need for social protection – to help these individuals move to other places and to other jobs; and to help them manage with the lower incomes they are likely to have whether they get a job or not. Over the past century, systems of social protection (e.g. for aging and for health care) have improved enormously, even withstanding, in most places, the attacks that have been leveled against them in some places. Though we have unemployment insurance systems designed to address temporary unemployment, we do not really have a system of social protection adequate to respond to the rapid dynamics that mark the 21st century economy.

It is no accident that we have the system we have, with the rules that it has. Special interests like it that way. I may have exaggerated a bit when I said the US had a government of the one per cent, for the one percent, and by the one percent, or when I suggested that we had moved from a democracy with one person, one vote, to one with one dollar, one vote. But it is clear that some of the policies that have been pursued have been strongly disadvantageous to the economy as a whole and simultaneously have created more inequality: there have been only a few winners. In other cases, there may be slight increases in national income, but these are overwhelmed by the distributive effect, raising questions about the desirability of the policy – at least in the absence of adequate systems of social protection.

Globalization illustrates. The overall gains to the economy have been exaggerated. The last trade agreement (rejected by President Trump), the Transpacific Partnership, TPP, heralded as the largest trade agreement ever,

was nonetheless estimated by the government to have a net effect on GDP after it was fully implemented of .15%; other studies suggested that that was an exaggeration, and the impacts on GDP were smaller. Yet, it reduced access to generic medicines, had provisions which threatened regulations to protect health, the environment, safety, working conditions, and even economic stability, and (at least in the views of some) even put at a disadvantage small innovators. More generally, trade agreements have weakened the bargaining power of workers. Even in standard competitive models, opening up of trade reduces wages of unskilled workers, but in more realistic models where firms have market power, the effects are even greater.

The economic and political dynamics of the system work in ways to perpetuate and increase this inequality – unless something intervenes. Economic inequality gives rise to political inequality, especially so in political systems, like the US, where money matters. Political inequality is then used to rewrite the rules in ways which gives rise to more economic inequality, in a vicious circle. There is momentum to these adverse dynamics – unless something happens to reverse these trends.

If change to these disturbing dynamics comes, it will come through our political system, but I suspect only after there is greater awareness of what has been happening, an awareness that the extremes of inequality are neither economically nor morally justifiable. The Church should be the defender of the poor and the voiceless. It will be important for its voice now be heard, as clearly and forcefully as it made its voice heard in the protection of our environment for the benefit of future generations.