

INCOME INEQUALITY: PIKETTY AND THE NEO-MARXIST REVIVAL

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Karl Marx formulated his ideas in the middle of the 19th century when much of Europe, particularly England, was well along in what is often referred to as the Industrial Revolution. The central Marxist idea was that those who had wealth would reap the benefit of this revolution and become ever more wealthy while those who lived from their labor alone would be relegated to a bare subsistence. In his view, capital accumulation and increases in productivity do not benefit those who work for a living. Allegedly, those who own the means of production (wealth) and supposedly perform no work, receive all of the benefits.

It has, of course, long been obvious that this idea is false. Marx apparently did not understand that as capital and wealth increase and innovations occur, workers become more productive, and firms have an incentive to offer higher wages so as to compete away workers from rival firms. Thus, far from being antagonistic to the interests of workers, innovations and the accumulation of wealth (regardless of who owns that wealth) increase the demand for labor, raise real wages, and are a boon to workers. Those effects, although not recognized by Marx, are standard features of all introductory textbooks in economics.

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The Marxist view that increases in wealth accumulation, productivity, and economic growth benefit only the owners of capital has been and should be resoundingly rejected given the enormous increase in the incomes of workers in advanced countries over the past two centuries. Such facts cannot be ignored.

Nevertheless, the last few years have witnessed an upsurge in populist rhetoric espousing the view that the economic system is somehow rigged to benefit the wealthy at the expense of the general citizenry and that the resulting income inequality is an urgent issue. These populist arguments have been a key characteristic of political movements in many parts of the world and doubtless an important explanation for economic stagnation or disintegration where those movements have been able to implement their policies. Yet, despite this long and dismal record of failure, similar views appear to be gaining traction in the United States. The “top 1 percent” has become a common pejorative in social media.

U.S. politicians talk about business owners not being responsible for their own success. Even columnists in the *Wall Street Journal* write about how workers are not keeping up with increases in productivity (implying, of course, that wealth holders are more than keeping up).

A recent addition to the populist upsurge, Thomas Piketty’s *Capital in the Twenty First Century*, is headed to be one of the all-time best-selling books in the field of economics. Members of the populist community who have rushed to purchase a copy apparently regard the book as confirmation of their world view. Reduced to its essence, the Piketty argument is that a free market economy systematically favors the wealthy by causing the share of national income accruing to wealth holders to increase over time. To counteract this alleged tendency, Piketty proposes punitive taxes targeted at those with high incomes and wealth. As an important intellectual rationale for the modern populist cause, the book’s core conclusions and arguments deserve close scrutiny.¹

Well, is the system rigged in favor of the wealthy at the expense of the general public? The short answer is no, not even close. To show why, let us examine the Piketty argument in more detail. Although

¹The Piketty book also includes an analysis of income distribution based on tax return data that appear to show rising inequality. The deficiencies in these data have been adequately addressed elsewhere by Reynolds (2014) and Feldstein (2014).

the book is quite lengthy, its main points are succinctly summarized in the author's concluding chapter (Piketty 2014: 571) where he states the following:

- The principal destabilizing force has to do with the fact that the private rate of return on capital, r , can be significantly higher for long periods of time than the rate of growth of income and output, g .
- The inequality $r > g$ implies that wealth accumulated in the past grows more rapidly than output and wages. This inequality expresses a fundamental logical contradiction. The entrepreneur inevitably tends to become a rentier, more and more dominant over those who own nothing but their labor. Once constituted, capital reproduces itself faster than output increases. The past devours the future.
- The consequences for the long-term dynamics of wealth distribution are potentially terrifying, especially when one adds that the rate of return on capital varies directly with the size of the initial stake.

Well, there you have it. According to Piketty, Marx was right after all.² The free market is rigged in favor of the wealthy, and the future of a system of free and voluntary cooperation, is “terrifying.” But is Piketty right? Let us answer this question by first examining the logical basis for his $r > g$ inequality. We can then examine the empirical

²Many readers of Piketty will interpret his book as an attempt to rehabilitate the basic ideas of Marx. He surprisingly credits Marx with proposing “the first scientific analysis of capitalism and its collapse,” concluding that “economists today would do well to take inspiration from his example” (Piketty 2014: 9–10). On pages 227–28, he argues that Marx’s view that wages could not increase under capitalism was understandable because when he formulated his theories he did not have sufficient evidence of productivity increases. But Piketty is clearly wrong on this point. Marx was fully aware of the enormous advances in productivity that were taking place in the 19th century. In fact, such recognition plays a central role in his early writings such as *The Communist Manifesto* (1848) as well as his later writings such as *Das Kapital* (1867). *The Communist Manifesto* (p. 10), for example, states “the bourgeoisie, during its rule of scarce one hundred years, has created more massive and more colossal productive forces than have all preceding generations together.” While showering all of this praise and absolution on Marx, Piketty (p. 5) refers fleetingly to Adam Smith as having “political prejudices.” Smith, of course, probably contributed more to our current knowledge of economics than any other person. His ideas concerning scientific economics are at the core of modern textbooks. Marx’s ideas are long discarded. For a discussion of Marxist influence in the Piketty book, see Goldberg (2014).

evidence for r and g . Following Piketty, this article defines r and g in real terms net of inflation. Thus r is the rate of return on capital or wealth over and above the rate of inflation, and g is the rate of growth in national income or output over and above the rate of inflation.

The Fallacy of Piketty's Basic Proposition

Piketty argues that $r > g$ implies that the typical passive owner of capital (what he calls the rentier) will claim over time an ever increasing share of income and output. But this inequality is false; it implies no such thing. It is easy enough to see why. Piketty apparently believes that $r > g$ necessarily indicates that wealth is growing faster than output, and therefore an increasing share of national income is going to the owners of capital. But this will only be true if r does indeed measure the rate of growth of capital or wealth. Piketty's r , however, does not measure the rate of growth of capital or wealth because it does not take into account subtractions from wealth such as (1) investment expenses, (2) taxes paid on investment income, (3) personal consumption out of that income, or (4) contributions to charity. No matter how large r may be relative to g , if all of r is taxed, consumed or donated to philanthropic causes, there can be no growth in wealth due to investment income, and hence the outcome that "terrifies" Piketty cannot come to pass. The correct condition for an expanding share of income going to the owners of capital (at least as a first approximation) is the following:

$$r - e - t - c - d > g,$$

where r is the real rate of return on wealth net of inflation, e is the rate of investment expenses as a percent of wealth, t is the tax rate as a percentage of wealth, c is the personal consumption rate as a percentage of wealth, and d is the rate of donations and charitable giving as a percentage of wealth. The left-hand side of the inequality represents the percentage of wealth that can be reinvested each year after accounting for that portion of the investment income stream that is diverted for expenses, taxes, consumption, and donations.

It is clear that Piketty's inequality condition is false except in the limiting case where expenses, taxes, personal consumption, and donations are zero. This does not, of course, mean that the typical rentier is not able to expand his share of national income over time if the values of r , e , t , c , d , and g are such that the corrected inequality

holds. To resolve this issue, we need to examine evidence regarding the likely values for these six parameters. To do so, this article focuses on U.S. data.³

Can Rentier Income and Wealth Grow Faster than the Economy?

A few examples will illustrate why the corrected inequality is far less scary than what Piketty imagined and why it is extremely unlikely that the typical wealth holder can grow his income and wealth faster than the overall economy. Over the past 50 years or so U.S. Treasury bills, the asset often referred to in the financial literature as the risk-free asset, have yielded an average annual nominal return of a little less than 5.5 percent according to U.S. government data. With an average inflation rate of about 4 percent over this period, the real, after-inflation rate of return on Treasury bills was about 1.5 percent.⁴ Income taxes are, of course, assessed on nominal, not real, returns. The combined state, local, and federal tax rate on income from these very safe investments would likely have averaged close to 50 percent over this period for wealthy individuals. Thus, the applicable tax rate *as a percentage of wealth* would have been close to 2.75 percent (half of the nominal return of 5.5 percent), indicating a real after-tax return of minus 1.25 percent per year (1.5 percent less 2.75 percent). On Treasury bills, expenses (e) would be negligible. We have no readily available estimate for what is a likely value for personal consumption (c) and donations (d), but in this example it makes no difference. Even if wealthy individuals spend nothing on personal expenditures or donations, the rate of growth of wealth is decisively negative because the tax more than consumes any real income, particularly if we add in state and federal inheritance taxes. So much for the rentier growing ever richer over time without taking on any risk.

³Piketty's book includes material from a wide range of countries and over a long period of time. The extensive destruction of European wealth in the two great wars, however, makes much of this material misleading and of questionable relevance. He also spends much of the book discussing 19th century data, which, although interesting, are similarly deficient. On balance, U.S. postwar data are likely to be more informative, more relevant, and more reliable in studying the behavior of an advanced liberal market system under normal conditions.

⁴*Economic Report of the President, 2011*, provides Treasury bill rates in Table B-73 and the consumer price index in Table B-60.

Of course very wealthy families are not likely to place the bulk of their investments in risk-free assets, so let us take an example at the opposite end of the risk spectrum. A portfolio invested 100 percent in U.S. common stocks, according to the best available evidence, would have produced a long-run average return of about 7 percent per year over the rate of inflation.⁵ Needless to say, the long run was liberally sprinkled with lengthy periods of zero and negative returns. Piketty's wealthy rentier, even if he had resisted the urge to sell during these periods, would nevertheless have had a difficult time achieving this average return because it does not account for the costs of brokerage, bid-and-ask spreads, and management. A net real return of 6 percent per year may be more realistic. State, local, and federal income taxes, not to mention estate taxes, would likely take a third to a half of this net return depending on such factors as the mix of capital gain income versus dividend income and the residency of the wealth holder. If t is, say, 2 percent of wealth (one-third of the 6 percent real return), then the wealth holder would receive a real return of about 4 percent without accounting for expenditures on personal consumption, charity, or other donations.

How likely is it that our risk-taking rentier earning a 4 percent after-tax rate of return will actually be able to grow assets faster than the rate of growth of the economy? Well, that depends on how fast national income is growing, in other words, the value of g . Here we have very good historical data. The average real, after-inflation, rate of growth in U.S. GDP over the past half century, 1960 to 2010, was 3.1 percent per year based on the official U.S. national income accounts.⁶ Thus, had our typical wealth holder invested 100 percent in the riskiest asset class and consumed nothing out of earnings, not for personal consumption or donations, he could have increased his holdings as a share of total income by slightly less than 1 percent per year—up until death, when the state and federal estate taxes are levied. Even in this extreme example, it is quite unlikely that the

⁵Jeremy Siegel's estimates of long-run returns to U.S. common stocks are widely regarded as the best available. He finds the average, pre-tax, real return from 1913 to 1997 to be 6.7 percent per year. He also provides average rates of return for various subperiods (Siegel 1998: 118).

⁶*Economic Report of the President 2008 and 2011*, Table B-2.

typical wealth holder would experience a rising share of national income. Over time, therefore, his relative wealth and income position would be falling.

Piketty himself estimates that the average real return on wealth after taking into account all asset classes and some of the investment expenses is typically in the 3 to 4 percent per year range (Piketty 2014: 206). This appears consistent with reported data in the financial literature. If we take the mid-point of this range, 3.5 percent, add a conservative inflation factor of 2 percent per year, then the nominal investment income would be about 5.5 percent per year. An average U.S. state, local, and federal tax rate for wealthy individuals with a mixture of assets would likely be 30 percent or so on investment income, which reduces the 3.5 percent real return on wealth to a maximum of about 2 percent per year after taxes. Assuming zero spending for personal consumption or charity, we would therefore expect wealth to grow at about 2 percent per year. Since 2 percent per year in the growth of wealth is less than the long-term average growth in national income (3 percent per year), the typical wealth holder, using Piketty's own estimate of r , would find his relative position falling behind the growth in the economy by 1 percent per year even if he spent nothing on personal consumption or charity and even if he never had to pay estate taxes.⁷ Despite Piketty's expectations to the contrary, these numerical examples are quite robust. It is virtually inconceivable that Piketty's typical rentier can grow his net worth faster than the general expansion of the economy.

The foregoing analysis may be surprising to much of the intellectual and political class, but it will come as no shock to Americans (or citizens of other advanced countries) who have retired from active work and are trying to maintain the purchasing power of their accumulated savings, nor will it come as a shock to professional money managers or scholars who routinely study financial markets. But for some reason, Piketty chose not to examine this readily available and absolutely essential source of information.

⁷If future growth rates turn out to be less than 3.1 percent, it is possible that rates of return will also fall below historical rates, thereby offsetting any tendency for rising inequality.

The Share of National Income Flowing to Wealth Holders

If there is indeed a populist law of capitalism such that “capital reproduces itself faster than output increases,” it should also be apparent in the official national income statistics gathered by the U.S. government. Compilation of those statistics began shortly after World War II, and they provide a reasonably accurate picture of trends in income shares over the past half century. Income is reported in the following categories: (1) compensation of employees, (2) unincorporated business income, (3) rental income of persons, (4) interest income, and (5) corporate profits. The usual convention is to calculate labor’s income as the sum of compensation of employees and some fraction of the income of unincorporated business. If unincorporated business has about the same split between capital and labor as the overall economy, a 70 percent allocation to labor is appropriate. The specific percentage chosen is not critical because unincorporated business usually accounts for less than 10 percent of total national income. Rental income of persons is also likely to have a labor as well as capital component. But for simplicity we can ignore this relatively small item.

Table 1 shows the average percentages of income flowing to labor in the U.S. national income accounts by decade over the half century from 1960 up to 2010. As is readily apparent, there is no clear trend in the data. The measured share of income flowing to labor (and consequently capital’s share) has been remarkably stable. In fact, it would be difficult to find support for even a 1 percentage point

TABLE 1
LABOR’S SHARE OF U.S. NATIONAL INCOME, 1960–2009

Decade	Labor Share in National Income (%)
1960–69	69.42
1970–79	71.72
1980–89	70.66
1990–99	70.22
2000–09	70.40

SOURCE: *Economic Report of the President*, 2007 and 2013, Table B-28.

change over the last half century. While there is no reliable estimate of the potential measurement error in these statistics, it seems reasonable to suppose that a difference of one percentage point would fall far short of statistical significance.

The proposition that the split of income between capital and labor has been quite stable over time has long been an accepted fact in the macroeconomic growth literature.⁸ I cite data just for the last 50 years because that period is more likely to tell us how a liberal market economy behaves under normal circumstances and current institutional arrangements, and because the data are likely to be more reliable than older estimates.⁹ However, what evidence we do have for the period prior to 1960 also supports the notion of constant or near constant income shares. For example, Professor Paul Baran of Stanford, a well-known Marxist scholar and no enthusiast for capitalism, reviewed the pre-1960 evidence and concluded that “the relative share of aggregate income going to labor has remained generally stable (or showed merely short-term fluctuations)” (Baran 1962: 57).

U.S. data cited above indicate that capital’s share of total income is typically about 30 percent if we take it to be all of national income except for the portion attributed to labor. This figure is, however, overstated in several respects. First, the 30 percent includes corporate income taxes that do not flow to the owners of capital. Second, the 30 percent measures nominal income flows to capital, not real flows. At an inflation rate of 2 percent per year and a capital output ratio of, say four, the overstatement could possibly be as high as 8 percent of national income. Finally, a significant portion of corporate profits may in fact be labor income, properly defined. In a dynamic economy many innovations and the income flowing from

⁸Karabarbounis and Neiman (2013) analyze 1975 to 2012 data for the U.S. corporate sector (about 60 percent of the total economy) and found a downward trend in labor’s share of corporate income. Their data, however, show virtually no change between 1975 and 2000. Moreover, 1975 had a higher share than 1960. It appears, therefore, that much of the observed trend may be attributed to the choice of a beginning date and perhaps to cyclical events since 2000. These factors plus the large potential for measurement error suggest that no reliable evidence exists for a meaningful long-run trend in the U.S. corporate sector.

⁹This article uses the word “liberal” in its classical 19th century meaning: an absence of coercion, fraud, or undue government interference or favoritism. Needless to say, crony capitalism, where well-connected individuals use government coercion to enhance their wealth, is also not an acceptable feature of a liberal market system.

these innovations should not be attributed to capital investment but rather to the active work of entrepreneurs, inventors, or other creative individuals. In 2004, a young college student, Mark Zuckerberg, and a few of his friends had a brilliant idea for a social networking company. With almost no investment, they created a business (Facebook, Inc.) that achieved a 2014 market value in excess of \$175 billion. This enormous creation of wealth is not due to any appreciable amount of investment. It is in fact almost entirely due to the creative labor of a small group of entrepreneurs. Countless numbers of innovations occur every year, and their contribution to measured profits is doubtless a substantial portion of the income conventionally attributed to capital.

If all of the foregoing factors were properly assessed, the share of capital in national income might well be no more than half of the unadjusted figure from the national income accounts, 15 percent or so rather than 30 percent. The lower and more accurate percentage is perhaps less scary to populists.

Evidence from Family Histories

As noted, observed rates of return on various assets and the income flows, as measured by official U.S. government data, imply that Piketty's basic thesis is wrong. Income received by wealth holders does not have a systematic tendency to grow faster than output and to take up an ever growing share of national income. In fact, evidence on rates of return suggests that "old" capital, which Piketty refers to as rentier wealth, will diminish in importance over time while "new" capital due to innovations and savings becomes dominant. If this conclusion is true, one would expect to find that great family fortunes created by innovators would dissipate over time.¹⁰ Is this in fact the case? Yes, indeed it is.

Evidence on family wealth is naturally difficult to obtain. Recently, however, the business biweekly *Forbes Magazine* has expanded its long-standing research on wealthy individuals to include American families with a net worth in excess of one billion dollars (Kroll and Dolan 2014). The results are striking and unequivocal. The survey

¹⁰It is of course more likely that the relative value of small fortunes will be diminished over time by personal consumption and multiple heirs than large fortunes. Hence, if large fortunes tend to fall over time, it is even more likely that the totality of rentier wealth falls over time as well.

found 185 families meeting the \$1 billion threshold with a combined net worth of 1.202 trillion dollars. Of these families, sixteen have fortunes dating back to the 18th century—a reasonable sample of what we might call “old” wealth. The combined amount of current, 2014, wealth for these families is \$146 billion spread over 4,803 family members, a per capita average of \$30.3 million. To be sure these are large sums, but all of the “old” wealth combined is only a little more than 12 percent of the current total family wealth in the *Forbes* survey.

John D. Rockefeller is commonly credited as being the richest businessman of all time. His fortune is sometimes estimated to have been in the range of \$340 billion or so in today’s dollars. Yet the *Forbes* survey estimates the Rockefeller family’s current net worth to be a much reduced \$10 billion spread over 200 descendants, a decline of perhaps 97 percent in absolute terms and 99.9 percent in per capita terms. If Piketty were correct, we would expect to see much more than \$340 billion held by current members of the family, not much less.

The economic history of the Rockefeller family is not an isolated case. It is in fact the norm. Most of the large 19th century family fortunes have become so attenuated that they fail to meet the \$1 billion threshold for inclusion in the *Forbes* survey. Nowhere on that list, for example, is to be found the Vanderbilts, the Carnegies, the Morgans, or the Astors, families with initial fortunes estimated to be in the range of \$185 billion, \$310 billion, \$41.5 billion, and \$121 billion, respectively, in current dollars (Warner 2014).¹¹ The relative absence of old wealth in the *Forbes* survey is doubtless due in large part to taxes, personal consumption, and donations. Yet, the ultimate truth is that wealthy families can perpetuate their relative wealth over long periods only by producing successive generations of talented entrepreneurs who can create new wealth. But such talent is extremely rare and not easily transmitted from one generation to another. It is this scarcity of entrepreneurial talent that prohibits the creation of an aristocracy of inherited wealth in a liberal market system.

Although the family wealth data discussed above may be off by several orders of magnitude, it hardly matters. The evidence is so overwhelming that there is little doubt that Piketty’s fear of an ever growing concentration of wealth and income accruing to some rentier class is totally misplaced. What we see in the family wealth

¹¹These historical wealth figures should be taken as merely suggestive.

data is precisely what would be predicted based on the historical return data and the national income data previously discussed. All three sources of data are perfectly consistent with one another and perfectly inconsistent with Piketty.

Do Larger Wealth Holdings Earn Higher Rates of Return?

There is one final aspect of Piketty's thesis that begs attention. In several passages from his book, including the summary statement quoted above, he states that relatively large wealth holders are able to achieve higher rates of return on investments than relatively small wealth holders, such that over time the inequality due to wealth has a tendency to accelerate. One can imagine that this proposition will be readily accepted in the populist community. But is it true? The answer is an unequivocal "no," as should be apparent to anyone with a slight knowledge of the financial literature.

Piketty was apparently led astray on this issue by examining the returns for U.S. college endowments between 1980 and 2010. He found that Harvard, Yale, and Princeton, with very large endowments, reported higher average rates of return than colleges with much smaller endowments. As a result, he concluded that larger pools of capital have higher rates of return than smaller pools of capital as a general proposition. But the experience of college endowments over this period is hardly representative. It is well known that the larger Ivy League colleges were among the first to put sizeable allocations of assets into riskier, higher-yielding nontraditional investments, whereas most colleges continued with conservative investment strategies. This shift was very fortuitous because it came at the beginning of a sharp recovery in the prices of risky assets. Moreover, colleges with large endowments and a long-term investment horizon can afford to place a higher percentage of their endowment in risky, higher-yielding assets, whereas many colleges with smaller endowments have higher proportions in pools with a comparatively short time horizon. Much of this short-term money will be invested in Treasury bills, limited maturity fixed income instruments or the equivalent with correspondingly lower rates of return.

None of the experience with university endowments lends credibility to Piketty's argument that the larger the pool of wealth the higher the rate of return. His argument will, in fact, be a great

surprise to the professional money management community which believes just the opposite. Actively managed mutual funds that become too large are thought by that community to be at a disadvantage in achieving high returns. One of the largest pools of wealth is managed by Warren Buffett for his holding company Berkshire Hathaway. He often states that Berkshire's size has become a limiting factor for future returns.

Professional money managers, to be sure, have an incentive to convince the public that their fees are justified by market-beating performance. The "diseconomies of scale" argument fits this narrative because it implies that a talented money manager can achieve above-average returns until the investment pool becomes too large. A voluminous literature regarding financial markets tells a different story; significant economies or diseconomies of scale do not appear in actual market data. This finding is of course a corollary of the efficient markets hypothesis, whose basic message has been verified thousands of times by many different researchers.¹² In 2012, Eugene Fama, the economist who has possibly contributed most to this hypothesis, received the Nobel Prize in economics precisely for his work demonstrating its validity.

Over the past half century, much has been written about the efficient markets hypothesis.¹³ Curiously, however, little note has been given to what I believe is its most profound insight, at least with regard to political economy. That insight is nothing less than the demonstration that financial markets are profoundly egalitarian; large wealth holders have no advantage over small wealth holders. One might find this fact surprising since wealthier investors might be more likely to hire professional money managers who can achieve above average rates of return, but the empirical evidence indicates otherwise. On average, professional management adds little or nothing to investment performance. The fact that passive, unmanaged

¹²Short selling in the market is usually thought to be the domain of the most sophisticated professional investors, perhaps those with special knowledge about individual companies. However, an early examination of short-selling data showed that the efficient markets thesis held up exceptionally well even under this challenging test. Portfolios held by actual short sellers were unable to outperform randomly chosen short portfolios (Mayor 1968). Hundreds of studies with similar findings may be found in the scholarly literature.

¹³A good commonsense explanation of the hypothesis may be found in Burton Malkiel's early book on the subject (1973) or his updated review article (2003).

index funds with low expenses tend to outperform managed funds is testament to the power of this democratic principle.

One final, but important point should be added. Simple economics tells us that economies of scale in the management of pools of capital are virtually impossible in a functioning market economy. Why is this the case? Suppose it were true, counterfactually, that large pools of wealth systematically earn higher returns than small pools of wealth. If so, profit-seeking entrepreneurs would have a powerful incentive to aggregate small pools into large pools so that owners of small pools could receive the same benefits of scale and rates of return as owners of large pools; this is, of course, Adam Smith's "invisible hand" at work. Mutual funds and similar financial instruments would be able to accomplish this task. It is hard to understand how a trained economist such as Piketty could overlook this simple, fundamental principle of market economics.¹⁴

Is Wealth Inequality Such a Bad Thing?

Piketty and Marx are clearly wrong; liberal market capitalism has no tendency for an increasing concentration of wealth. But even if such concentration were to occur, would it be such a bad thing? The current generation of populist politicians and their intellectual supporters certainly think so. They must also think that their opinion is

¹⁴Piketty has an additional view which is at odds with the economics literature. He believes that high rates of capital accumulation have only a small tendency to lower the average rate of return on wealth due to a high value for what economists call the elasticity of substitution between capital and labor (Piketty 2014: 216). He argues that the elasticity has a value in the range of 1.3 to 1.6, which implies that a rapidly growing stock of capital will lead to a higher share of output accruing to capital. A value of 1.0 produces constant shares because the larger amount of capital is exactly offset by a reduced rate of return. A value less than one actually implies that the share of output going to capital will fall with rapid capital accumulation. He cites no literature to justify his unusual opinion, nor does he provide any analysis of his own. A number of economists examined this issue many years ago. The general conclusion seems to have been that the elasticity was likely to be less than one. For example, see (McKinnon 1962), (Solow 1964), (Lucas 1964) and (Mayor 1971). Recently, a study using more advanced statistical techniques found the U.S. elasticity to be 0.5 or possibly even less (Antras 2004). Another recent study in the *American Economic Review* found little evidence for values of one or greater after examining the available literature (Leon-Ledesma, McAdam, and Willman 2010). Some early studies based on cross-section data found values closer to one, but they should not be given much weight owing to endemic specification problems (Mayor 1969).

so self-evident that no supporting proof is required. Piketty, for example, devotes 685 pages to the “terrifying” prospect of inexorably growing inequality, but nowhere is to be found any explanation for why it is so abhorrent that some people have more wealth than others. Within elite intellectual circles, the desirability of income and wealth equality is so widely held that it probably never occurs to members of this circle that a thoughtful, rational defense of their views might be appropriate. That’s too bad, because even a modest understanding of economics might cause them to reexamine their opinions.

What is the root cause of this antipathy toward wealth? Certainly one explanation is the thoughtless tendency to view the economy as containing a fixed amount of wealth or income. In this perception, economics becomes what game theorists call a zero sum game. The rich can only become richer at the expense of the poor, and the poor can only get ahead by taking from the rich. The casual reader of Piketty’s book would probably come away with this impression, although nowhere is it explicitly espoused. The most basic principle of economics, however, is that, voluntary transactions must *necessarily* benefit all participating parties in a liberal market economy in the absence of coercion or fraud. Otherwise no transactions would take place. The only way one person can become rich, therefore, is by making other people better off than they otherwise would have been.

J. K. Rowling had been a school teacher before she published her series of books on Harry Potter. Her current net worth is popularly estimated to be in excess of one billion dollars based on book sales, a series of movies, and other derivatives. Book sales alone have been estimated to have been 450 million as early as 2011. Purchasers of her books were not coerced into buying them, so we can safely assume that they valued their copies at something above the purchase price. Suppose, in order to provide a concrete example, the average book sold for \$20, the average royalty to Ms. Rowling was \$3, and the average purchaser would have paid \$30 rather than go without the book.¹⁵ In this case Ms. Rowling’s pre-tax wealth would have gone up by \$1.35 billion dollars (assuming 450 million books

¹⁵This is of course an application of standard welfare analysis. The value of a good to any consumer is what that consumer would be willing to pay rather than do without. The benefit a consumer receives from a purchase is that value less the actual purchase price, what is referred to as “consumer surplus.” As an aside, this fan would have paid at least \$50 for each of his copies.

sold \times \$3 per book). But her fans would have gained even more in this example, \$4.5 billion, to be exact (450 million books purchased \times \$10 per book). And the story does not end there. Many of the 450 million books that were sold will be read by others through loans or secondhand sales, thereby creating more benefits not captured by Ms. Rowlings.

Statistics on wealth distribution, of course, would record Ms. Rowlings's new wealth as an increase in inequality even though she created billions of dollars of unmeasured but very real benefits for other people. Now the challenge to populists and intellectual elites is to explain how we would have been better off (and less "terrified") had Ms. Rowling remained a school teacher and had her potential fans been deprived of \$4.5 billion or more in benefits.

The Rowlings story is not complete, however. Presumably, the income inequality crowd would be less terrified if Ms. Rowlings had taken all of her billion dollars of after-tax profit and spent it on personal consumption. In that case wealth inequality would not increase, and any increase in income inequality would be temporary. But this outcome would be far less beneficial for the general public. As is taught in every introductory economics class, the increase in capital brought about by saving wealth rather than by consuming it has three important impacts on the economy. National output and income increase because of the greater application of capital to production. The rate of return to capital will fall as its supply increases. And wage rates will increase as the supply of capital becomes more abundant relative to that of labor. Once again, an increase in wealth inequality brings about benefits to those who themselves have no significant wealth. Nineteenth century novels, a favorite source of data for Piketty, often depict savers as greedy, selfish misanthropes who yield no assistance to their fellow man, a viewpoint doubtless amplified in many college literature classes. Yet rational analysis tells a different story.

What can we conclude? The populists and Piketty have it backwards. A liberal market economy free of coercion or fraud provides the best outcomes for all of its citizens when inequality of wealth and income is high. The economy is not a zero sum game, and those who achieve great wealth and high incomes invariably provide even more wealth and income to their fellow citizens than to themselves. If someone is looking for a general law of liberal market capitalism, this is it. Far from being terrified, we should all hope for future increases in inequality.

Income Inequality: Is It All about Envy?

If rising populism and neo-Marxist ideology are solely due to viewing economic activity as a fixed pie where one person's slice comes at the expense of another person's slice, then there is hope for a rational future. As demonstrated above, only a modest amount of economic analysis and basic intelligence is required to dispel such a view. I am quite hopeful that this is the case for most ordinary Americans. I am less hopeful about many of our intellectual elites. Some may well prefer a future where there are more poor people as long as there are fewer rich people. This sort of value judgment is not easily met with rational argument. It may be deeply rooted in the psychology of envy and resentment. And, to be sure, these feelings may be cloaked with moral rationales and faulty economics.

Even the most envious persons among us, however, may be inclined to mute their view if they would only realize how little innovators and creators receive from the wealth they generate. In the J. K. Rowling example given above, it is likely that her lifetime personal compensation will end up being less than one-tenth of the wealth she creates. Yet her contribution is significantly shielded from erosion by copyrights which make the payment of royalties obligatory for a long span of time (assuming of course that the copyrights can be enforced). Relatively few innovations have copyright protection regardless of how effective that protection might be. Patents on new drugs and inventions can provide relief from competition for a dozen years or so. But most innovations cannot be protected at all. The experience of George P. Mitchell illustrates the point.

Mitchell, the son of Greek immigrants, died in 2013 after a lifetime of work as an independent oil and gas producer. His self-made fortune was estimated to be in the range of \$2 billion. But he gave away hundreds of millions of dollars to civic and charitable causes during his lifetime. He also spent millions of dollars of his own money trying to figure out how to free oil and gas from shale formations when virtually everyone else had given up on the quest. In 1998, at age 89, his company finally achieved the breakthrough which led to the current surge in U.S. oil and gas production. The increase in U.S. wealth due to this breakthrough will doubtless be far in excess of a trillion dollars. Since most shale resources are outside the United States, the ultimate benefit to the world will likely be many multiples higher. After spending millions of dollars looking for the right formula, Mitchell himself

and his team of engineers received very little in return. He built the business, but other people received the benefits.

The Mitchell experience is not unique. The creators of the modern world have typically received a vanishingly small amount of the wealth they have created. The extent to which this is true will shock most people. Yet with little effort it can be demonstrated. The best available information on per capita income was developed at the Organization for Economic Cooperation and Development. According to that study, annual per capita real income in Western Europe grew from \$400 to \$19,256 over the 2,000 year period, 1–2001 AD, about a 48-fold increase (Maddison 2003: 262). The use of more recent data from the United States suggests about a 65-fold increase. But two important factors are left out. Average work weeks have shown a substantial decrease over time and national income statistics are highly deficient in measuring quality changes, especially with regard to health and technology. It certainly is reasonable to suppose that for the most advanced countries a 100-fold increase in average living standards has occurred over recorded history, with almost all of this increase in the past two or three centuries.

Experience tells us that this incredible growth in productivity was due to a relatively small number of innovators and creators. All workers contribute to current production and living standards, but few workers are responsible for innovations that permanently raise output and income per capita. There are, to be sure, no reliable statistics on how these innovations came about or as to who made them. Perhaps no more than 1 percent of the population has contributed significantly to permanent increases in per capita output. If so, it follows that 1 percent is responsible for 99 percent of our current standard of living. As Churchill would say, never have so many owed so much to so few. Demonizing those few seems to be the practice *de jour* in some quarters, a sure recipe for sabotaging the engine of human progress. History demonstrates that societies that respect individual achievement always produce the best results for all its citizens. This is the central law of political economy.

Conclusion

Fifty years ago there was broad consensus in the United States that programs to elevate the skills and earnings of the least successful members of society were necessary and appropriate. Differences

of opinion naturally existed as to how this should be accomplished, but the desirability of achieving successful outcomes for the poor was never questioned. Also absent from that debate was any angry rhetoric about the high incomes and wealth of the most successful members of society. Indeed, the slogan of the day was “the war on poverty,” not “income inequality.” Broadly accepted was the idea that society’s least successful members should be elevated, not that society’s most successful members should be punished.

Today’s dialogue is far different. The current policy agenda of populist politicians and their elite intellectual supporters is almost entirely directed at leveling instead of elevating. The main road blocks to success for America’s least advantaged citizens are never mentioned much less dealt with. Today’s populists, in fact, favor high energy taxes and burdensome regulations that cause very large percentage reductions in the real incomes of poor people and proportionately small impacts on the well-to-do. They favor the status quo in education, rather than meaningful reforms to give parents the power to force competition and accountability, even though education is one of the surest routes to economic success. They favor minimum wage laws that tell employers it is illegal to hire workers whose productivity falls below a certain level, thereby adding to an already disgraceful unemployment rate among disadvantaged youth. But of course employers are free to give jobs, training, and skills to young “interns” from the middle and upper classes (who need no current income), thereby providing them with a boost toward a successful career. Instead of conducting a war on poverty, our current populists and their intellectual enablers are conducting a war on poor people.

But perhaps the worst aspect of the current populist movement is its attack on the very foundations of modern civilization. Everything we have learned from human history since leaving our hunter gatherer heritage is that civilization makes the most progress when it nurtures and honors individual human achievement. This is the first and most important law of political economy.¹⁶ The enormous improvement in living standards, health, and quality of life is due to the achievements of a relatively small number of talented individuals.

¹⁶Economists have increasingly recognized that successful societies have institutions that allow creators the freedom to achieve and to receive the rewards from that achievement. Failed societies do not. Acemoglu and Robinson (2012) and North (1981), for example, provide convincing arguments for this proposition.

Perhaps 99 percent of our current standard of living can be attributed to 1 percent or so of our fellow humans. That 1 percent has given us staggering benefits while reaping very little in return. Yet, how many times has one heard the phrase that high achievers have an obligation “to give back to the community?” Those who utter this phrase, regardless of their intent, further the cause of economic illiteracy.¹⁷ Highly successful people who have accumulated wealth honestly through their business have doubtless given far more to others in the course of that business than they will ever take for themselves or give to charity.

An ever present danger to civilization is that the general public, with calculated encouragement by populist politicians and their elite intellectual supporters, will fail to realize the extent to which their well-being, and especially its improvement, depends on the success of a relatively small number of their fellow citizens. In fact, popular sentiment may be encouraged to destroy unknowingly the basis for that well-being.

The recent book by Thomas Piketty is especially disheartening in this regard. It will be interpreted by the general reader as an invitation to attack achievers and wealth creators. And it will have undeserved credibility given to it by those who advocate its destructive message. All of the basic ideas in that book are false. “Wealth accumulated in the past” does not have a propensity to grow faster than output and wages. It has not in the past, and it will likely not in the future. Nor does the income from that wealth have a tendency to rise faster than the wages of ordinary citizens. It has not in the past, and it will likely not in the future. Families of high achievement can only maintain their relative wealth position in society by nurturing descendants of similar achievements. But this cannot be the norm because exceptional talent is obviously, well, exceptional. Finally, rates of return on large pools of wealth are not higher than rates on smaller pools of wealth, and they will not be in the future. There is accordingly no reason for Piketty or anyone else to be “terrified” that all of the world’s wealth will end up in the hands of a few rentiers.

¹⁷Charity is universally regarded as a good thing if freely given and freely accepted, but implying that successful people achieved their wealth at the expense of others and therefore need to make amends by giving it away is a socially destructive myth. The phrase “give back to the community” delegitimizes wealth creation and conditions the thoughtless into supporting policies that undermine their own well-being. Educated citizens should shun its use.

Perhaps more telling is what does not appear in Piketty's book. At no point does he tell us that wealth creation benefits the general public, that the creators of that wealth receive only a small fraction of the benefits they convey to the general public, or that a greater degree of wealth inequality in a liberal market economy free of coercion or fraud is in fact a sign that greater benefits are being produced for the general public by those creators. A world without wealth and income inequality is in fact a world of universal poverty.

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