ENSURING A SOUND MACROECONOMIC FOUNDATION

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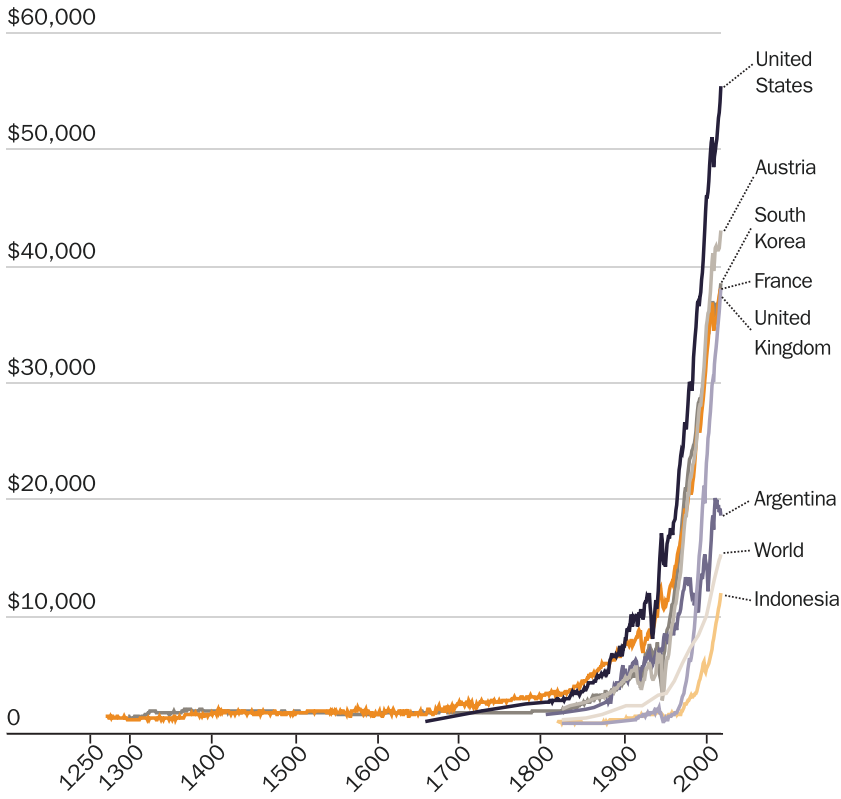
THE ISSUE: ECONOMIC GROWTH GENERATES BROAD-BASED PROSPERITY FOR ALL AMERICAN WORKERS

Since the late 18th century, the world has experienced massive economic growth.[1] Despite dire predictions that explosive population growth would impoverish the human species, real gross domestic product per capita (RGDPpc) has skyrocketed alongside population, albeit unevenly. Before that, living standards were mostly stagnant worldwide.[2] Economists call this unprecedented phenomenon—shown in Figure 1—the "hockey stick" of human prosperity.

FIGURE 1 Real GDP per capita has skyrocketed worldwide since the 19th century



Source: "GDP Per Capita, 1 to 2018," Our World in Data, https://ourworldindata.org/grapher/maddison-data-gdp-per-capita-in-2011us-single-benchmark?country=IDN~ARG~KOR~FRA~GBR~AUT~USA~OWID_WRL.

But what does economic growth mean, and why should a "pro-worker" agenda focus on it? Real GDP measures the inflation-adjusted value of final goods and services produced in a given period. Since many things that people (and thus, workers) need and care about have a monetary value—food, clothing, health care, housing, travel, concert tickets, etc.—RGDPpc is a good proxy for standards of living. Fundamentally, RGDPpc growth measures how much more stuff we produce per person.

Problems with GDP measurement are well-known. GDP ignores illegal or non-monetary transactions, like selling drugs or cooking dinner at home. Government services have no market prices, so they are tallied by their costs, which might be higher or lower than society's willingness to pay for them. Adjusting for the ever-changing quality of goods and services is hard; sometimes a product gets more expensive, but also much better—in some cases, a product can get better *and* cheaper. A different limitation is that GDP rarely accounts for production of "bads," such as pollution or greenhouse gas emissions; in principle these should be subtracted from GDP, but measuring and valuing them is challenging. And GDP does not account for changes in leisure time, which also affect material well-being. In the 19th century, the average American laborer worked around 70 hours a week.[3] Currently, American workers toil less than half that amount—for a total of 1,791 hours a year, or 34.4 hours weekly.[4]

Nevertheless, RGDPpc is a useful measure. It is widely available, and approximate estimates go far back in time, allowing for comparisons across countries and over centuries. It also correlates with many nonmaterial things we care deeply about, such as life expectancy, education, child mortality, happiness, and more.[5]

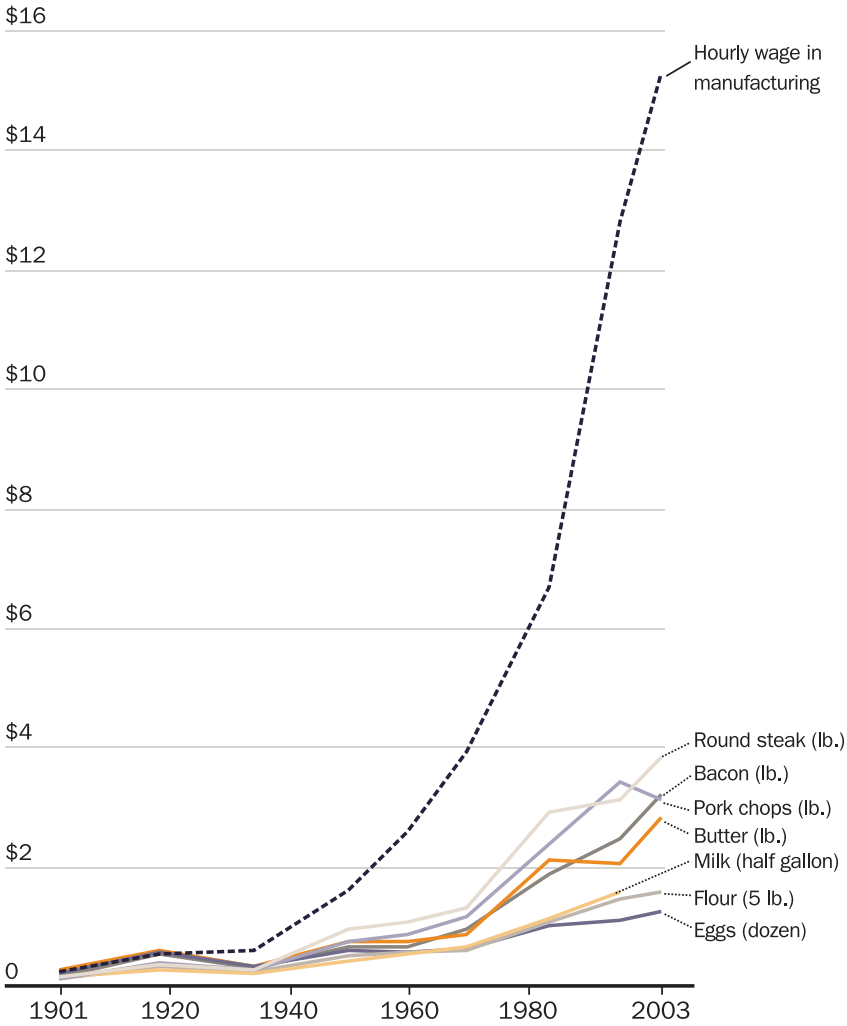
Finally, RGDPpc gains have coincided with incredible increases in material well-being. Economists bypass problems with measures of standard of living across long time frames by looking at the real cost—often in labor-hours—of producing a constant-quality good. Nordhaus (1996), for example, looked at the cost of lighting (measured in lumens) across the centuries and finds that, roughly, "an hour's work today will buy 300,000 times as much illumination as could be bought in early Babylonia."[6] Similarly, Nordhaus found that the cost of computations, like adding or subtracting, has fallen by a factor of 73 trillion (7.3×10^{13}) relative to manual calculations, from 1850 through 2006.[7] This and other work suggest that trying to gauge costs by looking at adjusted prices usually understates, by orders of magnitude, how much the real costs of goods have fallen—and thus how real standards of living have increased—over the last two centuries of skyrocketing RGDPpc growth.

Establishing that economic growth reliably indicates better living standards and that RGDPpc has soared, however, is not enough to show that the average *worker* has benefited. RGDPpc says nothing about the distribution of incomes between or within countries; economic growth might accrue mainly to the richest, even as RGDPpc grows. Fortunately, this is not the case. Empirically, growth

is good for the poor: incomes in the bottom quintile rise proportionally with average incomes. Furthermore, global inequality has been falling in the last several decades.[8] As shown in Figure 2, U.S. hourly manufacturing wage growth has far outpaced food price growth throughout the 20th century.

We can therefore safely assume that a rising RGDPpc tide will indeed lift all boats.

FIGURE 2 Manufacturing wage growth has outpaced food price growth in the United States



Source: "Wages in Manufacturing vs. Several Food Prices, USA, 1901 to 2003," Our World in Data, https://ourworldindata.org/grapher/wages-in-the-manufacturing-sector-vs-several-food-pricesusa.

THE POLICY SOLUTION: PRODUCTIVITY, NOT REDISTRIBUTION, IS KEY

We have seen that the world has witnessed incredible economic growth, and workers have undeniably benefited from it. What are the proximate causes of this unprecedented prosperity? Economic historians mainly point to the Industrial Revolution, but we are interested in how that period resulted in growth and income gains. In short, the answer lies in productivity, with technological change (new machines and tools, for example) and division of labor as its main drivers.

Nobel laureate Paul Krugman famously said that "productivity isn't everything, but, in the long run, it is almost everything." Productivity is the ability to produce more output with a given set of inputs. Exceptionally productive workers produce more per period than their counterparts, usually due to a combination of superior ability, experience, or effort. Economists often use the terms "productivity" or "technology" interchangeably to explain the output variation between firms and across time that is not accounted for by measurable inputs, such as labor-hours and physical capital (e.g., industrial robots).

Labor productivity is more narrowly defined as the real output produced by an hour of work. Growth in RGDPpc can *always* be traced back to labor productivity, since sustained economic growth cannot merely arise from adding more hours of labor per capita—one can only work so many hours a day.

Several factors can drive labor productivity. First, higher productivity comes from capital accumulation. More tools, machines, and facilities increase worker hourly output. Second, the division of labor and specialization further drive labor productivity. Specialization allows workers to learn their tasks faster, to become better at them, and to save time that would otherwise be spent changing between different tasks. Likewise, education and training increase labor productivity. Third, technological, scientific, and institutional progress improve the quality of capital, give birth to new management techniques, and allow for new modes of organization.

The increasing productivity of labor also explains why we should expect that at least part of the benefits from economic growth accrue to workers. From an employer's standpoint, the value of a worker comes from how much revenue that worker's extra labor-hours can produce. If labor productivity increases, the worker becomes more valuable to the employer. Of course, employers want to keep wages to a minimum, but they also want to maximize their profits. If they keep their workers' wages below their labor productivity, other employers can profitably poach those employees by offering higher wages. As firms compete for workers, we expect hourly wages to equal the productivity of adding an extra labor-hour in a competitive market.

When markets are not perfectly competitive, wages may stay below the competitive level. Yet the same principle applies: as labor productivity increases, the

demand for labor goes up since workers can produce more valuable stuff, thus driving real wages up. Even a monopolist must compete with other industries, potential entrants, or with individuals' leisure time.

For this reason, evidence shows that productivity and pay are linked, even though the correlation between compensation and labor productivity varies across time and countries.[9] As long as labor productivity continues to increase, so will real wages over time.

In the long run, by contrast, there are hard limits to what government redistribution can achieve for wages and workers. As shown in Figure 1, the United States had a RGDPpc in 1800 of $2,545 (measured in 2011 dollars; this would be equal to $3,210 in 2021). If there had been no productivity growth since 1800, everyone would get an annual check for $3,210 under a perfectly egalitarian government—assuming (incorrectly) that the government could perfectly redistribute resources with no negative impact on GDP. Yet current U.S. guidelines set the poverty threshold for a single-person household at $12,880. In other words, the whole American population would be considered poor today under perfect equality by 1800s standards of living.[10]

By contrast, that $3,210 would place an individual below the sixth percentile of the U.S. market income distribution in 2021.[11] If we consider average yearly lifetime earnings, the percentile is likely to be even lower. Most people on the bottom of the income distribution are out of work, are inexperienced, or have suffered a negative income shock and will likely improve their earnings over time. Thus, over the very long run, government redistribution is mostly irrelevant to explain how standards of living change, except that redistribution might affect how productivity grows. To the extent that government redistribution reduces labor productivity and economic growth—for example, by discouraging human capital investments through taxes on labor income to fund the transfers—these adverse effects can compound over time to add to a massive cost, even for the poorest.

Increasing labor productivity is therefore the key to improve standards of living for workers in the long term. The trillion-dollar question then becomes: How do we explain and maximize productivity growth and technological progress? The answers are still up for debate and are beyond the scope of this chapter. Several factors might play a role, such as institutions, geography, culture, and even luck.[12]

Nevertheless, decades of economic history and analysis show that free markets and property rights play a crucial role in increasing productivity and standards of living.[13] Well-functioning markets are key to properly allocating labor and capital, putting scarce resources to good use.[14] Free exchange allows individuals to further their own interests while providing valuable services and goods to others, and property rights help ensure that individuals will be rightfully compensated for doing so. As a result, market discipline forces firms and individuals to relentlessly increase labor productivity and standards of living, if only to maximize profits. In

a free market, firms that are unable to put labor resources to good use will eventually go out of business.

Policy-wise, this means that governments should strive to open markets to competition as much as possible—for example, by slashing trade barriers, dropping occupational licensing requirements, allowing for labor mobility (migration) within and between countries, lowering regulatory barriers to entry, and so on. Tax rates should be kept at relatively low and stable levels so as not to discourage investment, savings, and work. Governments must keep expenditure in check or risk runaway inflation. Finally, the rule of law and a predictable regulatory environment are crucial to foster long-term investments and to ensure that creditors can recoup their loans. Concretely, this translates to a fast, efficient, and predictable court system that is able to enforce laws and contracts.

CONCLUSION

Standards of living have grown tremendously during the past few centuries, even as world population has exploded. This is an unprecedented phenomenon in history: poverty had been the natural state of mankind until two centuries ago. These gains have accrued to the rich and poor alike. Poverty fell precipitously, and even global inequality has been falling in recent decades.[15] This growth is a result of the ability of human labor to produce ever-increasing value, largely enabled by free markets and property rights. Understanding this phenomenon and its causes should be a crucial feature of contemporary literacy, lest we throw away the tenets, values, and institutions that saved and improved so many lives in our recent history.

NOTES

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