

THE DISPATCH

Celebrating the World's 8 Billionth Person With ... Lots and Lots of Charts

Scott Lincicome

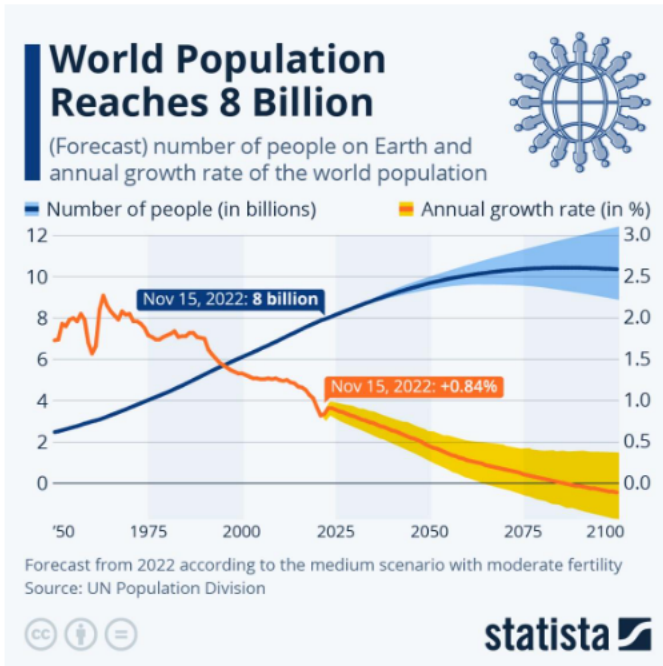
November 23, 2022



Dear Capitolisters,

This week's edition will be short and chart-heavy, as we're all busy making Thanksgiving stuffing and traveling to or trying to avoid our families.

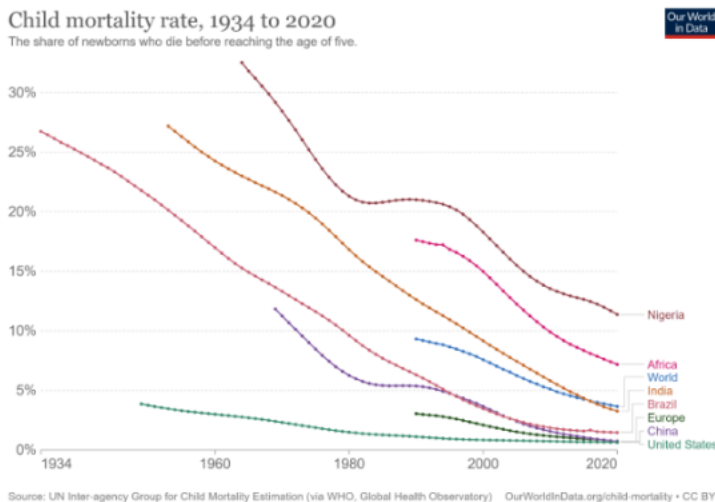
Speaking of giving thanks, last week saw the world welcome—per U.N. estimates, at least—its 8 *billionth* human. The news was greeted by the usual concern and consternation about population growth, strained resources, and overconsumption—especially in fast-growing places like Nigeria or India. Yet by an array of metrics, the long-term trajectory of life on Earth has been overwhelmingly positive (though, surely, things could always be even better). So this Thanksgiving, I invite you to sit back, pour a warm glass of gravy, and take this moment to be thankful you're living in today's world—and *especially* in today's United States—instead of the one that greeted its 4 billionth inhabitant back in the good ol' 1970s.



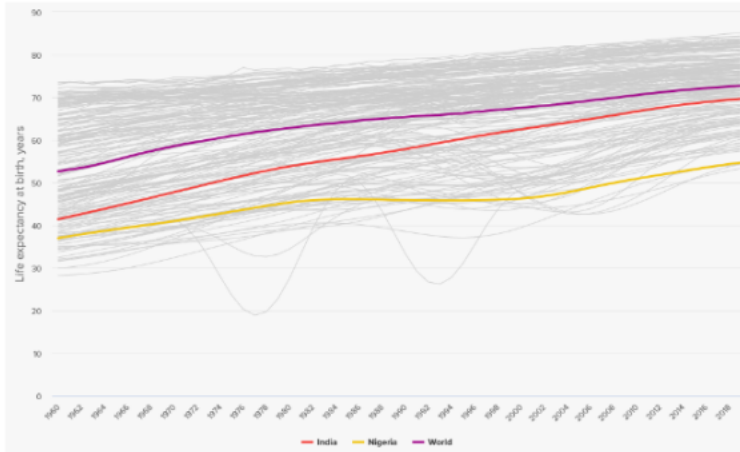
And here are a bunch of charts to prove it.

Human Health

Let's start with the most basic of issues—human health. Child mortality is down dramatically, in basically every country (feel free to click through and make your own charts):



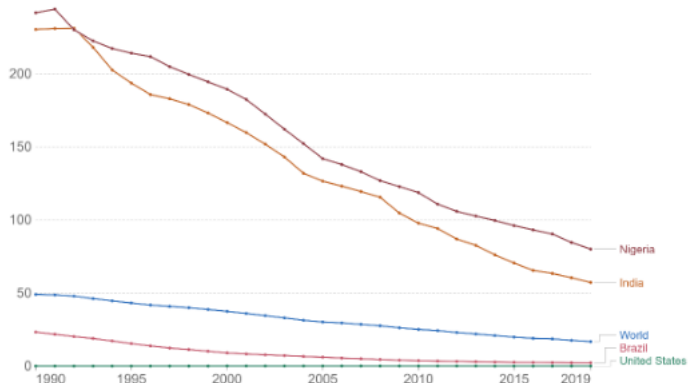
Meanwhile, people born today—almost anywhere on the planet—can expect to live much longer than their counterparts born a few decades ago (gray lines are other countries):



Also, far fewer people are dying from infectious diseases or unsafe water—things we hardly even think about here in the United States but which are a real threat elsewhere.

Death rate from unsafe water sources, 1990 to 2019

Estimated annual number of deaths attributed to unsafe water¹ sources per 100,000 people.

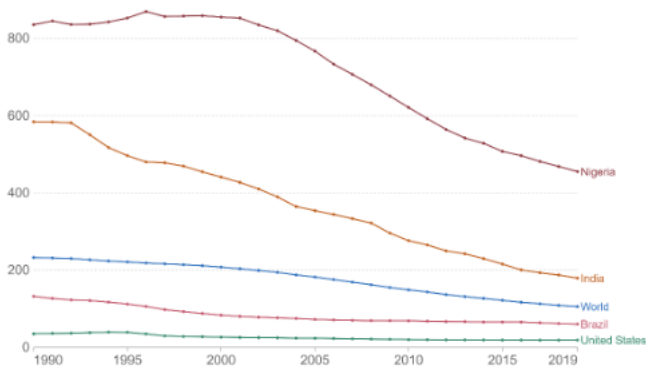


Source: IHME, Global Burden of Disease (2019) OurWorldInData.org/water-access • CC BY
Note: To allow comparisons over time and between countries with different age-profiles this rate is age-standardized.

1. **Unsafe water:** Microbial contamination of drinking water poses the greatest risk to drinking-water safety. It is often the result of contamination with feces. Unsafe water is a risk factor in diarrhea, cholera, dysentery, typhoid, and polio.

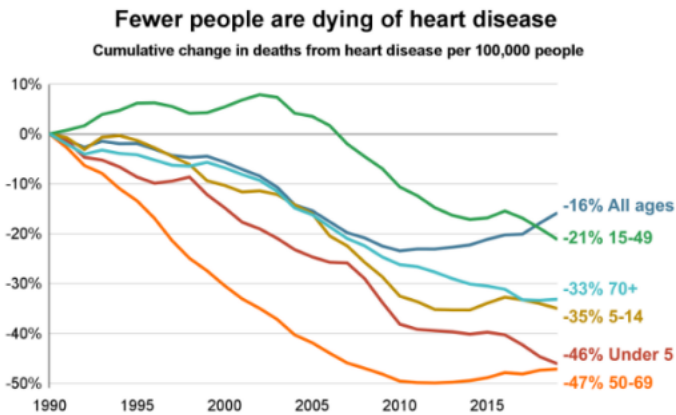
Death rate from infectious diseases, 1990 to 2019

Annual number of deaths from HIV/AIDS, diarrhea, malaria, lower respiratory, and all other infectious diseases, per 100,000 people.

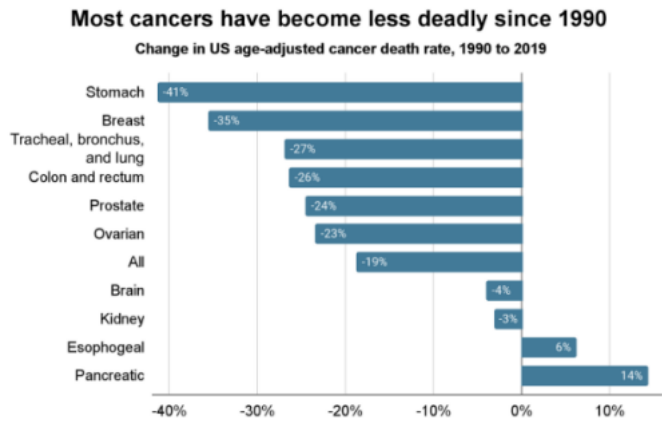


Source: IHME, Global Burden of Disease (2019) OurWorldInData.org/burden-of-disease • CC BY
Note: To allow comparisons between countries and over time this metric is age-standardized.

Of course, Americans *do* have some health issues—obesity, drug use, etc.—but we’re still better off than our parents by all sorts of health metrics, such as heart disease or cancer survival:



Sources: Our World in Data, IHME, Global Burden of Disease (GBD)



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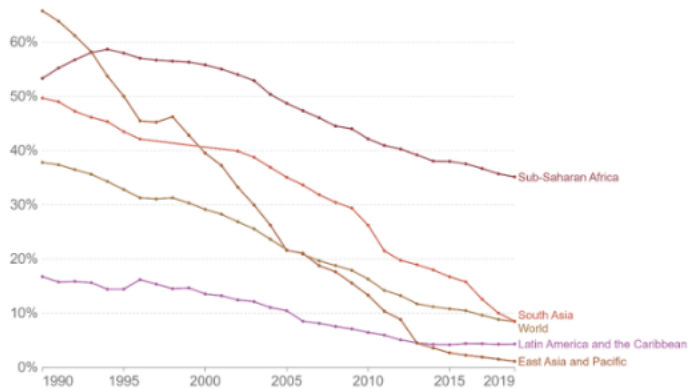


As shown at that link, we're also able to eat healthier, thanks to a bounty of fresh fruits and vegetables that most Americans in the 1970s could only dream of.

Incomes, Poverty, and Work

Humans have also gotten wealthier (though, again, there's still more to do). For example, a person born today is far less likely to live in abject poverty than he or she was just a couple decades ago:

Share of population living in extreme poverty, 1990 to 2019
 Extreme poverty is defined as living below the International Poverty Line of \$2.15 per day. This data is adjusted for inflation and for differences in the cost of living between countries.



Source: World Bank Poverty and Inequality Platform
 Note: This data is measured in international-\$ at 2017 prices. It relates to disposable income or expenditure per capita (exact definitions vary). CC BY

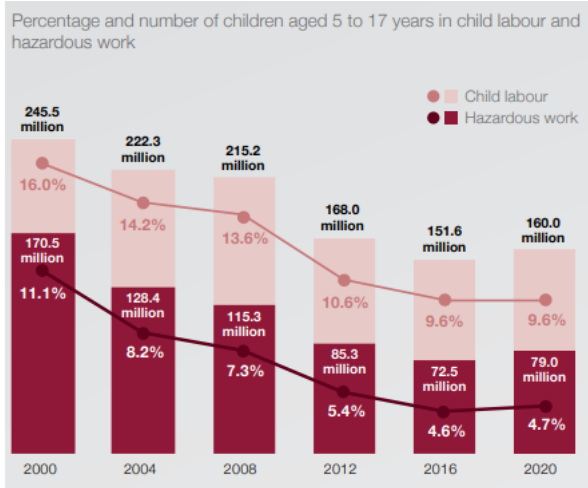
Median incomes have also generally increased—and not simply because of China’s rise, either.

Median income or expenditure per day, 1977 to 2019

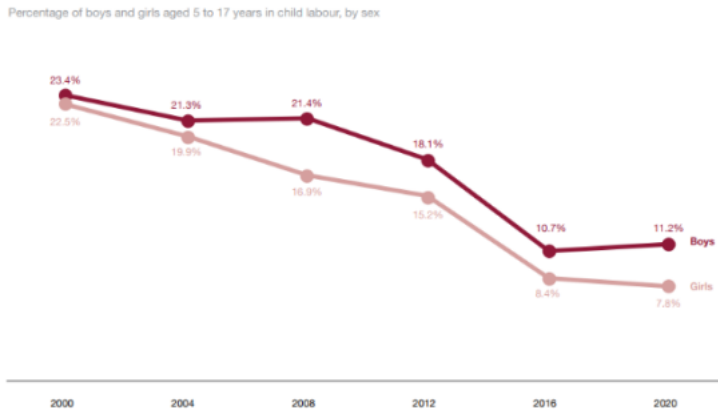


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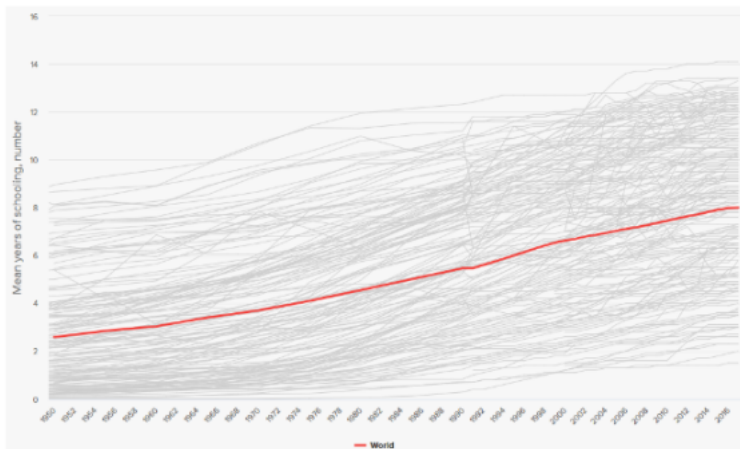
Child labor, on the other hand, has declined over the last couple decades (though the pandemic stunted that improvement):



And gains have been particularly pronounced for young girls:

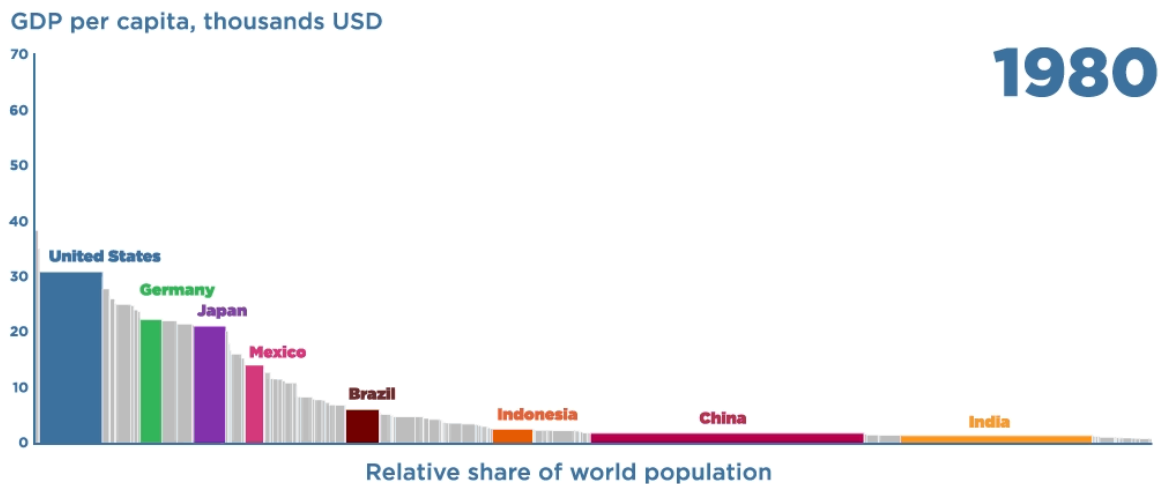


Relatedly, children around the world are getting more years of schooling:



And, finally, it's important to note that oft-maligned globalization has been a big (though certainly not the only) driver of these gains, and that growth in the developing world didn't come at the developed world's expense:

Globalization has helped raise incomes almost everywhere since the 1980s



Note: GDP refers to expenditure-side real GDP in millions of 2017 US dollars at chained purchasing power parity (PPP) rates.

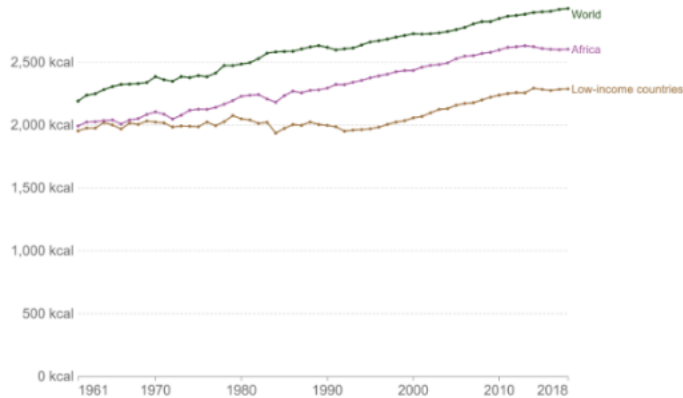
Source: Douglas A. Irwin's blog post, "Globalization enabled nearly all countries to grow richer in recent decades."

Hunger and Food Production

Humans today are also better nourished than they were decades ago. We're eating more calories (which is a good and important thing unless you're rich and spoiled in a place like the U.S.):

Daily supply of calories per person, 1961 to 2018

Daily per capita caloric supply is measured in kilocalories per person per day. This indicates the caloric availability delivered to households but does not necessarily indicate the number of calories actually consumed.



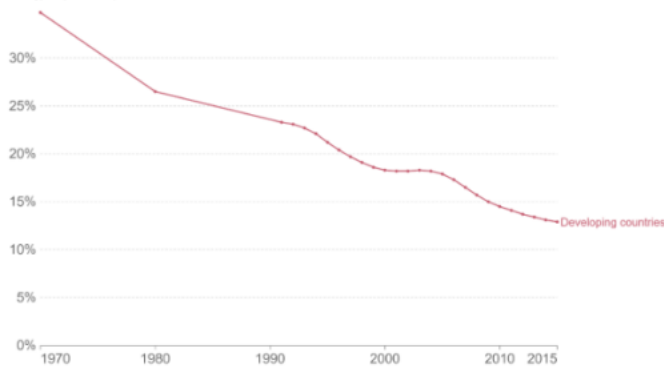
Source: Our World in Data based on the UN FAO & historical sources

OurWorldInData.org/food-supply • CC BY

And thus undernourishment has declined substantially:

Prevalence of undernourishment in developing countries, 1970 to 2015

This is the main FAO hunger indicator. It measures the share of the population that consumes an amount of calories that is insufficient to cover the energy requirement for an active and healthy life (as defined by the minimum dietary energy requirement).



Source: FAO and ESS Indicators

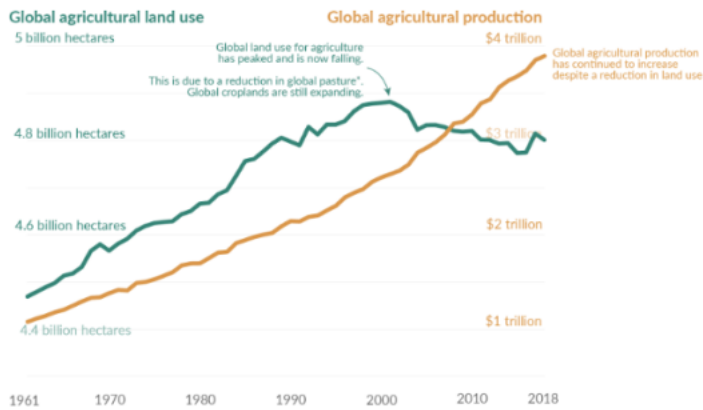
OurWorldInData.org/hunger-and-undernourishment • CC BY

Note: Data from 1990 onwards is well-established within FAO estimates. Earlier estimates are significantly more uncertain.

Trade is a big reason for these gains, but another is the dramatic improvement in agricultural productivity (meaning we produce more food with less land):

Global decoupling of agricultural land and food production

Agricultural land is the sum of cropland and pasture for grazing livestock. Production is measured in constant 2015 international-dollars, which adjusts for inflation. Includes all crops and livestock.

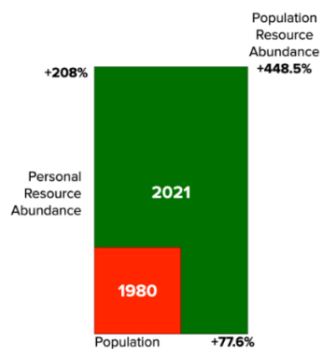


*A peak in global pasture land does not mean that it has peaked everywhere. In tropical regions, it continues to increase, often at the expense of carbon-rich habitats. Data source: Food and Agriculture Organization of the United Nations. OurWorldInData.org - Research and data to make progress against the world's largest problems. Licensed under CC-BY by the author Hannah Ritchie.

Resource Abundance and Continued Environmental Gains

As I noted in my review of the new book *Superabundance*, a wide range of natural resources have become more abundant—handily outpacing population growth (and thus generating “superabundance”). Here’s one more example from the book (and in this recent article): the abundance of 50 basic commodities—including food, energy, materials, minerals, and metals—since 1980:

Figure 2: Visualization of the Relationship between Global Population Growth and Personal Resource Abundance of the 50 Basic Commodities (1980–2021)

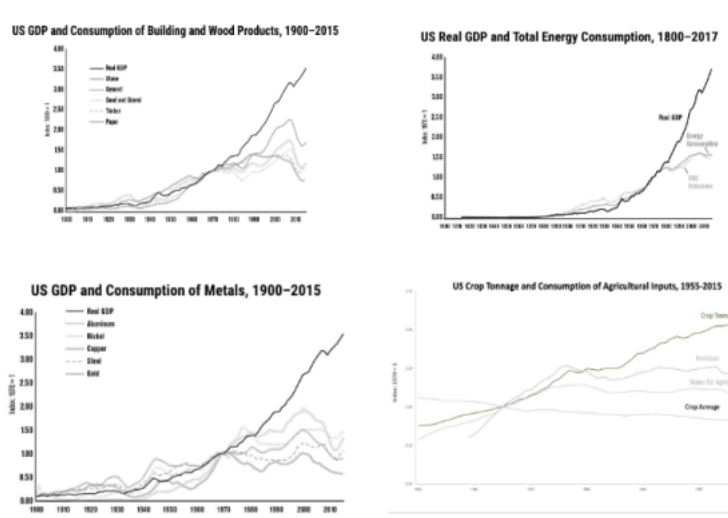


Basic 50 GDP per Total Hours Worked

Compound Annual Growth Rate - Population Resource Abundance: **4.24%**
 Years to Double - Population Resource Abundance: **16.7**
 Personal Resource Abundance Elasticity of Population: **2.69**
 Population Resource Abundance Elasticity of Population: **5.78**

As the *Superabundance* authors discuss, one big driver of our growing resource abundance is humans’ persistent effort to conserve resources—to “make *more* from *less*” (often for selfish,

profit-driven reasons—oh no!). This “dematerialization” was documented in a book of the same name, which shows it working through the United States:

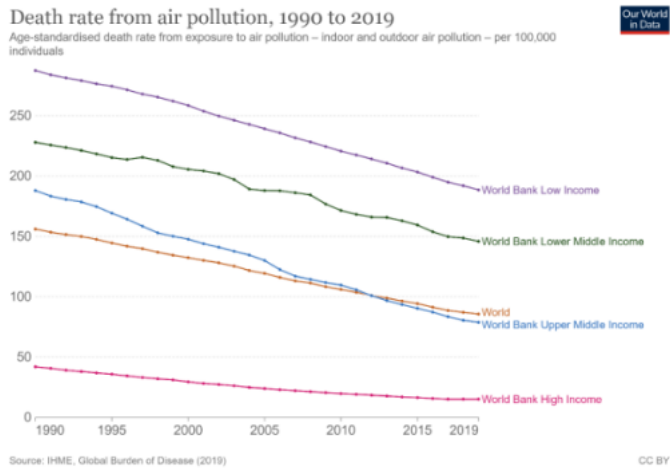
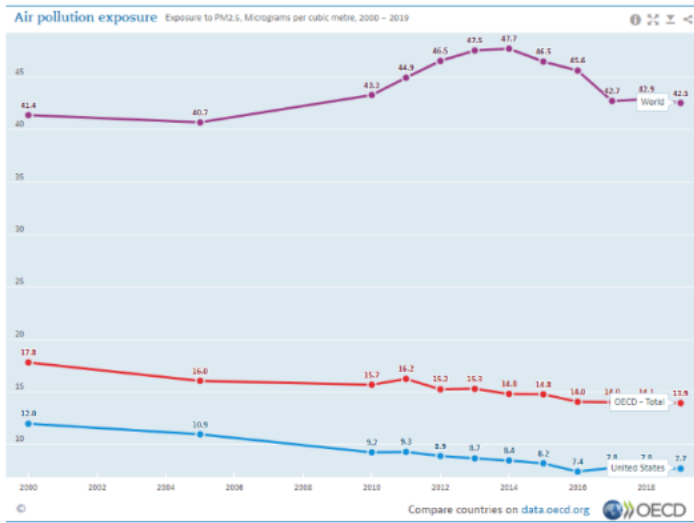


OECD data on “material consumption” (i.e., the actual amount of materials used in an economy) show similar trends in Germany, France, the U.K., and many other developed countries.

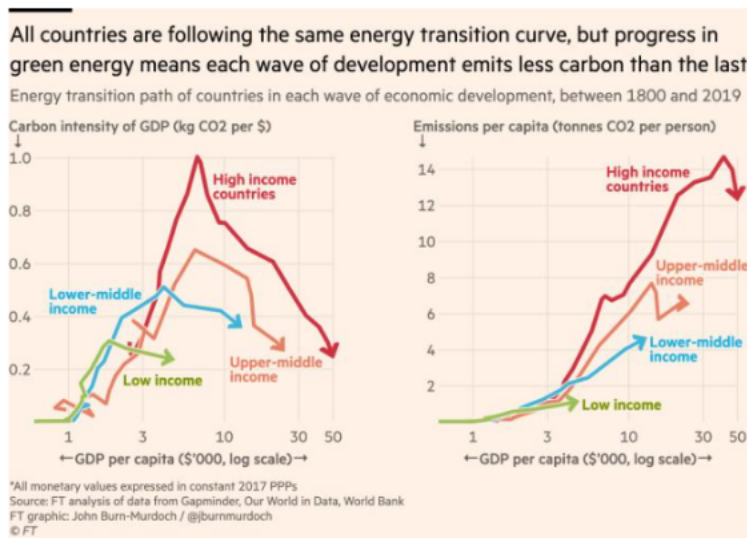
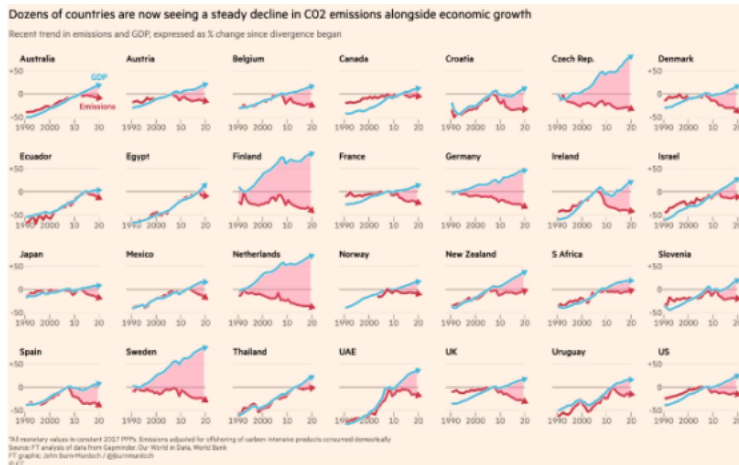
We’ve also apparently turned the corner on deforestation:



And air pollution has decreased—worldwide more recently and in the developed world (OECD economies) over the longer term—and we’ve seen a pronounced decline in pollution-related deaths pretty much everywhere:



Finally, we're seeing a major decoupling between economic growth and CO2 emissions in dozens of countries—a process that's accelerating thanks to new energy technologies:



Thus, the best thing we can do for the planet is to make poor countries rich.

Summing It All Up

One could perhaps be forgiven for predicting planetary doom when the world's population hit 4 billion back in 1974. Just a few years earlier, the wildly popular eco-pessimist Paul Ehrlich published his bestselling book, *The Population Bomb*, which famously opened by declaring that “The battle to feed all of humanity is over. In the 1970s hundreds of millions of people will starve to death in spite of any crash programs embarked upon now.” As thoroughly documented in *Superabundance*, this kind of eco-hysteria was rampant throughout the 1970s, as my two favorite non-Ehrlich quotes in the book hilariously show:

- “Demographers agree almost unanimously on the following grim timetable: by 1975 widespread famines will begin in India; these will spread by 1990 to include all of India, Pakistan, China and the Near East, Africa. By the year 2000, or conceivably sooner, South and Central America will exist under famine conditions.... By the year 2000, thirty years from now, the entire world, with the exception of Western Europe, North America, and Australia, will be in famine.”—North Texas State University Professor Peter Gunter
- “In a decade, urban dwellers will have to wear gas masks to survive air pollution ... by 1985 air pollution will have reduced the amount of sunlight reaching earth by one half.”—*Life Magazine*, January 1970.

More than 52 years have passed since those predictions were made, and they’ve all been proven wrong. Indeed, contrary to the pessimists (back then and now), the 8billionth human arrived last week to a world that is imperfect, sure, but still far better than the one the 4 billionth found—thanks to the drive and ingenuity of our fellow earthlings. Future challenges remain, but we can and should be confident that they’re conquerable too...as long as we continue to let people conquer them.

Scott Lincicome is the director of general economics and Cato’s Herbert A. Stiefel Center for Trade Policy Studies. He writes on international and domestic economic issues, including international trade; subsidies and industrial policy; manufacturing and global supply chains; and economic dynamism.