

Sustainable Developments

The Specter of Malthus Returns

It remains to be seen whether his famously gloomy prediction is truly wrong or merely postponed

BY JEFFREY D. SACHS



In 1798 economist Thomas Robert Malthus famously predicted that short-term gains in living standards would inevitably be undermined as human population growth outstripped food production and thereby drove living standards back toward subsistence. We were, he argued,

condemned by the tendency of population to grow geometrically while food production would increase only arithmetically.

For 200 years economists have dismissed Malthus for overlooking technological advancement. Their argument is that food production can indeed grow geometrically because production depends not only on land but also on know-how. With advances in seed breeding, chemical fertilizers, irrigation, mechanization and more, the food supply can stay well ahead of the population curve. More generally, advances in technology in all its aspects can keep production rising ahead of population. Malthus also seemingly did not reckon with the demographic transition: improvements in public health, family planning and modern contraception, together with urbanization and other trends, can dramatically reduce fertility rates to the “replacement rate” of 2.1 children per household—or even less.

When I trained in economics, Malthusian reasoning was a target of mockery, held up by my professors as an example of a naive forecast gone wildly wrong. After all, since Malthus’s time, incomes per person averaged around the world have increased by at least an order of magnitude despite a population increase over that period from around 800 million to 6.7 billion. Some economists have gone so far as to argue that rising populations have been a major cause of increased living standards, rather than an impediment, because the eightfold increase in population has proportionally raised the number of geniuses, and it is genius above all that propels global human advance. A large human population, in that interpretation, would thus be just what is needed to propel progress.

Yet the Malthusian specter is not truly banished. Our increase in know-how has not only been about getting more outputs for the same inputs but also about mining the earth for more inputs more efficiently and intensively. Humanity has learned to dig deeper for minerals and fossil fuels, fish the oceans with larger nets, divert rivers with greater dams and canals, and cut down forests with more powerful land-clearing equipment. In countless ways, we have not gotten more for

less but rather more for more, as we have converted rich stores of natural capital into high flows of current consumption.

And although family planning and contraception have indeed secured a low fertility rate in most parts of the world, the overall fertility rate remains at 2.6, far above replacement. Global population continues to rise by about 79 million a year, with much of the increase in the world’s poorest places. According to the medium-fertility forecast of the United Nations Population Division, we are on course for 9.2 billion people by midcentury.

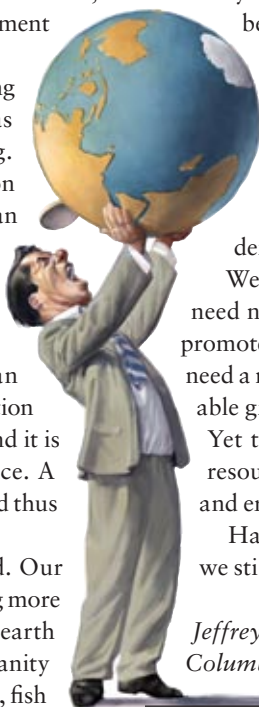
If we indeed run out of inexpensive oil and fall short of food, deplete our aquifers and destroy remaining rain forests, and gut the oceans and fill the atmosphere with greenhouse gases that tip the earth’s climate into a runaway hothouse with rising ocean levels, we might yet confirm the Malthusian curse. Yet none of this is inevitable if future technology enables us to economize on natural capital rather than finding ever more clever ways to deplete it rapidly. In the coming decades we will have to convert to solar power and safe nuclear power, both of which offer essentially unbounded energy supplies. Know-how will have to

be applied to high-mileage automobiles, water-efficient farming and green buildings that cut down sharply on energy use. We will need to rethink modern diets and urban design to achieve healthier lifestyles that also reduce consumption. And to stabilize the global population at around eight billion, we will have to help Africa and other regions in speeding their demographic transition.

We are definitely not yet on such a trajectory. We will need new policies to push markets down that path and to promote technological advances in resource saving. We will need a new politics to recognize the importance of a sustainable growth strategy and global cooperation to achieve it. Yet this cooperation will have to come at a time when resource scarcity squeezes living standards in many places and erodes political stability.

Have we beaten Malthus? Two centuries after his work, we still do not really know. ■

Jeffrey D. Sachs is director of the Earth Institute at Columbia University (www.earth.columbia.edu).



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