



IS DOOMSDAY APPROACHING? A CRITIQUE OF MALTHUS

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Abstract

This paper discusses the pervasive arguments that overpopulation and dwindling resources have already doomed humanity or will soon do so. These Malthusian arguments take on many forms but are primarily concerned with increasing populations and limited resources. We evaluate these Malthusian theories both in their original conception and modern applications to examine their logic and appeal, as well as their flaws. We also examine historical evidence such as technology, the effect of the Black Death, and the existence of art to assess the strength of this argument. The thesis of this paper is that Malthusian economics is based on fundamentally flawed logic supported not by evidence but by existential anxiety. What are the specifics? They are that in the view of this famous economist, agricultural products can only increase in arithmetic progression, while the population is not so limited; it can expand geometrically. How will the gap between these two series be reconciled, given that there will be a food shortage? In Malthus' view, the reconciliation will include war, famine, and disease, unless people can be led to have fewer children, a strategy he had little faith in. The present paper attempts to demonstrate the flaws in his analysis.

Keywords: *Malthus, overpopulation, slavery, subsistence, technology, art and monuments.*

1 INTRODUCTION

Resource scarcity is a fundamental underpinning of economic reality. The approach one takes to scarcity and its underlying assumptions, lead to radically different conclusions. The Malthusian analysis paints a grim picture. With the production of food and other resources increasing at a linear

rate and the human population increasing exponentially, it is not long until we overshoot our resources and experience massive die-offs, or so the Malthusian argument goes (Malthus, 1798, pp. 4-5). This economist first made the case for overpopulation in 1798. He wrote that mankind tended to exist at a given subsistence level and could not rise far above this for any sustainable time before being brought back down by war,

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disease, and famine.¹ Malthus and his modern-day proponents argue that while technology could increase resources for mankind, it would also encourage more population growth than could be supported by these additional resources. However, Malthusian economics and its variations have fundamentally misunderstood mankind's capability for resource creation and technology's role in it; nor does his subsistence level equilibrium theory have any validity.

2 THE CYCLE OF SUBSISTENCE LIVING

Malthus argues that mankind's natural propensity to increase the population at an ever-growing rate is in inherent contrast with the scarcity and limited production of resources needed for this population to survive. Due to this natural conflict Malthus warns of cycles of abundance and shortages that overall bring mankind back to the "subsistence level"; that is human fate.

Under this model, workers can only earn the bare minimum wage needed to sustain their lives in the long term. He allowed that wages could rise in the short run, but he characterized it as being part of a larger and destructive cycle around a base subsistence level. In the short run, increased real wages could rise above subsistence, bringing about better conditions and living standards for the average worker. However, these "above subsistence" wages would support and encourage population growth as families grew under these superior conditions; but then increased real wages inevitably lead to an increase in population as the stressors of subsistence wages are removed and the human instinct to reproduce fills this void (Malthus, 1798, pp. 8-9). Thus, higher wages create a larger population which in turn means more workers in the market, creating an overabundance of labor. At this point, diminishing returns set in, reducing wages back down to subsistence level.

At some point, the workers may work hard enough to produce above subsistence wages, until some

other check comes along to bring population and quality of life plummeting once again. This cycle continues until inevitably some event or "check" occurs to reduce the population and bring it back to supportable levels. Malthus imagined two main forces that would prevent apocalyptic growth:

1. preventive checks, where human beings consciously act to prevent overpopulation², and
2. positive checks, where outside events resulting from overpopulation such as war or famine served to reduce the human population.

Unlike other economists such as Adam Smith ([1776] 1979), Malthus did not believe in the ability of markets to create better conditions for everyone. The Malthusian way to raise living standards was not to produce more resources but to reduce the number of people these resources were spread between. By keeping the population low using preventative checks such as abstinence, catastrophic positive checks could be avoided, smoothing the oscillation between abundance and scarcity (Malthus, 1798, p. 20). As an extension of this belief, this staunchly opposed charitable laws and programs aimed to help the poor, perceiving them as encouraging increased population among lower classes without solving any root causes of poverty. Poverty, in this view, is a chronic condition of mankind that will never be solved in its entirety and such charitable efforts would worsen the condition the lower class lived in by spreading existing resources even further.

The implications of this theory, should it be proven accurate, would be monumental; indeed, its impact on policy and philosophy is quite large even without definitive proof³. Thus, it is important to evaluate the validity of this theory through an examination of historical trends. If Malthusian theories prove accurate, then there should be a plethora of evidence suggesting cyclical abundance and disaster.

¹ Market forces based upon supply and demand keep prices within a certain range. In like manner, for Malthus, natural or biological forces do not allow the population to escape from certain limits, in either an upward or a downward direction.

² Primarily through abstinence, though modern interpretations focus on alternative methods such as birth control

³ As is evidenced by the number of laws, policies, and other efforts concerning population and/or resource management, most notably the one-child policy in China

3 HISTORICAL EVIDENCE

So, do we see evidence of this trend historically? Malthus himself admits there is not much evidence of cyclical abundance and catastrophe but blames the lack of historical data and focus on elite society. Still, there are a few historical events that seem to support this theory, particularly the Black Death and its impact on affected economies. The Black Death, a plague that wiped out a third of Europe's population, seems to be a perfect example of a Malthusian "positive check". Following the population reduction, the value of labor, wages, and availability of land rose dramatically, increasing the living standards for workers drastically. Though this seems to support Malthusian theory, several hidden elements complicate the lesson of the Black Death and its implications for society today.

The Black Death came to Europe at a time of low-level technology where production primarily involved manual agrarian labor. This method of production had large diminishing returns as an additional worker did not add much productivity and may even get in the way of other workers (Biddick & Hallam, 1990, p. 625). Thus, a decrease in the supply of laborers raised wages and living standards. However, it is significant to note the lack of sophisticated technology in medieval Europe and that this differs from today's situation. Technological progress creates a vast difference in how individuals and economies interact; as such, any comparison between generations must be made with a critical eye to these differences, especially considering the divergences between the Middle Ages and the modern period. To draw direct parallels between the would prove incredibly difficult, a struggle to hold all variables constant across centuries with piecemeal information⁴. In short, any statement that because a particular outcome resulted in medieval Europe it would remain true in modern ages would be very difficult to defend, largely due to vast differences in technology.

Additionally, even in its own time, the Black Death was not universally beneficial to economies affected by it; citing this scourge as an economic

boom may be considered historical cherry-picking that does not extend consideration past Europe. It is true that the plague in most of Europe increased the value of labor and thus the quality of life for survivors, but this was not the case in many regions. For instance, Spain and Egypt saw large negative effects on their economy overall. In Egypt, the plague also swept through and devastated populations, however, its aftermath was not one of economic benefit for survivors. Egyptian economic systems were largely labor-intensive and so a widespread die-off of workers made it very difficult to produce at the same level pre-plague (Borsch, 2014, p. 623). Facing a shortage of workers, the Egyptian economy suffered for some time after the Black Death. Similarly, in the Spanish economy, its factors of production hung in a fragile equilibrium that the plague disrupted. This resulted in massive economic devastation for Spain to a far larger extent than in Europe, even though the plague's spread was far milder there (Álvarez-Nogal, Escosura, & Santiago-Caballero, 2020, pp. 35-48).

Thus, it is not entirely accurate to state that the Black Death promoted economic welfare for survivors in all cases. While disasters can benefit survivors as Malthus opined, it is not an iron rule but a matter of circumstances. As historical evidence suggests, a drop in population may just as well negatively impact society as positively, contrary to Malthusian belief

While there are moments of history that may lend credence to the Malthusian theory of subsistence cycles, there are general trends that refute it altogether. Specifically, the existence of art, monuments, and other ventures of cultural significance suggest the presence of life far above the subsistence level. Any non-essential work, particularly long and arduous processes that serve a purpose other than increased food or productivity, points to an abundance of resources. Individuals living at a subsistence level are only able to produce enough to support their own lives with nothing extra leftover. Therefore, the existence of art, monuments, and magnificent

⁴ The accounts of this plague in some regions are limited, as many were not either literate enough to document the plague or had little inclination to do.

churches are incompatible with subsistence-level existence. It points to civilization with an abundance of resources to be able to expend them on work that does not produce more food or other minimal resources needed for survival. Major works of art and architecture require a sustained period of construction that could continue for decades or centuries.

Under the assumption of a Malthusian economic system where periods of abundance exist but always trend back to subsistence level after any sustained period, the presence of pyramids or medieval cathedrals would be puzzling. Since Malthusian checks that reduced population ultimately brings civilization back to subsistence level, this should also halt or stop the construction of such projects. Indeed, if civilizations typically exist at the subsistence level, one should expect to see very few feats of art and architecture. Yet the existence of such monuments throughout history suggests a consistent and widespread abundance of resources far above subsistence level.

Perhaps most significantly, recent historical trends suggest that human innovation and market economies together can create more resources and ways to preserve them. This is most obviously evidenced by rising real wages per capita combined with a rise in population as has occurred in the past several decades along with a lower infant mortality rate and longer life expectancy of populations (Block, Dauterive, & Levendis, *Globalization and the Concept of Subsistence Wages*, 2007, pp. 74-88). This all indirectly

demonstrates the ability of innovation and markets to create more resources and better living standards, a phenomenon showcased in the Simon-Ehrlich wager. This bet between free-market economist Julian Simon and over-populationist Paul Ehrlich was made to decide whether resources were rising or falling on a per capita basis. If the relative prices of a market basket of raw materials⁵, rose, this would serve as a signal of coming immiseration. Ultimately, these prices did not rise in the time specified by the wager rather, they fell (Desrochers, 2015). This suggested they were less scarce than they had been in previous years, despite being resources that did not naturally replenish themselves.⁶ As Simon and other economists argued, the power of human innovation and market efficiency come together to efficiently use current resources and even produce more resources than were previously available.⁷

4 ROLE OF TECHNOLOGY

Technological progress is perhaps the most important driver of increased wealth, providing increasingly efficient solutions to problems. Malthus acknowledged technological innovation as a force for progress, however, he maintained that it was a rare event that had only short-term beneficial effects; in his view, it was not sufficient to stave off the inevitable return to subsistence living. This view is no doubt a by-product of its time; Malthus wrote his essay in 1798 before the full effects of the Industrial Revolution could be seen or appreciated. This phenomenon changed the way and the rate at which resources are

⁵ Non-governmental controlled raw materials, specifically copper, chromium, nickel, tin, and tungsten

⁶ In 1980, economist Julian L Simon challenged Paul R Ehrlich, the biologist, and author of the best-selling *Population Bomb*, to put his money where his catastrophist mouth. Simon asked Ehrlich to stake \$10,000 on his belief that 'the cost of non-government-controlled raw materials... will not rise in the long run. The minimum period over which the bet could take place being one year. If, as Ehrlich believed, the store of valuable resources was finite and subject to ever-increasing demand, the resources' price would rise. Simon, however, argued that in a market economy characterized by freely determined prices and secured property rights, a rise in the price of a valuable resource could only be temporary. This is because it would provide incentives for people to look for more of it, to produce and use it more efficiently, and to develop

substitutes. In the long run, even non-renewable resources would become ever-less scarce as they are ultimately created by the always renewable and ever-expanding human intellect. Ehrlich, along with his regular collaborators John P. Holdren and John Harte, accepted. They characterized this as 'Simon's astonishing offer before other greedy people' jumped in and offered 'to pay him on September 29, 1990, the 1990 equivalent of 10,000 1980 dollars (corrected by the consumer price index) for the quantity that \$2,000 would buy of each of the following five metals on September 29, 1980: chromium, copper, nickel, tin, and tungsten'.

⁷ When Ehrlich lost this bet, he proposed yet another, to Simon: that we would soon run out of fish, and their prices would rise. Simon agreed but insisted that farmed fish be included in the bet; Ehrlich wisely declined to pursue this second wager.

produced, drastically raised the living standards, and raised millions out of poverty in a remarkably short amount of time.⁸ Though life during the Industrial Revolution certainly wasn't perfect, there was significant economic and technological growth that created new social classes, increased wealth per capita, and generally increased the quality of life (Komlos, 2003, p. 16). Furthermore, this explosion of innovation raised living standards long-term, overcoming diminishing returns to labor for not just a few years but for decades and centuries to come. The technological progress and wealth amassed during the Industrial Revolution set a foundation for further progress that has only been built upon in the following centuries.

When considering the drastic and unpredictable transformation of the economy by the Industrial Revolution, it is understandable why Malthus would come to the conclusions he did. Ironically, this same unpredictability of technology exposes a key flaw in his arguments. Malthus operated under the assumption that the production of resources would remain linear. He was not able to conceive of how technological progress would render the issues of his time largely irrelevant. The nature of technological progress and human innovation is such that we will never be able to predict how we will solve the problems of our time until we have done so, but the historic trend suggests that we will. Far before the industrial revolution, inventions such as water mills and the printing press were already shifting life and living standards for the better (Komlos, 2003, p. 5). Throughout history, human beings have innovated and found previously unheard-of solutions for the most pressing issues of their day; these solutions were never perfect, but they were very often better than what went before.

⁸ Thanks to novelists such as Dickens (1854) this is a controversial claim. For the case that the epoch actually benefitted mankind, and vastly so, see (Ashton & Hudson., 1998); (Berg, 1992); (Crafts, 1985); (Deane, 1979); (Floud & Johnson, 2003); (Floud & McCloskey, 1994); (Hartwell, *The Causes of the Industrial Revolution*, 1967) (1970) (1972); (Hayek, 1954); (Levin, 1998); (McElroy, 2018); (McKendrick, Brewer, & Plumb, 1982); (Mises, [1949] 1998); (Nardinelli, 1990); (Rosenberg & Birdzell, 1987); (Shaffer, 2004); (Taylor, 1975)

⁹ Possibly because of a growing population, which enhances specialization and the division of labor.

As evidenced by historical precedent and the intense innovation of our own time, technological progress is not a rare event but a gradual process, occurring every day. Each period of technological innovation has raised living standards higher than previous levels and has been potent enough to sustain increased living standards. Economic welfare in recent history has continuously risen ~~rose~~ among all members of civilization despite a growing population.⁹ This demonstrates that technology's effect is long-term, refuting Malthus' conclusion that resources cannot grow in concord with population.

Malthus never considered that the resources available to support populations might exceed expectations. Consider the work of the 20th-century American agronomist Norman Borlaug,¹⁰ whose "green revolution" dramatically increased crop yields and garnered him the Nobel Peace Prize. Some have even suggested that Borlaug saved more lives than any single human being who has ever lived. Malthus also failed, though understandably, to anticipate the introduction of contraceptives. More significantly, he failed to foresee the possibility that, enabled to control their fertility, people might choose to limit their fecundity to increase their standard of living. In general, richer nations such as the US, Germany, and Japan have relatively low fertility rates. To increase living standards, such nations need not fewer but more births.

5 MODERN MALTHUSIANISM

In modern economics and pop culture, Malthus' influence is pervasive (Prestigiaco, 2022). There is a general sentiment that our planet is becoming overpopulated¹¹ and that something

¹⁰ Borlaug, (1970), (1983), (2000); (Borlaug & Dowswell, 1994); (Hanson, Borlaug, & Anderson, 1982).

¹¹ According to Sowell (1983): "Every human being on the face of the Earth could be housed in the state of Texas in one-story, single-family homes, each with a front and a back yard. A family of four would thus have 6,800 square feet- about the size of the typical middle-class American home with front and backyards." For more on the overpopulation myth, see (Bauer, 1981); (Block W. E., 1984A) (1984B) (1989); (Block, Dauterive, & Levendis, 2007); (Boudreaux, 2008); (Coffey & Block, 1999); (Cooper & Block, 2019); (Desrochers, 2015); (English & Block, 1997); (Friedman, 1972) (1977);

must be done to slow population growth.¹² While modern theories are more concerned with environmentalism than poverty, Malthus' catastrophe of dwindling resources has firmly implanted itself into the cultural consciousness. Neo-Malthusianism, for example, is characterized by a similar concern with overpopulation. Its leaders champion a strategy of reducing population, primarily through birth control.¹³ Neo-Malthusians are far from the only group influenced by Malthus' thinking, however, and we see this influence spread beyond economics to ethics and general cultural consciousness.

In the modern era many individuals, concerned with overpopulation and environmental impact, have suggested that growing populations and the resulting industrialization of underdeveloped countries may have a negative impact globally. Pointing to the destruction and huge increases in pollution found in the first wave of the Industrial Revolution, they claim that further development may similarly have catastrophic effects on the environment. As such, developed countries should not provide aid to these countries; a variation of lifeboat ethics many have turned economics into a zero-sum game (Hardin, 1974). Of course, this falsely assumes that every successive wave of industrialization will be the same. It is well known that technological innovation becomes much easier to reproduce after the initial innovator has created it; that is, it is far easier and more efficient to copy technological progress than it is to create it. The first wave of any technological innovation is bound to be wasteful, but as others reproduce it, the process becomes more efficient and streamlined.

Consider the iPhone, for instance; when Apple first came out with it, many other companies followed suit in creating their iterations of the smartphone. Did they have to go through the same arduous process of research and development as Apple initially did? No, they merely copied the

process, rendering it much more efficient and cost-effective than funding their research and development would have been. This suggests that more recent waves of industrialization will tend to be far less destructive and create less waste than the first Industrial Revolution in Europe and the United States. We see evidence of this in Africa, as the continent has increasingly industrialized over the past century; many regions of this continent do not have the outdated remnants of telephone poles, used for landlines that most no longer use, and which now may be considered wasteful. Instead, these regions were able to bypass the stage of landlines and go straight into using cell phones (Pew Research Center, 2020). This suggests that currently, underdeveloped countries will be able to industrialize and innovate far more efficiently than modern Malthusians estimate.

This debate is just one example of how modern Malthusianism falls into the same trap as its parent theory in failing to consider the role technology and innovation play in progressing society and creating more for everyone. Economics is not a zero-sum game and never will be. Rather, it demonstrates increased opportunities allowing for more innovation and progress, benefiting everyone.

6 SLAVERY

It cannot be denied that the peculiar, and peculiarly evil institution of slavery, has been in existence since the beginning of recorded history, and perhaps even long before that time. How would the existence of this phenomenon impact the Malthusian subsistence level? The two are patently incompatible with one another. For if the average person could only produce enough to keep himself alive, and reproduce his numbers, there would be no profit in slavery. No one would want to hunt down innocent people, kidnap them, or enslave them if they could produce no more than was necessary to keep themselves alive and

(Gaylor & Weil, 2000); (Gunderman, 2021); (Robbins, 1966, pp. 22-33); (Rothbard, 2011); (Say, 1821); (Simon, *The Ultimate Resource*, 1981) (1990) (1996); (Sowell, 1983); (Williams, 1999); (Wittman, 2000)

¹² See on this Brown's (1963), (1972), (1981), (2009), (2011), (2012); (Commoner, 1990); (Ehrlich, 1968); (Ehrlich & Ehrlich, 1981); (Gore, 1992); (Suzuki,

McConnell, & Mason, 2007); (Suzuki & McKibben, 2004); (Suzuki & Hanington, 2012).

¹³ Radical extremists even hope for the "right virus" to come along to achieve this goal; Block (2020)

reproduce themselves. No one would purchase such as slave since there would be no profit available for the slave-owner. And, yet throughout history, and, shamefully, even to the present day in some be-knighted corners of the world, this institution exists. This logically implies that the slaves could produce more, far more, than the amount necessary to keep themselves alive.

But more. There are costs of slaveholding, entirely unrelated to feeding. There are also the costs of punishing them, ensuring they do not escape, and guarding against slave rebellions. These costs must be deducted from the financial benefits of owning slaves. Thus, their productivity must be even more greatly over mere substantive levels of productivity.

The existence of slavery is incompatible with a widespread pattern of subsistence levels of productivity. But slavery has always existed. Therefore, the Malthusian claim that human accomplishment is dependent upon subsistence incomes, must be false, QED.

7 POPULATION DENSITY

If it is true that overpopulation leads to impoverishment, then highly dense areas on our globe ought to be poor, and empty areas should be rich. And this is true, to some extent. Paris, London, Manhattan, and Tokyo, feature high population density and are very wealthy. In contrast, there are low-density places in Africa and South America that are relatively poor. But the very opposite is also the case. The high population cities of India and Bangladesh are poor, and there are rich areas in Texas and Saudi Arabia that have relatively low density. The statistical correlation between population density and wealth is highly controversial amongst researchers. This indicates there is no clear cause and effect relationship (Pettinger, 2017) This, too, tends to undermine the Malthusian hypothesis, according to which there would be a strong negative relationship between the two observations.

Rapid population growth has not been an obstacle to sustained economic advance either in the Third World or in the West. Between the 1890s and 1930s the sparsely populated area of Malaysia, with hamlets and fishing villages, was transformed

into a country with large cities, extensive agricultural and mining operations, and extensive commerce. The population rose from about one and a half to about six million. The number of Malays increased from about one to about two and a half million. The much larger population had much higher material standards and lived longer than the small population of the 1890s. Since the 1950s, rapid population increase in densely-populated Hong Kong and Singapore has been accompanied by large increases in real income and wages. The Western world population has more than quadrupled since the middle of the eighteenth century. Real income per head is estimated to have increased by a factor of five or more. Most of the increase in incomes took place when the population increased as fast as, or faster than, in the contemporary less developed world.

There is no danger of worldwide malnutrition or starvation through a shortage of land resulting from population growth. Contemporary famines and food shortages occur mostly in sparsely populated subsistence economies with abundant land. There is no shortage of land in areas such as Ethiopia, the Sahel, Tanzania, Uganda, and Zaire. The recurrent famines in these countries and elsewhere in the less developed world usually reflect conditions typical of subsistence or near-subsistence economies.

8 CONCLUSION

Why is it so important to refute Malthusian theory? It matters because theory, especially as influential as the Malthusian, never exists in a vacuum and its application creates real negative consequences. The real importance of debating theory is to ensure the best possible recommendations are being made and implemented. Economic law and policy are often made at the theory recommendations, and it is vitally important that theoretical debate be as thorough as possible. Although it is not the purpose of this paper to inspire policies directly, we do seek to further the intellectual conversation surrounding the topic so that any decision, whether personal or political, be made with the best information possible.

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