

History of Economic Thought: Thomas Robert Malthus

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Thomas Robert Malthus (1766-1834)



- England's first professor of "political economy"
- Member of the English Royal Society, 1818
- Member of the Political Economy Club, 1821
- Correspondence with David Ricardo

The Theory of Population

An Essay on the Principles of Population (First edition: 1798; sixth edition: 1826)

His influence: not only on economics but also biological sciences (especially Spencer, Darwin, Wallece)

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The Malthusian Theory of Population:

- Population grows exponentially whereas food supply grows arithmetically.
- Shortages of food, economic crises, and human-made disasters are inevitable.
- Natural disasters are also a factor that will bring population back to sustainable levels.
- Therefore, population growth is limited by a level where wages are equal to subsistence income level.

Short term: Long term:

$W \uparrow, P \uparrow, W \downarrow$

$W = W^*$ (subsistence)

$W \downarrow, P \downarrow, W \uparrow$

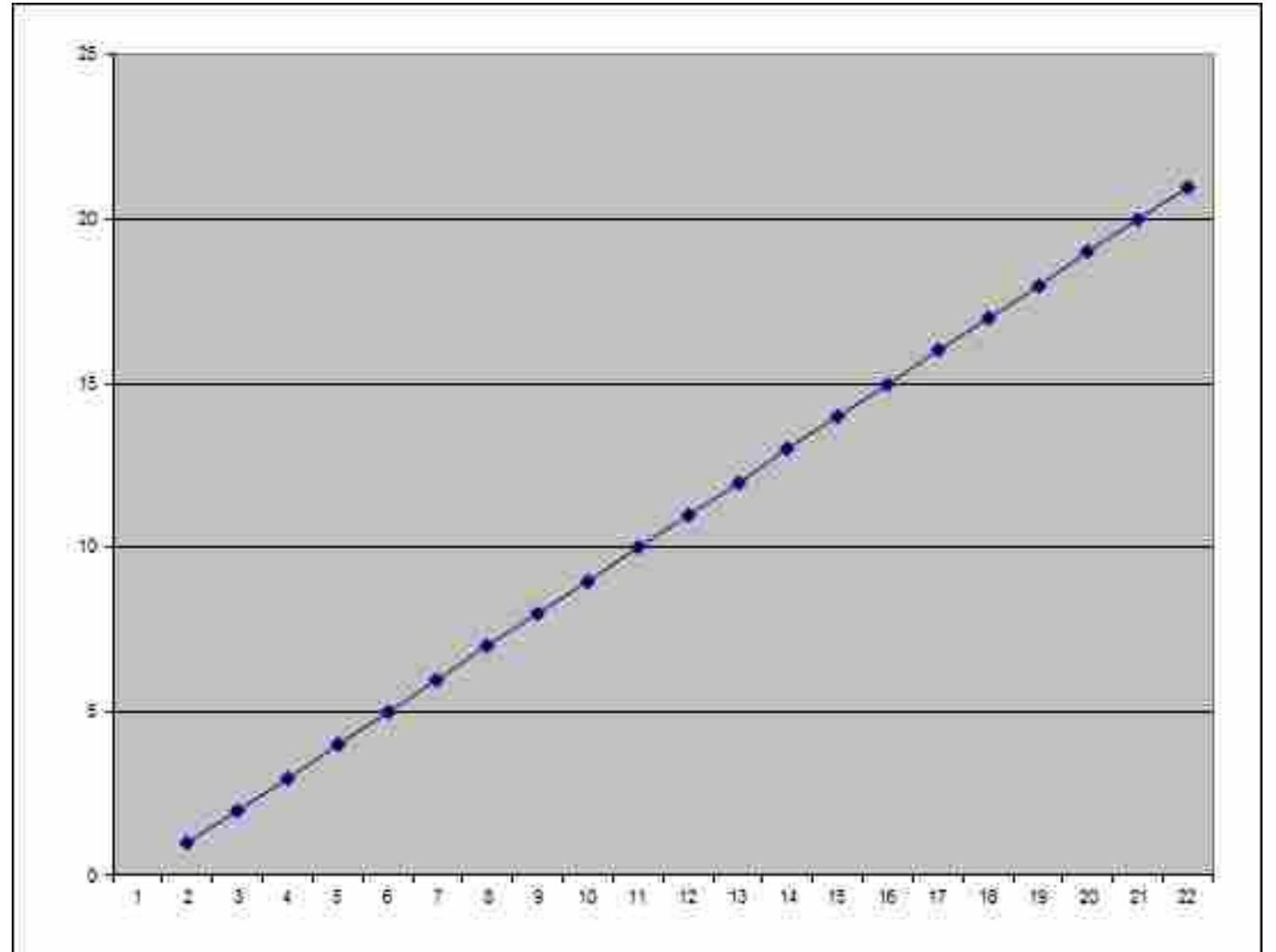
$P = P^*$ (no over-population)

Thomas Robert Malthus (1766-1834)

The Malthusian Theory of Population:

Arithmetic growth

- 1, 2, 3, 4, 5, 6, ...

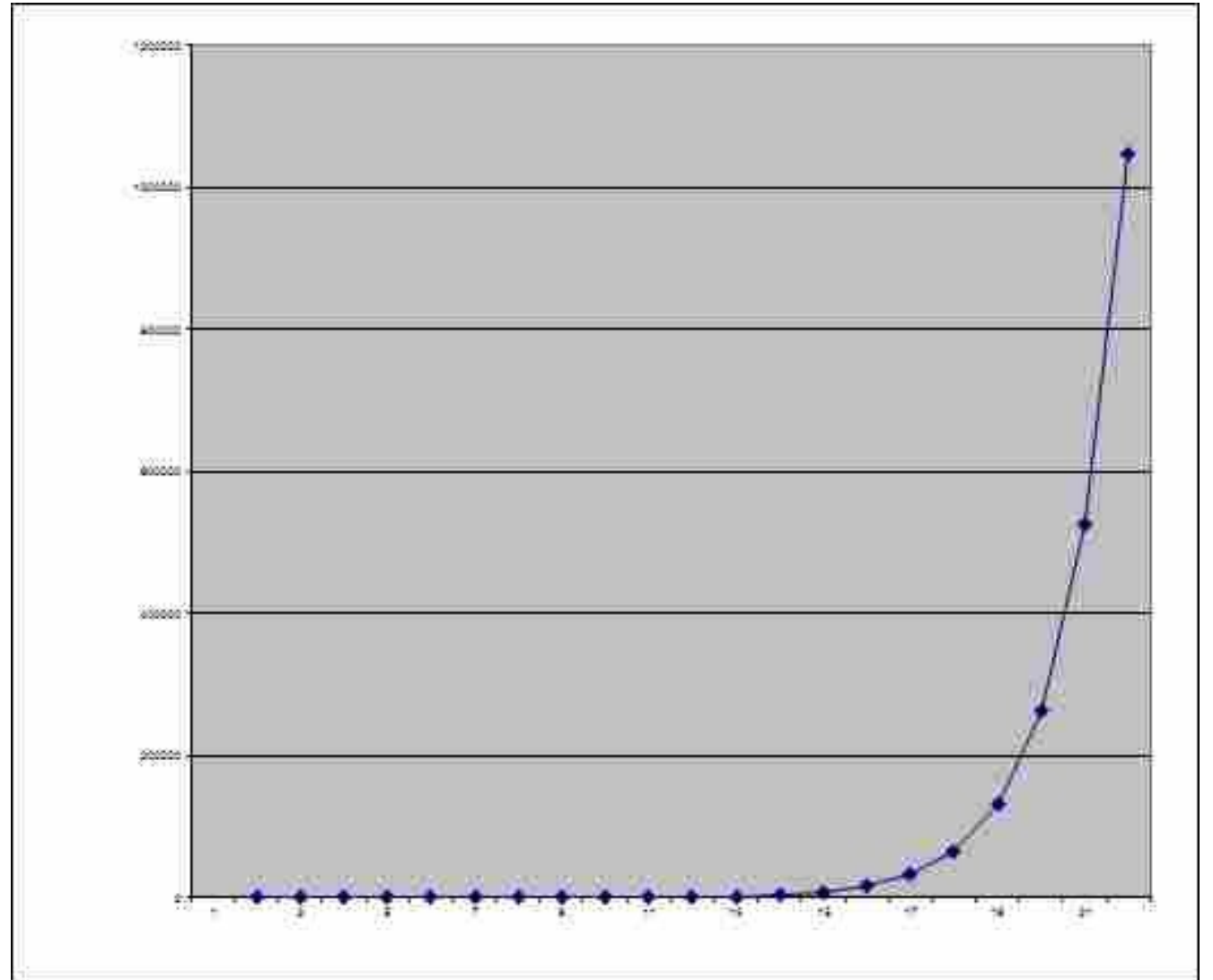


Thomas Robert Malthus (1766-1834)

The Malthusian Theory of Population:

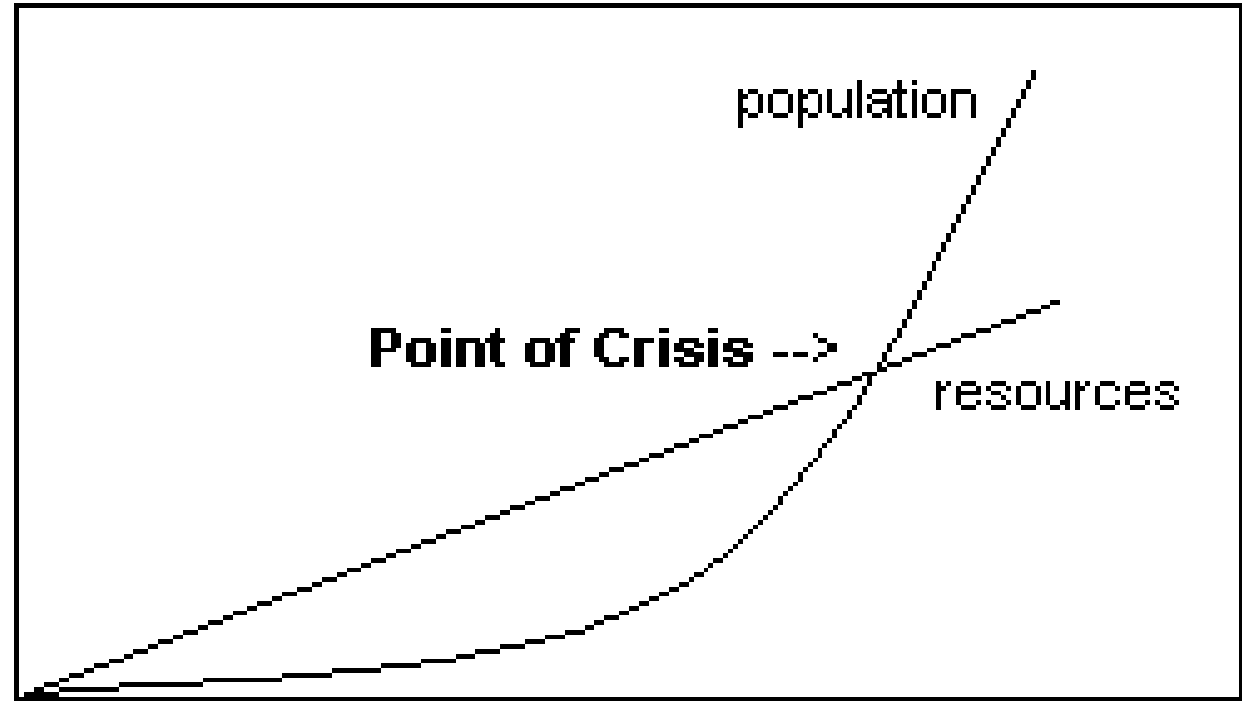
Geometric (exponential) growth

- 1, 2, 4, 8, 16, 32, ...



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The Malthusian Theory of Population:

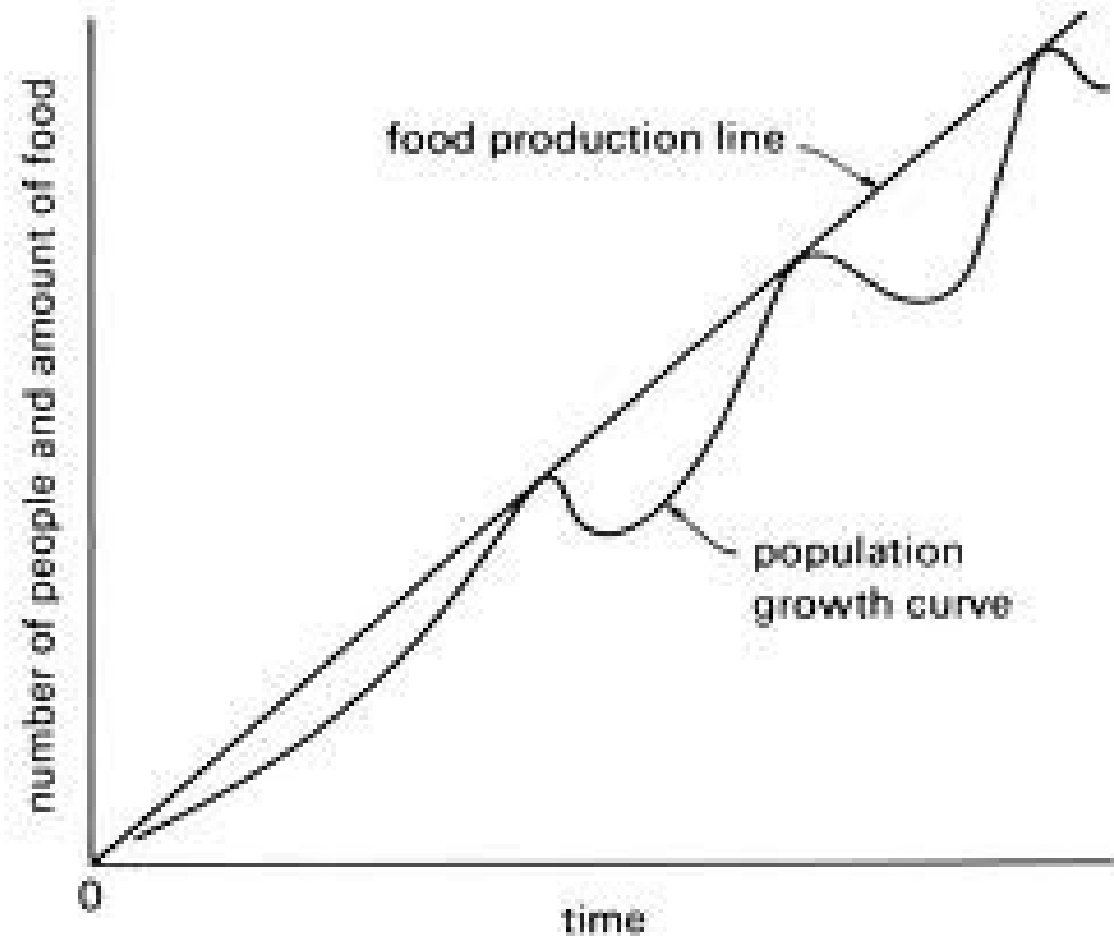


Malthus' Basic Theory

Source: "Evaluation of Malthusian Theory" by C. Chaney, E. Gjertsen, M. Mrosek, J. Niesen, C. Stalzer:
<http://whittjones.pbworks.com/w/page/14132528/EVALUATION%20OF%20MALTHUSIAN%20THEORY>

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The Malthusian Theory of Population:



Source: "Malthus's Population Principle Explained" By Frank W. Elwell:

<http://www.faculty.rsu.edu/users/f/felwell/www/Theorists/Essays/Malthus1.htm>

Darwin and Malthus

“In October 1838, that is, fifteen months after I had begun my systematic inquiry, I happened to read for amusement Malthus on *Population*, and being well prepared to appreciate the struggle for existence which everywhere goes on from long- continued observation of the habits of animals and plants, ...”

Charles Darwin, from his autobiography. (1876)

Darwin and Malthus

“In the next chapter the Struggle for Existence amongst all organic beings throughout the world, which inevitably follows from the high geometrical ratio of their increase, will be considered. This is the doctrine of Malthus, applied to the whole animal and vegetable kingdoms.”

Charles Darwin, from On the Origin of Species (1859)

Darwin and Malthus

“Hence, as more individuals are produced than can possibly survive, there must in every case be a struggle for existence, either one individual with another of the same species, or with the individuals of distinct species, or with the physical conditions of life. It is the doctrine of Malthus applied with manifold force to the whole animal and vegetable kingdoms; for in this case there can be no artificial increase of food, and no prudential restraint from marriage. Although some species may be now increasing, more or less rapidly, in numbers, all cannot do so, for the world would not hold them.”

Charles Darwin, from *On the Origin of Species* (1859)

Darwin and the notion of economy

In the *Origin of Species*, Darwin used “economy” 26 times!

- Mostly in the form of “economy of nature”
- But also “economy of growth”, “natural economy of each island”, “natural economy of the district”, “the whole economy of any one organic being”, “division of labour”
- Search full-text: <http://darwin-online.org.uk/>

Darwin and the notion of economy

”So in **the general economy of any land**, the more widely and perfectly the animals and plants are diversified for different habits of life, so will a greater number of individuals be capable of there supporting themselves. A set of animals, with their organisation but little diversified, could hardly compete with a set more perfectly diversified in structure.”

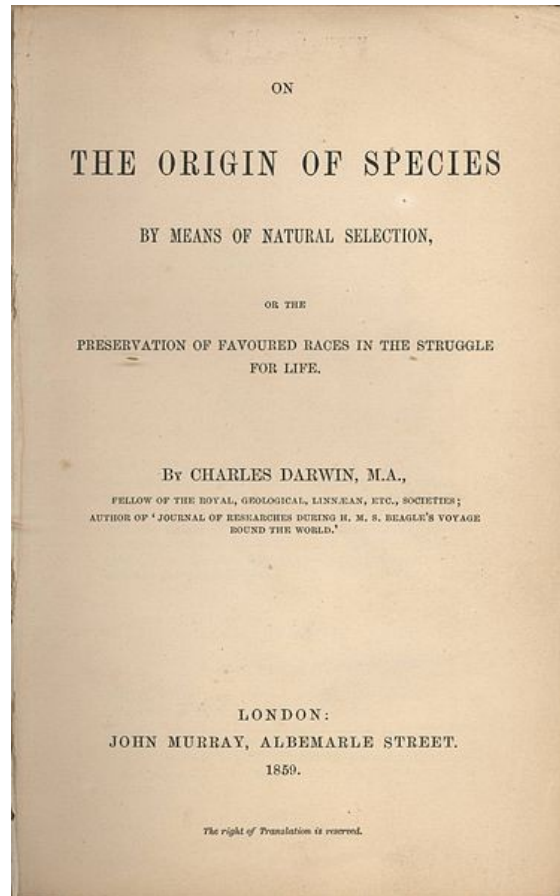
On the Origin of Species, Chapter 4

Darwin and the notion of economy

“natural selection is continually trying to **economise** in every part of the organisation.”

On the Origin of Species, Chapter 5

On the Origin of Species



- First edition: 1859
- Sixth edition, with corrections: 1876
- OoS was not Darwin's first book; it wasn't his last.
- The term "evolution" was not invented or coined first by Darwin.
- The term "evolution" has existed for ages before Darwin and evolved since Darwin.

CHARLES DARWIN
Voyage of the HMS Beagle
1831-36



Intellectual Sources of Darwin

- The idea of progression since the Ancient Greeks
- Christian theology
- Evolutionary thinkers before him, such as Lamarck



Which Darwin
later refuted!

- The tradition of observation and empiricism
- And an economist: Thomas Robert Malthus

Was Darwin an economist?

- No, Darwin was not an economist!
- But he applied the economic logic to the living nature.
- Malthus' influence on Darwin is obvious.
- How about Adam Smith?