

Malthusian Theory of Population Explained

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The Malthusian Theory of Population is a theory of exponential population growth and arithmetic food supply growth. Thomas Robert Malthus, an English cleric, and scholar published this theory in his 1798 writings, *An Essay on the Principle of Population*.

He believed that through preventative checks and positive checks, the population would be controlled to balance the food supply with the population level. These checks would lead to the Malthusian catastrophe.

1. Population and Food Supply

Thomas Malthus theorized that populations grew in [geometric progression](#). A geometric progression is a sequence of numbers where each term after the first is found by multiplying the previous one by a fixed, non-zero number called the common ratio. For example, in the sequence 2, 10, 50, 250, 1250, the common ratio is 5.

Additionally, he stated that food production increases in [arithmetic progression](#). An arithmetic progression is a sequence of numbers such that the difference between the consecutive terms is constant. For example, in the sequence 2, 5, 8, 11, 14, 17, the common difference is 3. He derived this conclusion due to the [Law of Diminishing Returns](#).

From this, we can conclude that populations will grow faster than the supply of food. This will lead to a shortage of food.

2. Population Control

Malthus then argued that because there will be higher population than the availability of food, many people will die from the shortage of food. He theorized that this correction will take place in the form of Positive Checks (or Natural Checks) and Preventative Checks. These checks would lead to the Malthusian catastrophe, which would bring the population level back to a 'sustainable level'.

A. Positive Checks or Natural Checks

He believed that natural forces will correct the imbalance between food supply and population growth in the form of natural disasters such as floods and earthquakes and man-made actions such as wars and famines.

B. Preventative Checks

To correct the imbalance, Malthus also suggested using preventative measures to control the growth of the population. These measures include family planning, late marriages, and celibacy.

Criticisms of the Malthusian Theory of Population

1. Population Growth

The gloom and doom forecasts put forward by Malthus have not played out. In Western Europe, populations have grown (not at the rate Malthus predicted) and food production has also risen because of technological advancements.

2. Food Production

Thanks to many technological advancements, food production has dramatically increased over the past century. Often, the food production rate has grown higher than the population growth rate. For example, during the 1930s in the US, 25% of the population worked in the agricultural sector while the total GDP was less than \$100 billion to the [GDP](#). Today, less than 2% of the population works in the agricultural sector while the total GDP is over \$14 trillion.

3. Global Trade

Malthus' theory on food production constraints was largely based on the limited availability of land. However, thanks to globalization we can trade good and services for food, which increases the amount of food a country can consume.

4. Calculations

Malthus did not provide calculations for the geometric growth of populations and the arithmetic growth of food. Since then, experts have pointed out that the growth rates are not consistent with Malthus' predictions.