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Critiques of Malthusian Population Trap (A Perspective of Islamic Economics)

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Abstract

An essay of a pastor and political economics expert Thomas Robert Malthus in 1978 concerning the population principles explained that the rate of population growth was measured by geometrical progression (1,2,4,8, and so on) while the rate of food production growth was measured by arithmetic progression(1,2,3,4, and so on). The essay implied, that there will be a situation where the amount of food or resources will not be sufficient to meet the human needs. Another effect is poverty which will obstruct the economic development. Islamic economics contradicts the theory of Malthusian Population Trap and views population growth as something suggested.

Keywords: Malthus, the study of population, Islamic economics

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1. Introduction

Malthus is an expert who is well known on his expertise in population matters. Within discussions of economic theory and population his name is almost always involves wether in those who revise his theories, criticize it, and even some debunk it. His theory was incredebly influential in various fields as well as to many other experts, not only to economists and sociologists. Subair (2015) stated that Malthus's views also influenced the field of biology. Charles Darwin said that he had read the Malthus's Essay on the Principle of Population and that the essay presented an important link in the theory of evolution in scientific selection.

Thomas Malthus in his essay on the Principles of Population in 1978 argued that a low and stationary level of per capita income before the end of the eighteenth century was in a causal way slightly related to the rate of population growth. Higher income increases the population by stimulating marriage which therefore birth rate is become higher. In addition, there was also a decrease in the mortality rate caused by malnutrition

due to the overall improved nutritional intake. The decreasing marginal productivity also reactively caused a decrease in the per capita income in a higher amount of population. This dynamic model implies a stationary population in long-term equilibrium (Chiarini, 2010).

Islamic economics is a field of economy based on the principles of Islam. Islamic economics is based on the Qur'an, the Hadith of the Prophet Muhammad and opinions of ulama (Luthfi, 2016). One of the hadith regarding the population is

تَزَوَّجُوا الْوَدُودَ الْوَلُوْدَ فَإِنِّي مُكَاثِرٌ بِكُمُ الْأُمَمَ

Meaning:

"Marry the merciful and fertile woman, thus I am proud of your amount in front of other people." (Saheeh History of Abu Dawud, Nasa'i, Ibn Hibban and Judge from Ma'qil bin Yasar street).

The hadith above stated that the Prophet Muhammad recommended the people to increase their number of offspring. It can be interpreted that a large population is not a problem in the Islamic economics. This certainly contradicts Malthus' theory of populations commonly known as malthusian population trap. Malthus explained that the increasing level of population created a exiguous lifestyle thus hampering the pace of economic development. The purpose of this study is to analyze Malthus' view of the correlation between population growth and economic development. The Malthusian Population Trap Theory will be reviewed for its relevance from an Islamic economics perspective.

2. Literature Review

2.1. Malthus' biography

Thomas Robert Malthus was second child of a middle class couple on born in February 13, 1766 at 'The Rookery' near Wotton, Surrey. He died on December 29, 1834 on a visit to Bath, and was buried in Bath Abbey. His father was Daniel Malthus (1730-1800), a man who was interested in literature and science and also an acquaintance of Jean-Jacques Rousseau. Thomas Robert Malthus was educated by Rev. Richard Graves at his home near Bath from 1779 to 1781. Malthus then attended Dissenting Academy in Warrington, Lancashire - an institution for nonconformists Protestant - up until its dissolution in 1783. In 1784 at the age of 18, Malthus studied at Jesus College, Cambridge (Dunn, 1988) and graduated in 1788. He earned a Master's degree in 1791

and in 1798 he became a pastor of the Church of England. Malthus married his cousin Harriet Eckersall in 1804 in Claverton near Bath and they had three children, a male and two female (Dupaquier, 2015) in (Petersen, 1979). In 1805 he was appointed as Professor of Political Economy at East India College in Hertford. In 1809 he moved to Haileybury, near Hertford. Malthus was the first person in England to hold the title of Professor of Political Economy (Hodgson, 2004).

2.2. Malthusian population trap

Thomas Malthus was well known for his essay on The Principle of Population in 1798. In this essay, Malthus predicted the world population would grew twice in geometric progression (1,2,4,8...) approximately in every 35 years. If it is estimated that there will be 6.3 billion people on earth in 2000 and 12.6 billion in 2035, then 25.2 billion in 2070, and then finally 50.4 billion in 2105 (Markert, 2005). The overwhelming increase of population was offset by the diminishing return of fixed factor of production which is land, food on the other hand will only increase in an arithmetic progression (1,2,3,4...). In fact, because each member of the population works on increasingly narrow land their marginal contribution to food production decreases, thereby drive the life of population on the subsistence level.

Therefore Malthus argues that the only way to improve the degree of life or preventing absolute poverty, the population must carry out both moral and birth control. Malthus' analysis of the population that live at the subsistence level of income as "*low level equilibrium population trap*" or the *Malthusian Population Trap*. Malthus' model can be explained by comparing the form and position of the population growth curve and the level of aggregate income as the following: (Indrayani, 2010).

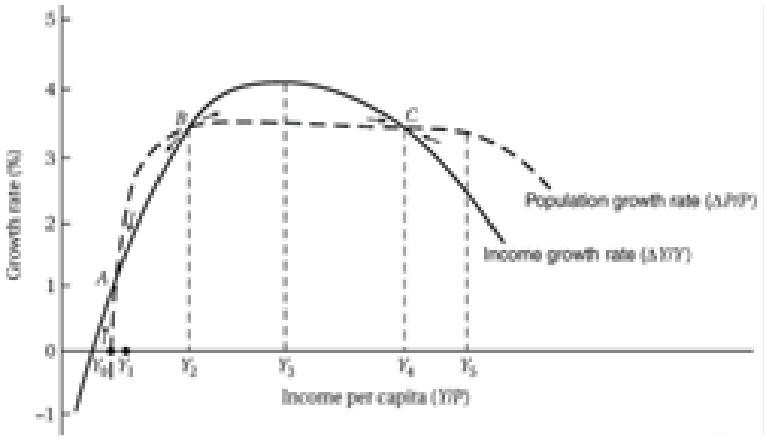

Figure 1: Malthusian Population Trap Model. Source: *Pembangunan Ekonomi* (translated version,Todaro, 2006).

Figure 1 describes the Malthusian Population Trap Model. When per capita income is extremely low (Y0), the total population growth is zero, there are no births nor deaths, there is no change in the amount of population. It reflects a stable population, meaning Y0 is the concept of absolute poverty. The intermittent curve illustrates the corelation between the rate of population growth (on the vertical axis) and the level of per capita income Y/P (on the horizontal axis).

At the level of per capita income is above Y0, the population will increase due to the decline in mortality level. As higher income will reduce hunger and diseases. In Y2, it assumes the maximum number of birth with a birth rate that remains at the maximum biological level and will stagnate to the level of per capita income Y5. After Y5, the birth rate will decrease and the population growth curve will follow to be lower. After passing a certain level of per capita income (Y3), the income growth curve is assumed to stagnate and will decrease since more investment capital and labor are utilized to work on land with a fixed quantity which then lead to the diminishing returns in the Malthus Theory.

These curves intersect at three points A, B and C. Point A is the achievement point of the level of per capita income (Y1) of the Malthus trap model. It is a stable equilibrium poin which in every bit of movement right or left from point A will bring the equilibrium point of per capita income level returns to Y1. For example, if the level of per capita income rises from Y1 to Y2, the rate of population growth will increase and the increase exceeds the growth rate of aggregate income (ΔP/P curve) vertically higher than the curve (ΔY / Y). When the population increases faster than the level of income, then the per capita income will decrease. Therfore, the arrow from the right which points to point A indicates that the level of income per capita will drop back to its lowest point at Y1 and this applies to all points between Y1 and Y2, and vice versa for the area on the left of point A in where the level of income is higher than the rate of population growth, the equilibrium level of per capita income will increase to Y1.

Point B is an unstable equilibrium point. If the level of per capita income rapidly jumps from Y1 to Y2 (for example a productive investment program and massive industrialization) before Malthus positive control emerges, the level of per capita income will continue to increase until it reaches a new equilibrium point that is stable which is point C. With the amount of per capita income level of Y4. Point B is an unstable equilibrium point for the reason of any movement that occurs in the surrounding area, either to the left or right will continue to move until it reaches to the point A or point C.

2.3. Previous studies

A research on the malthus theory was conducted by Musa Abdullahi Sakanko and Joseph David (2018). The study called ”An Econometrics Validation of Malthusian Theory: Evidence in Nigeria”. The study explains that increasing population is an asset thereby must be utilized optimally. Skilled and hard-working populations can be the foundation of a country’s development. Another study with title of ”Economic Growth in the Roman Mediterranean World: An Early Good-bye to Malthus?” (2015) from Paul Erdkamp explained that in Rome and pre-industrial countries, the market would do better when combined with population growth. In some western countries demographic growth and revenue growth does not go hand in hand while in the eastern countries demographic growth and income growth march together towards prosperity.

3. Methodology

The research method used is a study of literature combined with a socio-historical approach (Risza, 2014). The study of literature is used to gather Malthus thinking related to population growth, economic development, and theories that develop in the realm of classical economics and Islamic economics. All the collected literature is then analyzed to find out an overview of Malthus’ thinking in terms of Islamic economics. The socio-historical approach is used to understand Malthus’s background so that the theory of population trap appears.

4. Result and Discussion

4.1. Population growth is not the main issue

The main problem is not actually the growth of the population itself as explained by Malthus but ther related issues, such as:

4.2. Underdevelopment

The problem of underdevelopment is one of the problems faced by countries in various parts of the world, especially in the poor and developing countries. Parents choose to have many children as a form of assistance and to guarantee them later in elderly period. This will be less appropriate when the parents cannot educate their children

properly therefor the burden of the country increases as the number of low quality human resources increases.

Islam regulates the importance of knowledge for every Muslim to avoid idiocy as in the following hadith:

قَالَ رَسُوْل اللّٰه صلى اللّٰه عليه وسلم طَلَبُ الْعِلْم فَرِيْضَةً عَلى كُلّ مُسْلِمٍ ووضِعَ العِلْمِ عِنْدَ غَيْرُأَهْلِهِ كَمُقَلِّدِ الْخَنَا زِيْرِ لْجَوْهَرَولَلؤْلُؤَ وَالذَّهَبَ

Meaning:

"*The Prophet Muhammad, said: Seeking for knowledge is obligatory for every Muslim, handing knowledge towards those who are not the experts is like ones who carry pigs with gems, pearls, or gold*" (Hadith History of Ibn Majah).

In Islam, it is obligatory to seek knowledge therefore enhaces the quality of oneself. The higher the level of education of the people in a country will further increase the pace of development in the country itself (including economic development).

Underdevelopment is also not only in the terms of education, for another example is in health. Underdevelopment in health also causes an increase in the burden of the state because then the state must spend a large amount of money to provide health insurance. Islam also teaches that every Muslim to always maintain the health of oneself as in the hadith:

الْمُؤْمِنُ الْقَوِيُّ خَيْرٌ وَأَحَبُّ إِل اللّٰه مِنَ الْمُؤْمِنِ الضَّعِيفِ

Meaning:

"*Believers who are strong are better and are loved more by Allah subhanahu wa ta'ala than ones who are weak*." (Hadith of Muslim history from Abu Hurairah)

The better the health of the population in a country, the better the human resources will be considering of one of the indicators of the human development index is health. The high level of human resources impacts on the high economic development in the country itself (Todaro, 2006).

Malthus assumed that land availability as a factor production was limited causing food production would also be limited. In this era these assumptions are disputed, increasingly advanced education has led to increasingly sophisticated technology. This current sophisticated technological advances provoking production factors to increase even though the amount of land is limited. Technology has also advances health thus create an increase in per capita income which caused by economic development.

The measurement of population growth with geometric progression (1,2,4,8, and so on), while food production is measured with arithmetic progression (1,2,3,4 and so on) which Malthus stated will leads to a condition where people live an exiguous lifestyle, per capita income will be so low that the rate of economic development is hampered. However, Malthus concern did not occur, the curve below shows the corelation between population growth rate and income growth rate:

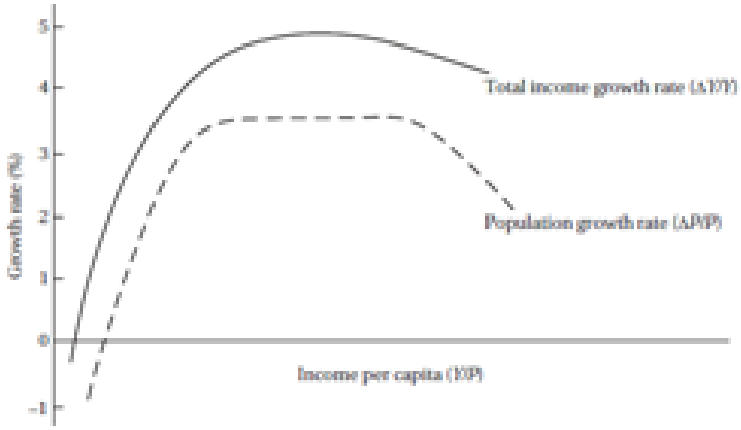

Figure 2: How the technology spares from the Malthusian Population Trap Model Source: Ekonomi Pembangunan (translated version, Todaro, 2006).

Technological advancements have caused food production to increase even though lands are limited nowadays, which leads to growth in income. An increasing health level inducing the mortality rate to decline and population growth to rise. Both curves turned out to be in the same direction and not intersecting as Malthus feared. Malthus did not consider the technology development in his theory.

4.2.1. Depletion of natural resouces

Natural damage caused by massive exploitation provoked the rate of economic development to decline. This happens through the high costs endure by developing countries. Todaro (2006) stated that twenty percent of the poorest population is the first group of people who bear the burden of environmental damage. People of North America and Europe directly or indirectly consume food, energy and other material or natural resources almost 16 times more compared to the population of developing countries. The high fertility rate in developing countries is actually caused by the low standard of living as a result of the overconsumption of scarce natural resources by wealthy countries. The *surah Al-A'raf* from the Qur'an preaches that Muslims must not over-exploit and brought damage to nature:

وَلَا تُفْسِدُوا فِي الْأَرْضِ بَعْدَ إِصْلَاحِهَا وَادْعُوهُ خَوْفًا وَطَمَعًا ۚ إِنَّ رَحْمَتَ اللَّهِ قَرِيبٌ مِنَ الْمُحْسِنِينَ

Meaning:

" And do not do mischief on the earth, after it has been set in order, and invoke Him with fear and hope; Surely, Allah's Mercy is (ever) near unto the good-doers."

4.2.2. Distribution of Population

The inequality of population distribution between different regions also contributes to the pace of economic development in within a region. Places with high population density will deplete the its natural resources. For example in Indonesia, where the majority of the population is concentrated in the Island of Java. This leads to the natural resources in the Island of Java to become lessen.

The government's role as a regulator is needed in order to obstruct the imbalance population distribution between regions so that it becomes evenly distributed. Trans-migration from areas with high population density to areas with low population density becomes necessary.

The Qur'an explains the need for the spread of the population. Allah's sustenance is scattered in all corners of the world as in Surah Al Mulk v. 15:

هُوَ الَّذِي جَعَلَ لَكُمُ الْأَرْضَ ذَلُولًا فَامْشُوا فِي مَنَاكِبِهَا وَكُلُوا مِنْ رِزْقِهِ ۖ وَإِلَيْهِ النُّشُورُ

Meaning:

"*Allah, Who has made the earth subservient to you, so walk in the path thereof and eat a portion of Allah's provision, and only to Allah you will be back after the Resurrection*."(Surah Al Mulk verse 15).

4.2.3. State/condition of the women

Women in developing countries generally bear a lot of the burden of the poverty, the inadequate level of education, the scarcity of adequate employment, and minimal mobility. The poor role and status of women causes limited access to birth control. If the level of health, education and economic welfare of women is improved and in line with the role and status of women in their family and society (empowerment of women) then there will be no population explosion (Todaro, 2006). Population growth in Islam is indeed recommended, but if it reaches the stage of population explosion and even the government cannot empower or make regulations related to welfare and increase the quality of the population, problems will still emerge.

4.3. The importance of population growth

Population growth is not a problem but an important thing for the economy. The high population causes the demand of various goods and services to increase. Microeconomically, when demand increases, the economy will develop and create economies of scale in production.

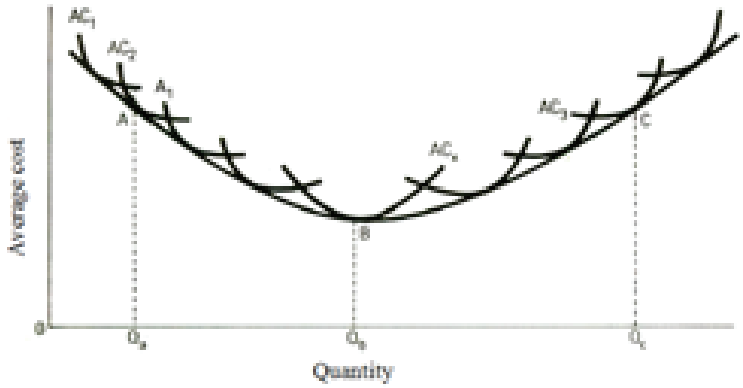

Figure 3: Economies of Scale.

Notes:

AC: Short Run Average Cost

LRAC: Long Run Average Cost

Figure 3 explains, in the long term the average production costs will decrease due to economies of scale (Qa → Qb). Economies of scale occur when the increase in production causes the average production costs to be lower. Higher number of production as a result of the increased demand provokes companies to increase their production capacity and this increase in capacity causes production activities to be more efficient. Another positive effect that occurs in the macroeconomics area is that the national income increases as a result of the multiplying aggregate consumption.

$$Y = C + I + G + (X - M) \tag{1}$$

Todaro (2006) describes three other reasons that fall into the non-economic category of positive effects of population growth such as:

1. Numerous countries think it necessaru to increase their number of citizen regarding to border defense matters.

2. Plenty of ethnic, racial and belief groups in developing countries prefer to have large families. Based on human rights, this groups needs to be given the place.

3. The military strength of a country tightly depends on the number of the young people of the country.

5. Conclusion

Based on the previous analysis and discussion it is concluded that the Population Trap Theory by Malthus which explained that population growth is a problem that will hinder the speed of economic development is not in line with Islamic economics principles. Islam views the growth of the population as a positive thing. Population growth is actually an asset for a country therefore it can be utilize as component of economic development.

[1] Chiarini, Bruno (2010). "Was Malthus right? The relationship between population and real wages in Italian history, 1320 to 1870". *Explorations In Economic History 47 (2010) 460–475*.

[2] Dupaˆquier, Jacques. (2015). "Malthus, Thomas Robert (1766–1834)". *International Encyclopedia of the Social & Behavioral Sciences, 2nd edition, Volume 14* http://dx.doi.org/10.1016/B978-0-08-097086-8.61083-8.

[3] Dunn, Peter M. (1998). "Thomas Malthus (1766-1834): Population Growth And Birth Control". Archives of Disease in Childhood - Fetal and Neonatal Edition · January 1998 DOI: 10.1136/fn.78.1.F76

[4] Erdkamp, Paul (2015). "Economic Growth in the Roman Mediterranean World: An Early Good-bye to Malthus?". *Explorations In Economic History.* S0014-4983(15)00061-3. doi: 10.1016/j.eeh.2015.11.004.

[5] Hodgson, Geoffrey Martin (2004). "MALTHUS, Thomas Robert (1766-1834)". *The Biographical Dictionary of British Economists, edited by Donald Rutherford (Bristol: Thoemmes Continuum).*

[6] Indrayani, Agnes Ratih Ari. (2010). "Ketahanan Pangan Nasional Dan Teori *Population Trap*". *Efektif Jurnal Bisnis dan Ekonomi Vol. I, No. 1, Juni 2010, 81 – 87*

[7] Luthfi, Faishol. (2016). "Analisis Faktor-Faktor Yang Mempengaruhi Preferensi Menabung Mahasiswa Santri Di Perbankan Syariah (Studi Kasus: Pondok Pesantren Madinah Munawwarah, Pondok Pesantren Luhur Wahid Hasyim, Pondok Pesantren Darul Falah)". *Skripsi Tidak Dipublikasikan*. Universitas Diponegoro.

[8] Markert, Journal (2005). "The Malthusian fallacy: Prophecies of doom and the crisis of Social Security". *The Social Science Journal 42 (2005) 555–568.*

[9] Petersen, W., 1979. Malthus Reconsidered. Harvard University Press, Cambridge, MA.

[10] Risza, Handi. (2014). “Kritik Ilmu Ekonomi Strukturalis Dan Islam Terhadap Ekonomi Neoklasikal”. *Jurnal Al-Iqtishad: Vol. VI No. 2, Juli 2014*

[11] Sakanko, Musa Abdullahi and Joseph David (2018). “An Econometrics Validation of Malthusian Theory: Evidence in Nigeria”. *Jurnal Ilmu Ekonomi Volume 7 (1), 2018: 77 – 90. P-ISSN: 2087-2046; E-ISSN: 2476-9223.*

[12] Subair. (2015). “Relevansi Teori Malthus Dalam Diskursus Kependudukan Kontemporer”. *Jurnal Dialektika, Vol. 9, No. 2, Januari Desember 2015, Hlm. 96-110.*

[13] Todaro, Michael.P dan Smith Stephen C, 2006. Pembangunan Ekonomi Edisi. Kesembilan, Jilid 1. Jakarta: PT Erlangga (Terjemahan).