

Extended Essay Economics

Does micro credit affect the human development of Narayanganj, Dhaka?

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Session : May 2012

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Word Count : 3856

Abstract

In this essay, the research question: Does micro-credit affect the human development of Narayanganj, Dhaka? will be examined. To answer this research question the link between microcredit, poverty cycle, economic growth and human development were examined.

Primary data was collected through surveys. The survey was conducted in Narayanganj with two separate groups of people, one consisting of people using microcredit and the other consisting of people who were not using microcredit. Then an index was created for measuring human development by the author which is similar to the human development index (HDI) used by United Nations Development Programme (UNDP). Furthermore t-tests were performed to show that there was a significant difference in the human development of people not using microcredit and people using microcredit. Secondary data was collected of HDI over the last 10 years (from 2000-2010), and then compared with the computed human development measure (created by the author). This was used to show whether the data collected is an accurate representation of the situation of Bangladesh as a whole. Then the rate of increase of development was also measured over time (shown graphically), and applied to the primary data collected of human development to understand whether the people using or not using microcredit have a greater increase in human development over time. The primary and secondary data collected state that there is a relationship between implementation of micro-credit and human development and that microcredit causes human development to occur. However the limitations and assumptions of the calculations and the model used have been mentioned throughout the essay. Word Count : 259 words

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Does micro credit affect the human development of Narayanganj, Dhaka?

Introduction

Narayanganj district is located approximately 20 kilometres southeast from the capital of Bangladesh, Dhaka.¹ Narayanganj is one of the first places in Bangladesh to trade threads and dying items. Narayanganj is famous for its 'Jamdani sari' production and cottage industries. Though agriculture is the backbone of the Bangladeshi economy, international trade, imports and exports are also crucial for the economy.² 'Microcredit' is a small amount of loan usually not more than couple of hundreds of dollars³, given to micro entrepreneurs⁴ (owners of small businesses) in order to start or improvise their own business. It is believed that Professor Muhammad Yunus first⁵ started providing micro credit to people through 'Grameen Bank' established in Bangladesh in the year 1976.⁶

The development aspect that this extended essay covers takes into account literacy rates, infant mortality rates and the income levels. This is similar to United Nations Development Programme's 'Human Development Index' which is the composite index which takes into account the adult literacy rates, life expectancy and gross domestic product (GDP) adjusted with the PPP.⁷ This index is a measure of the overall development of a country since it takes into account the three basic indicators of human development which are health, knowledge and income.⁸ As the birthplace of micro crediting is in Bangladesh, I thought it would be interesting to find the relationship between human development index (HDI) and micro-crediting (specifically provided by grameen bank), and the effect that one variable has on the other (if any).

The link between micro-credit and poverty cycle, poverty cycle and economic growth, economic growth and human development are crucial to examine. These links will be explained in detail later on, in this essay. Microcredit breaks the poverty cycle, which promotes economic growth and economic growth promotes human development. Thus

¹ Islam, Prof. Sirajul. "BANGLAPEDIA: Narayanganj." *Banglapedia :: National Encyclopedia of Banglaesh*. Web. 18 Sept. 2011. <http://www.banglapedia.org/httpdocs/HT/N_0056.HTM>.

² "Narayanganj District Information." *Information about Bangladesh, District Information, Newspaper and More | BangladeshTalks*. Web. 18 Sept. 2011. <<http://bangladeshtalks.com/2011/05/narayanganj-district-information/>>.

³ "What Is Microcredit? Definition and Meaning." *BusinessDictionary.com - Online Business Dictionary*. Web. 28 Aug. 2011. <<http://www.businessdictionary.com/definition/microcredit.html>>.

⁴ Gordon, Alexander. "Micro Entrepreneurs." *Ezinearticles*. 09 Nov. 2006. Web. 28 Aug. 2011. <<http://ezinearticles.com/?Micro-Entrepreneurs&id=353611>>

⁵ "About Microcredit and History — Innovative Solutions to Global Poverty." *Empower Global — Innovative Solutions to Global Poverty*. Web. 28 Aug. 2011. <<https://www.empowerglobal.org/microcredit/>>.

⁶ "Grameen Bank | Bank for the Poor." *Grameen Bank | Bank for the Poor - Home*. Web. 28 Aug. 2011. <http://www.grameen-info.org/index.php?option=com_content>.

⁷ "Glossary." *Pearson Education*. Web. 28 Aug. 2011. <<http://wps.pearsoned.co.uk/wps/media/objects/2669/2733799/glossary/glossary.html#H>>.

"Indices & Data | Human Development Index | Human Development Reports (HDR) | United Nations Development Programme (UNDP)." *Human Development Reports (HDR) - United Nations Development Programme (UNDP)*. UNDP. Web. 08 Mar. 2011. <<http://hdr.undp.org/en/statistics/hdi/>>.

these links leads us to answer the research question, 'Does micro-credit affect the human development of Narayanganj, Dhaka?

Method of data collection

To answer this research question, a survey was conducted on two different samples of people using microcredit versus people not using microcredit. This served as primary data to make comparisons between development in people using microcredit versus development in people not using microcredit. Each sample consisted of 30 people, who have been borrowing money from Grameen bank for the last 10 years. The survey comprises of on questions literacy rates, infant mortality rates and income levels. The author personally interviewed the people of the surveys.

In addition to the primary data, secondary data was collected of human development index over time of Bangladesh was collected from the UNDP website, and also of the amount of microcredit given to people over time was collected from the Grameen bank website. As Narayanganj is a remote area public data concerning literacy rate, birth rates and income were unattainable due to the geographical accessibility as well as the lack of research done. Thus secondary data had to be collected of the HDI of Bangladesh and the amount of microcredit borrowed to the people of Bangladesh over time, because the HDI of Narayanganj over time and the amount of microcredit borrowed to the people of Narayanganj was not attainable. These two types of data were used to find whether micro-credit has an effect on development.

It would have been ideal if data could be collected from this region using a larger sample. However due to time constraints this could not be attained.

Question regarding income and infant mortality is considered very personal issues and subjected to high sensitivity thus the wording of the questions was important. The intentions of the survey had to be revealed clearly, that it is intended for a school research and not for political reasons. Furthermore instead of asking the exact income those surveyed were given ranges of incomes, to make the survey easier for both surveyor and those who were surveyed. This helped in showing the general trends however this would refrain from being very precise with the data obtained and the calculations.

In addition to the quantitative data obtained, the qualitative data helped to obtain a clearer perspective about how they thought the microcredit helped them to achieve better standard of living (for the sample who used microcredit) and also what they thought about the negative aspects of microcredit (for the sample who did not use microcredit). However qualitative data has drawbacks because it cannot be analysed like quantitative with the help of statistical analysis and other mathematical methods.

Formula/Calculations

My general formula used to measure development is the same as the general formula used by UNDP to calculate HDI, this formula is termed as the 'x-index'. The x-index is :

$$\text{Index } (i,j) = \frac{\text{actual value } (i,j) - \text{minmum value}(i)}{\text{maximum value } (j) - \text{minmum value}(i)}$$

* i, j represent variables of an index

I measured development (which is similar to HDI) for both the samples (using microcredit and not using microcredit) for comparison. The three indexes used as indicators of development are explained below :

Education index : UNDP uses adult literacy and gross enrolment index⁹ as a composite measure of the education component of the human development index. The public records of gross enrolment rates from a small town like Narayanganj is almost impossible to find . Instead I thought that finding the percentage of number teenagers going to school out of the total number of teenagers in each family is a convenient measure because it gives an accurate measure of how developed each family is in terms of education.

Thus my altered education index is :

$$\frac{\text{average percentage of teenagers going to school} - 0}{100 - 0}$$

* 0 representing no teenagers in the family go to school

* 100 representing all teenagers in the family go to school

Health care index : UNDP uses life expectancy ¹⁰ as a measure of healthcare. But it would be very difficult and perhaps inaccurate for me to try to determine the life expectancy (age of the people through the surveys). This is since I interviewed people from a rural area and they do not keep a record of their birth date/age. Thus I found out how many children died in the family under the age of 5. However to qualitatively measure development I found the percentage of the children who survived out of the total number of children initially born in the family. Thus the altered healthcare index is :

$$\frac{\text{average percentage of children who survived} - 0}{100 - 0}$$

* 0 representing no children survived in the family

* 100 representing all the children survived in the family

GDP index : UNDP uses GDP per capita (PPP US\$) to calculate this index. I thought that the income method would be more convenient to calculate the GDP other than the expenditure method and the output method because the it would be easier to find the incomes of the people (by asking them) rather than finding the total output or total spending. For the sample using microcredit, the value of money borrowed (amount of microcredit) for the current year was subtracted to get the real income. The incomes were adjusted by the purchasing power parity (PPP) value of 28.44¹¹ (Bangladesh's most recent PPP rate of

⁹ *Calculating the Human Development Indices*. United Nations Development Programme. PDF.

¹⁰ "Statistics | Getting and Using Data | HDI Calculator | Human Development Reports (HDR) | United Nations Development Programme (UNDP)." *Human Development Reports (HDR) - United Nations Development Programme (UNDP)*. Web. 17 Sept. 2011. <<http://hdr.undp.org/en/statistics/data/calculator/>>.

¹¹ Fedec, Anna. "Indicators for Bangladesh." *TradingEconomics.com - Economic Data for 196 Countries*. Web. 17 Sept. 2011. <<http://www.tradingeconomics.com/bangladesh/indicators>>.

2010). The maximum and minimum incomes were denoted by looking at the highest incomes and lowest incomes at both the samples. The maximum and minimum incomes used to measure development for both of the samples were same in order to ensure that the controlled variables were kept constant. Thus the altered index is :

$$\frac{\log(\text{average income}) - \log(\text{minimum income})}{\log(\text{maximum income}) - \log(\text{minimum income})}$$

The last step was to combine all the three indexes (this step is the same step as using by UNDP to combine the three indexes in order to calculate HDI) :

$$\frac{1}{3}(\text{education index}) + \frac{1}{3}(\text{health index}) + \frac{1}{3}(\text{GDP index})$$

Implication of theory

To investigate the research question, it is crucial to examine the link between the role of microcredit in breaking the poverty cycle, poverty alleviation leading to economic growth and economic growth leading to human development.

Role of Microcredit Microcredit can help the families to break out of the poverty cycle. Through the self employment opportunities it helps to elevate poverty because communities will be able to generate their own incomes and it is also create employment services for the community.¹² The poverty or the development trap is the cycle of events of factors, which are the barriers to growth and development which ones started don't end unless there is an intervention from any outside source.¹³ The cycle of events are termed as the poverty cycle or the 'cycle of poverty' Nobel Laureate and the founder of Grameen Bank, professor Muhammad Yunus states that microcredit is 'a fundamental human right' and it breaks the cycle of poverty, so that the micro-entrepreneurs¹⁴ have enough loan to buy raw materials which would help them to start new businesses. Thus it generates self-employment and helps to raise income¹⁵. It helps to fulfil the basic needs of life such as food, shelter, clothing and create opportunities in the present and in the future for these micro-entrepreneurs¹⁶.

The relationship between economic growth and poverty alleviation

Poverty is the state of not being able to acquire the different components of well being and the 'basic goods and services necessary for survival with dignity' as stated by the world bank website. Poverty also includes the state of having low health and education levels.¹⁷

¹² Fehmeen. "Microfinance – Important Role in Economic Growth." *Microfinance Hub*. 11 Feb. 2011. Web. 28 Aug. 2011. <<http://microfinancehub.com/2010/02/11/the-role-of-microfinance-in-economic-growth/>>.

¹³ Wijerathna, Sameera. "The "Development Trap"-How It Relates to Poverty « Real Poverty." *Real Poverty*. 1 Jan. 2011. Web. 28 Aug. 2011. <<http://www.realpoverty.org/the-development-trap-how-it-relates-to-poverty/>>.

¹⁴ *Banker To the Poor* by Muhammad Yunus. Web. 08 Nov. 2011. <<http://www.bankertothepoor.com/>>.

¹⁵ Latifee, H. I. *Micro-credit and Poverty Reduction*. Grameen Trust. PDF.

¹⁶ Latifee, H. I. *Micro-credit and Poverty Reduction*. Grameen Trust. PDF.

¹⁷ "Poverty - Poverty and Inequality Analysis." *World Bank Group*. Web. 28 Aug. 2011.

<<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY/0,,contentMDK:22569747~pagePK:148956~piPK:216618~theSitePK:336992,00.html>>

According to UNDP, In Bangladesh about 50% of the people are living below the poverty line of \$1.25 per day (1994 -2008) ¹⁸

Human development is hindered in countries which are held by the poverty trap¹⁹. It is almost impossible for poor families who are stuck in the poverty of cycle to break it for at least three generations. As the generations lack or have limited resources of factors such as education, health and income, the subsequent generations suffer, and thus it is impossible to break out of the cycle. ²⁰ Thus due to the poverty cycle, poverty and economic growth have a crucial relationship. Poverty and Economic growth have an inverse relationship of when there is high poverty there will be low economic growth, and when there is low poverty there is high economic growth. ²¹ An economic activity which consists of the measurement of the increase in the real national income of a country, this type of economic activity is known as the economic growth.²² Thus if poverty is reduced, then there will be economic growth.

The relationship human development index and economic growth.

Human development measures the three aspects of life education, income and healthcare. According to Ranis, Stewart and Ramirez²³, there is a symbiotic relationship between economic growth and human development. Gross national product (main indicator of economic growth)²⁴ contributes to human development through households, government expenditure etc. However the same amount of GNP can lead to different levels of human development because of the distribution of the gross national product in categories such as education. With rise in economic growth the likely hood of the households allocating their incomes towards education and healthcare increases (the components of human development index), however there are other factors which effect this decision such as distribution of income in the households and who controls the distribution of income. According to Berham (1993²⁵ and 1996²⁶) generally as income of the poor rises, the allocation of income on aspects of human development such as education, health care increases. Thus as economic growth increases the income poverty among the people living in poverty decreases, thus this increases their investments and the income allocated for human development aspects. ²⁷

¹⁸ "UNICEF - Bangladesh - Statistics." *UNICEF - UNICEF Home*. Web. 28 Aug. 2011. <http://www.unicef.org/infobycountry/bangladesh_bangladesh_statistics.html>.

¹⁹ Ahmed, Salehuddin, and Muhammed Abdul. Hakim. *Attacking Poverty with Microcredit*. [Dhaka]: Palli Karma-Sahayak Foundation, 2004. Print.

²⁰ "What Is the Cycle of Poverty? - Christian Reformed Church." *Home - Christian Reformed Church*. Web. 28 Aug. 2011. <http://www.crcna.org/pages/sea_cycleofpoverty.cfm>.

²¹ *Does Poverty Matter for Growth*. World Bank. PDF.

²² Blink, Jocelyn, and Ian Dorton. *Economics: Course Companion*. Oxford: Oxford UP, 2007. Print.

²³ Ranis, G., F. Stewart and A. Ramirez, 2000, 'Economic Growth and Human Development', *World Development*, 28, 2, 197-21

²⁴ "DEPweb: Beyond Economic Growth, Glossary." *World Bank Group*. Web. 22 Sept. 2011. <<http://www.worldbank.org/depweb/english/beyond/global/glossary.html>>.

²⁵ Behrman, J. R., 1993, 'The Economic Rationale for Investing in Nutrition in Developing Countries,' *World Development*, 21

²⁶ Behrman, J. R., 1996, 'Impact of Health and Nutrition on Education,' *World Bank Research Observer*, 11.

²⁷ McArthur, Sachs, and Maddison. *Overcoming Structural Barriers to Growth—to Achieve the Goal*. Human Development Report. PDF.

Through the links between microcredit, poverty cycle, economic growth and human development, thus that there is correlation between microcredit and human development and that injecting micro-credit into a community does help to increase human development of that community.

Analysis

Primary Data

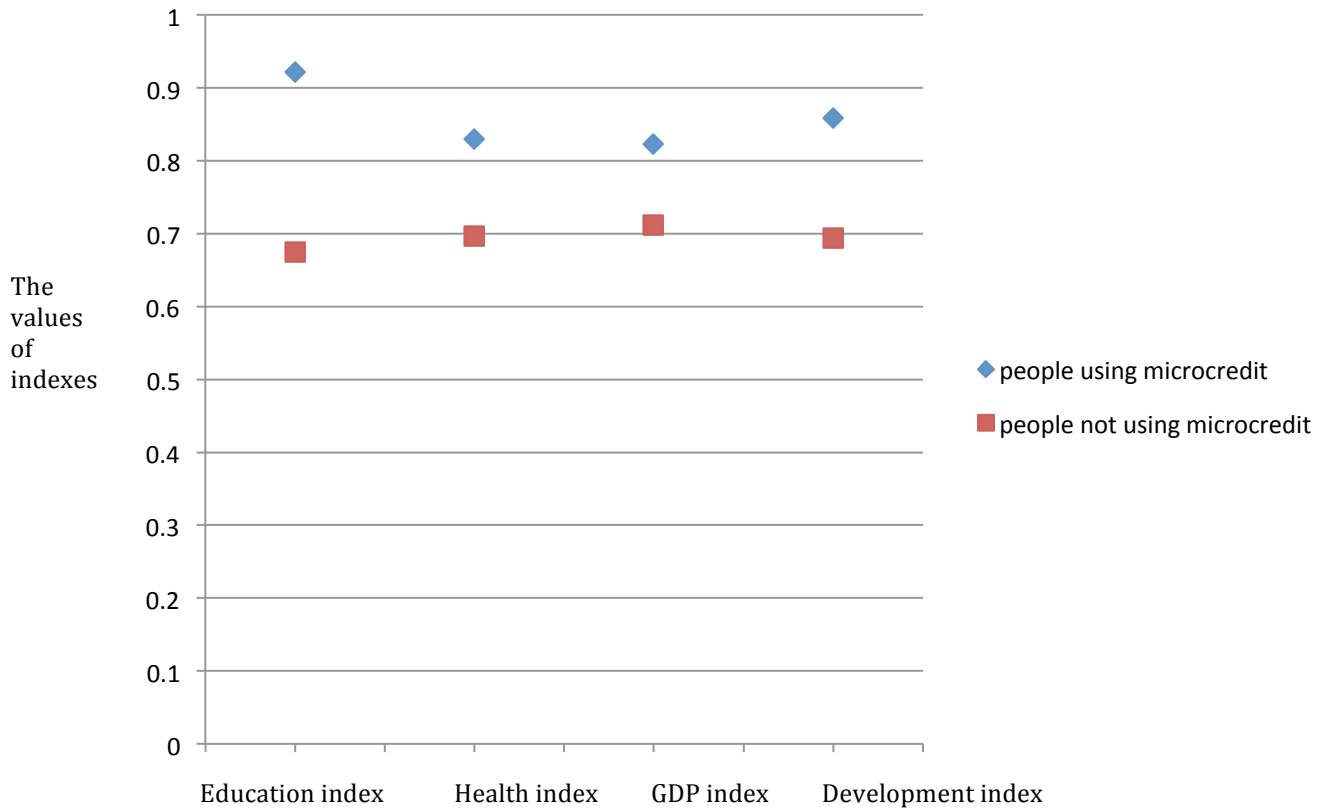
This can be further shown through my data.

Figure 1: showing the calculated indexes corresponding to people using and not using microcredit

| indexes | people using microcredit | People not using microcredit |
|-------------------|--------------------------|------------------------------|
| education index | 0.921 | 0.674 |
| health index | 0.83 | 0.696 |
| gdp index | 0.823 | 0.711 |
| development index | 0.859 | 0.694 |

As shown on table 1 all the indexes of people using microcredit appear to be higher than the people not using microcredit. Thus this shows that the people using microcredit are more developed than the people not using microcredit in terms of educational capabilities, healthcare facilities, incomes (shown through the gdp index). Thus making the overall development index (which is composite index of education, health and gdp index) a lot higher. This can also be shown through the following graph where all the indexes of people using microcredit appear higher than the indexes of people not using micro-credit

Figure 2 showing the measure of development (education index, health index, gdp index and development index) corresponding to the values obtained from the quantitative data of people using and not using microcredit



However, a statistical test is necessary to show the statistical difference between these development indexes because merely observing the values on the table might not give us an accurate representation of, whether the values of the indexes of the people using microcredit is significantly different from the people not using microcredit. Thus a independent sample t-test ²⁸ is necessary to investigate the significance difference of the means of indexes of people using microcredit versus people not using microcredit. Please note that the mean has been used as a measure in this context because t-tests provide with the significant difference between the means of two different samples, and not the comparison of the individual indexes.

²⁸ "T-Test | Statistically Significant Consulting." *Statistical Consultant | Statistically Significant Consulting*. Web. 22 Oct. 2011. <<http://www.statisticallysignificantconsulting.com/Ttest.htm>>.

Null hypothesis : There is no significant differences between the mean of indexes of people using microcredit and mean of indexes of people not using microcredit.

Figure 3 showing a t-test table used to compare the average indexes for people using and not using microcredit.

| Index used in the t-test for comparision | P value (> 0.05 or < 0.05) | Significant difference between the averages. |
|---|-------------------------------------|---|
| Average indexes for people using microcredit and people not using microcredit | < 0.05 | Yes |

The t-tests indicates to rejects the null hypothesis and conclude that there is a significant difference between the mean of indexes of people using microcredit and mean of indexes of people not using microcredit. Thus this indicate that the microcredit effected the sample majorly to promote development in the criterions of human development such as education, health care and GDP. However there are limitations surrounding the t-test such as, the probability of 'P' values do not give us the probability of the null hypothesis occurring, but it gives us the probability that the differences which are observed occur only by chance, thus by implying reverse logic we are assuming that significant differences must occur.²⁹

Secondary data

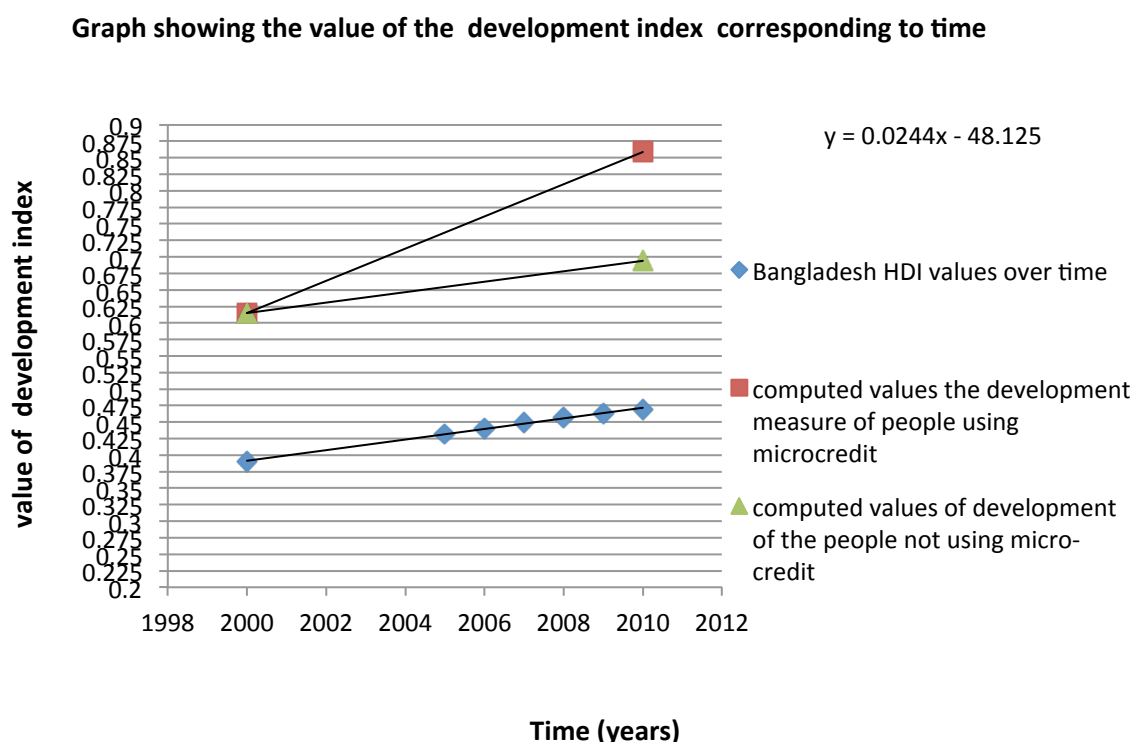
The secondary data used to support that microcredit effects human development were taken from the UNDP website, where the human development index was used as a measure for comparison. The human development index is used to compare with the calculated development index because the human development index was used as a basis to come up with the formula and the equations to compute the development index (used by the author). However there are assumptions based on this method because the human development index and the calculated measure of development are both subjected to different ways of measuring education, health and gdp indexes.

The author decided to use a different approach in using the secondary data to answer the research question. The values of human development index (obtained from the UNDP website) were graphed over time. The slope was determined (slope 1). It was assumed that the rate of increase of development over time of people not using microcredit and the people of Bangladesh would be the same .

Then the graph was drawn over time of people not using microcredit, with the values of 2011 and an assumed value of the development index of the year 2000 (10 years ago). This 'assumed value" was determined by using the same slope (slope 1) as the one of the human development index. We assumed that 10 years ago no one used microcredit, thus the development indexes of both the samples were the same. Thus the initial values of

²⁹ "Overiding Limitations of Statistics." *University of Leicester*. Web. 22 Oct. 2011.
<<http://www.le.ac.uk/bl/gat/virtualfc/Stats/limit.html>>.

development (in the year 2000) of both the people using microcredit and the people not using microcredit is the same. Then another slope was drawn consisting the value of the computed value of the human development index of people using microcredit. This is shown below :



As shown in the graph, the people using microcredit have the steepest slope of human development. Thus this implies the rate of change of human development with the people using microcredit has been the greatest, whereas the rate of change of the people not using microcredit has not been very high. This suggests that there is a positive correlation between human development and microcredit.

However it is important to understand that the computed values of development index from the area of Narayanganj is not an accurate representation of the human development index values of Bangladesh. This is because the people living in extreme poverty in the sample is a lot lower than the number of people living in extreme poverty in Bangladesh as a whole. Narayanganj is also known as the export processing zone of Bangladesh, with the presence of garment industry and medium size factories,³⁰ thus due to the presence of these facilities it can be assumed that, a higher percentage of people are employed in jobs with higher incomes compared to the other districts of Bangladesh, that's why they can allocate a larger percentage of their income in improving their education and healthcare

³⁰ Deshingkar, Priya. *Migration Development and Poverty Reduction in Asia*. Geneva: International Organization for Migration, 2005. PDF.

standards. Thus the HDI of Narayanganj compared to Bangladesh is higher. Though the graph, shows that there is a positive relationship between microcredit and human development, when microcredit is implemented in a society then the human development of that society will increase. However the assumptions with the data based on this graph, are that the rate of change of human development over the years of the people not using microcredit is the same as the rate of change for Bangladesh as a whole (from the data obtained from the UNDP website, this was assumed so that the author could determine the rate of change of HDI and apply it to the HDI values for the sample. Though this is not the most accurate way to find out rate of change of HDI of Narayanganj over the last 10 years, however it provides a realistic approach. However in reality the rate of change of human development in Narayanganj would vary as the situation of Narayanganj 10 years ago could be different from the situation of Bangladesh as a whole of 10 years ago.

Another assumption is also that the human development formula (used by the author) and the human development index (used by UNDP) vary due to the variations in the indexes, such as infant mortality used by the author instead of life expectancy (used by UNDP), thus the calculations/graph would have varied, if the same index/formula was used for all the calculations. However the graph/calculations, who the general trend of human development of people using microcredit versus people not using microcredit.

The surveys made by the author could have asked questions regarding the health care, education of 10 years ago of the subjects, however this approach would have been inaccurate since it is highly unlikely that the subjects would remember what their situation was like 10 years ago.

Conclusion

The data obtained from the primary research, and the secondary research suggests that using microcredit does have a positive effect on human development. Through the links examined between the economic aspects such as microcredit, poverty cycle, economic growth and human development, it also helped to establish that microcredit has an effect on human development. Through providing credits to micro-entrepreneurs, it helps break the poverty cycle by creating self –employment opportunities³¹ thus raising the human development. Thus micro-credit does have an positive impact on the human development of Narayanganj, Dhaka. There are assumptions of the calculations done and the models used have been stated earlier in this extended essay.

However the sample size and the trials done are not enough to conclude that there is a positive relationship between human development and micro-credit. But there are criticism against microcredit, such as that the people using microcredit would be trapped in a debt trap³² which would hinder human development. Furthermore the qualitative data

³¹ Latiffee, H. I. *Micro-credit and Poverty Reduction*. Grameen Trust. PDF.

³² Kunzemann, Thilo. "Is Microcredit a Debt Trap? | Allianz Knowledge." *Home | Allianz Knowledge*. 17 Apr. 2010. Web. 08 Nov. 2011. <<http://knowledge.allianz.com/media/?309/microfinance-debt-trap-credit-crisis>>.

of the sample of people not using micro-credit conclude that they are afraid of not being able to repay the loan, thus they do not borrow loans. Thus the conditions of microcredit could be questioned as well.

Although it is difficult to conclude effectively on the relationship between micro-credit and human development, however by examining the primary and secondary data the conclusion is that there is a positive relationship between micro-credit and human development. The implementation of microcredit causes human development. The assumptions and limitations with the data have already been mentioned throughout the essay.

Bibliography

- "About Microcredit and History — Innovative Solutions to Global Poverty." *Empower Global — Innovative Solutions to Global Poverty*. Web. 28 Aug. 2011.
<<https://www.empowerglobal.org/microcredit/>>.
- Ahmed, Salehuddin, and Muhammed Abdul. Hakim. *Attacking Poverty with Microcredit*. [Dhaka]: Palli Karma-Sahayak Foundation, 2004. Print.
- Banker To the Poor by Muhammad Yunus*. Web. 08 Nov. 2011.
<<http://www.bankertothepoor.com/>>.
- Blink, Jocelyn, and Ian Dorton. *Economics: Course Companion*. Oxford: Oxford UP, 2007. Print.
- Calculating the Human Development Indices*. UNDP. PDF.
- Calculating the Human Development Indices*. United Nations Development Programme. PDF.
- "DEPweb: Beyond Economic Growth, Glossary." *World Bank Group*. Web. 22 Sept. 2011.
<<http://www.worldbank.org/depweb/english/beyond/global/glossary.html>>.
- Deshingkar, Priya. *Migration Development and Poverty Reduction in Asia*. Geneva: International Organization for Migration, 2005. PDF.
- Does Poverty Matter for Growth*. World Bank. PDF.
- Does Poverty Matter for Growth*. World Bank. PPT.
- Fedec, Anna. "Indicators for Bangladesh." *TradingEconomics.com - Economic Data for 196 Countries*. Web. 17 Sept. 2011.
<<http://www.tradingeconomics.com/bangladesh/indicators>>.
- Fehmeen. "Microfinance – Important Role in Economic Growth." *Microfinance Hub*. 11 Feb. 2011. Web. 28 Aug. 2011. <<http://microfinancehub.com/2010/02/11/the-role-of-microfinance-in-economic-growth/>>.
- "Glossary." *Pearson Education*. Web. 28 Aug. 2011.
<<http://wps.pearsoned.co.uk/wps/media/objects/2669/2733799/glossary/glossary.html#H>>.
- Gordon, Alexander. "Micro Entrepreneurs." *Ezinearticles*. 09 Nov. 2006. Web. 28 Aug. 2011.
<<http://ezinearticles.com/?Micro-Entrepreneurs&id=353611>>.
- "Grameen Bank | Bank for the Poor." *Grameen Bank | Bank for the Poor - Home*. Web. 28 Aug. 2011. <http://www.grameen-info.org/index.php?option=com_content>.

"Indices & Data | Human Development Index | Human Development Reports (HDR) | United Nations Development Programme (UNDP)." *Human Development Reports (HDR) - United Nations Development Programme (UNDP)*. UNDP. Web. 08 Mar. 2011.
<<http://hdr.undp.org/en/statistics/hdi/>>.

Islam, Prof. Sirajul. "BANGLAPEDIA: Narayanganj." *Banglapedia :: National Encyclopedia of Banglaesh*. Web. 18 Sept. 2011.
<http://www.banglapedia.org/httpdocs/HT/N_0056.HTM>.

Kunzemann, Thilo. "Is Microcredit a Debt Trap? | Allianz Knowledge." *Home | Allianz Knowledge*. 17 Apr. 2010. Web. 08 Nov. 2011.
<<http://knowledge.allianz.com/media/?309/microfinance-debt-trap-credit-crisis>>.

Latifee, H. I. *Micro-credit and Poverty Reduction*. Grameen Trust. PDF.

McArthur, Sachs, and Maddison. *Overcoming Structural Barriers to Growth—to Achieve the Goal*. Human Development Report. PDF.

"Narayanganj District Information." *Information about Bangladesh, District Information, Newspaper and More | BangladeshTalks*. Web. 18 Sept. 2011.
<<http://bangladeshtalks.com/2011/05/narayanganj-district-information/>>.

"Overriding Limitations of Statistics." *University of Leicester*. Web. 22 Oct. 2011.
<<http://www.le.ac.uk/bl/gat/virtualfc/Stats/limit.html>>.

"Poverty - Poverty and Inequality Analysis." *World Bank Group*. Web. 28 Aug. 2011.
<<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY/0,,contentMDK:22569747~pagePK:148956~piPK:216618~theSitePK:336992,00.html>>.

"Statistics | Getting and Using Data | HDI Calculator | Human Development Reports (HDR) | United Nations Development Programme (UNDP)." *Human Development Reports (HDR) - United Nations Development Programme (UNDP)*. Web. 17 Sept. 2011.
<<http://hdr.undp.org/en/statistics/data/calculator/>>.

"T-Test | Statistically Significant Consulting." *Statistical Consultant | Statistically Significant Consulting*. Web. 22 Oct. 2011.
<<http://www.statisticallysignificantconsulting.com/Ttest.htm>>.

"UNICEF - Bangladesh - Statistics." *UNICEF - UNICEF Home*. Web. 28 Aug. 2011.
<http://www.unicef.org/infobycountry/bangladesh_bangladesh_statistics.html>.

"What Is Microcredit? Definition and Meaning." *BusinessDictionary.com - Online Business Dictionary*. Web. 28 Aug. 2011.
<<http://www.businessdictionary.com/definition/microcredit.html>>.

"What Is the Cycle of Poverty? - Christian Reformed Church." *Home - Christian Reformed Church*. Web. 28 Aug. 2011. <http://www.crcna.org/pages/sea_cycleofpoverty.cfm>.

Wijerathna, Sameera. "The "Development Trap"-How It Relates to Poverty « Real Poverty." *Real Poverty*. 1 Jan. 2011. Web. 28 Aug. 2011. <<http://www.realpoverty.org/the-development-trap-how-it-relates-to-poverty/>>.

Appendix

Survey for people using microcredit

1) How many teenage kids (between the ages of 13-18 years)do you have?

| | | | | | |
|---|---|---|---|---|-----------|
| 0 | 1 | 2 | 3 | 4 | 5 or more |
| | | | | | |

2) How many of those kids (between the ages of 13-18 years) go to school?

| | | | | | |
|---|---|---|---|---|-----------|
| 0 | 1 | 2 | 3 | 4 | 5 or more |
| | | | | | |

3) How many children do you have in total?

| | | | | | |
|---|---|---|---|---|-----------|
| 0 | 1 | 2 | 3 | 4 | 5 or more |
| | | | | | |

4) How many infants(under the age of 5) passed away in your family in the past 10 years?

| | | | | | |
|---|---|---|---|---|-----------|
| 0 | 1 | 2 | 3 | 4 | 5 or more |
| | | | | | |

5) What was your income before you started using micro-crediting? (in taka)

| | | | | |
|------|--------|---------|---------|-------------|
| 0-20 | 20-100 | 100-200 | 300-400 | 500 or more |
| | | | | |

6) What was your income ten years ago?

| | | | | |
|------|--------|---------|---------|-------------|
| 0-20 | 20-100 | 100-200 | 300-400 | 500 or more |
| | | | | |

7) What is your income now?

| | | | | |
|------|--------|---------|----------|--------------|
| 0-50 | 50-250 | 250-500 | 500-1000 | 1000 or more |
| | | | | |

8) How much money have you borrowed? (roughly per year)

| | | | | |
|------|--------|---------|----------|--------------|
| 0-50 | 50-250 | 250-500 | 500-1000 | 1000 or more |
| | | | | |

9) Could you repay the money?

| YES | NO |
|-----|----|
| | |

10) If no, then how many years couldn't you repay it for?

| 0 | 1 | 2 | 3 | 4 | 5 or more |
|---|---|---|---|---|-----------|
| | | | | | |

11) How has your life changed since using micro-crediting?

Survey for people not using microcredit :

1) How many teenagers go to school (between the ages of 14-15 years)?

| 0 | 1 | 2 | 3 | 4 | 5 or more |
|---|---|---|---|---|-----------|
| | | | | | |

2) How many infants (under the age of 5) passed away in your family in the past 10 years?

| 0 | 1 | 2 | 3 | 4 | 5 or more |
|---|---|---|---|---|-----------|
| | | | | | |

3) What was your income ten years ago?

| 0-20 | 20-100 | 100-200 | 300-400 | 500 or more |
|------|--------|---------|---------|-------------|
| | | | | |

4) What is your income now?

| 0-50 | 50-250 | 250-500 | 500-1000 | 1000 or more |
|------|--------|---------|----------|--------------|
| | | | | |