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MICROFINANCE IN THE PHILIPPINES: A STUDY OF GRAMEEN FOUNDATION  
AUSTRALIA AND ITS INNOVATIVE LENDING PROGRAM

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Abstract:

This thesis will introduce readers to the microfinance industry, covering basic concepts, and then delving into specific programs in the Philippines. There will be a heavy focus on the microfinance initiatives by Grameen Foundation Australia (GFA), a small non-profit organization based in Sydney, Australia. This organization is a replicator and supporter of Grameen Bank, created in Bangladesh by Professor Muhammad Yunus, a Nobel Laureate. As an intern at GFA, I was able to play an active role in further developing its programs, one of which is the innovative Rotating Credit Cycle. I have taken an in-depth look at this program, measuring its sustainability and competence over time in projected models. I also set up an econometric model in which to test two hypotheses: the superiority of the rotating program versus a traditional one, and the effect of an incentive program on program success, defined as the change in household income. All in all, however, it may be too early to measure the true impacts that microfinance has on eliminating poverty amongst the world's poorest of the poor.

## Table of Contents

I. Introduction .....	1
II. Background on Microfinance.....	2
What is Microfinance? .....	2
Types of MFIs .....	2
Literature Review .....	4
Female-focused Lending .....	5
Microfinance in Southeast Asia .....	7
Group Lending .....	8
Measuring the Impacts .....	9
Brief Overview of Past Theses.....	12
III. Microfinance in the Philippines .....	13
The Republic of the Philippines .....	13
Initiatives in the Philippines.....	15
IV. GFA’s Work in the Philippines .....	19
Traditional Lending Model .....	19
Rotating Credit Cycle Model .....	20
V. Examining RCC in Different Scenarios.....	22
RCC in “Perfect Conditions” .....	22
RCC in “Imperfect Conditions” .....	27
Conclusions on the RCC .....	32
VI. Suggestions for Future Research .....	33
Effect of RCC versus Traditional.....	33
Effect of Incentive Programs.....	35
VII. Conclusion.....	37
VIII. Appendices.....	38
IX. List of References.....	40

## List of Figures and Tables

<b>Figure 1</b> Proportion of population living below the poverty threshold (%)	14
<b>Figure 2</b> Visual Rotating Credit Cycle	21
<b>Tables 1.1 – 1.4</b> RCC in “Perfect Conditions”	23 - 26
<b>Tables 2.1 – 2.4</b> RCC in “Imperfect Conditions”	28 - 31
<b>Table 3</b> Variables for Econometric Modeling	33
<b>Table 4</b> Additional Variables for Econometric Modeling	35

## **I. Introduction**

I recently spent four and a half months as an intern at Grameen Foundation Australia, a small nonprofit focused on alleviating poverty through microfinance in the Philippines. While there, I found a passion for nonprofit work, particularly that which helps people help themselves. In this thesis, I will be presenting the theory of microfinance programs – what it is, strategies it employs – as well as taking a detailed look at the Philippines and microfinance within its borders. From there, I will transition into an examination of the microfinance programs used by Grameen Foundation Australia itself. Unfortunately, a lack of data due to the program being so new and innovative has hindered an econometric test, however I went ahead with formulating hypotheses, selecting variables, and setting up what I would do if I were able to. I hope I will be able to continue this research at some point in time to see if my thoughts are correct. It could yield important policy implications throughout the realm of microfinance.

## **II. Background on Microfinance**

### *What is Microfinance?*

Microfinance has grown in recognition in the past four decades. It has gone from something few people noticed to a sector of the business world that is incredibly important to human society. Today, there are even discussions about commercialization of microfinance institutions (MFIs), meaning the MFIs may go from the typically public, non-profit organization to the private, for-profit company.

MFIs and banks that specialize in microfinance work to help people in developing societies create ways of living that will bring them out of poverty. The definition of microfinance provided by ACCION International, a prominent MFI, is “the practice of providing financial services – such as loans as low as \$100, savings and insurance – to very poor families, to help them grow tiny businesses or engage in other productive economic activities” (ACCION 2011). Microcredit, on the other hand, is the portion of microfinance only involving loans.

New microcredit institutions have worked to solve previous problems found with loans for development. They have done this “by insisting on repayment, by charging interest rates that could cover the costs of delivering credit, and by focusing on clients whose alternative source of credit was informal and insecure” (ACCION 2011). Within microcredit, loans can be given in a few different ways: with or without collateral, and to an individual or a group. Group lending works out very well because it provides members with peer pressure, thus incentive to repay the loan. Individual lending has also proved quite reliable based on the high percentage of loans that have been repaid.

### *Types of MFIs*

Microfinance loans are provided by an array of organizations. These range from self-help groups and non-government organizations (NGOs) to credit unions, cooperatives, private commercial banks and others. These include such providers as Grameen Bank, Inter-American Development Bank, and ACCION International. More information on these groups is found below.

### **Self-Help Groups**

An article in the *Wall Street Journal* titled “An Invisible Revolution in Rural India” details a remarkable movement by millions of groups of local women. Each group is relatively small, ranging from fifteen to twenty people, with each member contributing very small amounts of money. This pool of money is then loaned out to members to support various income-generating investments. Examples of this, as seen in the article, are chickens and other livestock or seeds for produce (Shukla 2010). Many of the people involved in self-help groups (SHGs) are too poor to be included in the formal bank systems of India. SHGs however have recently been allowed to link up to a local bank to save money and receive loans if they prove that their finances are stable and the members are competent and responsible. According to the *Wall Street Journal*, these groups have grown to affect 59 million rural families through their members. SHGs serve an important function in rural villages in poor areas and successfully show the impact of microfinance.

### **Grameen Bank**

Grameen Bank is more or less a larger version of an SHG. Founded by Professor Muhammad Yunus in 1976 in Bangladesh, this program “became established as a formal bank which provides small, collateral-free credit to rural poor people, mainly women, for income-generating activities” (Grameen Bank 2011). Grameen Bank has 2,563 branches and is present in 83,458 villages. They offer a variety of interest rates based on what an individual is borrowing for. For example, there is a 20% rate on income-generating loans whereas there is only an 8% rate on housing loans and a 5% rate on student loans. This bank has received international attention and has increased interest in microfinance systems. According to the Grameen Bank website, 68% of Grameen borrowers’ families have crossed the poverty line. Grameen Bank is proof that social conditions can be greatly improved through microfinance and microcredit loans.

### **Inter-American Development Bank**

The Inter-American Development Bank is similar to Grameen Bank, however it covers 48 countries in need of help. Its clients, instead of small groups of poverty-

stricken people, are central governments, provinces, municipalities, private firms, and non-governmental organizations (Inter-American Development Bank 2011). These organizations then apply the loans to projects that support and encourage economic growth, competition, and free trade among regions. The Inter-American Development Bank has a variety of initiatives branching beyond microfinance, some of which are in education, sustainability, and water and sanitation. It takes more of a “big picture” approach with financing due to its broad range of projects. It also mainly focuses on economic and social development in Latin America and the Caribbean.

### **ACCION International**

ACCION International was founded in 1973 and focuses on the development of 23 countries in Latin America, the Caribbean, Africa, Asia and the U.S. They work with “poor, self-employed men and women who rely on microenterprise as their main source of income. These individuals range from the very poor to those who have some assets but remain marginalized from the mainstream economy and society” (ACCION 2011). ACCION helped 4.12 million clients in 2010 through partnerships with NGOs, commercial banks, and microfinance institutions. This immense clientele base consists of recipients of microloans, training in various aspects of business, and other types of financial services needed for entrepreneurs in impoverished places around the world.

Microfinance is a vital tool to help millions of people in developing (and developed) countries begin economically productive lives and gain the power and ability to sustain their successes, no matter how small.

### *Literature Review*

There is a wide variety of literature and research on microfinance, but not nearly as many conclusions. Many studies conclude that microfinance seems like a viable solution to alleviating poverty around the world; however, they also conclude that it is far too early to really be able to measure the long-run impact microfinance has. In this section, the topics of female-focused lending, microfinance in Southeast Asia, group lending, and how to measure microcredit impacts are discussed using a number of previous works and studies.



## **Female-focused Lending**

Microfinance programs tend to lend to poverty-stricken women over men both because of credit constraints and behavioral patterns. Some commonly referenced benefits are women's conservativeness regarding loans, a more collective view, and that they make up a large majority of the poorest people. This is expanded upon below.

### *Benefits*

The chapter titled "Gender" in Armendáriz and Morduch's book *The Economics of Microfinance* (2005) discusses the advantages of lending to women. Women's conservatism when dealing with finances is a major benefit. They have higher repayment numbers in studies because they "are often more easily swayed by peer pressure and the interventions of loan officers" if financial stability becomes a concern (Armendáriz and Morduch 2005, 183). Studies have shown that female borrowers struggle much less with repayments because of their diligence to stick with the program and avoid the social and economic stipulations associated with default.

Another benefit stems from the tendency for collectivism in women. As mothers, these borrowers are concerned with their businesses performing better in order to provide their children with food, clothing, and an education. Typically, men keep the money to themselves, leading to a large disparity between the man and his family. The outward thinking of female borrowers helps raise the entire family out of poverty.

A third advantage to lending to women is that they "are overrepresented among the poorest of the poor, and are too often oppressed by their husbands and by prevailing social norms" (Armendáriz and Morduch 2005, 183). Overall, women are much farther behind in development rates, even in the least developed places. Although in most places, social conditions for women are improving, there is still a long road ahead. Microfinance helps with this empowerment because it gives them something of their own. It encourages these women to become entrepreneurs or expand their current microenterprise(s) and do something that will have a substantial and positive impact on their families. Microfinance is just one step down this road; however, coupled with other movements and cultural shifts, female empowerment could indeed come about in all countries.

### *Empowerment Debate*

The impact of microfinance on women's empowerment has been debated by a few scholars and studies. One particular work, *Microcredit and Women's Empowerment: A case study of Bangladesh* by Faraizi, Rahman, and McAllister (2011), takes a look at the connection of empowerment and microcredit. It focuses on two microfinance programs: the Bangladesh Rural Advancement Committee (BRAC) and Grameen Bank. Their study looks at the success of each program, analyzing strengths and weaknesses, and goes on to argue that "the success stories of the microcredit programme are overblown" (Faraizi, Rahman, and McAllister 2011, xi). In this study, Faraizi et al. derived a few important tables based on their findings. They found that, of the households participating in microfinance in Korai, 26.8% saw economic performance decrease from the years 2000-2005, 43.1% saw a bettering of economic performance, and a mere 3.3% saw much better performance (88). The remaining households saw no change. When the same study was done in the village of Mondolpara over the same time period, 19.1% saw deterioration, 47.3% saw better economic performance, and a slight 1.7% saw much better economic performance. 31.9% of households saw no change (94). Perhaps Faraizi et al. are right in their claim – microfinance success stories are indeed overstated.

They continue to study macro-level data to look at investments and other initiatives by banks and NGOs, as well as how households deal with making microcredit decisions (Faraizi, Rahman, and McAllister 2011, 3). Faraizi et al. critique the frequent claims of female empowerment through microfinance, citing the general lack of "capital and technical skill to expand their productive activity" once they begin it. The study goes on to compare BRAC and Grameen Bank's programs, concluding that although microfinance has undoubtedly "improved the economic lives of many," there is no "hard evidence to support the view that microcredit empowers women or promotes their liberation" (Faraizi, Rahman, and McAllister 2011, 118). Clearly, this study was not positive or supportive of the claims of female empowerment from microfinance programs.

Goenka and Henley, on the other hand argue that female empowerment is an important result from microcredit lending to women: "...As a result of such

participation, women play a greater role in household decision-making, have better access to social, economic, and financial networks, enjoy greater freedom of movement, and have more say in family planning and parenting matters” (Goenka and Henley 2010, 32). More from these authors is next.

### **Microfinance in Southeast Asia**

Goenka and Henley’s compilation *Southeast Asia’s Credit Revolution: From moneylenders to microfinance* (2010) brings together studies from across Southeast Asia, from the historical beginnings to the modern programs of microfinance. Southeast Asian social structure was particularly defined by debt in pre-colonial times (Goenka and Henley 2010, 3). Microfinance has since evolved from pawnbrokers to NGOs or governments providing microcredit options, resulting in more ethical methods and sustainable programs. A few Southeast Asian countries have seen remarkable historical practices, including those of Indonesia. Here, in the 1950s, small rural banks were created to make loans to the poor. However, there were two types of banks: one that loaned money and one that loaned rice. This enabled the poor to choose which form of loan they most needed, allowing a flexibility unseen in programs before (Goenka and Henley 2010, 4). They have since failed due to a lack of sustainability. As noted by Goenka and Henley, micro-savings programs are typically overlooked by microfinance institutions; however, the Philippines saw a highly successful savings program through rural banks that allowed almost one third of the population to save small amounts of money for future need (7).

#### *Philippines*

One of the studies in Goenka and Henley’s compilation is *Breaking the barriers of microfinance: The Philippines case* by Benjamin R. Quiñones Jr. (2010). In his case, he discusses the failure of group lending programs by the Philippine government, partially due to its focus on agricultural lending versus that of the poor’s microenterprises (114). He also references a particularly successful MFI, the Center for Agriculture and Rural Development (CARD): the first Grameen-style program in the Philippines. Its

innovation and triumph became an inspiration for other initiatives to start, creating a new era of microfinance across the country.

A criticism that Quiñones brought up regarding MFIs was that they need to increase “their capacity to provide longer-term loans to support [micro- and small enterprise] manufacturing activities” (122). By investing in higher value-adding activities, more and longer-lasting progress will be made in poverty alleviation in the Philippines, and the world.

### **Group Lending**

Goenka and Henley’s study also addresses the method of group lending. The editors present the hypothesis that “the stronger the social network, the better the performance of the lending programme” (Goenka and Henley 2010, 28). Citing a study done by FINCA-Peru in 2007, it can be shown that if the members of a group know, support each other, and are in similar economic situations, their lending group will be much more cohesive and successful than a group of strangers. Evidence of this is discussed later on in the thesis, in the section of Grameen Foundation Australia’s programs.

Armendáriz and Morduch’s book *The Economics of Microfinance* (2005) sets out to apply economic theories to the practice of microfinance. It also analyzes group lending, raising concerns over adverse selection in particular. This is when lenders are unable to determine which borrowers are very risky and which are safe. They laid out an example that outlined the effect that risky and safe borrowers have on each other when grouped together, with only safe borrowers, or with only risky borrowers. Interestingly enough, borrowers’ expected net returns were found to be \$45 (safe-safe), \$84 (risky-safe), \$34 (safe-risky), and \$75 (risky-risky) after the repayment of the initial loan (Armendáriz and Morduch 2005, 92). Armendáriz and Morduch continue to study other group lending issues like hidden costs and emerging tensions within the groups (108). These hidden costs can take many forms, including that of a borrower’s travel time to attend weekly group meetings. Although usually a microcredit center is formed within villages, if there is not enough interest in one village, it may need to be combined with another in order to fit capital requirements for the program. Emerging tensions refer to

some borrowers' improvement in their economic situation, leaving other borrowers behind. The clients who are better off may no longer believe in the group mentality to uphold each other's defaults, leading to unhappiness and frustration due to feeling pulled down. All in all, Armendáriz and Morduch conclude that "empirical research on group lending lags behind theory, but the data so far suggest important challenges to the generally optimistic tenor of the theoretical research" (114).

### **Measuring the Impacts**

Armendáriz and Morduch also discuss ways to measure the impacts of microfinance. They suggest some ways to study it, review variations other researchers have used, and analyze the reliability of these measurements. Brett Coleman, in 1999 and 2002, did a study of Thailand's microcredit industry. He set up microfinance programs which selected members a year before the bank would actually start releasing loans. This odd situation was in order to avoid selection bias (the error in selecting participants for a study), common in trying to research these programs. His regression equation (1) was estimated as follows:

$$Y_{ij} = X_{ij}\alpha + V_j\beta + M_{ij}\gamma + T_{ij}\delta + \eta_{ij} \quad (1)$$

Where  $Y_{ij}$  is household-level outcome (income or profit) for household  $i$  in village  $j$ ;  $X_{ij}$  represents constant household characteristics;  $V_j$  is a vector of village dummy variables (the control for all fixed characteristics of a village);  $M_{ij}$  is the membership dummy variable (yes or no to receiving loans but are members);  $T_{ij}$  is the number of months that credit has been available to members;  $\eta_{ij}$  is random error (Armendáriz and Morduch 2005, 207-8). Coleman found that in Thailand, relatively wealthy compared to other countries in Southeast Asia, there was such little change in household-level income that it was not even statistically significant from zero.

Another study was conducted by Dean Karlan in 2001, using Coleman's approach but comparing "old borrowers" with "new borrowers" in the same geographic area of Peru. He identifies two other issues with measuring microfinance: dropouts and nonrandom attrition. Dropouts occur for a few reasons in microcredit programs.

Borrowers may receive the help they need and “grow” out of the system or they may not be successful and be unable to repay the loans, thus needing to drop out. Nonrandom attrition means that if successful people leave the program, the overall group of borrowers will become poorer, making it seem that microfinance makes people poorer (Armendáriz and Morduch 2005, 210). Both of these issues must be considered when evaluating the impact of such programs.

Based on Coleman’s model, Armendáriz and Morduch use data from a USAID AIMS study to look at differences in borrowing effects over time. They take this modified version of equation (1)

$$Y_{ijt} = X_{ijt}\alpha + V_j\beta + M_{ij}\gamma + T_{ijt}\delta + \eta_{ijt} \quad (2)$$

to account for time  $t$  and be able to remove constant variables when studied over time. This makes the household-level outcome ( $Y_{ij}$ ) dependent on constant household characteristics ( $X_{ij}$ ) at  $t$  and the vector of dummy variables ( $V_j$ ) “that are assumed to be unchanging over time...like distance to the closest major city, proximity to major transportation and markets, and the quality of local leadership” (212).  $M_{ij}$  is also assumed constant and unobservable, leading to potential bias due to its omission upon estimation of equation (2). Additionally, the coefficient on the variable for the value of loans received ( $T_{ijt}$ ) is  $\delta$ , and the one to focus on estimating in this study.

To address this, Armendáriz and Morduch look to estimate in differences. By collecting the same information at time  $t+1$ , equation (3) is created:

$$Y_{ijt+1} = X_{ijt+1}\alpha + V_j\beta + M_{ij}\gamma + T_{ijt+1}\delta + \eta_{ijt+1} \quad (3)$$

To measure change through time, equation (2) must be subtracted from equation (3), resulting in equation (4) below.

$$\Delta Y_{ij} = \Delta X_{ij}\alpha + \Delta C_{ij}\delta + \Delta \eta_{ij} \quad (4)$$

This process makes dummy variables and variables that do not change over time drop out. Most importantly, however, it results in “a consistent estimate of the impact  $\delta$ ” has

on  $C_{ij}$ , the amount of credit received (Armendáriz and Morduch 2005, 212). From here, it was determined that omitted unobservable factors do produce a difference in estimates of household-level income.

The authors then continue to look at a least squares method of regression analysis, where they introduce a new variable  $E_{ij}$  (a dummy variable determining if a household is “functionally landless” and thus eligible for microcredit), and  $T_{ij}*E_{ij}$ , a dummy variable which serves to indicate if the village has access to microfinance programs or not. This new equation is seen below:

$$Y_{ij} = X_{ij}\alpha + V_j\beta + E_{ij}\gamma + (T_{ij}*E_{ij})\delta' + \eta_{ij} \quad (5)$$

The coefficient of interest on the access to microfinance programs ( $\delta'$ ) yields the average impact the availability to access microcredit has on household income “after controlling for being functionally landless, living in a particular village, and having specific household characteristics” (Armendáriz and Morduch 2005, 217). With equation (5), Morduch (1998) found that microfinance does not have much of an effect on household consumption, but that it may help diversify a household’s income stream in order to level out seasonal consumption patterns.

Armendáriz and Morduch conclude this section of their book by maintaining the position that it is difficult to estimate the impact of any microcredit program that is based on voluntary participation and incorporates varying degrees of use (222). They also stress that crucial variables involved in these analyses cannot be measured, like a person’s inclination to try to raise themselves out of poverty and entrepreneurial spirit.

From the diversity seen amongst the sources above, the overall impact of microfinance, although leaning toward positive, is still largely unable to be determined due to the short time period that various programs have been enacted and the amount of variables that need to be considered when estimating its effect.

### **Brief Overview of Past Theses**

While reading background material for my thesis, I read through some of the others on microfinance from previous years. A brief synopsis of three theses is below.

“Microfinance in Bangladesh: Evaluating the System” by Christine Marie Cushwa, looks at MFIs in Bangladesh. She discusses the highlights and efficiencies of microcredit (group loans, frequent repayment, and women-focused lending) that have led to its success, but also seeks the downfalls of microcredit and why it is not always reaching the poorest of the poor – the people it sets out to target. Cushwa comes to the conclusion that microfinance is indeed an effective way to alleviate poverty, although it has some room for improvement.

“Kiva Microfinance: Ethically and Efficiently Reducing Poverty One Loan at a Time”, a thesis by Noelle St. Clair, takes a look at the unique program of Kiva’s microfinance. The person-to-person factor makes it much more attractive and rewarding for people looking to help the world in some way. St. Clair continues to analyze the effects of microfinance on lenders, their families, and their communities. She also claims that, while microfinance is efficient and effective, it “will have a stronger impact on poverty when used in combination with policy reform and other macro-level development efforts” (i).

Rebecca Sarah Rockey wrote “Microfinance as a Sustainable Solution for Alleviating Poverty: Why Sometimes it Does Not Work and Implications for Sub-Saharan Africa.” She highlights the inefficiencies of microcredit, citing examples in Africa as failures of the system. Rockey shows that, because other regions like China and Vietnam can successfully utilize microcredit programs, there are much larger issues with targeted communities in Africa that need to be addressed before microfinance becomes a powerful tool in alleviating poverty.



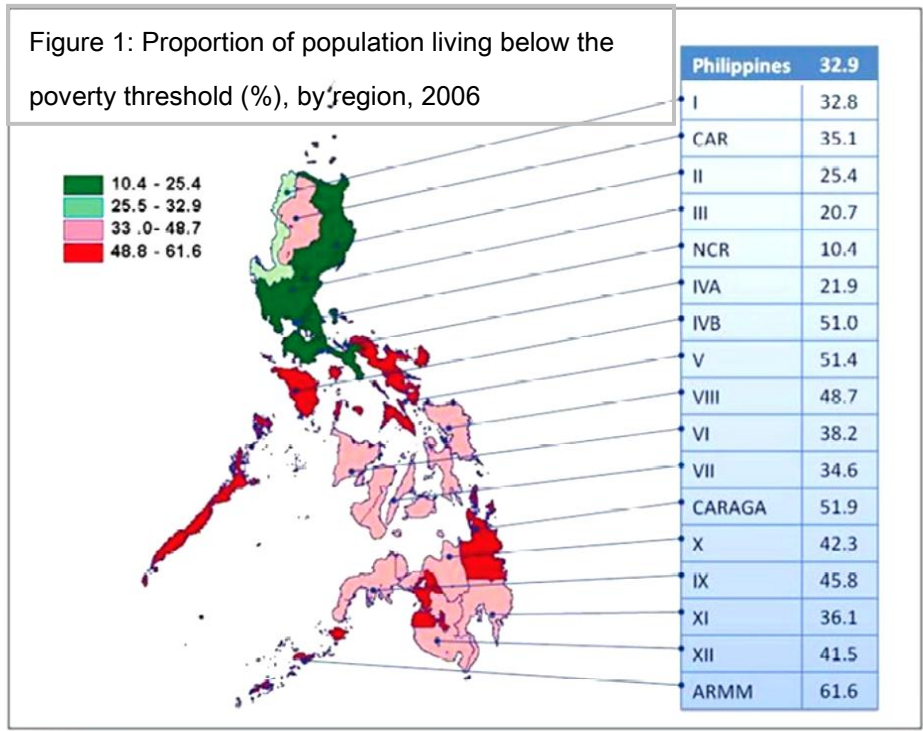
### **III. Microfinance in the Philippines**

This chapter is divided into a few sections. The first one explores the history, geography, demography, and economy of the Philippines. It also discusses the prevalence of poverty within the country. The second section turns to development and microfinance programs in the Philippines, looking at government-run initiatives, a prominent, independent, Grameen-replicator program, and Grameen Foundation Australia.

#### *The Republic of the Philippines*

The Philippines was colonized by the Spanish in the 16<sup>th</sup> century. After the Spanish-American War in 1898, it was ceded to the United States, eventually declaring independence from the U.S. in 1946. This early Spanish influence has a continuing impact on the religious inclinations of the population (largely Roman Catholic from prominent missionary presence) and on common personal names (predominantly Spanish words).

Geographically, the Philippines is slightly larger than Arizona, however it is an extensive chain of over 7,100 islands in South East Asia. This large disconnected area has resulted in some difficulty in accessing all communities, resulting in regional development disparities. The population below the poverty line in 2006 was 32.9% (CIA 2011). Illustrated below in Figure 1 by the United Nations Development Programme (2011) are the regional disparities in poverty rates throughout the country (52). The poverty threshold is defined by the same organization as “the minimum income required to satisfy the food or nutritional requirements and other non-food basic needs of a family” (51). Unfortunately, the report did not include a specific monetary value at which Filipinos reach the national poverty threshold.



As evidenced by this figure, the dark green is all towards the north of the Philippines near its capital, Manila. This is the area with the highest concentration of jobs; however, the unemployment rate was still quite high in 2010, coming in at 7.3% (CIA 2011). Manila itself is home to approximately 11.45 million people, leading to slums due high unemployment, the 2.3% rate of urbanization, and a 49% urban population (CIA 2011).

The total population of the Philippines was 93,260,798 people in 2010 (The World Bank Group 2011). There is a trend to migrate out of the Philippines to search for work (-1.29 migrants/1000 population) as of 2011 (CIA 2011). Between four and five million overseas Filipino workers send home remittances, helping keep the economy going (CIA 2011). In 2010, the GDP ranked 34<sup>th</sup> in the world at 351.4 billion USD, with a growth rate at 7.3%. There is an extremely high number of cell phone users in this country – 92.23 million – but Internet users are far less – 8.28 million (CIA 2011).

As for more information on the prevalence of poverty in the Philippines, The World Bank Group presents information on the international poverty standards. The 2006 (and most recent) Philippines statistics for the percent of population living below

\$1.25/day was 22.6%, while the percent of population living below \$2/day was 45%. This startlingly high rate of extreme poverty is most likely a result of urbanization, poor outreach to rural agricultural communities, and negligence in regards to infrastructure.

### *Initiatives in the Philippines*

There are a variety of microfinance programs taking place in the Philippines, being implemented by a number of organizations. Both the Filipino government and MFIs have a strong presence in this sector.

#### **Government Initiatives**

There are a number of Filipino development programs, but their efficiency and outreach has often been questioned. One of the most notable ones is *Kapit-Bisig Laban sa Kahirapan* (KALAHI), or Linking Arms Against Poverty. This program targets the poorest communities, serves those communities needs directly, combines efforts from government, private sector, and NGOs, and includes programs in microfinance, poor empowerment, asset reform, and social protection (United Nations Development Programme 2011, 56).

The *Pantawid Pamilyang Pilipino Program* (4 Ps) was “launched in 2008 as a poverty reduction program using conditional cash transfers for the one million poorest families to improve health, nutrition, and education outcomes of their children” (United Nations Development Programme 2011, 56). To be eligible for this program, a poor family must fulfill certain conditions like attendance rates for schools, regular health check-ups, and parenting seminars.

Another one, focused on microcredit, is *Self-Employment Assistance-Kaunlaran* (SEA-K) *Program*. SEA-K mandates that the government supply credit services to people in unserved areas. Unserved areas are defined as “places with no identified and available microfinance institutions” (United Nations Development Programme 2011, 60).

The government-created Microfinance Program Committee claims that there were 5.9 million active clients of microfinance between July 2004 and February 2010. They also say that 2.9 million new jobs (in microenterprises) were created over this period (United Nations Development Programme 2011, 61). This impressive number of

Filipinos reached by microfinance programs is encouraging to see, particularly as the incidence of poverty throughout the Philippines is on a decreasing trend. Since 1991, poverty has decreased by, on average, 1.26% each year, (United Nations Development Programme 2011, 51).

### **The Center for Agriculture and Rural Development, Inc. (CARD)**

In December 1996, CARD was created “as a concerted response to growing poverty incidence in depressed communities” in parts of the Philippines (CARD MRI 2010, *History*). CARD introduced a pilot program modifying the Grameen-style model of microfinance, which soon became the Landless People’s Development Fund, or LPDF, in 1990. This then led to a morphing into an actual rural bank “to tap the commercial market,” greatly increasing outreach and sustainability (CARD MRI 2010, *History*). In 1997, 4 of 13 branches formed the CARD bank, creating a new model for other NGOs in microfinance to consider.

CARD’s total number of clients served by the MFI and the bank as of September 2011 is 1,510,083 people and the repayment rate has remained consistently around 99.76%. The total number of staff is currently at 6,543 people, with the total number of offices at 1,360, stemming from 175 branches (CARD MRI 2011). This tremendous outreach is sustained thanks to high operational efficiency and a slew of partners throughout the Philippines and the world.

The success of CARD’s program stems from the adoption of a few important Grameen-created initiatives: leaders aligned with the morals and values of Grameen; the creation of self-selected peer groups; and firm rules surrounding loan repayment structure (Quiñones 2010, 120). By selecting these important guidelines formulated by Yunus for his program, CARD was able to adopt the firm foundation that Grameen Bank holds in Bangladesh. The innovation that combined with these basic values to create a Philippines microfinance powerhouse are noted as: status of a local rural bank; products based on the different needs of customers; a variety of microinsurance and lending products; and different sized loans and deposit products for clients of varying financial capacities (Quiñones 2010, 120). CARD has also identified a problem in one of the aspects of microlending. It noticed over the years of implementation that group lending became less

and less desirable and effective as loan sizes grew (Quiñones 2010, 120). Group members, while funding their own larger repayments, no longer wanted to also be responsible for another member's loan. This observation is important to consider in microfinance going further.

Its innovation and success in the Philippines has led CARD to receive many awards over the years. Most recently, it has received the Prize for Excellence in Community Economic Development in 2007 from the Southern New Hampshire University, the People Power Award in 2005 from Former Philippines President Corazon Aquino, and the Plaque of Recognition and Appreciation in 2003 from the Peoples Credit and Finance Corporation for its immense outreach to clients (CARD MRI 2010, *Awards*). CARD is on target for increasing success, proving to be more sustainable and accessible each year. It is a great model for other NGOs to follow, bringing emergence from poverty throughout the Philippines. As Dr. Jaime Aristotle B. Alip, Founding President and now Managing Director, says, "Only by creating a vehicle for asset ownership, can we ensure that the poor will gain control over their own resources and over their own destiny" (CARD MRI 2010, *History*).

### **Grameen Foundation Australia**

Grameen Foundation Australia was founded in 1998 to serve as a support system in furthering the message and programs of Bangladesh's Grameen Bank. With similar values, goals, and ultimate vision of alleviating poverty worldwide, it has become a great asset to the Grameen family due to its proximity to South East Asia.

The Australian government funded GFA's early work, including the creation of new projects, analysis of the country where the project would be implemented, and feasibility studies throughout South East Asia, particularly the Philippines. GFA has since begun funding its own development projects. Its partners are utilized in the most efficient and effective way possible, making the most of the limited resources GFA has.

One of GFA's partners is the University of Eastern Philippines. GFA and the university extend scholarships to "the poorest 200 students who are at the greatest risk of dropping out due to financial pressures" (Grameen Foundation Australia 2010).

Together, they have also created a livestock bank. The university itself has an extensive

agricultural department, including pig rearing. The school has set up a program that allows poor families in the community buy a piglet to raise until it reaches a certain weight, at which point it will be repurchased at or above market price. This innovative idea has helped improve the incomes of many community members in a relatively easy way.

GFA's first self-funded microfinance project was the Northern Samar Coalition Against Poverty Foundation, Inc. (NSCAP). With approximately \$400,000 USD for starting capital, it began in 2004 with twenty clients. Since then, it has grown astronomically to serve 14,000 clients throughout Northern Samar (Grameen Foundation Australia 2010). The recipients of these loans were unfamiliar with the idea of such minimal-interest loans, being so accustomed to the extravagant rates demanded by loan sharks. Once this project was started, its revolutionary idea spread like wildfire through the barangays (villages) and municipalities.

To accommodate the increasing demand for loans and the escalating loan sizes, an expansion plan was created by GFA, the Philippines government, and Fundacion Grameen Pilipinas (FGP). FGP is a Philippines-based group founded to support GFA in its on-the-ground, in-the-barangay work.

Since then, other projects have been launched. A summary of each project can be found in Appendix B. The models these initiatives are based on will be discussed in great detail in the next section.

#### **IV. GFA's Work in the Philippines**

GFA uses two models of microcredit lending: a common method (“traditional”) and a no-interest system (“Rotating Credit Cycle” or “RCC”). Both of these programs exhibit successful solutions to combating poverty with microfinance thus far, though more research on these programs and their impacts is certainly needed.

##### *Traditional Lending Model*

The traditional model was created by Grameen Bank and is used throughout the world, spreading from Bangladesh to India to South America and Southeast Asia. Its impact has been revolutionary, lifting tens of thousands of people out of poverty. The concept is simple: loan small amounts of money to the poorest poor without receiving collateral, as often there is nothing to gain that title. The money is lent with certain terms outlining the repayment schedule and interest rate. Repayments are predominantly on a weekly basis, and interest rates are the lowest of any lending agency in most developing countries.

With the traditional model, staff is needed to administer the program. Grameen staff is sent in to set up the branch, recruiting potential borrowers (called Grameen members) and educating them on how Grameen loans work. Once the loan process begins, the staff then becomes the loan collectors, checking in on each client and monitoring their progress, while also collecting payments. They keep track of each borrower, recording each loan given, repayment received, reason for delinquency (if applicable), and progress of raising themselves out of poverty. This need for staff can be a significant cost for Grameen, but has been dealt with differently by the Rotating Credit Cycle, discussed further below.

One of the recurring issues with microfinance in any country is motivation to repay the loan. Borrowers are typically encouraged through group lending, a strategy pioneered by Professor Muhammad Yunus of Grameen Bank. In order to receive a loan, interested candidates must form a group of five. Once they have picked their partners, one of the members can receive a loan. The other four partners must encourage her to make payments on time, use the loan to her best ability, and address any issues that may

arise. Once she has successfully paid off the loan, the others are eligible to receive loans. If one of the partners defaults, the others are responsible for paying the delinquent's loan. This applies enough pressure for the system to continue with an incredibly high repayment rate. The RCC, discussed next, addresses this need for motivation in another way.

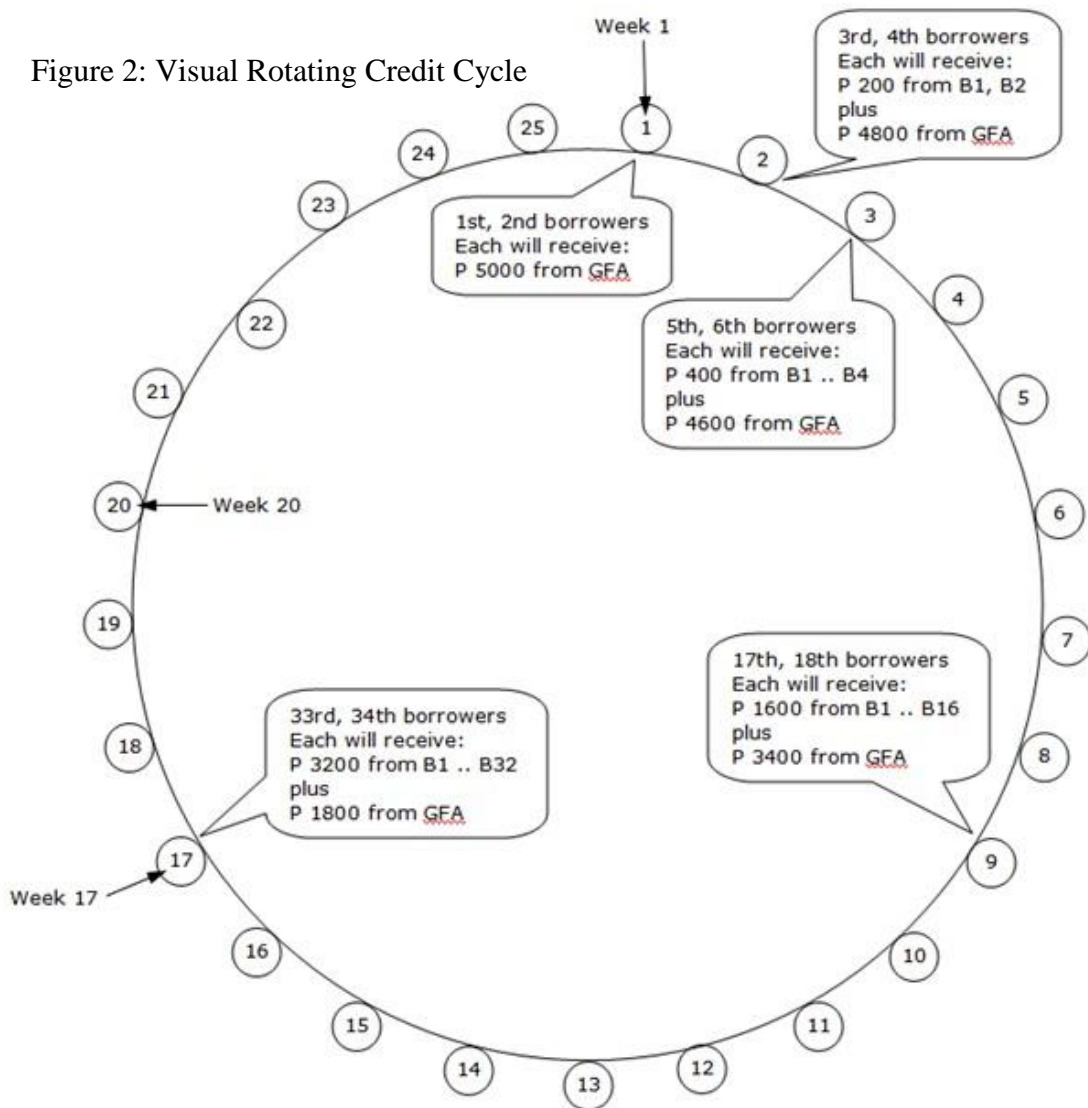
### *Rotating Credit Cycle Model*

The Rotating Credit Cycle is a new approach developed by Grameen Foundation Australia, similar to a Rotating Savings and Credit Association (ROSCA). It has been designed as an extraordinarily simple model – easy to replicate and spread throughout poverty-stricken countries. This program has been implemented in a few slums found in Manila, Philippines. Due to the immensity of poor communities in Manila and surrounds, there is a huge market for microfinance products and programs. Church groups are particularly active in trying to help impoverished families that express interest in their teachings. This religious influence tends to create a group of borrowers who share common morals and values, thus increasing the strength of and likelihood of a successful group lending scheme. GFA has thus worked with three different religious organizations in the Philippines to implement the RCC. This is particularly beneficial to GFA because it eliminates many of the start-up costs found in beginning a new credit program somewhere. There is no one actually from GFA, just the NGO, non-profit, or mission who wants to see this program help their community that runs this project. It is completely self-administered – GFA is only there to provide support, answer questions, disburse money, and troubleshoot any issues that arise, particularly because the RCC is in its trial stage.

The RCC is a no-interest loan program. This attribute is what makes it extremely attractive to potential borrowers. What you receive is what you pay back, plain and simple. There is minimal apprehension felt by the borrowers regarding the ability to repay, encouraging participation by anyone interested. The motivation to repay is addressed differently than in the traditional model. Centers of 20-30 members are formed in order to receive the loans. However, the loan system itself is cyclical in nature. Only one member receives a loan each week, chosen by a lottery system. Each loan recipient's



weekly repayment goes towards the loan given out that week. If a borrower defaults for the week, the next person is not able to receive their loan, causing huge peer pressure to repay each week. A visual representation of this cyclical program can be seen below in Figure 2. The example below is a summation of two groups of twenty-five borrowers receiving a loan of 5000 Philippine Pesos (approximately 115 USD) over a period of twenty-five weeks (almost half a year).



## **V. Examining RCC in Different Scenarios**

In this section, I will be analyzing Grameen Foundation Australia's revolutionary Rotating Credit Cycle program. I will present the model both in "perfect conditions" and in "imperfect conditions," then conclude this section by discussing overall benefits and potential problems with the RCC.

### *RCC in "Perfect Conditions"*

Perfect conditions are hard to come by, especially in volatile developing countries. Elements of perfect conditions include a cohesive group of borrowers, no drop outs or family hardships, and no defaults throughout the loan cycle. If drop outs do occur, the "perfect" model also encompasses the cases where the drop out finishes out the cycle, and then is replaced at the start of the next cycle by another borrower.

This situation is simulated in Tables 1.1-1.4 below. This is a working simulation – when it is sent out to the various organizations in the Philippines who want to begin a simple microcredit program in their community, this is the one they have received. Due to space constraints, it is split into four sections.

Table 1.1 – RCC in “Perfect Conditions”

First Cycle																										
Loan size =	5,000																									
Loan term (weeks)	25																									
Weekly loan repayment =	200																									
Second Cycle																										
Loan size =	7,500																									
Loan term (weeks)	25																									
Weekly loan repayment =	300																									
Third Cycle																										
Loan size =	10,000																									
Loan term (weeks)	25																									
Weekly loan repayment =	400																									

For a different plan of 25 weeks, all you have to do is to change Loan Sizes. Do not change any other data.

This plan shows the ideal case when all 25 members of the Center continue cycle after cycle

OR

Anyone who wishes to drop out (after fully repaying her loan) is replaced by a new participant in her spot

**NOTE:**

R = amount received from Grameen funds, in addition to that received from repayments

P = weekly repayments on loans

		Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
FIRST CYCLE	Borrower #																										
	1		R - 5,000	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	2			R - 4,800	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	3				R - 4,600	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	4					R - 4,400	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	5						R - 4,200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	6							R - 4,000	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	7								R - 3,800	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	8									R - 3,600	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	9										R - 3,400	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	10											R - 3,200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	11												R - 3,000	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	12													R - 2,800	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	13														R - 2,600	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	14															R - 2,400	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	15																R - 2,200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	16																	R - 2,000	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	17																		R - 1,800	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	18																			R - 1,600	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	19																				R - 1,400	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	20																					R - 1,200	P - 200	P - 200	P - 200	P - 200	P - 200
	21																						R - 1,000	P - 200	P - 200	P - 200	P - 200
	22																							R - 800	P - 200	P - 200	P - 200
	23																								R - 600	P - 200	P - 200
	24																									R - 400	P - 200
25																										R - 200	

		Total capital needed for first cycle																								
		= 65,000 Pesos																								
		for one Center																								







### *RCC in “Imperfect Conditions”*

Imperfect conditions are much more prevalent in places where microfinance programs abound. Drop outs may occur due to financial hardships on the family due to a death, a hard-hitting monsoon season, or a breakdown on an important asset for their business, like a motorbike. The RCC model, as shown below, can adjust for this. Consecutive loan cycles will simply need to be delayed in their start. This will allow the cycle to flow as well as possible, and allow for the time it may take to recruit new borrowers to fill the gap. Also, as loan size increases, not as many borrowers may choose to take out a loan, resulting in a number of borrowers dropping temporarily from the cycle. Tables 2.1 – 2.4 show how the RCC adjusts to accommodate these less-than-perfect conditions.

Table 2.1 – RCC in “Imperfect Conditions”

First Cycle																										
Loan size =	5,000																									
Loan term (weeks)	25																									
Weekly loan repayment =	200																									
Second Cycle																										
Loan size =	8,050																									
Loan term (weeks)	23																									
Weekly loan repayment =	350																									
Third Cycle																										
Loan size =	9,900																									
Loan term (weeks)	22																									
Weekly loan repayment =	450																									

This plan shows an example, where 2 members of the Center (#8 and #12) stop after the first cycle

AND

1 more member (#21) drops out after the second cycle (all without replacements)

**NOTE:**

R = amount received from Grameen funds, in addition to that received from repayments

P = weekly repayments on loans

	Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
FIRST CYCLE	Borrower #																									
	1	R - 5,000	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	2		R - 4,800	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	3			R - 4,600	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	4				R - 4,400	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	5					R - 4,200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	6						R - 4,000	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	7							R - 3,800	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	8	#8 wishes to stop after first cycle							R - 3,600	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	9									R - 3,400	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	10										R - 3,200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	11	#12 wishes to stop after the first cycle										R - 3,000	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	12												R - 2,800	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	13													R - 2,600	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	14														R - 2,400	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	15															R - 2,200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	16																R - 2,000	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	17																	R - 1,800	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	18																		R - 1,600	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	19																			R - 1,400	P - 200	P - 200	P - 200	P - 200	P - 200	P - 200
	20	Total capital needed for the first cycle = 65,000 Pesos for one Center																				R - 1,200	P - 200	P - 200	P - 200	P - 200
	21																						R - 1,000	P - 200	P - 200	P - 200
	22																							R - 800	P - 200	P - 200
	23																								R - 600	P - 200
	24																									R - 400
25																										R - 200









### *Conclusions on RCC*

Based on the tables shown above, Grameen Foundation Australia's innovative Rotating Credit Cycle program is flexible and effective. The staggering of individual loans through this system allows for absorption of gaps left by borrowers who, for whatever reason, choose not to continue with the program. This would technically allow a large number of people to drop out after a cycle if, for example, a particular area was severely flooded during monsoon season. As shown in Tables 2.1-2.4, the weekly collections during a period where a new loan does not occur goes directly into the program's bank, meaning if the spots are not filled, they will need less capital for the following cycle.

One important consideration with this program as has been illustrated in metro Manila in the Philippines is the use of incentive programs. For example, if a borrower attends all weekly meetings and is not delinquent on loans, their name will be entered in a monthly lottery for a certain good, like rice. Another incentive program is that of a collective village pool of money. This forms from very slight extra payments each week by all the borrowers in the center. Its purpose is to be a communal pot from which all borrowers have an opportunity to draw if they endure extreme hardship suddenly, due to a death in the family or other detriment. In order to draw money from it, the borrower in need must present their case, explaining why they need assistance, how much they need, and how it would help them. The leaders of the group then decide how much, if any, she gets, and whether or not it will need to be repaid. Programs like the few mentioned above really are encouraging to borrowers and are especially powerful when combined with a simple, equitable microfinance program like the RCC.

## VI. Suggestions for Future Research

Due to a lack of data, I am unable to run the econometric tests I was intending to. However, I will lay it out below, taking you through the steps which I would and am intending to eventually follow. I have developed two different hypotheses based on the topics covered in this thesis. In the Philippines, there have been no studies conducted on either of these topics that I could find.

### *Effect of RCC versus Traditional*

My first hypothesis is: If the poorest of the poor are provided with a microfinance program like the RCC (no-interest, cyclical, high peer pressure), then more people will be attracted and retained in the program than a traditional one due to its efficiency, effectiveness, and simplicity.

In order to test this hypothesis, one must create a model using relevant and measurable variables. I have done this in Table 3 below:

<b>Table 3 – Variables for Econometric Modeling</b>		
<b>Name of Variable</b>	<b>Expected Correlation</b>	<b>Definition</b>
<b>AvgLn</b>	+	Average loan size for program
<b>Bwrs</b>	+	Number of borrowers in program
<b>PoBwr</b>	+	Number of potential borrowers
<b>Mo</b>	+	Months from the start of program
<b>Drop</b>	-	Number of dropouts from the program
<b>TotLn</b>	+	Total loan amount for the entire program
<b>RCC</b>	+	Dummy variable as to whether the program is the RCC variation or the traditional model, where 1 = yes, 0 = no

Following the layout of these variables, a simple regression model would be created. The dependent variable in this case is program success, defined as the change in household income level, denoted below as “ProgSuc.” The variable “ $u_i$ ” is intended to capture all

other variation that could affect the success of these programs, like environmental concerns and number of programs in the area. “*i*” refers to each microfinance group, or village center, of borrowers.

$$ProgSuc_i = \beta_0 + \beta_1 AvgLn_i + \beta_2 Bwrs_i + \beta_3 PoBwr_i + \beta_4 Mo_i - \beta_5 Drop_i + \beta_6 TotLn_i + \beta_7 RCC_i + u_i$$

With this equation, I would run various tests amongst these variables to check for multicollinearity. This could change the model into something more complicated if, for example, average loan size is highly correlated with the number of borrowers in the program. A variable would then need to be placed in the model as “ $\beta_8 AvgLnBwrs$ ” to account for issues of multicollinearity.

Once the multicollinearity testing is complete and the model is finalized, I would run tests using the data I would have collected on at least thirty different microfinance programs in the Philippines. Although there are not thirty individual programs through GFA yet, as seen in Appendix B, the RCC is catching on quickly. During my four months with GFA, we received eight new applications from groups interested in starting an RCC program in the Philippines. With this growth rate, there will be thirty programs to complete this study by June 2013. These tests would eventually determine the significance of each variable I have included in my model, using the t-stat as the measure of significance. The model would be evaluated using the least squares statistical method – a method that seeks to minimize the squares of the differences between the observed value and the estimated value provided by the model.

I expect to see all these variables be significant to at least the 5% level. However I may have left out some variables that are also important, like the number of branches in an area. This basic model would serve as a starting point for detailed econometric analysis in the future, eventually finding what determines the success of a microfinance program, and if the RCC version really is more beneficial.

### *Effect of Incentive Programs*

My second hypothesis is: If incentive programs are introduced to groups of borrowers, then there will be less defaulting on loans, higher attendance rates at weekly meetings, and more motivation from the clients to raise themselves out of poverty, resulting in a higher overall success rate for a microfinance program.

The variables I would want to consider in this analysis would be similar to the model above, however it would include several other important pieces. Variables capturing the number of defaults per cycle, attendance rate at meetings, and self-esteem of borrowers would need to be added, as well as whether or not incentives are used. These additional variables are seen in Table 4 below:

<b>Table 4 – Additional Variables for Econometric Modeling</b>		
<b>Name of Variable</b>	<b>Expected Correlation</b>	<b>Definition</b>
<b>IncProg</b>	+	Dummy variable for offering of incentive program: 1 = yes, 0 = no.
<b>Dflt</b>	-	Number of defaults per loan cycle per program
<b>AtdRt</b>	+	The percentage of borrowers present at each weekly meeting
<b>Pos</b>	+	The self-esteem of borrowers, collected via monthly check-ins by staff (whether the borrower believes she can rise above the poverty level or not)

From here, the model from above can be added to, resulting in:

$$\begin{aligned}
 ProgSuc_i = & \beta_0 + \beta_1 AvgLn_i + \beta_2 Bwrs_i + \beta_3 PoBwr_i + \beta_4 Mo_i - \beta_5 Drop_i + \beta_6 TotLn_i \\
 & + \beta_7 RCC_i + \beta_8 IncProg - \beta_9 Dflt_i + \beta_{10} AdtRt_i + \beta_{11} Pos_i + u_i
 \end{aligned}$$

This additional piece will help confirm the findings from the first hypothesis, as well as determine on its own whether incentive programs have an impact of the success of microfinance initiatives or not.

As with the previous hypothesis, I would intend to test this model for multicollinearity and statistical significance of each variable in its own right, using the econometric method of least squares.

I am hoping to be able to complete this research once data are made available. A hindrance to that is the limited amount of programs currently run by GFA, so until there are a large number of them, any econometric analysis could not be considered valid and a robust representation of what is going on there. The RCC program is extremely groundbreaking in the microfinance realm – no other program like this exists in the world. The growth rate of RCC programs, as stated above, will lead to a proper study being able to be completed mid-2013. Until then, its true effect will remain unknown.



## **VII. Conclusion**

It can be seen throughout this thesis that microfinance programs can indeed be powerful tools for alleviating poverty all over the world. My focus in the Philippines due to my personal interest from my internship with Grameen Foundation Australia has allowed a look into such programs in that country. While there are a number of programs within its borders, very few studies have been completed by the government, NGOs, or MFIs on the overall impact of such programs.

I have laid out a few original models for such research, however data collection can be quite costly and time consuming in countries with poor infrastructure, leading to the lack of numbers I was able to work with. Also, because GFA's programs are so forward-thinking, there are not enough programs to complete a study. Because of this, I am forced to conclude that, while microfinance programs do indeed look promising in the development of countries, it is still too early to truly see the impact it, and variations of it, has on the poorest of the poor.

## Appendix A

Geographic Location of GFA's Projects (Grameen Foundation Australia 2010):



## Appendix B

Summary of GFA's Philippines Projects (Grameen Foundation Australia 2010):

<p><b><u>Northern Samar (NSCAP)</u></b>            Start: 2006            Number of branches: 15            No of employees: 52            Number of borrowers: 14,000            Capital: AUD 3 m            Average size of loan: \$ 320            How many more borrowers in need of capital: estimated 15,000            Repayment rate: over 90% ontime repayment, long-term defaults less than 5%</p>	<p><b><u>Bataan</u></b>            Start: Sep 2010 (just started)            Number of branches: 1            No of employees: 2            Number of borrowers: 50            Capital: 10,000            Average size of loan: \$ 150            How many more borrowers in need of capital: estimated 20,000            Repayment rate: 100%</p>
<p><b><u>Pampanga</u></b>            Start: 2009            Number of branches: 1            No of employees: 4            Number of borrowers: 800            Capital: AUD 200,000            Average size of loan: \$ 245            How many more borrowers in need of capital: estimated 10,000 to 15,000            Repayment rate: nearly 100%</p>	<p><b><u>Manila / Slums project</u></b>            This project is being pioneered by a school which works with children of very poor families from the slums. It attempts to help expand income of the families of these pupils.            Start: July 2010            Number of branches: 2            No of employees: none (School administrators oversee the project)            Number of borrowers: 150            Capital: 30,000            Average size of loan: \$ 260            How many more borrowers in need of capital: estimated 200,000 very poor people live in the slums in and around</p>

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## EDUCATION

**Bachelor of Science in International Business**

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## INTERNATIONAL EXPERIENCE

**Grameen Foundation Australia**, Sydney, Australia (Internship)

February – June 2011

- Familiarized myself with both the microfinance industry and working abroad
- Held various positions in the organization, including office manager, event planner, fundraiser, and researcher
- Planned several events for high-profile potential donors and skilled volunteers
- Learned how non-profit businesses work within the corporate world and the importance of networking

**Australian National University**, Canberra, Australia (Study Abroad)

July – December 2010

- Adapted to life in an unfamiliar country, learning and appreciating diverse cultural traits
- Greatly increased my independence, organization, and confidence through travel and university activities
- Successfully completed four courses at a foreign university: Behavioral Economics, SE Asian Economic Policy and Development, International Marketing, and Global Anthropology

## NOTABLE ACADEMIC PROJECTS

**Regional Economic Analysis**

- Undertook extensive research on the Raleigh-Cary, NC Metropolitan Statistical Area in the United States
- Gathered data and formulated conclusions about the economy, growth, and lifestyle of that area

**Intermediate Corporate Finance and Mechanical Engineering**

- Assembled a group of students from two very different disciplines to design a product
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## ACTIVITIES

Beta Gamma Sigma International Honor Society, member (2011 +)

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Lawrence and Elizabeth Held Scholarship (2009-11)

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