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Factors that impact development: Foreign aid and the millennium development goals

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FACTORS THAT IMPACT DEVELOPMENT: FOREIGN AID AND THE MILLENNIUM DEVELOPMENT GOALS

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FACTORS IMPACT DEVELOPMENT:
FOREIGN AID AND THE MILLENNIUM DEVELOPMENT GOALS

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Abstract

The topic of development in poor countries has recently gained attention and support in part due to the 2000 Millennium Declaration adopted by all United Nations members. Included in the declaration are eight Millennium Development Goals (MDG) which aim at improving global development and are to be achieved by 2015. Due to time restrictions it is important to find effective and efficient ways to improve the issues addressed by the goals. This paper studies foreign aid's effect on the Millennium Development Goals by using ordinary least squares regression over a time period from 1980 to 2001. This study also investigates the impact of other variables such as education, income, immunizations, physicians, rural areas and trade on the MDGs. While the results of aid's impact on development are inconclusive, education, immunizations and births attended by a skilled health staff have significant correlations to the level of development in a country. There is little evidence that income, number of physicians, rural inhabitants or openness improve conditions, as measured by the MDGs in poor countries.

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1. Introduction

There are currently more than one billion people around the world living in extreme poverty surviving on $1/day or less. However, some people do not survive the harsh conditions in poverty-stricken developing countries. Many people cannot afford basic necessities such as food. It is estimated that every 3.6 seconds a person dies of starvation. In absolute terms these conditions are not improving. Between 1997 and 2002, the number of people suffering from hunger increased. Currently, 800 million people around the world do not have enough food to meet their daily energy needs, of which 300 million are children (UN Development Group, 2005).

Hunger and starvation are not the only concern of people living in poverty. Shelter is another basic necessity that many people cannot afford. If people who suffer from poverty are fortunate enough to have shelter, it may be a very small, crowded, low quality living space. In least developed nations, cities are over populated and people live in destitute areas. Almost one billion people worldwide live in slums and from 1990 to 2001 there was a 200 million slum dweller increase (UN Department of Economic and Social Affairs Statistics Division, 2005). Slum living conditions are unsafe and cause the spread of diseases that can lead to death. Currently, over 40% of the world's population does not have access to basic sanitation and one billion people do not have access to safe drinking water. As a result, there are five million deaths per year due to water borne diseases (UN Development Group, 2005).

Contagious diseases are also of grave concern. In the past 25 years, AIDS has been the fourth largest killer worldwide. As of 2004 a reported 30.4 million people were living with HIV and at the current rate, the worldwide estimated deaths due to AIDS will reach 74 million by 2015 if nothing is done to combat the disease. Malaria, although not a concern in developed nations, is also an extremely deadly disease affecting millions that do not have access to or cannot afford vaccinations. Each year between 300 and 500 million people are infected with malaria and one million people per year die as a result (UN Department of Economic and Social Affairs Statistics Division, 2005).

For families living in extreme poverty, education is not a top priority. Many poor families need their children to work to contribute to family income rather than attend school. There are a total of 114 million children worldwide that do not receive a basic education while 584 million women are still illiterate. Being educated is so important in these developing countries because it is a tool of survival. Education improves the standard of living, reduces maternal deaths and under-five child mortality while promoting gender equality. Educated mothers immunize their children 50% more often than mothers who are not educated. Also, AIDS spreads twice as quickly among uneducated girls than among girls who have had some schooling. And, children of women with five years of primary school education have a 40% higher survival rate than children of women with no education (UN Development Group, 2005). These statistics show that education has a huge impact on improving and saving the lives of the poor.

For various reasons, there are many deaths everyday that can and should be prevented. Some areas of the world are in desperate need of help because they cannot

improve their living conditions and overcome poverty alone. For that reason, development organizations have been formed by wealthy nations. One goal of these organizations is to implement aid programs that help improve the rate of development in poor nations and increase the standard of living worldwide.

The United Nations (UN) is one of the main groups that support international development. Every year the UN donates millions of dollars in aid to poor countries. However, the United Nations' contribution to improvement goes far beyond monetary donations. They also develop and execute aid initiatives. In 2000, the UN announced the Millennium Development Goals (MDG). There are eight goals in total, of which each focuses on a specific area of human welfare and has a numerical objective for countries to meet. More specific than the goals are targets and indicators which are measures of how close each country is to achieving the goal. The UN determined all goals should be accomplished in every country of the world by the year 2015.

The Millennium Development Goals have received much attention since they were first introduced. They have raised worldwide awareness of the conditions in impoverished nations as well as the importance of improving these conditions. Since the MDGs have a time limit, it important to find the most efficient way to get countries out of poverty and achieve the goals.

One of the most popular responses to resolving the issue of global poverty is to increase the level of foreign aid. Every year wealthy nations are under pressure to give larger donations to developing countries. However, if greater sums of money are donated

to poor countries, will that lead these countries to achieve the Millennium Development Goals?

To determine if foreign aid improves developing countries, I study the impact of foreign aid donations on each of the eight Millennium Development Goals in 208 countries around the world. This paper's primary goal is to test if foreign aid impacts the areas of development addressed by the MDGs: poverty, education, gender equality, child mortality, maternal mortality, disease, environmental sustainability and global partnerships. I chose one indicator from each of the eight Millennium Development Goals to measure with respect to aid. I use each indicator as a dependent variable and test if aid, along with other variables, is correlated with a positive outcome or improvement of the condition addressed. The significant factors affecting each indicator will be determined and it will be evident if aid plays a role in improving the lives of the poor.

While prior research has studied the effects of foreign aid on specific conditions in developing nations, no effort thus far has been made to specifically test foreign aid's impact on each of the Millennium Development Goals. My contribution to the issue of studying efficient means to development is to determine if aid contributes to the achievement of the MDGs. This may shed some insight on how donor institutions and development programs can better allocate their funds and time more efficiently to improve the state of poor countries worldwide.

The rest of the paper is as follows: the remainder of the introduction describes types of donor institutions, types of official development assistance, the Millennium

Development Goals, current progress towards the goals and changes needed to accomplish the MDGs. Chapter two gives the background on foreign aid and examines changes in aid programs over the past century. Chapter three is a review of the literature on foreign aid and development. Chapter four gives an explanation of the econometric model and the results and chapter five draws conclusions and states recommendations for further research.

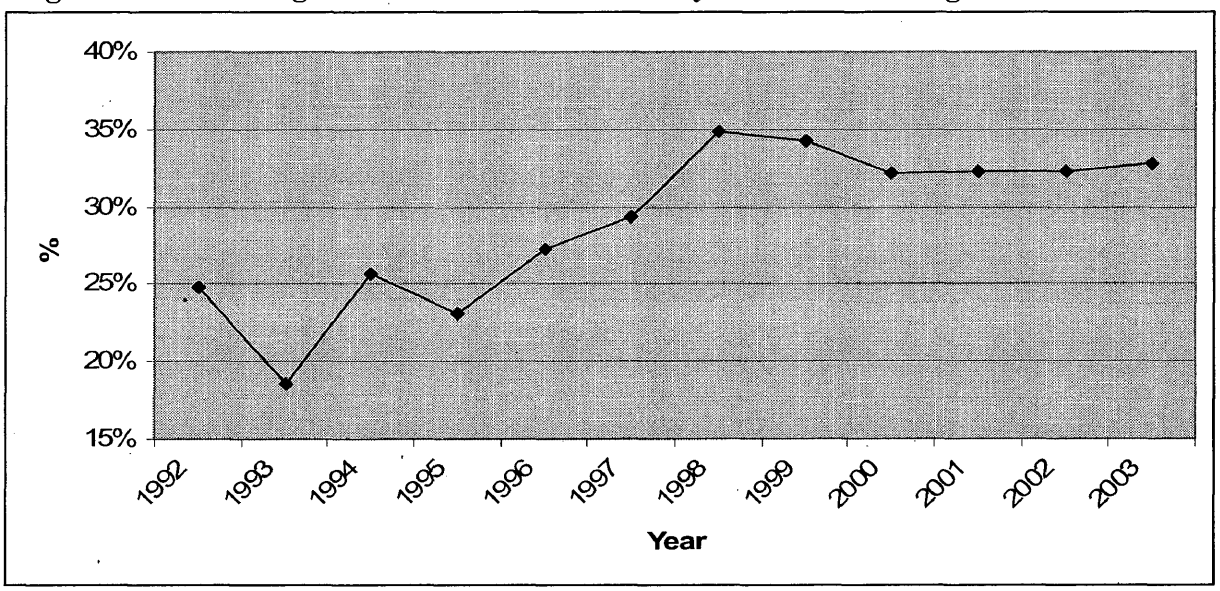
1.1 Donor Institutions

Wealthy nations feel an obligation to help poor nations improve conditions in their country. The most common way a developed country helps the poor is to donate foreign aid to the country. Foreign aid donors are either bilateral or multilateral donor organizations. Bilateral donations include only two countries in the transaction; the wealthy country gives aid directly to the poor country. Bilateral donors often have economical or political interests in mind at the time of donation. The amount of bilateral aid donated in a given period from a country may be due to the donor country's interests during that time. Some donor countries have long standing agreements with developing countries in which the donation of aid depends on fulfillment of some agreement. Bilateral aid is disbursed fairly evenly throughout the world because all donors have interests in different countries.

Multilateral donor organizations are formed by wealthy countries joining a program whose objective is to help developing countries. Member countries of multilateral organizations donate funds in which the organization is responsible for disbursing the aid the best way they see fit. Since the 1960's multilateral aid has grown

at a faster rate than bilateral aid. Multilateral aid donations have gained popularity because an organization is responsible for distributing aid funds rather than a country. Multilateral donations reduce the influence of political and economical gains relative to bilateral donations. From the 1980's multilateral organizations have given the majority of their aid donations to developing countries. In the past, most multilateral aid has been concentrated in Africa and Asia where the majority of the world's poor population reside.

Figure 1. Percentage of Total Aid Donations by Multilateral Organization



Source: OECD. Statistics Portal. Accessed 2005.
(see http://www1.oecd.org/scripts/cde/viewbase.asp?dbname=cde_crs)

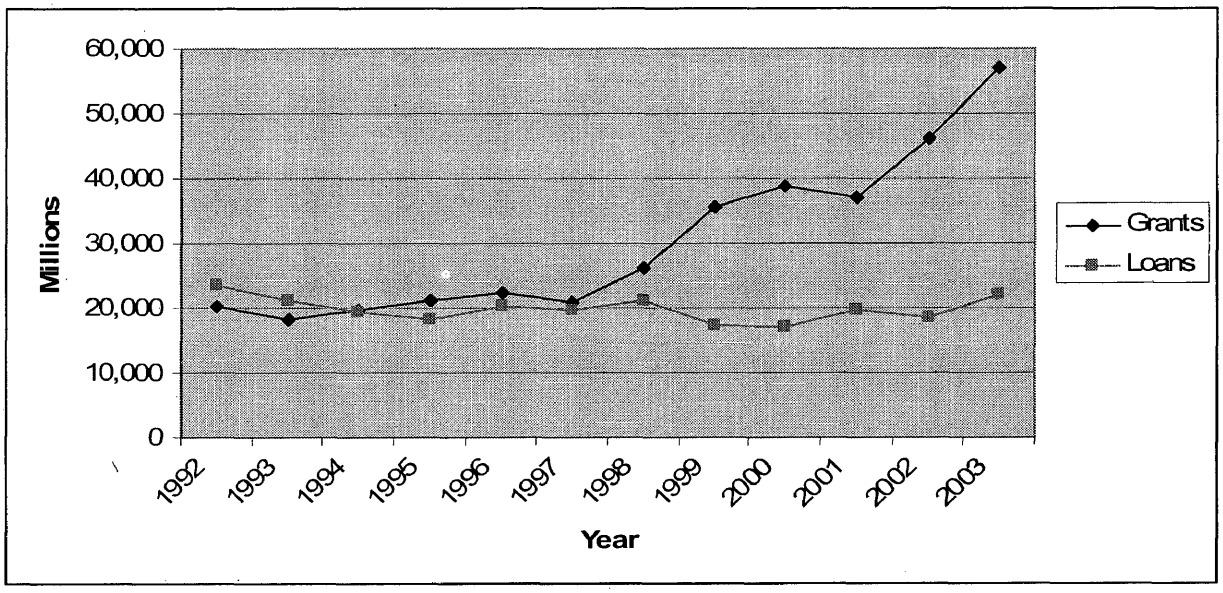
Figure 1 shows the percentage of aid donation by multilateral organizations from 1992-2003. Over the past decade, multilateral donations have fluctuated between 22%-32% of total aid donations. There has been no evident pattern of an increase in multilateral donation as a percentage of the total aid donation, but in absolute terms multilateral aid has been increasing for decades.

Appendix Table A-1 provides a list of all the major bilateral and multilateral donors of official development assistance (ODA). The World Bank and the United Nations are two of the major international organizations whose main focus is heavily targeted on development in poor nations. The bilateral donor countries can be members of multilateral donor organizations at the same time. When funds go through multilateral channels of donation, individual countries loose control over which country receives their money. For this reason some countries prefer bilateral donations. During this process the donor country not only has control over which country the aid is distributed to, but they can also determine the type of aid donation: grants, loans, tied aid, untied aid or partially tied aid to conditions.

1.2 Types of Official Development Assistance

There are different types of foreign assistance a country can give and receive. In general the type of aid is either a grant, which is a non-repayable gift, or a loan, in which the recipient country must repay the aid donation at some later date. Usually ODA loans have very low interest rates and are given to countries that cannot borrow on the world market.

Figure 2. Total ODA Separated by Grants and Loans (1992-2003)



Source: OECD. Statistics Portal. Accessed 2005.
(see http://www1.oecd.org/scripts/cde/viewbase.asp?dbname=cde_crs)

Figure 2 shows the total amount of aid donations broken up into grant and loans. Grant and loan aid moved together throughout the 1990's, but at the end of the decade and into the 21st century grant aid has increased dramatically in comparison to loan aid. In 2002 and 2003, grant aid was more than twice as much as loan aid. One reason for the increase in grants may be due to realization that repayment of debt by developing countries would cause undue hardship and repayment in full was very unlikely. In 1996, the IMF and World Bank launched the Highly Indebted Poor Country (HIPC) initiative. This program makes some developing countries not responsible for the repayment of their loans. There are three qualifications for a country to be eligible for HIPC benefits. The country must bear an unsustainable debt burden, show evidence of reform and sound policies as well as have developed a Poverty Reduction Strategy Paper (PRSP) showing that the country has

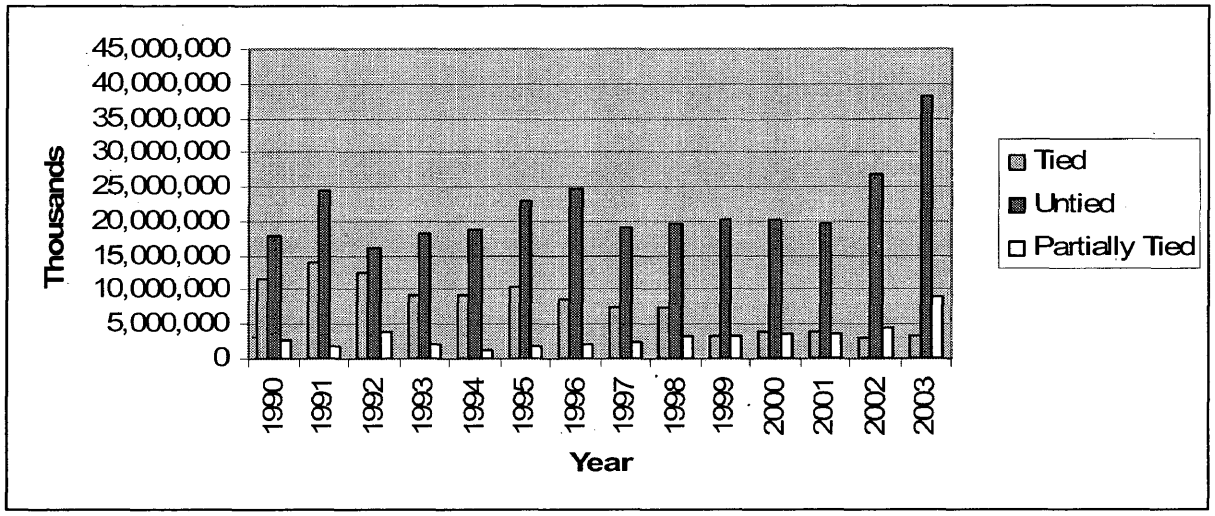
a plan for improving their condition. Funding from this program will come from bilateral as well as multilateral donors, namely the World Bank and International Monetary Fund.

Just like there are conditions a developing country must meet in order to be considered for the HIPC initiative, many other donors tie conditions to their donations. When there are circumstances a country must abide by or follow in order to receive aid it is called tied aid. It is the amount of the transaction (grant or loan) which is tied to procurement of goods and services from the donor country. Conditions a donor country may require for the recipient country could include aid money that must be used for a specific basic social service (food, health care, and education), a trading restriction or persuading a political agreement.

Untied aid does not require any action from the recipient country. It is the amount of the transaction whose proceeds are fully and freely available to finance procurement. The government of that country may use the entire funding at their discretion.

Partially tied aid is a combination of aid money that is tied and untied to conditions. Some donors will specify that a certain amount of their funding must go to a specific purpose, while the remaining money may be used for whatever the developing country determines to be the most useful allocation.

Figure 3. Tied, Untied and Partially Tied Total Aid Donations



Source: OECD. Statistics Portal. Accessed 2005.
(see http://www1.oecd.org/scripts/cde/viewbase.asp?dbname=cde_crs)

Figure 3 shows the levels of tied, untied and partially tied aid from 1990 to 2003. There has been more untied aid than tied and partially tied put together every year since 1990. The amount of untied aid varied in the 1990s, but since the turn of the century has constantly increased. The amount of tied aid has experienced a decreasing trend during this time period. While the amount of partially tied aid was less than the amount of tied aid throughout the 1990s, partially tied aid has been consistently increasing and surpassed the amount of tied aid in 2002 and 2003. The recent changes in the conditionality of aid may be due to the ideology that developing countries need to learn how to operate and make economic decisions on their own. It may be unethical for a donor country to make decisions for the recipient country because the donor country could tie self-serving conditions to their donation. The conditions may not be beneficial to the growth and development of the poor country and the donation of aid could hurt rather than help the

recipient country. While either type of aid can vary in the degree of benefit a country receives from it, donor institutions are trying to overcome this problem by setting regulations, forming aid programs and making development goals, such as the MDGs, to improve the process of aid delivery.

1.3 Millennium Development Goals

Many multilateral organizations have increased their contributions and made ongoing efforts to reduce poverty due to the increase in recent attention given to development issues. In 1995, member countries of the Organization for Economic Cooperation and Development (OECD) undertook a year long process to review past experiences and planning policies into the next century for improving the welfare of the world and especially the world's poverty-stricken areas. In May of 1996 the report, *Shaping the 21st Century: The Contribution of Development Co-operation* was published. This report summarizes the vision for progress along with specific goals to define the vision and the strategies to help achieve progress. Goals emerged from several UN Summits held in the early 1990's.

The report included general topics that need specific attention in order to improve worldwide conditions. Economic Well-being, Social Well-being, and Environmental Sustainability are the three categories which the report focused on. Then specific goals are addressed under each category. Economic well-being includes cutting poverty by one half by the year 2015. Social well-being goes more in depth by including achieving universal primary education by 2015, eliminating primary education gender disparity by 2005, reducing infant and child mortality by two-thirds and maternal mortality by three

fourths, and providing access to primary health care and reproductive family planning no later than 2015. Environmental sustainability includes reversing the loss of natural resources such as forests, fisheries, fresh water, ozone, soils, and biodiversity.

In August of 2000, the United Nations announced their Millennium Declaration. This declaration stems from the report, *Shaping the 21st Century: The Contribution of Development Co-operation* published four years earlier. It outlines the way in which the world should improve the conditions and what specific aspects to concentrate on. The eight categories addressed in the declaration are Values and Principles, Peace Security and Disarment, Development and Poverty Eradication, Protecting the Common Environment, Human Rights, Democracy and Good Governance, Protecting the Vulnerable, Meeting the Special Needs of Africa, and Strengthening the UN.

Two months later, in September of 2000, at the Millennium Summit Meeting the Millennium Declaration was broken down by many world leaders and development organizations to form the Millennium Development Goals (MDGs). In the third section of the Millennium Declaration, Development and Poverty Eradication, there are objective or specific issues addressed that are similar if not exactly the goals and targets of the eight Millennium Development Goals.

By specifying objectives and quantifying targets, the eight Millennium Development Goals were created. The purpose of these main goals is to encompass all aspects of global welfare in order to better the state of the world. The goals address poverty in many dimensions and provide an overview of the major areas that need improvement. Each goal has one or more target. The targets are more specific than the

goals because they include numeric objectives and time restrictions for which the target must be completed by. There are 18 targets in total, of which most are set to be achieved by 2015 using 1990 for a benchmark. Indicators, which are more specific than targets, are used to measure the progress of each target. There are at least two indicators for each target that can be useful in determining the likelihood of a country achieving the target. Appendix Table 2 shows a complete list of MDG goals, targets, and indicators. Information about all goals, targets and indicators is available on the United Nations website under "Millennium Project" (http://www.unmillenniumproject.org/).

The developing world's poverty rate is the main focus of the Millennium Development Goals. To eradicate extreme poverty and hunger is the first of the eight MDGs. The first target, to be achieved by 2015, is to halve the proportion of people whose income is less than $1/day. Indications of a countries progress towards halving poverty are the proportion of population below $1/day, poverty gap ratio and the share of poorest quintile in national consumption. The second target is to halve the proportion of people who suffer from hunger by 2015. This target can be measured by the indicators of prevalence of underweight children under-five years of age and the proportion of population below minimum level of dietary consumption level.

The second MDG is to achieve universal primary education. So many children do not complete basic schooling in developing countries for various reasons. However, the achievement of this goal is vital to well being and the future development of a country. The target is to ensure that all children, regardless of sex and geographic location, complete a full course of primary schooling. By the year 2015 all children of the relevant

age should be enrolled in primary school and on their way to completing the course. Indications of progress towards the rate of primary enrollment include primary school net enrollment ratio, the proportion of pupils starting at grade one that reach grade five and literacy rate of 15-24 year olds.

The third goal is to promote gender equality and empower women. In many developing countries women are not treated as equals. Equality is essential to improve human rights and progress towards development. The target is to eliminate gender disparity in primary and secondary education by 2005, and all levels by 2015. Indications of progress towards this goal include the ratio of boys to girls in all levels of education, ratio of literate men to women age 15-24, the share of women in wage employment in the non-agriculture sector and the proportion of seats held by women in national parliament.

The fourth goal is to reduce child mortality. Many children die everyday due to preventable matters. The numeric target for this goal is to reduce under-five mortality by two-thirds by the year 2015. Indications of how well a country is doing in improving the lives of children include under-five mortality rate, infant mortality rate and the proportion of one year-old children immunized against measles.

The fifth goal focuses on improving maternal health. Among other preventable deaths, female deaths related to child birth are unnecessarily high in certain regions of the world. The target for this goal is to reduce maternal mortality by three-quarters by the year 2015. The measures of progress for this goal are the maternal mortality ratio and the proportion of births attended by skilled health personnel.

One cause of such high mortality rates in developing countries is the extremely high prevalence of disease. Goal 6 aims to combat HIV/AIDS, malaria and other diseases. The first target of this goal is to halt and begin the reverse of the spread of HIV/AIDS by 2015. The indications of progress toward this goal include HIV prevalence among pregnant women age 15-24 years, condom use rate of the contraceptive prevalence rate and ratio of school attendance of orphans to school attendance of non-orphans age 10-14 years. The second target of this goal is to halt and reverse the incidence of malaria and other major diseases by 2015. Measures of progress include the prevalence and death rates associated with malaria and tuberculosis, proportion of population in malaria-risk areas using effective malaria prevention and treatment measures and proportion of tuberculosis cases detected and cured under the Directly Observed Treatment, Short-course (DOTS) program.

The seventh goal of the MDGs is to ensure environmental sustainability. The first target for this goal is to integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources. Indications of how well a country is progressing towards this target include the proportion of land area covered by forest, the ratio of area protected to maintain biological diversity to surface area, energy use per $1000 GDP, carbon dioxide emissions per capita, consumption of ozone depleting CFCs and proportion of population using solid fluids. The second target for this goal is to halve the proportion of people without sustainable access to safe drinking water and sanitation. The indicators that determine improvement with respect to this target are the proportion of population with sustainable access to an improved water

source and sanitation in both urban and rural areas. The third target for this goal is to be accomplished by 2020. It is to achieve significant improvement in the lives of at least 100 million slum dwellers. The measure to consider when determining progress for this target would be the proportion of households with access to secure tenure.

The eight and final goal of the Millennium Development Goals is different from the others in that it does not have a numeric target or timetable for completion. It is an ongoing process of worldwide economic interaction and improvement in globalization. Goal 8 aims to develop a global partnership for development. There are 7 targets and 15 indicators for this goal. The first four targets deal with good governance, trade, financial systems, highly indebted poor country (HIPC) programs, and assisting with special needs of landlocked countries and least developed nations. The indicators measure levels of ODA, imports/exports, tariffs and amount of debt. The fifth target is more specific which aims at developing a plan and strategies for decent and productive work for youth; measured by the unemployment rate of people age 15-24 years. Another target focuses on pharmaceutical companies providing access to affordable essential drugs in developing countries. This can be measured by the proportion of population with access to essential drugs on a sustainable basis. The last target's objective is to make available the benefits of new technology, especially information and communication. The indicators of progress for this target include telephone lines and cellular phone subscribers per 100 population and personal computer and internet users per 100 population.

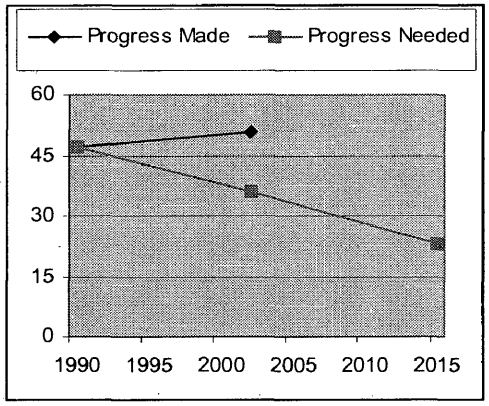
The eight Millennium Development Goals are the main initiatives of this development plan. However, the targets and indicators are equally important. Each target

has a numeric goal and date of accomplishment while the indicators are common measures that make it easy to track the improvement or deterioration of each country. Many countries are well on their way to achieving the goals while other countries do not have much hope for achievement by the set time limit.

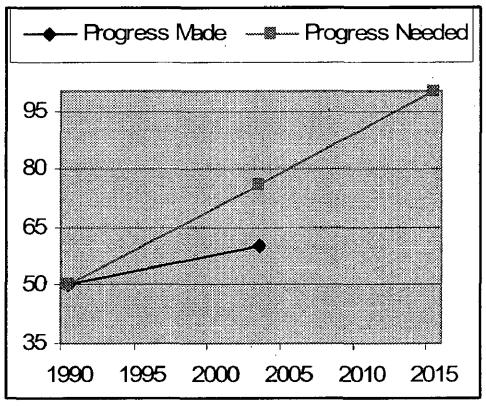
1.5 Current Progress and UN Recommendations for MDG Achievement

All the goals are connected to one another and each influences the others through some means. How successful a country is in achieving one goal can determine the progress of another goal. Some countries have already achieved certain goals, some countries are on track for achievement by 2015 and other countries are lagging behind. The sub-Saharan African region of the world is experiencing the slowest improvement with some areas in the region actually getting worse. Figure 4 shows the current progress and the progress needed in the sub-Saharan African region to achieve the goals. Graphs for seven of the eight MDGs are shown as the eighth Millennium Development Goal, forming a global partnership, is difficult to measure. World Bank website info <http: //ddp-ext.worldbank.org/ ext/GMIS/gdmis.do?siteId=2&menuId=LNAV01REGSUB6>.

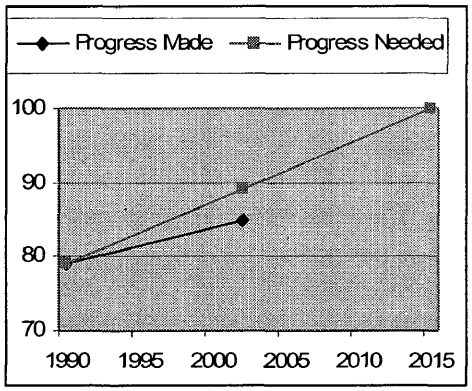
Figure 4. Sub-Sahara African Progress Made and Progress Needed to Achieve the MDGs



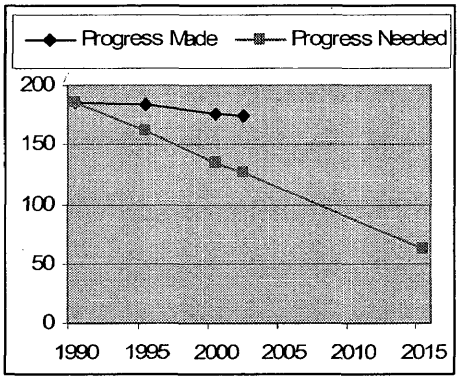
Goal 1: Population living on less than $1/day (%)



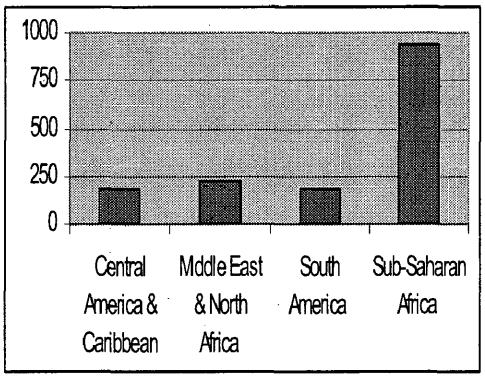
Goal 2: Primary completion rate total (%)



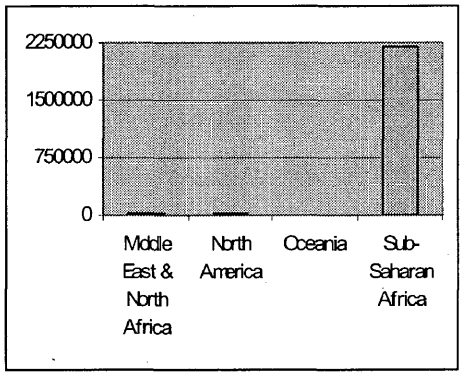
Goal 3: Ratio of girls to boys in primary and secondary education (%)



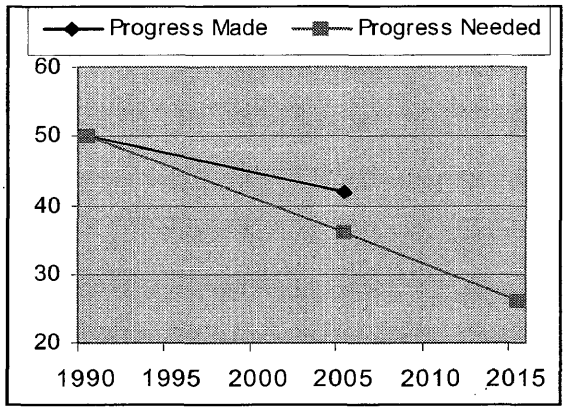
Goal 4: Child Mortality (deaths per 1,000)



Goal 5: Maternal mortality ratio (deaths per 100,000 live births)



Goal 6: HIV/AIDS deaths (2003)



Goal 7: Percentage of population without access to safe water

Source: UNAIDS. Accessed 2005. (see http://www.unaids.org)
UNICEF. Accessed 2005. (see http://www.unicef.org)

The first graph shows the level of poverty that Africa endures. Using 1990 as the starting year, the graph shows the current progress and the progress needed in order to achieve the mark of reducing poverty by one half. From 1990 to 2002 poverty in the sub-Saharan Africa region actually increased. This makes it even more difficult to achieve the goal of cutting poverty in half, using the 1990 benchmark, by 2015. The drop in poverty rates will have to be drastic to achieve the goal since Africa has been extremely off track since 1990.

The second graph evaluates the progress of primary education in the region. While the ratio of children who have completed a full course of primary education has increased over the past decade, it is still not on track to meet the goal of 100% of children educated by 2015.

The next graph addresses the issue of gender equality by measuring the ratio of girls to boys in primary and secondary education. The sub-Saharan African region has

experienced slight improvements in this area. In 1990, the ratio was about 80% and as of 2003 it had increased to 85%. Even though any improvement is beneficial, this region is still a long way off track to achieve the goal of eliminating all gender disparity by 2015.

The following graph looks at child mortality rates. The number of deaths of children under-five has decreased in the last decade. In 1990 there were 187 child deaths per 1,000 children and that number slightly decreased to 171 child deaths per 1,000 children as of 2003. This is a minute decrease when the numbers are so high, and like the previous goals this region is way off track to achieve the goal by the time restriction.

The graph of Goal 5 compares the maternal mortality rates of the sub-Saharan African region with five other regions of the world in the year 2000. Sub-Saharan Africa's maternal mortality rate is higher than any other region of the world with almost 1,000 pregnancy related deaths per 100,000 mothers. No data is available to use 1990 as a benchmark to see if the region is on track to reduce this number by two-thirds, but the current state is very high.

The graph of Goal 6 also compares deaths caused by HIV/AIDS in different regions of the world. Sub-Saharan Africa has many more AIDS related deaths than any other region. Africa's numbers are more than twenty times that of any other region. HIV/AIDS is spreading drastically and the halt and reverse of the disease appears unfathomable.

The final graph measures the population with access to safe water. The sub-Saharan region is lagging behind in this goal as well, but not by as much as the other goals. While the population living without access to safe water was about 50% of the

region in 1990, that number has decreased to about 42% in 2002. The population without access to safe water needs to decrease to 25% by 2015 to achieve the goal.

The sub-Saharan region in Africa suffers greatly and is not on track to achieve any of the Millennium Development Goals. However, some regions in the world have already met the goals, are on track or making great progress towards them. A complete assessment of the current progress in all regions of the world can be found in the Overview section of the Millennium Project's report "Investing in Development: A Practical Plan to Achieve the Millennium Development Goals". Appendix Table 3 shows a summary of the progress towards the eight Millennium Development Goals in all regions of the world.

Northern Africa is on track or making progress towards all goals except reducing hunger and youth unemployment. Also, Latin America and the Caribbean have encountered improvements and have already met several goals and are on track or have made progress in all areas except reversing the loss of forests and youth unemployment. Southern Asia has also made significant progress. While they have already met the goal of cutting the population with no access to safe water in half, there has been no progress towards reducing maternal mortality rates and halting the spread of HIV/AIDS. South-eastern Asia is improving in most areas; however, like Southern Asia their maternal mortality rates remain high. This region has also experienced increases in the loss of forests and an increasing rate of youth unemployment. Progress in South-eastern Asia includes being on track to halve the population living in poverty, cut child mortality by

two-thirds, halve the proportion without access to sanitation and improve the lives of slum dwellers. This region has already met gender equality goals.

This report was published in 2005 as an overview of the Millennium Development Project to the UN Secretary General. It addresses the current worldwide conditions and the progress of each region and for achieving the Millennium Development Goals. The UN states that each country needs to recognize that the MDGs are attainable and all countries should devise a national strategy to achieve them. Each country should develop a timeline and work back from 2015 so that they are on track to achieve the goals on time. In this report, the UN also gives recommendations to developing countries, wealthy nations and international development agencies for improving the development process.

At the country-level, local governments should give the poor a stronger voice. The people living in such conditions need to be represented and taken into consideration when governments implement policies. Often politicians set new rules and regulations based on other matters than what is best for the percentage of the population living in extreme poverty. These countries need to open political space and empower all walks of life so that all people have a voice in what takes place in their country. The empowerment and inclusion of minorities in all aspects of political agenda will promote equality and improve human rights. An open civil society with free press is also important because it informs the society of current issues and makes government accountable for their actions and promises.

Good governance is also vital for development. Human rights and the enforcement of the rule of law are critical for sustainable development. Corruption in government, banks, public services and legal systems only wastes resources that could be used to increase development. Decreasing corruption is critical to maintaining a civilized society. Developing countries may achieve a decrease in corruption by using available funds in a way that advances knowledge and development of all citizens.

The continuing efforts towards economic stability in poor countries along with growth in policies that favor the poor are also important for the achievement of the Millennium Development Goals. Currently much of the assistance going to developing countries does not reach the population that live in extreme poverty. Basic social services, health, education and access to safe water and sanitation, are important for all people to have. Investments in basic social services have great long term outcomes. Workers that are educated and healthy produce positive results in the economy and stimulate development.

Another factor that influences development in poor countries is open markets for trade and technology. Communication and information creates knowledge which transforms to growth and a higher level of well being. Globalization offers many opportunities for developing countries. It increases the flow of knowledge, ideas, technology, products and services. However, in order for open trade and flows of knowledge to work efficiently, developing countries need to manage and monitor inflation, interest rates and exchange rates.

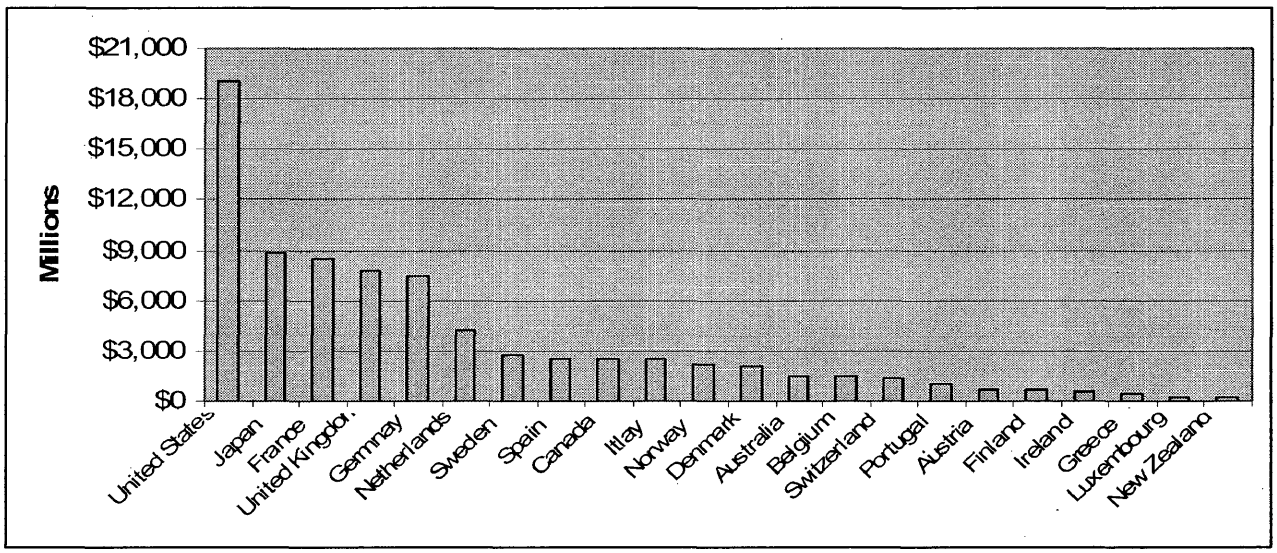
Recommendations for the international system's support are also discussed in the report. The UN advises changes to the aid delivery process such as making the donation process a long term process and increasing coordination amongst multilateral agencies. Other recommendations include increasing debt relief to countries that cannot sustain debt and donating more aid devoted to development.

While developing countries can undertake numerous actions to reduce poverty, only so much can be accomplished without international support from wealthy nations. The UN believes that an important component for the achievement of the Millennium Development Goals is the level of foreign assistance donated to developing countries. Official development assistance or the level of foreign aid donated to the least developed countries helps reduce poverty and fund government spending which improves the standard of living. While many developed countries are generous donors of foreign aid, projections estimate that there must be a large increase in the amount of aid donated in order to have a chance of achieving all eight Millennium Development Goals.

Currently, there is an "aid gap." This is the difference between the amount of aid donated and the amount of aid needed to achieve the MDGs. Estimates show that donations of foreign aid will need to nearly double, an additional $57 billion per year, in order to achieve the goals (Devarajan, Miller and Swanson, 2002). The total donation should reach nearly $195 billion per year by 2015 to achieve the goals, which is projected to account for 0.44%-0.54 % of donor GDP (Sachs, 2005).

Figure 5 shows the amount of ODA donated by the OECD's Development Assistance Committee (DAC) member countries in 2004. DAC members are the most prominent donors of foreign aid.

Figure 5. DAC Members ODA Donations in U.S. Dollars (2004)



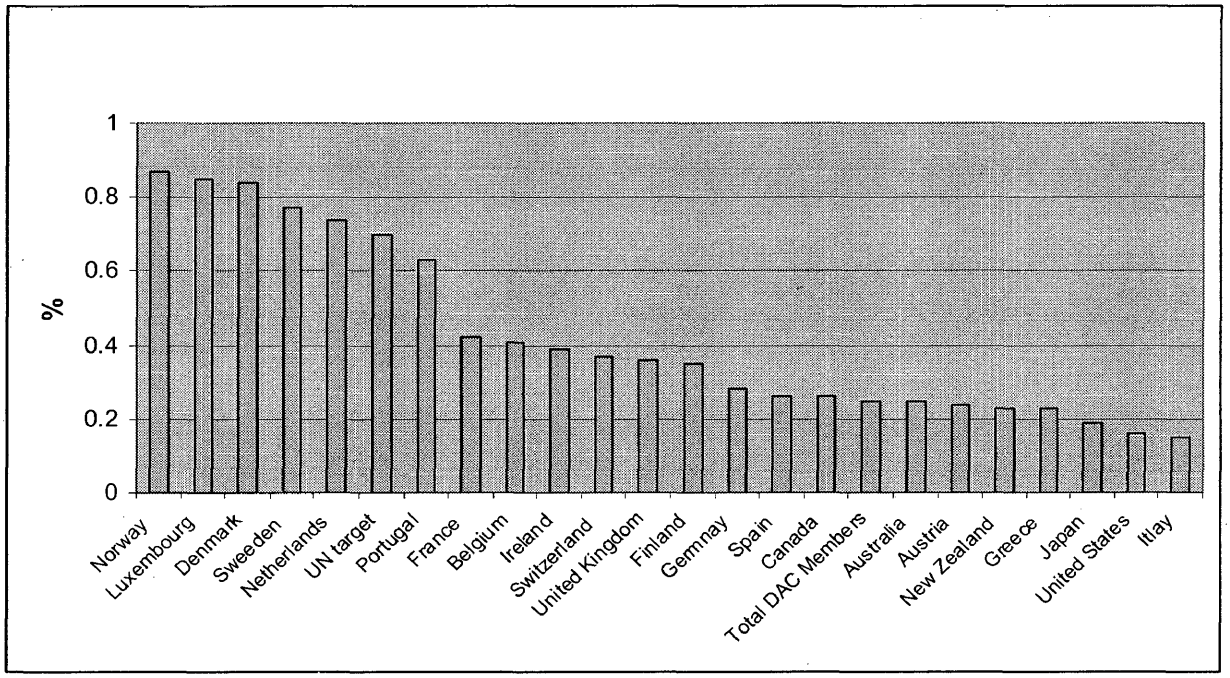
Source: OECD. Statistics Portal. Accessed 2005.
(see http://www.oecd.org/dataoecd/40/3/35389786.pdf)

The United States donated over twice as much as any other country with aid contributions of almost $19 billion. In 2004, total foreign aid from industrialized countries reached $78.6 billion.

The 2004 contributions are up from previous years. But the additional $57 billion mark needed is still out of reach. The United Nation's goal for the DAC member countries is to donate 0.7% of their nation's gross national income (GNI) to official aid assistance per year. This has been a target for 35 years, but few countries have succeeded in making that level of contribution. Figure 6 shows the amount of aid donated by DAC

member countries as a percentage of GNI in 2004. Only five European countries met or exceeded the UN target.

Figure 6. DAC Members ODA Donations as a Percentage of GNI



Source: OECD. Statistics Portal. Accessed 2005.
(see http://www.oecd.org/dataoecd/40/3/35389786.pdf)

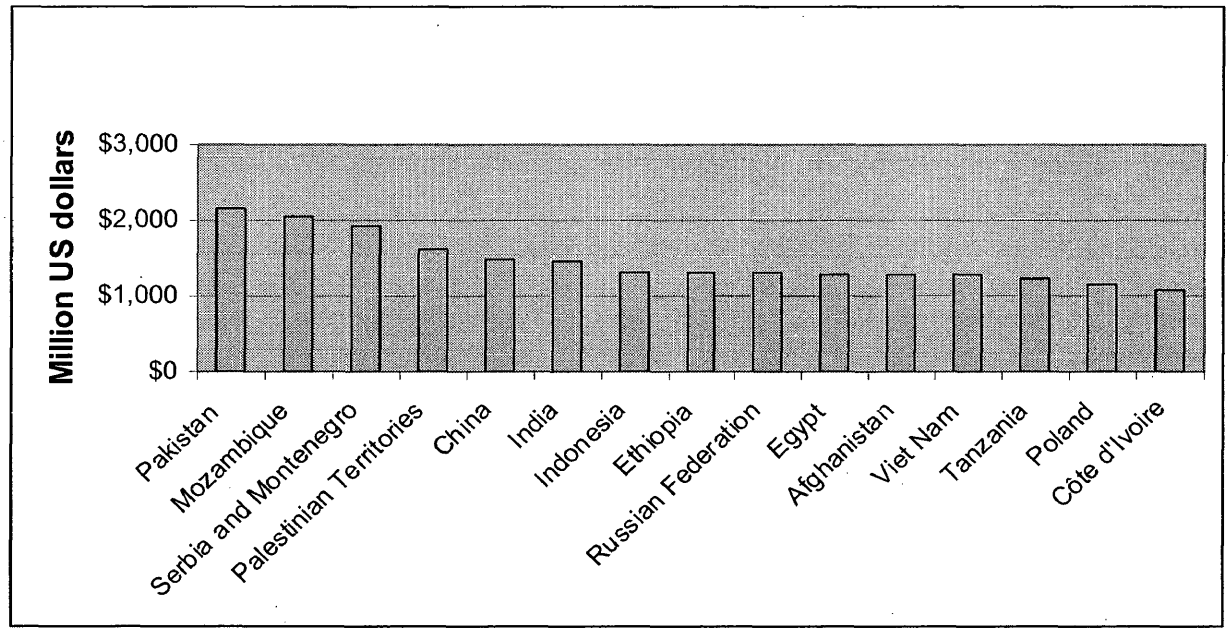
Norway, Luxembourg, Demark, Sweden and the Netherlands exceeded the target of 0.7% of their GNI to aid. The combined average of DAC member donations is only 0.25% of their GNI. However, the Millennium Development Goals have gained tremendous support over the past couple years and more countries are realizing the importance of increasing their donations in order to achieve the goals.

In May 2005, 15 European Union countries committed to reach the goal of donating 0.7% of their GDP to foreign aid by 2015. This means that 16 of the 22

members of OECD's Development Assistance Committee have met or are on track to achieve the 0.7% GDP target by 2015.

The DAC member countries are the wealthiest nations in the world and are the largest donors of ODA. But, which countries are receiving the billions of dollars donated each year in official development assistance? Figure 7 shows the countries that received the most aid in US dollars in 2002. In just one year, Pakistan and Mozambique each received over $2 billion in ODA.

Figure 7. Top 15 ODA & Aid Recipient Countries



Source: Development Data Group, The World Bank. Accessed 2005.
(see http://www.worldbank.org/data/onlinedbs/onlinedbases.htm)

As seen from Figure 7, many countries are receiving generous aid donations. Each country uses these funds in different ways in order to achieve different goals. Many large donations throughout history have been successful for different things. For example, rebuilding damaged countries after war, halting spreading diseases and

improving policies are some ways that aid has helped improve conditions. In the past, aid has often had a great impact on countries in need of help, but the objectives of foreign aid have changed since the start of aid programs nearly two centuries ago. The next section provides the history of foreign aid and how aid programs have changed throughout time.

2. Background

2.1 History of Foreign Aid and Policy Objectives

Foreign aid has played an important role in the ongoing improvement and development in the world for years. The first record of foreign assistance was in the early 1800's when the U.S. Congress passed the Act for Relief of Citizens of Venezuela. This act, ratified in 1812, distributed food aid to Venezuelans during and after the First World War. However, it was not until the Second World War that donations of foreign aid grew and became prevalent. During the Second World War, on January 1, 1942, 26 nations joined together against the Axis powers. These nations created the Declaration of the United Nations, which was the first time the name United Nations was used. In 1943, the declaration led to developmental issues and the United Nations Relief and Rehabilitation Agency (UNRRA) was formed. However, it was not until October 24, 1945 that the United Nations officially came into existence. This agency supported the European community and gave aid to help clean up the destruction caused by WWII.

Following the war, the United States emerged as the world's largest superpower, earning a gross national product of six times that of any other country. Because of the vast wealth of the United States, they began providing support to Europe for disaster relief. The main goal of the United States during the early stages of aid donation was to form good relations with Europe by reconstructing economies. They aimed to stabilize financial and governmental systems and contain Soviet expansion and communism (US Congress, 1997). Also in 1945, the U.S. along with the international community developed permanent relief institutions; the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development, which later became the World Bank. These two agencies were the main organizations that helped the restoration and economic development post WWII.

While these two organizations were permanent, the United States' individual response to the aftermath of the Second World War was creating the Marshall Plan. This was a temporary tool that worked towards stabilizing Europe again. It was established by the U.S. Secretary of State, General George C. Marshall, in June 1947. The main objective of the Marshal Plan was to provide aid to European countries to help them rebuild. Marshal said that after the war the real enemies were "poverty, hunger, desperation and chaos." The Marshal Plan ended in 1951 after $13 billion in aid donation during the previous three years. The whole reconstruction effort was the greatest economic and foreign policy success of the century and the effects are still evident today (DeLong and Eichengreen, 1992). Because of the tremendous results of the Marshal plan, the plan became a model for future foreign aid programs.

Another important development was the creation of the Organization for European Economic Co-operation (OEEC) in 1947. It was developed as an economic counterpart to the North American Trade Organization (NATO). The OEEC was set up with support from the United States and Canada to co-ordinate the Marshal Plan. Its main objectives were to help sustain economic growth and development in its member countries as well as to contribute to world economy development.

By the mid 1950's the focus shifted from the reconstruction of Europe to aid programs that supported poor and hungry nations. More aid started flowing from the United States to developing countries for food assistance. The increase in this type of assistance resulted from President Truman's Point IV program in 1949. This program aimed at providing aid in the form of food donations instead of monetary donations that poor countries might not use efficiently (US Congress, 1997).

During this time, the U.S. supplied two-thirds of all aid. Because aid donation was gaining more attention some opponents argued against providing so much foreign assistance on the grounds that it was ineffective. Milton Friedman, along with others, claimed that attempts to buy political support by providing aid do not work. Also, since aid went to governments it is more likely to encourage communism rather than prevent it. Secondly, the burden of aid donation should be distributed evenly throughout the world, not mostly upon the U.S., because all countries receive the benefits of a decrease in communism (Hjertholm and White, 1998). During this period the American public and the U.S. Congress lost support for the current assistance programs.

Because of dissatisfaction with its foreign aid structure, the United States reorganized its system and created the Foreign Assistance Act (FAA) in September of 1961. This Act, passed by U.S. Congress, led to the establishment of the United States' own aid institution called the Agency for International Development (USAID) in November of that same year. The focus of this agency is to unify assistance efforts, contribute to the needs of the changing world and help developing countries maintain independence and become self supporting (USAID, 2005). During the same period, President Kennedy also developed the Peace Corps to encourage young Americans to help in developing countries by traveling and volunteering their services.

The U.S. was the primary donor of foreign aid for the two decades following WWII. However, in 1960 major western countries formed the Organization of Economic Cooperation and Development (OECD), developed from the Organization for European Economic Co-operation, to formalize and organize the aid-giving process. The OECD department responsible for aid distribution was the Development Assistance Group, also founded in 1960. In 1961 it evolved into the Development Assistance Committee, known as DAC, which is still a major multilateral donor organization today.

In the 1960-1970's the U.S. changed its aid focus to the Middle East, Asia, and Africa. In the 1970's aid distribution concentrated on poverty-stricken countries. The World Bank and the U.S. created the International Development and Food Assistance Act in 1975. This act determined that 75% of aid should go to countries with a per capita income of less than 300 U.S. dollars (Hjertholm and White, 1998). This was a major

stepping stone that progressed aid programs to be less donor self-serving and more beneficial to poor developing countries.

Also in the 1970's, reforms were made to the U.S. Foreign Assistance Act (FAA) of 1961. Old categories were updated and the improved Act focused on specific problems such as agriculture, family planning, and education. Since the restructure of the FAA in the 1970's, there have been further attempts to improve the Act. However, Congress has failed to pass many of the attempts, and the Act remains generally the same since that time.

The current Foreign Assistance Act was the first main initiative to encompass many aspects of development in the plan. The amended act includes some variation of each of the Millennium Development Goals; with the exception of reducing maternal mortality. The first objective of the FAA is to alleviate the worst physical manifestation of poverty among the world's poor majority. Poverty has been a focus for many decades; as it is the first objective in the amended Foreign Assistance Act, it is also the main focus of the MDGs. Goal 2 of the MDGs addresses the need for education. Objectives 9 and 21 in the amended FAA deal with increasing education, reducing illiteracy and expanding U.S. education facilities abroad. FAA objective 12 aims to integrate women into national economies and enhance their status to further the development process which is similar to MDG 3.

Objective 5 in the FAA states to reduce infant mortality, which is Goal 4 of the MDGs. Disease is addressed in FAA objective 8, which is to contribute to improvements in health of the greatest number of poor people in developing countries. Similar ideas are

found in goal 6 of the Millennium Development Goals aiming to combat HIV/AIDS, malaria and other diseases. In the FFA, objectives 14-17 focus on preserving the environment, objective 10 is to use energy efficiently and 32 addresses the issue of shelter, water and infrastructure. These objectives are in line with the MDG number 7 which states to ensure environmental sustainability. The remainder of the 32 objectives of the FAA, with the exception of 6 and 19, are related to Goal 8 of the MDGs. The two objectives that are addressed in the Foreign Assistance Act that are not mentioned in the Millennium Development Goals are controlling population growth (6) and elimination of illicit narcotics production (19). A complete list of the objectives can be found in Appendix Table 4 in the Foreign Assistance Act of 1961, Amended.

Up to this point in time, many aid donations were in the form of loans. In the 1980s there was a concern over mounting debt that some developing countries were experiencing. During this decade, policymakers began working on debt relief programs as aid lending had been around for 30 years and some countries were becoming increasingly indebted. However, also during this time there was an increase in the level of structural adjustment lending from the World Bank. The World Bank originally created these loans to go with poverty alleviation programs that would help a country manage poverty and debt. But, in the 1990's critics argued against adjustment policies because they create debt and do not reach the poor in need. Opponents sought for a redesign of the programs. The World Bank went to work on poverty policies which resulted in the New Aid Agenda in the World Bank Report of 1990.

In part due to the concern of debt caused by aid, there was a decrease in the amount of total ODA donations during the 1980s which extended into the 1990s. In the 1990s, ODA decreased from $44 billion in 1990 to $41 billion per year in 1999. Despite the decrease in government aid donated, this era saw a large increase in private capital flows. The Clinton administration was partially responsible for the rise in private capital flows by relaxing restrictions and backing funding used for commercial benefit. During this time, private US companies, as well as the US government, invested in developing countries which increased development. This money used to invest in companies overseas decreased the money available for aid donations. All Foreign Direct Investment (FDI) accounted for $222 billion in 1999. However, of total FDI in 1999, the least developed countries received only $10.6 billion while middle-income developing countries and India and China received $25.4 billion (Sobhan 2002). The 1990s was a period for investment and development of middle income developing countries. The economies of China and India boomed during this period not from aid donations, but due to the increase in FDI they received.

The turn of the century expanded aid awareness due to the creation of the Millennium Development Goals. The MDGs' main objectives are reducing global poverty and improving differing aspects of life for the poor. An increasing number of countries have become involved in the donation process. Multilateral organizations have pushed for developed and developing countries alike to support the goals and cooperate globally. While the particular objectives of the Millennium Development Project are not new, the major accomplishment thus far is the worldwide increase in knowledge of

development issues and the building responsiveness of donor countries in the effort to combat poverty.

While still donating to multilateral organizations like DAC and supporting the MDGs, much bilateral U.S. foreign aid spending has recently been focused on 'the war against terror' and the rebuilding of Iraq. As of February 2005, over $150 billion has been spent on the war in Iraq (Nowels, 2004) which may be one reason why the United States has not made the 0.7% GDP commitment of foreign aid donations.

Foreign aid commitments were originally designed to fill the resource gap in developing countries. The use of aid was designed to help developing countries temporarily and put them on a path to self-sustaining development. The reconstruction of Europe, one of the earliest aid programs, did just that. Today the nations of Europe that were reconstructed with foreign aid are some of the wealthiest in the world. However, throughout the past five decades, foreign aid has slowly developed into a source of permanent income that some countries continuously depend on. Some developing regions of the world have become so dependent on aid they would not survive without it. For example, the sub-Saharan Africa region has been receiving large sums of donations for decades. Despite the large donations, there are areas in this region that are experiencing increasing mortalities due to disease and famine. These areas are dependent on the funding they receive from wealthy nations and would be even worse off without it. Now, the majority of aid donations are not temporary tools to get countries back on their feet. In some poor countries aid is a source of income that these countries depend on.

Another development in foreign aid ideology has been the increase in responsibility felt by the wealthy nations to help the poor. There is an increased sense of awareness and effort to improve the standard of living of the poor because as developed countries grow they have more means by which to help other countries (Sobhan 2002). The Millennium Development Goals have also played a major role in increasing the responsibility felt by wealthy nations because of the increase in awareness and donation pressure. Also, more donors have become involved since the objectives of each MDG are straightforward, easy to measure and have a target date for completion.

2.2 Recent Concern and Objectives of the Distribution of Foreign Aid

Since the beginning of aid programs there have been different objectives of donors that give foreign aid. Reducing poverty and creating a better life for other countries are usually addressed in the objectives at least on the surface. However, when aid donations are tied to conditions the recipient country must abide by, the donor country may have its own interest in mind as well. Regardless of who benefits, a common goal of aid donation is improvement. Whether the end result is beneficial to the recipient country like reducing poverty in that nation, or the donation of aid ends in political gains of the donor country, the objective is to improve some aspect of life in some country.

The main focus of recent foreign aid programs have been aimed at combating poverty in developing countries. Since there is such a high number of people in the world suffering from poverty, that has become an increasing concern of donors because further progress in many cases depends on first reducing poverty.

While poverty reduction is the main focus of many relief programs, there are other objectives of foreign aid programs. In the first MDG, along with reducing poverty, another major development goal is combating hunger. There have been numerous food aid programs dating back to the origins of foreign aid when the U.S. passed the Act for the Relief of Citizens of Venezuela in WWI which distributed food. During the reconstruction of Europe after WWII, the U.S. distributed aid in the form of food to help people survive. Food aid programs are still relevant today mostly to very poor countries or during periods of disaster when life has been disrupted and countries are in need of extra supplies. Other objectives of food aid programs consist of teaching agricultural techniques and methods of producing food so that poor countries can learn how to survive on their own.

Aid donations are often specifically targeted at improving basic social services in developing countries. While the aid donation may be in the form of money to the government of the country, there may be conditions tied to the use of that money. Some programs specify that the donation must be used on health spending. Disease is a major problem spreading in many developing countries. Even without decreasing the poverty level, aid programs can increase the level of health in poor countries by reducing diseases. Donations in the form of vaccinations, education and safe sex programs can dramatically decrease the spread of HIV/AIDS, malaria and other major diseases that cause death in certain regions of the world. The recipient governments may also use the money to build hospitals, fund doctors or medical research and increase health care to improve the wellbeing of their citizens.

Another major objective of basic social service aid programs focuses on education. So many children are unable to acquire a basic education that donors target aid to directly fund the construction of schools, paying teachers and building libraries and other educational facilities. The increase in education has become more important because the level of education in a country increases the standard of living and many donors are now using education as a means through which they improve the lives of the poor.

Lastly, the standard of living is influenced by the ability of the citizens to have access to clean water and sanitation. Programs have specifically targeted their donations to improve infrastructure of water systems in poor countries. Along with funds, many donors have sent technology from developed countries that have helped poor countries build better sewage systems. Other areas of infrastructure that have seen an increase in aid money over the past decades are roads, telephone lines, power plants, and buildings. These advancements have helped poor countries develop, open the lines of communications, increase the flow of knowledge and trade. By facilitating travel on roads, trade and communication over the telephone and internet, a developing country can become more global and integrated into the world economy which ultimately increases development.

The major objectives of the donors are giving to the poor and creating a better life. Since rich countries enjoy a much higher standard of living than developing countries, many countries feel it is their duty to try and improve life globally. Despite the increase in aid to Africa, progress has been unsatisfactory. This raises the concern about

the effectiveness of foreign aid programs. This topic has been widely disputed for decades now, but with the increased pressure on donors and the developed countries to help poor countries, and do so in a hurry, there is more concern over how to do it efficiently. Some portion of the Millennium Development Goals is an objective of most foreign aid programs. Since the MDGs are time-bound goals, there is a greater need to improve donor strategy. However, research shows varying results for each type of donor strategy. The next section looks at previous studies and provides a literature review of what variables have been proven to affect development in poor countries and those variables that are not significant for improvement.

3. Literature Review

As we saw in the previous section, there have been many revisions to aid programs since they started becoming popular after the Second World War. Studies have tested the effectiveness of aid programs or aid in general. Research has shown conflicting results. Results on the effectiveness of aid differ by study and by region of the world. Doucoliagos and Paldam (2005) found that while Asian and Latin American countries have enjoyed great progress from aid programs, in the sub-Saharan African region aid efforts have fallen short in their goals and the lives of the poor have seen little improvement. After many years of foreign aid research and published studies, the debate over the effectiveness of foreign aid is still widely disputed.

The effectiveness of aid programs can be evaluated by different factors. When donors offer assistance there is a goal that their contribution aims to accomplish. There are many aid programs targeted at increasing social well-being. Donations such as vaccinations, medical equipment or books have specific purposes that contribute to improving social aspects of life for the poor. On the other hand, many aid donations are aimed at improving the economic conditions in the country like poverty and Gross Domestic Product (GDP) growth. While the purpose of most aid programs are clear, it is often uncertain which type of aid will best achieve those purposes. The following sections of this chapter investigate the economic and social conditions that are affected by aid donations and other variables. Then, the type of aid, grants versus loans, is examined to determine which type of aid carries the most benefit.

3.1 Impacts of Foreign Aid Programs on Economic Indicators

Economic growth has been a long time target of many aid programs. It is the belief that if a country's economy is growing then it is better off and the standard of living of its citizens will increase. A common way to measure economic growth is by gauging the increase in GDP. Recent research has focused on the how GDP growth is affected by foreign aid programs in countries with good policies relative to countries with bad policies. Burnside and Dollar (2000) found that aid is effective, but only in countries that have sound economic management and good policies. Cordella and Ulka (2004) also found similar results when studying the relationship between aid, loans, bad political environment, and GDP growth. They discovered that in the presence of a poor institutional environment there is little GDP growth. Proponents of this idea suggest that

aid should go to poor countries with good policies because aid has little impact on increasing GDP growth in countries with bad policies. Consistent with earlier work, another study by Burnside and Dollar (2004) found further evidence that aid's effectiveness is dependent on the quality of state institutions and policies. In this study a new dataset was used with information from the 1990's to prove that aid increases growth conditional on policies more than not. However, one flaw in their research is that the hypothesis that aid does not work anywhere cannot be completely rejected due to fragile cross-country results. Lensink and White (2000) found that another shortcoming of Burnside and Dollar's work is the definition of 'good policies'. It is debatable what determines the institutional quality of a country and how that is measured. Also, the finding that aid is effective in the presence of good policies is very sensitive to model specification and sample.

Even though the model Burnside and Dollar used in their research is sensitive to data, time periods and model specifications, the conclusion that aid is effective in increasing GDP growth in good policy countries is widely accepted. Based on research by Burnside and Dollar in 1997, the World Bank published a study, "Assessing Aid: What Works What Doesn't," addressing how foreign aid reduces poverty. The report supported the idea that GDP growth will reduce poverty. A model is used in which GDP growth reduces poverty and aid spurs growth in countries with good policies. This study concludes that aid should be efficiently allocated to countries with good policies in order to maximize poverty reduction (World Bank, 1998).

In response to this study by the World Bank, Easterly (1999) showed evidence that the relationship between economic growth and poverty reduction does not hold. GDP growth may have been used as a way to measure the effectiveness of foreign aid because the data is easily obtainable and it shows the economic health of the country as a whole. However, poverty reduction being the end goal may not be achieved by GDP growth. Therefore, regardless of an aid program's impact on GDP growth, the portion of the population living in extreme poverty may not decline.

Easterly's research found that structural adjustment loans by the World Bank and the IMF reduce growth elasticity of poverty reduction. He discovered that when developing countries receive more structural adjustment loans, there is a decrease in the change in poverty rates relative to growth. Structural adjustment loans have less of an impact on the population in extreme poverty than the rest of the population because the benefits of structural adjustment programs do not reach the poor. Structural adjustment programs are countercyclical. While structural adjustment loans hurts the poor less in times of contractions they also benefit the poor less in times of expansion. This could be viewed as both effective and ineffective. It may be beneficial because when a country receives fewer loans, the poor is not affected as much as the rest of the population. However, it is ineffective because when structural adjustment lending increases, the population not living in extreme poverty benefit the most from it. Therefore, this method of aid is not improving the lives of the people who need it the most. The poor are not in a position to take advantage of new opportunities created by structural adjustment programs and less affected by the absence of these programs.

Although aid does not always reach the population living in extreme poverty, many studies have discovered a positive relationship between aid and overall growth of a country. However, a study by Arvin and Barillas (2002) found a negative relationship between GDP growth and foreign aid donations. They discovered that from 1970 to 1990 aid in sub-Saharan Africa increased. During this period GDP per capita growth decreased, and only in the last decade, 1990-2000, GDP per capita growth improved. In South Asia, with the exception of a short period around 1980, aid has been constantly decreasing. However, growth has been continuously increasing at a fairly high rate. These two examples show an inverse relationship between aid and GDP growth. The argument that these regions do not practice 'good policies' and therefore aid is not effective may be argued. Another explanation may be that growth in these countries is due to other factors than the level of foreign aid received. For example, different leadership and more efficient practices are possible reasons for GDP growth.

It is necessary to take other factors such as different leadership and more efficient practices into consideration when studying the relationship between aid and a country's performance. Aid usually goes to poor countries or to countries after poor performance. After removing this bias, Rajan and Subramanian (2005) found there is no evidence of a relationship, positive or negative, of the effect of aid on economic growth. There is also no evidence that policy conditionality is effective or that the type of aid (i.e. food, education, heath, donor type, region, policy type) has an impact on economic growth. The study by Rajan and Subramanian also finds that geographical location does not play a role in the effectiveness of aid. One useful finding in this research was that results of

aid effectiveness were uniform across different categories of aid. Food aid, economic and social aid all had the same effect on growth. The same is true when aid was broken into bilateral and multilateral donations. The reason for this is that the government may see all types of aid going into a common pot and act accordingly. While it is difficult to find any patterns of the effectiveness of aid on growth, a positive view on this conclusion is that because one type is not more successful than another, no donations are being wasted because they could be more effectively allocated in a different way. Authors conclude that aid can be effective, but aid allocation methods must be rethought.

An entirely different way of allocating aid that guarantees aid would reach the people living in extreme poverty is suggested by Hanlon (2004). Rather than allocate billions of dollars worth of aid to foreign governments, Hanlon recommends distributing personal checks to everyone below a certain level of poverty. Based on two instances in Mozambique, this technique is found to be effective. People were able to cash checks and use the money practically. This stimulated the economy because people had more money to spend so there was an increased demand for products and that created a demand for labor. The unemployment rates decreased because of the increase in demand for labor which sparked an increase in overall development.

There are other channels through which aid flows can be effective in increasing the standard of living of the poor that do not stimulate the economy measured by increases in GDP growth. Foreign aid is effective in improving health care, education, access to clean water and improved sanitation as well as developing a country's

infrastructure. These are all factors that can save lives and improve the standard of living for the poor.

3.2 Impacts of Foreign Aid on Social Indicators

Economic variables like Gross Domestic Product growth and Gross National Income maybe related to the level of health, education and infrastructure a country enjoys, however, these social variables are important to consider by themselves in order to measure the welfare of the citizens in each country. Social variables are a better measure of how advanced individual people are in the areas of health, education, gender equality and their infrastructures.

Health is one of the social indicators that aid programs frequently focus on. The spread of disease and mortality is a very serious problem in developing countries. Infant mortality is a common measure for health when studying improvement in developing countries. Burnside and Dollar (1998) used infant mortality to measure poverty because it is a good social indicator and it is a statistic that reaches the mass population. Conclusions indicate that there is no impact of the amounts of foreign aid on infant mortality in countries with weak economic management. However, they did find evidence that in countries with good policies, an increase in foreign aid of 1% GDP decreases infant mortality by 0.9%. This is consistent with their other research on aid and policies, but this time infant mortality was used as a dependent variable as opposed to GDP growth.

While Burnside and Dollar concluded that increases in aid will reduce infant mortality in countries with good policies, research by Gomanee, Girma and Morrissey

(2005) finds that increases in aid are more successful in reducing infant mortality in countries that have lower welfare. If the assumption holds that countries with lower welfare have worse policies, then Burnside and Dollar's positive relationship between good policies and aid may apply in reverse. The study by Gomanee, Girma and Morrissey suggests that aid has the greatest effect on countries that are worse off. Nations that have the lowest income, GDP growth, education and health benefit the most from foreign aid donations.

In order to decrease mortality rates and reduce disease, health care reforms have been created in various countries around the world. An example of a successful government implanted health care program occurred in Zimbabwe. The 1980 policy 'Equity in health' made it possible for low-income households to receive free health care. Matshalaga (2000) discovered that government spending for health care is negatively related to diarrhea, malnutrition, and maternal mortality. The increases in access to health services reduce sickness and mortalities. However, several years after these aid reforms, the government could no longer afford to provide free access to health care and started charging fees. Zimbabwe's population then experienced deterioration in health due to this change. Because aid was reduced in this country, disease and mortality rates increased.

Another instance in which an aid program was beneficial to a portion of the population, yet did not reach the extremely poor population, was in Vietnam when the government implemented the health care program, 'Doi Moi.' Nguyet and Wagstaff (2002) discovered that as a result of this program Vietnam has experienced major

decreases in their under-five mortality rate. The program improved mortality rates, but only among the better-off. Socio-economic inequalities influence the survival rate of children in Vietnam. Results also found evidence that vaccines, medically trained delivery staff, safe water, "OK sanitation" and women's education are all negatively related to child mortality rates. When these factors improve, child mortalities decrease. However, the authors conclude that the greatest impact on reducing child mortality would come by narrowing the gap between rich and poor. Evidence showed that children living in extreme poverty did not benefit from government health care programs and had the highest mortality ratio.

In many cases there are differences in health outcomes between the rich and the poor. These differences can be explained by the differences in service coverage and health care. Most government implanted programs offer the same coverage to everyone, but for countries that do not receive government sponsored health care it is certain that people living in poverty have worse health. The very poor often do not have clean water, good sanitation and electricity. These factors directly affect the health of the poor. Leipziger, Fay, Wodon and Yepes (2003) found that income, assets, education, health interventions and infrastructure have a negative relationship with infant and child mortality rates. However, they suggest that rather than aiming to reduce the gap between rich and poor, aid programs should try to achieve global access to clean water, improved sanitation and electricity instead. These services can be distributed from foreign aid donations and can greatly improve health. This study does not suggest that it is not

critical to narrow the gap between rich and poor, but just that there may be an easier alterative to achieving the end goals that results from an increase in wealth.

The poor not receiving equal or adequate government sponsored health care can be due to a number of factors. Often, the poorest people live in rural areas and the lack of sufficient roads and access to transportation can prevent them from going to facilities that provide health care. Also, communication is an issue because if the poor do not have telephones, computers or live in a community they may not even know about the health care programs available to them. Government coordination in developing areas is another consideration. In developing countries corruption is often an issue, in which case funds allocated to health care reforms may not always be used in that way. While one of the main goals of health care reforms is to reduce mortality, the goals are often not achieved by health programs because they do not impact the people most at risk of becoming fatally ill. It may be useful for developing nations and donors to consider different methods of aid allocation in order to improve health. It is so important that countries stop the spread of diseases in order to progress. While mortality is the most critical factor that results directly from physical well-being, there are other advantages to increasing the level of health of the population.

An increase in health has proven to be effective in influencing the level of education of the poor. Bleakley (2002) found increases in school attendance and literacy rates resulted after the eradication of diseases such as hookworm and malaria in South America. There is a negative relationship between the level of vaccinations available to the poor and the prevalence of disease. These areas also experienced substantial income

gains after health care interventions as a result of the reduction of diseases. The increase in income stems from the ability of people to work and maintain jobs because they have better health, more energy and are more productive. Diseases like hookworm and malaria are deadly diseases that impair basically any personal progress. When these diseases were eradicated in areas in South America, the population showed considerable gain in personal health, poverty levels and education.

Education and health are interrelated. Increases in health care improve education because people are physically able to attend school and able to experience and learn. On the other hand, more educated people take better care of themselves and know how to prevent disease and sickness. Hanmer, Lensink and White (2003) discovered a relationship between education and children's health. They found primary enrollment, male secondary enrollment and gender disparity in literacy to be negatively related to infant and child mortality rates. There was also a negative relationship with immunizations discovered. Education is very important in children as determined by the second goals of the MDGs. There have been numerous studies on the factors that improve the level of education of children. An extensive study by Paxson (2005) studied the relationship between child education, measured by scores on the Peabody Picture Vocabulary Test, and numerous variables. She found that parenting quality and child health are positively related to education. Also significant to a child's education were wealth, parent's education, and whether the child lives in a rural household.

WoBmann (2005) finds that background also plays a part is determining primary school performance in Argentina and Colombia. Indicators such as the number of books

at home and parental education determine education performance of children in Argentina, while speaking the test language at home, household income, and living in rural areas are positively related to child education in Colombia. Colombia is the only country in which there is no gender difference in test scores and in both countries there is no relation between child education and parent occupation.

It is unusual that Colombia had no gender difference in test scores because most developing countries do encounter a gender gap. However, Sawada and Lokshin (1999) discover that the gender gap in Pakistan decreases as students enter higher levels of education and most gender related difference stem from the supply of primary schools. They find a positive relationship between the primary completion rate and the availability of female schools. Also discovered is a negative relationship between female students in primary school and primary completion rate. If government spending from aid programs is allocated to building schools in useful locations for females, positive economic development will result. This study also found common evidence for parental education and wealth to be significant determinants of child education.

Gender equality is an important issue in poor countries not only to ensure that children, regardless of gender, are receiving equal education, but inequality is also an issue in the workforce. Esteve-Volart (2004) finds that gender inequality, measured by exclusion of females from the labor market and exclusion of females from managerial positions, reduces economic growth and lower per capita GDP. Countries that are already in very poor economic standing cannot afford to discriminate by gender. Inequality is an inefficient practice that stunts economic growth which only causes

further hardship on conditions in already poor countries. Chen (2002) believes that globalization is a key tool for gender equality development. If poor countries have more access to global activities they will become familiar with the idea of equality and benefit socially and economically from using women to their full potential.

Foreign aid is not usually donated to a country with the intention of "globalizing" that country. However, globalization can result from aid programs that work towards improving a country's infrastructure. The funding of infrastructure allows more communication and trade within that country. Infrastructure such as power lines for electricity, telephones and computers spur human progress in poor countries. Chen (2004) discovers evidence that women become empowered through increases in the level of information and communication technologies (ICT), computers, internet access and phones. Increasing communication tools increases knowledge because people have access to much more information. These technologies also increase gender equality in education which leads to improvements in gender equality in employment which causes an increase in economic growth. Foreign aid targeted at infrastructure and globalization can be very influential in developing and changing cultural beliefs, mainly equality for women.

While globalization is a key factor for development, Leipziger, Fay, Wodon and Yepes (2003) argue that the largest improvements in developing countries are likely to come from combining interventions. Health can be improved by improved infrastructure that increases access to clean water and sanitation. But improved infrastructure and health care is most effective when these interventions are combined with education of hygiene practices and public action to promote health knowledge. The lack of sanitation

and the presence of dirt floors in homes significantly increase the prevalence of malnutrition and decrease health. While health education interventions will be beneficial to improving these conditions, without infrastructure improvements education alone will not be enough to achieve the Millennium Development Goals.

Many of the studies in the previous two sections have tested the impact of foreign aid and made conclusion and suggestions for policy initiatives. Yet, none of these studies examined the type of aid that would be most effective in accomplishing an increased level of development. Nevertheless, this issue is very important and increasing consideration is being paid to donations in the form of grants versus loans.

3.3 Grant versus Loans

Since the global effort to reduce poverty and achieve the Millennium Development Goals has taken priority in many foreign policy objectives, there has been an increasing discussion about the effectiveness of aid. The debate over the success of grants versus loans received attention in March of 2000 due to the Meltzer Report prepared by the International Finance Institution Advisory Committee. The Executive Summary stated:

> *For the globe's truly poor, the provision of improved levels of health care, primary education and physical infrastructure, once the original focus of development funding, should again become the starting point for raising the living standards. Outright grants rather than loans provide a realistic vehicle for poverty alleviation.*

However, some countries and policymakers do not agree that increasing grants is a solution to development. In fact, the pre-2001 United States administration rejected all grant recommendations. They argued that grants as a form of assistance to developing

countries may initiate a lack of responsibility of the recipient country because they are not accountable for repaying the aid. This would make the developing nation more likely to squander or misuse the funds. However, the new US administration in 2001 supported all bilateral and multilateral grants pressing for up to 50% of loans to be replaced by grants (Odedokun, 2004).

After recommendations of such a great increase in grant aid came from the United States, some researchers found unfavorable evidence for the increase. Grant aid has been proven to be more volatile than loan aid. Donations of grant aid are less stable and predictable. This causes a concern because poor countries have come to rely on aid for their poverty reducing spending and may not develop their own techniques to operate productively. In this case, if grant aid decreased the country would be worse off and the poor would likely suffer the most.

Another drawback of increasing grant aid is that it can negatively affect policies in developing countries. Governments may come to be dependent on aid donations and have little incentive to adopt good policies and improve their institutions. A solution to this issue is suggested by Burnside and Dollar (1998) in which they recommend that aid donations should go to countries with good policies because it is found to be more effective. Also, developing countries with good policies have a greater ability and higher chance of repaying a loan. The incentive for having good policies is receiving aid. However, if grants are increased, repayment will not be an issue and donors may increase aid to countries with poor policies which may not be as effective.

Many studies agree that policies play an important role in the value that aid creates. Clements, Gupta, Pivovarsky and Tiongson (2004) find that loans are found to be more effective than grants in countries with poor policies. Empirical results suggest that an increase in loans causes a country's revenues to increase while an increase in grants cause the country's revenues to decrease and an increase in total aid causes the country's overall revenues to decline. If loans were doubled, there would be a 0.35% increase in GDP. If grant aid were doubled, it would decrease GDP by 1.1%. When calculating the effect of grants on GDP in poor policy countries it was discovered that when grants are doubled there is a 1.3% decrease in GDP in "relatively corrupt" countries while there is a 3.8% decrease in GDP revenue in "most corrupt" countries. Corruption was measured by the corruption index in the *International Country Risk Guide.* Overall, the increase in grant donations is cancelled out by lost GDP revenue and there is no net gain. However, Clements, Gupta, Pivovarsky and Tiongson conclude that policy is very important to the effectiveness of grant aid and it can be effective in countries with good policies.

While that study did not address the growing issue of debt in poor countries, other research suggests that highly indebted poor countries are the reason that aid should be in the form of grants rather than loans. In many developing countries, debt is unmanageable. The recipient countries are already very poor and loan aid would just make the country more indebted. Instead of being able to sustain the level of debt, the developing country may encounter an economic crisis. An economic crisis will hurt any economy, but it is more risky for an already unstable developing nation.

Developing countries have become so overloaded with debt partly due to the donor's (mostly multilateral bank institutions) incentive to loan funds. One of the World Bank's measures of progress is how much foreign aid is distributed. This encourages lending to poor countries even though it may not be benefiting them. DAC members are encountering pressure to increase the amount of aid they donated to 0.7% of their GDP. However, regardless of the amount donated, loan aid could hinder rather than help highly indebted poor countries. Developing countries also receive pressure and are encouraged to borrow more. Increasing aid in the form of loans fails to promote efficient utilization of the funds. If loan aid is so easy for developing nations to receive, then it may not be used as efficiently as possible (Odedokun, 2004).

There has been research on many different topics dealing with development and what is the best way to achieve the highest level. Results vary depending on the data, time period and model used. My study uses similar regression methodology as many of the prior studies mentioned above. However, many of the variables used in my study are different even though they measure similar things. In the next section, the data and the econometric model used in my study are presented.

4. Data and Econometric Model

The majority of data used in the regression analysis comes from the World Banks World Development Indicators (WDI) CD-ROM 2003 edition. The remainder of the data was found on the UN Statistics webpage http://unstats.un.org/unsd/mi/mi_goals.asp under the sections for maternal mortality and disease. The UN data comes directly from

United Nations Childrens Fund Statistics (UNICEF-WHO). The time period for which data was collected spans from 1980 to 2001. This time period is the most recent and there is the most data available due to the recent increase in attention given to development issues. The data was separated into four five-year periods and one two year period. The data was then averaged to get one number for each of the time periods: 1980 to 1984, 1985 to 1989, 1990 to 1994, 1995 to 1999, and 200 to 2001. Appendix Tables A-6 through A-10 provides all averaged data that is used in the regressions. The independent variables in all models are lagged to account for the lag in time from when a country receives aid and the time it takes the country to realize the effect. For example, in the first time period from 1985 to 1989, all independent variables are averages of 1980 to 1984 data. The dependent variables are averages of 1985 to 1989 data. Other studies have had success with the methodology of averaging and lagging time periods to account for the difference in time it takes for aid to have an effect. Studies using this methodology include the World Bank (1998), Burnside and Dollar (1998), and Cordella and Ulka (2004).

The sample was not restricted by the current level of development in a country. All 208 countries for which data is present on the WDI CD-ROM are used in the regression models. The use of the maximum number of countries is necessary in order to achieve a sufficient sample size when countries with missing data are eliminated. The next section presents the data that was collected for all variables as well as explanations as to why each independent variable is used. Also discussed are the models for each goal and the predicted effects of the variables.

4.1 Variables Tested and Predicted Effects

The MDG's targets and indicators measures are all found on the WDI CD-ROM. I chose one target to measure out of each goal. The target is the dependent variable in all regressions. Based on prior research, I found relevant independent variables for each goal. Appendix Table A-11 has a complete list of variables and definitions used in the regressions.

Table 1 shows the models used for each goal and the predicted signs of each variable. These are determined based on prior research and my knowledge of the topic.

Table 1. Predicted Effects of Independent Variables

Dependent Variable	Independent Variables and Expected Sign
POVERTY	AID (-), AILLIT (+), GNI(-), RURAL (+), TRADE (-)
PRIMENROL	AID(+), AILLIT (-), EDUSPENDING (+), GNI (+), IMMMEASLES(+), RURAL (-)
EDURATIO	AID(+), AILLIT(-), GNI(+), RURAL(-)
CHILDMORT	AID(-), FILLIT(+), GNI(-), IMMEASLES(-), PHYSICIANS (-), RURAL (+), SKILLEDBIRTHS(-)
MATERNALMORT	AID(-), FILLIT (+), GNI (-), PHYSICIANS (-), RURAL (+), SKILLEDBIRTHS (-)
TB	AID(-), AILLIT(+), GNI (-), IMMMEASLES (-), PHYSICIANS (-), RURAL (+)
IMPWATER	AID (+), AILLIT(-), GNI(+), RURAL (+)
TELEPHONE	AID(+), AILLIT (-), GDPGROWTH (+), RURAL (-), TRADE(+)

The first model focuses on poverty (POVERTY), measured by the percentage of the total population that falls below the poverty level. Past studies that have researched the factors that affect poverty have had varying results. Easterly (1999) found that aid in the form of

structural adjustment loans does not affect poverty which is measured by the percentage of the population living off $2/day. But, structural adjustment loans do impact economic growth. However, Hanlon (2004) does find a direct positive relationship between aid and poverty. Aid (AID) is incorporated into my model and measured by the amount of aid a country receives as a percentage of that country's GNI. This variable is expected to be negatively related to poverty because as a country receives more aid, the population living in poverty should decrease. Other variables found to have a positive relationship with poverty, measured by GDP growth, are discovered by Rajan and Subramanian (2005). They found that economic management and trade growth are positively related to GDP growth per capita. I used trade (TRADE) and Gross National Income (GNI) as independent variables in my poverty model. Trade should be negatively related to poverty and as trade increases poverty should decrease. The overall wealth of a country is measured by GNI which should also have a negative relationship with poverty. Also included are variables for adult illiteracy rate (AILLIT) which is measured by the percentage of the population ages 15 and over that are illiterate and rural population (RURAL) which is the percentage of the total population living in rural areas. Both variables are expected to have positive relationships with poverty.

The second model is based on Goal 2 of the MDGs which determines the factors that impact the level of primary school enrollment, measured by the percentage of the relevant age group that is enrolled in primary education (PRIMENROL). The independent variables used in this model are aid (AID), adult illiteracy rate (AILLIT), total education expenditure as a percentage of GDP (EDUSPENDING), Gross National

Income (GNI), the percentage of children under 12 months immunized from measles (IMMMEASLES) and the percentage of the population living in a rural area (RURAL). Previous studies have found these variables, or variations of these variables, to be significant factors impacting child education. Gani and Clems (2003) found aid, more specifically education aid, to be positively correlated to the Human Development Index. This index is made up of poverty, education, child health and other measures relevant for measuring the overall health of the population in developing countries. Swada and Loskin (1999) found parent education to be a significant factor in child education which is why I used adult illiteracy rates in my model and expect it to be negatively related to primary enrollment rates. In a study by Paxson (2005) a wealth index is found to be positively related to child education and Mehrotra and Delamonica (2002) found income to be positively related to child education. GNI is incorporated into my model and is expected to be positively related to child education. The study by Paxson also determined that rural areas are related to the level of child education based on findings of a negative relationship between primary education and rural households. Sawada and Lokshin (1999) also determined that rural areas are related to child education. If fewer schools are available, it is more difficult for rural students to attend which is why I also use this variable in my model. The variable is expected to have a negative relationship with the primary enrollment rate. Paxson also determines child health to be an important factor in school attendance and literacy rates, therefore measles immunization is a variable used in my model and expected to be positively related to the dependent variable. Finally, government spending on education is expected to be related to primary

enrollment rates which would be in line with a study by Gomanee, Morissey and Girma (2005) in which they found social expenditures to be positively related to the Human Development Index.

Gender equality, measured by the ratio of girls to boys in primary and secondary education (EDURATIO), is the third goal and regression model. Some of the same independent variables are used in this regression as the previous two models. Moore and Shackman (1996) determined that a country's wealth and education are significant factors for gender equality. Another important consideration for this model is the level of technology a country has. Chen (2004) found that computers, phones and internet users are factors that influence the ratio of females to males in primary and secondary education. This was the bases for using a RURAL variable as not very many rural areas have internet, phone lines and computers. Negative relationships are expected between the ratio of girls to boys enrolled in primary and secondary education and the adult illiteracy rate and the percentage of the population living in a rural area. GNI is expected to have a positive relationship with the ratio of girls to boy in primary and secondary school. Aid is also incorporated into my model in order to test the impact of aid on gender equality. Aid is expected to increase the ratio of girls to boy in education.

Goal 4 through Goal 6 are health related and have common variables that affect them. Hanmer, Lensink and White (2003) studied the relationship between child mortality rates and income, immunizations, primary enrollment and population per physician. Similar measures were also used in a study by Leipziger, Fay, Wooden and Yepes (2003) with the exception of education. Aid is a relevant measure relating to child

mortality as discovered in a study by Matshalaga (2000). Based on these factors that have been found to affect child mortality, I chose to use aid (AID), female illiteracy rate (FILLIT) or adult illiteracy rate (AILLIT), GNI, percentage of children under 12 months immunizations from measles (IMMMEASLES), percentage of population in rural areas (RURAL) and either the number of physicians per 1,000 (PHYSICIANS) or the percentage of total births attended by a skilled health staff (SKILLEDBIRTHS) as independent variables for regression models for Goal 4 through Goal 6. The expected outcomes for these regression models are that AID, GNI, IMMEASLES, PHYSICIANS and SKILLEDBIRTHS are negatively related to all three goals while AILLIT, FILLIT and RURAL are expected to have a positive relationship with the goals.

The targets chosen to use as dependent variables for Goal 7 and Goal 8 both addresses infrastructure issues: the percentage of the population with access to an improved water source (IMPWATER) and number of telephone mainlines per 1,000 people (TELEPHONE)*, respectively. These types of infrastructure issues have not had extensive research in the past. I used aid, adult illiteracy rate, prevalence of rural population and measures of economic health in the country, GNI or GDP growth, as independent variables in both models. Aid and economic health are expected to be positively related to the dependent variables while adult illiteracy and the percentage of the population living in rural areas should be negatively related to both dependent variables. Trade is also used as an independent variable in the regression for Goal 8

* Cell phone usage should be considered in recent periods as telephone mainlines are becoming obsolete.

based on ideas that trade requires communication and countries with a higher level of trade will have more telephone mainlines.

The variables chosen and the predicted effects are determined based on previous research. My model uses many of the same independent variables as the previous studies mentioned above. However, measures such as GNI, TRADE and SKILLEDBIRTHS are specific to this study. To observe basic statistics for the dependent and independent variables, descriptive statistics are gathered for all of the models. These are used to see data such as the mean, median, maximum and minimum of the data as well as the standard deviation and number of observations. Comparing the descriptive statistics across goals and time periods I found similarities among different time periods within the same goal. Differences were not very great even in time periods that had few observations. Appendix Table A-12 shows the descriptive statistics for Goal 1 in all time periods. The descriptive statistics in these periods show similarities among all measures. The greatest variance is seen in the GNI variable. However, this variable does have the largest numbers and when studying the percent change there is not a great difference in the percent change among GNI in the different time periods.

Appendix Table A-13 shows the descriptive statistics for the latest time period available for each goal. The first descriptive statistics table is for poverty in 2000 to 2001. It is important to note that there are only seven observations, or seven countries that make up these statistics. The mean percentage of the population below the poverty line in the seven countries is 32.9%. The countries, on average, are receiving aid donations per year that are almost 6% of the country's GNI. 42% of the adult population

in these countries are illiterate and the mean percentage of the population living in a rural area is almost 60%. Despite these statistics, trade as a percentage of GDP is fairly high. These countries earn an average of 64% of their GDP from trade activities.

The second table shows the statistics for Goal 2 during the time period from 2000 to 2001. There are a lot more observations or countries that had complete data for this model. Out of the 88 countries with complete data, the average percentage of children enrolled in primary education is 82%. These countries receive aid donations of 6.5% of their GNI while still 25% of the adult population is illiterate. However, over 80% of children under 12 months in these countries receive immunizations against measles which is surprising because on average over 50% of the population in these countries live in rural areas.

The third table provides statistics for the gender equality model. The latest time period for this goal is from 1995 to 1999 because there is not enough data to run a regression in the time period from 2000 to 2001. The table shows that there are 110 observations (countries) which are used. The mean ratio of girls to boys in primary and secondary education for the countries in the sample is almost 91%. This number is very high and shows that there is little gender disparity in primary and secondary education in these countries. These countries receive, on average, 8.7% of their GDP in aid donations. However, there is a high percentage of illiterate adults, 28%, and about 52% of the population in these countries live in rural areas.

The fourth table shows statistics for the child mortality model from 2000 to 2001. There are 108 observations in this model. The child mortality rate is the number of

under-five child deaths per 1,000 live births. Out of the 108 countries in the model, averages of almost 67 children out of 1,000 die before the age of five. Aid donations to these countries are around normal at 6% of their GDP. Female illiteracy rates are fairly high with 28% of females ages 15 and above illiterate. Immunization to measles are fairly high with an average of 80.7% of children under 12 months receiving vaccinations. The average number of physicians per 1,000 people in these countries is 1.2 while the percentage of the population that live in rural areas is lower than previous statistics at 47.7%.

The fifth table shows descriptive statistics for maternal mortality in the latest time period from 2000 to 2001. Maternal mortality ratio measures maternal deaths per 100,000 live births. For the 93 countries that make up the statistics there is an average of almost 345 maternal deaths per 100,000 live births. Aid donations to these countries accounted for 6.7% of their GDP. The female illiteracy rate was fairly high compared to other models with 31% of the adult female population being illiterate. Almost 50% of the population in these countries lives in rural areas while only 70% of total births are attended by a skilled health staff.

The next table shows statistics for Goal 6, the number of deaths from tuberculosis per 100,000 people. There are 105 observations in this model during the time period from 2000 to 2001. The average number of people that die from tuberculosis in this sample is almost 23 people per 100,000 inhabitants. These countries receive a mean of almost 6% of their GDP in aid donations while 23% of the adult population over 15 years old is illiterate. The percentage of children under 12 months that are immunized from

measles is 81%, there are on average 1.2 physicians per 1,000 people and 47% of the population in these countries lives in rural areas.

The descriptive statistics for Goal 7 from 2000 to 2001 show that 78% of the population in the 105 country sample size have access to an improved water source. These countries receive an average of 7.6% of their GDP in aid donations which is higher than the average for countries in previous models. Still, adult illiteracy rate is at an average of 27% of the population while the percentage of the population living in rural areas is almost 54%.

The final table shows descriptive statistics for the model of Goal 8 from the years 2000 to 2001. The data comes from 119 countries to determine the statistics. On average these countries have 126.5 telephone mainlines per 1,000 people. Aid donations to these countries account for an average of 6.7% of their GDP. The adult illiteracy rate in these countries is lower than previous models at 24.3% of the adult population being illiterate. The average GDP growth rate is 3.8% per year while still over 50% of the population lives in a rural area. However, trade statistics are very good. They show that, on average, trade accounts for 83.8% of their GDP.

These statistics are helpful to get an idea of how the average country performs. To put these statistics in perspective, Table 2 provides statistics for the United States from 1995 to 1999. It is unfair to compare the U.S. to developing countries, however, these numbers may show just how poorly some countries are performing.

Table 2. U.S. Statistics

Aid percent GNI	ND
Population living in a rural area	25.2%
GNI per capita	$20,450.00
Adult illiteracy rate	ND
GDP growth	3.6%
primary enrollment rate	ND
Trade as a % of GDP	18.7%
Female illiteracy rate	ND
Births attended by skilled staff	99.0
Physicians per 1,000 population	2.2
Under-five mortality rate	13.1
Immunization against measles	93.6
Population living in poverty	ND
Telephone mainlines per 1,000	506.7

Source: World Development Indicators CD-ROM 2003 edition

There is no data (ND) for the United States for aid, illiteracy rates, primary enrollment rates and poverty. This may be because these areas are non-issues in the United States and do not require attention. However, the percentage of the population living in rural areas is almost half that of most countries in the models, trade as a percentage of GDP is much lower in the U.S. than the countries in the model as well as child mortalities. Immunizations to measles are higher in the U.S. by only about ten percentage points compared to the average of countries in the model while the percentage of the population that has births attended by a skilled health staff is almost 30 percentage points higher in the U.S. compared to the averages from the models. The number of physicians per 1,000 is almost double that than the averages in the models, however the number went from 1 to 2 which is not a huge jump. The number of telephone mainlines per 1,000 population is noticeably higher in the U.S. at 506 compared to the average for the countries in the models which is 126.506. This shows that the United States is at a

much higher level of development than other countries. Now that the data and statistics have been reviewed, the correlations of all variables will be examined.

Many models within the same goal have similar correlations among variables which can be expected because the only difference is the time period of the data. An example of this can be seen in Appendix Table A-14 as it shows the correlation matrices for the child mortality regressions in all four time periods. The correlations among variables are very similar from one time period to the next. The variables that experience the highest correlation with child mortality are aid, which is around 0.60 in all time periods, female illiteracy rates, which fluctuates from 0.71 to 0.77 depending on time period, and the rural variable which ranges from 0.61 to 0.79.

Appendix Table A-15 shows a correlation matrix for Goal 1 through Goal 8 in the latest time period, 2000 to 2001. The correlation matrix for Goal 1 shows a fairly strong correlation between poverty and aid and poverty and GNI. Aid and GNI are both correlated with aid at around 0.60. In Goal 2 the strongest correlation with primary enrollment is seen with the independent variables adult illiteracy rate, -0.69, and immunization to measles, 0.60. Gender equality data was not available from 2000 to 2001 and therefore we examine the correlation of variables in 1995 to 1999. Adult illiteracy is the only variable that is shown to have a high correlation with the ratio of girls to boys in primary education. It has a negative correlation of -0.78. In the child mortality correlation matrix, female illiteracy rate and immunizations to measles show the greatest correlation to child mortality rates. These variables have a correlation of 0.71 and -0.73, respectively. In Goal 5, maternal mortality rates, the correlation between

female illiteracy rates and maternal mortality is positively correlated at 0.76. Also high, the correlation of the percentage of births attended by a skilled staff with maternal mortality, -0.79. The next correlation matrix for Goal 6, number of deaths from tuberculosis per 100,000 people, overall has fairly low correlations among variables. The highest correlation between tuberculosis deaths and an independent variable is seen with immunizations to measles. This negative correlation stands at -0.62. Goal 7 measures the percentage of the population with access to clean water. There is no individual variable that is highly correlated with the dependent variable; however, the highest correlation is the rural variable at -0.61. The final correlation matrix shows that the number of telephone mainlines per 1,000 inhabitants are highly correlated with the RURAL variable. There is a negative -0.70 correlation between the dependent variable and the rural independent variable.

4.2 Diagnostic Procedures

I started with the variables that were found to be significant in other studies. The regression equations consist of many of the same independent variables, as could be expected. There were originally 32 equations that were regressed; four time periods times eight MDGs. For the purpose of this paper, I will refer to the specific regression equations with two numbers in the order: goal number, time period. For example, when discussing the regression model that uses child mortality rate as a dependent variable I will use the number four since it is the fourth MDG. If I am referring to the time period of 1995-1999 I will use the number three due to the fact that this is the third period out of the four periods from 1985 to 1989, 1990 to 1994, 1995 to 1999 and 2000 to 2001. I will

refer to this regression equation as (4, 3). Appendix Table A-16 shows a listing of all models and their corresponding numbers.

After creating 32 equations, an ordinary least squares (OLS) regression was run on all equations. The results showed that after taking out for missing variables, not all 32 equations had enough data for a successful regression output. The equations that could not be regressed due to insufficient data are (3,4), (4,1), (5,1), (6,1), (6,3), (7,1). The signs and significance level of the estimation output of the regressions are found in the text in the following section. In total there are 26 regression models. All 26 models were tested for heteroscedasticity and collinearity before further analysis was done.

Heteroscedasticity occurs when there is not constant error variance. This is a concern in the models due to the type of study and the data used. Because all countries are different sizes, the error terms associated with larger countries may have larger variances than smaller countries. OLS will automatically weigh larger countries more than smaller countries. Due to the possibility of unequal variances, all models were tested for heteroscedasticity. White tests were done on the 26 regressed equations. In seven of the regressions the null hypothesis for homoscedasticity is rejected and the models are found to be heteroscedastic. The models that encountered this problem are (1,8) (3,2) (3,4) (4,2) (4,3) (4,6) and (4,7). All regressions that tested positive for heteroscedasticity were corrected in EVIEWS by the heteroscedasticity consistent coefficient covariance procedure.

When studying the determinants of development using inter-related variables, there is a concern for collinearity. None of the variables are perfectly correlated with one

another or else it would be evident in the correlation matrices. However, some independent variables may be highly correlated with each other. This is a major problem because while it is possible to obtain least squares estimates, the results may be very difficult to interpret correctly. Also, there is no simple fix for collinearity, like that of heteroscedasticity. One characteristic of models which have multicollinearity are relatively high R-square's with very few significant variables. In some of the 26 regressions, this is the case. The regression that fit the description for collinearity of a high R-square and few significant variables is (3, 1) which has only one significant variable, adult illiteracy, and shows an R-square of 0.67. Showing similar results, (3, 2) also only shows adult illiteracy to be significant yet has an R-square of 0.715.

To correct for multicollinearity, highly linearly correlated variables should be excluded from the model. In these models the correlation matrices are checked to determine any linear relationships among independent variables. In regression (3, 1) no independent variables are highly correlated. The highest correlation occurs between rural and adult illiteracy and rural and GNI. However, neither of these correlations is greater than plus or minus 0.60, therefore collinearity may not be present. Regression model (3, 2) also showed characteristics of having collinearity by having a relatively high R-square and few significant variables. However, from the correlation matrix there is no evidence of multicollinearity. The variables with the highest correlation are once again rural and GNI which have a 0.67 correlation. This is not significantly high and does not require a change in the model. While collinearity could possibly be an issue in some of the regression models, all variables remain important as seen from other time periods within

the goals. At this time there is no change in any of the models. The results of the regressions and analysis are shown in the next section.

5. Analysis of Results

In this section, the results are presented and the impact of foreign aid on development is determined. The primary goal of the regression analysis is to see whether or not foreign aid is correlated with each of the Millennium Development Goals: Percentage of the population living in poverty, primary school enrollment rate, the ratio of girls to boys in primary and secondary school, child mortality rate, maternal mortality rate, number of deaths from tuberculosis per 100,000, percentage of the population access to clean water and telephone mainlines per 1,000 people. We also will determine what other factors are significant for development. The significance and signs of the independent variables will be compared across time periods and across goals to determine their relationship with the MDGs. There are six regression equations that do not have sufficient data to complete the regression. They are (3,4), (4,1), (5,1), (6,1), (6,3), (7,1). The complete results of all models are shown in Appendix Table A-17. The relationship and significance of each variable in every model are shown in the tables in the following section. The abbreviation ID is used in models for which there is insufficient data to complete the regression. The lack of data from time period one, 1985-1989, may be due to a lack of interest in these topics or that these measures were difficult to collect in the past. More recently, additional data has become available. For the most part, the number

of observations become larger as the time periods get closer to the present. More data has been collected as of late because of the increased awareness of aid issues and the need to study and determine effective ways to reduce global problems. The variables that are not significant in the model are denoted as NS in the following tables. The level of significance shown for each variable by *, ** or *** indicating a 10%, 5%, or 1% significance level, respectively. To shed some light on effective ways to improve development I compare regression results first across time periods within each goal, then across goals in the following section.

5.1 Results across Time Periods within Each Goal

Goal 1. Poverty

Data for the dependent variable, percentage of the population living in poverty, was limited in some time periods which is seen by the number of observations in the first and fourth time periods. Despite the lack of data, regressions are run in all time periods. However, results are the most similar for the time periods that have a sufficient sample size; time periods two and three. Also, the R-square in time periods two and three are much lower than in the time periods with few observations. Table 3 summarizes the signs and significance of the coefficient estimates for Goal 1.

Table 3. Goal 1- Poverty Regression Results

	1985-1989	1990-1994	1995-1999	2000-2001
AID	+**	+**	+**	NS
AILLIT	-**	NS	NS	NS
GNI	+**	NS	NS	-*
RURAL	+**	NS	NS	NS
TRADE	-**	NS	NS	NS
R-square	.937	.429	.461	.997
# obs	9	39	41	7

Aid is determined to be positive and statistically significant at a 95% confidence level in three of the four time periods. The positive relationship seen by the sign of the coefficient estimate is unexpected as aid is expected to have a positive impact on poverty. The coefficients for aid in the time periods 1990-1994 and 1995 to 1999 are 0.59 and 0.71, respectively. These numbers indicate that as aid as a percentage of GDP increases by one percentage point, poverty will increase by 0.59 of a percentage point or 0.71 of a percentage point depending on the time period. The mean percentage of the population below the poverty line in these two time periods is around 36%. Since there are a relatively high number of people already below the poverty line, an increase of a half of a percentage point is not a dramatic difference. A very low percentage of the population is affected by aid increases or decreases. Therefore, this variable does not hold great economic significance.

Adult illiteracy rate and percentage of trade relative to GDP are found to have a negative correlation with poverty in 1985 to 1989. These are also statistically significant at the 95% confidence level. These two variables are significant because when a

country's trade is low, they do not gain income from other countries and the percentage of people living in poverty in that country is high. Also, when there is low a level of adult illiteracy the percentage of people living in poverty is high due to the lack of education which leads to the inability of a country to function efficiently and earn income. RURAL is also statistically significant and has a positive relationship with poverty in 1985 to 1989. When the percentage of the population living in rural areas is high, the percentage of the population living below the poverty level is high. GNI is statistically significant in 1985 to 1989 and 2000 to 2001. However, the signs vary and the time period that does have the expected sign is only significant at a 90% confidence level.

Goal 2. Primary Education

All models for Goal 2 have sufficient observations ranging from 42 to 95 with R-squares between 0.56 and 0.68. The most statistically significant finding from the regression results for primary school enrollment is the correlation with adult illiteracy rate. In every time period adult illiteracy rate is negatively related to the percentage of children enrolled in primary education. In countries where many adults are illiterate, there are not many children enrolled in primary school. This is a realistic conclusion. If the older population in a country does not have a good education they would be unable to provide education to the younger population for various reasons. Many parents are not able to teach their own children to read if they cannot read themselves. Also, there may be a lack of teachers if the overall level of education is low. If adults do not have an education, measure by literacy, they will not be able to earn enough money to pay for

their children to attend school. Adult education is a very important factor that determines how well educated the younger population will be. This independent variable is significant at 99% in all time periods. These findings can bee seen in Table 4.

Table 4. Goal 2 – Primary Enrollment Regression Results

	1985-1989	1990-1994	1995-1999	2000-2001
AID	NS	-**	-*	-**
AILLIT	- ***	-***	-***	-***
EDUSPENDING	NS	NS	NS	NS
GNI	NS	-**	-*	NS
IMMMEASLES	NS	+**	+**	+**
RURAL	-*	NS	NS	NS
R-square	.630	.679	.599	.557
# obs	42	61	95	88

The coefficient estimates for AILLIT provide insights as to how large of an impact this variable really has. The coefficient estimates for adult illiteracy rate, in order from the first time period to the last time period, are -0.44, -0.50, -0.44, -0.42. The coefficients are fairly constant over time. They indicate that when the adult illiteracy rate increases by one percentage point, the percentage of children enrolled in primary education will decrease by about half of a percentage point. A decrease of half of a percentage point is a relatively low percentage of the population that is affected. However, in absolute terms, many children could be affected depending on the size of the population in the country. When looking at the average percentage of children that are enrolled in primary education in these time periods, it is around 80%. Twenty percent of children of the relevant age do not attend primary school. This number is already high and an increase of any kind holds economic significance.

A surprising finding is that government spending on education is not statistically significant in any time period. Government spending for education includes building schools, paying teachers or supplying books, computers and other supplies necessary. These things should impact the primary enrollment rate in developing countries. An expected result is seen by the variable IMMMEASLES. This variable is positively related to primary enrollment and statistically significant at a 95% confidence level in three of the four time periods. The results indicated that when more children are immunized against measles, there are more children enrolled in primary education. This correlation is fairly obvious; when children are sick, they are not able to attend school. Also, if children are receiving measles vaccinations they are most likely receiving other vaccinations for tuberculosis, rubella, and smallpox. If children get vaccinations, they can avoid many diseases that may keep them out of school.

GNI is only statistically significant in two time periods and is shown to have a negative correlation with primary enrollment. The assumption behind this variable is that in countries that have higher Gross National Incomes, there will be a higher percentage of the children attending primary school. This variable was expected to be positively related to the child education, but showed the opposite results. Also, the relationship between aid and primary enrollment is negative indicating that when aid increases the percentage of children enrolled in primary school is low. This was also an unexpected sign for the independent variable. One possible explanation for the result is that more aid may go to countries with low primary enrollment. In this case, a negative relationship would result in the regression.

The last variable is the percentage of the population living in a rural area. This variable is statistically insignificant in all time periods but one and in that time period it is negatively related to primary enrollment. These results are in line with expectation because most schools are in the city and if there is a large percentage of the population living in rural areas, they are less likely to have access to schools and many rural families need children to work from home to earn income.

Goal 3. Gender Equality

Goal 3, the ratio of girls to boys in primary and secondary education, was only found to be related to adult illiteracy rate out of all four independent variables in the regression. Aid, GNI and rural population were found to be uncorrelated with gender equality. Adult illiteracy rate is negative and statistically significant at a 99% confidence level in all three periods for which there is sufficient data. Adult illiteracy rate is used to measure the level of adult education. When the adult population in a country is uneducated there is less chance of females, young or old, of going to school and working outside the home. Many poor families are only able to send one or two of their children to school while the others are needed to work at home. Many times the male children are the ones chosen to attend school since most likely the girls will only work in the home anyway. In these cases the ratio of girls to boys in primary and secondary education. Table 5 shows the results of the regressions. The number of observations is sufficient ranging from 61 to 110. Also, the R-squares are fairly high, ranging from 0.62 to 0.72, considering there are few statistically significant variables.

Table 5. Goal 3 - Ratio of Girls to Boys in Primary and Secondary Education Regression Results

	1985-1989	1990-1994	1995-1999	2000-2001
AID	NS	NS	NS	ID
AILLIT	-***	-***	-***	ID
GNI	NS	NS	NS	ID
RURAL	NS	NS	NS	ID
R-square	.670	.715	.619	ID
# obs	61	76	110	ID

While AILLIT is the only statistically significant variable, it does not carry great economic significance. The correlation coefficients in order by time periods are -0.65, -0.55, and -0.43. This indicates that when the adult illiteracy rate increases by one percentage point, the ratio of girls to boys in primary and secondary education will decrease by around half of a percentage point. Half of a percentage point does not account for a large percentage of the population especially when the average ratio of girls to boys in primary education is around 90%.

Goal 4. Child Mortality

The results of the regressions for Goal 4 show that the model is fairly good. The number of observations in the models range from 74 to 108 and the R-squares explain 74% to 81% of the variation in child mortality rates. There are four variables that show statistically significant results in the regressions testing child mortality rates. These variables are aid, female illiteracy rates, immunization to measles, and rural population. Aid, female illiteracy and immunization to measles are statistically significant in two

time periods at a 99% confidence level and 95% confidence level in the other time period, while rural population is statistically significant at a 95% confidence level in two time periods and 90% at the other. There is insufficient data to run a regression in 1985 to 1989. Table 6 shows the relationship among variables and the level of statistical significance of each variable in all time periods.

Table 6. Goal 4 – Under-Five Mortality Regression Results

	1985-1989	1990-1994	1995-1999	2000-2001
AID	ID	+***	+***	+**
FILLIT	ID	+***	+***	+**
GNI	ID	NS	NS	NS
IMMMEASLES	ID	-**	-***	-***
PHYSICIANS	ID	NS	NS	NS
RURAL	ID	+*	+**	+**
R-square	ID	.809	.783	.743
# obs	ID	74	112	108

Unexpected results occurred in the regressions results of aid. The expected sign is negative because when countries receive more aid, child mortality should decrease. However, the results indicated a positive relationship between aid and child mortality. Because the independent variables are lagged, the explanation that more aid goes to countries that have high child mortality rates should not hold. However, despite the lag in time between independent and dependent variables, the countries may not improve in the five-year lag and this explanation may still hold. In the latest time period, the correlation coefficient of aid is 1.76. This means that when aid donations increase by one percentage point, child mortalities will increase by 1.7 children per 1,000 children. An

increase of almost two child deaths is very economically significant. However, it is still unclear why we see a positive relationship when aid is expected to decrease mortality rates.

Female illiteracy is expected to have a negative correlation with child mortality rates because more educated mothers can care for their children better. The regression results indicated this relationship. All females are not mothers; however, this is the closest measure to maternal education there is data for. There may be various explanations for this relationship. Since education is negatively correlated with poverty as seen in Goal 1, educated mothers have more money to spend on their child. Children of educated mothers may have more food, better shelter and more access to health care. Also, educated mothers realize the importance of vaccinations and get their children immunized 50% more than uneducated mothers (UN Development Group, 2005). As seen from the IMMMEASLES variable, immunizations are a statistically significant factor in child mortality rates.

The correlation coefficients for FILLIT and IMMMEASLES are 0.60 and -1.18, respectively. Immunizations to measles holds economic significance because as the percentage of children 12 months and under who get immunized from measles increases by one percentage point, child mortalities decrease by over one child deaths per 1,000 children. Considering the average number of child mortalities is 66 per 1,000 children, this increase is significant. While female illiteracy rate does not hold as much economic significance to child mortalities, any variable that can affect the life of a child is significant.

The percentage of the population living in rural areas shows a positive statistically significant result in the regression. When the percentage of population living in rural areas is high, child mortality rates are high. A reason for this relationship may be that people living in rural areas do not have access to health care. The nearest facility may be miles away and transportation may also be an issue. The correlation coefficient for this variable is 0.62. The number of people affected by this variable is dependent on the size of the population because RURAL is measured as a percentage of the population. However, this variable does carry some economic significance in that an increase of one percentage point of rural inhabitants increases child deaths by 0.6 out of every 1,000 children.

Variables found to be statistically insignificant in the regression results are Gross National Income and the number of physicians per 1,000 inhabitants. GNI is insignificant in the majority of the regressions run, of which this one is no different. The number of physicians should play a role in the level of child mortality rates, however, since rural population is statistically significant, it may be the case that regardless of the number of physicians a country has, not all people may be able to go to the health care facilities where they practice or may not be able to afford the care of physicians. These factors would indicate that regardless of the number of physicians, it does not affect the child mortality rates.

Goal 5. Maternal Mortality

The regression for maternal mortality rates showed similar results to the regression for child mortality rates. These variables are alike in the sense that regardless of age, the same factors can impact health and death. Like child mortality, aid has a positive relationship with maternal mortality. Again, this relationship is unexpected; however, more aid may go to countries with high mortality rates. Female illiteracy rates are positive and statistically significant at a 95% confidence level or better indicating the relationship of education with mortality. More educated females can better care for themselves. Whether it is by accessing health care, knowing how to protect themselves from diseases, eating properly or having sufficient shelter educated women are more likely to be able to handle these factors that effect health.

Another statistically significant variable in the regression is the number of births attended by a skilled health professional. This has a negative relationship with maternal mortality rate. When the number of births attended by a skilled health staff is low, maternal mortality rates are high. Women who give birth to their children at home or in the absence of a medical staff, are more likely to develop infections and may not have the medicine they need to recover from the process of child birth. If not immediately, mothers may become sick after they give birth, which they may be unable to recover from.

In the latest time period, the coefficient estimates for FILLIT and SKILLEDBIRTHS are 4.06 and -5.28, respectively. This indicates that when female illiteracy increases by one percentage point, maternal deaths per 100,000 will increase by 4 deaths. Also, when the percentage of births attended by a skilled health staff increases

by one percentage point, maternal deaths decrease by over 5 for every 100,000 births. While an increase in four or five deaths out of 100,000 live births is not a large percentage, any maternal death will have a large impact on the child of a mother who dies.

These results can be seen in Table 7. There is insufficient data in 1985 to 1989. However, in the other time periods there are a decent number of observations ranging from 64 to 93. The R-squares in the regressions for maternal mortality are in the 0.60 to 0.79 range which indicate that this model can explain about sixty to eighty percent of maternal mortality rates.

Table 7. Goal 5 – Maternal Mortality Regression Results

	1980-1984	1985-1989	1990-1994	1995-1999
AID	ID	+**	+*	+**
FILLIT	ID	+***	+**	+**
GNI	ID	NS	NS	NS
RURAL	ID	+**	+**	NS
SKILLEDBIRTHS	ID	-***	-*	-***
R-square	ID	.780	.602	.704
# obs	ID	77	64	93

The rural variable showed positive, statistically significant results in two time periods indicating that there are higher maternal mortality rates in countries that have a higher percentage of the population living in rural areas. These mothers may not live near health care facilities and may not have access to the same foods and medicines as people living in urban areas.

Goal 6. Disease

The number of deaths from tuberculosis (TB) per 100,000 people is the measure used for disease. There is very poor data available for this regression and all variables, except immunization against measles, are found to be statistically insignificant. IMMMEASLES is incorporated into the regression to show that vaccinations impact the prevalence of disease. Data for immunizations for tuberculosis is not available. The rationale behind using immunizations for measles is that in many cases children get immunized against many diseases at once. Many children will get vaccines for measles, TB, and other deadly diseases in one visit to a health care facility. Immunizations against measles are negatively correlated with the number of deaths from tuberculosis per 100,000 people. When immunizations against measles are low, TB deaths are high.

The coefficient estimate for IMMMEASLES in the latest time period is -0.61. This indicates that for every percentage point increase in immunizations to measles, tuberculosis deaths decrease by less than one death. TB is measured by the number of tuberculosis deaths per 100,000 inhabitants. The immunization variable has little economic significance when considering the ratio of people effected.

This model returns lower R-square results than other models, however, the model still explains a decent amount of the variation in deaths from tuberculosis. The R-square in the time periods that do have sufficient data are 0.37 and 0.49. In these regressions, there are 73 and 105 observations. This is a substantial number; however, the presence of insignificant variables is high. Table 8 shows the results of the regression output.

Table 8. Goal 6 – Tuberculosis Deaths Regression Results

	1985-1989	1990-1994	1995-1999	2000-2001
AID	ID	NS	ID	NS
AILLIT	ID	NS	ID	NS
GNI	ID	NS	ID	NS
IMMMEASLES	ID	-*	ID	-***
PHYSICIANS	ID	NS	ID	NS
RURAL	ID	NS	ID	NS
R-square	ID	.367	ID	.486
# obs	ID	73	ID	105

Aid, adult illiteracy rate, GNI, number of physicians and rural population do not have a correlation to the number of deaths from tuberculosis. However, it is possible that if there was more data available and different time periods were studied, some relationship could be found.

Goal 7. Improved Water

This model shows fairly low R-squared across periods and the variables that are statistically significant have the opposite of the expected sign. Aid is statistically significant in only one time period with a negative correlation to the percentage of people with access to improved water. This indicates that when aid is low the percentage of the population with access to clean water is high. The expected relationship is that aid helps countries gain access to improved water and sanitation. Adult illiteracy rate is statistically significant at a 95% confidence level in two time periods and only a 90% confidence level in the other. However, it is statistically significant in all the time

periods for which data are available. The negative relationship indicated that when a high percentage of adults are illiterate or uneducated, there is a low percentage of the population with access to an improved water source.

The most relevant and statistically significant variable in the regression is the percentage of people living in a rural area. This variable is significant at a confidence level of 95% or greater in all time periods for which data are available. It is negatively correlated with the percentage of the population with access to improved water. This relationship holds due to the fact that it is more difficult to have water lines and filtering systems in rural areas. People living in rural areas use river water or lake water as their main means of water supply.

In the second, third, and fourth time period the coefficient estimates for the RURAL variable are -0.35, -0.28, and -0.28, respectively. The coefficients are consistent over time and indicate that as the rural population increases by one percentage point, the population with access to improved water will decrease by about one third of a percentage point. This variable does not affect a large percentage of the population, but may affect many people in absolute terms.

GNI is found to be statistically insignificant across all time periods. It is expected that the amount of income a country earns impacts the percentage of the population with access to improved water because richer countries enjoy better infrastructures. This may not hold in the regression results due to the fact that in most countries the government is responsible for creating waterlines and improving these types of infrastructure. Even though people earn a higher GNI, this may not be directly correlated to the amount of

money and effort the government of that country contributes to improving the water for its citizens. Table 9 shows the results of the regressions in all time periods.

Table 9. Goal 7 - Improved Water Regression Results

	1985-1989	1990-1994	1995-1999	2000-2001
AID	ID	NS	NS	-**
AILLIT	ID	-*	-**	-**
GNI	ID	NS	NS	NS
RURAL	ID	-**	-**	-***
R-square	ID	.358	.407	.497
# obs	ID	60	104	105

Goal 8. Telephone Mainlines

The model for this regression is decent. The model accounts for around 60% of the variation in the number of telephone mainlines per 1,000 inhabitants. The number of observations for each time period is good ranging from 89 to 119.

The most statistically significant variables in the model are RURAL and TRADE, showing significance levels of 99% in all time periods except 1995 to 1999 for the TRADE variable. The signs of these variables are in-line with expectations. The percentage of people living in a rural area is negatively correlated to the number of telephone mainlines. Like access to improved water, this is due to the fact that it is difficult to reach the population living in rural areas. Power lines are very expensive to provide to rural areas which the government may be unwilling and unable to do. Also, the amount of trade as a percentage of GDP that a country experiences drives the need for lines of communication. TRADE is positively related to the number of telephone

mainlines. When the amount of trade relative to GDP a country participates in is high, the number of people who need telephones is high. This is also in-line with expectations due to that fact that communication is needed for trade. One of the most common forms of communication is through the telephone.

Coefficient estimates for RURAL and TRADE variables in the latest period are -2.86 and 0.61, respectively. There is greater economic significance for the RURAL variable than the TRADE variable. As the percentage of rural inhabitants increases by one percentage point, the number of telephone mainlines per 1,000 inhabitants increase by almost three. This could be a large increase in telephone mainlines depending on the size of the total population of the country.

Variables that were not statistically significant except for one time period include adult illiteracy rate and GDP growth. A possible explanation for GDP growth not being significant may be because GDP growth captures how much a country's economy is growing. Countries that already have a lot telephone mainlines, may not be experiencing a high level of GDP growth despite the country being very developed. Adult illiteracy is also only significant in the latest time period and has a negative relationship with telephone mainlines. This relationship is unexpected because the level of education in a country should have a positive relation with telephone mainlines. The logic is that more educated people can build better infrastructure. Correlations and statistically significant variables for this goal are shown in Table 10.

Table 10. Goal 8 – Telephone Mainline Regression Results

	1985-1989	1990-1994	1995-1999	2000-2001
AID	NS	NS	-**	-**
AILLIT	NS	NS	NS	-**
GDPGROWTH	NS	+**	NS	NS
RURAL	-***	-***	-***	-***
TRADE	+***	+***	+***	+**
R-square	.616	.646	.620	.600
# obs	89	95	117	119

The results of many regression models are similar across time periods within this goal as well as many of the other goals. While many of the regressions show similar relationships among variables within the same goal over time, the results are not as similar when studying variables across goals. The next section examines the similarities and differences of variables across different goals.

5.2 Results across Goals

From the regression results of the eight Millennium Development Goals, different variables are tested and found to be significant or insignificant for each goal. However, it is important to study which variables are consistently a factor for development in poor countries because then developing countries can focus on those areas to achieve the most development in the least time. Variables for aid, education, immunization rate and the prevalence of rural inhabitants are found to be statistically significant across a number of goals.

Of the 26 regressions, aid was significant in 16 of them. Results indicated that aid has the strongest relationship with poverty, primary education, child and maternal

mortality. These findings are not surprising since poverty is the main focus of numerous aid programs. The most attention concerning development has come due to the high percentage of people living in poverty. However, many of the signs for this variable are unexpected. The regression results show that aid is positively related to poverty, aid is negatively related to primary enrollment, and aid is positively related to maternal mortality. These relationships are the opposite of what is expected. The assumption is that aid will improve conditions in developing countries. However, more aid goes to countries that are worse off. Donors aim to help countries in need, not countries that are doing well. However, these unexpected relationships may not, in reality, have strong significance. While the lagged time period should account for the lapse in time from when a country receives aid and when a country experiences the benefit from aid, that may not be the case. Variables such as the percentage of the population living in poverty, the percentage of children enrolled in primary education and maternal deaths per 100,000 live births change very slowly over time. Even though the results indicate an unexpected relationship, it may be incorrect to conclude that these issues are not improving. Therefore, these relationships do not hold strong economic significance.

Education, measured by adult illiteracy rate, is determined to be a statistically significant factor in many areas of development in this study. Adult illiteracy rate impacts gender equality, child education, and access to an improved water source. The signs in all these regressions match the expected signs.

The percentage of adults that are illiterate in a country is directly related to the percentage of children that are enrolled in primary school. Educated adults realize the

importance of education for their children and children in the next generation. Also, educated adults are more open to gender equality issues and despite a child's gender, they realize the importance of education for all genders. Adult illiteracy is also related to the percentage of the population that has access to an improved water source. This relationship occurs because an education is necessary to build the infrastructure to provide access to clean water. Not only does education play a role in the previously mentioned goals, but education is also an important determinant of mortality rates in developing countries. Female illiteracy rate is shown to be significant and positively related to child and maternal mortality. The level of a mother's education has a large impact on the health of the child. Educated mothers usually know more about health and how to take care of her children as well as herself. Therefore when female education is high, mortality rates among children and mothers are low.

There is great economic significance behind this variable. This measure is an accurate indication of the level of education in a country and it shows that education is important for development and can help a country progress in the three areas mentioned above. However, if those areas of development improve, that can lead to progress in many directions. For example, educated adults see that both genders are equal and give children equal opportunities regardless of their sex. With an equal education for females they can benefit society more and create a more educated work force which leads to income and development within a country (Chen, 2005).

Immunizations against measles were found to be important in models pertaining to child mortality, tuberculosis deaths, and child education. Immunizations not only keep

children healthy and able to attend school, but they also stop the spread of diseases. Mortality rates decrease when immunizations against measles go up because measles are a deadly disease in developing countries. Immunizations against measles are used in the model with tuberculosis deaths as a dependent variable because if children are getting any type of immunization, it is likely that they are getting various immunizations. This is evident from the results which show that immunizations to measles are negatively related to number of deaths from tuberculosis per 100,000 inhabitants.

This variable is important when studying disease in developing countries. Stopping the spread of disease is vital for development and the best way to stop the spread of diseases like tuberculosis is through vaccinations. This variable holds very strong economic significance because disease affects every aspect of life. When people are healthy they are able to be productive which improves and progresses development. Otherwise, valuable resources, the people, are being wasted because they are sick and unable to help their country advance.

The variable RURAL, the percent of the population living in a rural area, was included as an independent variable in the regression models for all goals. The expected outcome is that people living in rural areas are not as advanced as people living in cities because rural inhabitants do not have the same technologies as city dwellers. However, this variable is not significant in any time period for regressions dealing with gender equality and disease. Also, in the models for poverty and primary enrollment rate the RURAL variable is only significant in 1985 to 1989.

However, the percent of population living in rural areas does play a role in child and maternal mortality rates, the number of telephones mainlines, and the percent of people that have access to improved water. The people living in rural areas do not have access to the same technologies and services as an urban population does. Therefore, there is a relationship between the percent of people living in rural areas and these development areas. This variable does have important economic significance. There will always be a certain percentage of the population living in rural areas because there is a demand for farming and products produced in these areas. However, when the percentage of people living in rural areas is around half of the population of that country, valuable resources are not being maximized and people are living at lower standards than necessary. Cities in these countries must expand and provide incentives to pull people from rural areas into urban cities. Only then will a country start to develop and increase jobs, income, trade, and GDP.

The number of physicians per 1,000 population was not found to be a significant variable in either of the models in which it was used; child mortality and tuberculosis deaths. This variable may not be significant to development in poor countries because this variable does not account for the entire population. Because not all citizens are able to afford health care or travel to get treatment from the physicians it may be irrelevant that a country has one physician per 1,000 inhabitants or ten physicians per 1,000 inhabitants. It may not be a matter of the number of physicians relative to the population, but other factors as to why the number of physicians is insignificant when it comes to reducing child mortality and decreasing the number of deaths from tuberculosis. Since

rural population is a significant factor of child and maternal mortality, this shed some light on why physicians are insignificant.

Another variable used across two models is trade as a percent of GDP. This independent variable is used to determine the percent of the population living in poverty and the number telephone mainlines per 1,000 inhabitants. While TRADE is positive and statistically significant in all time periods for the model that determines the number of telephone mainlines, it is only significant in 1990 to 1994 for poverty. Trade is a good indicator of the level of globalization a country is experiencing. This measure has economic significance in that trade brings in income to a country and income increases development. It also increases a country's level of technology. This is seen in that trade is positively related to the number of telephone mainlines in a country. The more income a country has the more funds that are available to spend on infrastructure like telephone mainlines.

Overall, the most surprising finding is that the Gross National Income of a country rarely has a relationship with the level of development, by measured by the MDGs. Wealthier nations are more developed overall than poorer nations, but this relationship did not hold in the regression results. GNI is an independent variable in seven of the eight goals. It is not significant in any time period for five of the seven goals in which it is an independent variable. These results are unanticipated especially because previous studies have found income to be a significant variable for development. However, it is possible that the income of a country is a significant factor of development, but it is not evident from this measure of GNI. Gross National Income in

current US dollars is used as the independent variable. This measure does not take into account the population of the country or how much each individual person earns. That measure may have more significant outcomes in a regression model. Despite the results seen from this variable in my model, I would argue that the income of a country does impact the level of development.

While many of the independent variables did show similar results across different goals, there were also uncommon results because the dependent variables are all unique. The next section will examine the similarities and differences of the results in this paper compared to the results seen in previous studies.

5.3 Similarities and Difference among results in Previous Studies versus this Study

There have been various studies researching different factors that affect the rate of development in poor countries. Specifically, when testing foreign aid's effect on aspects of development for improvement, the overall results have been inconclusive. Because most studies are testing different measures of development there are a wide variety of results. For example, the World Bank wanted to test foreign aid's effectiveness on reducing poverty. What was really tested was foreign aid's effectiveness on increasing GDP growth. By using a sample of 336 countries over a time period from 1970 to 1993, the study determined that GDP growth reduces poverty. However, Rajan and Subramanian (2005) measured foreign aid's effectiveness on reducing poverty by using aid as an independent variable and GDP per capita as a dependent variable. The time period in this study was from 1960 to 2000 and 74 countries were studied. The results showed that foreign aid is insignificant in reducing poverty. These studies both wanted

to measure the effectiveness of foreign aid on reducing poverty, yet by using different measures the regressions return different results.

The same phenomenon occurs in this study when comparing with previous research. Although the models are attempting to determine similar end goals, some different measures were used for my model than in previous studies. Studies in which different measures may have influenced the outcomes to be different than previous research occurred in poverty, gender equality, and child mortality regressions. Also possible is that results showed different outcomes regardless of the measure used.

In studies done by Burnside and Dollar (2000) and Easterly (1999) aid was found to be positively related to GDP growth. Both studies use similar sample sizes with 189 countries and 150 countries, respectively. The studies also used almost twenty years of data. Burnside and Dollar use data starting in 1970 while Easterly's time period starts in 1980. With similar time periods and sample sizes, these studies show similar results.

If the widely accepted assumption is true that GDP growth reduces poverty, then my study produced different results than these two previous studies. The results of my regressions showed that aid is positively related to poverty. However, in my model poverty is measured by the percent of population below the poverty line, not by GDP growth. Also, while the time period I used is similar to Easterly (1999), the number of sample countries is much lower in my regressions. Hanlon (2000) used the same measure for poverty as used in my model, but discovered aid to be negatively related to poverty. One difference that may account for the contrasting results is the type of aid used in Hanlon's model; personal checks distributed to all individuals in extreme poverty.

Another difference in Hanlon's study is the time periods and observations used. In this study there were two countries in which the distribution of personal checks to people living in poverty was examined. In each case individual people were studied, not entire countries. This led to 75,000 observations in one case and 106,280 observations in the other case. Also, the time periods studied were much shorter; from 1994 to 1996 in one country and 2000 to 2001 in the other country. Although results varied, the expected result is that aid reduces poverty which is what three of the four previous studies have concluded.

The next regression model for which there was differing results between the previous studies and my study is when determining significant factors that affect gender equality. Gross National Product (GNP) and Real Gross Domestic Product (RGDP) were found to be positively related to gender equality by Moore and Shackman (1996) and Chen (2005), respectively. My results showed that Gross National Income is insignificant to gender equality. It is important to note that GNI, GNP and RGDP are not the same measures. This could account for some of the variance in the results; however, these measures should follow the same trend and determine the overall health of a country's economy.

The final main difference I saw between previous research and my results was with respect to child mortality. In three prior studies income has been a significant factor that is negatively related to infant and child mortality rates. Nguyen and Wagstaff (2004) discovered this relationship with income and infant mortality. Income per capita was also found to be negatively related to child mortality rates by Gomanee, Morrissey and Girma

(2005) and when testing income with respect to both infant and child mortality, Leipziger, Fay, Wooden and Yepes (2003) determined that when income is high, child and infant mortality rates are low. Income was also measured by Hamer, Lensink and White (2003) which they found to reduce child mortality. Their research also found that the number of physicians in a country decreases child mortality. In my model, both income and physicians were tested, however both variables are insignificant. In this case, different results may be attributed to differences in time periods and observations. Hamer, Lensink and White used averages of four-year periods from 1960 to 1994 and had 115 observations. I also used the averages, of five-year periods, but my data covered a later period from 1980 to 2001. In my regressions for child mortality, 108, 112 and 74 countries are examined.

Despite differing results when comparing my research to previous studies, there are many common outcomes that occurred in the regressions for education, immunizations and rural population. Although Easterly (1999) found that aid, measured by structural adjustment loans, is significant in increasing GDP growth, when testing aid with respect to poverty, he found the variable to be statistically insignificant. In 2000 to 2001 the results of my study determined the same thing. Time periods studied are similar for both models while the numbers of observations used in Eastery's study are much larger.

Primary education is found to be related to the same independent variables in previous studies as in my study. WoBmann (2005) and Sawada and Lokshin (1999) both found parent education to be positively related to child education. Although the first

study used international achievement test scores as a measure of child education while the second study used primary enrollment rate, the conclusions align. My model used primary enrollment rate as a measure of child education and adult illiteracy rate as a measure of parent education. My results also determined that the level of parent education is positively related to child education. I also found similar results as previous studies when testing a rural variable with respect to child education in my regressions. My results confirm a negative relationship between the percent of the population living in a rural area and child education. Swada and Lokshin (1999) also included a rural measure into their regression by incorporating a school supply variable. The outcome of the regression showed that the distance a child lives from a school impacts the level of child education. Although both studies used different measures for the rural term, the results concluded that distance matters. While the studies by Swada and Lokshin (1999) and WoBmann (2005) used similar time periods and sample sizes, mine differs greatly.

There were also similarities in the results from my research and previous studies in the model for gender equality. Chen (2004) found education, measured as average years of schooling, to be positively related to ratio of girls to boys in primary and secondary education. I concluded the same thing from my study, however instead of using average years of schooling as a measure for education I used adult illiteracy rate. Nevertheless it is accurate to conclude education plays a role in gender equality issues in developing countries.

Regardless of differences among outcomes in studies of child mortality, there are similar results across research that uses immunizations and education as independent

variables. Immunizations were found to be effective in reducing child mortality in a study by Hammer, Lensink and White (2003). I used the measure immunization of measles in my regression which is also found to have a negative effect on child mortality rates. Also, education, measured by female illiteracy rate, in my study showed a positive relationship with child mortality rates. As previously mentioned, the study by Hammer, Lensink and White and my study uses similar time periods and observations. Wagstuff and Nguyen (2004) also used female education in their model, measured by years of schooling for females, which they found to be negatively related to child mortality. A similar study that did not differentiate between male or female education concluded that when overall education is low in a country, the rates of mortality in that country are high (Leipziger, Fay, Wooden and Yepes, 2003).

Two studies that use the Human Development Index (HDI) as a dependent variable find similar results with my research in certain areas. The Human Development Index is a measure of poverty, education, literacy, life expectancy, childbirth, and other factors. Its overall purpose is to measure well-being, especially child welfare. In 2005, Gomanee, Morrissey and Girma discovered income, aid and social expenditures to be positively related to the Human Development Index by using averages of four-year periods from 1980 to 1998 and studying 38 countries. Also, Gani and Clems (2003) found GDP and aid to be positively related to the Human Development Index while rural population was negatively related. In this study, the time period used was 1991 to 1995 and there were 220 observations. My results coincide with these findings because the HDI is a combination of Goal 1, Goal 2, and Goal 4. Similar results were found in my

regression analysis for Goal 1 in which GNI and RURAL were positively related to poverty. I also found common results in Goal 2 as RURAL is also negatively related to primary enrollment rate. For Goal 4 similar results are also seen for the independent variable RURAL. This variable is positively related to child mortality likewise discovered by Gani and Clems (2003).

The variables that returned the most common results among prior studies and my research are adult illiteracy rate (education), immunizations to measles, and the percentage of population living in rural areas. These measures are not only common within specific goals, but also across goals and time periods. The following section draws conclusions from the results found in this section and makes recommendations for further research.

5.4 Results of the Change in Dependent Variables over Time

As seen from the previous section, many of the prior research studies have discovered similar findings as this study. However, there are some variables, such as aid, that have been significant in previous studies which are inconclusive in my study. In the 26 ordinary least squares regression models, I measured the dependent variable in absolute values. For example, in the regression for Goal 1, the model tests the correlation between aid, adult illiteracy rate, gross national income, prevalence of rural inhabitants and openness on the dependent variable, poverty. In all models which show aid to be a statistically significant variable, it is positively correlated with poverty. That relationship means that when aid is high, poverty is high. As previously discussed there is a possibility of an insufficient amount of time used for a lag and thus the positive

correlation. However, another possible explanation for the unexpected results is that the dependent variables should be measured by the level of change from one period to the next rather than measuring their absolute values. In the regression results for which aid measures poverty as an absolute value, it is very likely that if poverty is high in one period it will still be high in the next period relative to other countries. Even if the country does receive large aid donations, poverty may still be high in absolute terms, but may have improved from the previous period.

To capture the change in dependent variables over time I calculated the change in dependent variables by taking the difference of 1995 to 1999 and 1990 to 1994 data. I then used those differences in the regression model for all eight goals. There was insufficient data to run a regression for Goal 6, tuberculosis related deaths. Overall, the models had many statistically insignificant variables.

Complete regression results for all goals, except Goal 6, can be found in Appendix Table A-18. Models that had one or more significant variables are Goal 1, Goal 7, and Goal 8. The remainder of the regression models, Goals 2, 3, 4, and 5, returned statistically insignificant results for all independent variables.

The regression output for Goal 1 test if AID, AILLIT, GNI, RURAL, and TRADE are significant factors that impact poverty measured by the change in poverty from the second to the third time period. These are the same independent variables used in previous models for Goal 1. The only variable that is statistically significant in this model is AID. There are only 18 observations and the adjusted R-square is 0.08 which is very poor. Aid shows a positive correlation with poverty and is statistically significant at

a 95% confidence level. There is little difference among the results when using the absolute values of dependent variables versus the change over time of the dependent variable in this case. The correlation coefficient of 0.86 is very similar to previous results as well as the economic significance. As aid increases by one percentage point the percentage of the population the falls below the poverty line increases by 0.86 percentage points. This variable does not carry large economical significance.

Goal 7 uses the change in the population with access to improve water from the second to the third time period as a dependent variable and the same independent variables as previous Goal 7 models. The only statistically significant variable in this regression is GNI. However, this variable is only significant at a 10% significance level. There are 62 observations and the adjusted R-square for the model is 0.13. The correlation between GNI and the percentage of the population with access to improved water is negative. This means that when Gross National Income is high, the percentage of the population with access to improved water is low. This is the expected relationship among these two variables. However, there is a very little economic impact of this variable due to the fact that the GNI coefficient is -0.001. This means that when a country's GNI increases by one percentage point, the decrease in the percentage of the population with access the improved water is .001 percentage points. This variable affects a very small percentage of people.

The final regression model which has statistically significant variables is Goal 8. This model measures the effects of AID, ALLIT, GDPGROWTH, RURAL and TRADE on the change in telephone mainlines per 1,000 inhabitants over the time period two and

three. There are 117 observations and the adjusted R-square is 0.39 in this model. Adult illiteracy rate and the percentage of the population in rural areas are both statistically significant at a 1% significance level. AILLIT is negatively correlated with telephone mainlines which is expected, however, this variable does not have great economic significance because the coefficient is -0.40. Telephone mainlines per 1,000 inhabitants decrease by -0.4 of a telephone mainline for every one percentage point increase in adult illiteracy rate. The other statistically significant variable in this model is the percentage of the population living in rural areas. The coefficient for this variable is -0.47. Again, this variable impacts a small percentage of the population and does not have a large effect on the population.

6. Conclusions, Considerations, and Recommendations

6.1 Conclusions

Using ordinary least squares regression, we have tested the impact of foreign aid, as well as other variables, on each of the eight Millennium Development Goals. My contribution to this increasingly popular topic is to incorporate measures of all MDGs into one research study. While previous research has been conducted on similar aspects of development, the original work of this study is to specifically focus on the development issues addressed by the Millennium Development Goals.

The results show a statistically significant, positive relationship between aid and poor conditions in developing countries. This is an unexpected result based on previous

research and pro-aid literature. While more aid goes to countries that are worse off, lagging the independent variables should have corrected the issue of causation. However, the variables measured change very slowly, and the lag between the independent and dependent variables may not be large enough. Thus, a positive relationship resulted between aid and poor conditions. When measuring the affect of aid on the change in development variables over two time periods, results still determined a positive relationship among aid and the MDGs.

Other main variables studied with respect to development include education, income, immunizations, rural areas and trade. Results show that income, measured by GNI in total US dollars, was rarely a statistically significant factor of development. In every goal that income is used as an independent variable, there was at least one time period in which the variable returned insignificant results. However, in most models the majority of the results for GNI came back statistically insignificant. The lack of significant results for this variable may be due to the measure of income used. Gross National Income measured in total US dollars is going to be very low for small countries. It is also going to be very large for big countries. This study did not take into account the size of the population when using the income measure. GNI per capita may be a better alternative to GNI in total US dollars which may show significant results.

Education, measured by illiteracy rates, has very strong negative relationships with development in all regressions. The conclusion from the regression analysis with respect to education is that when the population of a country is highly educated, the country has a higher level of development. While this variable is extremely statistically

significant, the economic significance is fairly weak. An increase in illiteracy rates only affects a very small percentage of the population. However, in absolute terms, there could be a large number of people impacted due to illiteracy rates depending on the size of the total population.

Immunizations also prove to be a statistically significant variable in the models for which it is used. The main finding is that when more children are immunized from measles, the child mortality rates and number of deaths from tuberculosis decrease while primary enrollment rate increases. This variable increases the level of development measured by the Millennium Development Goals and shows strong economic significance in that many lives depend on immunizations.

The percentage of the population living in rural areas was also found to be statistically significant in various models. The relation between the number of people living in rural areas and development is inversely proportional. People in rural areas do not have access to the same infrastructure, technologies, schools or employment opportunities as people living in urban areas. The relationships in the regression analysis show that the area in which a person lives has a significant effect on their level of development.

Findings suggest that the level of trade which a country participates in also has an affect on their level of development. The higher the percentage of trade relative to the country's GDP, the higher the level of development that country enjoys. This is also seen in the results for telephone mainlines and poverty regressions. However, the economic significance of trade is fairly weak for the number of telephone mainlines per 1,000

inhabitants. In recent years, cell phones have become widespread in developing countries and telephone mainlines are becoming obsolete. Many people do not even have access to telephone mainlines, and instead are moving straight to cell phones.

Many of the results in this study coincide with previous research. The main differences are found in the impact of aid, income, and number of physicians per 1,000 inhabitants on development. In this study, aid, when significant, has an opposite effect as that shown in previous studies. Income and number of physician, while significant factors in previous studies, returned insignificant results in this study.

There has been little previous research on the factors that lead to a higher percentage of the population with access to an improved water source and factors that impact the number of telephone mainlines per 1,000 inhabitants. The percentage of the population with access to clean water does not have a large amount of data available. This may be the reason why few studies on this topic exist; however, since it is a Millennium Development Indicator, there will probably be more data available as the 2015 MDG deadline nears.

While there have been interesting and insightful results of other variables that impact the Millennium Development Goals, the main focus of this study is to determine foreign aid's impact on the goals. The relationship between foreign aid and development shows that the two variables are negatively correlated. Since the relationship indicates that aid is associated with poor conditions, our results are inconclusive. The following section provides insight as to why countries are not able to benefit from aid programs and

what donor institutions should consider to help poor countries maximize the benefit they receive from aid donations.

6.2 Considerations for Effective Aid Donations

The factors that affect the complex issue of effective aid donation can be overwhelming. Because of the overall inconclusive results on the effectiveness of foreign aid, it is certain that this topic requires further examination. However, it may be useful to understand previous research and consider recommendations from findings on issues such as grants versus loans, tied aid versus untied aid, and the coordination and monitoring of aid programs.

A solution to the grants versus loans debate suggested by Cordella and Ulku (2004) is to give a combination of grant and loan aid to poor countries. The most efficient mix of aid depends on the characteristics of the country such as the quality of policies, accumulation of debt burden and current level of development. The authors used economic growth to measure the level of success of foreign aid. However, Cordella and Ulka agree there are other channels through which aid can be effective. There is evidence that countries with good policies can effectively absorb more resources or aid while poor countries with bad policies and high debt cannot. Countries with high debt should be offered fewer loans while these same countries can receive more benefit from grants. Because highly indebted countries benefit more than less indebted countries from grant aid, highly indebted countries should receive more grant aid. However, in poor policy countries, aid should be delivered through NGOs so that the aid will reach the

citizens in need and not be in the hands of corrupt governments. Providing poor countries with more loan aid could affect the current and future level of growth because of their unsustainable debt. To avoid the mistakes of the past, where more loans were offered to poor countries which ultimately made them worse off, grants should be increasingly considered especially for HIPCs.

Another consideration of the effectiveness of aid is the difference in results between tied and untied aid. Untied aid lets the recipient country have discretion over how to use the funding they receive. This may be effective if the country uses the fund efficiently. All too often, poor countries' corruption or insufficient means of distribution will prevent the aid money from being used to its potential. On the other hand, countries that are able to use aid money learn how to govern their country successfully and in the end are less dependent on wealthy nations.

Tied aid dictates the policy choices that developing countries' governments make and ensures implementation of those policies. Dijkstra (2002) found that when studying eight countries (Bangladesh, Cape Verde, Mozambique, Nicaragua, Tanzania, Uganda, Vietnam and Zambia) aid allocation in the form of tied aid is not effective. There are various reasons that this type of aid distribution is ineffective. First, the receiving country may not agree with the demands of the donor country or it may be that the conditions tied to the aid are politically unfeasible. It is also very difficult to monitor whether developing countries are actually fulfilling the conditions of the agreement. Secondly, demands of multiple donors may be conflicting or a new program may overpower the objectives of an existing one. There is an ethical issue of the political recommendations for donor

institutions being correct. If the donor country has self-serving interest in mind and the recipient country trusts the donor country's advice, the result may be worse than before aid contributions were made.

Tied aid can be effective in helping governments identify policy options, make informed decisions and implant strategies effectively. The poorest countries have little administrative, institutional and policymaking capacity. For this reason, developing countries are sometimes ineffective in implementing policies. Morrissey (2002) finds that tied aid can be effective by informing and supporting the policy choices and processes of policy implantation in developing countries. Yet, tied aid is not effective in dictating the policy choices of poor countries because often developing countries do not agree with policy actions and will not implement them effectively.

Another consideration when determining the effectiveness of foreign aid programs is the degree of coordination among international donations of foreign aid. Aid is donated by individual countries, groups of countries such as the European Union, multilateral organizations such as the World Bank or International Monetary Fund and national and international charities. The lack of an international coordination system leaves room for inefficiencies in the aid donation process. Since there are many aid donors and no official organization that coordinates aid flows, two different donors could offer the same aid without knowing of each others proposals. While it would be beneficial to recipient countries to receive twice the amount of aid, it would be wasteful for donors to duplicate the donation and effort. Tied aid may be especially inefficient when recipient countries receive funds from more than one institution that require policy

reforms. In some instances, different institutions offer competing solutions for development and there is no way for the recipient country to achieve all the conditions required of the donor countries (Van Der Hoek and Chong, 2001).

Another area of aid donation that leads to wasteful ends is the lack of monitoring the progress of programs. Often, after donation there is little follow up on how the recipient country improved, and if the programs were cost effective in accomplishing program goals (Van Der Hoek and Chong, 2001). Therefore, donors will continue to distribute assistance in the same way without knowing its effect. Developed countries could spend millions on aid programs that are ineffective and not even become aware that they are wasting their funds. It is important for donor institutions to follow up the recipient country's progress resulting from the aid donation. Foreign aid donations will only become more efficient when donors understand which aid programs result in success and which are ineffective.

Other studies argue that aid donations are not used to their maximum potential when aid goes to countries with poor policies (Burnside and Dollar, 2004). Corruption is a factor to consider when studying foreign aid and its impact on development. Corrupt governments often do not use aid monies properly. Therefore, the citizens do not benefit. Aid programs should consider the policy of a country and become familiar with how they use aid donations prior to donating.

6.3 Policy Implications and Recommendations

The topic of development has many grey areas. Different techniques are successful depending on the current situation in each country. It is difficult to find

common answers for development issues across all countries in the world. This study returned different results than previous studies. This may be due to different sample sizes, sample countries or time periods used. Poor countries may benefit from more detailed research that determines efficient practice for specific countries and regions of the world. Also useful, may be research pertaining to countries with certain characteristics such as government type or infrastructure. With more precise research many countries could narrow down what is most likely to benefit their country and how they can achieve progress in the least amount of time.

Regardless of the improvements made in future research, there is already significant research from which the United Nations has based key recommendations for development that all aid donors and recipients should follow. These recommendations, which are discussed in detail earlier in the text, provide specific instructions on the steps developing countries should take in order to achieve the goals. There are many actions developing and developed countries can take to move forward and increase the level of development worldwide.

One thing is for certain, with the increase in awareness and mounting effort towards improvement, poor countries have a greater chance of development because more people are joining the global effort. Heller (2005) notes that the increase in donor effort "has sparked fresh hope that the enormous and inexhaustible gaps in living standards between rich and poor countries can be narrowed, brightening the prospects for millions in the process." While there are still weaknesses in the aid donation process, the

international community is working hard to overcome these issues and ensure that development in poor countries becomes a priority.

Appendix A

The following tables are found in Appendix A:

Table A- 1. Major Bilateral and Multilateral Donors

Bilateral Donors

Australia	Greece	New Zealand
Austria	Iceland	Norway
Belgium	India	Portugal
Canada	Ireland	Spain
Denmark	Italy	Sweden
Finland	Japan	Switzerland
France	Luxembourg	United Kingdom
Germany	Netherlands	United States

Source: wikipedia.org

Multilateral Donors

African Development Bank	Organization for Economic Cooperation and Development(OECD)
African Development Fund	United Nations
Asian Development Bank	United Nations Children Fund
Asian Development Fund	United Nations Development Program
Bank for International Settlements	United Nations Conference on Trade and Development
European Bank for Reconstruction and Development	United Nations Environment Program
Inter-American Development Bank	United Nations High Commissioner for Refuges
International Bank for Reconstruction and Development	World Bank Group
International Fund for Agriculture Development	World Food Program
International Monetary Fund (IMF)	World Health Organization
International Organization for Migration	World Trade Organization

Source: wikipedia.org

Table A- 2. Goals, Targets and Indicators

Goals & Targets		Indicators
Goal 1	**Eradicate extreme poverty and hunger**	
	Target 1. Halve, between 1990 and 2015, the proportion of People whose income is less than one dollar a day	**Indicators** 1. Proportion of population below $1 per day 2. Poverty gap ratio (incidence x depth of poverty) 3. Share of poorest quintile in national consumption
	Target 2. Halve, between 1990 and 2015, the proportion of people who suffer from hunger	**Indicators** 4. Prevalence of underweight children under-five years of age 5. Proportion of population below minimum level of dietary energy consumption
Goal 2	**Achieve universal primary education**	
	Target 3. Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	**Indicators** 6. Net enrolment ratio in primary education 7. Proportion of pupils starting grade 1 who reach grade 5 8. Literacy rate of 15-24 year-olds
Goal 3	**Promote gender equality and empower women**	
	Target 4. Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015	**Indicators** 9. Ratio of girls to boys in primary, secondary and tertiary education 10. Ratio of literate women to men, 15-24 years old 11. Share of women in wage employment in the non-agricultural Sector 12. Proportion of seats held by women in national parliament

Table A-2. (cont.)

Goals and Targets		Indicators
Goal 4	**Reduce child mortality**	
	Target 5. Reduce by two thirds, between 1990 and 2015, the under-five mortality rate	**Indicators** 13. Under-five mortality rate 14. Infant mortality rate 15. Proportion of 1 year-old children immunized against measles
Goal 5	**Improve maternal health**	
	Target 6. Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio	**Indicators** 16. Maternal mortality ratio 17. Proportion of births attended by skilled health personnel
Goal 6	**Combat HIV/AIDS, malaria and other diseases**	
	Target 7 Have halted by 2015 and begun to reverse the spread of HIV/AIDS	**Indicators** 18. HIV prevalence among pregnant women aged 15-24 years 19. Condom use rate of the contraceptive prevalence rate 19a. Condom use at last high-risk sex 19b. percentage of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS 19c. Contraceptive prevalence rate 20. Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years

Table A-2. (cont.)

Goals and Targets	Indicators
Target 8. Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases	**Indicators** 21. Prevalence and death rates associated with malaria 22. Proportion of population in malaria-risk areas using effective malaria prevention and treatment measures 23. Prevalence and death rates associated with tuberculosis 24. Proportion of tuberculosis cases detected and cured under DOTS
Goal 7 Ensure environmental sustainability	
Target 9. Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources	**Indicators** 25. Proportion of land area covered by forest 26. Ratio of area protected to maintain biological diversity to surface area 27. Energy use (kg oil equivalent) per $1,000 GDP (PPP) 28. Carbon dioxide emissions per capita and consumption of ozone-depleting CFCs (ODP tons) 29. Proportion of population using solid fuels
Target 10. Halve, by 2015, the proportion of people without sustainable access to safe drinking water and Sanitation	**Indicators** 30. Proportion of population with sustainable access to an improved water source, urban and rural 31. Proportion of population with access to improved sanitation, urban and rural
Target 11. By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers	**Indicators** 32. Proportion of households with access to secure tenure

Table A-2. (cont.)

	Goals and Targets	Indicators
Goal 8	**Develop a global partnership for development**	***Official development assistance (ODA)***
	Target 12. Develop further an open, rule-based, predictable, non-discriminatory trading and financial system. Includes a commitment to good governance, development and poverty reduction - both nationally and internationally	33. Net ODA, total and to LDCs, as percentage of OECD/ Development Assistance Committee donors' GNI 34. Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services 35. Proportion of untied bilateral ODA from OECD/DAC donors 36. ODA received in landlocked developing countries as a proportion of their GNI 37. ODA received in small island developing States as proportion of their GNI ***Market access*** 38. Proportion of total developed country imports(by value and excluding arms) from developing countries and from LDCs, admitted free of duty 39. Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries 40. Agricultural support estimate for OECD countries as percentage of their GDP 41. Proportion of ODA provided to help build trade capacity
	Target 13. Address the special needs of the least developed countries. countries' exports; enhanced program of debt relief for heavily indebted poor countries (HIPC)and cancellation of official bilateral debt; and more generous ODA for Countries committed to poverty reduction	
	Target 14. Address the special needs of landlocked developing countries and small island developing States (through the Program of Action for the Sustainable Development of Small Island Developing States and the outcome of the twenty-second special session of the General Assembly)	
	Target 15. Deal comprehensively with the debt problems of countries through national and international measures in order to make debt sustainable in the long term.	

Table A-2. (cont.)

Goals and Targets	Indicators
Target 16. In cooperation with developing countries, develop and implement strategies for decent and productive work for youth	***Debt sustainability*** 42. Total number of countries that have reached their HIPC Initiative decision points and number that have reached their HIPC completion points 43. Debt relief committed under HIPC initiative 44. Debt service as a percentage of exports of goods and services
Target 17. In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries	**Indicators** 45. Unemployment rate of young people ages 15-24 years, each sex and total
Target 18. In cooperation with the private sector, make available the benefits of new technologies, especially information and Communications	**Indicators** 46. Proportion of population with access to affordable essential drugs on a sustainable basis **Indicators** 47. Telephone lines and cellular subscribers per 100 population 48. Personal computers in use per 100 population and Internet users per 100 population

Source: 2003 World Bank Atlas. < http://ddp-ext.worldbank.org/ext/GMIS/gdmis.do?siteId=2&menuId=LNAV01HOME1>

Table A- 3. Current Progress Towards the Eight MDGs by Region

	Latin America & Caribbean
Goal #1 Eradicate extreme poverty and hunger	
Reduce extreme poverty by half	low, minimal improvement
Reduce hunger by half	on track
Goal #2 Achieve universal primary education	
Universal primary schooling	on track
Goal #3 Promote gender equality and empower women	
Girls equal enrollment in primary school	on track
Girls equal enrollment in secondary school	on track
Literacy parity between young women and men	met
Women's equal representation in national parliaments	progress but lagging
Goal #4 Reduce child mortality	
Reduce mortality of under-five year olds by two-thirds	on track
Measles immunization	met
Goal #5 Improve maternal Health	
Reduce maternal mortality by three-quarters	moderate
Goal #6 Combat HIV/AIDS, malaria, and other diseases	
Halt and reverse spread of HIV/AIDS	Stable
Halt and reverse spread of malaria	Moderate
Halt and reverse spread of TB	low, declining
Goal #7 Ensure environmental sustainability	
Reverse loss of forests	declining except Caribbean
Halve proportion without improved drinking water in urban areas	Met
Halve proportion without improved drinking water in rural areas	progress but lagging
Halve proportion without sanitation in urban areas	high access, no change
Halve proportion without sanitation in rural areas	progress but lagging
Improve the lives of slum dwellers	progress but lagging
Goal #8 A global partnership for development	
Youth unemployment	Increasing

Table A-3. (cont.)

	Africa	
	Northern	Sub-Saharan
Goal #1 Eradicate extreme poverty and hunger		
Reduce extreme poverty by half	on track	high, no change
Reduce hunger by half	high, no change	very high, little change
Goal #2 Achieve universal primary education		
Universal primary schooling	on track	progress, but lagging
Goal #3 Promote gender equality and empower women		
Girls equal enrollment in primary school	on track	progress but lagging
Girls equal enrollment in secondary school	met	progress but lagging
Literacy parity between young women and men	lagging	Lagging
Women's equal representation in national parliaments	progress but lagging	progress but lagging
Goal #4 Reduce child mortality		
Reduce mortality of under-five year olds by two-thirds	on track	very high, no change
Measles immunization	met	low, no change
Goal #5 Improve maternal health		
Reduce maternal mortality by three-quarters	moderate	very high
Goal #6 Combat HIV/AIDS, malaria, and other diseases		
Halt and reverse spread of HIV/AIDS	no data	Stable
Halt and reverse spread of malaria	low	High
Halt and reverse spread of TB	low, declining	high, increasing
Goal #7 Ensure environmental sustainability		
Reverse loss of forests	less than 1% forest	Declining
Halve proportion without improved drinking water in urban areas	met	no change
Halve proportion without improved drinking water in rural areas	high access, little change	progress but lagging
Halve proportion without sanitation in urban areas	on track	low access, no change
Halve proportion without sanitation in rural areas	progress but lagging	no change
Improve the lives of slum dwellers	on track	rising numbers
Goal #8 A global partnership for development		
Youth unemployment	high, no change	high, no change

Table A-3. (cont.)

	Asia	
	Eastern	Southeastern
Goal #1 Eradicate extreme poverty and hunger		
Reduce extreme poverty by half	met	on track
Reduce hunger by half	progress but lagging	progress but lagging
Goal #2 Achieve universal primary education		
Universal primary schooling	on track	lagging
Goal #3 Promote gender equality and empower women		
Girls equal enrollment in primary school	met	on track
Girls equal enrollment in secondary school	no data	met
Literacy parity between young women and men	met	met
Women's equal representation in national parliaments	declining	progress but lagging
Goal #4 Reduce child mortality		
Reduce mortality of under-five year olds by two-thirds	progress but lagging	on track
Measles immunization	no data	on track
Goal #5 Improve maternal health		
Reduce maternal mortality by three-quarters	low	high
Goal #6 Combat HIV/AIDS, malaria, and other diseases		
Halt and reverse spread of HIV/AIDS	increasing	stable
Halt and reverse spread of malaria	moderate	moderate
Halt and reverse spread of TB	moderate, declining	high, declining
Goal #7 Ensure environmental sustainability		
Reverse loss of forests	met	declining
Halve proportion without improved drinking water in urban areas	declining access	high access, no change
Halve proportion without improved drinking water in rural areas	progress but lagging	progress but lagging
Halve proportion without sanitation in urban areas	progress but lagging	on track
Halve proportion without sanitation in rural areas	progress but lagging	progress but lagging
Improve the lives of slum dwellers	progress but lagging	on track
Goal #8 A global partnership for development		
Youth unemployment	low, increasing	rapidly increasing

Table A-3. (cont.)

	Asia	
	Southern	Western
Goal #1 Eradicate extreme poverty and hunger		
Reduce extreme poverty by half	on track	Increasing
Reduce hunger by half	progress but lagging	Increasing
Goal #2 Achieve universal primary education		
Universal primary schooling	progress but lagging	high but no change
Goal #3 Promote gender equality and empower women		
Girls equal enrollment in primary school	progress but lagging	progress but lagging
Girls equal enrollment in secondary school	progress but lagging	little change
Literacy parity between young women and men	lagging	Lagging
Women's equal representation in national parliaments	very low, some progress	very low, no change
Goal #4 Reduce child mortality		
Reduce mortality of under-five year olds by two-thirds	progress but lagging	moderate, no change
Measles immunization	progress but lagging	on track
Goal #5 Improve maternal health		
Reduce maternal mortality by three-quarters	very high	Moderate
Goal #6 Combat HIV/AIDS, malaria, and other diseases		
Halt and reverse spread of HIV/AIDS	increasing	no data
Halt and reverse spread of malaria	moderate	Low
Halt and reverse spread of TB	high, declining	low, declining
Goal #7 Ensure environmental sustainability		
Reverse loss of forests	small decline	less than 1% forest
Halve proportion without improved drinking water in urban areas	met	Met
Halve proportion without improved drinking water in rural areas	on track	progress but lagging
Halve proportion without sanitation in urban areas	on track	Met
Halve proportion without sanitation in rural areas	progress but lagging	no change
Improve the lives of slum dwellers	some progress	rising numbers
Goal #8 A global partnership for development		
Youth unemployment	low, increasing	high, increasing

Table A-3. (cont.)

	Commonwealth of Independent States	
	Europe	Asia
Goal #1 Eradicate extreme poverty and hunger		
Reduce extreme poverty by half	increasing	Increasing
Reduce hunger by half	low, no change	Increasing
Goal #2 Achieve universal primary education		
Universal primary schooling	declining	on track
Goal #3 Promote gender equality and empower women		
Girls equal enrollment in primary school	met	on track
Girls equal enrollment in secondary school	met	Met
Literacy parity between young women and men	met	Met
Women's equal representation in national parliaments	recent progress	Declining
Goal #4 Reduce child mortality		
Reduce mortality of under-five year olds by two-thirds	low, no change	Increasing
Measles immunization	met	Met
Goal #5 Improve maternal health		
Reduce maternal mortality by three-quarters	low	Low
Goal #6 Combat HIV/AIDS, malaria, and other diseases		
Halt and reverse spread of HIV/AIDS	increasing	Increasing
Halt and reverse spread of malaria	low	Low
Halt and reverse spread of TB	moderate, increasing	moderate, increasing
Goal #7 Ensure environmental sustainability		
Reverse loss of forests	met	Met
Halve proportion without improved drinking water in urban areas	met	Met
Halve proportion without improved drinking water in rural areas	high access, limited change	high access, limited change
Halve proportion without sanitation in urban areas	high access, no change	high access, no change
Halve proportion without sanitation in rural areas	little change	little change
Improve the lives of slum dwellers	low but no change	low but no change
Goal #8 A global partnership for development		
Youth unemployment	low, rapidly increasing	low, rapidly increasing

Table A-3. (cont.)

	Oceania
Goal #1 Eradicate extreme poverty and hunger	
Reduce extreme poverty by half	no data
Reduce hunger by half	moderate, no change
Goal #2 Achieve universal primary education	
Universal primary schooling	progress but lagging
Goal #3 Promote gender equality and empower women	
Girls equal enrollment in primary school	on track
Girls equal enrollment in secondary school	progress but lagging
Literacy parity between young women and men	lagging
Women's equal representation in national parliaments	progress but lagging
Goal #4 Reduce child mortality	
Reduce mortality of under-five year olds by two-thirds	moderate, no change
Measles immunization	declining
Goal #5 Improve maternal health	
Reduce maternal mortality by three-quarters	high
Goal #6 Combat HIV/AIDS, malaria, and other diseases	
Halt and reverse spread of HIV/AIDS	increasing
Halt and reverse spread of malaria	low
Halt and reverse spread of TB	high, increasing
Goal #7 Ensure environmental sustainability	
Reverse loss of forests	declining
Halve proportion without improved drinking water in urban areas	high access, no change
Halve proportion without improved drinking water in rural areas	low access, no change
Halve proportion without sanitation in urban areas	high access, no change
Halve proportion without sanitation in rural areas	no change
Improve the lives of slum dwellers	no data
Goal #8 A global partnership for development	
Youth unemployment	low, increasing

Source: Overview section of the Millennium Project's report "Investing in Development: A Practical Plan to Achieve the Millennium Development Goals.
< http://www.unmillenniumproject.org/reports/index_overview.htm>

Table A- 4. Objectives of the Foreign Assistance Act of 1961, as Amended

1. Alleviating the worst physical manifestation of poverty among the world's poor majority
2. Promoting conditions that enable developing countries to achieve self sustaining economic growth with equitable distribution of benefits
3. Integrating developing countries into an open and equitable international economic system
4. Increasing the opportunity and capability for the poor to participate in the development process
5. Reducing infant mortality
6. Controlling population growth
7. Increasing Agricultural productivity per unit of land through small-farm, labor-intensive agriculture
8. Contributing to improvements in the health of the greatest number of poor people in developing countries
9. Reducing illiteracy, extending basic education and increasing manpower training in skills related to development
10. Helping developing countries to develop, produce and effectively use energy
11. Assisting the development of the private sector in developing countries
12. Integrating women into national economies to enhance their status and to further the development process
13. Supporting human rights by not providing assistance to countries that engage in a consistent pattern of gross violations of these rights
14. Reducing environmental degradation and promoting natural resource management
15. Encouraging conservation and sustainable management of tropical forests
16. Preserving biological diversity
17. Using, whenever feasible, private and voluntary organizations to implement development activities
18. Strengthening the development and use of cooperatives

19. Eliminating illicit narcotics production
20. Establishing and upgrading the institutional capabilities in developing countries
21. Demonstrating American ideas and practices in education and medicine to citizens in other countries through U.S. schools, libraries and hospitals abroad
22. Assisting developing countries in marshalling resources for low-cost shelter
23. Encouraging democratic institutions in developing countries
24. Encouraging the development capacities of U.S. educational institutions
25. Educating the U.S. public concerning developing countries
26. Providing international disaster assistance
27. Emphasizing the use of smaller, cost-saving, labor-using technologies
28. Encouraging U.S. private investment in U.S. sponsored economic and social development programs
29. Encouraging regional cooperation among developing countries
30. Promoting policy reforms in developing countries to achieve economic growth with equity
31. Assisting developing countries to increase their national food security
32. Addressing the shelter and urbanization needs of developing countries, such as municipal management and finances, water and sanitation and infrastructure

Source: USAID. <http://www.usaid.gov/about_usaid/usaidhist.html>

Table A- 5. Summary of Studies on Development

Study	Dependent Variable	Independent Variables	Time period	Observations
World Bank (1998)	per capita GNP growth	initial conditions (-) Institutions and policies (+) external shocks (-)	1970-73 to 1990-93 (3 year periods)	336
Raghuram G. Rajan Arvind Subramanian (2005)	growth rate per capita GDP	aid/GDP (NS)	1960-2000	74
		initial per capita GDP (-)	1960-1980	61
		initial level of life expectancy (+)	1970-2000	80
		institutional quality (+)	1980-2000	81
		geography (+)	1990-2000	79
		Revolutions		
		terms of trade growth (+)		
		initial level of policy (+)		
Berta Esteve-Volart (2004)	log total output (per capita GDP)	female-to-male managers (+) female-to-male workers (+) female literacy rate (+) male literacy rate (-)	1961-1991	244
	female-to-male managers	female literacy rate (+) male literacy rate (-)		

Table A-5. (cont.)

(cont).	female-to-male workers	female literacy rate (+) male literacy rate (-)		
Craig Burnside David Dollar (2000)	real per capita GDP growth	assassinations (-) ethnic fractionalization*assassinations (+) institutional quality (+) sub-Saharan Africa (-) East Asia (+) policy index (+) (aid/GDP) * policy (+)	1970-73 to 1990-93 (3 year periods)	189
Craig Burnside David Dollar (2004)	per capita GDP growth	institutions (+) log per capita GDP 1990 (-) East Asia & Pacific (+) South Asian (+) Former Soviet Union (-)	1990s	124
Tito Cordella Hulya Ulka (2004)	per capita GDP growth	degree of loan concessionality (-) bad political/institutional environment (-)	1975-77 to 1993-95 (3 year periods)	358

Table A-5. (cont.)

William Easterly (1999)	percent population below $2/day	Structural Adjustment Loans (NS) growth (NS)	1980-1998	150
	economic growth	Structural Adjustment Loans (+)		
Mark Arvin Francisco Barillas (2002)	Poverty (# living off $1/day)	Aid East Asia and Pacific (-) low-income countries (+)	1975-1998	118
	aid	Poverty low and upper middle-income countries (+) East Asia, South Asia and Pacific (-)		
Gwen Moore Gene Shackman (1996)	gender inequality (administrative occupations) percent parliament seats held by women	GNP per capita (+) female secondary education enrollment (-) female labor force participation (+) Asia, Pacific (-)	110	100

Table A-5. (cont.)

Karuna Gomanee, Oliver Morrissey Sourafel Girma (2005)	Human Development Index	income per capita (+) social expenditures (+) aid (pro poor public expenditure) (+)	1980-1998 (4 four year periods and 1 three year period)	38
	infant mortality	income per capita (-) social expenditures (-) aid (pro poor public expenditure) (-)		
Azmat Gani Michael D. Clems (2003)	Human Development Index	educational aid (+) health aid (+) food aid (+) water aid (+) GDP (+) gross domestic investment (+) unproductive gov. expenditure (-) conflicts (-) rural population (-)	1991-1995	220

Table A-5. (cont.)

Joseph Hanlon (2004)	Poverty	aid (individual checks) (-)	1994-1996 2000-2001	75,000 106,280
Burnside Dollar (1998)	percent decline in infant mortality	ethnic fractionalization (-) Policy Index (+) Government Consumption (+) Aid*Policy (+) Aid2*Policy (-)	1970-1993 (4yr periods)	56
Lucia Hanmer Robert Lensink Howard White (2003)	child mortality	income (-) TB immunization (-) measles immunization (-) primary enrollment (-) gender disparity in literacy (+) gender disparity in life expectancy (+) Population per physician (+)	1960-64 to 1990-94 (4 year periods)	115
	infant mortality	income (-) TB immunization (-) Male secondary enrollment (-) gender disparity in literacy (+) population per physician (+)		

Table A-5. (cont.)

Danny Leipziger Marianne Fay Quentin Wodon Tito Yepes (2003)	infant and child mortality rate Malnutrition	disease (+) income (-) assets (-) education (-) health interventions (-) Infrastructure (-)	one or two year samples for each country between 1990-1998	175
Takashi Yamano Harold Alderman Luc Christiaensen (2005)	child growth	crop damage shocks (-) food aid (+) maternal education (+)	1995-1996	2,414
Yasuyuki Sawada Michael Lokshin (1999)	primary completion	female (primary school) (-) School supply variable (female school within village) (+) negative household shocks (-) parents education (+)	1997, 1998	2,365
Hoyt Bleakley (2003)	Literacy school attendance	health care interventions (vaccinations) (+) health care interventions (vaccinations) (+)	1900-1950	115

Table A-5. (cont.)

Ludger WoBmann (2005)	PIRLS 2001 International Student Achievement Test	pre-school reading performance (+) school commencement age (-) age (NS) male (-) student is immigrant (-) speak language at home (never or sometimes) (-) books at home (+) parental education (+) occupation of parents (NS)	2001	3,300- Argentina 5,131-Colombia
Christina Paxson (2005)	Peabody Picture Vocabulary Test	wealth index (+) mother's years of education (+) mother's age in years (+) indicator; father lives at home (+) father's years of education (+) Number of adults in household (-) indicator: rural household (-) **child health:** height-for-age (+) weight-for-age (+) hemoglobin level (+) months breastfed (+)	2003-2004	3,153

Table A-5. (cont.)

(cont.)		parenting measures: **# of other children in household (-)** **parenting index (+)** **indicator: child is read to (+)**		
Derek H. C. Chen **(2004)**	**ratio of female to male primary & secondary students**	**youth sex ratio (+)** **lagged average years of school (+)** **lagged computers per 1,000 persons (+)** **lagged log internet users per 1,000 persons (+)** **lagged log phones per 1,0000 (+)** **lagged log ICT expenditure percent GDP (+)** **lagged log ICT expenditure (+)**	**1960-2002**	**209**
	ratio of female to male labor force activity rate	**log lagged RGDP per capita (+)** **gender inequality in education (+)** **lagged average years of school (+)** **lagged ratio of average years of school (+)** **lagged computers per 1,000 persons (+)**		

Table A-5. (cont.)

	lagged log internet users per 1,000 persons (+)
	lagged log phones per 1,0000 (+)
	lagged log ICT expenditure per capita (+)
	South Asian country (+)
	Former Soviet Union country (-)

Table A- 6. Raw data 1980-1984

1980-1984	AID	RURAL	GNI	ALLIT	GDP GROWTH	EDU SPENDING	TRADE	PRIME NROLL	FILLIT	EDU RATIO	SKILLED BIRTHS	IMP WATER	PHYSICIANS	CHILDMORT	IMM MEASLES	POVERTY
Afghanistan	0.76	83.86	260		0.17	1.91		28.98		..		0.08	280		9.60	
Albania		65.89		31.63	2.14	4.94	41.87	..	44.50	87.41	99.00	0.93	57	0.28	93.75	
Algeria	0.32	54.72	2,272	60.04	4.24	5.88	59.40	80.92	72.09	69.73	15.00	0.43	134			
American Samoa										..		0.77				
Andorra										..						
Angola		77.83								..	24.50	0.06	265		30.50	
Antigua and Barbuda	3.97	65.22	2,180		5.46	3.00	159.06	..		..	83.00				60.50	
Argentina	0.05	16.36	2,788	5.36	-0.08	2.12	13.76	..	5.68	..		2.68	38		67.80	
Armenia		33.97		3.71				..	5.77	..		3.60				
Aruba								..		..				8.45		
Australia		14.36	12,120		2.81	5.31	32.00	100.00		96.12	99.00		13		68.00	
Austria		32.82	9,976		1.51	5.62	73.60	87.13		88.62		1.60	17	12.30	26.25	
Azerbaijan		46.85						..		..		3.50	107	11.20		
Bahamas, The	0.22	23.06	6,614	6.66	4.35	4.28	126.97	98.54	6.05	..	99.00	0.94	35	9.78	64.67	
Bahrain	4.69	18.04	8,887	26.71	-0.37	3.25	219.24	79.87	38.36	85.37	98.00	1.09	30	4.40	54.60	
Bangladesh	6.61	84.11	214	70.04	4.94	1.16	25.76	..	81.52	51.01	2.00	0.12	205	3.31	1.00	
Barbados	1.47	58.93	3,718	1.06	0.01	6.12	136.05	84.36	1.16	99.19	98.00	0.89	29	0.22	56.00	
Belarus		41.39		0.77				..	1.14	..		3.51	26	8.53	55.75	
Belgium		4.33	10,870		1.51	5.88	133.39	97.44		96.76		2.30	15	12.68	62.00	
Belize	7.14	50.87	1,260	15.92	3.21	2.35	123.58	..	17.79	..		0.27	70	9.40	39.80	
Benin	6.92	71.31	368	80.48	4.51		53.35	..	88.88	..		0.06	214			
Bermuda	0.02				1.51	3.40		..		..				1.30		
Bhutan	7.63	95.89	337		7.73		57.00	..		..	3.00	0.11	227		23.80	
Bolivia	6.07	52.56	510	29.39	-1.81	3.17	50.68	78.94	39.38	85.75		0.61	170		15.60	
Bosnia and Herzegovina		63.65														

Botswana	9.35	77.83	1,200	40.19	10.98	5.63	121.60	75.56	38.53	120.05	61.00	0.13	84		74.00	
Brazil	0.07	31.56	1,924	22.71	1.43		19.47	80.00	24.40	96.91	98.00	0.85	92	2.36	66.25	
Brunei		39.17		20.98	-4.35	1.69		82.38	29.70	94.24	82.00	0.49			85.00	
Bulgaria		37.51	2,193	4.46	3.52	5.05	71.30	96.35	6.28	93.90		2.80	25	2.96	98.00	
Burkina Faso	13.59	90.43	228	88.18	2.64	2.20	42.43	14.51	95.09	57.43	12.00	0.02	247	11.11		
Burundi	13.06	95.32	232	70.41	3.19	3.39	33.85	19.64	81.82	63.15	12.00	0.05	195		37.75	
Cambodia		87.54		43.98				..	58.94	..		0.06	190		27.00	
Cameroon	3.00	66.90	772	53.81	7.39	3.21	63.08	..	65.80	78.54	10.00		173		23.25	40.00
Canada		24.06	11,772		2.05	6.81	51.61	..		96.27		1.80	13			
Cape Verde		72.92		46.73	8.86			90.34	57.14	..	10.00	0.19	80	6.80		
Cayman Islands										95.07				2.19		
Central African Republic	15.17	64.46	306	75.19	0.61	2.98	60.16	56.41	87.12	54.19		0.04	189		15.60	
Chad	8.30	80.75	210	81.31	3.61		37.13	..	89.13	..	24.00		225	1.56	10.00	
Channel Islands		68.43						..		..		1.49				
Chile	-0.02	18.21	2,102	8.02	1.35	4.76	45.70	..	8.78	98.82	93.50	0.82	39	10.62	99.00	
China	0.23	79.06	226	30.36	9.64	2.55	16.63	..	42.34	75.75		0.97	64	3.41	81.00	
Colombia	0.26	36.38	1,226	14.97	2.45	2.58	26.64	..	15.70	100.21		0.76	56	2.00	32.20	
Comoros	36.89	75.89	327	47.99	4.79		65.84	..	55.62	66.81	24.00	0.08	165	1.56	42.00	
Congo, Dem. Rep.	3.20		478	63.36	2.21		35.17	..	76.75	64.39			210		25.20	
Congo, Rep.	5.03	55.19	1,126	46.29	14.34	5.38	119.00	95.87	57.88	84.98		0.12	125		53.75	
Costa Rica	4.57	51.51	1,340	7.83	0.42	5.96	76.63	89.39	8.00	99.31		0.99	26		77.20	
Cote d'Ivoire	2.03	64.18	916	68.76	-2.77	6.86	75.83	..	81.68	..	13.00		172	3.31		
Croatia		49.05		5.04				..	8.29	..			23			
Cuba		30.72		6.90				95.30	6.91	95.23		1.64	22		65.60	
Cyprus	1.52	45.46	3,668	8.93	5.73	3.79	114.64	99.91	14.13	95.63		0.94	20			
Czech Republic		25.27						..		..		2.30	19	5.69		
Denmark		16.04	12,586		1.07	7.15	69.80	95.48		94.73		2.20	10	11.30		
Djibouti		24.23		57.10				..	71.58	..	73.00	0.23	199	8.10	17.67	
Dominica	21.67	35.54	964		7.72		108.86	..			98.00	0.34		3.61	63.67	

Dominican Republic	1.66	47.85	1,260	24.82	3.31	2.04	44.26		25.78	..		0.56	92		23.20
Ecuador	0.58	51.37	1,478	16.82	2.28		45.24		20.43	..	43.33	1.24	98		37.60
Egypt, Arab Rep.	6.04	56.14	570	59.12	7.43	5.50	68.92		73.54	63.81		1.26	175	1.91	42.20
El Salvador	6.09	54.92	718	32.89	-5.13	3.62	56.72		37.17	97.43	35.00	0.35	120	2.05	41.00
Equatorial Guinea		71.66		37.31					53.04	..	58.00		243		
Eritrea		85.83		60.88				.	72.29	..			200		
Estonia		29.87		0.20	3.41			..	0.20	..		4.35	25		
Ethiopia	5.09	89.10	135	78.46	2.17	3.18	27.38	..	86.88	..	34.00	0.01	213	12.54	5.80
Faeroe Islands								..		..				0.30	
Fiji	3.03	61.93	1,806	16.13	0.59	5.79	94.64	92.35	20.27	97.56	97.00	0.47	42		24.20
Finland		40.18	10,902		3.31	5.12	61.73	..		101.37		1.70	9	2.78	82.00
France		26.56	11,374		1.72	5.44	44.87	99.97		104.31		2.00	13	15.60	20.50
French Polynesia	12.50	42.65	9,280		5.95	0.48		..		..	100.00			11.10	
Gabon	1.78	46.74	4,848		3.53	3.14	101.17	..		91.17		0.45	105		
Gambia, The	25.61	79.35	338	82.03	4.65	4.30	109.98	50.10	86.81	50.73	60.50		231		71.80
Georgia		47.48			4.31			..		80.34		4.99	43		
Germany		16.84	11,070		1.20		54.80	..		..		2.30	16	10.62	31.25
Ghana	3.78	68.38	378	53.28	-1.17	2.34	12.88	..	66.16	73.08	47.00	0.07	157	11.50	17.20
Greece		41.98	5,040	8.10	-0.22	2.03	49.65	96.44	12.51	89.05	99.00	2.40	23		75.00
Greenland		23.28						..		..		1.14		6.20	
Grenada		66.91			2.61	5.85	119.24	..		105.42		0.49			14.33
Guam		60.79						..		..	100.00			5.77	
Guatemala	0.82	62.45	1,188	45.39	-0.24	1.80	35.39	58.55	53.51	81.86	40.00	0.47	139		15.20
Guinea		79.93						..		46.80		0.02	300		27.00
Guinea-Bissau	43.72	81.56	186	79.79	2.43		50.70	47.20	92.22	44.68		0.14	290		29.00
Guyana	8.69	68.95	626	4.76	-4.36	8.20	133.00	..	6.19	..	93.00	0.16	90	1.93	56.00
Haiti	7.80	75.29	272	67.68	0.49	1.22	48.07	38.11	70.88	..	27.00	0.13	195		5.67
Honduras	5.93	64.00	716	38.34	1.05	3.41	62.80	77.95	40.05	98.92	50.00	0.51	103	0.74	41.20

Hong Kong, China	0.03	7.95	6,164	13.71	7.70	2.50	188.82	95.34	22.61	94.34	93.67	0.83		1.32	
Hungary		42.07	2,080	1.33	1.75	5.06	78.63	94.63	1.60	92.68	99.00	2.30	26	4.07	99.00
Iceland		11.30	14,138		2.83	4.30	71.49	..		..	100.00	2.10	9	9.10	88.50
India	0.96	76.44	282	57.29	5.58	2.88	15.52	..	71.59	57.51	30.00	0.35	173	14.80	
Indonesia	1.01	76.27	558	28.74	6.72	1.81	51.79	87.89	37.87	..	29.00	0.09	125	0.77	9.50
Iran, Islamic Rep.	0.01	48.89	2,810	47.85	2.53	5.03	26.97	..	58.70	..		0.34	130		46.20
Iraq	0.02	33.19	2,694	67.54	-5.71	4.37		98.57	83.22	73.55		0.57	83	1.50	13.40
Ireland		44.29	5,876		2.56	5.80	104.77	89.83		100.25			14	1.92	10.00
Isle of Man								..		..				13.00	
Israel	4.27	10.93	5,880	12.86	3.65	8.13	97.18	..	17.77	..	99.00	2.68	19		84.40
Italy		33.29	7,630	3.42	1.78	4.92	45.71	..	4.28	93.44	100.00	2.60	17	5.08	7.50
Jamaica	6.01	52.27	1,276	22.30	-0.11	6.34	97.54	96.22	18.47	..	87.50	0.42	34	9.60	29.67
Japan		23.62	10,274		2.98	5.51	27.32	100.00		96.17	100.00	1.30	9		69.20
Jordan	20.10	37.36	2,056	28.29	8.35	5.49	124.77	72.97	40.99	87.13	75.00	1.05	67	13.70	47.60
Kazakhstan		45.22		2.04				..	3.14	..		3.42	60	1.23	
Kenya	6.79	82.51	384	40.79	2.79	5.82	56.90	90.64	53.62	88.00		0.11	115	13.37	55.00
Kiribati	36.63	67.56	748		-2.45		129.10	..		93.38		0.52			
Korea, Dem. Rep.		42.80						..		..	100.00	2.53	43	4.93	
Korea, Rep.	0.14	40.01	1,964	6.48	6.11	3.89	71.29	100.00	10.15	89.42	67.50		18		21.60
Kuwait	0.02	7.86	18,700	30.49	-7.26	4.26	108.15	84.55	37.92	87.58		1.58	35	1.70	73.20
Kyrgyz Republic		61.74						..		95.70		3.08	115	4.14	
Lao PDR	1.99	87.06		50.12		0.27	9.11	..	65.50	79.43			200	12.08	6.75
Latvia		31.15		0.21	4.33	3.31		..	0.22	..		4.13	26		
Lebanon		24.06		26.06				..	34.96	..		1.48	44	13.72	5.00
Lesotho	13.68	85.42	528	27.31	3.70	7.66	138.58	66.62	15.25	142.45	28.00		168		55.50
Liberia	13.28	63.35	442	69.94	-2.53	6.48		..	84.73	50.21	88.00	0.11	235		
Libya	0.03	27.81	8,808	44.03	-6.10	4.89	89.07	..	65.31	82.49	76.00	1.49	70		67.80
Liechtenstein								..		..				4.83	
Lithuania		37.30		1.02				..	1.33	..		4.09	24		
Luxembourg		19.50	15,308		2.12	5.94	201.57	77.16		..		1.70	16	12.46	44.00
Macao,	0.05	1.73	4,420	12.72	9.28		196.20	..	18.29			1.09		12.80	

China															
Macedonia, FYR		45.65						..		..			69		
Madagascar	6.01	80.54	388	50.38	-1.62	3.37	33.72	..	59.28	..	62.00	0.10	175		1.00
Malawi	12.26	90.45	180	54.00	1.34	2.93	55.20	43.07	70.90	68.36	59.00	0.05	265		57.00
Malaysia	0.66	56.44	1,902	26.77	6.87	6.20	108.14	..	35.04	93.15	85.00	0.26	42		17.00
Maldives		76.29		7.50			85.58	..	8.30	..		0.06	175	2.28	37.50
Mali	17.75	80.55	222	85.51	-0.84	3.23	45.78	19.82	92.80	53.31	14.00	0.04	295		
Malta	2.45	15.92	3,480	15.50	2.60	3.52	163.69	98.64	15.43	87.93	98.00	1.15	17		10.00
Marshall Islands		40.27			9.49		72.32	..		..					
Mauritania	26.28	69.13	444	70.03	1.00		117.80	..	81.22	48.11	23.00	0.08	175		43.50
Mauritius	3.90	58.05	1,127	24.63	3.96	4.82	99.54	79.27	31.00	94.99	84.00	0.54	40	0.77	47.33
Mayotte								..		..				3.12	
Mexico	0.06	32.38	2,588	17.36	3.36	4.41	25.61		21.81	93.27			74		29.80
Micronesia, Fed. Sts.		74.74					87.70	.		..				0.70	
Moldova		58.46		4.50	4.68			..	6.91	..		3.33	53		87.80
Monaco								..		..				12.11	
Mongolia		46.75		2.96	6.70	11.94	92.23	..	4.16	..	100.00	9.67	140		11.20
Morocco	4.53	57.34	816	69.45	2.86	6.55	52.59	61.57	82.70	59.24	26.50	0.06	144	11.11	31.33
Mozambique	5.80	85.50	240	73.79	-6.03	2.85	31.97	36.31	87.42	..	28.00	0.03	230	1.23	47.75
Myanmar		76.01		23.40	5.84	1.87	20.25	..	32.40	..	80.50	0.20	134	1.09	
Namibia		76.47		31.88	-0.37	1.50		..	35.97	..			114	0.86	
Nepal	8.04	92.99	154	75.88	3.30	2.31	30.97	..	91.94	34.12	10.00	0.03	195		9.75
Netherlands		11.55	11,550		0.91	6.99	109.31	92.57		94.27	100.00	1.90	11	0.18	91.60
Netherlands Antilles	7.99			5.35	-0.76				5.42					12.30	
New Caledonia	19.24	42.68	7,820		-1.04	0.68		..		..		0.65			
New Zealand		16.56	7,576		3.23	5.01	61.91	..		96.34	99.00	1.60	16		73.80
Nicaragua	6.22	49.17	736	40.41	2.44		53.79	70.42	40.60	105.61		0.49	120	10.20	34.40
Niger	10.12	86.75	352	91.40	-4.32	3.12	55.55	21.11	96.87	52.46	23.00	0.03	320		18.75
Nigeria	0.09	71.62	652	63.90	-3.85	2.86	39.06	..	75.04	73.40		0.13	196		9.00

Northern Mariana Islands								..		..				0.87	
Norway		29.15	15,188		3.10	6.16	78.39	98.42		97.37	100.00	2.00	11		80.00
Oman	2.09	62.94	5,474	60.05	13.61	2.39	96.87	42.61	79.60	48.54	60.00	0.51	95	16.50	28.60
Pakistan	3.19	71.42	332	70.74	7.30	2.10	34.44	..	84.94	44.17		0.32	157	1.61	11.60
Palau								..		..				0.57	
Panama	1.16	48.90	1,984	14.21	2.77	4.33	85.05	88.76	14.98	98.01	84.00	1.01	46		73.60
Papua New Guinea	13.48	86.58	764	49.92	0.13		94.61	..	59.38	..	34.00	0.06	108		13.50
Paraguay	1.04	57.01	1,588	13.07	3.94	1.78	35.04	88.74	16.21	..	22.00	0.64	61	5.27	31.60
Peru	1.22	34.52	1,142	19.24	0.61	2.90	37.53	86.30	27.56	89.56	37.00	0.83	126		28.80
Philippines	1.09	60.35	690	11.31	1.35	1.81	49.69	93.63	12.18	99.39	57.00	0.14	81		26.67
Poland		41.50		0.81				97.94	1.01	96.38		1.80	29	1.71	93.20
Portugal		67.61	2,756	17.17	1.26	3.65	64.22	98.48	21.42	147.04		2.00	31	5.60	49.00
Puerto Rico		32.20	3,796	10.58	1.47		137.84	..	10.99	..				5.20	
Qatar	0.01	13.49		28.10		4.00		84.62	31.62	92.97	90.00	0.74	32		37.80
Romania		50.02		4.15	5.33	2.73		..	6.28	91.01	99.00	1.51	34	2.94	84.50
Russian Federation		29.38		1.10	3.50			..	1.58	..		4.21		8.77	
Rwanda	11.15	95.17	256	57.50	3.59	3.37	34.55	59.19	68.36	91.77	20.00	0.03	219	13.16	49.00
Samoa	20.52	78.64	740	2.64	-2.89			..	3.48	92.61	52.00	0.38		1.50	
San Marino		#DIV/0!						..		..				4.43	
Sao Tome and Principe	17.00	67.59				4.49	74.24	..		..	88.00	0.46			36.25
Saudi Arabia	0.03	31.48	13,508	45.74	-0.69	6.49	99.85	48.63	64.16	62.88	74.00	0.55	85		41.80
Senegal	13.50	63.57	460	77.61	1.80		79.65	37.16	87.03	62.50		0.08	218	1.46	
Seychelles	12.14	56.79	2,180		-1.46	8.90	130.66	..		102.58	99.00	0.41			67.00
Sierra Leone	6.56	74.82	350		2.90	3.69	44.33	..		..	25.00	0.06	336		
Singapore	0.15		5,722	16.19	8.53	3.69		99.42	24.52	93.06	100.00	0.86	13	1.21	71.00
Slovak Republic		47.36											23	3.93	
Slovenia		51.34		0.53					0.60				18		86.40
Solomon Islands	24.78	88.73	526		5.10	4.68	142.96				50.00		56	7.00	

Somalia	56.12	77.39	104		0.13	0.90	96.17	15.86		53.32	5.00	0.05	225	5.68	7.60
South Africa		51.78	2,648	22.77	3.55		53.57	..	24.05	..			90		72.00
Spain		26.64	5,296	5.31	1.38	2.63	37.45	100.00	7.42	96.86	96.00		16		35.75
Sri Lanka	8.81	78.50	316	13.98	5.12	2.45	73.74	..	19.47	..	86.00	0.14	48	5.40	3.00
St. Kitts and Nevis	6.99	64.37	1,292		3.43	5.62	144.94			..		0.41		2.94	85.00
St. Lucia	5.48	62.72	1,293		5.11	7.08	138.11			105.98	98.00	0.28		8.54	46.33
St. Vincent and the Grenadines	9.56	70.38	790		4.65		150.52			..		0.27			63.67
Sudan	8.35	79.10	444	63.58	2.39	33.36	31.62	..	78.90	65.70	21.50	0.10	142		1.75
Suriname	5.90	42.90	2,666		-2.54	7.82	117.62	..		..		0.79	54	0.88	15.00
Swaziland	6.29	80.63	978	37.52	4.34	5.87	161.67	80.22	40.37	..	50.00	0.05	143	8.93	41.00
Sweden		16.91	14,142		1.77	8.22	64.49	..		100.10		2.20	8		76.75
Switzerland		42.47	17,706		1.66	4.99	70.72	78.58		90.11		2.40	11	15.10	
Syrian Arab Republic	7.13	52.82	1,732	44.21	4.19	5.64	44.38	89.46	63.38	69.89	43.00	0.45	73		15.80
Tajikistan		66.14		3.72				..	5.62	..		2.49		1.13	
Tanzania		84.15		48.12				67.75	62.71	..	66.00	0.04	175	10.24	52.40
Thailand	1.15	82.63	766	11.41	5.55	3.69	50.29	..	15.88	..	46.00	0.15	58	1.36	5.00
Timor-Leste								..		..				1.54	
Togo	11.30	75.69	346	65.28	1.56	5.54	102.45	..	80.20	..		0.07	175		11.00
Tonga	25.52	71.86	710		2.82	6.50	92.00	..		..	78.00	0.52			
Trinidad and Tobago	0.05	35.70	6,222	4.79	4.48	4.99	77.52	89.57	6.69	..	90.00	0.81	40	3.49	10.00
Tunisia	2.63	47.55	1,284	51.98	4.57	5.28	83.15	82.16	65.65	67.99	48.67	0.27	100		46.67
Turkey	0.88	52.88	1,614	29.37	3.53	2.38	25.88	..	43.44	..	73.00	0.60	133	2.13	53.60
Turkmenistan		53.36						..		..		2.97	133	2.20	
Uganda	8.79	90.77	180	52.13	2.70	2.26	31.77	..	66.07	..		0.05	180	10.65	20.25
Ukraine		37.13		0.81		0.53		..	1.17	..		3.82	27	1.51	
United Arab Emirates	0.01	26.68	27,086	33.19	4.05	1.41	100.22	73.57	37.83	88.48	96.00	1.01	27	12.75	44.20
United Kingdom		11.15	8,794		0.91	5.37	52.35	96.66		96.60	98.00	1.30	14	2.86	57.80
United States		25.96	14,104		2.35	6.49	18.87	..		96.15	99.00	2.00	15	8.10	95.20

Uruguay	0.07	13.99	2,740	4.66	-2.75	2.37	39.75		4.24	100.01		1.96	42	6.00	57.60
Uzbekistan		59.27		1.98					3.18	..		3.08	62		73.00
Vanuatu	32.49	82.07	835		3.19		100.78	..		82.47	72.00	0.19	110	11.79	
Venezuela, RB	0.02	19.58	4,560	14.99	-1.84	5.29	44.21	81.93	16.96		82.00	1.02	42	6.18	44.20
Vietnam		80.63		11.95				94.95	16.74		90.00	0.24	70	0.36	3.00
Virgin Islands (U.S.)		55.50	8,302		3.52	7.94								3.60	
West Bank and Gaza															
Yemen, Rep.		79.67		77.60					93.28			0.14	205		4.80
Yugoslavia, Fed. Rep.		52.76						..		..					93.75
Zambia	8.07	60.25	590	39.52	0.82	4.74	70.69	76.90	50.96	84.27		0.11	149		56.50
Zimbabwe	3.08	76.58	990	27.61	5.85	5.68	42.33	..	34.79	..	53.00	0.15	108	3.48	59.00

Table A- 7. Raw data 1985-1989

1985-1989	AID	RURAL	GNI	ALLIT	GDP GROWTH	EDU SPENDING	TRADE	PRIME NROLL	FILLIT	EDU RATIO	SKILLED BIRTHS	IMP WATER	PHYSICIANS	CHILDMORT	IMM MEASLES	POVERTY
Afghanistan		82.57				22.00				..	8	0.16	270	0.31	23	
Albania		64.73		26.11	3.01		5.37	34.10	37.25	89			50		96	
Algeria	0.30	50.68	2,702	51.87	1.36		8.59	40.86	63.62	75		0.43	95	2.56	74	12.20
American Samoa										88						
Andorra										..						
Angola	2.05	74.49	810		4.17		5.00	60.37		..	17		260		49	
Antigua and Barbuda	2.05	64.82	4,110		8.03			176.31		..	86				85	
Argentina	0.13	14.52	3,168	4.67	-1.37		1.27	16.67	4.88	101	93	2.91	33		82	

Armenia		33.18		2.93					4.51	..		3.97		8.63	
Aruba	3.39				13.00		5.37			..					
Australia		14.69	13,828		3.97		4.86	34.07		96	99		12	10.90	73
Austria		32.92	13,654		2.78		5.66	74.72		89		1.90	13	10.90	56
Azerbaijan		46.26								..		3.89	107	9.89	
Bahamas, The	0.13	18.74	10,600	5.95	2.84		3.76	120.97	5.18	103	100		32		81
Bahrain	1.13	14.48	7,524	21.28	2.84		4.27	184.80	30.63	95	97	1.22	25	3.34	79
Bangladesh	6.52	81.62	240	67.40	3.57	50.34	1.50	24.70	78.30	58	5	0.15	175	0.29	15
Barbados	0.34	56.63	5,720	0.78	4.45		6.39	105.53	0.84	..	98		23		85
Belarus		36.40		0.61					0.87	..	100	3.97	23	13.37	73
Belgium		3.78	12,838		2.80		5.22	135.15		96	100	2.80	12	9.10	74
Belize	9.39	51.51	1,578	12.63	7.84		4.49	121.04	13.77	97		0.46	60	3.32	66
Benin	11.33	67.76	326	76.23	1.75			48.00	86.26	48	40	0.07	200	0.36	29
Bermuda	0.02				2.58		3.41			..					
Bhutan	15.15	95.28	472		7.40	6.63	3.28	71.68		..	7		197	1.71	59
Bolivia	8.88	47.49	614	24.65	0.98		2.10	44.02	33.60	..	30		146		50
Bosnia and Herzegovina		61.75								..			25		
Botswana	7.82	66.35	1,542	34.73	11.94		5.78	115.67	32.85	110	79	0.20	71		88
Brazil	0.07	27.55	2,064	19.71	4.54	47.81		16.00	20.83	..	84	1.33	76	3.56	63
Brunei		36.33		17.24	-0.43		4.94		24.58	..	91				99
Bulgaria		34.70	2,584	3.37	4.12		5.41	87.79	4.65	94	100	3.18	20		99
Burkina Faso	13.13	87.76	242	85.44	4.64		2.09	40.23	93.29	57	30	0.02	229	0.31	47
Burundi	16.91	94.37	246	65.85	5.38		2.92	34.51	76.70	70	19	0.06	193	0.68	54
Cambodia	2.00	87.40	140	40.11	7.73	71.37		15.70	54.04	..			153	2.10	41
Cameroon	2.41	62.49	1,004	46.50	0.61		2.89	42.00	57.55	80		0.08	156	2.60	46
Canada		23.55	15,980		3.78		6.39	53.58		94	100	2.00	11	6.70	81
Cape Verde	36.67	62.77	940	39.85	4.94	55.47	2.62	60.07	49.68	..		0.34	70	1.60	
Cayman Islands															

Central African Republic	14.24	63.25	390	70.14	1.25		2.27	45.86	82.56	59	66	0.04	185		35	
Chad	17.24	79.64	238	75.92	7.14			46.84	84.48	..		0.03	214		17	
Channel Islands		69.53								..						
Chile	0.16	17.12	1,658	6.69	7.44		3.38	59.19	7.23	98	98		29	3.18	92	
China	0.49	75.30	312	24.58	9.86		2.35	26.28	34.86	77	94	0.99	57	1.98	84	
Colombia	0.19	33.44	1,184	12.72	4.36		2.65	29.80	13.19	100	61	0.84	46	1.25	62	
Comoros	29.22	73.57	420	46.84	1.06			59.33	54.36	72	24	0.16	143	3.12	57	
Congo, Dem. Rep.	7.08		244	56.67	1.41			52.08	70.04	60		0.07	208	1.59	41	
Congo, Rep.	4.91	48.20	1,042	37.88	-0.70		5.11	90.21	48.06	89		0.25	118		71	
Costa Rica	5.39	47.96	1,564	6.72	4.03	72.85	4.19	67.79	6.81	97	97	0.92	22		87	
Cote d'Ivoire	3.17	61.58	792	64.32	2.30			66.27	77.20	..	35	0.07	164	0.83	33	
Croatia		47.01		3.78					6.17	97			16			
Cuba		27.91		5.57					5.60	96	99	3.00	18		90	
Cyprus	1.14	38.89	5,524	6.86	6.45		3.61	102.30	10.85	96	99	1.39	16	5.09		
Czech Republic		25.10								98		2.60	13	11.40		
Denmark		15.48	17,160		1.79		6.91	65.64		95	100	2.50	10	7.00	78	
Djibouti		20.72		50.84	-0.05		3.14		64.62	69	79		187		42	
Dominica	14.25	33.29	1,696		4.84		5.49	114.52		101	96				91	
Dominican Republic	2.58	43.83	972	22.06	4.32		1.39	67.77	22.67	..	81	1.07	79		58	24.50
Ecuador	1.71	47.26	1,232	13.90	2.45		1.00	53.37	16.82	97	58		78		52	
Egypt, Arab Rep.	4.68	56.24	772	55.22	4.41		5.04	46.27	69.10	72	34	1.30	140	2.08	80	
El Salvador	10.03	52.33	832	29.65	1.23	60.54	2.00	45.21	33.28	..	80	0.65	90		61	
Equatorial Guinea	37.41	67.91	337	30.74	0.88		1.64	100.43	44.17	..			225	2.80	25	
Eritrea		84.79		56.29					67.91	..			178			
Estonia		29.09		0.20	2.21				0.20	..		4.78	20	12.35		
Ethiopia	10.10	87.99	162	74.13	1.38	21.61	3.18	24.92	82.84	..	10	0.03	203		15	

Faeroe Islands										..						
Fiji	3.62	60.26	1,740	12.92	2.32		4.95	96.35	16.30	96	97	0.36	37		63	
Finland		39.55	16,564		3.94		5.23	51.67		104	100	2.10	8	14.00	91	
France		26.19	14,108		3.04		5.42	42.83		99		2.20	11	10.50	49	
French Polynesia	11.40	43.20	12,662		5.26		0.32			..		1.25				
Gabon	2.71	37.34	4,072		0.22		5.56	92.64		92	79	0.42	98	1.55	67	
Gambia, The	40.65	76.70	280	77.48	3.22		3.25	107.67	82.96	59		0.08	192	1.66	78	
Georgia		45.52			-0.72			86.18		84		5.59	36	10.67		
Germany		15.49	14,388		2.74			55.14		..		2.60	13	11.00	44	
Ghana	8.91	67.20	400	45.94	5.16		3.16	38.03	57.90	..	55	0.05	142	1.57	45	
Greece		41.40	5,594	6.14	1.77		2.27	47.31	9.38	92		2.90	17	5.50	71	
Greenland		21.58								..						
Grenada	11.96	66.32	1,903		7.40		4.95	113.54		91	81	0.55			67	
Guam		61.44								..	100	1.19				
Guatemala	2.51	62.09	1,070	41.40	2.18		1.73	34.31	49.38	..	41	0.26	111	1.30	43	57.90
Guinea	11.98	77.70	445		4.53		1.67	59.09		44	25	0.03	270	0.58	28	
Guinea-Bissau	56.77	78.35	188	75.50	3.39	16.04	1.69	54.71	89.17	..		0.14	272		56	
Guyana	10.10	67.63	466	3.45	-1.25		7.08	130.25	4.48	100	93	0.17	90	3.49	52	
Haiti	8.02	72.46	362	63.12	0.23		1.64	40.20	66.06	..	59	0.14	173	0.72	32	65.00
Honduras	7.61	60.67	884	34.21	3.98		4.25	54.69	35.33	..	42	0.83	82	1.31	68	
Hong Kong, China	0.05	4.32	8,926	11.59	6.95		2.64	233.87	18.74	94		0.93		4.89		
Hungary		39.47	2,384	1.08	1.20	93.38	5.36	75.79	1.30	95		2.50	20	9.70	99	
Iceland		10.08	18,066		3.66		4.77	70.67		92		2.60	8	15.80	97	
India	0.69	75.20	348	53.13	6.21		3.36	14.91	66.89	61	31	0.41	148	0.74	22	
Indonesia	1.44	72.13	536	23.43	6.04		0.83	43.60	31.21	..	39	0.14	108	0.63	45	
Iran, Islamic Rep.	0.04	45.45	3,306	41.26	-1.45		3.84	14.33	50.94	..	71	0.35	95	1.50	74	
Iraq	0.07	30.88	2,554	65.51	-7.51		4.43		81.41	72	57	0.59	67	1.71	80	
Ireland		43.47	7,920		3.67		5.41	108.95		100		1.60	12	12.50	68	

Isle of Man										..						
Israel	4.92	10.02	7,808	10.17	3.66		6.66	91.37	14.12	100	99		16	6.49	87	
Italy		33.21	11,754	2.68	3.06		4.71	39.73	3.36	95		3.80	14	8.30	20	
Jamaica	6.82	49.91	1,248	19.32	2.85		4.68	99.32	15.40	99	87		27	2.87	60	
Japan		23.05	18,486		4.72		4.78	19.47		96	100	1.50	7	14.70	75	
Jordan	8.70	31.32	2,064	22.07	-0.39		4.76	107.48	32.59	91	82		55	1.21	82	
Kazakhstan		43.65		1.47					2.23	..		4.01	56	13.77		
Kenya	8.90	78.60	364	33.45	5.66		6.36	50.37	44.53	90	50	0.15	106	1.57	69	
Kiribati	32.74	66.04	730		-3.20			130.61		98		0.50				
Korea, Dem. Rep.		42.06								..	100		49			
Korea, Rep.	0.00	31.62	3,400	4.95	8.99		3.71	66.95	7.88	92	83	0.60	14	2.40	85	
Kuwait	0.02	5.50	16,154	25.98	5.66		6.22	92.91	31.10	91	99	1.57	26	2.99	95	
Kyrgyz Republic		61.98			6.43		9.34			96		3.56	98	12.02		
Lao PDR	8.38	85.56	370	45.93	4.11	44.15	0.69	26.98	60.34	79		0.73	182		14	
Latvia		30.01		0.21	3.49		3.65		0.21	..			18			
Lebanon	3.50	18.69		22.03	-42.45		1.84	109.94	29.76	..	45	1.86	41		40	
Lesotho	15.00	82.14	476	23.92	5.79		6.41	138.29	12.18	128	40	0.07	158		77	
Liberia	10.24	59.66	370	64.23	-6.45				80.15	..	58		235			
Libya	0.03	21.30	6,190	36.27	-6.91		8.35		54.88	89			42		77	
Liechtenstein										..						
Lithuania		33.85		0.79					1.01	..		4.49	16	12.76		
Luxembourg		15.73	21,230		6.65		4.51	222.21		95	100	1.80	13	12.50	71	
Macao, China	0.02	1.47	5,902	10.53	7.33		1.21	183.42	14.85			1.99				
Macedonia, FYR		43.47								..	88		45			
Madagascar	11.73	78.04	270	45.07	2.36		1.96	35.93	53.52	..	38	0.10	172		25	
Malawi	21.80	89.23	166	50.37	2.10		3.35	52.89	66.45	74	45	0.02	253	0.84	71	
Malaysia	0.68	52.55	2,036	21.95	4.88		6.07	115.87	28.98	95	93	0.35	32	2.46	51	15.50
Maldives	14.22	74.16		5.95			3.38	68.87	6.44	..	62	0.07	145		62	
Mali	23.24	77.90	210	82.81	1.96		2.94	52.66	90.86	..	32	0.05	275		26	

Malta	0.34	13.65	4,600	13.01	5.43		3.70	164.57	12.78	90		1.94	16		46	
Marshall Islands		36.96	1,890		8.67			68.76		..						
Mauritania	24.84	60.92	494	66.94	3.42			122.34	77.99	..	20	0.11	179		39	
Mauritius	3.32	58.99	1,548	21.81	7.39		3.64	119.83	27.22	95	87	0.69	33	3.35	72	
Mayotte										..						
Mexico	0.11	29.29	2,108	14.29	1.23		3.36	33.19	17.85	94	69		60		67	10.10
Micronesia, Fed. Sts.		74.04			3.09					..				3.47		
Moldova		54.86		3.21	2.26		0.62		4.96	..		3.90	45	12.59	95	
Monaco										..					99	
Mongolia		44.17		2.48	5.57		10.90	97.17	3.33	..	100		124		49	
Morocco	3.03	53.78	794	64.41	4.97		5.75	53.33	78.03	63	26	0.22	115	1.27	68	
Mozambique	26.15	81.59	246	69.29	5.62		2.24	31.83	83.88	74	30	0.02	233		41	
Myanmar		75.73		20.79	-1.97		1.98	9.26	28.10	92	55	0.18	132		26	
Namibia	2.97	74.56	1,670	27.56	1.83			119.14	30.64	..			99		56	
Nepal	11.27	91.78	196	71.94	4.85	48.62	2.35	32.17	88.51	40	8	0.05	170	0.22	45	
Netherlands		11.40	13,828		3.06		6.22	104.74		94	100	2.20	10	11.90	93	
Netherlands Antilles	5.81			4.72	-2.10				4.72	..						
New Caledonia	15.74	40.08	9,698		10.96		0.62			99	98					
New Zealand		15.91	9,548		0.74		5.36	53.92		97	100	1.70	14	9.50	70	
Nicaragua	10.75	47.78	730	38.42	-3.99	45.03		53.94	38.47	121	41	0.47	93	2.12	57	
Niger	17.16	85.02	290	89.70	4.40		2.86	44.40	95.66	..			320	0.54	24	
Nigeria	0.58	67.59	292	56.04	5.72		1.08	44.48	66.75	78		0.19	193	6.37	37	43.00
Northern Mariana Islands										..						
Norway		28.43	19,854		2.33		6.39	72.00		98	100	2.20	10	16.00	87	
Oman	0.53	47.60	5,482	50.67	4.37	66.55	3.65	80.94	68.47	72	87	0.75	63	2.51	82	
Pakistan	3.05	70.17	370	67.02	6.43	43.69	2.71	34.59	81.86	46		0.35	143	0.60	43	
Palau										..						

Panama	0.79	47.25	2,404	12.08	-1.02		4.76	66.83	12.80	97	84	1.40	40	3.35	76	
Papua New Guinea	10.50	85.61	816	45.70	2.59			94.18	54.55	..	38	0.16	105	4.03	41	
Paraguay	1.95	53.55	1,088	10.85	4.09		1.12	61.45	13.26	..	30	0.66	49	1.32	54	
Peru	1.79	32.33	910	16.18	0.08	85.09	3.17	31.69	23.28	91	64	0.98	101	1.68	51	
Philippines	2.22	54.72	622	9.33	2.68	89.22	2.14	52.30	9.97	97	75	0.14	74	1.73	66	
Poland		40.11		0.54			45.33		0.64	96	99	2.00	23	5.70	94	
Portugal		59.21	3,916	14.54	5.45		3.69	67.50	18.30	..	98	2.50	23	4.60	81	
Puerto Rico		29.99	5,256	9.21	5.32			134.48	9.39	..						
Qatar	0.04	11.36		24.58			4.51		26.88	94	97	1.68	29	2.30	67	
Romania		47.75		3.37	-0.64	95.71	2.25		5.08	92			34	8.77	85	
Russian Federation		27.53		0.87	2.30		3.00	42.91	1.24	..		4.64	22	13.64		
Rwanda	10.53	94.87	330	50.76	2.86		3.50	27.53	60.69	94	22	0.03	199	0.87	74	
Samoa	22.78	78.85	780	2.15	2.43				2.79	..	95	0.24				
San Marino										..						
Sao Tome and Principe	47.67	63.44	495		1.85		4.04	80.17		..		0.55			55	
Saudi Arabia	0.03	25.16	7,324	37.86	1.58		8.06	77.02	55.29	72	81	1.35	65		80	
Senegal	14.34	61.52	558	73.99	3.20	45.45		59.02	83.64	64	42		183	0.52	61	
Seychelles	10.56	50.43	3,352		6.01		9.20	122.47		98		0.45		5.55	92	
Sierra Leone	11.92	71.87	212		-0.64		1.79	39.64		..			330			68.00
Singapore	0.16		8,340	13.11	6.33		3.81		19.80	90	100	0.94	11		84	
Slovak Republic		44.90	3,677		2.65		4.85	65.18		..		3.55	17	88.95		
Slovenia		50.10		0.47					0.53	..			12	6.00	89	
Solomon Islands	24.02	86.74	636		6.96			125.10		..	84	0.14	46			
Somalia	49.76	76.40	150		3.17		0.39	35.90		52			225	0.91	30	
South Africa		51.47	2,374	20.20	1.08		5.39	50.21	21.28	..		0.61	75		72	
Spain		25.33	7,122	4.30	4.21		3.51	37.84	5.99	98			13	4.60	86	
Sri Lanka	8.37	78.64	440	12.26	3.17		2.72	62.63	16.82	99	90	0.15	36	2.40	54	

St. Kitts and Nevis	8.06	65.01	2,548		8.70		3.78	140.47		80					89	
St. Lucia	5.34	62.77	1,954		6.45		6.30	162.74		104					83	
St. Vincent and the Grenadines	9.01	63.72	1,376		6.88		5.52	151.15		103					93	
Sudan	6.35	75.99	656	57.82	4.39		18.63	15.75	72.58	69	60	0.09	133		29	
Suriname	3.09	37.66	2,642		0.83		9.11	63.57		100	91		49		77	
Swaziland	6.06	77.43	898	31.65	10.12		5.96	151.93	33.39	..	46		127		73	
Sweden		16.90	18,016		2.71		6.90	63.70		..	100	2.60	7	14.60	93	
Switzerland		41.12	24,040		2.65		4.98	72.36		90		2.70	10		75	
Syrian Arab Republic	3.62	51.69	1,346	38.38	1.48		4.79	43.15	56.52	79	58	0.82	59		74	
Tajikistan		67.39	840	2.41	2.43		9.33	83.06	3.67	..		2.81		10.62		
Tanzania	21.15	80.83		41.12	3.76	65.00	2.26		54.08	..	60	0.04	160	1.09	81	
Thailand	1.03	81.80	1,034	8.90	9.04		3.40	59.07	12.35	..	62	0.20	49		53	
Timor-Leste										..						
Togo	14.60	72.69	342	59.43	3.67		4.84	96.41	74.84	56	32	0.09	158		57	32.30
Tonga	21.41	69.59	904		2.03		4.25	94.03		97	92	0.49				
Trinidad and Tobago	0.33	32.68	4,558	3.69	-3.34		5.20	69.77	5.13	..	95		32	5.04	55	
Tunisia	2.77	44.54	1,244	44.73	2.54		5.70	76.81	57.91	77	71	0.46	76	1.97	79	
Turkey	0.32	44.16	1,652	24.54	4.62		1.46	33.55	37.06	77	80	0.70	104	2.10	69	
Turkmenistan		54.40			3.38		4.20			..		3.49	116	11.03		
Uganda	5.97	89.60	328	47.05	3.13		3.28	26.90	60.25	..	38	0.04	173	1.32	36	
Ukraine		34.46		0.66	3.22		0.53	64.22	0.94	..	100	4.27	25	13.28		
United Arab Emirates	0.11	22.25	17,974	30.31	-1.59		2.12	94.64	31.99	93	99		21		70	
United Kingdom		11.01	11,510		3.88		4.83	52.31		97		1.40	12	7.40	76	
United States		25.21	20,450		3.64		5.24	18.66		95	99	2.20	13	5.50	94	
Uruguay	0.37	12.10	2,162	3.91	4.17		2.93	43.24	3.47	..		1.95	33	3.25	77	
Uzbekistan		59.56		1.57	6.11		9.08		2.49	..		3.57	64	12.37	88	
Vanuatu	27.70	81.76	976		0.70	89.52	6.17	106.62		..	78	0.16	90			

Venezuela, RB	0.05	17.25	3,450	12.47	1.51		4.66	45.59	13.93	101	83	1.46	35	2.62	52	31.30
Vietnam	1.91	80.16	220	10.33	4.54			30.22	14.11	..	90	0.72	60	3.30	53	
Virgin Islands (U.S.)		55.48	11,316		3.15											
West Bank and Gaza										..						
Yemen, Rep.		77.60		71.44					89.72	..		0.17	165		26	
Yugoslavia, Fed. Rep.		50.46											34		92	
Zambia	19.34	60.44	330	34.82	2.05	91.00	3.00	70.98	45.05		42	0.14	171		71	
Zimbabwe	3.88	73.55	776	22.23	4.59		6.80	44.85	28.51		61	0.15	94	1.67	85	

Table A- 8. Raw data 1990-1994

1990-1994	AID	RURAL	GNI	ALLIT	GDP GROWTH	EDU SPENDING	TRADE	PRIME NROLL	FILLIT	EDU RATIO	SKILLED BIRTHS	IMP WATER	PHYSICIANS	CHILDMORT	IMM MEASLES	POVERTY
Afghanistan		81.11				26.16			28.73		40.85	9.00		..	25	260
Albania	24.43	62.70	424	21.35	-5.05	101.43	4.50	60.18		31.04	92.96		3.84		84	42
Algeria	0.77	47.45	1980	44.16	-0.32	82.33	5.73	49.34	94.62	55.42	82.23	77.00	4.36		86	69
American Samoa											89.65	98.40				
Andorra																
Angola	9.62	71.10	544		-5.92		3.00	105.39				17.00			41	260
Antigua and Barbuda	1.21	64.41	6398		3.43			169.82			98.26		4.73	..	93	
Argentina	0.11	13.11	5644	4.03	6.79		4.79	15.56		4.16		97.00	10.76	94.00	95	28
Armenia	4.01	32.80	407	2.31	-14.22		7.03	100.74		3.50				..	94	58
Aruba	2.61				6.00		4.77							..		
Australia		13.83	18282		2.38		5.13	36.30	98.41		95.68	100.00	8.13	100.00	86	10
Austria		33.02	22540		2.67		5.43	74.97	89.36		90.74	100.00	7.52	100.00	60	9
Azerbaijan	8.86	46.50	80		-21.40	47.16	6.23	117.44			95.11		3.37	..	62	106

Bahamas, The	0.08	15.24	11704	5.36	-0.28		3.88		96.74	4.53	97.92		4.44	..	90	29
Bahrain	1.79	11.32	9298	16.95	7.00	100.68	3.88	178.34	99.36	24.26	97.56		6.95	..	89	19
Bangladesh	5.64	79.26	292	64.64	4.73		1.63	21.11	63.99	75.03	72.48	7.00	2.96	94.00	71	144
Barbados	0.11	54.22	6390	0.56	-1.55		7.21	103.34	77.90	0.58			7.09	..	92	16
Belarus	0.67	32.75	2837	0.49	-7.53	96.88	6.14	116.67	85.27	0.67			6.08	..	96	21
Belgium		3.29	21322		1.75		5.21	132.82	97.29		97.69		7.84	..	77	9
Belize	6.04	51.93	2398	9.96	5.72	87.05	5.13	121.00	99.07	10.72	95.77	76.95	3.26	..	82	49
Benin	15.56	63.99	366	71.54	3.97	22.86		43.93	53.26	83.11		38.00	2.86	..	71	185
Bermuda	0.22				0.01		3.51						3.91	..		
Bhutan	23.83	94.51	448		5.96	23.12		73.90				15.50	5.15	..	87	166
Bolivia	10.80	42.91	798	20.29	4.10	55.00	3.19	48.12	90.70	28.14	88.90		5.13	71.00	57	122
Bosnia and Herzegovina		60.08						101.85						..	52	22
Botswana	2.98	55.77	3076	30.09	4.54	114.13	7.02	93.68	94.08	27.86	106.05		3.30	93.00	88	58
Brazil	0.02	23.93	2886	16.90	1.46	67.27	1.65	17.86	87.67	17.56			6.24	83.00	83	60
Brunei	0.08	32.82	21566	13.10	1.60		3.93		91.48	18.50	94.96			..	97	11
Bulgaria	1.50	32.97	1562	2.54	-4.90	89.98	5.30	85.46	84.74	3.45	94.25		4.73	..	94	20
Burkina Faso	19.16	85.88	272	82.28	3.44	19.14	2.77	37.89	28.52	90.98	61.21	41.00	4.24	..	61	210
Burundi	26.51	93.25	198	60.92	-0.07	37.70	3.82	38.03	52.01	70.84	80.73	21.67	3.62	69.00	65	190
Cambodia	9.70	86.79	176	37.02	4.77			34.19		49.88		34.00	7.15	..	38	115
Cameroon	6.03	57.97	878	39.32	-3.74	56.60	2.99	37.14		49.12	82.18	58.00	2.23	51.00	46	139
Canada		22.98	20126		1.21		6.87	57.45	95.99		94.11		9.68	100.00	94	8
Cape Verde	30.84	51.99	1062	33.94	3.87		3.60	60.24		43.22	96.09		3.23	..	82	60
Cayman Islands					5.31								3.98			
Central African Republic	15.20	61.87	442	64.22	-0.78	27.85	2.20	40.58	53.10	76.71	62.15		1.93	48.00	54	180
Chad	15.80	78.48	284	69.67	1.36	19.12	1.61	41.31		78.59	44.18	15.00		..	26	203
Channel Islands		70.18												..		
Chile	0.36	16.29	2818	5.63	7.33	94.39	2.66	60.50	87.27	6.00	97.48		5.18	90.00	90	19

China	0.64	71.06	384	20.23	10.66	98.98	2.17	37.85	95.82	29.19	83.51		3.59	71.00	94	49
Colombia	0.26	29.97	1330	10.88	4.30	71.79	2.77	35.08	75.17	11.13	105.14	94.00	6.30	94.00	83	36
Comoros	19.42	71.10	578	45.79	1.19	33.93		56.62	52.03	53.16				88.00	59	120
Congo, Dem. Rep.	5.28		196	49.65	-8.57	47.71		40.07	54.80	62.49	68.26			..	30	205
Congo, Rep.	10.22	42.13	942	30.00	-0.10	61.35	7.00	100.31		38.59	87.53		4.80	..	60	110
Costa Rica	2.07	45.26	2408	5.77	5.42		3.62	75.28	87.24	5.79	96.31	97.00	7.49	..	91	17
Cote d'Ivoire	10.74	59.41	746	59.44	0.10	43.66	6.29	61.64	47.02	72.07			3.52	80.00	55	155
Croatia	0.38	45.27	2475	2.82	-8.74	85.60	5.35	118.83	80.59	4.54	97.21		11.60	..	90	13
Cuba		25.98		4.55			7.52	27.78	94.83	4.62	100.81		8.02	..	97	13
Cyprus	0.57	33.62	9278	5.12	4.83		3.92	102.82	84.59	8.09	94.91		4.38	100.00		12
Czech Republic	0.36	25.31	3130		-2.57	88.88	5.01	101.62	91.27		97.97		6.02	..	98	11
Denmark		15.09	26564		1.63		7.52	66.23	97.29		96.99		8.52	..	85	9
Djibouti		18.27		44.60	-1.68	32.21	3.54		30.96	57.23	74.08			..	52	175
Dominica	8.50	31.64	2538		2.20			118.99					6.10	..	96	23
Dominican Republic	0.77	40.13	1088	19.68	2.08		1.62	68.30		20.01		92.00	4.63	83.00	84	65
Ecuador	1.83	42.88	1108	11.50	3.59	98.57	2.75	56.52	91.04	13.85	96.72	56.00	4.61	71.00	66	57
Egypt, Arab Rep.	9.13	56.61	812	51.30	3.61	76.90	4.26	57.34	88.33	64.45	81.14	39.67	4.33	94.00	88	104
El Salvador	5.90	48.91	1128	26.17	5.87		1.88	50.94	74.66	29.35	99.54	87.00	5.10	66.00	75	60
Equatorial Guinea	40.63	61.76	376	24.74	4.85	45.51	1.70	93.33		36.29	86.60		5.66	..	83	206
Eritrea	23.12	83.69	160	51.73	17.26	21.62		95.22	27.07	63.35	79.27	6.00	1.97	..	34	155
Estonia	1.24	29.38	2877	0.21	-9.31	93.14	6.64	139.86	92.98	0.20	99.82		4.97	..	75	19
Ethiopia	19.39	86.78	124	69.41	1.89		3.72	21.83	21.95	78.14	69.19	6.33	3.08	25.00	29	193
Faeroe Islands														..		
Fiji	3.40	56.86	2068	10.55	2.66	98.28	4.95	117.49	100.17	13.45	94.10		3.73	..	92	31
Finland		37.50	22208		-1.35		6.73	53.65	98.87		104.32	100.00	8.41	100.00	98	7
France		25.69	21768		1.25		5.58	42.20	99.70		96.22	99.00	9.11	..	76	9
French Polynesia	9.43	44.59	16676		1.78		0.46	27.83	104.65		101.79	98.00				

Gabon	2.88	28.81	4804		2.78	71.14	2.63	84.10			95.75		3.08		67	90
Gambia, The	28.52	74.04	334	72.29	2.64	39.84	4.16	128.90	52.80	78.41	66.93	44.00	4.46		86	154
Georgia	3.74	44.49	660		-24.10		7.66	106.39			92.59		8.60	..	64	29
Germany		14.22	23364		1.91		4.63	49.73	83.31		92.95		9.20	..	69	9
Ghana	10.81	65.96	398	38.87	4.15	62.60	4.04	49.98		49.61		48.00	3.98	53.00	64	126
Greece		41.00	9172	4.57	0.84		2.47	43.71	92.14	6.87	93.51		7.89	..	72	11
Greenland		20.01												..		
Grenada	5.91	65.14	2552		1.46		4.71	105.94			94.24		5.56	..	90	37
Guam		61.78												..		
Guatemala	2.06	61.70	1098	37.42	3.91	42.73	1.43	43.38		45.21	84.97		3.17	76.00	63	82
Guinea	12.40	75.79	508		3.73	16.47	1.99	49.22	36.50		43.89	31.00	3.23	45.00	48	240
Guinea-Bissau	54.98	74.76	234	70.74	3.52			48.42		85.24		50.00		..	60	253
Guyana	38.32	66.29	460	2.55	5.50	91.60	3.43	231.97	90.26	3.30	102.16		4.46	..	79	90
Haiti	10.21	69.31	356	58.34	-3.95	27.78	1.45	34.50	22.11	60.94			4.07	53.00	39	150
Honduras	11.36	55.97	658	30.47	2.78	67.83	3.61	73.95	89.68	31.08	102.55	47.00	8.11	83.00	90	61
Hong Kong, China	0.02	0.04	16780	9.62	5.25		2.85	272.70	90.70	15.40		100.00	3.98	..		
Hungary	0.75	37.47	3248	0.88	-3.22		6.27	62.93	86.67	1.05	96.57		7.79	99.00	99	16
Iceland		9.00	24604		0.60		5.20	64.70	97.71		94.60		8.07	..	99	8
India	0.75	74.04	342	49.10	4.89	73.67	3.43	20.22		62.22	68.52	42.33	4.69	68.00	55	123
Indonesia	1.40	67.47	750	18.86	7.99	91.63	1.27	50.84	97.18	25.41	90.57	35.00	1.74	71.00	60	91
Iran, Islamic Rep.	0.18	42.13	2590	34.09	6.19	94.47	4.53	44.97	99.20	42.88	82.63	78.00	4.48	..	92	72
Iraq	0.13	30.78	2170	63.59	-40.65	59.04			78.57	79.63	74.66	50.00	5.62	..	74	50
Ireland		42.69	13382		4.44		5.15	117.44	90.66		97.88		7.36	..	78	9
Isle of Man														..		
Israel	2.51	9.51	12368	7.87	6.53		6.77	78.38		10.99	97.79		7.83	..	94	12
Italy		33.32	19386	2.13	1.09		4.00	40.05	99.86	2.66	95.42		8.32	..	49	10
Jamaica	3.78	47.65	1742	16.79	2.33	91.71	4.19	107.87	95.42	12.87	98.53		4.11	93.00	75	20
Japan		22.36	30742		2.16		3.59	17.50	99.93		96.09	100.00	6.24	..	72	6
Jordan	13.67	25.40	1340	16.44	6.25	101.58	7.44	135.35	68.40	24.97	95.94	87.00	7.06	97.00	88	43
Kazakhstan	0.18	43.21	1620	1.05	-8.54		3.27	106.05		1.57				..	91	52

Kenya	13.68	74.27	312	26.73	1.56	87.13	6.61	64.43		35.96		45.00	8.07	45.00	82	97
Kiribati	31.43	64.68	860		1.35			132.48			98.56			..		88
Korea, Dem. Rep.		41.32														55
Korea, Rep.	0.00	24.42	7302	3.70	7.48	95.83	3.84	57.14	99.02	5.93	93.04	96.00	4.68		93	9
Kuwait	0.01	4.84	20540	22.28	21.21	56.40	7.88	105.11	49.11	26.00	97.41	98.00			84	15
Kyrgyz Republic	6.36	62.97	397		-10.32		6.17	76.49			101.08		4.65		92	81
Lao PDR	14.97	83.86	258	41.85	6.34		2.39	47.12	65.41	55.15	74.58	60.00	2.88		49	163
Latvia	0.72	30.19	2410	0.21	-12.15	76.06	4.92	106.04	82.18	0.21	98.77		4.39		85	21
Lebanon	3.35	14.50	1490	18.42	16.85		2.05	91.42		25.31		95.00	4.22		76	37
Lesotho	11.68	78.42	658	20.86	4.41	75.00	8.02	139.35	73.22	9.58	120.87	50.00		..	80	148
Liberia		58.00		58.58	-31.02					75.23				..		235
Libya		16.77		29.40				60.88	96.50	45.24		76.00		71.00	89	42
Liechtenstein														..		
Lithuania	0.77	32.05	2045	0.63	-13.23	87.58	5.12	99.28		0.78	96.02		4.56		91	18
Luxembourg		12.57	37496		5.14		3.20	213.08					6.10		82	9
Macao, China	0.00	1.30	11760	8.72	7.24		1.74	141.47	81.16	12.21	98.11	100.00				
Macedonia, FYR	1.63	41.44	1507		-3.56	89.00	4.95	81.27	94.27		93.85		9.69	..	92	29
Madagascar	13.16	75.32	236	40.26	0.01	33.86	2.23	44.41	59.40	48.15		57.00	2.20	44.00	54	168
Malawi	30.33	87.84	214	46.59	1.31	33.02	3.90	63.03	68.82	61.83	84.40	52.50		49.00	85	241
Malaysia	0.47	48.64	2914	17.89	9.31	90.23	4.96	158.95	102.17	23.71	97.82		2.42	..	79	21
Maldives	12.15	74.19		4.76		111.54	5.84	88.51		4.98	95.86	55.00	5.77	..	95	115
Mali	18.56	74.99	282	79.90	1.37	11.38		52.99	24.68	88.63	58.74	46.00	2.82	55.00	45	254
Malta	0.74	11.71	7514	10.85	5.50		4.83	192.80	98.34	10.38	89.72	98.00	7.43	100.00	85	14
Marshall Islands	24.27	35.09	1820		3.02			90.19						..		92
Mauritania	24.97	53.30	516	64.05	2.53	33.98	4.73	96.71	50.46	74.85	73.17	40.00	5.36	37.00	43	183
Mauritius	1.78	59.50	2758	19.20	5.48	135.50	4.08	127.31	93.93	23.75	98.05		3.69	100.00	83	25
Mayotte														..		
Mexico	0.09	27.15	3752	11.79	3.86	88.52	4.17	36.47	100.89	14.63	95.24		5.55	80.00	86	46

Micronesia, Fed. Sts.	20.99	73.32	1988		4.59			130.42								31
Moldova	1.00	54.07	700	2.21	-15.92	66.73	6.85	112.79		3.43	102.19		5.40		93	37
Monaco											96.25			..	99	
Mongolia	26.46	43.05		2.09	-4.39		8.72	133.72	75.26	2.65	115.74	100.00	6.53	..	84	107
Morocco	3.45	50.19	1092	59.18	3.25	47.02	5.38	56.71	63.42	72.79	69.18	31.00	3.00	75.00	82	85
Mozambique	60.48	76.93	148	64.53	2.80	29.56	3.10	55.53	41.73	79.71	72.63		3.95	..	59	235
Myanmar		74.88		18.43	5.07		1.20	4.58		24.39	95.06	77.67	2.41	..	85	130
Namibia	5.06	72.63	2028	23.66	5.08	69.77	8.77	110.98	90.19	25.77	106.34	68.00	5.97	72.00	66	84
Nepal	11.07	90.52	216	67.42	5.50	50.97	2.76	42.00		84.12	57.70		4.33	67.00	58	145
Netherlands		11.18	21074		2.35		5.40	102.60	96.50		92.67	100.00	8.77	100.00	94	8
Netherlands Antilles				4.17						4.16						
New Caledonia	12.67	35.22	15896		2.43		0.50	46.71	97.84		99.66			..		
New Zealand		15.02	12272		2.30		6.59	57.74	97.59		95.81	95.00	7.32	..	85	11
Nicaragua	45.79	46.39	290	36.50	0.61		3.08	72.64	76.97	36.41		61.00	10.55	70.00	73	66
Niger	18.96	83.08	270	87.75	0.03	18.26	3.19	36.30	23.78	94.27	55.14	15.00	3.50	53.00	22	320
Nigeria	1.07	63.18	258	48.24	3.63	72.90	0.69	80.67		58.10	78.20	31.00	2.63	53.00	47	190
Northern Mariana Islands														..		
Norway		27.50	28154		3.32		7.57	71.52	99.31		94.80		8.03	100.00	93	9
Oman	0.53	33.74	5292	41.72	6.80		3.58	87.87	71.02	56.80	88.81			37.00	96	30
Pakistan	2.61	68.94	426	63.04	4.54		2.61	37.29		78.39	46.78	25.33	4.18	83.00	52	128
Palau	80.80				-3.80			71.17				99.00		..		
Panama	1.56	45.76	2546	10.35	6.81	87.46	4.68	73.72	91.39	11.02	95.99		6.76	..	79	34
Papua New Guinea	9.63	84.55	1020	41.88	8.91	53.37		92.29		50.08	78.14		3.51	40.00	70	101
Paraguay	1.61	49.84	1406	9.06	2.92	64.71	2.26	75.92	93.04	10.88	95.10	71.00	4.82	63.00	80	37
Peru	1.59	30.32	1256	13.59	2.84		3.08	28.40	86.54	19.60	93.38	65.50	6.91	74.00	74	75
Philippines	2.54	49.17	810	7.57	1.86		2.66	66.25	96.88	8.00		53.00	3.02	87.00	80	66
Poland	2.12	38.92	2223	0.38	1.15	99.91	40.74	47.05	96.88	0.43	95.25		6.17	..	95	19

Portugal		49.59	8274	11.71	1.67		4.54	65.21	103.14	14.85	98.37		6.96		93	15
Puerto Rico		27.89	6768	7.96	3.90			170.80		7.97						
Qatar	0.02	9.62		22.14		74.02	3.53	78.65	82.02	22.70	94.16		2.99		84	25
Romania	0.77	45.98	1233	2.71	-4.36		3.23	49.78	81.49	4.05	95.82		4.93		92	31
Russian Federation	0.36	26.87	3008	0.69	-8.76	90.08	3.25	57.35	94.06	0.96			3.35		84	23
Rwanda	32.29	94.54	280	44.02	-11.48	33.87		33.13	70.64	52.78	97.20	26.00	3.87		71	178
Samoa	30.16	78.77	1094	1.86	-1.87		3.15	88.37		2.40	97.72	52.00				42
San Marino																
Sao Tome and Principe	113.82	59.32	398		1.60			102.53						..	64	90
Saudi Arabia	0.03	19.95	7326	31.78	4.35	59.68	6.49	79.84	60.44	46.15	84.28	89.33	2.22	..	91	44
Senegal	13.21	58.51	704	69.87	1.29		4.07	59.09	48.86	79.63	71.90	47.00	4.08	72.00	56	148
Seychelles	5.59	44.31	5802		4.87		7.54	118.61			96.62			..	90	21
Sierra Leone	22.03	68.72	166		-2.78			46.45			67.41		5.07	..		323
Singapore	0.02		15510	10.47	9.35		3.27	337.37	92.34	15.74	88.82	100.00	3.38	100.00	88	8
Slovak Republic	0.51	43.31	2574		-4.50	96.25	5.16	106.64			98.39		5.96	..	97	14
Slovenia	0.14	49.81	6960	0.42	-1.55	99.21	5.39	127.18	94.52	0.46	96.94	100.00		100.00	87	9
Solomon Islands	18.86	84.47	760		4.38	65.24	3.76	119.61			77.12	85.00	5.81	..		36
Somalia	59.11	75.23	130		-1.48			47.53						..	32	225
South Africa	0.22	49.68	3266	17.95	0.20	76.22	6.19	40.59	102.55	18.85	102.79		6.98	86.00	82	60
Spain		24.19	13640	3.43	1.72		4.41	37.61	100.00	4.74	99.44		6.96	..	89	9
Sri Lanka	7.56	78.52	578	10.69	5.58	100.38	3.08	72.29		14.44	99.19	91.03	3.26	68.00	82	23
St. Kitts and Nevis	4.57	65.64	4200		3.55		2.81	130.70			97.73		5.02		99	36
St. Lucia	5.32	62.81	3160		7.45	111.57	9.17	146.53			105.14		3.57		86	24
St. Vincent and the Grenadines	6.85	56.48	1984		2.19	139.95	5.92	127.48			104.21		5.87	..	98	26
Sudan	7.36	71.55	398	51.94	2.84	59.28	4.80			65.66	77.19	80.43	2.33	67.00	53	123
Suriname	19.61	32.69	988		0.40		6.50	34.30			100.09		5.68	..	67	44
Swaziland	5.36	75.74	1248	26.63	3.85	71.10	7.24	164.41	90.67	28.07		56.00	3.45		86	110

Sweden		16.88	26218		0.10		7.48	59.69	100.51		100.66		8.45	100.00	96	6
Switzerland		37.19	35964		0.57		5.47	68.35	84.69		91.83		9.05	100.00	84	8
Syrian Arab Republic	3.89	50.65	1030	33.14	8.37	97.70	3.59	64.78	95.40	49.85	84.11	72.33	2.33	..	85	44
Tajikistan	1.23	69.99	592	1.58	-14.88		9.50	64.20		2.38			6.20	..	86	127
Tanzania	25.43	76.31	174	34.58	2.49		2.82	55.14	49.96	45.86	96.16	44.00	3.55	38.00	79	163
Thailand	0.66	81.07	1930	6.93	9.01	92.56	3.75	78.99		9.57	94.32	79.00	5.36	80.00	80	40
Timor-Leste														..		
Togo	12.77	70.60	404	53.27	-1.01	40.89	5.77	67.63	73.87	68.75	60.22		2.71	51.00	65	152
Tonga	19.93	68.47	1458		2.61		4.78	79.13			92.21			..		27
Trinidad and Tobago	0.21	29.85	3846	2.86	0.93	100.39	3.77	77.90	91.28	3.97	97.93		4.20	91.00	94	24
Tunisia	2.23	40.47	1610	38.72	5.03	75.47	5.99	89.40	95.67	50.78	85.01	78.00	5.23	75.00	93	52
Turkey	0.48	37.82	2702	20.56	3.75	91.00	2.82	33.57	92.26	31.38	77.98	75.75	3.72	79.00	75	74
Turkmenistan	0.60	55.15			-7.31		4.13	96.92					3.23	..	83	98
Uganda	20.14	88.30	236	41.61	6.04	49.00	1.86	29.03		53.82			3.91	45.00	56	165
Ukraine	0.48	32.90	1448	0.54	-12.32	56.33	6.19	55.68		0.74			5.26	..	93	22
United Arab Emirates	-0.02	18.41	18630	28.06	4.35	93.56	1.95	119.63	87.23	27.99	95.74	96.00	7.66		85	14
United Kingdom		10.87	17796		1.36		5.14	50.42	96.65		100.32	100.00	6.66	100.00	90	9
United States		24.40	24976		2.21		5.15	21.00	95.12		94.88		12.77	100.00	87	10
Uruguay	0.57	10.40	3818	3.26	4.34	95.42	2.49	39.82	92.20	2.81	102.84		7.01	..	93	24
Uzbekistan	0.20	60.59	975	1.24	-3.52	97.39	9.37	65.95		1.93			5.21	..	81	65
Vanuatu	25.04	80.86	1150		4.65	86.25	4.57	108.40			85.72			..		70
Venezuela, RB	0.08	15.40	2772	10.32	4.04	91.41	4.42	55.95	88.54	11.37	100.77		3.87	..	68	27
Vietnam	3.87	78.99	148	9.19	7.32		2.17	73.11		12.17		95.00	3.81	55.00	90	50
Virgin Islands (U.S.)		55.08									88.96					
West Bank and Gaza	12.62							74.82								53
Yemen, Rep.	6.27	76.86	350	64.27	4.13		5.58	71.57		84.84	37.06	16.00	2.36		50	142

Yugoslavia, Fed. Rep.		48.93				72.10			69.44		95.66	90.00		..	81	24
Zambia	26.71	60.69	390	29.84	-0.83		2.24	75.09	76.83	38.78		42.00	3.88	52.00	88	192
Zimbabwe	7.46	70.29	746	17.71	2.76	97.35	7.06	58.94		23.11	93.09		5.68	78.00	87	80

Table A- 9. Raw data 1995-1999

1995-1999	AID	RURAL	GNI	ALLIT	GDP GROWTH	EDU SPENDING	TRADE	PRIME NROLL	FILLIT	EDU RATIO	SKILLED BIRTHS	IMP WATER	PHYSICIANS	CHILDMORT	IMM MEASLES	POVERTY
Afghanistan		79.33								43.18		13	0.11	257	42	
Albania	8.87	59.61	838	17.44	5.22		48.63	100.57	25.85	98.93		97	1.35	33	90	
Algeria	0.62	44.58	1556	37.13	3.46	5.11	52.88	95.83	47.47	91.80		89	0.92	55	92	23
American Samoa												..				
Andorra												100			90	
Angola	7.90	67.77	432		7.93	2.47	149.57	39.10		82.43	23	38	0.08	260	59	
Antigua and Barbuda	1.42	63.77	7960		3.21	3.24	171.16				100	91	0.95		97	
Argentina	0.04	12.25	7762	3.47	2.25	3.97	21.83	105.73	3.52	102.07	98		2.68	25	98	
Armenia	11.49	32.80	566	1.83	5.35	2.00	77.26		2.74		96	..	3.10	47	93	55
Aruba						4.05		98.84		99.47		..	1.12			
Australia		11.04	20994		4.38	4.80	40.64	94.85		96.55	100	100	2.50	7	87	
Austria		32.94	27216		2.31	5.87	83.25	88.84		94.29		100	2.88	7	83	
Azerbaijan	3.84	47.50	382		2.54	3.67	79.18	90.53		100.50	99	78	3.74	102	98	68
Bahamas, The	0.22	12.70	12980	4.85	3.22	3.18		83.54	4.03	96.74		97	1.50	23	91	
Bahrain	0.91	8.90	9956	13.88	3.98	3.57	146.60	97.14	19.39	100.81	98	..	1.00	18	95	
Bangladesh	2.82	76.67	336	61.73	5.01	2.36	30.23	89.69	71.77	99.70	14	97	0.20	116	74	34
Barbados	0.20	51.64	7732	0.40	3.02	5.71	113.39	103.77	0.40	101.52	91	100	1.28	16	93	
Belarus	0.72	30.98	1468	0.39	3.12	5.71	113.96	109.24	0.52	99.04	100	100	4.28	22	96	28
Belgium		2.89	26232		2.50	4.02	141.73	99.41		102.13		..	3.66	7	79	
Belize	3.75	52.00	2770	7.74	3.32	5.29	112.80	102.80	8.11	99.76		92	0.57	44	87	

Benin	11.15	60.10	370	66.09	5.03	2.74	46.61	64.63	79.12	61.31	60	63	0.06	170	66	33
Bermuda	-0.22				3.37							..	1.48			
Bhutan	17.46	93.54	498		6.84	4.34	78.53				12	62	0.16	133	80	
Bolivia	9.26	39.43	952	16.57	3.89	5.44	49.30	97.77	23.40	95.91	55	83	0.82	97	60	63
Bosnia and Herzegovina	31.76	58.26	1040		32.64		97.24					..	0.98	19	75	
Botswana	1.86	52.10	3176	25.53	5.80	8.46	94.33	82.03	23.11	102.72		95		66	89	
Brazil	0.04	20.70	4250	14.42	2.22	4.98	18.13	96.54	14.70	103.30	88	87	1.29	48	93	
Brunei	0.03	29.57	25158	10.13	2.92	4.75		92.90	14.28	98.69	99	..	0.85	11	98	
Bulgaria	1.81	32.30	1300	1.92	-1.17	3.41	99.42	93.84	2.57	95.72	99	100	3.45	19	94	
Burkina Faso	17.45	84.40	230	78.57	5.10	1.48	42.31	33.95	88.00	67.53	31	42	0.04	202	43	45
Burundi	13.18	91.93	138	55.48	-2.29	4.19	28.03	37.15	64.01	81.61	24	78		190	77	
Cambodia	12.98	84.78	266	34.16	4.49	1.79	76.61	92.35	45.85	81.53	34	30	0.30	120	55	36
Cameroon	5.52	53.62	622	32.55	4.57	2.46	47.26		40.94	81.50	55	58	0.07	150	53	
Canada		21.92	20172		3.64	5.56	77.88	96.88		98.27	98	100	2.10	8	96	
Cape Verde	23.60	42.68	1286	28.88	6.58	4.38	77.79	98.85	37.23		89	74	0.17	50	68	
Cayman Islands												..	1.82			
Central African Republic	12.76	60.06	302	57.47	3.36	1.86	39.76		69.64		46	70	0.04	180	43	
Chad	14.61	77.15	216	62.24	3.17	1.86	50.06	49.74	71.08	50.44	11	27		200	28	64
Channel Islands		70.75										..				
Chile	0.20	15.06	4638	4.74	5.64	3.53	57.64	88.35	4.98	96.79	100	93	1.08	14	96	18
China	0.32	66.92	674	16.79	8.76	2.55	41.53	98.47	24.70	92.54	80	75	1.68	46	96	5
Colombia	0.22	26.80	2294	9.26	1.44	3.30	36.14	85.07	9.34	102.10	85	91	1.08	29	83	
Comoros	15.55	68.46	420	44.77	1.91	3.78	55.76	52.03	52.06	83.59	52	96	0.07	100	59	
Congo, Dem. Rep.	3.60		100	42.66	-2.37		58.18	32.63	54.55	79.76	70	45	0.07	205	21	
Congo, Rep.	13.02	37.18	546	23.05	1.88	4.36	134.62		30.11	86.71		51	0.25	108	28	
Costa Rica	0.06	42.59	3460	4.92	5.40	4.14	88.08	89.80	4.88	98.51	98	95	0.87	16	89	
Cote d'Ivoire	7.61	57.53	728	54.36	5.35	4.37	73.97	55.12	66.37	72.31	46	81	0.09	165	64	37
Croatia	0.32	43.45	4342	2.09	4.34	4.49	90.82	83.07	3.32	96.55	100	..	2.29	9	92	
Cuba		25.13		3.80	4.05	6.93	33.40	100.23	3.88	98.16	100	91	5.24	10	98	
Cyprus	0.39	30.92	12062	3.67	4.00	5.18	96.65	88.22	5.76	98.40		100	2.55	11		

Czech Republic	0.43	25.45	5030		1.88	4.69	116.48	89.23		99.27		..	2.96	8	96	
Denmark		14.92	33016		2.60	8.00	68.65	99.66		100.67		100	3.32	6	88	
Djibouti	17.03	16.70	856	38.86	-0.78	3.47	102.77	31.46	50.04	75.46		100	0.17	160	31	45
Dominica	10.02	29.99	3102		2.35	6.13	119.46				100	97	0.48	20	98	
Dominican Republic	0.87	36.61	1694	17.55	7.09	2.12	66.19	85.35	17.66	93.64	96	86	1.83	56	90	
Ecuador	1.15	38.65	1440	9.50	0.17	2.67	58.28	96.23	11.40	99.44	66	85	1.51	43	83	
Egypt, Arab Rep.	2.65	57.06	1186	47.20	5.20	4.67	44.74	92.68	59.37	86.33	51	97	1.81	71	93	23
El Salvador	2.34	43.55	1764	22.97	3.91	2.33	59.51	79.88	25.80	97.96	71	77	0.99	47	97	
Equatorial Guinea	10.64	55.47	712	20.06	35.59	1.78	224.21	81.05	30.07	69.66	5	44	0.23	175	70	
Eritrea	22.90	82.26	172	47.06	4.67	3.48	109.99	34.33	58.48	78.52	21	46	0.03	132	73	
Estonia	1.49	30.33	3384	0.21	4.39	7.13	159.08	93.39	0.20	99.50		..	3.05	15	87	9
Ethiopia	11.73	85.41	106	64.24	5.19	4.22	39.39	35.24	72.65	61.84		24		183	43	46
Faeroe Islands												..				
Fiji	2.23	52.95	2458	8.27	3.41	4.80	122.39	99.34	10.60		100	47	0.48	25	84	
Finland		37.97	24030		4.70	6.78	67.93	98.80		104.15		100	2.94	5	97	
France		25.02	25178		2.26	5.92	47.07	100.11		97.08		..	2.98	7	83	
French Polynesia	10.05	46.29	17436		2.58		30.14	102.55			99	..		14		
Gabon	1.83	21.90	3948		2.75	3.03	91.06			96.12	80	86		90	56	
Gambia, The	9.72	71.17	346	66.78	3.86	4.45	111.91	68.14	73.41	78.66		62	0.04	137	91	
Georgia	8.46	44.12	540		6.06		56.21			97.54	96	79	4.09	29	68	11
Germany		13.09	27608		1.54	4.66	53.50	86.57		95.20		..	3.44	6	78	
Ghana	8.97	64.70	380	32.24	4.38	4.29	75.35	59.88	41.57	86.37	44	73	0.06	112	72	
Greece		40.42	11796	3.40	2.98	3.34	45.77	93.09	5.01	97.91		..	4.14	9	85	
Greenland		18.67										..				
Grenada	3.26	63.38	3112		5.55	4.40	116.65	98.06			99	95	0.57	33	91	
Guam		61.33									100	..		11		
Guatemala	1.41	60.98	1556	33.62	4.22	1.56	43.48	76.72	41.22	87.76	38	92	1.02	64	78	
Guinea	9.46	73.77	542		4.41	1.88	45.37	45.32		52.97	35	48	0.13	208	56	
Guinea-Bissau	49.18	70.88	208	65.17	0.44	2.14	53.62	53.55	80.11	64.95	25	56	0.17	235	55	

Guyana	20.52	64.78	846	1.87	4.07	4.15	207.42	94.21	2.42	100.05	95	94	0.26	84	87	
Haiti	13.90	66.19	382	53.26	2.76		39.23	56.11	55.47		20	46	0.16	137	52	
Honduras	9.76	50.45	708	26.98	2.73	3.82	97.51		27.16		55	88	0.74	49	95	
Hong Kong, China	0.01	0.00	24308	7.78	2.21	2.92	275.28	89.50	12.49	95.00	100	..	1.32			
Hungary	0.27	36.20	4420	0.74	3.29	4.69	91.47	89.55	0.88	98.84		99	3.10	12	99	17
Iceland		8.04	26802		3.85	5.16	72.89	98.91		100.12		..	3.22	7	97	
India	0.43	72.98	414	45.15	6.39	3.26	25.79		57.50	74.81	42	84		104	59	
Indonesia	0.95	62.30	902	15.15	1.68	1.34	64.27	93.84	20.62	93.27	45	78		66	69	21
Iran, Islamic Rep.	0.18	38.27	1530	27.56	3.25	4.41	37.82	82.21	35.30	90.89	80	92	0.85	55	97	
Iraq		31.84		61.76				87.39	77.86	75.67	87	85	0.55	117	85	
Ireland		41.65	19248		9.60	4.71	151.40	91.02		98.54		..	2.16	7	77	
Isle of Man												..				
Israel	1.19	8.84	16122	6.13	4.02	7.56	75.29	100.74	8.57	99.46		..	3.85	9	94	
Italy		33.26	20140	1.74	1.89	4.66	48.74	100.09	2.18	96.39		..	5.78	7	57	
Jamaica	0.78	45.34	2416	14.35	-0.51	5.92	99.03	92.22	10.47	101.46	95	92	0.99	20	91	28
Japan		21.66	37796		1.28	3.51	18.81	101.39		100.62	100	..	1.85	6	94	
Jordan	6.60	21.57	1598	12.15	3.52	6.60	117.03	84.47	18.62	98.94	97	96	1.66	37	94	12
Kazakhstan	0.73	43.80	1298	0.76	-1.04	4.51	74.79		1.09	101.23	100	91	3.56	69	97	35
Kenya	5.21	69.64	328	20.82	2.71	6.54	63.68	65.30	28.24	96.60	44	57	0.13	111	79	
Kiribati	19.88	62.90	986		4.18					100.98	79	48	0.30	77		
Korea, Dem. Rep.		40.43									99	100	2.97	55	34	
Korea, Rep.	-0.02	20.32	10004	2.75	4.98	3.74	71.86	93.92	4.41	95.33	100	92	1.22	6	88	
Kuwait	0.01	4.28	19052	19.93	0.98	5.97	93.88	64.70	22.85	98.55	98	..	1.84	14	97	
Kyrgyz Republic	17.18	64.64	342		3.47	5.75	87.46	86.58		100.67	98	77	3.10	73	98	58
Lao PDR	19.52	81.97	348	37.72	6.42	2.25	68.35	75.93	49.87	78.70		37	0.24	134	70	39
Latvia	1.44	34.51	2326	0.20	3.22	6.54	106.11	90.25	0.21	100.61	100	..	3.05	19	94	
Lebanon	1.50	11.61	3316	15.60	3.70	2.36	62.08	78.06	21.71	101.29	92	100	2.10	34	86	
Lesotho	6.32	74.49	664	18.08	4.03	11.52	130.53	65.53	7.47	113.99		78	0.05	140	80	
Liberia	25.85	56.85	110	51.21	33.35			76.83	68.17	70.75		..	0.02	235		
Libya		13.75		23.34			46.82		36.61		94	72	1.28	29	92	

Liechtenstein																
Lithuania	1.52	31.70	2282	0.50	3.30	5.80	109.97	93.30	0.61	91.83			3.97	14	96	
Luxembourg		9.91	45354		5.63	3.97	227.13	95.98		103.56			2.96	7	90	
Macao, China	-0.01	1.19	16044	7.10	-0.88	3.53	123.34	85.33	10.22	101.08		..				
Macedonia, FYR	3.50	40.40	1928		1.84	4.31	84.42	94.83		95.32	95	..	2.27	19	96	
Madagascar	13.27	72.38	250	36.00	3.23	1.86	52.33	63.83	43.23	96.64	47	47	0.19	156	50	72
Malawi	23.35	86.28	198	42.41	7.04	4.66	65.32	98.93	56.70	91.90		57		216	88	65
Malaysia	-0.02	44.81	4022	14.47	5.19	4.88	197.32	98.65	19.14	100.59	97	..	0.54	15	85	
Maldives	8.15	73.55	1810	3.66	6.30	3.97	168.49	99.95	3.78	98.50	90	100	0.40	95	96	
Mali	17.21	71.82	252	76.52	5.79	2.51	58.03	37.29	85.86	63.31	24	65	0.05	243	54	
Malta	0.89	10.01	8850	8.99	4.49	5.02	187.15	99.80	8.31	96.72		100	2.61	10	57	
Marshall Islands	52.38	34.52	2108		-4.67	16.72	85.85				95	..	0.42	81		
Mauritania	22.29	46.43	440	61.32	4.21	4.03	96.24	59.68	71.75	86.53	58	37	0.14	183	63	50
Mauritius	0.82	59.18	3640	16.79	5.28	4.21	127.64	95.86	20.50	99.66	98	100	0.85	23	80	
Mayotte												..				
Mexico	0.06	26.19	3930	9.85	2.88	4.31	61.59	101.92	12.16	97.78	89	88	1.62	36	93	
Micronesia, Fed. Sts.	39.95	72.41	2088		-1.13	5.50	93.70				93	..	0.57	26		
Moldova	3.75	56.68	588	1.49	-3.11	9.60	125.90		2.29	98.12	99	92	3.52	36	99	23
Monaco										96.86		100			99	
Mongolia	23.19	43.27	388	1.74	3.89	6.23	131.96	84.54	2.02	114.82	96	60	2.43	88	90	36
Morocco	1.67	46.63	1224	54.07	2.22	5.32	60.29	73.22	67.22	77.41	40	80	0.46	61	91	19
Mozambique	32.46	71.51	178	59.36	8.52	2.44	46.30	45.19	74.70	72.04	44	57		215	77	69
Myanmar		73.43		16.41	7.17	0.51	2.35	82.59	21.21	99.61	57	72	0.29	117	85	
Namibia	5.06	70.52	2240	20.10	3.65	8.37	107.37	87.22	21.40	103.56		77	0.30	78	64	
Nepal	8.20	89.09	228	61.73	4.27	3.10	58.03	70.64	79.23	71.00	21	88	0.04	120	68	42
Netherlands		10.80	25942		3.58	4.91	113.72	99.78		94.55	100	100	3.00	7	95	
Netherlands Antilles				3.71				97.64	3.68	101.88		..	1.40			
New Caledonia	10.80	27.41	17030		1.22		43.44					..		14		
New Zealand		14.47	15318		2.82	6.91	58.93	98.46		98.31	100	..	2.18	8	88	
Nicaragua	39.96	44.88	365	34.62	4.56	3.74	106.65	77.70	34.43	105.33	63	77	0.84	54	93	48
Niger	13.98	80.88	196	85.50	3.73	2.46	40.94	24.05	92.62	63.00	18	59	0.03	295	37	

Nigeria	0.63	58.65	248	40.53	2.50	0.65	78.88		49.23		42	62		187	46	
Northern Mariana Islands												..				
Norway		26.12	34138		3.39	7.61	72.41	100.24		97.10		100	2.72	6	93	
Oman	0.41	25.96	5680	33.14	2.94	3.60		67.41	45.00	94.37	91	39	1.32	18	98	
Pakistan	1.34	67.67	484	59.13	3.41	2.45	35.53	65.01	74.58	62.17	20	90	0.57	118	54	33
Palau	66.81		6130		4.04		73.80	114.79		101.32	100	79				
Panama	0.43	44.50	3020	8.92	3.32	5.37	77.60	98.00	9.57	100.59	90	90	1.67	30	90	37
Papua New Guinea	7.99	83.36	960	38.23	0.86	2.07	96.25	83.81	45.78	86.42	46	42	0.07	98	56	38
Paraguay	1.09	46.17	1788	7.55	1.73	4.14	72.72	90.68	8.90	97.50	63	78	0.91	34	82	
Peru	0.76	28.38	2182	11.37	3.65	3.22	31.69	96.09	16.46	95.17	56	80	0.96	53	92	49
Philippines	0.96	44.19	1118	5.92	3.71	3.55	98.46	100.57	6.16	102.41	70	86	1.23	51	77	37
Poland	1.26	38.10	3494	0.30	5.74	5.57	54.80	96.58	0.32	95.81		..	2.34	13	97	
Portugal		40.47	10952	9.18	3.96	5.73	68.43		11.78	100.28	100	..	3.08	9	96	
Puerto Rico		25.91	8582	6.80	4.53		165.28		6.67			..	1.75			
Qatar	0.02	8.13		20.07		3.58	81.05	91.01	18.87	103.62	99	..	1.26	18	88	
Romania	0.89	45.19	1438	2.19	-0.32	3.54	61.02	94.68	3.22	98.03	98	58	1.84	26	96	
Russian Federation	0.49	27.10	2248	0.54	-1.23	3.84	54.32		0.73		99	99	4.21	21	91	
Rwanda	27.55	94.14	216	37.11	15.65	2.52	30.85	96.41	44.49	97.86		41		210	76	
Samoa	14.78	78.37	1332	1.55	4.03	4.24	93.05	96.73	1.95	98.53	100	99	0.34	29		
San Marino												..				
Sao Tome and Principe		55.36	298		1.90		116.35					..	0.47	81	63	
Saudi Arabia	0.01	15.83	7744	26.80	0.96	6.58	64.30	60.02	37.62	90.93	91	95	1.66	34	93	
Senegal	12.05	54.80	526	65.36	5.27	3.62	72.47	58.67	75.09	76.38	47	78	0.09	143	67	
Seychelles	3.10	39.04	7024		2.00	7.12	135.27			97.23		..	1.32	18	97	
Sierra Leone	16.90	65.41	170		-5.69	1.00	37.80			88.25		57	0.07	317	62	
Singapore	0.01	0.00	24496	8.72	6.21	3.33	319.78	93.32	13.17		100	100	1.63	6	91	
Slovak Republic	0.73	42.83	3750		4.65	4.63	121.58			97.61		100	3.28	12	99	
Slovenia	0.33	50.39	9430	0.38	4.24	5.79	112.99	94.29	0.42	96.86		100	2.20	6	92	
Solomon Islands	13.40	81.96	842		1.60	3.49					85	71	0.14	30		

Somalia		73.64									34	..	0.04	225	35	
South Africa	0.34	45.71	3546	15.92	2.59	6.10	47.93	97.46	16.68	101.60	83	86	0.56	65	80	
Spain		23.06	14852	2.73	3.54	4.61	51.18	101.47	3.74	101.46		..	2.86	7	92	
Sri Lanka	2.90	77.83	810	9.21	4.94	3.15	79.54	97.01	12.26	100.62	95	77	0.37	20	92	25
St. Kitts and Nevis	2.41	65.96	5768		4.33	3.34	123.99				100	98	1.12	30	99	
St. Lucia	5.26	62.59	3678		2.34	7.79	130.72	98.09		101.73	100	98	0.52	22	94	
St. Vincent and the Grenadines	8.55	49.29	2506		4.95	6.56	122.55				99	93	0.67	21	97	
Sudan	2.61	66.80	286	45.99	6.23	9.89	23.51	45.55	58.33	89.33		75	0.09	115	54	
Suriname	11.54	28.26	1478		5.90		113.41				95	82	0.50	39	85	
Swaziland	2.55	74.44	1512	22.55	3.65	5.02	168.96	89.89	23.77	95.76		..	0.15	110	84	40
Sweden		16.79	27124		2.99	7.71	77.16	101.98		110.18		100	2.82	4	97	
Switzerland		32.41	41854		1.31	5.57	72.92	95.65		94.42		100	3.28	6	81	
Syrian Arab Republic	1.73	49.45	904	28.30	3.51	3.35	67.11	91.58	43.34	88.14		80	1.28	36	94	
Tajikistan	9.19	72.39	242	1.05	-3.68	2.05	126.27	98.58	1.56	89.29		60	2.01	122	83	
Tanzania	13.40	71.04	208	28.51	3.77	2.12	46.47	47.36	38.07	97.82	37	68	0.04	164	76	
Thailand	0.58	80.51	2506	5.36	1.54	4.61	95.16		7.34	98.12	90	84	0.30	34	93	
Timor-Leste	28.50		390		-11.15		55.91				48	..				
Togo	9.80	68.20	336	46.79	4.24	4.51	75.63	87.09	61.85	65.79	51	54	0.08	146	50	
Tonga	17.83	67.71	1676		1.52	5.40		91.76		102.31	94	100	0.44	25		
Trinidad and Tobago	0.42	27.33	4302	2.08	4.81	3.43	98.16	90.89	2.87	102.25	99	90	0.81	18	93	
Tunisia	0.84	36.64	2008	32.82	5.13	7.03	89.02	98.09	43.82	93.89	82	80	0.68	35	91	8
Turkey	0.06	35.48	2976	16.86	4.02	3.07	50.11	99.32	26.21	81.19	81	82	1.16	56	75	
Turkmenistan	0.69	55.36	718		-0.24		104.09					..	3.00	93	97	
Uganda	11.75	86.83	294	36.09	7.69	2.42	34.08	95.07	47.07	88.29	38	52		145	55	
Ukraine	1.02	32.37	864	0.44	-5.47	5.80	92.67	71.75	0.59	92.14	99	98	3.73	24	96	32
United Arab Emirates	0.01	15.10	19643	25.50	3.17	1.83		79.19	23.58	101.49	99	..	1.81	11	93	
United Kingdom		10.68	21636		2.82	4.79	56.37	99.39		106.14	100	100	1.72	7	90	
United States		23.43	30090		3.84	5.04	23.95	94.47		97.07	99	100	2.70	9	91	

Uruguay	0.19	8.91	6094	2.72	2.17	2.70	39.30	92.57	2.29	103.29	99	98	3.63	23	91	
Uzbekistan	0.88	62.27	636	0.96	2.92	7.55	54.85		1.45		98	85	3.17	66	93	
Vanuatu	16.85	79.28	1212		0.89	6.88	97.76	99.99		102.01	89	88	0.12	56		
Venezuela, RB	0.04	13.92	3392	8.46	0.85		47.18	84.99	9.16	103.03	95	83	2.15	26	74	
Vietnam	4.24	77.08	320	8.10	7.51	2.79	91.86	93.61	10.34		78	77	0.52	43	95	
Virgin Islands (U.S.)		54.12										..	1.65	13		
West Bank and Gaza	12.13		1740		3.36		87.88						0.50	33		
Yemen, Rep.	5.52	75.97	336	57.33	6.97	4.91	85.57	60.71	78.82	43.58	22	69	0.23	126	56	42
Yugoslavia, Fed. Rep.	6.90	48.54				5.08	55.66			96.58	93	98	2.02	19	88	
Zambia	26.37	60.66	346	24.73	1.55	2.18	68.18	69.91	32.27	91.31	47	64	0.07	202	86	71
Zimbabwe	5.11	66.84	602	13.71	3.08	10.60	83.99	80.18	18.26	94.27	71	83	0.14	90	83	35

Table A- 10. Raw data 2000-2001

2000-2001	AID	RURAL	GNI	ALLIT	GDP GROWTH	EDU SPENDING	TRADE	PRIMENROL	FILLIT	EDU RATIO	SKILLED BIRTHS	IMP WATER	PHYSICIANS	CHILD MORT	IMM MEASLES	POVERTY
Afghanistan						4.75		96.98	96.98							
Albania														7.00	90.00	
Algeria		77.89												257.00	40.50	
American Samoa		65.48	465			2.69	146.58	36.87	36.87					260.00	59.00	
Andorra		57.38	1280	15.00			60.06	97.57	97.57		99.10			25.50	95.00	
Angola				3.43				94.51	94.51							
Antigua and Barbuda		13.08		23.55				86.62	86.62					9.00	94.00	
Argentina		11.73	7195	3.13		3.96	21.99	107.47	107.47					19.50	75.00	
Armenia		32.76	550	1.55		2.92	72.73	69.25	69.25		96.90			36.50	92.50	

Aruba	50.74												
Australia	63.03	9120			146.98						14.00	98.00	
Austria	9.09	20010		4.72	45.60	95.66	95.66				6.26	92.50	
Azerbaijan	32.64	24585		5.79	103.01	90.95	90.95			3.10	5.70	77.00	
Bahamas, The	48.10	625			79.55			87.50			96.50	99.00	
Bahrain	90.89	105	51.43	3.39	28.88	53.72	53.72	24.90			190.00	75.00	
Bangladesh	2.64	24460			167.42	100.53	100.53			3.90	6.41	83.00	
Barbados	57.37	385	62.00	3.22	42.85						159.00	66.50	
Belarus	83.31	220	75.64		37.31	35.54	35.54	27.00			197.50	46.00	
Belgium	74.72	365	59.73	2.46	35.50	88.90	88.90	12.10			79.50	76.00	33.70
Belize	32.53	1615	1.55		117.81	94.34	94.34	99.00		3.40	15.88	91.50	
Benin	7.63	10945	12.30	3.00	142.72	95.89	95.89				16.00	98.00	
Bermuda	11.33	14860	4.56								16.50	93.00	
Bhutan	56.81	1235			84.99			99.50			18.00	86.00	
Bolivia	30.49	1335	0.34		140.42	108.10	108.10				20.00	98.50	41.90
Bosnia and Herzegovina	51.94	2910	6.68	6.24	132.68	100.10	100.10				40.50	96.00	
Botswana													
Brazil	37.38	970	14.29	5.54	43.67	96.92	96.92				78.50	79.00	
Brunei	18.58	3350	12.90	4.72	25.49	96.97	96.97				37.00	99.00	
Bulgaria	49.75	9605	0.32	7.09	102.81	104.87	104.87				15.35	91.50	
Burkina Faso	27.52		8.47	4.80							7.00	99.00	
Burundi	92.74	615		5.16	89.47						97.50	77.00	
Cambodia	50.76	3085	22.35		89.90	84.26	84.26	98.50			105.50	86.50	

Cameroon	58.57	270	52.56		28.19	54.67	54.67	44.00			180.00	31.50
Canada	21.20	21825			84.62					2.10	7.11	96.00
Cape Verde	32.56	38990			87.26	98.98	98.98			3.50	5.91	81.00
Cayman Islands	71.06											
Central African Republic	14.09	4700	4.17	4.20	62.92	88.83	88.83				11.99	97.00
Chad	63.76	865	14.52	2.87	49.17					1.68	39.50	84.50
Channel Islands	56.17	655	50.85	4.56	72.26	64.19	64.19	47.00			174.00	67.00
Chile	50.72	580	28.17	3.16	59.29			56.10			154.50	62.00
China	34.31	615	18.75		129.19						108.00	34.50
Colombia	24.78	1955	8.24		38.97	88.50	88.50	86.40			23.50	75.00
Comoros	66.48	380	44.07		44.60	56.22	56.22	61.80			80.50	70.00
Congo, Dem. Rep.	37.24	1345	25.67		83.98						39.00	76.00
Congo, Rep.	40.74	3940	4.38	4.39	90.75	91.10	91.10				11.50	82.00
Costa Rica	24.59		3.27	8.52	33.91	97.26	97.26				9.00	96.50
Cote d'Ivoire												
Croatia	29.91	12390	2.85			94.95	94.95				7.55	86.00
Cuba	25.47	5280		4.43	143.70	90.33	90.33			3.10	5.60	97.00
Cyprus	12.37	24345			67.56					3.60	5.50	89.00
Czech Republic	15.93	885	34.97		107.38	32.61	32.61				144.50	49.50
Denmark	28.82	3225			118.69						14.50	99.00
Djibouti	14.90	31185		8.17	83.23						4.97	96.50
Dominica	34.33	2175	16.17		60.57	92.52	92.52				47.50	93.00

Dominican Republic	42.58	1615	32.75		61.17	98.27	98.27	92.00			49.50	81.50	
Ecuador	36.79	1075	8.30	1.55	69.29	99.31	99.31				31.00	91.50	
Egypt, Arab Rep.	57.30	1510	44.29		39.72	92.62	92.62	60.90			43.00	97.50	16.70
El Salvador	81.07	155	43.78		96.24	40.98	40.98				112.50	88.00	
Equatorial Guinea	22.28	1453 0	2.33		61.77	102.34	102.34		3.30		6.08	94.00	
Eritrea	30.59	3825	0.22		188.35	97.60	97.60				11.66	94.00	
Estonia	84.31	100	60.29	4.77	46.42	46.72	46.72	9.70			173.00	52.00	44.20
Ethiopia	41.03	2443 5			74.21	100.40	100.40		3.10		5.03	96.00	
Faeroe Islands	50.20	2155	6.95	5.17	131.57						21.50		
Fiji	24.54	2336 0		5.83	55.02	99.81	99.81				5.94	84.00	
Finland													
France	71.51	2110									24.00	84.50	
French Polynesia	18.21	3175		3.93	86.46	87.63	87.63	85.50			90.00	55.00	
Gabon	10.49	2516 0			57.16	98.92	98.92		1.80		7.02	86.00	
Gambia, The		590			61.84	95.23	95.23				29.00	73.00	
Georgia	63.76	310	27.85		120.75	58.25	58.25				101.00	82.50	
Germany	72.27	430		1.91	55.20	47.02	47.02	35.00			172.00	52.00	
Ghana	69.04	330	62.82	2.72	117.98	68.67	68.67	51.00			127.00	87.50	
Greece	68.07	170	60.99		102.17			34.70			213.00	53.50	
Greenland	51.29	705	16.27	0.63		71.71	71.71				154.50	19.00	
Grenada	39.78	1158 0	2.79	3.82	57.91	97.25	97.25				6.62	88.00	
Guam	61.82	3665			130.84	84.19	84.19				25.50	94.00	
Guatemala	17.97												

Guinea	60.18	1685	31.12		1.71	48.03	84.31	84.31			58.50	89.00	
Guinea-Bissaü	60.60										9.48		
Guyana	63.50	850	1.46			206.44					73.00	89.00	
Haiti	0.00	25870	6.62			288.95			100.00				
Honduras	46.82	880	24.73			95.69	87.62	87.62			39.00	96.50	
Hong Kong, China	42.07	4575	1.68			97.56					8.65	93.50	
Hungary	64.00	490	49.68		1.12	46.01			24.20		124.00	53.50	
Iceland	35.31	4770	0.67		5.04	124.79	90.23	90.23			9.85	99.00	
India	58.51	635	12.93			73.88	92.15	92.15			46.50	57.50	
Indonesia													
Iran, Islamic Rep.	72.24	455	42.38			29.79					94.00	56.00	28.60
Iraq	40.86	22860				175.72					6.38	75.00	
Ireland	35.64	1665	23.45		4.39	43.89	73.58	73.58			43.00	97.50	
Isle of Man	32.48		60.49								131.50	90.00	
Israel	7.43	29580				78.94	102.18	102.18			5.23	89.50	
Italy	8.29	16730	5.06		7.33	86.93	100.71	100.71			6.69	94.00	
Jamaica	32.98	19760	1.55			55.34	100.03	100.03		6.00	6.47	70.00	
Japan	43.67	2810	12.90		6.33	98.91	94.93	94.93			20.00	86.50	18.70
Jordan	21.24	1735	9.92			111.80					33.50	96.50	
Kazakhstan	21.17	35515			3.50	20.18	100.81	100.81		1.90	4.75	96.00	
Kenya	44.15	1300	0.60			101.59	88.68	88.68	98.00		95.50	97.50	
Kiribati	66.17	350	17.12		6.36	61.47	68.51	68.51			121.00	76.00	

Korea, Dem. Rep.	65.62	280			81.33	82.50	82.50			63.50	98.50	
Korea, Rep.	82.83	270	31.64	1.92	112.23	95.40	95.40	34.40		136.50	62.00	
Kuwait	61.58	885								69.50	78.00	
Kyrgyz Republic	65.79	6610			125.15					23.75	96.50	
Lao PDR	17.85	9235	2.19	3.82	85.00	99.49	99.49		1.30	5.50	96.00	
Latvia	3.95	18085	17.81		91.67					11.22	99.00	
Lebanon	80.50	295	34.80	2.32		81.43	81.43	21.40		113.79	46.00	
Lesotho	10.12	4010	13.76	3.04	52.17	74.20	74.20			32.00	92.00	
Liberia	54.81	140	45.83							235.00	65.00	
Libya	12.23		19.64		51.03					19.50	92.50	
Liechtenstein	62.09	4010		5.81	117.62	99.85	99.85			18.80	92.00	
Lithuania										11.00		
Luxembourg	77.04	885	8.25		85.42					19.00	99.00	
Macao, China	71.67	545	16.34		114.74	78.36	78.36	59.70		132.50	77.00	
Macedonia, FYR	31.42	3215	0.43		101.60	94.61	94.61		4.00	10.20	97.00	
Madagascar	8.32	40850			290.71	96.71	96.71		3.10	5.55	91.00	
Malawi	39.56	3075	0.20	5.87	99.85	92.03	92.03			18.85	97.50	
Malaysia	1.15	14475	6.05	3.61	156.16	84.78	84.78	100.00				
Maldives	44.22	1185	50.69	5.48	67.35	78.01	78.01			45.00	94.50	
Mali										5.00	99.00	
Malta	58.37	400	1.09	4.00	124.88	78.44	78.44			32.50	84.00	
Marshall Islands	70.20	255	33.10	3.17	64.45	67.67	67.67	46.20		137.50	55.00	
Mauritania	72.19	2035	3.04		168.94	98.96	98.96			78.50	99.00	

Mauritius	25.52	5315	8.70		60.83	103.36	103.36		1.80	29.50	97.00		
Mayotte	34.09	2195								67.00	94.00		
Mexico	40.57	1760			103.54	92.35	92.35			21.45	94.50		
Micronesia, Fed. Sts.	69.47	240	73.98		68.53					232.00	43.00		
Moldova	8.96	9170	7.86		198.25					6.29	69.50		
Monaco	72.07		15.18			83.23	83.23			109.50	78.50		
Mongolia	43.37	395	1.54	2.35	145.66	88.83	88.83	96.60		77.00	94.50		
Morocco								99.60					
Mozambique	67.34	210	55.37		59.01	54.40	54.40			198.50	94.50		
Myanmar	41.62	375	59.51		89.75	64.03	64.03	56.90		183.00	60.00	46.30	
Namibia	58.55	3745	15.35		127.58	94.65	94.65			19.50	87.00		
Nepal	85.09	165	39.43		64.46	100.59	100.59	55.60		185.50	82.50		
Netherlands	42.25	3290	12.37	6.25	221.94	98.48	98.48			9.42	90.00		
Netherlands Antilles													
New Caledonia	68.88	2015	17.68		113.41	81.61	81.61	75.70		68.00	63.50		
New Zealand	22.59	15060								10.38			
Nicaragua	79.18	180	83.77	2.75	42.35	30.45	30.45	15.70		267.50	42.50		
Niger	55.53	275	35.30		95.33					183.50	40.00		
Nigeria	43.67		33.35			80.75	80.75			44.00	99.00		
Northern Mariana Islands	10.46	24795			127.19	100.05	100.05		3.20	6.37	96.00		
Norway	25.15	35080		6.85	77.05	101.43	101.43		2.90	4.30	92.50		
Oman	87.99	245	57.72	3.71	55.06	72.38	72.38	11.90		93.00	71.00		

Pakistan	14.12	13740		6.07	71.82	99.27	99.27			2.20	6.41	85.00
Palau	23.77	6180	27.64			64.65	64.65				13.50	99.50
Panama	66.73	435	56.37	1.77	35.84	66.21	66.21				109.50	54.00
Papua New Guinea	43.59	3255	8.03	5.90	70.44	100.21	100.21				25.50	97.00
Paraguay	27.05	2020	9.98		33.47						39.50	97.00
Peru	41.06	1025	4.96		101.59	92.74	92.74				39.00	77.50
Philippines		6980			106.56	111.03	111.03				29.00	
Poland	82.48	625	35.76	2.29							94.50	63.00
Portugal	37.54	4200	0.27		63.87	97.73	97.73			2.20	9.83	97.00
Puerto Rico	24.61	10750	6.12		177.23							
Qatar	39.61										57.50	34.00
Romania	34.99	11045	7.66	5.82	74.05						6.83	87.00
Russian Federation	43.70	14056	6.61	4.98	58.23	92.14	92.14				30.50	77.00
Rwanda	47.30	17290			29.13						12.34	
Samoa	7.22		18.56								16.00	89.50
San Marino	44.82	1665	1.83		73.41	92.81	92.81				22.00	98.00
Sao Tome and Principe	27.10	1720	0.44		64.76						21.00	97.50
Saudi Arabia	93.78	230	32.56	2.78	33.90			30.80			185.00	76.00
Senegal	13.61	8290	23.36		67.46	57.93	57.93				28.50	94.00
Seychelles	63.44	325	41.76		31.54						107.50	57.00
Sierra Leone	52.22	495	62.17	3.17	68.65	63.11	63.11	50.50			138.50	48.00
Singapore	0.00	22425	7.59	3.69	332.52						4.61	90.00
Slovak Republic	80.06	615		3.62							24.50	

Slovenia	63.03	135			52.53			41.70			316.00	37.00
Solomon Islands	39.18	2020	21.08		70.81						39.50	
Somalia											6.00	
South Africa	72.28										225.00	38.00
Spain	52.71	285			121.14						74.50	69.00
Sri Lanka	25.60	1935			153.28	92.18	98.20	84.50			32.50	87.50
St. Kitts and Nevis	42.48	3780		4.15	151.26	89.35	89.35				9.37	98.50
St. Lucia	50.81	9910	0.36		121.81	93.36	93.36				5.75	98.00
St. Vincent and the Grenadines	16.71	26410			88.02	102.45	102.45				3.45	95.00
Sudan	73.47	1340	20.04		146.19	92.83	92.83				145.50	72.00
Suriname	35.83	6630			178.31						15.49	96.00
Swaziland	48.40	995	25.16	4.13	68.66	96.34	96.34				28.50	93.50
Sweden	76.02	200	56.59		57.82	58.17	58.17	16.20			200.00	39.00
Switzerland	66.36	280	42.22	4.78	82.16	92.34	92.34				141.50	58.00
Syrian Arab Republic	80.07	1980	4.43	5.43	125.94	85.42	85.42				28.50	94.00
Tajikistan	72.39	180	0.78		154.59	102.58	102.58	76.80			116.50	86.50
Tanzania	55.12	850			103.44			97.20			87.50	97.50
Thailand		470			58.98						124.00	
Timor-Leste	67.13	1580		5.29		91.50	91.50	92.10			21.66	93.00
Togo	25.72	5605	1.66	4.00	102.01	92.42	92.42				20.00	90.50
Tonga	34.17	2085	28.44	6.84	95.39	99.17	99.17	89.90			28.00	88.50
Trinidad and Tobago	34.03	2805	14.74	3.46	60.55					1.30	43.00	88.00

Tunisia	67.26	270	24.47		38.83	46.70	46.70	35.00		165.00	80.50
Turkey	85.66	270	32.50		36.23	109.46	109.46			125.50	58.50
Turkmenistan	32.06	705	0.38		115.48					20.00	99.00
Uganda	7.99	5930	2.40		39.77	90.39	90.39			16.50	91.50
Ukraine	22.67	34325		4.85	26.20	94.94	94.94			8.33	91.00
United Arab Emirates	63.26	585	0.78		51.24			96.00		67.00	99.00
United Kingdom	44.67	2745		9.30	110.62					22.60	97.00
United States	12.96	4535	7.32		42.50	87.99	87.99	94.70		22.50	66.50
Uruguay	53.41									10.75	
Uzbekistan	75.71	400	7.41		111.99	95.36	95.36	69.60		36.22	97.00
Vanuatu	78.10	1075		7.28		95.93	95.93			43.00	94.00
Venezuela, RB		1500			84.63					25.34	
Vietnam	77.82	1450	1.35	4.17	114.33	96.89	96.89			25.50	92.50
Virgin Islands (U.S.)	75.13	430	52.99	10.02	77.38	67.10	67.10			112.00	75.00
West Bank and Gaza	48.34	930			77.05					17.24	89.50
Yemen, Rep.	42.75	2940	14.57	5.50	53.68	88.90	88.90			70.50	74.50
Yugoslavia, Fed. Rep.		85	37.93		36.53					205.00	46.00
Zambia	60.27	315	21.38		58.44	65.53	65.53			202.00	85.00
Zimbabwe	64.34	460	10.99		49.53	79.60	79.60	84.00		120.00	69.00

Table A- 11. Variable Definitions

AID- the amount of aid as a percentage of GNI

AILLIT- the percentage of the total population ages fifteen and above that are illiterate

CHILDMORT- the number of deaths of children under-five years old per 1,000 live births

EDURATIO- the ratio of girls to boys enrolled in primary and secondary education

EDUSPENDING- total education expenditure as a percentage of gross domestic product

FILLIT- the percentage of the female population ages fifteen and above that are illiterate

GDPGROWTH- the percentage of annual gross domestic product growth

GNI- gross national income in current U.S. dollars

IMMMEASLES- the percentage of children under twelve months that have been immunized from measles

IMPWATER- the percentage of the population that has access to an improved water source

MATERNALMORT- the number of maternal deaths per 100,000 live births

PHYSICIANS- the number of physicians per one 1,000 people

POVERTY- the percentage of the total population that is below the poverty level

PRIMENROLL- the percentage of children of the relevant age that are enrolled in primary education

RURAL- the percentage of the total population that lives in a rural area

SKILLEDBIRTHS- the percentage of total births that are attended by a skilled health staff

TB- the number of tuberculosis deaths per 100,000

TELEPHONES- the number of telephone mainlines per 1,000 people

TRADE- trade as a percentage of Gross Domestic Product

Table A- 12. Descriptive Statistics for Goal 1 in all Time Periods

1985-1989	POVERTY	AID	AILLIT	GNI	RURAL	TRADE
Mean	32.42222	2.524630	42.91471	1671.111	55.11414	56.28665
Median	31.30000	0.658029	45.39498	1260.000	56.43656	44.25864
Maximum	65.00000	11.29608	67.67991	4560.000	75.69272	108.1424
Minimum	10.10000	0.018409	14.98564	272.0000	19.58152	25.60551
Std. Dev.	19.62121	4.108424	22.00873	1358.085	19.33589	29.28788
Observations	9	9	9	9	9	9

1990-1994	POVERTY	AID	AILLIT	GNI	RURAL	TRADE
Mean	35.71282	8.699833	36.63196	816.9744	64.76076	56.37844
Median	36.20000	5.968026	33.45048	558.0000	67.58512	52.89496
Maximum	64.00000	56.77022	89.69670	4558.000	94.86638	138.2947
Minimum	7.400000	0.068754	3.449143	140.0000	27.54638	14.91052
Std. Dev.	15.40308	11.04804	24.83509	796.9419	19.69136	30.76800
Observations	39	39	39	39	39	39

1995-1999	POVERTY	AID	AILLIT	GNI	RURAL	TRADE
Mean	36.69024	10.30775	34.14729	974.8780	59.11381	68.57677
Median	36.10000	6.271380	36.49661	746.0000	59.40986	60.49613
Maximum	72.30000	60.48207	82.28034	3248.000	90.52276	164.4149
Minimum	5.300000	0.184187	0.207759	124.0000	16.28936	21.11277
Std. Dev.	17.47346	12.63390	25.54949	865.8578	20.64550	33.18666
Observations	41	41	41	41	41	41

2000-2001	POVERTY	AID	AILLIT	GNI	RURAL	TRADE
Mean	32.87143	5.917304	42.05352	909.4286	59.26690	64.19847
Median	33.70000	2.650463	47.19864	440.0000	57.05560	44.73890
Maximum	46.30000	22.29309	64.23798	2416.000	85.41210	113.9606
Minimum	16.70000	0.425223	0.394313	106.0000	30.97572	25.79150
Std. Dev.	12.05165	8.223458	25.13185	826.4766	19.74269	37.28006
Observations	7	7	7	7	7	7

Table A- 13. Descriptive Statistics for Each Goal in the Latest Time Period

Goal 1

2000-2001	POVERTY	AID	AILLIT	GNI	RURAL	TRADE
Mean	32.87143	5.917304	42.05352	909.4286	59.26690	64.19847
Median	33.70000	2.650463	47.19864	440.0000	57.05560	44.73890
Maximum	46.30000	22.29309	64.23798	2416.000	85.41210	113.9606
Minimum	16.70000	0.425223	0.394313	106.0000	30.97572	25.79150
Std. Dev.	12.05165	8.223458	25.13185	826.4766	19.74269	37.28006
Observations	7	7	7	7	7	7

Goal 2

2000-2001	PRIMENROLL	AID	AILLIT	EDUSPENDING	GNI	IMMMEASLES	RURAL
Mean	82.24740	6.512058	25.22694	4.274318	2393.517	80.35909	51.52421
Median	88.86392	1.837140	19.07276	4.084822	1261.000	86.90000	50.41671
Maximum	109.4610	39.96020	85.50243	11.52359	19642.50	99.00000	91.92782
Minimum	30.44543	-0.01979	0.204789	1.335000	106.0000	27.60000	8.840760
Std. Dev.	18.55433	8.203963	22.32588	2.009883	3333.241	17.39000	22.33480
Observations	88	88	88	88	88	88	88

Goal 3

1995-1999	EDURATIO	AID	AILLIT	GNI	RURAL
Mean	90.80152	8.740718	28.17774	2687.127	51.98056
Median	95.85852	2.523170	20.71109	1118.000	50.41961
Maximum	113.9937	60.48207	87.75182	21566.00	94.54086
Minimum	43.58481	-0.016234	0.206217	124.0000	0.041400
Std. Dev.	12.99269	12.24457	23.71009	4153.568	23.94843
Observations	110	110	110	110	110

Goal 4

2000-2001	CHILDMORT	AID	FILLIT	GNI	IMMMEASLES	PHYSICIANS	RURAL
Mean	66.66417	6.072481	27.81836	3023.120	80.73102	1.187216	47.77771
Median	39.50000	1.698910	19.94668	1369.000	88.70000	0.861417	45.94366
Maximum	267.5000	49.17893	92.61664	25157.50	99.00000	4.277010	89.09390
Minimum	4.610000	-0.019799	0.202824	172.0000	28.40000	0.030000	0.000000
Std. Dev.	60.33467	8.518302	25.92244	4719.682	17.18988	1.157706	22.08073
Observations	108	108	108	108	108	108	108

Goal 5

2000-2001	MATERNALMORT	AID	FILLIT	GNI	RURAL	SKILLEDBIRTHS
Mean	344.7097	6.670183	31.03330	2745.731	49.91859	69.36272
Median	150.0000	1.497861	22.84896	1224.000	46.63450	80.05000
Maximum	1600.000	49.17893	92.61664	25157.50	91.92782	100.0000
Minimum	5.000000	-0.019799	0.208652	138.0000	0.000000	5.000000
Std. Dev.	373.0045	9.331598	26.93910	4670.876	22.62135	29.07920
Observations	93	93	93	93	93	93

Goal 6

2000-2001	TB	AID	AILLIT	GNI	IMMMEASLES	PHYSICIANS	RURAL
Mean	22.66905	5.958586	23.03097	3096.714	81.10429	1.184790	47.57238
Median	11.25000	1.524478	16.57239	1440.000	89.00000	0.872834	45.71268
Maximum	88.75000	49.17893	85.50243	25157.50	99.00000	4.277010	89.09390
Minimum	0.750000	-0.019799	0.204789	172.0000	31.40000	0.030000	0.000000
Std. Dev.	23.41670	8.579582	21.84794	4766.578	16.55807	1.142521	22.23820
Observations	105	105	105	105	105	105	105

Goal 7

2000-2001	IMPWATER	AID	AILLIT	GNI	RURAL
Mean	78.06667	7.576938	27.02455	1935.419	53.64928
Median	83.00000	2.825000	20.09745	902.0000	55.47310
Maximum	100.0000	49.17893	85.50243	16122.00	94.14464
Minimum	22.00000	-0.019799	0.394313	106.0000	8.840760
Std. Dev.	18.19777	9.432903	22.51303	2749.128	21.88213
Observations	105	105	105	105	105

Goal 8 **2000-2001**	TELEPHONE	AID	AILLIT	GDPGROWTH	RURAL	TRADE
Mean	126.5298	6.796951	24.37863	3.837505	50.64232	83.86396
Median	66.48558	2.225210	16.86387	3.766177	51.63944	74.78777
Maximum	638.5645	49.17893	85.50243	35.58995	94.14464	319.7788
Minimum	1.387507	-0.019799	0.204789	-5.465288	0.000000	18.13149
Std. Dev.	145.4595	8.969394	22.14230	3.949767	23.41446	48.85729
Observations	119	119	119	119	119	119

Table A- 14. Child Mortality Correlation Matrices for all Time Periods

1985-1989	CHILDMORT	AID	FILLIT	GNI	IMMMEASLES	PHYSICIANS	RURAL
CHILDMORT	1.000000	0.527308	0.773083	-0.42228	-0.349653	-0.596694	0.703294
AID	0.527308	1.000000	0.410339	-0.27830	-0.106630	-0.353960	0.424807
FILLIT	0.773083	0.410339	1.000000	-0.17103	-0.392930	-0.521351	0.548548
GNI	-0.422284	-0.27830	-0.17103	1.000000	0.259249	0.434699	-0.56564
IMMMEASLES	-0.349653	-0.10663	-0.39293	0.259249	1.000000	0.509758	-0.42500
PHYSICIANS	-0.596694	-0.35396	-0.52135	0.434699	0.509758	1.000000	-0.79207
RURAL	0.703294	0.424807	0.548548	-0.56564	-0.425000	-0.792079	1.000000

1990-1994	CHILDMORT	AID	FILLIT	GNI	IMMMEASLES	PHYSICIANS	RURAL
CHILDMORT	1.000000	0.685431	0.756849	-0.48912	-0.568700	-0.627691	0.685595
AID	0.685431	1.000000	0.472897	-0.33977	-0.186812	-0.444458	0.481894
FILLIT	0.756849	0.472897	1.000000	-0.25397	-0.452867	-0.535238	0.499978
GNI	-0.489122	-0.33977	-0.25397	1.000000	0.450000	0.548848	-0.67882
IMMMEASLES	-0.568700	-0.18681	-0.45286	0.450000	1.000000	0.430155	-0.49154
PHYSICIANS	-0.627691	-0.44445	-0.53523	0.548848	0.430155	1.000000	-0.78821
RURAL	0.685595	0.481894	0.499978	-0.67882	-0.491541	-0.788218	1.000000

1995-1999	CHILDMORT	AID	FILLIT	GNI	IMMMEASLES	PHYSICIANS	RURAL
CHILDMORT	1.000000	0.651684	0.767024	-0.45573	-0.711934	-0.546550	0.695995
AID	0.651684	1.000000	0.481404	-0.35246	-0.355408	-0.426377	0.510354
FILLIT	0.767024	0.481404	1.000000	-0.30803	-0.686988	-0.636793	0.557685
GNI	-0.455732	-0.35246	-0.30803	1.000000	0.368812	0.197072	-0.58432
IMMMEASLES	-0.711934	-0.35540	-0.68698	0.368812	1.000000	0.511935	-0.5501
PHYSICIANS	-0.546550	-0.42637	-0.63679	0.197072	0.511935	1.000000	-0.57932
RURAL	0.695995	0.510354	0.557685	-0.58432	-0.550110	-0.579325	1.000000

2000-2001	CHILDMORT	AID	FILLIT	GNI	IMMMEASLES	PHYSICIANS	RURAL
CHILDMORT	1.000000	0.632754	0.718976	-0.46073	-0.726983	-0.589034	0.617232
AID	0.632754	1.000000	0.474217	-0.35847	-0.466264	-0.411659	0.405767
FILLIT	0.718976	0.474217	1.000000	-0.30964	-0.660721	-0.634107	0.497515
GNI	-0.460731	-0.35847	-0.309647	1.000000	0.333269	0.265881	-0.60402
IMMMEASLES	-0.726983	-0.46626	-0.660721	0.333269	1.000000	0.556493	-0.41375
PHYSICIANS	-0.589034	-0.41165	-0.634107	0.265881	0.556493	1.000000	-0.57857
RURAL	0.617232	0.405767	0.497515	-0.60402	-0.413753	-0.578574	1.000000

Table A- 15. Correlation Matrices for all Goals in the Most Recent Time Period

Goal 1

2000-2001	POVERTY	AID	AILLIT	GNI	RURAL	TRADE
POVERTY	1.000000	0.648122	0.245637	-0.578024	0.040107	0.206058
AID	0.648122	1.000000	0.571421	-0.476025	0.039331	0.175302
AILLIT	0.245637	0.571421	1.000000	-0.828648	0.762716	-0.686396
GNI	-0.578024	-0.476025	-0.828648	1.000000	-0.706277	0.639848
RURAL	0.040107	0.039331	0.762716	-0.706277	1.000000	-0.912043
TRADE	0.206058	0.175302	-0.686396	0.639848	-0.912043	1.000000

Goal 2

2000-2001	PRIMENROLL	AID	AILLIT	EDUSPENDING	GNI	IMMMEASLES	RURAL
PRIMENROLL	1.000000	-0.51617	-0.68550	0.219106	0.325617	0.604143	-0.34663
AID	-0.516171	1.000000	0.499499	-0.254987	-0.43827	-0.430535	0.456000
AILLIT	-0.685507	0.499499	1.000000	-0.298834	-0.37701	-0.678779	0.551604
EDUSPENDING	0.219106	-0.25498	-0.29883	1.000000	0.118811	0.320980	-0.11150
GNI	0.325617	-0.43827	-0.37701	0.118811	1.000000	0.396312	-0.62167
IMMMEASLES	0.604143	-0.43053	-0.67877	0.320980	0.396312	1.000000	-0.50577
RURAL	-0.346636	0.456000	0.551604	-0.111509	-0.62167	-0.505771	1.000000

Goal 3

1995-1999	EDURATIO	AID	AILLIT	GNI	RURAL
EDURATIO	1.000000	-0.369157	-0.784255	0.314768	-0.478961
AID	-0.369157	1.000000	0.491992	-0.368261	0.543388
AILLIT	-0.784255	0.491992	1.000000	-0.339029	0.581225
GNI	0.314768	-0.368261	-0.339029	1.000000	-0.634887
RURAL	-0.478961	0.543388	0.581225	-0.634887	1.000000

Goal 4

2000-2001	CHILDMORT	AID	FILLIT	GNI	IMMMEASLES	PHYSICIANS	RURAL
CHILDMORT	1.000000	0.632754	0.718976	-0.46073	-0.726983	-0.589034	0.617232
AID	0.632754	1.000000	0.474217	-0.35847	-0.466264	-0.411659	0.405767
FILLIT	0.718976	0.474217	1.000000	-0.30964	-0.660721	-0.634107	0.497515
GNI	-0.460731	-0.35847	-0.30964	1.000000	0.333269	0.265881	-0.60402
IMMMEASLES	-0.726983	-0.46626	-0.66072	0.333269	1.000000	0.556493	-0.41375
PHYSICIANS	-0.589034	-0.41165	-0.63410	0.265881	0.556493	1.000000	-0.57857
RURAL	0.617232	0.405767	0.497515	-0.60402	-0.413753	-0.578574	1.000000

Goal 5
2000-2001

	MATERNALMORT	AID	FILLIT	GNI	RURAL	SKILLEDBIRTHS
MATERNALMORT	1.000000	0.553752	0.767285	-0.387555	0.599075	-0.793612
AID	0.553752	1.000000	0.473271	-0.337696	0.432153	-0.451776
FILLIT	0.767285	0.473271	1.000000	-0.296840	0.549219	-0.829495
GNI	-0.387555	-0.33769	-0.296840	1.000000	-0.59149	0.445649
RURAL	0.599075	0.432153	0.549219	-0.591494	1.000000	-0.680732
SKILLEDBIRTHS	-0.793612	-0.45177	-0.829495	0.445649	-0.68073	1.000000

Goal 6
2000-2001

	TB	AID	AILLIT	GNI	IMMMEASLES	PHYSICIANS	RURAL
TB	1.000000	0.442924	0.486509	-0.396452	-0.624699	-0.514707	0.520516
AID	0.442924	1.000000	0.487685	-0.354802	-0.464263	-0.406192	0.407595
AILLIT	0.486509	0.487685	1.000000	-0.311091	-0.688744	-0.632813	0.509955
GNI	-0.39645	-0.35480	-0.311091	1.000000	0.339989	0.274749	-0.60530
IMMMEASLES	-0.62469	-0.46426	-0.688744	0.339989	1.000000	0.553102	-0.45427
PHYSICIANS	-0.51470	-0.40619	-0.632813	0.274749	0.553102	1.000000	-0.60042
RURAL	0.520516	0.407595	0.509955	-0.605308	-0.454278	-0.600462	1.000000

Goal 7
2000-2001

	IMPWATER	AID	AILLIT	GNI	RURAL
IMPWATER	1.000000	-0.525228	-0.558308	0.486551	-0.609131
AID	-0.525228	1.000000	0.479694	-0.403383	0.418130
AILLIT	-0.558308	0.479694	1.000000	-0.448908	0.539462
GNI	0.486551	-0.403383	-0.448908	1.000000	-0.615967
RURAL	-0.609131	0.418130	0.539462	-0.615967	1.000000

Goal 8
2000-2001

	TELEPHONE	AID	AILLIT	GDPGROWTH	RURAL	TRADE
TELEPHONE	1.000000	-0.485750	-0.601288	-0.129606	-0.696227	0.406866
AID	-0.485750	1.000000	0.501789	0.165223	0.452365	-0.074905
AILLIT	-0.601288	0.501789	1.000000	0.151506	0.545334	-0.363383
GDPGROWTH	-0.129606	0.165223	0.151506	1.000000	0.200996	0.157867
RURAL	-0.696227	0.452365	0.545334	0.200996	1.000000	-0.266107
TRADE	0.406866	-0.074905	-0.363383	0.157867	-0.266107	1.000000

Table A- 16. Corresponding Numbers Assigned to Models

1,1	Goal 1, Time period 1985-1989	5,1	Goal 5, Time period 1985-1989
1,2	Goal 1, Time period 1990-1994	5,2	Goal 5, Time period 1990-1994
1,3	Goal 1, Time period 1995-1999	5,3	Goal 5, Time period 1995-1999
1,4	Goal 1, Time period 2000-2001	5,4	Goal 5, Time period 2000-2001
2,1	Goal 2, Time period 1985-1989	6,1	Goal 6, Time period 1985-1989
2,2	Goal 2, Time period 1990-1994	6,2	Goal 6, Time period 1990-1994
2,3	Goal 2, Time period 1995-1999	6,3	Goal 6, Time period 1995-1999
2,4	Goal 2, Time period 2000-2001	6,4	Goal 6, Time period 2000-2001
3,1	Goal 3, Time period 1985-1989	7,1	Goal 7, Time period 1985-1989
3,2	Goal 3, Time period 1990-1994	7,2	Goal 7, Time period 1990-1994
3,3	Goal 3, Time period 1995-1999	7,3	Goal 7, Time period 1995-1999
3,4	Goal 3, Time period 2000-2001	7,4	Goal 7, Time period 2000-2001
4,1	Goal 4, Time period 1985-1989	8,1	Goal 8, Time period 1985-1989
4,2	Goal 4, Time period 1990-1994	8,2	Goal 8, Time period 1990-1994
4,3	Goal 4, Time period 1995-1999	8,3	Goal 8, Time period 1985-1989
4,4	Goal 4, Time period 2000-2001	8,4	Goal 8, Time period 1985-1989

Table A- 17. Regression Results

1985-1989

Dependent Variable: POVERTY
Included observations: 9 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	4.737183	1.190636	3.978701	0.0284
AILLIT	-1.856476	0.490115	-3.787837	0.0323
GNI	0.046366	0.011065	4.190339	0.0248
RURAL	5.406060	1.160219	4.659518	0.0187
TRADE	-1.049258	0.189223	-5.545089	0.0116
C	-216.2414	57.15976	-3.783104	0.0324

R-squared	0.937209	Mean dependent var	32.42222
Adjusted R-squared	0.832557	S.D. dependent var	19.62121
S.E. of regression	8.028956	F-statistic	8.955500
Prob(F-statistic)	0.050438		

Dependent Variable: PRIMENROLL
Included observations: 42 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	-0.251463	1.190636	3.978701	0.0284
AILLIT	-0.442569	0.124994	-3.540732	0.0012
EDUSPENDING	1.020623	1.366220	0.747041	0.4600
GNI	-0.000695	0.000498	-1.395638	0.1716
IMMMEASLES	-0.024345	0.095122	-0.255939	0.7995
RURAL	-0.244882	0.136842	-1.789525	0.0822
C	108.8615	9.599207	11.34067	0.0000

R-squared	0.630266	Mean dependent var	78.62783
Adjusted R-squared	0.566883	S.D. dependent var	19.75913
S.E. of regression	13.00380	Akaike info criterion	9.943786
Prob(F-statistic)	0.856894	F-statistic	0.000002

Dependent Variable: EDURATIO
Included observations: 61 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	0.187861	0.238364	0.788127	0.4339
AILLIT	-0.647851	0.072502	-8.935649	0.0000
GNI	0.000341	0.000380	0.896400	0.3739
RURAL	0.078695	0.090900	0.865730	0.3903
C	103.3539	4.735605	21.82487	0.0000

R-squared	0.670214	Mean dependent var	83.92808
Adjusted R-squared	0.646658	S.D. dependent var	18.12623
S.E. of regression	10.77470	F-statistic	28.45178
Durbin-Watson stat	1.171255	Prob(F-statistic)	0.000000

Dependent Variable: TELEPHONE
Included observations: 89 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	-0.644717	0.873847	-0.737792	0.4627
AILLIT	-0.404502	0.294216	-1.374846	0.1729
GDPGROWTH	1.206492	1.416276	0.851876	0.3967
RURAL	-1.597351	0.322045	-4.960017	0.0000
TRADE	0.600934	0.144379	4.162210	0.0001
C	118.6152	21.88434	5.420095	0.0000

R-squared	0.615988	Mean dependent var	50.96494
Adjusted R-squared	0.592855	S.D. dependent var	79.52789
S.E. of regression	50.74508	F-statistic	26.62785
Durbin-Watson stat	1.425523	Prob(F-statistic)	0.000000

1990-1994

Dependent Variable: POVERTY
Included observations: 39 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	0.597235	0.247857	2.409590	0.0217
AILLIT	-0.067579	0.115183	-0.586712	0.5614
GNI	-0.005256	0.003739	-1.405766	0.1691
RURAL	0.143991	0.150356	0.957668	0.3452
TRADE	-0.082211	0.076753	-1.071108	0.2919
C	32.59690	12.93944	2.519189	0.0168

R-squared	0.429504	Mean dependent var	35.71282
Adjusted R-squared	0.343065	S.D. dependent var	15.40308
S.E. of regression	12.48443	F-statistic	4.968878
Durbin-Watson stat	2.862134	Prob(F-statistic)	0.001683

Dependent Variable: PRIMENROLL
Included observations: 61 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	-0.742261	0.305025	-2.433442	0.0183
AILLIT	-0.495202	0.099596	-4.972100	0.0000
EDUSPENDING	0.382653	1.082978	0.353334	0.7252
GNI	-0.001419	0.000661	-2.146357	0.0364
IMMMEASLES	0.283970	0.112770	2.518122	0.0148
RURAL	-0.007949	0.123436	-0.064401	0.9489
C	84.70251	10.34792	8.185459	0.0000

R-squared	0.679095	Mean dependent var	78.35532
Adjusted R-squared	0.643438	S.D. dependent var	22.24528
S.E. of regression	13.28327	F-statistic	19.04565
Durbin-Watson stat	2.171150	Prob(F-statistic)	0.000000

Dependent Variable: EDURATIO
Included observations: 76 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	0.129782	0.123630	1.049768	0.2974
AILLIT	-0.548044	0.048606	-11.27517	0.0000
GNI	0.000535	0.000399	1.341667	0.1840
RURAL	0.060462	0.063581	0.950944	0.3449
C	100.7283	3.720679	27.07257	0.0000

R-squared	0.715347	Mean dependent var	86.35399
Adjusted R-squared	0.699311	S.D. dependent var	15.04621
S.E. of regression	8.250613	F-statistic	44.60670
Durbin-Watson stat	2.356491	Prob(F-statistic)	0.000000

Dependent Variable: CHILDMORT
Included observations: 74 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	2.439001	0.443995	5.493311	0.0000
FILLITERACY	0.952917	0.176557	5.397223	0.0000
GNI	-0.001488	0.002240	-0.664342	0.5088
IMMMEASLES	-0.714994	0.220965	-3.235775	0.0019
PHYSICIANS	0.157694	10.79719	0.014605	0.9884
RURAL	0.548908	0.314642	1.744546	0.0856
C	46.75152	29.38897	1.590785	0.1164

R-squared	0.808930	Mean dependent var	101.6757
Adjusted R-squared	0.791819	S.D. dependent var	67.39072
S.E. of regression	30.74826	F-statistic	47.27610
Durbin-Watson stat	1.901992	Prob(F-statistic)	0.000000

Dependent Variable: MATERNALMORT
Included observations: 77 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	12.58767	4.163835	3.023096	0.0035
FILLITERACY	4.420270	1.239915	3.564979	0.0007
GNI	0.012167	0.010034	1.212620	0.2293
RURAL	4.410903	1.602992	2.751669	0.0075
SKILLEDBIRTHS	-5.759951	1.447216	-3.980022	0.0002
C	249.9191	166.3348	1.502506	0.1374

R-squared	0.779629	Mean dependent var	444.3506
Adjusted R-squared	0.764110	S.D. dependent var	421.4528
S.E. of regression	204.6935	F-statistic	50.23670
Durbin-Watson stat	2.452106	Prob(F-statistic)	0.000000

Dependent Variable: TB
Included observations: 73 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	0.347969	0.257034	1.353786	0.1804
AILLIT	0.020994	0.122188	0.171819	0.8641
GNI	-0.000115	0.001263	-0.090670	0.9280
IMMMEASLES	-0.213574	0.126479	-1.688611	0.0960
PHYSICIANS	-7.397703	6.159604	-1.201003	0.2340
RURAL	0.160274	0.179303	0.893872	0.3746
C	32.02460	16.80581	1.905567	0.0611

R-squared	0.366795	Mean dependent var	29.24658
Adjusted R-squared	0.309231	S.D. dependent var	20.81384
S.E. of regression	17.29891	F-statistic	6.371952
Durbin-Watson stat	1.988970	Prob(F-statistic)	0.000025

Dependent Variable: IMPWATER
Included observations: 60 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	-0.290104	0.360112	-0.805594	0.4239
AILLIT	-0.198573	0.116005	-1.711763	0.0926
GNI	-0.000940	0.001978	-0.475509	0.6363
RURAL	-0.352107	0.144630	-2.434537	0.0182
C	102.3044	9.728044	10.51645	0.0000

R-squared	0.357796	Mean dependent var	70.45000
Adjusted R-squared	0.311090	S.D. dependent var	18.48813
S.E. of regression	15.34526	F-statistic	7.660649
Durbin-Watson stat	2.234806	Prob(F-statistic)	0.000056

Dependent Variable: TELEPHONE
Included observations: 95 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	-0.767320	0.846383	-0.906587	0.3671
AILLIT	-0.350248	0.393655	-0.889732	0.3760
GDPGROWTH	3.119969	1.283482	2.430864	0.0171
RURAL	-2.412316	0.396767	-6.079925	0.0000
TRADE	0.844508	0.185995	4.540500	0.0000
C	158.0450	27.25040	5.799729	0.0000

R-squared	0.645844	Mean dependent var	69.70000
Adjusted R-squared	0.625948	S.D. dependent var	108.0559
S.E. of regression	66.08676	F-statistic	32.46040
Durbin-Watson stat	1.379974	Prob(F-statistic)	0.000000

1995-1999

Dependent Variable: POVERTY
Included observations: 41 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	0.711197	0.210341	3.381162	0.0018
AILLIT	-0.117785	0.127348	-0.924907	0.3613
GNI	-0.005962	0.004058	-1.469148	0.1507
RURAL	0.042792	0.165266	0.258926	0.7972
TRADE	-0.057294	0.077889	-0.735576	0.4669
C	40.59334	13.64641	2.974654	0.0053

R-squared	0.460747	Mean dependent var	36.69024
Adjusted R-squared	0.383711	S.D. dependent var	17.47346
S.E. of regression	13.71738	F-statistic	5.980919
Durbin-Watson stat	2.107769	Prob(F-statistic)	0.000424

Dependent Variable: PRIMENROLL
Included observations: 95 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	-0.202552	0.118986	-1.702321	0.0922
AILLIT	-0.436627	0.089093	-4.900800	0.0000
EDUSPENDING	-0.276682	0.178856	-1.546959	0.1255
GNI	-0.000512	0.000299	-1.712996	0.0902
IMMMEASLES	0.324949	0.114727	2.832374	0.0057
RURAL	0.033389	0.078786	0.423792	0.6728
C	71.73000	11.21085	6.398267	0.0000

R-squared	0.598898	Mean dependent var	82.61753
Adjusted R-squared	0.571550	S.D. dependent var	18.52733
S.E. of regression	12.12726	F-statistic	21.89926
Durbin-Watson stat	1.839694	Prob(F-statistic)	0.000000

Dependent Variable: EDURATIO
Included observations: 110 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	0.044379	0.078913	0.562372	0.5751
AILLIT	-0.426182	0.042063	-10.13202	0.0000
GNI	0.000183	0.000244	0.749585	0.4552
RURAL	-0.006756	0.051006	-0.132460	0.8949
C	102.2812	2.799746	36.53231	0.0000

R-squared	0.618907	Mean dependent var	90.80152
Adjusted R-squared	0.604389	S.D. dependent var	12.99269
S.E. of regression	8.172092	F-statistic	42.63076
Durbin-Watson stat	1.792961	Prob(F-statistic)	0.000000

Dependent Variable: CHILDMORT
Included observations: 114 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	1.485395	0.494198	3.005666	0.0033
FILLITERACY	1.263493	0.192428	6.566069	0.0000
GNI	-0.001021	0.000568	-1.796448	0.0752
PHYSICIANS	3.920415	2.952922	1.327639	0.1871
RURAL	0.775526	0.222554	3.484671	0.0007
C	-19.24631	14.02612	-1.372176	0.1729

R-squared	0.744362	Mean dependent var	77.71680
Adjusted R-squared	0.732527	S.D. dependent var	65.26456
S.E. of regression	33.75339	F-statistic	62.89452
Durbin-Watson stat	2.079817	Prob(F-statistic)	0.000000

Dependent Variable: MATERNALMORT
Included observations: 64 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	8.773108	4.459915	1.967102	0.0540
FILLITERACY	4.998168	2.283799	2.188533	0.0327
GNI	0.014022	0.015591	0.899357	0.3722
RURAL	7.145937	3.047865	2.344572	0.0225
SKILLEDBIRTHS	-5.089604	2.869854	-1.773471	0.0814
C	67.78214	348.4424	0.194529	0.8464

R-squared	0.601829	Mean dependent var	522.8906
Adjusted R-squared	0.567504	S.D. dependent var	531.8752
S.E. of regression	349.7847	F-statistic	17.53322
Durbin-Watson stat	2.506352	Prob(F-statistic)	0.000000

Dependent Variable: IMPWATER
Included observations: 104 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	-0.204606	0.148136	-1.381207	0.1703
AILLIT	-0.236321	0.079708	-2.964831	0.0038
GNI	0.000669	0.000983	0.680083	0.4980
RURAL	-0.277323	0.103612	-2.676563	0.0087
C	100.3630	6.597766	15.21166	0.0000

R-squared	0.407222	Mean dependent var	76.58654
Adjusted R-squared	0.383272	S.D. dependent var	19.87271
S.E. of regression	15.60644	F-statistic	17.00258
Durbin-Watson stat	2.417374	Prob(F-statistic)	0.000000

Dependent Variable: TELEPHONE
Included observations: 117 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	-1.554464	0.775651	-2.004078	0.0475
AILLIT	-0.710880	0.451323	-1.575101	0.1181
GDPGROWTH	-1.130741	1.312098	-0.861781	0.3907
RURAL	-2.739791	0.440287	-6.222735	0.0000
TRADE	0.806219	0.198831	4.054793	0.0001
C	227.2506	29.05989	7.820076	0.0000

R-squared	0.619790	Mean dependent var	108.5650
Adjusted R-squared	0.602664	S.D. dependent var	130.8501
S.E. of regression	82.48085	F-statistic	36.18881
Durbin-Watson stat	1.402414	Prob(F-statistic)	0.000000

2000-2001

Dependent Variable: POVERTY
Included observations: 7 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	-0.530557	0.368056	-1.441514	0.3861
AILLIT	-0.025707	0.140775	-0.182610	0.8850
GNI	-0.020934	0.001655	-12.64605	0.0502
RURAL	0.476689	0.088800	5.368088	0.1172
TRADE	0.602425	0.104807	5.747943	0.1097
C	-10.79661	12.45233	-0.867036	0.5453

R-squared	0.997327	Mean dependent var	32.87143
Adjusted R-squared	0.983959	S.D. dependent var	12.05165
S.E. of regression	1.526378	F-statistic	74.60839
Prob(F-statistic)	0.087661		

Dependent Variable: PRIMENROL
Included observations: 88 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	-0.529734	0.206707	-2.562734	0.0122
AILLIT	-0.409690	0.092022	-4.452098	0.0000
EDUSPENDING	-0.530800	0.737044	-0.720175	0.4735
GNI	0.000349	0.000542	0.643849	0.5215
IMMMEASLES	0.279568	0.112790	2.478662	0.0153
RURAL	0.163791	0.088986	1.840636	0.0693
C	66.56114	11.89520	5.595630	0.0000

R-squared	0.556596	Mean dependent var	82.24740
Adjusted R-squared	0.523752	S.D. dependent var	18.55433
S.E. of regression	12.80448	F-statistic	16.94630
Durbin-Watson stat	2.043718	Prob(F-statistic)	0.000000

Dependent Variable: CHILDMORT
Included observations: 108 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	1.764114	0.430901	4.094008	0.0001
FILLITERACY	0.595349	0.177590	3.352385	0.0011
GNI	-0.000580	0.000840	-0.690571	0.4914
IMMMEASLES	-1.180985	0.250279	-4.718671	0.0000
PHYSICIANS	0.282780	3.853103	0.073390	0.9416
RURAL	0.615934	0.208460	2.954688	0.0039
C	106.7228	25.73399	4.147155	0.0001

R-squared	0.742964	Mean dependent var	66.66417
Adjusted R-squared	0.727694	S.D. dependent var	60.33467
S.E. of regression	31.48440	F-statistic	48.65678
Durbin-Watson stat	2.097557	Prob(F-statistic)	0.000000

Dependent Variable: MATERNALMORT
Included observations: 93 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	7.858971	2.744642	2.863386	0.0053
FILLITERACY	4.061038	1.500148	2.707092	0.0082
GNI	-0.000934	0.005901	-0.158250	0.8746
RURAL	1.090781	1.473115	0.740458	0.4610
SKILLEDBIRTHS	-5.275274	1.547095	-3.409794	0.0010
C	480.2827	180.6531	2.658592	0.0093

R-squared	0.704456	Mean dependent var	344.7097
Adjusted R-squared	0.687470	S.D. dependent var	373.0045
S.E. of regression	208.5257	F-statistic	41.47442
Durbin-Watson stat	2.164613	Prob(F-statistic)	0.000000

Dependent Variable: TB
Included observations: 105 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	0.323548	0.238111	1.358808	0.1773
AILLIT	-0.085917	0.120892	-0.710693	0.4790
GNI	-0.000416	0.000463	-0.900217	0.3702
IMMMEASLES	-0.614141	0.148040	-4.148466	0.0001
PHYSICIANS	-3.044468	2.175485	-1.399443	0.1648
RURAL	0.184588	0.117452	1.571600	0.1193
C	68.64466	15.44642	4.444050	0.0000

R-squared	0.486096	Mean dependent var	22.66905
Adjusted R-squared	0.454633	S.D. dependent var	23.41670
Log likelihood	-444.6481	F-statistic	15.44953
Durbin-Watson stat	1.509431	Prob(F-statistic)	0.000000

Dependent Variable: IMPWATER
Included observations: 105 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	-0.472734	0.161613	-2.925096	0.0043
AILLIT	-0.180265	0.072652	-2.481206	0.0148
GNI	0.000529	0.000613	0.863640	0.3899
RURAL	-0.280365	0.081211	-3.452294	0.0008
C	100.5375	5.010270	20.06628	0.0000

R-squared	0.497460	Mean dependent var	78.06667
Adjusted R-squared	0.477358	S.D. dependent var	18.19777
S.E. of regression	13.15589	F-statistic	24.74728
Durbin-Watson stat	2.093070	Prob(F-statistic)	0.000000

Dependent Variable: TELEPHONE
Included observations: 119 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	-2.655297	1.166232	-2.276817	0.0247
AILLIT	-1.259023	0.523542	-2.404819	0.0178
GDPGROWTH	-0.487034	2.311667	-0.210685	0.8335
RURAL	-2.861251	0.463914	-6.167638	0.0000
TRADE	0.608799	0.199054	3.058458	0.0028
C	270.9841	30.02232	9.026089	0.0000

R-squared	0.600346	Mean dependent var	126.5298
Adjusted R-squared	0.582663	S.D. dependent var	145.4595
S.E. of regression	93.96922	F-statistic	33.94897
Durbin-Watson stat	1.515536	Prob(F-statistic)	0.000000

Table A-18 Regression Results using Dependent Variable Change 1990-1994 to 1995-1999

Dependent Variable: POVERTYCHG
Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	0.860702	0.373548	2.304127	0.0399
AILLIT	0.009729	0.294657	0.033017	0.9742
GNI	0.007806	0.010369	0.752871	0.4660
RURAL	0.006195	0.368793	0.016797	0.9869
TRADE	0.023386	0.227687	0.102713	0.9199
C	-20.46339	36.60853	-0.558979	0.5865

R-squared	0.351525	Mean dependent var	0.202778
Adjusted R-squared	0.081327	S.D. dependent var	21.75237
S.E. of regression	20.84909	F-statistic	1.300990
Durbin-Watson stat	3.187348	Prob(F-statistic)	0.326602

Dependent Variable: PRIMENROLLCHG
Included observations: 75 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	0.019475	0.176804	0.110150	0.9126
AILLIT	-0.045025	0.106661	-0.422135	0.6743
EDUSPENDING	0.043058	0.365147	0.117920	0.9065
GNI	-0.000115	0.000478	-0.240080	0.8110
IMMMEASLES	0.009319	0.136588	0.068229	0.9458
RURAL	0.106479	0.115403	0.922677	0.3594
C	-0.906935	13.58091	-0.066780	0.9470

R-squared	0.027390	Mean dependent var	3.873066
Adjusted R-squared	-0.058428	S.D. dependent var	13.54559
S.E. of regression	13.93570	F-statistic	0.319167
Durbin-Watson stat	1.062986	Prob(F-statistic)	0.924828

Dependent Variable: EDURATIOCHG
Included observations: 89 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	-0.094294	0.176234	-0.535049	0.5940
AILLIT	0.092805	0.084877	1.093404	0.2773
GNI	0.000353	0.000496	0.712424	0.4782
RURAL	0.018146	0.111730	0.162413	0.8714
C	-2.768400	5.937157	-0.466284	0.6422

R-squared	0.022838	Mean dependent var	1.086114
Adjusted R-squared	-0.023693	S.D. dependent var	15.05852
S.E. of regression	15.23587	F-statistic	0.490809
Durbin-Watson stat	1.124108	Prob(F-statistic)	0.742460

Dependent Variable: CHILDMORTCHG
Included observations: 112 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	-0.075934	0.130742	-0.580794	0.5626
FILLITERACY	-0.035583	0.068426	-0.520015	0.6041
GNI	0.000235	0.000405	0.580871	0.5626
IMMMEASLES	0.027555	0.096741	0.284831	0.7763
PHYSICIANS	0.647376	1.415825	0.457243	0.6484
RURAL	0.001393	0.083852	0.016615	0.9868
C	-8.019972	10.70900	-0.748900	0.4556

R-squared	0.054384	Mean dependent var	-6.489196
Adjusted R-squared	0.000349	S.D. dependent var	12.46651
S.E. of regression	12.46434	F-statistic	1.006462
Durbin-Watson stat	1.710307	Prob(F-statistic)	0.425196

Dependent Variable: MATERNALMORTCHG
Included observations: 63 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	1.971560	4.400903	0.447990	0.6559
FILLITERACY	0.232473	2.254626	0.103109	0.9182
GNI	-0.007393	0.015384	-0.480574	0.6327
RURAL	-0.800326	3.042592	-0.263041	0.7935
SKILLEDBIRTHS	4.092165	2.829737	1.446129	0.1536
C	-275.0971	345.7357	-0.795686	0.4295

R-squared	0.080566	Mean dependent var	-68.79365
Adjusted R-squared	-0.000086	S.D. dependent var	344.7979
S.E. of regression	344.8128	F-statistic	0.998930
Durbin-Watson stat	2.443191	Prob(F-statistic)	0.426754

Dependent Variable: IMPWATERCHG
Included observations: 62 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	0.061689	0.106102	0.581415	0.5633
AILLIT	-0.050535	0.048734	-1.036945	0.3041
GNI	-0.001072	0.000600	-1.787886	0.0791
RURAL	0.080055	0.056729	1.411184	0.1636
C	4.487322	3.782754	1.186258	0.2404

R-squared	0.184594	Mean dependent var	6.370968
Adjusted R-squared	0.127372	S.D. dependent var	6.945299
S.E. of regression	6.487920	F-statistic	3.225950
Durbin-Watson stat	2.043514	Prob(F-statistic)	0.018655

Dependent Variable: TELEPHONECHG
Included observations: 117 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AID	-0.403441	0.253648	-1.590557	0.1146
AILLIT	-0.415442	0.147588	-2.814869	0.0058
GDPGROWTH	0.270566	0.429073	0.630583	0.5296
RURAL	-0.469768	0.143980	-3.262741	0.0015
TRADE	0.053303	0.065020	0.819791	0.4141
C	64.74016	9.502961	6.812630	0.0000

R-squared	0.418259	Mean dependent var	29.49584
Adjusted R-squared	0.392054	S.D. dependent var	34.59279
S.E. of regression	26.97231	F-statistic	15.96129
Durbin-Watson stat	1.798394	Prob(F-statistic)	0.000000

Bibliography

1. Alderman, Harold, Luc Christiaensen, Takashi Yamano. "Child Growth, Shocks, and Food Aid in Rural Ethiopia." *American Journal of Agricultural Economics*, May 2005, 87(2), pp. 273-88.
2. Alesina, A. and B. Weder (2002) "Do Corrupt Governments Receive Less Foreign Aid?" *American Economic Review*, 92(4), pp. 1126-37.
3. Arvin, M. and Barillas F., 2002, Foreign aid, poverty reduction and democracy, *Applied Economics*, 34, pp. 2151-2156.
4. Bleakley, Hoyt. "Disease and Development: Evidence from the American South." Journal of the European Economic Association, April-May 2003, 1(2-3), pp. 376-86.
5. Burgess, Simon. Propper, Carol. And Rigg John. "The Impact of Low Income on Child Health: Evidence from a Birth Cohort Study." CASE paper 85, May 2004.
6. Burnside, C. and Dollar, D. 1998. "Aid, the Incentive Regime and Poverty Reduction." World Bank Policy Research Working Paper 1937.
7. Burnside, C. and Dollar, D. (2000) Aid, Policies and Growth, *American Economic Review*, 90, pp. 847-68.
8. Burnside, C. and Dollar D. 2004. "Aid, Policies, and Growth: Revisiting the Evidence." World Bank Policy Research Working Paper 3251.
9. Candler, Wilfred. 2000. The World Bank and poverty: cause or cure? NZ Trade Consortium Working Paper No. 11.
10. Chen, Derek. 2004. "Gender Equality and Economic Development, The role for Information and Communication Technologies." World Bank Policy Research Working Paper 3285.
11. Chevalier, A. Harmon, C. O'Sullivan, V. and Walker, I. The Impact of Parental Income and Education on the Schooling of their Children. The Institute for Fiscal Studies. Working Paper May 2005.
12. Clements, Benedict, Gupta Sanjeev, Pivovarsky, Alexander and Tiongson, Erwin R. "Foreign Aid: Grants versus Loans." *Finance and Development*, September 2004, 41(3), pp. 46-49.
13. Clems, M. and Gani, A. 2003. "Aid type and its relationship with human well being." *International Journal of Social Economics*, 30(6).
14. Collier, P and Dollar, D. 1999. "Aid allocation and poverty reduction." Policy Research Working Paper 2041.
15. Cordella, Tito, and Ulku, Hulya. 2004. "Grants versus Loans." International Monetary Fund Working Paper WP/04/161.

16. Devarajan, S., Miller, M. and Swanson, E. Goals for Development: History, Prospects and Costs. April 2002.

17. Delamonica, E. and Mehrotra S. (2000) Public Spending for Children: An Empirical Note." *Journal of International Development*, 14, pp. 1105-1106.

18. Dijkstra, Geske. "The Effectiveness of Policy Conditionality: Eight Country Experiences." *Development and Change*, 2004, 33(3), pp. 307-34.

19. Doucoliagos, Hristos and Paldam, Martin. 2005. Aid Effectiveness Literature: The Sad Result of 40 years of Research. Working Paper 2005-15. University of Aarhus.

20. Easterly, William. 1999. "The Effect of International Monetary Fund and World Bank Programs on Poverty." World Bank Policy research Working Paper 2517.

21. Esteve-Volart, Berta. Gender Discrimination and Growth: Theory and Evidence from India. January 2004, DEDPS 42.

22. Fukuda-Parr, Sakiko. 2004. The Millennium development Goals: The pledge of world leaders to end poverty will not be met with business as usual. *Journal of International Development*, 16, pp. 925-932.

23. Girma, S., Gomanee, K. and Morrissey, O. 2005. "Aid, Public Spending and human Welfare: Evidence from Quintile Regressions." *Journal of International Development*. 17, pp. 299-309.

24. Hanlon, Joseph. 2004. "It is Possible to Just Give Money to the Poor." *Development and Change*, Vol. 35, No. 2, pp. 375-383.

25. Hanmer, L., Lensink, R. and White, H. "Infant and Child Mortality in Developing Countries: Analysing the Data for Robust Determinants." *The Journal of Development Studies*. October 2003, Vol. 40, No. 1, pp. 101-118.

26. Hensen H, Tarp F. 2000. Aid effectiveness disputed. *In Foreign Aid and Development: lessons learnt and directions for the future*, Tarp F. (ed). Routledge: London; 103-128.

27. Hubbard, Michael. "Attacking Poverty-A Strategic Dilemma for the World Bank." *Journal of International Development*, 2001, 13, pp. 293-98.

28. International Finance Institution Advisory Commission. "Meltzer Report." March 2000. Viewed at <http://www.adb.org/Documents/Slideshows/Meltzer_Report/ Meltzer_Report.pdf>.

29. Kantor, Paula. 2003. "Women's Empowerment through Home-based Work: Evidence from India." *Development and Change*, 34(3), pp. 425-445.

30. Killick, Tony, 1991, "The Developmental Effectiveness of Aid to Africa," World Bank Policy Research Working Paper No. 646.

31. Knack, S. (2000) Does foreign aid promote democracy? Working Paper 238, Center for Institutional Reform and the Informal Sector, University of Maryland.

32. Kruger, Anne O., Constantine Michalopoulos, and Vernon Ruttan, 1989, *Aid and Development*, John Hopkins University Press: Baltimore and London.

33. Langhammer, Rolf J. "Halving Poverty by Doubling Aid: Is there a reason for Optimism?" *World Economy*, January 2004, 27(1), pp. 81-98.

34. Leipziger, Danny, Fay Marianne, Wodon, Quentin and Yepes, Tito. 2003. "Achieving the Millennium Development Goals, The Role of Infrastructure." World Bank Policy Research Working Paper 3163.

35. Lensink R, White H. 2000. "Aid Allocation, Poverty Reduction and the Assessing Aid Report." *Journal of Economic Development*, 12, pp. 399-412.

36. Levy, Victor. "Aid and Growth in Sub-Saharan Africa: The Recent Experience." *European Economic Review*, November 1988, 32(9), pp. 1777-95.

37. Lokshin, M. and Sawada, Y. 1999. "Household Schooling Decisions in Rural Pakistan." World Bank Policy Research Working Paper 2541.

38. Matshalaga, Neddy. "Macroeconomic policies and their impact on health in Zimbabwe in the 1980s and 1990s: an analysis of the prevalence of diahorrea, malnutrition, maternal mortality and access to health services." *Development Southern Africa*. December 2000, Vol. 17, No. 5.

39. Maxwell, Simon. 2003. Heaven or Hubris: Reflections on the New 'New Poverty Agenda.' *Development Policy Review*. 21(1), pp. 5-25.

40. McGillivray, Mark, Pillarisetti, J. Ram. "International Inequality in Well-being." Journal of International Development. 2004, 16, pp. 563-74.

41. Michael, Michael S., Marrewijk, Charles van. "Tied to Capital or Untied Foreign Aid?" *Review of Development Economics*, 1998, 2(1), pp. 61-75.

42. Moore, G. and Shackman, G. "Gender and Authority: A Cross-National Study." *Social Science Quarterly*, June 1996, 77(2).

43. Morrissey, Oliver. "Conditionality and Aid Effectiveness Re-evaluated." *World Economy*, February 2004, 27(2), pp. 153-71.

44. Nguyen, N. and Wagstaff, A. 2002. "Poverty and Survival Prospects of Vietnamese Children Under Doi Moi." World Bank Policy Research Working Paper 2832.

45. Odedokun, Matthew. "Multilateral and Bilateral Loans versus Grants: Issues and Evidence." *World Economy*, February 2004, 27(2), pp. 239-63.

46. Paxson, Christina. 2005. "Cognitive Development among Young Children in Ecuador." World Bank Policy Research Working Paper No. 3605.

47. Sachs, Jeffery, D. "Investing in Development: A Practical Plan to Achieve the Millennium Development Goals." UN Millennium Project Report. 2005.

48. Sobhan, Rehman. 2002. "Aid as a Catalyst: Comments and Debate (II), Aid Effectiveness and Policy Ownership." *Development and Change*, 55(5), pp. 339-358.

49. Strulik, Holger. 2003. Mortality, the trade-off between child quality and quantity, and demo-economic development. *Metroeconomica.* 54:4.

50. Rajan, Raghuram, Subramaniam, Arvind. (2005) "Aid and Growth: What Does Cross-Country Evidence Really Show?" NBER Working Paper No. 11513.

51. Van der Hoek, Peter M., Chong, Yen Yee. "Cost Effectiveness of Foreign Aid in the Baltics." *International Advances in Economic Research*, May 1997, 3(2) pp. 127-41.

52. United Nations Development Group. "Fast Facts: The Faces of Poverty." Viewed at <http://www.unmillenniumproject.org>.

53. USAID. "Our History." January 7, 2005 viewed at <http://www.usaid.gov>.

54. White, Howard (2001). Will the New Aid Agenda Help Promote Poverty Reduction? *Journal of International Development.* 13, pp. 1057-1070.

55. Woβmann, Ludger. 2005. "Families, Schools, and Primary-School Learning: Evidence for Argentina and Colombia in an International Perspective." World Bank Policy Research Working Paper 3537.

56. World Bank (1998) *Assessing Aid: What Works, What Doesn't and Why*, Oxford University Press, New York.

57. World Bank (2000) World Development Indicators, Book Edition, World Bank, Washington, DC.