4-25-2014

Optimizing Foreign Aid to Developing Countries: A Study of Aid, Economic Freedom, and Growth

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HNR 499

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April 25th, 2014

Introduction:

In 2011 the U.S. distributed over $30.7B in economic aid to underdeveloped countries across the world (Foreign Assistance Fast Facts: FY2012). The majority of the aid was managed by USAID, a federal agency created in 1961 to oversee the distribution of aid to recipient countries. Since its creation USAID has had many goals ranging from the provision of basic human needs to the rebuilding of governments and creation of infrastructure. Their current goals focus on several areas of long-run development including supporting effective governments, transitioning countries to democracy, and promoting inclusive development. In many ways, these goals are synonymous with increasing what is known as economic freedom. The core concepts of economic freedom are self-ownership, non-interference, and the protection of people and their property from invasions by others (Hall & Lawson, 2011). Both economic freedom and growth are primary goals of aid, but the optimal methods to achieve these goals continue to elude donors. The purpose of this study is to provide a resource that can assist in optimally distributing aid by examining the relationships between aid, economic freedom, and growth.

Aid and Growth

The fundamental logic behind the relationship between aid and growth is relatively simple. Aid should promote growth through means such as improved infrastructure, provision of basic healthcare, and the encouragement of private investment. However, the effectiveness of aid on the creation of economic growth is often called into question by many, including the taxpayers of donor countries who ultimately pay the bill. In recent years there has been a

widespread perception that aid has been ineffective in fostering growth at the macro level, which has led to aid fatigue in many donor countries (Hansen & Tarp, 2001). Unfortunately for proponents of aid, that perception is not unfounded.

One reason aid is thought to be ineffective is the poor structure of the current aid system. The system shares many features with an inefficient centrally planned economy such as domination by a few large players, a top-down system in which projects are driven more by donor initiatives than by recipient needs, a lack of feedback loops, insufficient accountability, little entry and exit of aid givers or receivers, and sluggish innovation (Easterly, Reinventing Foreign Aid, 2008). These features add up to a system where the incentives for actors can be heavily misaligned with the stated goals of aid provision. For example, some aid providers allocate aid simply for the sake of justifying their future budgets. This practice awards the act of distributing aid rather than the effective use of it.

In addition to the system's structure there are other ongoing issues than can hinder the effectiveness of aid. Examples include wasteful spending by recipients, corruption, and governments that are unwilling to cooperate with donors. There are often agency issues that arise when certain governments are expected to act in the best interest of the people that they govern. According to Easterly, "The governments of the poor countries, through which the aid is directed, often have little incentive to raise the productive potential of the poor, especially when doing so might engender political activism that threatens the current political elite" (Easterly, Can Foreign Aid Buy Growth?, 2003). As Easterly points out, the misaligned incentives of those in charge of using aid can be extremely harmful to its effectiveness. Given this

impediment along with those discussed above, it is no wonder that some studies have failed to find robust relationships between aid and economic growth (Easterly, Levine, & Roodman, Aid, Policies, and Growth: Comment, 2004). Fortunately, these negative findings are not the entire story when it comes to aid and growth.

Other research had shown that aid has a positive impact on growth despite the challenges facing it. One of the primary avenues through which aid is thought to impact growth is capital accumulation. According to the Solow steady state model of growth, underdeveloped countries that lack an optimal level of capital will experience significant growth when they receive additional capital. In accordance with this expectation some studies have presented empirical evidence supporting the theory that aid promotes growth through capital accumulation (Hansen & Tarp, 2001). While these results are encouraging, more research is still needed before the formal relationship between aid and growth can be conclusively stated.

Economic Freedom and Growth

There is no single definition of economic freedom that is used universally in research, but measures usually include factors similar to those used by the Fraser Institute's annual *Economic Freedom of the World Report*. These factors include the size of government based on expenditures and taxes, the legal structure and its protection of property rights, access to sound money, freedom to trade internationally, and regulation of credit, labor, and business (What is Economic Freedom?, 2014). In countries with high economic freedom, individuals and businesses are free to use their resources as they please and they are secure in doing so.

Countries with low economic freedom generally have more centrally planned economies, unstable institutions, and a policy environment that discourages investment and growth.

A relatively high level of economic freedom is generally thought of as a precursor to growth in developing nations. This notion seems sound; it is hard to imagine growth occurring in an environment that disrupts free markets and discourages investment. Research on the precise relationship between economic freedom and growth varies based on the definition of economic freedom used, but the results generally show a positive relationship. One such study concluded that increases in economic freedom are associated with improved economic performance in that increases in economic freedom move countries closer to the production frontier (Adkins, Moomaw, & Savvides, 2002). Findings like this support the case for a positive relationship between economic freedom and growth.

Aid, Economic Freedom, and Growth

In many cases the provision of aid is contingent upon policy reforms that are intended to increase the recipient country's economic freedom. The purpose of these contingencies is twofold. First, economic freedom is believed to promote growth directly as described in the previous section. Second, economic freedom is also thought by some to increase the effectiveness of the aid that is distributed to recipient countries. The relationship between economic freedom and the ability of aid to promote growth is the most complex of those discussed thus far. Research on this relationship has come to several different conclusions depending on the samples and variables used.

A study conducted by Burnside and Dollar just over a decade ago sparked a great deal of research on the impact of economic freedom on aid effectiveness. Their original study shared a conclusion with several studies before it: aid generally has little direct impact on growth. However, the significant portion was a robust finding that aid has a more positive impact on growth in good policy environments than in poor policy environments (Burnside & Dollar, Aid, Policies, and Growth, 2000). This finding led them to recommend making aid more systematically conditional on the quality of policies to improve its effectiveness. They also noted a marked trend towards better policy among poor countries, meaning the climate for effective aid was improving.

Burnside and Dollar's findings were certainly encouraging for supporters of aid, but many researchers remained skeptical of their conclusions and reassessed the study. One reassessment added more countries and four years of data to the observations of the original study. Using the same methodology and regression design it was concluded that the Burnside and Dollar's results did not retain significance with the new data (Easterly, Levine, & Roodman, Aid, Policies, and Growth: Comment, 2004). Other follow up studies also criticized the sampling method used in the original study and claimed that the results were not conclusive (Dalgaard & Hansen, 2001).

Upon revisiting their research Burnside and Dollar admitted that their conclusions may have been not been as well founded as they had originally believed. However, they performed an additional study and maintained that there was a positive relationship between aid and growth for countries with good policy (Burnside & Dollar, Aid, Policies, and Growth: Reply,

2004). They also cited case evidence where aid supplied to countries with corrupt governments or distorted economies generally had very little lasting benefit. In contrast, cases of successful aid frequently featured sound economic policies and a tendency to invest aid funds in areas such as infrastructure and education. Both sides of this debate presented good evidence, but identifying the true nature of this relationship requires further review.

A study in 2009 by Heckelman and Knack used a hedonic approach to identify the impact of the different categories of economic freedom on growth. They first regressed each of five categories of economic freedom against growth. Then they used the coefficients of that regression to weigh each category of freedom in terms of its effect on growth. Their second regression examined the impacts of aid on the weighted economic freedom categories. Their findings using the hedonic approach are as follows:

> We find that aid has still managed to contribute toward a policy and institutional environment favorable to growth, as the different categories of economic freedom improved by aid more than offset those which are harmed by aid, in terms of their impact on growth. (Heckelman & Knack, 2009)

To elaborate, their model revealed that there was no net impact of aid on economic freedom. However, aid was found to have both positive and negative effects on the different categories of economic freedom. The categories that were positively affected had a larger cumulative weight in terms of their effect on growth, so the net impact of aid on growth was positive despite the unchanged overall level of economic freedom. Looking at aid use today, this means that it likely has some negative effects on economic freedom, such as increasing the

size of inefficient bureaucracies. At the same time, aid also has positive effects, such as increasing investment and opening avenues of free trade. These changes in economic freedom pull in different directions in terms of their effects on growth, but the positive effects should outweigh the negative.

Aid Effectiveness in Sub-Saharan Africa

I have conducted my own research on economic freedom's impact on aid effectiveness in Sub-Saharan Africa in hopes of shedding some additional light on their relationship. Sub-Saharan Africa is known for its generally underdeveloped nations, and it is currently the largest recipient of U.S. foreign aid (Foreign Assistance Fast Facts: FY2012). I obtained data on year-over-year GDP growth and net aid received in current dollars for 2011 from the World Bank. An index of economic freedom for the same year was obtained from the Fraser Institute's 2013 annual report. The index is derived from 34 underlying measures of economic freedom for each country. Complete data was not available for all countries in the region, and only those with complete data were included in my regressions.

Countries were sorted by index ranking and divided into high and low economic freedom groups (see tables 1 and 2 for summaries of the countries and data used in each group). Each group contained a sample of eighteen countries. Simple linear regressions were then performed to determine if significant relationships existed between net aid received and GDP growth for both groups as well as all countries combined ($p<0.05$, $|t|>2$).

The results of the regressions revealed that a significant relationship existed between net aid received and growth for the high economic freedom group, but not for the low freedom

or combined groups (see figures 1, 2, and 3 for graphical representations of each relationship). In the high freedom group aid received had a coefficient of 2.31^{-11}. This means that an additional billion dollars of aid was associated with a .0231% increase in annual GDP growth. The remaining two groups both showed positive coefficients of a lesser magnitude, but they failed to achieve statistical significance.

My results support the theory that aid is more effective in environments with higher economic freedom, but they cannot be considered entirely conclusive on their own. Economic growth can be affected by a variety of factors, such as population growth and savings rates, which were not controlled for in my model due to a lack of complete data. Further research with more complete data will be necessary before a conclusive statement can be made about economic freedom's relationship to aid effectiveness. Still, I remain optimistic that this relationship will have considerable policy implications in the future.

The Effective Use of Aid

The debate on economic freedom's impact on aid effectiveness will likely continue on for some time. Nevertheless, I believe that there is sufficient evidence to conclude that improved economic freedom should continue to be a primary goal of aid. It is one of the best paths through which we can encourage the growth and independence of underdeveloped nations in the long run. As Heckelman and Knack stated:

> Economic freedom not only has long been viewed in certain circles as having an intrinsic value all its own but has also increasingly been valued more recently as an important

means to development and growth, rather than purely as an end in itself. (Heckelman & Knack, 2009)

Unfortunately, encouraging economic freedom through the provision of aid is not a simple matter. In recent history there has been a marked increase in conditional lending to underdeveloped countries, but conditionality has not been particularly effective in attaining borrower compliance (Graham, 1997). I believe that the primary reasons for this failure to comply are the continued donations and loans granted to noncomplying countries. A more heavy-handed approach should be taken to punishing countries who fail to meet the conditions of their aid. Cutting off aid to a country filled with poverty may sound illogical, but it might be the only way to ensure that the aid eventually benefits those who it is meant to help.

Conclusions

The relationships that exist between aid and growth, economic freedom and growth, and all three combined are complicated to say the least. For this reason it is difficult to state the nature of each relationship with absolute certainty. Still, I believe that there is a general trend in the research conducted thus far that supports the provision of aid and encouragement of economic freedom, both as an end goal and a means of increasing aid effectiveness. Through the implementation of an aid provision system that aligns the incentives of the receiving governments with the intended purpose of the aid, major strides toward the goals of development and economic growth are possible. The achievement of these goals carries with it the potential to significantly improve human lives on global scale.

Table 1: High Economic Freedom Group

Country Name	Summary Index	Net Aid Received	GDP Growth
Mauritius	8.01	$182,680,000	3.850%
Rwanda	7.46	$1,262,240,000	8.240%
Botswana	7.25	$120,580,000	6.102%
Uganda	7.10	$1,582,370,000	6.620%
Zambia	7.10	$1,046,370,000	6.836%
Gambia	6.98	$134,700,000	-4.295%
Kenya	6.81	$2,484,280,000	4.376%
South Africa	6.80	$1,397,520,000	3.457%
Ghana	6.71	$1,800,030,000	15.007%
Tanzania	6.65	$2,435,840,000	6.449%
Swaziland	6.56	$124,880,000	0.300%
Mauritania	6.42	$381,050,000	3.955%
Namibia	6.39	$274,460,000	5.676%
Madagascar	6.37	$441,320,000	1.866%
Lesotho	6.35	$259,250,000	3.737%
Sierra Leone	6.32	$424,210,000	6.030%
Malawi	6.30	$804,320,000	4.347%
Cabo Verde	6.24	$250,810,000	4.494%

Table 2: Low Economic Freedom Group

Country Name	Summary Index	Net Aid Received	GDP Growth
Nigeria	6.21	$1,776,670,000	6.791%
Senegal	5.97	$1,049,280,000	2.067%
Benin	5.95	$672,370,000	3.531%
Mali	5.95	$1,270,100,000	2.730%
Burkina Faso	5.94	$995,660,000	4.210%
Cameroon	5.94	$611,010,000	4.102%
Cote d'Ivoire	5.76	$1,436,050,000	-4.729%
Guinea-Bissau	5.68	$118,780,000	4.775%
Mozambique	5.63	$2,070,790,000	7.322%
Niger	5.60	$645,970,000	2.311%
Togo	5.57	$557,150,000	4.797%
Ethiopia	5.47	$3,532,390,000	7.299%
Congo, Dem. Rep.	5.28	$5,532,480,000	6.880%
Burundi	5.26	$578,990,000	4.192%
Central African Republic	5.26	$271,610,000	5.329%
Angola	5.17	$199,940,000	3.919%
Zimbabwe	4.59	$715,540,000	10.552%
Congo, Rep.	4.57	$259,790,000	3.421%

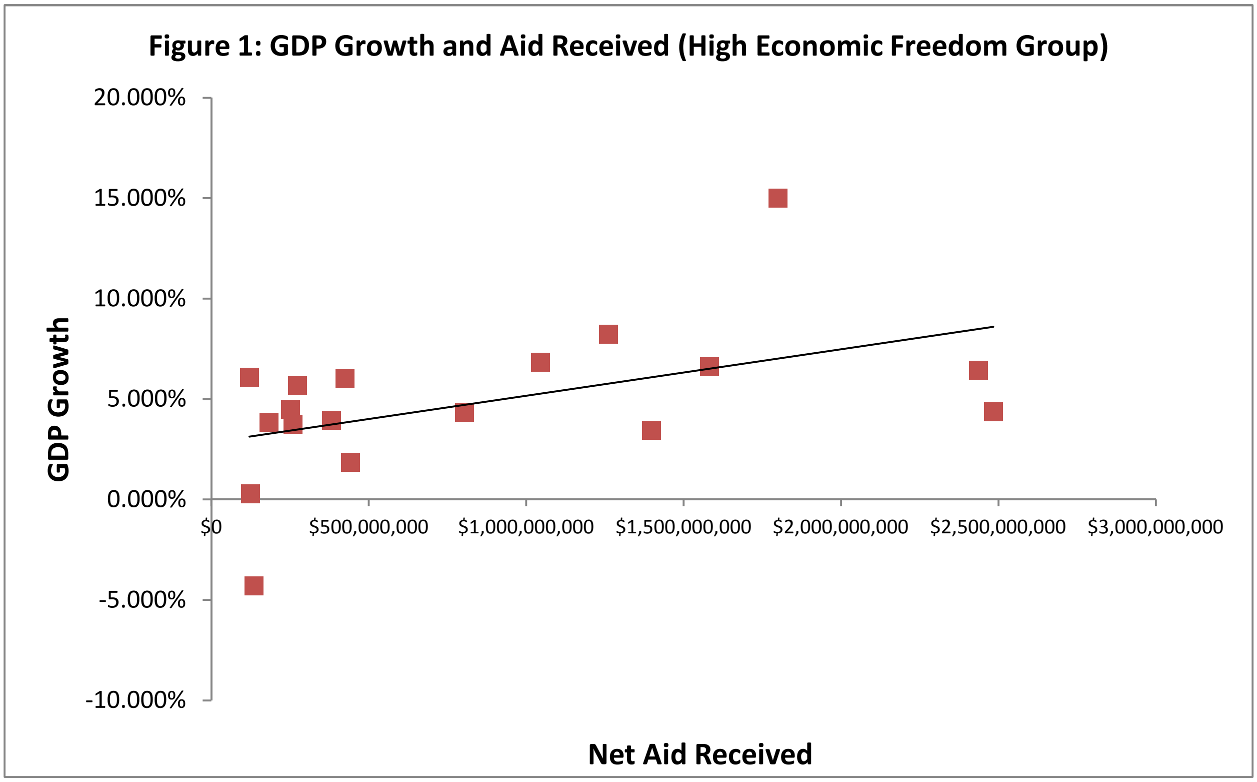
Figure 1: GDP Growth and Aid Received (High Economic Freedom Group)
GDP Growth
20.000%
15.000%
10.000%
5.000%
0.000%
-5.000%
-10.000%
$0
$500,000,000
$1,000,000,000
$1,500,000,000
$2,000,000,000
$2,500,000,000
$3,000,000,000
Net Aid Received

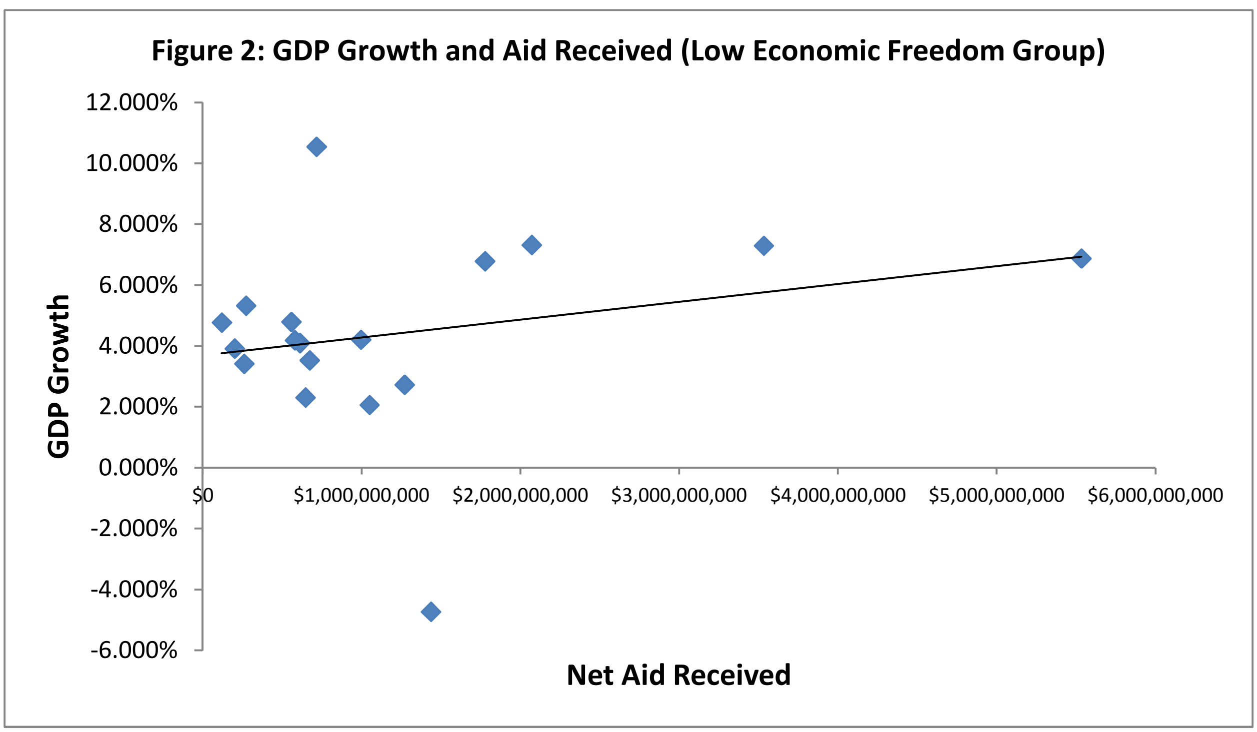
Figure 2: GDP Growth and Aid Received (Low Economic Freedom Group)
GDP Growth
12.000%
10.000%
8.000%
6.000%
4.000%
2.000%
0.000%
-2.000%
-4.000%
-6.000%
$0
$1,000,000,000
$2,000,000,000
$3,000,000,000
$4,000,000,000
$5,000,000,000
$6,000,000,000
Net Aid Received

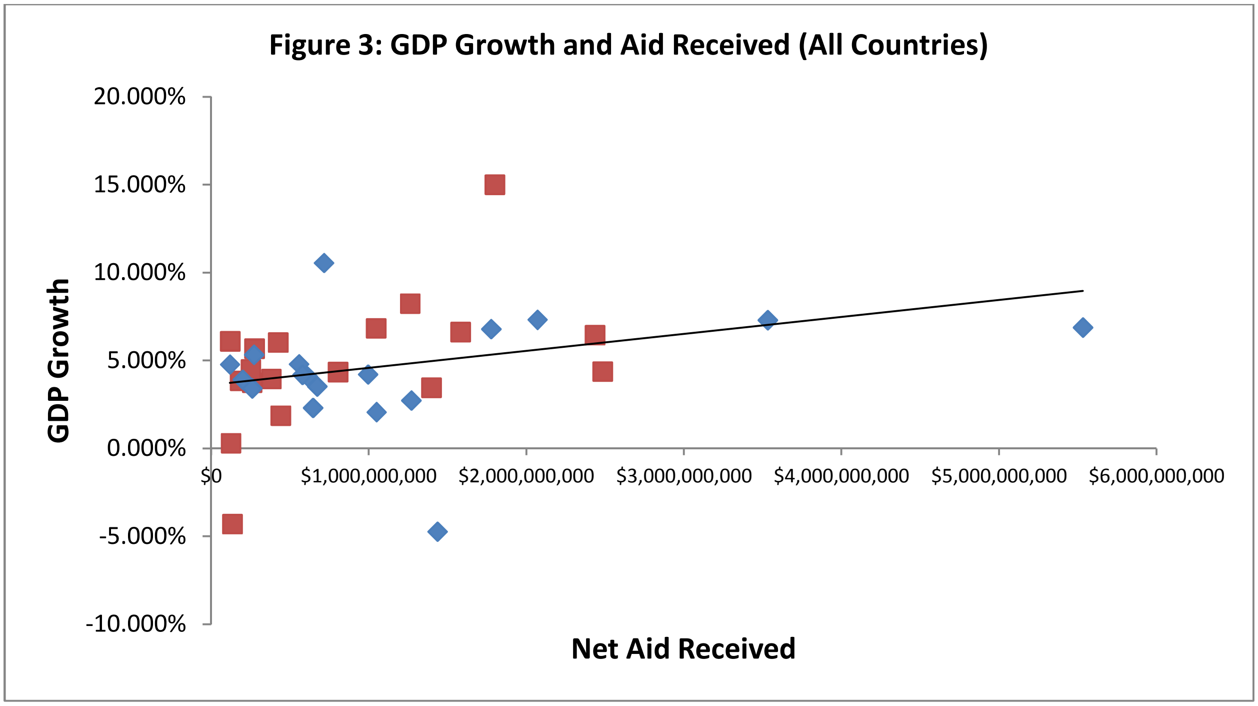
Figure 3: GDP Growth and Aid Received (All Countries)
20.000%
15.000%
10.000%
5.000%
0.000%
-5.000%
-10.000%
GDP Growth
$0
$1,000,000,000
$2,000,000,000
$3,000,000,000
$4,000,000,000
$5,000,000,000
$6,000,000,000
Net Aid Received

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