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Abstract
The relationship between foreign aid and the economic growth of developing countries is unquestionably an intricate one. While a newcomer to the topic might expect to find an obvious effect of aid on growth, the overwhelming majority of the literature in this field does not conclude its studies with such findings. Some research simply argues that aid has a negative relationship on growth, while some holds the claim that a positive relationship is attainable, yet only with sound economic policies and strong institutions in place on the end of the receiving country. Using an Autoregressive Distributed Lag (ARDL) methodology, the study estimates the effectiveness of aid in Egypt over the period from 1960 to 2010. Different components of the existing material on the various and complex aid-policy growth relationships will be brought together and broken down. The study will use these findings to suggest an optimal foreign aid plan of action for Egypt's economic growth efforts.

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Introduction

Foreign aid presents a quandary in the field of global macroeconomics. It constitutes only a small piece of the whole pie that determines a country's economic growth, an outcome composed of the effects of a plethora of other variables, thus proving it difficult to isolate the effect of foreign aid alone. Unless a case study could be done involving two countries with the exact same key characteristics, where one of which receives foreign aid and one of which does not, this inherent controversy does not appear to be close to a solution in the near future.
Regardless of its general effect, foreign aid remains crucial to certain developing countries' welfare. Were foreign aid to be completely eradicated, as, for example, Ron Paul believes ought to be the case with Egypt, it could cripple a country's economy, especially when it comprises such a substantial portion of that country's immediate access to cash.[1] Foreign aid is intended to facilitate economic growth. Yet the question must me asked, does it in actuality? In the literature on this topic, there are three general views with regard to the effectiveness of foreign aid on growth: (1) it has no effect or shows a negative effect, (2) the effect is positive, and (3) the effect is only positive if the receiving country has the right mix of economics and political policy in place.
Many studies focusing on the impact of foreign aid discover results that, contrary to what one would expect, aid ultimately shows no impact, or even displays negative effects on the recipient country's economic growth. One such study belonging to this category is Mosley (1980), which aims to summarize the relationship between aid, savings and growth. Mosley reaches the overall conclusion that savings and aid maintain a negative relationship, and that the relationship between growth and aid is not positive when taking into account the population of Least Developed Countries, or LDCs. A few decades later, Rajan and Subramanian (2008) employs panel and cross-sectional data in order to determine that there is little evidence of a significant relationship between growth and aid, including the provisions that aid may be more effective in certain political settings as opposed to others, or implementing certain systems and methods of directing aid towards various needs. Kourtellos, Tan, and Zhang (2007) takes a different approach and analyzes non-linearity and homogeneity in the context of growth and aid. This study comes to a slightly different conclusion, stating that aid is detrimental to growth, both in the eyes of the recipients as well as the givers. Arellano (2009) points out that a constant influx of aid more often than not is

used for consumption, and not directed towards investment and growth. Additionally, the study agrees with Radelet, Clemens and Bhavnani (2006) in that a relatively large amount of aid is counterproductive to growth.

Another group of studies holds the position that foreign aid does have to potential to exhibit a positive effect on economic growth, yet this relationship is largely dependent upon the strength of the receiving country's economic policies, among other factors. Burnside and Dollar (2000) studies the relationship between various policies of developing countries and their individual economic growth. Using panel data on 56 countries, the study finds that the policies that allow for the most prominent effects of aid on growth are related to good fiscal, monetary and trade policies. In the case of poor economic policies, there is no relationship found. Alvi, et al. (2008) studies the aid-policy-growth relationship when this relationship is of a non-linear nature. The findings in this study suggest evidence that policy is an important factor in the determination of the effectiveness of aid on growth, and that corrupted results will be observed if the non-linear relationships are not properly accounted for. Lastly, in addition to finding a relationship between good policy, aid and economic growth on the macro level, Durbarry, et al. (1998) finds that aid effectiveness on growth is also dependent upon national income levels and levels of aid allocation, as well as geographic location of a country.

The third category of studies in this field holds the perspective that aid has a positive effect on economic growth in developing countries, and furthermore, this positive relationship does not depend on whether the individual country's economic policies are good or poor. In the study, "Aid Effectiveness Disputed" (2001), Hansen and Tarp argue that the existing work claiming findings of a negative relationship between aid and growth does not have a solid analytical structure which other works may be able to use as a reference point of comparison. The researchers discover that the aid-growth relationship is actually a positive one, regardless of the strength of the receiving country's economic policies. Along the same lines, Lensink and White (2000) looks into the World Bank report, *Assessing Aid,* in order to identify and break down a number of its weaknesses that point towards the conclusion that aid is only effective on countries with good economic policies. In the study, "On Aid, Growth, and Good Policies" (2001), Dalgaard and Hansen critically analyze the regression work in Burnside and Dollar (2000), and find that their results are not robust. This paper continues on to assert that proper economic policy does not simply have an irrelevant impact on growth, but actually leads to a decrease in the overall effectiveness of foreign aid.

Perhaps the most significant and eye opening study supporting a positive aid-growth relationship is Clemens, et al. (2004). The paper identifies the importance of dissecting aid into categories, and emphasizes that the impact of aid on growth should not be analyzed at the aggregate level. As evidenced thus far, not all studies on the subject of foreign aid have clear-cut conclusions. The researchers' work points out that one of the reasons past studies find such an insignificant or inconsistent aid-growth relationship is because they use data that accounts for all the foreign aid given to particular countries over a short period of time, usually only around four years. The relationship discovered in these studies is negative or unclear because not all foreign aid is intended for stimulating long-term economic growth, and the aid that is supposed to be used to help economies expand may not be able to show its positive effects in the short-term period these studies limit their data and analysis to.

In the aggregate, all of these studies have mixed results. This study plans to take into account the fallouts of each of these previous studies and create a broad generalization of foreign aid. Then, these results will be applied with respect to Egypt, both economic and institutional climates. Following the specific application of past studies' results to Egypt, a recommendation will be made regarding the best possible future course of action for Egypt in terms of foreign aid and economic growth.

Data Description & Econometric Model

Using the data collected from the World Development Indicators of the World Bank database, the study employs an Autoregressive Distributed Lag (ARDL) methodology to estimate the long term effectiveness of aid in Egypt over the period from 1960 to 2010. Equation (1) below shows the main model of the study where growth of per capita GDP is regressed over foreign aid plus other economic and institutional variables of interest.

$$dy_t = \beta_0 + \sum_{i=0}^{q} \beta INF_{t-1} + \sum_{i=0}^{l} \beta_2 DT_{t-1} + \sum_{i=0}^{m} \beta_3 AID_{t-1} + \sum_{i=0}^{n} \beta_5 TR_{t-1} + \sum_{i=0}^{j} \beta_6 M2_{t-1} + \sum_{i=0}^{k} \beta_7 (AID_{t-1} * PIND_{t-1}) \quad (1)$$

Where GR_t represents GDP per capita growth rate, INF_t is the annual percent of inflation (using the Consumer Price Index), DT_t is the present value of external debt (percent of exports of goods, services and income), AID_t is the net official development assistance and official aid received, (Constant 2009 U.S. dollars), measured in percent of GDP, TR_t is trade is measured in percent of GDP, M2 is the broad measure of the money supply, $PIND_t$ is the policy index constructed in the paper by using the principal component analysis for four variables including inflation, external debt, trade openness, and money supply. The last interaction term of Equation (1), (AID_t*$PIND_t$) measures the impact of aid in the presence of sound policy.

Estimation Results

The short run and the long run aid growth relationship is estimated using the ADRL. The results are presented in Table (1) below. The number of lags for the first difference variables is selected based on the results of the Akaike Information Criteria (AIC).

Table (1): The Effect of Aid on Growth
Dependent Variable: Log Real GDP, (constant $2000)

Regressors	(1)	(2)
Δy_{t-2}	0.15525* (0.1184)	0.1331* (0.1162)
ΔInf_{t-2}	-0.07** (0.02)	-0.08*** (0.03)
ΔTr	0.06* (0.03)	0.10** (0.04)
ΔD	0.12** (0.05)	0.14*** (0.05)
$\Delta M2$	-0.23*** (0.06)	-0.32*** (0.07)
ΔAid_{t-1}	0.99 (0.100)	-0.0691 (0.2053)
$\Delta IntPolAid_{t-1}$		0.0022 (0.0058)
y_{t-2}	-4.31** (0.1911)	-5.28*** (0.0184)
Inf_{t-1}	-0.04 (0.04)	-0.0014** (0.0006)
Tr_{t-1}	0.07*** (0.02)	0.0008*** (0.0003)
D_{t-1}	-0.08 (0.06)	-0.0012* (0.0006)
$M2_{t-1}$	-0.02 (0.04)	-0.0003 (0.0004)
Aid_{t-1}	-0.2630*** (0.0765)	-1.030** (0.4308)
$PolAid_{t-1}$		0.0195** (0.0119)
Constant	1.1264*** (0.4759)	1.4038*** (0.4633)
Adjusted R^2	0.68	0.73
No. Observations	33	32

Notes: The numbers in parentheses are the standard errors.(***) 1%, (**) 5%, and (*) 10%.

Column (1) below confirms the short term significant of inflation, openness, accumulation of foreign debts, and money supply on economic growth.

As the table shows, the effect of inflation, government debts, and money supply is only significant in the short run. The effect of trade openness is however significant in both the short run and the long run. In addition, the effect of aid on economic growth does not show a statistical significant effect in the short run. The effect is however statistically significant but negative in the long run. The result goes in line with the findings of Radelet, Clemens and Bhavnani (2006), Kourtellos, Tan, and Zhang (2007) Rajan and Subramanian (2008), and Arellano (2009) discussed in the literature review.

Column (2) shows the effect of aid when complemented with a good macroeconomic policy. Adding the interaction term of aid with policy, most coefficients remained the same in terms of magnitude and statistical significance. The short run effect of foreign aid remains insignificant. In addition, the short term effect of a good policy is statistically insignificant. The impact of the policy, however, is statistically significant and positive in the long run. This means that aid would only be effective in boosting economic growth in the long run if complemented with a sound economic policy such as low inflation, low foreign debts accumulation, and more trade openness.

It bears mentioning that the main problems we encountered were lack of available data that in turn led to a small sample size. This problem is likely the reasons the results were statistically insignificant for some important coefficients such as money supply.

Conclusion

Though it does not seem that there exists a clear way to elucidate which theory holds true in Egypt's case, it can be assumed that regardless of which theory may hold true at this point, maintaining a sound combination of economic and political policies would increase the positive impact of foreign aid. Human Rights First International Policy Adviser Neil Hicks presents an interesting solution in that foreign aid should no longer continue as blind payments but ought to be tied to economic and political policy reformations with the ultimate goal of Egyptian autarky – as Egypt achieves certain goals, such as the adoption of a democratically chosen government and a governmental statute that preserves individual rights, the United States provides more aid. [1]

Certainly, Egypt's current situation seems dangerous for large influxes of money. Even Egypt's citizens agree, as "about 7 in 10 Egyptians surveyed by Gallup in December 2011 oppose U.S. economic aid to Egypt." [2] Beyond that, it has been some time since the

[1] http://www.huffingtonpost.com/neil-hicks/egypt-foreign-aid_b_1349369.html

[2] http://www.gallup.com/poll/152471/egyptians-oppose-economic-aid.aspx

implementation of what can only be termed a grant basis for the loans Egypt receives from the United States, further allowing for abuse. This grant basis stems from the basis of the United States aid, which is clearly political: the United States values Egypt as an ally in the Middle East. But ensuring Egypt's collaboration in international matters thus decreases the United States' ability to impose terms for its aid. A sort of catch-22 situation has arisen since the political situation in Egypt is highly unstable, which in turn raises serious questions regarding whether the United States shall continue providing foreign aid as U.S. policymakers may disagree with Egypt's new hierarchical heads. It was alluded to by Weinbaum a while ago, and it seems it has finally come time for the United States to make a move. If the United States continues to maintain relatively apathetic terms on its aid, Egypt will likely stagnate. On the other hand, if the United States can evolve its approach, it can truly make a difference in terms of assisting Egypt in constructing an industrious economy and making the push toward transforming into a developed country. Ultimately, it seems that Egypt benefits from foreign aid. But the political and economic climate within Egypt could certainly be improved on and should be in order for the foreign aid to have even more of an impact. Hopefully this foreign aid can turn from being a cursory chore to an impactful reform-inducing catalyst for Egypt's economic growth.

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