THREE ESSAYS ON FOREIGN AID AND MACROECONOMIC PERFORMANCE

by

ILKER KAYA

(Under the Direction of Santanu Chatterjee)

ABSTRACT

The first chapter of this dissertation examines fungibility as a possible explanation for the "missing link" between foreign aid and its effectiveness. The composition of aid plays a crucial role in determining the composition of government spending, thereby affecting any potential growth benefits. Embedding fungibility as an equilibrium outcome in an endogenous growth framework, I show that the substitution away from domestic government investment is higher than from government consumption. This leads to a crowding-out of domestic public investment spending and offsets any positive impact that aid might have on growth. Further, I test the predictions of the model by using a panel of 67 countries for 1972-2000. I find strong evidence of fungibility at the aggregate level: almost 70 percent of total aid is fungible in the sample. I also find that investment aid is more fungible than other categories of aid, crowding out about 90 percent of government investment. There is also no statistically significant relationship between foreign aid and private investment, whereas aid has a positive impact on household consumption.

In chapter 2, by using a new panel of 95 countries for 1995-2007, I test the main empirical findings of the first chapter on total foreign aid fungibility in the presence of governance quality measures. The results reveal that fungibility is still an existing problem for the governments with higher governance quality but the degree of fungibility is lower in those countries. This suggests that poor governance quality might be one of the missing pieces in foreign aid's ineffectiveness puzzle.

In the last chapter, I investigate whether the amount of foreign aid received by the governments in the developing and emerging economies affects the probability of equity market liberalization. Findings suggest that the amount of foreign aid received is positively related to the probability of equity market liberalization. In addition to the amount of foreign aid, the level of economic and financial development, the availability of growth opportunities, the quality of investor protection, and the level of the government's involvement in the economy are among the main determinants of the government's decision to liberalize their equity markets.

INDEX WORDS: Economic Growth, Foreign Aid, Fungibility, Governance, Government Spending, Growth Model, Liberalization

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DEDICATION

I dedicate this study to my family.

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CHAPTER I

FOREIGN AID, GOVERNMENT SPENDING AND ECONOMIC GROWTH

1.1. Introduction

Studies on foreign aid and economic growth indicate that there might be many implicit reasons for why aid donor countries pour their taxpayers' money to aid recipient countries. However what the donor countries officially claim and what public of the recipient countries expect and hope is that all these effort helps to fight poverty and promote economic growth in those countries. To achieve this 'noble' goal, during the last five decades, donor countries established many bilateral and multilateral aid agencies and regional and global development organizations, hired thousands of people to run and evaluate the aid projects and transfer billions of dollars to the recipient countries. Today when we look at the general picture, despite all these efforts and money that is spent, it is very hard to mention a great success story with few exceptions. This obvious failure of foreign aid to promote economic growth and reduce poverty in recipient countries which include many third world countries has become a puzzle. This intriguing and thought provoking puzzle has created its own special branch in the economic literature as well as in other related social disciplines.

This dissertation chapter will include the following subsections. Introduction part will start by giving a brief history and institutional background of foreign aid. Then the previous studies and ideas about determinants of the foreign aid distribution, why foreign aid fails to help economic growth and possible scenarios where foreign aid might serve as a tool to promote economic development and increase standards of living in the recipient countries will be reviewed.

In the following section, a theoretical framework which shows that fungibility of foreign aid can be one of the reasons for foreign aid's ineffectiveness on economic growth by introducing an endogenous growth model that assumes government investment on infrastructure is a key determinant for the economic growth will be introduced.

In the last section, the outcome of the theoretical model will be tested by using cross section and time series econometrics methods.

1.1.1. A Brief History of Foreign Aid

The simplest definition of foreign aid in general is a transfer of money, goods or services from one country or organization to another. It is possible to trace aid back to the middle ages or even classical times as gifts from one king to another (Hjertholm and White, 2000). However the foreign aid we will focus on here is different in a way that the population of the recipient country is aimed to benefit from it and it is provided by the aid agencies under different programs for certain periods.

The Act for the Relief of the Citizens of Venezuela which was passed by the US Congress in 1812 and UK's official finance for colonies in 1870s can be cited among the first examples of aid according to the criteria described above. Nevertheless, it would not be wrong to say that the underlying principles of aid as we understand nowadays were established in 1944 by The United Nations Monetary and Financial Conference at Bretton Woods, New Hampshire, USA, in an assembly of 44 nations. This meeting later would lead to the establishment of the International Bank for Reconstruction and Development

(World Bank) and the International Monetary Fund (IMF). These organizations started operating in 1946.

Starting from the 1940s, we can summarize the main developments in aid programs and since then institutions as follows:

There are two significant things that marked the 1940s; the Marshall Plan and the establishment of the United Nations. In June 1947, U.S. Secretary of State George Marshall proposed a European Recovery Program of aid to Western Europe. This program sought to provide funds for rebuilding European countries which were largely destroyed in Second World War. The Marshall plan is considered a great success which has not been accomplished by later aid programs for different parts of the world.

The 1950s can be expressed as a decade of US dominance. Because of the success of the Marshall Plan, foreign aid was included as a component of US foreign policy. During this period, almost more than 60% of the total aid in the world was provided by the United States. Foreign aid offered at that time was generally in forms of food aid and commodity aid. The main strategy in this period followed by the US was to use foreign aid to prevent the spread of communism led by the Soviet Union.

Bilateral aid programs started to be established in 1960s. The biggest bilateral aid program, USAID, was founded in 1961 by President J.F. Kennedy.

1970s and 1980s can be generalized as the expansion of multilateral aid programs and agencies. Especially World Bank, IMF and Arab-Funded agencies became more effective. Furthermore another salient change during that time was the reduction in the share of food and commodity aid and the rise in the share of financial program aid and debt relief in total aid.

During the 1990s, the end of the Cold War led to two major changes. The first one was that the Eastern Europe and the Former Soviet Unions became aid recipients rather than donors. The other one was fighting against poverty became the main agenda with the disappearance of the communist threat.

Nowadays, foreign aid is mostly used to strengthen democratic regimes around the world and for disaster relief.

1.1.2. Foreign Aid Types

The most general aid classification can be made as loans and grants. The main difference between loans and grants is that loans must be paid back while grants are given on the basis that the recipient party should not have to repay. Starting from early 1960s, loans are used more frequently than grants under the impression that they are used more efficiently since they are expected to be repaid. However today most of the recipient countries have a massive debt accumulation because of this excessive lending and they are struggling to repay. Moreover for the donors to monitor and collect the aid money has been very costly. Under these circumstances, recently there is a shift from loans to grants.

Other type of classification of aid can be made as Bilateral and Multilateral Aid. Bilateral Aid is given by the government of one country directly to another. Multilateral aid is the assistance given through international organizations. Each organization has its own aid program and is funded by the world's richer, more developed countries.

Aid can also be either “tied” or “untied”. Tied aid is assistance given for a specific purpose usually with conditions attached. These conditions may range from demands that some or all of the donated money be spent on goods or services from the donor country. Although tied aid is criticized because it does not allow the recipient to contract or buy from the lowest bidder and the recipient is not able to buy local goods or hire local companies, European Union used tied aid efficiently by contributing to the economic development for its new members during its expansion process (specific examples will be added).

Other types of aid can be listed as food aid, humanitarian aid, technical assistance and emergency aid.

1.1.3. Major Aid Agencies and Trends in ODA Volumes and Terms[1]

USAID in the United States and Department for International Development in England can be cited as two major examples of bilateral aid agencies. Although bilateral aid agencies are individually and independently founded organizations, today they work together under The Development Assistance Committee[2] (DAC) of Organization for Economic Co-operation and Development (OECD) to increase the effectiveness of their efforts to support sustainable economic growth in recipient countries. Flows from OECD to developing countries are called Official Development Assistance (ODA)[3] in general. ODA has five elements: (a) the type of flows (grants, loans or technical cooperation); (b) the source (official sector of donor countries); (c) the recipients (they must be on the

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[1] The statistics are taken from OECD website and from the IDA Report “Aid Architecture: An Overview of the Main Trends in ODA Flows.”

[2] In 1960, the then Organization for European Economic Co-operation (OEEC) established a Development Assistance Group (DAG) as a forum for consultations among aid donors on assistance to less-developed countries. One year later, OEEC was renamed Organization for Economic Co-operation and Development (OECD) with the significant addition of “development” to the name and DAG was renamed Development Assistance Committee (DAC)

[3] ODA is defined as “grants or loans provided by official agencies (including state and local governments, or by their executive agencies) to developing countries (countries and territories on the DAC List of Aid Recipients) and to multilateral institutions for flows to developing countries, each transaction of which meets the following test: (a) it is administered with the promotion of the economic development and welfare of developing countries as its main objective; and (b) it is concessional in character and contains a Grant Element of at least 25 per cent (calculated at a rate of discount of 10 per cent). In addition to financial flows, Technical Co-operation is included in aid.

DAC list); (d) the development/welfare purpose of the related transactions; and (e) their concessional character.

The major multilateral agencies to give aid are the World Bank and the IMF. The International Development Association (IDA) was established in 1960 and radically changed the nature of the World Bank. Through IDA the Bank started its concessional lending activities. However, IDA had to be replenished periodically and the views and priorities of shareholding countries started to play a larger role in the Bank's activities.[4] In the early 1960s, the Development Assistance Committee (DAC) was created as a key forum of major bilateral donors.

There are also several regional development banks, each lending funds to developing countries in its region. The oldest and largest is the Inter-American Development Bank, founded in 1959, which lends to Latin-American countries. The African Development Bank, founded in 1964, has had relatively little success in attracting large amounts of capital. The Asian Development Bank, founded in 1965, has been more successful. European countries have established two institutions for multilateral aid as well; the European Development Fund and the European Investment Bank. Both are organs of the European Community (EC). There are also a number of economic-aid programs through which grants are awarded by specialized agencies. For example the United Nations finances UNESCO, the World Health Organization, and the Food and Agriculture Organization.

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[4] "The establishment of IDA meant the recognition that there was a legitimate need for concessional assistance and that the Bank could provide this assistance without compromising its strict standards for lending. However, IDA, with its periodic replenishments by member governments, meant that the Bank had to pay increasing attention to the views and priorities of the parliamentary bodies that provided the replenishment funds. Whereas the Bank had previously to consider only the productive and economic aspects of lending, now the internal politics of the shareholding governments began to play a larger role in the Bank's activities." World Bank, profile of its 3rd President, Eugene R. Black (from website).

ODA terms have become increasingly concessional, with almost 90 percent of bilateral ODA being in the form of grants.

There has been an increase in bilateral and multilateral agencies which interact with recipient countries. For instance, the average number of donors per country rose from about 12 in the 1960s to about 33 in the 2001-2005 periods. In addition, there are currently over 230 international organizations, funds, and programs.

Today, most of the total aid comes as ODA. Net ODA disbursements have consistently risen in real terms since the late 1990s, and reached US$105 billion (at constant 2004 prices) in 2005, up from about US$58 billion in 1997. Net ODA disbursements in 2005 can be decomposed as follows: 64 percent for core development programs; 24 percent for debt relief; 8 percent for emergency assistance; and 4 percent for donors' administrative costs.

Much of the recent increase in ODA has been due to debt relief, and to a lesser extent to emergency assistance and administrative costs of donors. Debt relief grew steeply since the end of the Cold War, having reached an average annual growth rate – at 2004 prices – of 63 percent between 2001 and 2005. In addition, in real terms, debt relief explains almost 70 percent of the increase in ODA between 2004 and 2005 – most of which (US$19 billion) benefiting Iraq and Nigeria.

About 70 percent of ODA flows have been provided through bilateral organizations and 30 percent through multilateral organizations. The share of bilateral ODA has remained relatively stable at 70 percent of total aid flows since the mid 1970s, with the exception of 2005 when bilateral ODA reached 78 percent of the total. However, there is a great deal of donor-by-donor variance in terms of bilateral vs. multilateral contributions: the shares of multilateral contributions in total ODA flows for the 2000-2005 period range from 9 to 64 percent.

1.1.4. Primary Players

The biggest donors in absolute terms are respectively the United States, Japan, France, United Kingdom and Germany. Even though the United States is the world's largest contributor of foreign aid in absolute terms ($15.7 billion, 2003), it is the smallest among developed countries as a percentage of its GDP (0.14% in 2003). The UN target for development aid is 0.7% of donors' GDP; currently only five countries (with Norway in the lead with 0.92%, Netherlands, Denmark, Luxemburg and Sweden) achieve this[5].

During the Post War Security phase (1946-1959), most aid (88%), according to aggregate DAC data at current prices, came from the United States (58%), France (22%), and the United Kingdom (8%). The share of the United States, France and the United Kingdom over total net ODA declined substantially in the 1970s and 1980s and has now stabilized at slightly over a third of total net flows.

In the late 1960s, Sweden, Netherlands, Norway and Denmark decided to increase their aid above 0.7 of GNI, a level all of them crossed by the mid to late 1970s. In 1978, Japan launched its first "doubling-of-ODA" plan. Japan became the second largest DAC donor by 1984 and the largest by 1989.

The five largest recipients of foreign aid (including debt relief) in absolute terms have been Israel, Egypt, Argentina, Mexico and Poland, historically. Recently Iraq, Congo Democratic Republic and Afghanistan are added to this list.

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[5] See Figure 1.

1.1.5. Why Do Donors Give Money to the Poor and How Do They Decide the Allocation of It?

Although the donors' decision for bilateral or multilateral aid might depend on several different political and other strategic reasons, World Bank describes the primary goal of financial aid from one country or an organization to another country as to fight against poverty and to promote economic development.

In an early attempt to explore the aid allocation criteria of the donor countries, Dudley and Montmarquette (1976) set up a theoretical model in order to explain bilateral aid allocation mechanism and they empirically test it. In their study, they look at two decisions to be made by the donor country. The first one is whether the donor should award a particular recipient or not. Their result reveals that the economic needs of the recipient countries are effective as much as the political and/or bandwagon considerations. Also increase in size of the population in the recipient country generates a higher probability of granting aid. The second is that when they decide to give the money, the "small country effect" (the tendency for small countries to receive more aid per capita than large countries) is not the criterion for the amount of the aid to be determined as suggested earlier by an OECD review[6].

Trumbull and Wall (1994) extend Dudley and Montmarquette's (1976) model into a simultaneous optimization by multiple donors. They suggest that political and civil rights play a crucial role for aid allocation rather than recipient needs through per capita income.

Apodaca and Stohl (1999) investigate if a state's human rights record affects the amount of U.S. bilateral aid it receives. Even though they confirm human rights records

[6] OECD, Development Assistance, 1969 Review, Paris,1969

of the recipient country is a consideration for U.S. economic (not military) aid allocation, it is neither the only nor the primary one.

Alesina and Dollar (2000) address the central question of "*Who Gives Foreign Aid to Whom and Why?*" They find substantial evidence that donor's decision on the allocation of foreign aid is guided by political and strategic considerations as much as the economic needs and policy performance of the recipient countries. In most cases the amount of aid is weakly related to the recipient country's economic performance and strongly related to indicators of cultural, historical and political closeness between the countries. For instance, the "big three" donors (US, Japan and France) has a different distortion. While the United States gives about one third of its foreign aid to Egypt and Israel, France focuses heavily on its former colonies. Japan prefers to assist those countries with the similar voting patterns in the United Nations as Japan. They also reveal a trend for nations who introduce democratic reforms to get a significant boost in assistance.

While Alesina and Weder (2002) focus on the correlation between the level of corruption in the recipient country and the amount of foreign aid received, in their analysis, they confirm the result of Alesina and Dollar (2000) which states that the amount of aid is more related to indicators of historical and political closeness between the countries. Even for those multinational aid organizations these motives are still important. Moreover they raise the question whether a receiving country "buys" foreign aid by its political moves parallel to donors or whether foreign aid "rewards" recipient country's past political behaviors and leave this question unanswered. In general, they find that donors do not discriminate against more corrupt governments for their choice of aid allocation.

Another result in an attempt to explain aid allocation among recipients comes from Burnside and Dollar (2004). The authors show that in 1990s, donors' decision on the allocation of aid to under-developed countries were in favor of those with better institutional quality.

Kuziemko and Werker (2006) provide statistical evidence that there is a strong relationship between the amount of aid received from the United States and United Nations and holding a seat on the U.N. Security Council. They suggest that the foreign aid flows are used to buy those recipient countries' votes who are currently serving on the U.N. Security Council. This effect increases during years in which key diplomatic events take place.

Another interesting finding is from Kaya, Lyumibov and Miletkov (2007). Their study imply that the donor countries might use foreign aid to affect the financial liberalization decisions of the recipient countries which allows foreign investors buy domestic equities.

1.1.6. Aid Effectiveness: Is Aid Working to Reduce Poverty and Promote Economic Growth?

After reviewing a number of influential studies which attempt to examine the decisions of foreign aid allocation for the donors, political, historical and strategic closeness between donor and recipient countries seems as the main determinant. Recipient countries' demand for financial aid due to their poor economic conditions, donors' economic interest and donors' rewarding (not all but for some donors) of recipient's good policies and good governance are also primal factors on aid allocation decision.

While the donors' decision for bilateral or multilateral aid depends on several different political and other strategic reasons, according to the World Bank, the primary goal of financial aid from one country or an organization to another country is to fight against poverty and to promote economic development. This main objective defined by the World Bank is not a groundless argument furthermore it stems from macroeconomic foundations. According to any growth model, including the early classical growth theories by Adam Smith (1776) and David Ricardo (1821), capital accumulation is one of the essential factors for sustainable economic growth. When you give a few billion dollars to some small third world country, it is very natural and reasonable to expect them to show some positive and significant signs that imply that they are on a track to break the cycle of poverty trap and to show some indication for economic development according to those macroeconomic foundations. Although extensive bilateral and multilateral aid programs which aim to reduce poverty and promote economic growth have started after Second World War, there is still no compelling evidence that many recipient countries make progress in either of both directions during the last five decades.

At this point of the study, it might be critical and helpful to look at the foreign aid literature to see what other researchers point out about aid effectiveness. Namely, I will go over whether there is evidence for the positive effect of foreign aid on economic growth, if there is, under which circumstances aid provide this positive effect. Furthermore, if there is counter evidence about foreign aid's effectiveness, what are the possible explanations for this aid failure?

Studies on foreign aid effectiveness can be traced back to early 1960s, even late 1950s. However I would like to start reviewing studies mostly after 1990s because the early studies lack sufficient data to explore the full story.

Boone (1996) claims that instead of fostering economic development, foreign aid can cause a poverty trap since it supports predatory governments that consume aid inflows instead of investing in their country. He also reviews the effect of foreign aid on recipient regimes and finds that aid most benefits local political elites. His explanation for why aid does not promote economic growth depends on two rationales. According to him the capital shortage is not the reason for poverty, in fact, distortionary policies enforced by the policymakers is the source of the poverty problem and as long as aid money flows into the poor countries because of their low standards of living caused by poverty, it would not be favorable for policymakers to eliminate their distortionary policies.

Easterly (1999) shows that the financing gap approach (Harrod–Domar–Chenery two-gap model) fails to predict aid's effect and points out that for some recipient countries, increase in foreign aid is associated with a decrease in investment rate and eventually prevents short run economic growth.

The idea that aid works only in the presence of strong macroeconomic policy (good fiscal, monetary and trade policies) comes out as result of empirical study by Burnside and Dollar (2000). Based on their result, they suggest that conditional on macroeconomic policy, aid indeed is capable of promoting economic growth. Therefore foreign aid should be distributed to countries that implement appropriate policies. This study is heavily criticized in different aspects.

Hansen and Tarp (2000) criticize the results of Burnside and Dollar not to be robust. They show that those results are sensitive to the data and model specification.

By developing a neoclassical growth model, Dalgaard and Hansen (2001) provides a result that aid can stimulate growth even if it is not in the production function directly and show that the relationship between good policies and aid is unclear in contradistinction to what Burnside and Dollar claim.

Easterly, Levine and Rodman (2003) raise new doubts about the results of Burnside and Dollar as well as about aid effectiveness after updating and filling in missing data that Burnside and Dollar originally used. They also advise scholars and policymakers to be more cautious about concluding that foreign aid will work to promote economic growth for countries which adopt good policies.

A unique contribution to the foreign aid literature in order to relax the lack of a comprehensive theoretical framework constraint comes from Chatterjee , Sakoulis and Turnovsky (2003) and Chatterjee and Turnovsky (2005, 2007). Their general equilibrium endogenous growth model in an attempt to analyze the dynamic effects of aid gives us better understanding for the mechanism where foreign aid might effect economic growth. Their analysis suggests that the positive impact of aid depends crucially on (i) the restrictions imposed by the donor on how aid must be spent, (ii) the recipient's structural conditions, as embodied by the input-flexibility of the production sector, access to capital markets, the size of the government, and the choice between labor and leisure, and (iii) the duration of the aid program. However, these theoretical contributions do not account for the behavioral response of the recipient to an inflow of foreign aid and, consequently, can not explain why an increase in aid could be associated with a decline in growth.

So far, the studies I cited mainly focused on the policy issues which might influence and shape the macroeconomic conditions in the recipient countries. Let's now visit some other studies that try to explain the aid ineffectiveness from a behavioral perspective. According to many studies in this part of the literature, corruption, fungibility, and rent-seeking activities are some of the behavioral characteristics of aid-recipient economies that might potentially offset the positive impact that foreign aid is intended to have on growth by affecting the macroeconomic performance.

Fungibility and rent seeking (maybe even corruption)[7] in general arise in circumstances where monitoring the actual disbursement of aid in the recipient country is too costly for the donor according to Clements Gupta, Pivovarsky and Tiongson (2004)

One of the possible explanations that foreign aid wasn't successful as it was expected and desired is corruption in the recipient countries. The World Bank (1998) realized that fact and made a clear statement that says "there is no value in providing large amounts of money to a country with poor policies". Moreover the World Bank has argued that it was the corruption among bureaucracy and officials of the many recipient countries that caused poor policies.

Rent-seeking is an economic activity to obtain an economic gain from society's resources without reciprocating any benefits back to society through wealth creation. Rent seeking activities mostly take place in countries where powerful social, political or ethnic groups have access to a common pool of public resources, allocated for public expenditure or investment, along with weak institutions in the recipient economy.

[7] Author's note

Mauro (1995) can be considered as one of the earliest scholars empirically studied the relationship between corruption, investment and growth. In his study, he finds that corruption and bureaucratic efficiency are statistically significant determinants of the average level of investment. He identifies reduced investment as the cause for reduction in the growth by the influence of corruption.

By analyzing an economy that has weak legal and political structure and is populated by multiple powerful (such as ethnic) groups , Tornell and Lane (1999) offers that competition of those powerful groups, in equilibrium, yields to slow economic growth and a voracity effect[8]. Rationale of their theory is when there is a terms of trade windfall (which is foreign aid in our case), powerful groups start to compete with each other to get their share from this windfall and at the end of the process, total cost of this competition including redistribution of the income is higher than the initial windfall. Their explanation found a noticeable place among the studies and some other scholars used the voracity affect to explain how foreign aid can be perceived as a windfall and result in less economic growth.

Svensson (2000) presents a game theoretic rent seeking model and statistical result that foreign aid is on average associated with higher corruption which implies that providing more aid does not have to result in an increase in the welfare of the recipient country. To get this result, he shows that provision of the public goods does not necessarily increase as government's income increases. He presents a dilemma in this study which could be a starting point to explain why foreign aid fails fighting against poverty. He points out that the recipient has no incentives to implement conditions to

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[8] A shock, such as a terms of trade windfall, perversely generates a more-than-proportionate increase in fiscal redistribution and reduces growth.

reduce poverty as long as the amount of aid is determined by the level of poverty. He argues that foreign aid promotes corruption by increasing the size of the cake fought over by powerful groups and parties, and those in ethnically divided countries, foreign aid windfalls tend to increase corruption.

One of the most influential articles in the area of corruption, growth and foreign aid interactions was authored by Alesina and Weder (2002). In their study, they find no evidence that corruption in the recipient countries is a negative factor for the donors' decision on aid allocation. In fact for some cases, donors (such as United States) provide more aid to corrupt countries than others. Possible explanation for this, according to their study, is donors' considerations on political, historical and other strategically issues (as stated by many others earlier) might dominate other factors which channels aid allocation. As parallel to Tornell and Lane (1999) and Svensson (2000), their results show that in ethnically fragmented countries, foreign aid increases corruption.

Fungibility of foreign aid is another possible cause for foreign aid ineffectiveness which draws an increasing attention from many scholars in the literature as well as mine. In the theoretical and empirical part of this chapter, fungibility will lie in the center of my discussions.

Fungibility can be described in layman's term as recipient government's usage of aid money to finance the provision of a public good that was not intended to be financed by the donors. In this case, foreign aid may replace domestic government spending instead of increasing it or may lead to a reduction in the recipient government's effort of revenue generation, thus offsetting the positive effect of aid on poverty reduction and economic growth.

Pack and Pack (1990, 1993) studies, the case of Indonesia provides no evidence of aid fungibility whereas the case of Dominican Republic provides strong evidence for aid fungibility. The merit of their studies which contributes to my study also is that they focused on how specific aid types affect the targeted categories of public expenditures that they are assigned to.

Another single country (the case of India) study is presented by Swaroop, Jha and Rajkumar (2000.) They show that an important portion of foreign aid was used for the purposes unintended by the donors.

As it turns out, single country studies dedicated to different recipients might give us different results on the existence of foreign aid fungibility. In order to conclude whether there is a foreign aid fungibility issue which might distort foreign aid's effectiveness in the recipient countries at aggregate level as a general outcome, we need results from the multi country studies. I found two studies worth to mention at this stage.

In their study, Feyzioglu Swaroop and Zhu (1998) draw two incompatible results conditional on two different data that vary only in their samples sizes (14 and 38 countries). They do not find aid to be fungible and any statistically significant evidence that there is a reduction in tax revenues due to foreign aid with the smaller sample whereas they find the opposite results for both aid fungibility and tax relief by using the larger sample.

Gupta Clements, Pivovarsky and Tiongson (2003) examine aid's effect on government revenue and spending by using composition of aid as loans versus grants. They find that loans are not fungible. In addition, they discover a nonlinear positive relationship between loans and domestic revenue. Based on their result, they also suggest