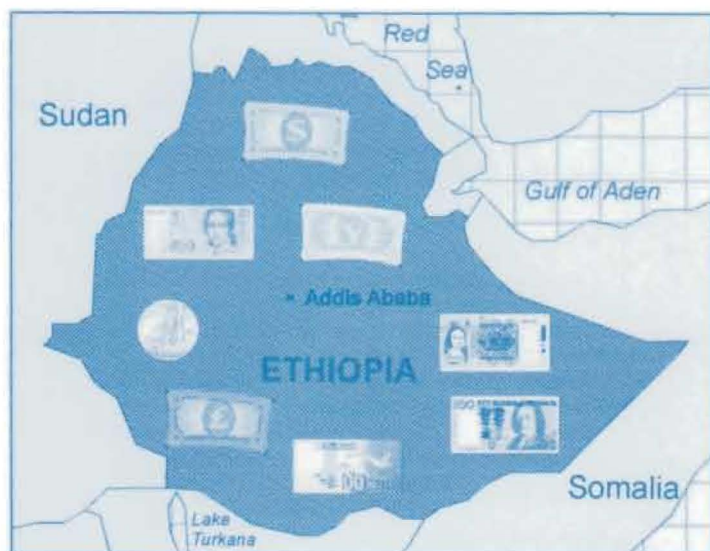


# **The Impact of Foreign Aid and Trade in Ethiopia: Macro, Sectoral and Micro Level Analysis**

Teressa Adugna



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## **7 SUMMARY, CONCLUSIONS AND POLICY IMPLICATIONS**

There have been strong theoretical arguments and empirical evidences and a growing international concern about the role of development aid to poor countries. This has particularly been the case in Sub-Saharan African countries which have been said to receive large and unstable foreign aid. Similarly, contrary to strong theoretical and empirical arguments about the positive impact of foreign trade, mainly export trade, on LDC's economic performance, there have been equally impressive arguments about its detrimental effect. Apart from conflicting empirical results, previous studies show a number of drawbacks. The main objective of this study was to examine empirically the impact of foreign aid and export trade on various indicators of economic performance at macro, sectoral and micro levels using Ethiopian data.

The investigation involved the collection of secondary data at macro and sectoral levels from various sources. At the micro level, primary data on input-output were collected from randomly selected farm households in an area of an aid-financed agricultural development project in Lume district, central Ethiopia.

Data analysis involved the specification and estimation of various multivariate econometric models for different indicators of economic performance at the three levels of economic aggregation. Accordingly, several versions of each model, both static and dynamic models, were specified and estimated for macro and sectoral level analyses. The best (useful) model estimates were chosen on the basis of their statistical (besides economic and econometric) performance. The prime interest in these models was the isolation of the effects of foreign aid (or its components) and export trade from that of other variables. In the process, a number of hypotheses related to the consequences of foreign aid and export trade (or their proxies) were examined and tested for their statistical and policy significance.

The main empirical novelties of this study vis a vis prior studies in the area are: a) the examination of the impact of foreign aid and export trade in a country-specific analysis,

contrary to the frequently used cross-country analysis; b) the consideration of intermediate macroeconomic variables, namely domestic saving, consumption, investment, domestic and imports, a neglected subject in the literature in the area; (c) distinguishing the impact of different types of foreign aid, an area that has also received scant attention; (d) the introduction of dynamic aspects in the estimation of models; and (e) unlike other studies, the combination of macro, sectoral and micro level analyses in order to generate a comprehensive information on the impact of foreign aid and exports. Moreover, particular care has been taken in the formulation of each econometric model by incorporating the effects of all relevant variables on which data were available to overcome or reduce the effect of omission of important variables.

There is a strong theoretical support and it was the original intention of this study to use simultaneous equation models in the process of examining some of the relationships. However, this approach could not be used mainly due to the limited numbers of observations on some of the key variables used in the analysis. The problem of endogeneity, therefore, seems to remain in this study too. With these brief remarks, this Chapter summarizes the findings of the investigation, draws conclusions and highlights the policy implications and areas of further research that have emerged from the study.

## **7.1 Summary**

### **7.1.1 Macro Level**

At the macro level, attempts were made to assess the impact of foreign aid and export trade on gross domestic saving, government consumption, gross domestic investment, aggregate imports, GDP as well as GDP net of exports. The empirical results of this study showed that aggregate foreign aid had a significant positive impact on domestic saving. The disaggregation of foreign aid into foreign loans and grants in the saving function showed that foreign loans had a significant positive impact on domestic saving, while foreign grants had a significant negative effect on domestic saving. Nevertheless,

the net effect of foreign loans and grants on domestic saving has turned out to be positive confirming the favourable effect of aggregate foreign aid on domestic saving.

The analysis of the impact of bilateral and multilateral aid has revealed that the former had a positive and significant impact on domestic saving, while the latter had a negative one. This is consistent with the finding that both multilateral and bilateral aid have promoted government consumption with the former registering a much higher influence. One of the findings of this case study is that, with the disaggregation of foreign aid into loans and grants as well as multilateral and bilateral aid, the export variable showed a clear positive impact on gross domestic saving supporting the hypothesis that increase in exports causes a rise in domestic saving.

Dependency ratio assumed consistently a highly significant negative effect on domestic saving providing a strong empirical support for the hypothesis that higher dependency rate reduces domestic saving. This empirical result contributes evidence to the settlement of the issue that has been very controversial in the existing saving literature which is mainly based on cross-country analysis. The tax rate exerted a negative influence on gross domestic saving, while aggregate income net of exports has positively induced domestic saving. The latter confirms the theoretical expectation that saving is a rising function of income.

In this case study, aggregate foreign aid had a significant positive influence on gross domestic fixed capital formation (a proxy for domestic investment). This suggests that the country has allocated considerable part of her foreign aid receipts to domestic investment. The use of disaggregated foreign aid in the investment function has confirmed the above finding in that both foreign loans and multilateral aid have significantly promoted the country's fixed capital formation. Foreign loans contributed significantly to domestic investment as they did to domestic saving, whereas multilateral aid, despite its adverse effect on domestic saving, assumed a positive influence on domestic investment.

The empirical results presented in this investigation has demonstrated that exports have a significant positive impact on gross domestic fixed capital formation. This holds both when aggregate foreign aid and its components were used in the investment equation. This finding confirms the theoretical hypothesis on the role of exports in the promotion of a LDC's investment. It has been shown that exports accomplished this through encouraging domestic saving as well as financing imports of essential capital goods. Gross domestic saving, in conformity with theoretical expectation, made a significant and positive contribution to fixed capital formation. Another interesting empirical result of this case study was that the tax rate, contrary to its negative influence on gross domestic saving had consistently a favourable influence on domestic investment. However, domestic inflation exercised consistently a significant adverse effect on domestic capital formation.

The examination of the impact of foreign aid and export trade on imports, an area which has received very little attention in the literature, showed that aggregate foreign aid was the most important variable with a positive influence on Ethiopian's aggregate imports. The disaggregation of foreign aid into its components has also revealed that foreign loans and grants as well as multilateral aid have significantly contributed to finance aggregate imports. The export variable had a negative influence on aggregate imports when entered with aggregate aid as well as with foreign grants and loans, although it assumed a significant positive coefficient, when it was entered with bilateral and multilateral aid. Non-export gross domestic output had a positive influence on aggregate imports supporting the theoretical expectation. With the disaggregation of foreign aid, import prices assumed the theoretically expected significant negative influence on the country's aggregate imports.

The investigation of the relationship between imports and their determinants at a disaggregated level of imports has revealed that aggregate foreign aid had also a positive and highly significant influence on imports of capital goods, which are defined to include raw materials, semi-finished goods, fuels and machinery and transport

equipment. The disaggregation of foreign aid in this import function has revealed that foreign loans and bilateral aid have promoted imports of capital goods with the former registering the strongest influence. Foreign grants and multilateral aid had no statistically significant influence on these imports. After the disaggregation of foreign aid into grants and loans as well as bilateral and multilateral aid, exports also exhibited a favourable influence on imports of aggregate capital goods. This empirical result suggests that export earnings were used mainly to finance selected imports like fuels, raw materials and intermediate goods. These imports are called essential imports as they are fundamental for day to day functioning of the country's economy.

The analysis of the impact of foreign aid and exports on imports of machinery and transport equipment has revealed that aggregate foreign aid had the strongest positive influence. The disaggregation of foreign aid into loans and grants indicated that foreign loans had a significant positive effect on this group of imports, while grants had no significant influence. Furthermore, the disaggregation of foreign aid into bilateral and multilateral aid has shown that both had favourable effects on the country's imports of machinery and transport equipment, with the latter registering stronger influence. The export variable assumed a negative impact on these imports, when entered with aggregate aid as well as foreign grants and loans. However, with the disaggregation of foreign aid into bilateral and multilateral aid, the variable exhibited a statistically significant positive influence on this group of imports.

The empirical results on the determinants of the country's imports of consumer goods have revealed that aggregate foreign aid and its components, namely, foreign loans, multilateral and bilateral aid had significant and positive effects. These results suggest that aid resources had also been used to a considerable extent to finance imports of consumer goods. Contrary to expectation, the export variable had a negative influence on this group of imports, both when it was entered with aggregate and disaggregated foreign aid.

The significant impact of foreign aid and its components on imports of consumer goods is tempting to reach a conclusion that foreign aid has been misused in that it financed imports of consumer goods. However, it is essential to consider which specific consumer goods were actually promoted - imports of essential goods that contribute to social development, such as educational or health materials, or luxury goods given the country's economic standard.

The comparison of empirical results from different import functions (aggregate, capital goods and consumer goods imports) suggest that multilateral aid and foreign grants had been mainly used for general non-capital, that is, mainly services and consumer goods imports, while bilateral aid was used mainly to finance imports of capital goods. This is expected given the fact that bilateral aid is usually tied to very specific investment projects which require imports of specific capital goods. Foreign loans were used for both, but their influence was stronger on imports of capital goods. In this study, multilateral aid seem to relatively be more fungible so much so that the government tended to allocate it to whichever imports it thinks necessary.

### 7.1.2 Sectoral Level

In order to analyze whether aggregate masks important sectoral details, an attempt was made to deepen the macro level inquiry by examining the impact of foreign aid and export trade at sectoral level, a subject that has been given little attention in the literature. This level of analysis has concentrated on the effects of foreign aid and agricultural exports on Ethiopian agriculture - the single most important economic activity in the country. The effort here was to empirically assess the magnitude of changes in both aggregate and non-export agricultural output attributable to agricultural capital financed from foreign aid and agricultural exports.

The empirical results indicate that agricultural capital financed from foreign loans had a favourable impact on proportional changes in aggregate agricultural output. However,



its effect on the non-export agricultural output was statistically insignificant, although it assumed a positive coefficient. This suggests that most of the capital expenditure financed from foreign loans was allocated to promote the export sector. Agricultural capital financed from foreign grants had a negative influence on aggregate and non-export agricultural output. These indicate that this capital category as well as agricultural capital financed from foreign loans and used in the non-export agricultural sector have not been used efficiently so much so that they could positively contribute to agricultural output.

An interesting finding is that agricultural capital financed from domestic resources had a significant positive impact on both aggregate and non-export agricultural output. Furthermore, agricultural exports have been one of the most important variables with a favourable effect on the country's aggregate as well as non-export agricultural output. This evidence supports the hypothesis that agricultural exports have been an important driving force of agricultural output. Another important finding at sectoral level was that dependency on food aid had a significant adverse effect on aggregate as well as non-export agricultural production. This finding tends to provide empirical evidence for the often disputed hypothesis on the impact of food aid in the literature.

### **7.1.3 Micro Level**

The micro empirical results have shown that mineral fertilizers, which have been used as a proxy for foreign aid and exports, have been one of the important farm inputs positively influencing production and productivity in cereals. Moreover, mineral fertilizers have enhanced farm households' employment confirming the usual argument on the effect of this farm input on job creation.

## **7.2 Conclusions**

This case study has addressed the very controversial issue of the impact of foreign aid

and exports on macro, sectoral and micro level indicators. As summarized above, the study has tested various hypotheses and a number of conclusions have emerged from the analysis.

### 7.2.1 Macro Level

One of the key conclusions is that aggregate foreign aid and its components, namely foreign loans and bilateral aid, have been among important factors positively influencing Ethiopia's gross domestic saving. However, foreign grants and multilateral aid had negative impact on domestic saving suggesting that they have financed immediate expenditures. There is empirical support for the positive effect of exports on domestic saving. The main conclusions that have emerged from the analysis of the determinants of current government consumption are as follows. First, aggregate foreign aid as well as its components, namely foreign grants, bilateral and multilateral aid, had significant effects on current government consumption. That is to say, besides promoting domestic saving, foreign aid has financed government consumption. Second, exports have negatively influenced current government consumption.

The analysis in this study leads to the conclusion that foreign aid and its components, namely foreign loans and multilateral aid, have fostered the country's gross domestic fixed capital formation (a proxy for investment). Foreign loans have significantly contributed to domestic investment as they did to domestic saving. The other conclusion that has sprang from this case study is that exports have been among factors strongly inducing domestic investment. Moreover, in line with the theoretical expectation, gross domestic saving was also found to be one of the significant determinants of domestic investment.

From the empirical results on the determinants of imports, the following conclusions could be summarized. First, the aggregate foreign aid and its components, namely foreign loans and grants as well as multilateral aid, have been the country's main

sources of finance to pay for aggregate imports. The disaggregation of imports has revealed that aggregate foreign aid and thereof foreign loans and bilateral aid have been the major sources of hard currency to finance imports of capital goods composed of fuels, raw materials, intermediate goods and machinery and transport equipment.

Second, with the disaggregation of foreign aid, exports also recorded a positive influence on these categories of imports. It seems that export earnings have tended to positively influence selected groups of imports, like raw materials, intermediate products, and fuel which are considered to be lubricants of the country's economy. Third, a further detailed analysis of the determinants of imports revealed that aggregate foreign aid and thereof foreign loans, bilateral and multilateral aid as well as exports had a favourable impact on imports of machinery and transport equipment. Fourth, aggregate foreign aid and its constituents, namely foreign loans, bilateral and multilateral aid, have also financed imports of consumer goods with foreign loans exerting the most significant influence.

The investigation of the determinants of aggregate and non-export domestic output has led to the next conclusions. First, capital categories financed from foreign loans and foreign grants had a significant negative impact on the proportional changes in both aggregate and non-export domestic output. This reveals also the inefficiency with which these capital items have been used in the economy dominated by state ownership. Second, capital financed from domestic resources was one of the dominant factors that have positively influenced both groups of domestic output. Third, increase in exports has been an important factor in the proportional change in aggregate and non-export gross domestic output.

### **7.2.2 Sectoral Level**

The following major conclusions have emerged from the sectoral level analysis. First, agricultural capital financed from foreign loans had a positive influence on the

proportional change in aggregate agricultural output, but not on non-export agricultural output. Most of the foreign loans allocated to the agricultural sector seems to be mainly used for improvement of the export sector. Second, agricultural capital financed from foreign grants had adversely affected aggregate and non-export agricultural output most probably due to the inefficiency with which it has been used. Third, agricultural capital financed from domestic resources was one of the important factors that have positively influenced both aggregate and non-export agricultural output. Fourth, better agricultural export performance had a favourable impact on the country's aggregate as well as the non-export agricultural output. Fifth, traditional agricultural factors of production, namely land and labour, had no significant impact on proportional change in agricultural output. This suggests that these factors have not been used efficiently, the common characteristic of traditional agriculture, to increase agricultural output. Sixth, dependency on food aid had a significant adverse effect on aggregate and non-export agricultural output which could strongly be explained by its disincentive effects.

### 7.2.3 Micro Level

At the micro level, the impact of foreign aid and trade, as measured by the impact of one of their proxies, namely imported mineral fertilizers, had significant positive influences on farm households' cereal production, productivity and employment. This finding suggests that, through making modern farm inputs available to farm households, foreign aid and export trade have contributed to the efforts of increasing food production, improving productivity and creating employment.

In sum, the overall picture that has emerged from the empirical results of this study is that both foreign aid and exports have dominantly positive impact on the country's various indicators of economic performance at macro, sectoral, and micro levels. Unlike the views of "aid-pessimists", and the believe of trade-pessimists the empirical findings of this study are largely consistent with the theoretical arguments about the contributions of foreign aid and export trade to a LDC's economy. Given conducive economic

environment, political willingness and commitment to improve the efficiency with which they are used, these two economic variables could further contribute to the country's better economic performance as well as social well-being her people.

### **7.3 Policy Implications**

The study has provided empirical evidences on the impact of foreign aid and export trade at different levels of aggregation. These empirical evidences highlight a number of useful policy and theoretical implications for development as outlined in this section.

The results imply that a rise in foreign aid yields a rise in domestic saving fosters investment, finances imports, improves government consumption. The donor community could note these effects of the country's foreign aid receipts in its aid allocation decisions. It seems that exports have a favourable influence on domestic and agricultural outputs (both aggregate and non-exports) and on domestic saving, investment and imports of capital goods. This implies that if the country's economy is to grow, exports should be one of the principal propellent forces. The country must earn foreign exchange, besides income generation, to pay for essential and domestically non-substitutable imports both for economic as well as social improvements.

The country would further depend on foreign goods in the foreseeable future. This suggests that it is virtually essential for the country to promote exports, in particular her traditional exports in order to regain her share in world market. Of course, economic literature indicates that the prospects for significant increase in world prices for most primary commodities are deemed to be poor. Since these prices will be low or declining, higher export proceeds must come from increasing the supply of traditional exports. In the short- and medium-term, the only alternative is to expand the quantity of these exports. This seems feasible given the declining or at best stagnant nature of the quantity of the country's major agricultural exports over the last two-and-half decades. This strategy requires concentrated efforts and magnificent increase in the productivity

of resources used in the export sector and the whole economy.

Another strategy that is well emphasized in the literature is determined efforts to diversify into new exports - "new high value" commodities. This is in line with the argument that the future of African countries lies in new products (Hernández-Estrada, 1995, citing World Bank, 1994). This approach requires relentless efforts in identifying potentially promising commodities and developing them.

There had been relatively considerable level of domestic investment during the period under study with foreign aid contributing, on the average, about 50 percent of gross domestic investment. However, both capital financed from foreign loans and grants had negative influences on aggregate and non-export domestic output. As it is acknowledged in the literature, the major cause of low or declining growth rates in the country's economy lies with the inefficient use of these capital resources. It is, therefore, essential to ensure that capital resources would be more productive in the country.

At the sectoral level, agricultural capital financed from foreign loans had a positive impact at least on aggregate agricultural output. This suggests that directing attention to the agricultural sector in the allocation of foreign aid is critical for the development of the sector. Although agricultural capital financed from foreign grants was the second important capital item in the sector, it assumed a negative effect on aggregate and non-export agricultural output. This could also be explained by the inefficient use of this capital during the period under study, besides some doubts on the appropriateness of imported machinery and equipment. It is vital to efficiently use this capital input in order to reverse its adverse effect on agricultural output. The choice of agricultural technology to be imported should also receive due attention. It seems that a labour-intensive rather than a capital-intensive agricultural technology accompanied with its efficient use could be far more beneficial to the country's agricultural development.

The empirical results have shown that food aid seems to induce a significant negative

influence on aggregate and non-export agricultural output. At the same time, the country may continue to be recipient of food aid for one reason or another. Unless this food is used for the purpose it is intended, it could play a devastating role on the country's food sector. It is, therefore, necessary to work out ways and means of avoiding or lessening the adverse effects of food aid on domestic agricultural production, while at the same time reaping its potential benefits. One of the potential mechanisms of reducing the negative effect of food aid is to direct it to those who need it most, the poorest of the poor. Food aid could contribute to poverty reduction through employment creation among rural households who are dominated by extreme poverty and incidence of substantial unemployment. Food aid should take more a "development" form with a view of fostering the agricultural sector. In a well identified, designed and implemented food-for-work projects and free of corruption and inefficiency, food aid could even contribute significantly to the building of fundamental infrastructures and thereby assist the country's overall development.

The current use of traditional factors of agricultural production (labour and land) in the country seems to be inefficient as these factors had no statistically significant effect on the aggregate and non-export agricultural output. It is essential to ensure an adequate rise in the productivity of these factors, if the country's agriculture is to contribute its due share to economic growth and food security.

Succinctly, as it has been asserted in this study, it seems that foreign aid and exports have met to a considerable extent what they have been supposed to accomplish. They both have significant positive impact on many economic variables (saving, investment, selected groups of imports, aggregate agricultural output) in the country to date. In addition, the country's recent policy reforms seem to create conditions for economic growth and development through widening incentives for agricultural and overall productivity. On account of these, foreign aid to the country should not be curtailed, rather it should have new impetus and policies in a new development cooperation to make it more relevant to the efforts of achieving poverty reduction and economic growth

(OECD, 1996).

In line with this, all donors acknowledge that efforts to construct a new framework of partnership will not prosper without resources (OECD, 1996). Professor Pinheiro, European Community's Development Commissioner, comments: "The European Union (Community plus Member States) digs deeper into its pocket than its industrialized competitors in providing development aid" (The Courier, 1996:34). These statements hint that development assistance would remain a vital complement to other available resources for the foreseeable future (OECD, 1996) no matter what its level would be and/or whichever strings attached to them. It is essential to transform the aid resources toward a new era of making them more productive. In the process, there should be a shared concern rather than a conflict between donors and the country. As successes of development programmes and projects are shared, so should also be the failures.

For foreign aid to be effective and efficient, it requires the efforts of both donors and the country. From the donors side, besides responses to short-term crisis, aid must be genuinely developmental and long-term oriented based on well designed and implemented plans. The sole link of government-to-government or donor-to-government on the allocation and use of foreign aid could create a wide gap for misuse of aid resources. In order to avoid or reduce the fungibility of these resources, it is necessary for donor community to strictly oblige the country to contribute certain amount of domestic resources that should be used together with the specific aid resources. This requirement would promote efforts to invest from the domestic side. Donors have also the responsibility not only to make the resources available, but also to ensure that these resources reach the ultimate projects and/or beneficiaries. This requires commitments from the donors side to design mechanisms for direct contact with the organization, people and/or regions in the country that are supposed to benefit from their aid programmes through timely evaluation of their undertakings. With genuine efforts and sufficient resources, there is no reason why foreign aid cannot be successful and beneficial for the country and its needy people.



From the country's side, besides creating a conducive environment for the flow of private capital into the country, foreign aid will continue to play an important role in her economy at least in the short- and medium-term. This is in accordance with some sources that indicate that there is currently substantial flows of foreign aid into the country. It is the efforts made by the country to stabilize her economy and to gain maximum profit from domestic and foreign aid resources that attracts special attention of the donor community. As far as public donors are concerned, they are increasingly reluctant to offer financial aid to those countries that manage their own resources poorly. As Serge Michailof puts it: "Success attracts money, waste, failure and chaos drive it away" (The Courier, 1996). As the experience of many countries with fast growing economies shows, the stronger the country herself is in using her own resources, the more would be the inflows of foreign resources including the aid component.

The major task of the country should, then, be the designing of mechanisms to effectively and efficiently use the aid resources on an equitable manner among her citizens. First and foremost, it is vital for the country to direct domestic and aid resources to the sphere of production and triggering value added. It pays to use resources to encourage investment, rather than luxurious consumption styles, through which supply is strongly promoted.

Furthermore, it should be born in mind by the decision-makers that the country's image in the eyes of donors with respect to the use of resources, both domestic and foreign aid, is one of the most critical factors in the "aid fatigue" era in the allocation of their foreign aid resources from whatever amount is available. In order to establish and boost such an image for the country, all concerned authorities need to genuinely serve the people and not to be served by them. This boils down to better use of export earnings as well as other domestic resources in such a way that they contribute to the country's economic and social progress. In due course, such use of resources could fulfill the prime goal of reducing the country's dependency on foreign aid. This positive

impression is vital in order to effectively compete for and attract increasing aid resources in an ever increasing competitive environment for the ever scarce resources.

#### **7.4 Implications for further study**

This study has focused on only limited aspects of the impact of foreign aid and export trade leaving open a number of important questions. A fuller understanding of the macro, sectoral and micro consequences of these variables requires further investigations in various directions. An adequate comprehension of the impact of foreign aid and exports at the macro level requires the analysis of their influence on the fiscal behaviour (government revenue collection and expenditure) of the country. With respect to this issue, attention has focused on the adverse effect of foreign aid on tax revenue collection. In line with this argument, there was an inverse relation between government revenue and foreign aid. It is, however, not clear which one causes the other. A more exhaustive analysis of the impact of foreign aid and export trade should examine their influence on income distribution and general price level. The impact of foreign aid on the former is one of the neglected areas of the macroeconomics of aid given the poverty alleviation rhetoric of most donors (White, 1992). As literature in the area suggests, it is also useful to examine the impact of foreign aid and exports on real exchange rate.

Concerning investment, this study has dealt only with physical capital formation. Human capital investment is equally, if not more, important for sustained social and economic progress. If foreign aid and exports were used for human capital accumulation (education, health care, etc.), then they could still have a favourable effect on the country's economic and social progress. It is, therefore, necessary to examine the influence of foreign aid and exports on human capital accumulation.

Furthermore, at the sectoral level, the analysis of the impact of foreign aid and exports treated the agricultural sector only. This analysis is not sufficient to reveal what

happened in the agricultural sub-sectors let alone in other sectors of the country's economy. If foreign aid and exports proceeds were used to promote industrial sector or transport and services, the actual effect could be different. The analysis of the impact of foreign aid and export trade on the other sectors (or sub-sectors) of the country's economy would be useful.

The experience from this case study with respect to the impact of foreign aid and exports suggests that individual country case studies could generate useful information for policy guidance. However, the empirical conclusions reached based on the experience of one country may not be generalized to other countries. Similar case studies of other countries under similar situation could highlight the generality of the findings of this investigation. Therefore, case studies of other developing countries could be a fruitful line for future research.

# **Die Auswirkung von Entwicklungshilfe und Außenhandel in Äthiopien:**

## **Eine Analyse auf der Makro-, Sektor- und Mikroebene**

### **Problemstellung und Ziel der Arbeit**

Viele Entwicklungsländer (EL), insbesondere in Afrika südlich der Sahara, haben in den vergangenen Dekaden hohe Beträge an Entwicklungshilfe (EH) in Form von Krediten und Zuschüssen erhalten. Entsprechend wirtschaftstheoretischer Überlegungen soll diese Hilfe auf der Makroebene Schlüsselfaktoren wie die Investitionstätigkeit, die Importe von Produktionsgütern und die Sparquote anheben. Im Bereich des Außenhandels soll eine Ausdehnung der Exporte zur Steigerung von Deviseneinnahmen und zur Importkapazität beitragen. Über diese Mechanismen soll das wirtschaftliche Wachstum der EL durch EH und Außenhandel angeregt werden.

Ein bedeutender Anteil der EH wird in Projekte und Programme des landwirtschaftlichen Sektors gelenkt, der als ein Schlüsselsektor des Entwicklungsprozesses gilt. Ziel ist es, Produktivität und Produktion der Landwirtschaft zu steigern. Dabei setzen die meisten Projekte auf der landwirtschaftlichen Betriebsebene (Mikroebene) an, um die Nutzung von produktivitätssteigernden, meist importierten Produktionsmitteln zu verbessern. Diese Importe müssen über Deviseneinnahmen aus Exporten und/oder EH finanziert werden.

Trotz steigender EH und Exporte war die landwirtschaftliche und gesamtwirtschaftliche Entwicklung vieler afrikanischer Länder jedoch unbefriedigend. Als Ursache werden neben der Ausgestaltung der jeweiligen Wirtschaftspolitik auch die Bedeutung der EH und des Außenhandels in der entwicklungspolitischen und ökonomischen Literatur heftig diskutiert. Problematisch bei vielen bisherigen Studien, die zu widersprüchlichen Ergebnissen kommen, ist, daß wichtige ökonomische Variablen ausgelassen und dynamische Aspekte nicht genügend berücksichtigt wurden. Überdies wurde Länderquerschnittsanalysen zu viel und historischen Zeitreihenanalysen zu wenig Gewicht beigemessen. Es besteht wichtiger Forschungsbedarf zu diesem Themenkomplex. Ziel dieser Arbeit ist es, in einer Länderstudie die Auswirkung von EH und Außenhandel auf wichtige ökonomische Größen wie Ersparnisse, Investitionen und Importe zu analysieren. Die Analyse wurde auf der Mikro-, Makro- und Sektorebene durchgeführt. Dadurch werden Schwächen einzelner Ansätze ausgeglichen und es wird ein umfassenderes Verständnis der Zusammenhänge möglich. Als Fallbeispiel wurde Äthiopien gewählt, das Heimatland des Verfassers, für das darüberhinaus eine relativ

gute Datengrundlage besteht.

## Methodik

Daten für die Makro- und Sektoranalyse wurden aus nationalen und internationalen Quellen zusammengestellt, mikroökonomische Daten wurden durch Einzelbefragungen von 166 landwirtschaftlichen Betrieben gesammelt. Auf der Mikroebene wurden zur Analyse multiple Regressionsmodelle benutzt, für die Makro- und Sektoranalyse wurden dynamische multiple Regressionsmodelle eingesetzt.

EH wird in dieser Arbeit auf zwei unterschiedliche Arten disaggregiert:

1. als Zuschuß und Kredit sowie
2. als bi- und multilateraler Hilfe.

Zur Schätzung der Zuschüsse und Kredite im Rahmen der EH wurde auf nationale Statistiken Äthiopiens zurückgegriffen, für die Sekundärdaten bezüglich bi- und multilateraler Hilfe wurde OECD-Statistiken herangezogen. Ein Problem aller Statistiken mit volkswirtschaftlichen Daten besteht darin, daß unterschiedliche Basisdaten und Kalkulationsmechanismen benutzt werden. Dies erklärt die leicht höheren absoluten Beträge der OECD-Daten im Vergleich zu den nationalen Daten, da die OECD-Daten u.a. auch Expertengehälter ausweisen. Bei der Interpretation der folgenden Ergebnisse ist diese Situation mit zu berücksichtigen.

## Ergebnisse

### Makroökonomische Ebene

#### a) Ersparnisse

Die Ergebnisse der Arbeit zeigen, daß auf der Makro-Ebene die finanzielle Entwicklungshilfe, bestehend aus Zuschüssen und Krediten, einen signifikanten und positiven Effekt auf inländische Ersparnisse hat. Kredite haben einen positiven Einfluß und Zuschüsse einen negativen Einfluß auf Ersparnisse. Die Analyse der Auswirkung von bilateraler und multilateraler EH zeigt, daß bilaterale einen positiven und multilaterale einen negativen Einfluß auf inländische Ersparnisse haben. Während

multilaterale EH ohne zeitliche Verzögerung wirkt, ist bei der bilateralen EH eine 2-jährige Verzögerung der Auswirkungen festzustellen. Die Analyse zeigt auch, daß Exporte einen klaren positiven Einfluß auf Ersparnisse haben. Dieses Ergebnis unterstützt die Hypothese, daß zunehmende Exporte eine Erhöhung der Ersparnisse verursachen.

## **b) Investition**

Bezüglich Investitionen hat sich ergeben, daß aggregierte EH einen signifikant positiven Einfluß auf inländische Investitionen hat. Dieses Ergebnis deutet an, daß der größte Anteil der EH zur Erhöhung der Investition genutzt wurde. Die Auswirkungen von Komponenten der disaggregierter EH auf Investitionen bestätigen dieses Ergebnis, wobei allerdings nur Kredite in der ersten Disaggregation und nur multilaterale Hilfe in der zweiten signifikant sind. Dabei sind Kredite positiv mit Investitionen als auch Ersparnissen korreliert. Signifikant positiv wirken sich auch Exporte auf Investitionen aus, wenn die aggregierte EH und ihre Komponenten in Investitionsmodellen untersucht werden. Dieses empirische Ergebnis belegt die theoretische Hypothese der wichtigen Rolle von Exporten in der Investitionsförderung der Entwicklungsländer. Exporte ermöglichen dies durch Förderung von Ersparnissen und Kapitalgüterimporten.

## **c) Importe**

Die Wirkung von EH auf die gesamten Importe, die bislang in der Literatur nicht eingehend untersucht worden ist, zeigt, daß aggregierte EH einen wichtigen positiven Einfluß hat. Die Analyse der disaggregierten EH zeigt, daß Kredite, Zuschüsse und multilaterale EH einen signifikant positiven Einfluß auf die Gesamtimporte haben. Daß Exporte eine negative Auswirkung auf aggregierte Importe anzeigen, wenn sie mit aggregierter und disaggregierter EH (Zuschüssen und Krediten) in der Importfunktion kombiniert werden, aber sich signifikant positiv auswirken, wenn sie mit bilateraler und multilateraler EH, die wie oben erklärt auf relativ geringen Unterschieden in der Datengrundlage beruhen, im Modell benutzt werden, zeigt wie sensibel die Abhängigkeiten auf die Modellspezifizierung reagieren. Die in der Literatur so kontrovers geführte Diskussion überrascht daher nicht.

Die Arbeit zeigt weiterhin, daß disaggregierte EH einen hohen signifikanten Einfluß auf Importe von Kapitalgütern (einschließlich Rohmaterial, Brennmateriale, Maschinen und

Transportmittel) hat. Die disaggregierte EH in Form von Krediten und bilateraler EH hat ebenfalls einen signifikanten Einfluß auf Kapitalgüterimporte. Die Kredite haben den stärksten Einfluß, während die Auswirkungen von Zuschüssen und multilateraler EH nicht signifikant sind. Exporteinnahmen sowie bi- und multilaterale EH sind die Hauptfinanzierungsquellen für Importe. Es zeigt sich, daß insbesondere landwirtschaftliche Maschinen durch die laufenden Exporteinnahmen und bilaterale EH finanziert werden. Im Rahmen dieser Untersuchung zeigt sich, daß Exporteinnahmen einen größeren Beitrag zur Importfinanzierung leisten als bi- und multilaterale EH.

Der Vergleich von Kapital- und Konsumgüterimporten deutet an, daß multilaterale EH und Zuschüsse hauptsächlich für Nichtkapitalgüter genutzt, während bilaterale EH hauptsächlich zur Finanzierung von Kapitalgüterimporten genutzt werden. Die bilaterale EH hat, wie erwartet, importierte Kapitalgüter für Projektinvestitionen verwendet. Obwohl die Kredite für beide Importgruppen genutzt werden, ist der Einfluß auf Kapitalgüterimporte stärker. Multilaterale EH ist relativ fungibel, sodaß die Regierung Importe durchführen konnte, die sie für wesentlich erachtet hat. Es zeigt sich, daß die Determinanten von Konsumgüterimporten, nämlich Kredit und multilaterale EH, einen positiv Einfluß haben. Dies bedeutet, daß ein großer Teil der EH diese Importe finanziert hat. Der signifikant positive Einfluß der EH und ihrer Komponenten läßt vermuten, daß EH zu einem erheblichen Teil dem Konsum dient. Wesentlich innerhalb dieser Betrachtung ist die Art der Konsumgüter, d.h. ob Importe der Ernährungssicherung und sozialen Entwicklung des Landes oder dem Luxuskonsum dienen.

#### **d) Bruttoinland Produkt**

Die inländische Produktion wird von der entwicklungshilfefinanzierten Kapitalbildung negativ beeinflusst und zwar sowohl in der aggregierten als auch von der disaggregierten Betrachtungsweise. Bei der disaggregierten Betrachtungsweise geht im Gegensatz zur aggregierten lediglich die Nicht-Exportfunktion in das Modell als abhängige Variable ein. Diese Beeinflussung zeigt den niedrigen Effizienzgrad, mit dem die Kapitalgüter von der Nationalökonomie verwendet wurden. Hingegen beeinflusst Kapital, welches durch inländische Ressourcen gebildet wurde, das BIP positiv.

#### **Sektorale Ebene**

Um die makroökonomische Analyse zu vertiefen, versucht diese Arbeit, die

Auswirkungen von EH und Exporten auf der Basis einer relativ disaggregierten Darstellung zu analysieren. Die Analyse der sektoralen Ebene beschäftigt sich mit der Auswirkung von EH und Agrarexporten auf die Entwicklung des Agrarsektors, welcher der wichtigste Sektor des Landes ist. Die Schwierigkeit ist, empirisch zu messen, welche Bedeutung die Änderung von aggregierter und nicht-exportierter Agrarproduktion auf Agrarkapital und andere Faktoren hat, die durch EH finanziert wurden. Untersucht wurde die Auswirkung externer Kredite und durch zuschuß- sowie inländische Ressourcen finanzierte Kapitalbildung auf die landwirtschaftliche Produktion. Die Untersuchung zeigt, daß Kapitalbildung im Agrarsektor, die durch EH-Kredite finanziert wurde, eine signifikant positive Auswirkung auf die Agrarproduktion hat. Dies gilt jedoch nicht für die weiteren untersuchten Faktoren, wie landwirtschaftliche Exportproduktion, obwohl deren Koeffizient positiv war. Der größte Teil der entwicklungshilfefinanzierten Kapitalinvestitionen ist in den landwirtschaftlichen Exportsektor geflossen.

Zuschußfinanzierte Kapitalbildung im Agrarsektor hat einen negativen Einfluß auf die Gesamtagrarproduktion (mit und ohne Betrachtung der Exporte). Dieses Ergebnis zeigt, daß Zuschüsse zu Effizienzverlusten führen. Ein interessantes Ergebnis ist, daß die Agrarproduktion, welche durch eigene, ländliche Ressourcen finanziert wird, einen signifikant positiven Einfluß auf die Gesamtagrarproduktion zeigt (mit und ohne Betrachtung der Exporte). Ein anderes Ergebnis der sektoralen Analyse ist, daß Agrarexporte eine positive Wirkung auf die Gesamtproduktion andeuten, was die Hypothese unterstützt, daß Agrarexporte die treibende Kraft der landwirtschaftlichen Produktion sind. Weiterhin ist festzustellen, daß die Abhängigkeit von Nahrungsmittelhilfe zu einer negativen Wirkung auf die Agrarproduktion führt. Hiermit wird die in der Literatur gefundene Hypothese gestützt, welche vor allem die negative Wirkung von Nahrungsmittelhilfe aufzeigt.

Insgesamt zeigt die Sektoranalyse, daß besonders multilaterale EH und Exporteinnahmen einen positiven Beitrag zum Agrarsektor liefern und das Niveau der landwirtschaftlichen Produktion anheben.

### **Mikroökonomische Ebene**

Die mikroökonomische Analyse zeigt, daß der Einsatz von Düngemitteln der wichtigste Bestimmungsfaktor von Produktivität und Produktionsumfangs im Getreideanbau (Teff



und Weizen) darstellt. So trägt auch die EH durch ihren Beitrag zur Importfinanzierung landwirtschaftlicher Inputs wie Düngemitteln und Maschinen zur Entwicklung des Agrarsektors, insbesondere der Nahrungsmittelproduktion, bei.

Diese Arbeit konnte im Falle Äthiopiens zeigen, daß entgegen verschiedener entwicklungspolitischer Meinungen, die EH und der Außenhandel positive Auswirkungen auf die Nationalökonomie haben können. Der besondere Beitrag dieser Studie liegt in der Zeitreihenanalyse der Forschungsfrage, die sich als vorteilhaft im Vergleich zur Länder- Querschnittsanalyse erwiesen hat.

### **Schlußfolgerungen**

Die wichtigsten wirtschaftspolitischen Schlußfolgerungen aus dieser Studie umfassen:

- Exporte sind einer der zentralen Schubkräfte wirtschaftlicher Entwicklung. Dabei spielt die Exportdiversifizierung und Erschließung neuer Märkte eine entscheidend wichtige Rolle. Dabei sind die nationalen Notwendigkeiten einer Sicherung der Ernährung zu berücksichtigen.
- Extene Hilfe, wenn verbunden mit ineffizienter Nutzung, zeigt eine negative Entwicklungswirkung. Effizienter Einsatz von Entwicklungshilfe, vor allem auch Betonung von Direktinvestitionen sind von vorrangiger Bedeutung.
- Kapitalbildung im Agrarsektor zeigt besonders wachstumsfördernde Wirkung. Dies unterstreicht die vorrangige Bedeutung der Förderung des Agrarsektors.
- Die Studie zeigt, daß Nahrungsmittelhilfe negative Wirkungen auf die landwirtschaftliche Gesamtproduktion haben kann. Um negative Produktions- und Marktwirkungen zu vermeiden, muß Nahrungsmittelhilfe "entwicklungsorientiert" sein, d.h. zielgruppenorientiert und in ländliche Entwicklungsprogramme integriert sein.
- Der augenblickliche Einsatz von traditionellen Faktoren Arbeit und Land zeigt deutliche Ineffizienzen. Es ist essentiell, die Produktivität dieser Faktoren zu erhöhen.
- Entwicklungshilfe zeigt signifikant positive Wirkungen auf eine Reihe von zentralen Entwicklungsvariablen, wie Spar-, Investitions- und Importtätigkeit. Ihr Umfang sollte nicht reduziert werden, sondern durch Reform des institutionellen und wirtschaftspolitischen Rahmens effizienter

und wirkungsvoller eingesetzt werden.

- Die Studie macht eine Reihe von Schwächen in der Datengrundlage und Methodik derartiger Untersuchungen deutlich. Sie weist spezifisch die Notwendigkeit auf, den Rahmen solcher Untersuchungen auszudehnen und vor allem Einkommensverteilungs-, Preisbildungs- und Wechselkurswirkungen mit einzubeziehen. Darüberhinaus ist die Humankapitalbildung ein Bereich, der im Zusammenhang mit Entwicklungshilfe zunehmende Beachtung erfordert. Es wird auch auf die Lücken in der Durchführung von entsprechenden Studien für nichtagrarische Bereiche hingewiesen.