
A CRITICAL REVIEW OF EXTERNAL DEBT AND ECONOMIC GROWTH RELATIONSHIP: A LESSON FOR INDEBTEDNESS COUNTRIES

Yrd. Doç. Dr. Erdal KARAGÖL

Balıkesir Üniversitesi Bandırma İktisadi İdari Bilimler Fakültesi İktisat Bölümü
erdalkaragol@hotmail.com

ÖZET

Bu makalenin amacı dış borçlar ile ekonomik büyüme arasındaki ilişkiyi inceleyen ampirik çalışmaları ortaya koymaktır. Borçlu ülkelerde son otuz yılda yatırımların ve dolayısıyla ekonomik büyümenin büyük ölçüde azalması, bu alanda araştırmaların yapılmasını ve dış borç-büyüme arasındaki ilişkinin önemini arttırmıştır. Yapılan ampirik çalışmalara göre, dış borçların ekonomik büyümeyi pozitif mi yoksa negatif mi etkilediğini söylemek zordur. Bu yüzden genelleme yapmanın bir anlamı olmayacağından, her ülke ayrı ayrı incelenmelidir.

ABSTRACT

The purpose of this paper is to review existing empirical studies of external debt and economic growth relationship. The decline in investment and growth performance of the highly indebted countries in the past three decades is frequently attributed, at least to some extent, to the burden of their foreign debt, a phenomenon which has been recognised as debt overhang. Empirical results indicate that it is difficult to say whether external debt has a negative or positive effect on economic growth. It is also improper to make any type of generalizations of the potential relationship between economic growth and external debt. Thus, it is necessary to consider the case of each country separately.

INTRODUCTION

The debt overhang hypothesis basically indicates that the accumulated debt acts as a tax on future output, discouraging productive investment plans of the private sector and adjustment efforts on the part of governments. In a sense, foreign debt acts like a

tax when the debt situation is such that given any improvement in the economic performance of the indebted country, part of gains goes to higher debt repayments; that is, creditors receive part of the fruits of increased production or exports by the debtor country. Despite the many persuasive theoretical arguments put forward for the debt overhang hypothesis, there has been remarkably empirical effort to test it. Most empirical results at present consist of the observation that in debtor countries there has been a decline of investment coincidently with the onset of the debt crisis. The objective of this study is to review empirical studies whether the debt is affecting the debtor countries' economic growth via reduction in investment.

The structure of this paper as follows: Section 2 will review the existing literature on the external debt and economic growth relationship. Finally, section 3 gives summary and concluding remarks.

THE LITERATURE REVIEW OF EXTERNAL DEBT AND ECONOMIC GROWTH RELATIONSHIP

A number of studies have dealt with the external debt-economic growth relationship during the last two decades. After the second oil crisis in 1979, all countries were affected by the worldwide recession of 1980-1983. Due to low commodity prices, high real rates of interest and sluggish growth in the industrial countries, several debtor countries have experienced debt servicing difficulties. Thus the period since 1982 has been described as a period of debt overhang. The objective of such a study is to determine whether the debt is affecting the debtor countries' economic growth via reduction in investment. However, the new economic and

political realities deem it necessary to undertake an additional study utilising more recent data.

Savvides (1992) asserts that if a debtor country is unable to pay its external debt, debt payments become linked to the country's economic performance. The country benefits only partially from an increase in output or exports because a fraction of the increase is used to service the debt and accrues to the creditors. Thus, from the perspective of the debtor country as a whole, the debt overhang acts like a high marginal tax rate on the country, thus lowering the return to investment and providing a disincentive to domestic capital formation. The disincentive effect of the debt overhang may have repercussions on private saving and investment, even when all external debt is held by the government. The government has little incentive to institute policies to promote domestic capital formation or to reduce current consumption in exchange for higher future economic growth when the benefits from such policies go to creditors in the form of higher debt payments. The author estimated models by using Two Stage Limited Dependent Variable model (2SLDV) procedure by cross section-time series data from 43 less developed countries for the period of 1980-1986. Savvides (1992) also tried to test the significance of several factors affecting investment rates and the likelihood of less developed countries (LDCs) encountering debt servicing problems. This study concludes that debt overhang and decreasing in foreign capital inflows have a significant negative effect in investment rates. When capital inflows are divided into commercial and noncommercial flows, the conclusion differs. A decrease in commercial inflow is a significant factor in investment rates. On the other hand, noncommercial inflow is not a determinant factor in lessening investment rate. This result is also consistent with the IMF's (1989) conclusion. It concluded that debt overhang is a significant factor influencing slowdown in investment. It is argued that the reasons behind borrowing during the mid-1970's and early 1980's varied from country to country.

Kruger(1987) states that after the rise in oil prices, the oil importing developing countries faced large current account deficits. On the other hand, oil exporters had large current account surpluses, which they lent to the commercial banks, which in turn financed the deficits of oil importing countries, thus the surpluses of the oil exporting countries were used by oil importing developing countries. Bauerfreund (1989) used a computable general equilibrium model to measure the cost of external debt to the Turkish economy. His dissertation explains the issue of the debt overhang, using a multi sector, non-linear general equilibrium model.

The approach taken to measure the debt overhang is to compare the growth rate of the Turkish economy following hypothetical debt forgiveness. The year 1985 was selected as the base year for measuring the debt overhang because the Turkish economy in 1985 can be classified as being representative of the post 1980 Turkish liberalisation era. In Bauerfreund's thesis, two debt overhang measures are evaluated. The first one is set by Sachs (1986), who indicates that when indebted countries pay their debt, these payments require a transferring of resources from the private sector to public sector. In order governments to pay debt obligations, they need to levy a tax on the private economy. This increasing taxation causes a decrease in the net returns of investment, resulting in a reduction of investment in the debtor countries, and a negative effect on future production and income.

The second one is set by Feldstein (1986). It is argued that the debt burden is not a problem of freeing resources to debt service payments but also doing so in a way that converts these resources into foreign exchange. It is believed that indebted countries are able to achieve this by, increasing exports but in practice the experience shows that maintaining the increase in exports is too difficult. On the other hand, the ratio of imports of developing countries grows more rapidly than that of the developed countries. The level of GNP in developing countries depends on the volume of imports. A lower level of imports reduces the level of GNP. Bauerfreund's (1989) findings show that external debt payments obligations reduced investment levels in Turkey, in 1985. Moreover, the debt overhang is a result of the both internal economic policies and external economic policies.

Deshpande (1997) attempted to explain the debt overhang hypothesis by an empirical examination of the investment experience of 13 severely indebted countries. The severely indebted countries are Algeria, Argentina, Ivory Cost, Egypt, Honduras, Kenya, Mexico, Morocco, Peru, Philippines, Sierra Leone, Venezuela and Zambia. The author explains that debt overhang, which in contrast to the normal debt obligations is the actual amount of paid debt service is determined by creditors and debtor countries. Hence, any increase in production and exports are used for debt payment to creditors. As a consequence, this gives a disincentive to investors. Investors are not willing to invest a large amount of money. The author argues that the adjustment measures, which are applied by severely indebted countries, have an impact on the indebted countries, since the investment crisis has typically implied a growth crisis for the highly indebted countries. This has further worsens severely indebted countries' debt

service capacity. The period for evaluation is 1971 to 1991. The author uses two period, the first period is 1975- 1983 and the second period is 1984-1991 with OLS estimation for panel data. For a variety of reasons, external debt is found to exercise a negative effect on the investment. Firstly, for the period of 1971- 1991, the investment ratio for the sample countries shows a rising and then a declining tendency at the end of the eighties. The relationship between external debt and investment is negative. Moreover, the first period has a positive influence on investment, in the second half of this period, time effects turn to negative.

Cohen(1993) estimated an investment equation for a sub-sample of 81 developing countries, over three sub-periods: 1965-1973, 1974-1981, and 1982-1987, using OLS method. The author shows that the level of debt does not explain the slowdown of investment in highly rescheduling developing countries. The author also found that the correlation between debt and investment are the same in 1980's for the rescheduling countries. They tested the effect of foreign aid on domestic investment in 1960's. The impact of foreign finance on investment seems to be low and consistent with the result of Cohen (1993). The author found that 3 percent of GDP transferred abroad reduces investment by 1 percent point below the financial-autarky rate. A financial-autarky benchmark is estimated to see whether the difference between the level that prevailed in the 1980's and that financial-autarky benchmark is significantly correlated to the service of the debt.

Warner (1992) tried to measure the size of debt crisis effect on investment with the Least Squares estimation for 13 less developed countries over the period of 1982-1989 using a set of independent variables. The reasons behind the decline of investment in many of the heavily indebted countries are declining exports prices, high world interest rates, and sluggish growth in developed countries. These shocks could have directly caused investment to decline. It is argued that to measure debt effects, a better way to forecast investment over the debt crisis period (1982-1989), is to use equations that incorporate the declining exports prices for the indebted countries, high world interest rates and recession in developed countries, but which do not incorporate debt crisis effects. The main idea is that these forecasts should not track investment during the debt crisis period if the postulated debt crisis effects are crucial, but should track investment if they are not. Clearly, if debt crisis effects are important, then this investment forecast which ignores debt crisis effects should be higher than actual investment. Warner (1992) claims that investment decline in many of the

countries on the heavily indebted list can be forecast out of the sample by simple terms of trade and world real interest rate equations. Out of 13 countries, 11 of this group were examined. Forecast investment in the final year of forecasting period was lower than actual investment. Finally, a debt crisis dummy involved a panel regression. The data are pooled on all of the highly indebted countries. The result is that the debt crisis dummy variable failed to have a negative coefficient as the debt theories predict. The effect of dummy debt variable was positive and highly significant.

On the other hand, Rockerbie (1994) criticized Warner (1992). The author affirms that Warner's (1992) has several shortcomings. Warner's paper provides new ideas about the effects of debt crisis on the investment in indebted countries. It is argued that shortcomings may have caused investment to be biased and unreliable testing method. Firstly, to test two competing models, standard econometrics practice should perform either a nested or a non-nested test which involves estimating each hypothetical model. Secondly, Warner's (1992) investment equation did not have debt variables as these variables are probably endogenous to the model. This is a persistent problem in estimating relationships for less developed countries incorporating debt measures. Thirdly, domestic policies and world economic conditions have changed during the 1982 period. In that time debt crisis has occurred in all indebted countries. Hence, these structural changes may impair the usefulness of a forecasting equation estimated using sample period of 1960- 1981. That is why, Warner's hypothesis is weakened by using the dummy variable for the years 1982- 1989.

Rockerbie (1994) utilised Ordinary Least Squares for each of the thirteen countries, over the sample period 1965- 1990. The results show that the debt crisis of 1982 had significant effects in terms of dramatic slowdown of domestic investment in less developed countries (LDCs). This study used variables that represent foreign debt stocks and flows, domestic monetary and fiscal policies, as well as world economic conditions. The investment equation used here is similar to one used in Rockerbie (1993). It is also found that the debt crisis of 1982 and subsequent moratoriums on debt service obligations had a significant negative effect on economic growth in less developed countries. The 1982 debt crisis also changed the sensitivity of investment to external and domestic factors. There is no doubt that the dramatic decrease in net flows had significant negative effects on economic growth in less developed countries (LDCs).

Afxentiou and Serletis (1996) examined 55 developing countries facing debt service difficulties. The main objective of this study was to find out the statistical relationship between foreign borrowing and productivity. Data coverage includes 1970-1990 period. The period of this study (1970-1990) has two sub-periods. The first sub period is from 1970 to 1980 and is characterised by the rapid increase of foreign debt; the second sub-period is from 1981 to 1990, and is characterised by the years of debt servicing problems and debt overhang. The effects of debt are examined for all four categories of developing countries and for each sub-period as well as for the entire period. The 55 developing countries were classified into 4 categories, 19 of them are classified as indebted low-income countries, 12 severely indebted middle income countries, 10 moderately indebted low income countries and 14 moderately indebted middle income countries. In this study, each of the four classifications is treated as a separate specific case and the effect of six debt indicators on the growth of its per capita income is investigated.

The results show that during the period of 1970-1980, the relationship between indebtedness and national productivity is not negative. Developing countries used the foreign loans to take time and absorb the shock from oil price increases as painlessly as possible. These findings were proved by all four groups of developing countries. On the other hand, the debt forgiveness and rescheduling began during the 1980-1990 sub-period. For this period, the debt crisis took place and the debt overhang affected some indebted countries' economic growth. The results reveal that there was a negative relationship between indebtedness and national productivity for two groups of the severely indebted developing countries. Severely indebted developing countries used their foreign loans improperly. Therefore, they faced debt service difficulties when they were required to pay their debt obligations. In this period, developing countries failed to meet their debt payments, as they had both resource wasting and failure to improve their foreign exchange earnings. Geiger (1990) examined the relationship between GNP growth rate and debt burden. The debt burden represents debt service ratio (the sum of interest payments and repayments of principal on external debt to exports of goods and services), the ratio of debt service to GDP, and the ratio of net transfers to GDP, and the ratio of net transfers to GDP in highly indebted countries in south America where the problem of debt is serious. This study focuses on the specific country to determine the impact of debt burden and capital inflows on the economic growth. The ratio of net transfers to GDP, debt service to GDP, and debt service to exports were regressed on real GDP

growth rate over a 13 year period, from 1974 to 1986, for nine highly indebted south America countries. The countries included were Argentina, Chile, Brazil, Peru, Colombia, Ecuador, Paraguay, Bolivia and Venezuela.

The results of this study confirm that there is a statistically significant inverse relationship between debt and economic growth. Furthermore, intra country analysis shows that the marginal effects of the debt burden on the economy decrease when the debt burden increases. Even though there is an important variation in the model from country to country, many different factors affect economic development in each of the countries and there are also different reactions to the debt burden. For all countries examined, the lagged model is the most highly correlated. On the other hand, the burden of the principal and interest payments has a greater impact on the economy in the following year rather than in the current year. It is also not surprising that the lagged equations model results have more statistical significance than the linear equations.

Fosu (1996) tested the relationship between economic growth and external debt with an empirical study for the sample of sub-Saharan African countries over the 1970-1986 period by employing the OLS method. This study examined to which degree debt had a negative impact on economic growth of sub-Saharan African (SSA) countries. This study estimates the direct effect of debt hypothesis and indirect debt hypothesis. The direct effect of debt hypothesis proposed that if debt service payments do not decrease investment and saving levels considerably, the debt negatively affects growth directly by reducing productivity. It is also argued that the direct effect of debt hypothesis suggests that both debt service payments and debt outstanding may affect GDP growth rate negatively even if debt outstanding and debt service payments do not affect investment levels. The results show that by using a debt-burden measure, direct effect of debt hypothesis reveals that GDP growth is negatively influenced via a diminishing marginal productivity of capital. The findings of this study also show that on average a high debt country faces about one percentage reductions in GDP growth rate annually. This explains one-third of all reduction of growth rate in sample countries. On the other hand, the results do not support the adverse indirect effect of debt indirect effect of debt hypothesis states that the relationship between debt and economic growth is indirect, via reduced.

Fosu (1999) has also employed an augmented production function to investigate the impact of external debt on economic growth in sub-Saharan Africa for the 1980 -1990 period. The author has

used tests to measure the direct effect of debt overhang hypothesis namely that external debt negatively affect economic growth even if it has little or no effect on the level of investment. The findings show that as debt variable is included, measured over 1980-1990, in the equation, debt exhibits a negative coefficient. Moreover the author questions the negative association between external debt and economic growth. It is claimed that sub-Saharan countries entered into structural adjustment programmes in the mid-1980s. The negative relationship between economic growth and debt might be due to a poor performer receiving large external debt. Hence, the growth equation is re-estimated for only the first half of the decade from 1980 to 1985. The results are reassuring in that the coefficient of debt is still negative and significant. Meanwhile, additional evidence shows a rather weak negative impact of debt on investment levels.

Cunningham (1993) examined the association between debt burden and economic growth for 16 heavily indebted nations during the period 1971 to 1987. It is predicted that the growth of a nation's debt burden has a negative effect on economic growth because of the impact on the productivity of labour and capital. As a nation has a significant debt burden, the debt burden needs to be serviced. This will influence how capital and labour will be used in production. This study concludes that the growth of a nation's debt burden had negative effect on economic growth during the period of 1971-1979. On the other hand, the results for the 1980-1987 period offer little support for the inclusion of the growth of debt burden in the economic growth model.

Sawada (1994) investigated whether the heavily indebted countries (HICs), concerned with their external debt repayments, stay solvent. A direct test of the solvency condition derived from the usual in temporal budget constraints shed light on the sustainability of their current policies. This study employed annual time series data for sample period from 1955-1990 and estimated the cointegration regression using the OLS method. The findings of this study show that heavily indebted countries (HICs) have debt overhang problems. Since their current external debts are above the expected present value of the future gains.

The IMF (1989) reveals that debt overhang exists in the problem debtor countries in 1980s. These countries include Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Ivory Coast, Mexico, Morocco, Nigeria, Peru, Philippines, Uruguay, Venezuela and Yugoslavia. There are two pieces of evidence

supporting the debt overhang proposition. First, the saving ratio decreased when external finance dried up. Secondly, in a comparison of a group of countries with debt problem with a group of other heavily indebted countries, which did not experience a debt servicing problem, saving ratios decreased in the former group. There was an important drop in saving ratios and investment ratios in problem debtor countries during 1980s.

Hofman and Reisen (1991) tried to explain whether the debt overhang hypothesis or the liquidity constraints can explain investment behavior. They argued that there are some shortcomings in the IMF (1989), which claims that debt overhang exists on two pieces of evidence relating to in debtor countries. First, debtor countries financed their investment by foreign savings in 1978-1981. This period is highly exceptional. Secondly, the IMF paper picks a group of middle income debtor countries. These countries are arbitrary and classified as indebted countries and also have not faced a serious debt servicing problem. The estimation results for the period 1971-1987 and the two sub periods 1971-1981 and 1982-1987, using pooled time series cross section data for debtor countries with the OLS method. The expected sign of the debt burden is negative under the debt overhang hypothesis. They conclude that there is no debt overhang in debtor countries. In this context, the negative correlation between debt and investment is rejected by this study. It is also found that the transfers of financial resources from debtor countries to the other countries are a more important explanation for the investment reduction than levels of debt outstanding.

Smyth and Hsing (1995) have tried to test the federal government debt's impact on economic growth and examine if an optimal debt ratio exists that will maximise the economic growth. The author calculated the optimal debt ratio (DEBT/GDPT), which represents the maximum real GDP growth rate (38.4 percent). The DEBT/GDP ratio corresponding to the maximum GDP growth rate is 38.4 percent. The results show during the 1980s and early 1990s, federal debt has a different role in economic growth. In the early 1980, debt ratios (DRHP) rose but it was below 38.4, thus debt-financing stimulates economic growth. On the other hand, during 1986-1993, debt ratio rose from 40.7 percent to 50.9 percent. This ratio is above the (38.4) optimal debt ratio and expected to adversely effect economic growth.

Perasso (1992) has tried to compare the impact of debt servicing obligations and domestic policies on domestic investment in highly indebted less developed countries (LDCs) for the 1982-1989

period. Data are obtained from 20 middle income severely indebted countries. The results of this empirical study show that appropriate domestic policies have a stronger impact on increasing investment and growth in highly indebted countries than decreasing (debt relief) debt servicing obligations, for example, a 1 % real devaluation causes up to a .32 % increase in propensity to invest. On the other hand a 1 % reduction in interest payments causes a .19 % increase in propensity to invest.

Causality Analysis of External Debt and Economic Growth

Afxentiou (1993) has examined the negative impact of foreign indebtedness on the growth of GNP for twenty middle-income developing countries between 1971 and 1988. The Granger causality test was employed to investigate the relationship between economic growth and foreign indebtedness

Statistical evidence shows that in seven out of twenty countries, the debt service ratio (Total debt service/Exports of goods and services) seems to be as a growth suppressing factor. In six out of twenty, the interest service ratio (Total interest payments/Exports of goods and services) is a significant growth-inhibiting factor. It is concluded that there is a strong debt overhang effect which took place in the sampled countries in the sample period of 1971-1988. The author claims that the large debt accumulation of sampled countries was the result of bad domestic management. Causality test results support inferentially source mismanagement caused negative effect on GNP. If foreign resources were not productively used, GNP growth rate would be negatively affected by indebtedness.

There are several studies in the literature which test whether indebtedness impacts on the economic activity of developing countries. It is argued that if foreign loans are converted into capital and other necessary inputs, development will occur. On the other hand, if borrowing countries misallocate resources or divert them to consumption, then economic development is negatively affected (Afxentiou and Serletis, 1996a). This study employed the framework of the Granger causality test. In doing so, six measures of indebtedness were used as proxies for the multiple mechanisms.

The data used for the 1970 - 1980 period and 55 countries were tested in this study. All 55 countries were classified according to the World Bank debtor country classification system. The World Bank grouped these countries into 4 categories, 19 of them being severely indebted low income countries

(SILICs), twelve severely indebted middle income countries (SIMICs), ten moderately indebted low income countries (MILICs) and fourteen moderately indebted middle income countries (MIMICs). In the framework of Granger causality test, it is hypothesised that each measure of indebtedness causes the per capita income. Broadly speaking, the causality test should be used, depending on the statistical behaviour of the time series. To determine which causality test were (in terms of growth and levels) carried out, the integration and cointegration properties of the data should be examined. For this reason, they applied an accepted statistical procedure. The Granger causality test shows that there is no causal relationship between debt and income in a sample of 55 developing countries. It means that debt overhang is an exaggeration. The tests findings show that indebtedness is not a specific factor of per capita income growth. Hence, foreign resources can have a positive effect on the economic development if resources are transferred into inputs since borrowing countries need to have these scarce resources.

The causality between external debt and economic growth is examined in many studies. Amoateng and Amoako-Adu (1996) have investigated the relationship between external debt servicing, economic growth and exports for the total sample of 35 African countries. These countries were grouped into sub-samples of 31 south of the Sahara countries, 24 low income African countries and 11 middle income countries. In this study Granger's causality test is employed to analyse the interrelationship between exports, GNP growth and foreign debt servicing during 1971-1990 for the 35 countries, using data pooled into time series and cross-sectional form. The authors examined the joint effect of two variables on the third variables.

The empirical results declared that there is a unidirectional and positive causal relationship between foreign debt service and GDP growth after excluding exports revenue growth for Africa and South of Saharan countries during 1983-1990. The same result is obtained from middle income African countries for the 1971-1990 period. They found that foreign debt service has a positive causal relationship with GDP growth. It is found that the impact of foreign debt service on GDP growth is negative and unidirectional for the period of 1983-1990. It means that for these countries (middle income Africa) external debt causes decrease in economic growth. When they applied empirical tests to the low income African countries, they found the same result for the 1971-1982 sub-periods. Their findings demonstrate that there is an unidirectional causality between GDP growth and

foreign debt service after excluding exports revenue growth. This implies that foreign loans had a positive impact on the economic growth before the 1982 debt crisis in these countries.

The results from 1983-1990 indicate that there is a bidirectional and positive causality between foreign debt service and GDP growth after excluding exports revenue growth. On the other hand, foreign debt service is included as a third variable with a trivariate causality analysis of exports and economic growth for 35 African countries. The evidence shows that generally, there is a joint feed back effect between exports revenue, external debt service and economic growth.

Chowdhury (1994) tried to resolve the controversy about the cause and effect relationship between external debt and economic slowdown. The author also tried to resolve the Bullock and Rogoff's (1990) proposition. They argue that the external debts of developing countries are a symptom rather than a cause of economic slowdown. External debt leads to bad management in highly indebted countries, such as, exchange rate mismanagement. The expectation of currency devaluation leads to speculative capital flight. Devaluation also causes the currency costs of debt service obligations, deteriorates budget deficit, and affects money supply and inflation. The estimation of the growth rate and debt accumulation rate and the regression analyses in the various stages of the causality tests employs the logarithmic transformations of the time series data on GNP. For this estimation Bangladesh, Indonesia, Malaysia, Philippines, South Korea, Sri Lanka, and Thailand are examined during the period 1970-1988.

Firstly, the author estimated the hypothesis that accumulation of external debt does not affect the GNP growth rate. It is fascinating that the long term effect of external debt accumulation rate on the GNP growth rate is found to be positive in Bangladesh, Indonesia and South Korea. For example, an increase of 1% in the external debt caused an increase of the GNP by 20% in Bangladesh. Secondly,

The effect of GNP growth rate on the external debt accumulation is examined. It is found that GNP growth rate affect the external debt accumulation rate of Philippines only. For the Philippines, a 1% increase in the GNP leads to 1.25 % increase in external debt in the long run. In addition, during the 1980's the Philippines' balance of payments is worsened. Balance of payments deficits were financed by external borrowing, yet, external debt increased to a much greater extent than indicated by the worsening of the current account deficit, when

domestic residents transferred their capital to the overseas countries. The results of the Granger causality tests show that the Bullock-Rogoff (1990) propositions that external debt of developing countries are a symptom rather than a cause of economic slowdown was rejected. The results also show that a feedback or bidirectional relationship exists between external debt accumulation rate and GNP growth rate for Malaysia and Philippines. Finally, there is no causal relationship between GNP growth rate and the external debt accumulation rate.

Karagöl (2002) investigated the long-run and short-run relationship between economic growth and external debt service for Turkey during the 1956-1996. This study used multivariate co-integration techniques and employed a standard production function model. The VAR (Vector Auto-Regression) estimates of the system showed that there is a one co-integrating relationship in the long-run. Debt service is negatively related to economic growth in the long-run. Granger causality test results showed a uni-direction causality running from debt service to economic growth.

SUMMARY AND CONCLUSIONS

This paper has reviewed the related empirical literature of external debt-growth relationship. The external debt and economic growth association have been highly investigated since 1980s. During the 1980s the question of how to perform economic growth in less developed countries (LDCs) become more difficult because of heavy debt burdens. Several countries have been investigated and the bulk of studies have been published in the last 20 years. These studies show that the relationship between external debt service and economic growth is still a controversial one. Some studies found that there is a negative relationship between external debt and economic growth. Deshpande (1992) and Cunningham (1993) showed that a strong negative relationship exists. Sawada (1994) and Bauerfreund (1985) indicated that external debt leads to decrease investment and economic growth. Rockerbie (1994) found that external debt obligations have a significant negative effect on economic growth. Smyth and Hising (1995) investigated USA federal debt for the early 1980s and 1990s. They calculated optimal debt ratio (DEBT/ GDP) which is 38.4 percent. In the early 1980 debt ratios (DRHP) was below 38.4, thus debt-financing stimulated economic growth. On the other hand, during 1986-1993, debt ratio rose to 50.9 percent.

Table 1. Summary of Literature Review of External Debt And Economic Growth Relationship

Date	Author and Model	The Period and Base	Results
1989	Bauerfreund, Computable General Equilibrium Model	1985 is base year, Turkey	External debt payments reduce investment level in Turkey, in 1985.
1990	Geiger, OLS, A Distributional Lag Model	1974-1986, 9 South America countries	There is a statically significant inverse relationship between the debt burden and economic growth.
1992	Warner, OLS Method	1960-1981 and 1982-1989, for 13 Less Developed Countries (LDCs)	External debt does not reduce investment.
1992	Savvides, OLS Method	1980-1986 period, for 43 Severely Indebted countries	Debt overhang and decreasing in foreign capital inflows have a significant negative effect on investment rates.
1993	Afxentiou, Granger Causality Tests	1971-1988, 20 Middle- Income Developing Countries	There is a negative relationship between indebtedness and GDP growth rate.
1993	Cohen, OLS Method	1965-1987, 81 Developing Countries	External debt does not affect the GNP growth rate.
1993	Cunnigham, Pooled, Cross Sectional and Time Series	1971-1979, and 1980-1987 16 Heavily Indebted Countries	A strong negative relationship between economic growth and debt burden for 1971-1979 period.
1994	Chowdhury, Causality Tests, Time Series Analysis	1970-1988, 8 Developing countries	External debt does not affect the GNP growth rate.
1994	Rockerbie, OLS Method, Nested and Non-Nested Tests	1965-1990, 13 Less Developed Countries (LDCs)	Debt service obligations had a significant negative effect on economic growth.
1994	Sawada, OLS Method, Time Series	1955-1990, OLS method Highly Indebted Countries	Highly Indebted Countries have debt overhang problem.
1995	Smyth and Hsing, OLS Method.	The sample ranges 1960-1981, USA	During 1980s and early 1990s federal debt financing stimulates economic growth but during 1986 and 1993 debt ratio expected to hurt economic growth.
1996	Afxentiou and Serletis, OLS Method	1970-1990, 55 developing Countries	For the period of 1970-1980, external debt does not affect growth negatively, in 1980-1990 the relationship is negative and for 1970-1990 period, reduced importance of debt overhang was realised.
1996(a)	Afxentiou and Serletis, Granger Causality, OLS	1970-1980, for 55 Less Developed Countries (LDCs)	There is no causal relationship between debt and income.

1996	Amoateng and Amoako-Adu, Granger Causality Tests	1971-1982 and 1983-1990 period, 35 Less Developed Countries	There is positive causality between GDP growth rate and foreign debt services.
1996	Fosu, OLS Method	1970-1986, For Sub-Saharan Countries	The debt overhang is less important than the direct effect of debt hypothesis. It means that debt service payments reduce output growth directly by reducing productivity.
1997	Deshpande, OLS Estimation for Panel Data	1971-1991, 13 Severely Indebted Countries	The relationship between external debt and investment is negative.
1999	Fosu, OLS Estimation	1980-1990, For 35 Sub-Saharan Countries	Outstanding debt had a negative impact on economic growth.
2002	Karagol, Causality	1965-2001, Turkey	Debt service is negatively related to economic growth in the long-run.

This ratio is above the (38.4) optimal debt ratio and expected to adversely effect economic growth. However, there some studies with causality in the literature, for example, Afxentiu and Serletis (1996) concluded that there is no causal relationship between GDP growth rate and foreign debt service. Afxentiu (1993) revealed that indebtedness affected economic growth negatively. Cohen (1993) showed that external debt has not affected GDP growth rate. Given these findings, it is difficult to say whether external debt service has a negative or positive effect on economic growth. More research needs to be done in this area.

The above studies showed that the effect of external debt service differs among countries. Based on these mixed results, it is improper to make any type of generalizations of the potential relationship between economic growth and external debt. Thus, in designing a recovery policy aimed at facilitating the external debt burden and promoting economic growth, it is necessary to consider the case of each developing country separately. Such a recovery policy should be based on the country's interrelationships between its GNP and external debt (Chowdhury,1994). Moreover, cross-country analysis is not easy and has some difficulties. Developing countries in aggregate differ significantly in their economic and political environment, organizations and institutions.

REFERENCES

AFXENTIOU, Panos C. (1993): "GNP Growth and Foreign Indebtedness in Middle-income" Developing Countries, *International Economic Journal*, Cilt 7, Sayı 3, ss. 81-92.

AFXENTIOU, Panos C. ve SERLETIS, Apostolos (1996a): "Foreign Indebtedness in Low and Middle Income Developing Countries", *Social and Economic Studies*, Cilt 45, Sayı 1, ss. 133-159.

AFXENTIOU, Panos C. ve SERLETIS, Apostolos (1996): "Growth and Foreign Indebtedness in Developing Countries : An Empirical Study Using Long-term Cross-Country Data", *The Journal of Developing Areas*, Cilt 31, Fall, ss. 25-40.

AMOATENG, Kofi. ve AMOAKO, Adu.B. (1996): "Economic Growth, Export and External Debt Causality: The Case of African Countries", *Applied Economics*, Cilt 28, ss. 21-27.

BAUERFREUND, Ohad. (1989): "External Debt and Economic Growth: A Computable General Equilibrium Case Study of Turkey 1985-1986", *Duke University Ph.D.*

BORENSZTEIN, Eduardo (1990): "Debt Overhang, Credit Rationing, and Investment", *Journal of Development Economics*, Cilt 32, ss. 315-335.

BULLOW, Jeremy ve ROGOFF, Kenneth (1990): "Cleaning Up Third World Debt Without Getting Taken To the Cleaners", *Journal of Economic Perspectives*, Cilt 4, Sayı 1, ss. 31-42.

CHOWDHURY, Khorshed (1994): "A Structural Analysis of External Debt and Economic Growth: Some Evidence From Selected Countries in Asia and the Pacific", *Applied Economics*, Cilt 26, ss. 1121-1131.

- COHEN, Daniel (1993): "Low Investment and Large LDC Debt in the 1980's", *The American Economic Review*, Cilt 83, Sayı 3, ss. 437-449.
- CUNNINGHAM, Rosemary.T. (1993): "The Effects of Debt Burden on Economic Growth in Heavily Indebted Nations", *Journal of Economic Development*, Cilt 18, Sayı 1, ss. 115-126.
- DESHPANDE, Ashwini (1990): "The Debt Overhang and the Disincentive to Invest", *Journal of Development Economics*, Cilt 52, ss. 169-187.
- FELDSTEIN, Martin (1986): "International Debt Service and Economic Growth: Some Simple Analytics", *National Bureau of Economic Research*, 2076, 35 Pages.
- FOSU, Agustin K. (1996): "The Impact of External Debt on Economic Growth in Sub-Saharan Africa", *Journal of Economic Development*, Cilt 21, Sayı 1, ss. 93-118.
- FOSU, Agustin K. (1999): "The External Debt Burden and Economic Growth in the 1980s: Evidence From Sub-Saharan Africa", *Canadian Journal of Development Studies*, Cilt 20, Sayı 2, ss. 307-318.
- FRY, Maxwell J. (1986): "Terms-Of-Trade Dynamics in Asia: An Analysis of National Saving and Domestic Investment Responses to Terms-Of-Trade Changes in 14 Asian LDC", *Journal of International Money and Finance*, Cilt 5, ss. 57-73.
- GEIGER, Linwood.T. (1990) *Debt and Economic Development in Latin America*, *The Journal of Developing Areas*, 24, 181-194.
- HOFMAN, Bert ve REISEN, Helmut (1991): "Some Evidence on Debt-Related Determinants of Investment and Consumption in Heavily Indebted Countries", *Weltwirtschaftliches Archiv*, Cilt 127 Sayı 2, ss. 280-297.
- IMF. (1989) *World Economic Outlook*, Supplementary Note 1, Washington, USA.
- KARAGOL, Erdal (2002): "The Causality Analysis of External Debt Service and GNP: The Case of Turkey", *Central Bank Review*, Cilt 2, Sayı 1, ss. 39-64.
- KRUEGER, Anne O. (1987): "Debt, Capital Flows, and LDC Growth", *American Economic Review*, Cilt 77, ss. 159-164.
- PERASSO, Giancarlo (1992): "Debt Reduction Versus Appropriate Domestic Policies", *Kyklos*, Cilt 45, Sayı 4, ss. 457-467.
- ROCKERBIE, Duane W. (1993): "Credit Rationing and Macroeconomic Adjustment in Latin America", *The Quarterly of Review of Economics and Finance*, Cilt 33, Sayı 4, ss.325-342.
- ROCKERBIE, Duane W. (1994): "Did Debt Crisis Cause the Investment Crisis? Further Evidence", *Applied Economics*, Cilt 26, ss. 731-738.
- SACHS, Jeffrey D. (1986): "Managing the LDC Debt Crisis", *Brooking Papers on Economic Activity*, Cilt 2, ss. 397- 431.
- SAVVIDES, Andreas. (1992): "Investment Slowdown in Developing Countries During the 1980s: Debt Overhang Or Foreign Capital Inflows", *Kyklos*, Cilt 45, Sayı 3, ss. 363-378.
- SAWADA, Yasuyuki. (1994): "Are the Heavily Indebted Countries Solvent? Tests of Inter Temporal Borrowing Constraints", *Journal of Development Economics*, Cilt 45, ss. 325-337.
- SMYTH, David.J. ve HSING, Yu (1995): "In Search of An Optimal Debt Ratio for Economic Growth", *Contemporary Economic Policy*, Cilt 13, Sayı 4, ss. 51-59.
- WARNER, Andrew M. (1992): "Did the Debt Crisis Cause the Investment Crisis", *Quarterly Journal of Economics*, Cilt 107, Sayı 4, ss. 1161-1186.