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EXTERNAL BORROWING AND ECONOMIC DEVELOPMENT:

THE CASE OF JORDAN

by

Riad Almomani

A dissertation submitted in partial fulfillment
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

Economics

Approved:

UTAH STATE UNIVERSITY
Logan, Utah

1985

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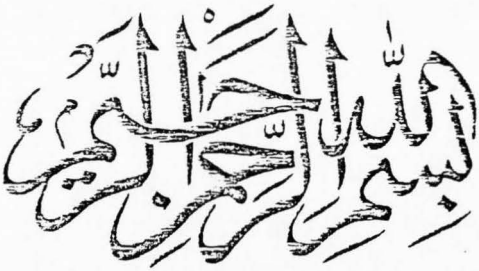

Bismillāh-ar-Raḥmān-ar-Raḥīm

IN THE NAME OF
ALLAH
THE BENEFICENT, THE MERCIFUL

A Muslim expresses his faith (*Īmān*) in the following words:

Lā ilāha illal-Lāh
Muḥammad-ur-Rasūlullāh

There is no god but Allah and Muḥammad is Allah's Messenger.

This is the first and the main Article of Faith.

This *Kalimah* is the most important declaration in the life of a Muslim.

Man becomes a Muslim only when he has declared this *Kalimah*.

A Muslim has to read it, understand it and act upon it.

ACKNOWLEDGEMENTS

I wish to thank all those who have contributed their time, guidance, support, and suggestions to the formulation and completion of this study. However, I bear the full responsibility for any shortcomings or errors.

First of all, I am indebted to Yarmouk University and my society for giving me the opportunity to receive this education.

Grateful appreciation is expressed to Basudeb Biswas, my major professor, for the direction and encouragement he gave to me and for his invaluable guidance and constructive criticisms throughout this study. My indebtedness is also expressed to the other members of my committee, who in various ways facilitated the development of this study: Dr. W. Cris Lewis, Dr. L. Dwight Israelsen, Dr. Reed Durtschi, and Dr. Keith Taylor.

Special thanks are due to my father, mother, sister, brothers and relatives for their encouragement and invaluable assistance and cooperation.

Finally, to my wife, Seham Momani, I extend my love and appreciation for her assistance and patience during the preparation of this study.

Riad Almomani

TABLE OF CONTENTS

Page

ACKNOWLEDGEMENTS..... iii

LIST OF TABLES..... viii

LIST OF FIGURES..... xii

ABSTRACT..... xiii

INTRODUCTION..... 1

Chapter

I. THEORETICAL FRAMEWORK..... 5

External Debt and Its Economic Impacts..... 5

The Welfare Approach..... 5
Growth-oriented Approach..... 8

The Conventional Approach..... 8
The Revisionist Approach..... 9
A Critique of the Conventional and Revisionist Approaches..... 11

Elements of the Model..... 14

The Impact of External Borrowing on Macro-Economic Variables..... 16

Effect of External Borrowing on Consumption and Investment..... 17
Effects of External Borrowing on Exports and Imports..... 18

II. JORDAN'S DEVELOPMENT POLICY AND PERFORMANCE 1967-1983..... 20

Historical Background and the Economic and Social Development Plans..... 20
An Analysis of Jordan's Economic Development Performance, 1967-1983..... 29

Sectoral Performance..... 30

Agricultural Sector..... 30
Industrial Sector..... 34
Service Sector..... 38

Economic Growth and Development Indicators. 42

Economic Growth..... 42
Per Capita Income..... 42
Consumption..... 43
Investment..... 44
Domestic Savings..... 45
Inflation and Money..... 46
Poverty and Economic Inequality..... 48

Public Finance..... 49

Government Revenues..... 51
Government Expenditures..... 52
Deficit Financing..... 54

Foreign Trade and Balance of Payments..... 56

Exports..... 56
Imports..... 60
Balance of Trade..... 63
Balance of Payments..... 64

III. EXTERNAL INDEBTEDNESS OF JORDAN AND THE ALLOCATION OF PUBLIC EXTERNAL LOANS..... 67

Determinants of the Flow of External Financial Resources to Jordan..... 67

Internal Determinants..... 67
External Determinants..... 68

The Magnitude of Jordan's External Indebtedness 69
Terms and Conditions of Public External Loans: The Cost of External Debt..... 74

Explicit Terms of Loans: Maturity Period, Grace Period, and Interest Rates..... 74
Implicit Terms of Loans..... 76

Jordan's Disbursed Loans..... 78

Total Disbursements and Their Source..... 78
Distribution of Disbursed Loans According to Economic Sectors..... 81

Impacts of Public External Loans: Hirschman's Trickle Down Effect..... 83
Foreign Borrowing Induced Distortions..... 88
Infrastructure Loans and the Problem of Debt Service Payment..... 98
Conclusions..... 100

IV. THE GROWTH AND MACROECONOMIC EFFECTS OF

JORDAN'S EXTERNAL DEBT..... 102

The Macroeconomic Effects..... 102

The Effect of External Borrowing on Consumption..... 103
The Effect of External Borrowing on Savings 104
The Effect of External Borrowing on Investment..... 106
The Effect of External Borrowing on Imports 108
The Effect of External Borrowing on Exports 110
The Effect of External Borrowing on the Balance of Trade..... 111

The Impact of External Borrowing on Growth..... 113
Causal Ordering Across Domestic Consumption and Foreign Borrowing in Jordan..... 116

Introduction..... 116
The Bivariate Test Procedure..... 118
Granger-Causal Ordering..... 118
The "Final Prediction Error" Method..... 119
The Main Bivariate Results..... 120

Conclusions..... 123

V. ANALYSIS OF DEBT SERVICING CAPACITY AND EXTERNAL DEBT BURDEN OF JORDAN..... 124

Debt Servicing Capacity..... 124

Short-run Debt Servicing Capacity..... 127

Debt Service Ratio..... 127
The Ratio of Debt Service to GNP..... 128
Vulnerability Ratio..... 131

Long-run Debt Servicing Capacity..... 134

Domestic Savings..... 134
External Debt Dependence..... 136

External Debt Policies and Administration..... 139
Policy Measures..... 142

Tariff Policy..... 142
Monetary Policy..... 143
Exchange Rate Policy..... 144
Conclusions..... 144

Consumption Maximization and Optimal Borrowing... 145

The Optimizing Model..... 148

The Optimal Consumption Path..... 149
Optimal Path of Foreign Debt..... 151

VI. CONCLUSIONS AND RECOMMENDATIONS..... 155

Development Policy, Performances, and External Debt..... 155

Economic Growth, Industrialization and the Structure of Foreign Trade..... 156
Government Expenditures and the Need for External Financial Resources..... 156
Service Sector's Performance and Infrastructure Development..... 157
Economic Impacts of the Allocation of Public External Debt..... 157
Effects of External Debt on Economic Growth and on a Set of Macro-Economic Variables..... 158
External Debt Burden and the Balance of Payments Problem..... 159

Policy Recommendations..... 160

Some Specific Measures..... 161
External Debt Policy..... 162

REFERENCES..... 164

APPENDIX..... 168

VITA..... 199

LIST OF TABLES

Table		Page
2.1.	Major objectives of economic and social development plans of Jordan, 1973-1986	23
2.2.	Jordan planned growth by sector	25
2.3.	Jordan's planned development expenditures by sector, 1973-1986	27
2.4.	Jordan's sources for financing development projects, 1973-1986	28
2.5.	Jordan's GDP and GNP by sectors at market prices	31
2.6.	Growth rates of economic sectors, GDP, GNP, at constant prices, 1967-1983	35
2.7.	Growth rates in real wages and rate of return on capital in Jordan, 1973-1979	50
2.8.	Jordan's trade indices and terms of trade, 1971-1982	59
3.1.	Contracted amount of public external debt obtained by Jordan	71
3.2.	Jordan's outstanding external debt and its relation to the GNP, international reserves, and exports, 1967-1983	73
3.3.	Explicit average and conditions of Jordan's external loans, 1973, 1975-1980	75
3.4.	Jordan's disbursed amount of public external loans, 1949-1983	79
3.5.	Distribution of Jordan's disbursed loans according to source during 1968-1983	82
3.6.	Sector allocation of the disbursed amount of public external loans, 1968-1983	82
3.7.	Incremental output-capital ratio in the agricultural and industrial sector in Jordan	93
3.8.	Annual labor productivity average growth rate	93
3.9.	Sectoral distribution of employment, East	

Bank, 1961 and 1975-75..... 97

4.1. Results for bivariate test of Granger-causality across consumption and external borrowing in Jordan..... 122

4.2. Causality testing by computing "final prediction error" (FPe) of the controlled variable: Jordan's date for 1967-1983..... 122

5.1. Debt servicing payments of external public debt in Jordan, 1967-1983..... 129

5.2. Jordan's debt service ratio and ratio of debt services to GNP, 1967-1983..... 130

5.3. Jordan's vulnerability ratio, 1967-1983..... 133

5.4. Jordan's debt service in relation to gross national savings, 1967-1983..... 135

5.5. Jordan's external debt: disbursements and net flow of external debt and indicators of Jordan's external debt dependence, 1967-1983... 138

A.1. Jordan's GDP, GNP and sectoral growth rates at current prices..... 169

A.2. Percentage share of each sector in GDP..... 170

A.3. Percentage share of each subsector in total output of industrial and services sectors, 1967-1983..... 171

A.4. Per capita income in Jordan, 1967-1983..... 172

A.5. Consumption, gross domestic investment, and gross domestic savings..... 173

A.6. Growth rates of consumption, investment, and savings, 1967-1983..... 174

A.7. Consumption, investment, and savings in relation to the gross domestic product (GDP), 1967-1983. 175

A.8. Jordan's average propensity to consume (APC), marginal propensity to consume (MPC), and marginal propensity to save (MPS), 1967-1983... 176

A.9. Prices and money supply in Jordan, 1967-1983... 177

A.10. Jordan's income velocity and income elasticity, 1967-1983..... 178

A.11. Major sources of Jordan's domestic revenues, 1968-1983..... 179

A.12. Growth rate of government revenue, 1967-1983... 180

A.13. Total domestic revenues as a percentage of GNP and total expenditures, 1967-1983..... 181

A.14. Percentage distribution of government's domestic revenue by major sources, 1967-1983..... 182

A.15. Jordan's government expenditures by economic and functional classification, 1967-1983..... 183

A.16. Government expenditures as a percentage of the GNP, 1967-1983..... 184

A.17. Percentage distribution of government expenditures by economic and functional classifications, 1967-1983..... 185

A.18. Growth rates of government expenditures, 1967-1983..... 186

A.19. Summary of central government budget, 1967-1983..... 187

A.20. Jordan's total value of foreign trade and foreign trade indicators, 1967-1983..... 188

A.21. Jordan's foreign trade indicators, 1967-1983... 189

A.22. Jordan's exports by commodity groups, 1967-1983..... 190

A.23. Percentage distribution of exports by commodity groups, 1967-1983..... 191

A.24. Jordan's direction of trade, 1967-1983..... 192

A.25. Jordan's imports by economic classification, 1967-1983..... 193

A.26. Percentage distribution of imports by economic classification, 1967-1983..... 194

A.27. Jordan's imports by commodity classification, 1967-1983..... 195

A.28. Percentage distribution of imports by commodity groups, 1967-1983..... 196

A.29. Jordan's balance of payments, 1967-1983..... 197

A.30. Jordan's international reserves, 1967-1983..... 198

LIST OF FIGURES

Figure Page

1. Marginal and average product of labor in agricultural and industrial sectors..... 95

2. The optimal path of foreign debt..... 154

ABSTRACT

External Borrowing and Economic Development:
The Case of Jordan

by

Riad Almomani, Doctor of Philosophy
Utah State University, 1985

Major Professor: Basudeb Biswas
Department: Economics

This study examines Jordan's development policy and analyzes the role of Jordan's external public borrowing in economic development during the period 1967-1983. Mainly, Jordan's rapidly increasing external indebtedness is related to its development strategy which is based on the concept of unbalanced growth. This strategy has emphasized the concentration of development resources (including external loans) in certain areas (e.g. Amman and Zarka) and certain economic sectors (e.g. industry and service) which are assumed to be growth propelling. The agricultural sector has been seriously ignored in Jordan's development process.

Jordan's growth has been quite impressive, but the problems of poverty and inequality have remained intact. On an average, the real growth rate of the GNP was 7 percent per year during the period of study. However, the Jordanian economy suffers not only from inequality in income distribution but also in opportunity (i.e. lack of access to

goods and services).

In order to show the impact external borrowing has on Jordan's economic growth and on a set of macroeconomic variables, an econometric model based on the production function approach was developed and a set of regression equations was specified. The findings of the model and a series of regression analyses showed that external borrowing was negatively associated with GDP growth rate and domestic savings. However, it was positively associated with investment, imports and exports. The association with consumption was positive, but statistically insignificant. Overall, external debt retarded economic growth and didn't help to reduce Jordan's deficits during the 1967-1983 period.

Increasing debt service obligations recently may deteriorate the balance of payments in the near future, thereby affecting the level of Jordan's international reserves and possibly threatening its development process. Hence, it is argued that Jordan should adopt vital policy measures to curb its external debt burden.

(213 pages)

INTRODUCTION

Jordan has followed a development strategy based on the concept of unbalanced growth (for example, the uneven distribution of public investment, such as social overhead capital, between the industrial and agricultural sectors). The existing development policy of Jordan requires a high rate of economic growth (10 percent-11 percent) particularly of nonagricultural output. To achieve this growth rate, Jordan's domestic savings are not enough; foreign capital is needed to finance the importation of capital goods and raw materials and to finance infrastructure development, which are all necessary to facilitate development and industrialization.

The economic growth and progress of the nonagricultural sector has been accompanied by rapidly increasing indebtedness. Dependence on foreign borrowing has been increasing rapidly since the mid-1970s. The growth in external borrowing in recent years has resulted from government borrowing coupled with a rapid increase of the private sector's guaranteed external borrowing.

In fact, Jordan is suffering from chronic trade deficits, negative domestic savings, and high population growth. Increasing debt service obligations will deteriorate the balance of payments in the near future, thereby affecting the level of Jordan's international reserves and possibly threatening its development process. Although

external loans have become necessary to finance Jordan's development projects, it is vital to keep the burden of external debt within manageable limits to avoid the problems of growing debt servicing difficulties and deteriorating credit worthiness.

Furthermore, the investment concentration of external loans and other foreign capital in the industrial and service sectors and in the Amman and Zarka regions has been another feature of the economic planning period. This investment concentration is directly related to the overall development policy and strategy adopted by Jordan. Such an allocation pattern of loan resources suggests that the external borrowing policy needs to be investigated in order to evaluate the overall development performance of the Jordanian economy from 1967 to 1983.

Specifically, this study has the following main objectives:

1. To analyze Jordan's development policy and its overall economic development performance. Specifically, this analysis is concerned with the performance of the agricultural and nonagricultural sectors, economic growth and development aspects, public finance and foreign trade, and the balance of payments.

2. To develop a model amenable to empirical testing. This model is tested in order to show the impact external borrowing has on Jordan's economic growth. Arguments in the literature concerning the role of external borrowing on

growth are tested and analyzed. In addition, testing and analysis concerning the impact of borrowing on a set of macroeconomic variables are conducted and evaluated.

3. To analyze and evaluate Jordan's debt servicing capacity and external debts in relation to its balance of payments. Both Jordan's immediate and long-term debt servicing capacity are analyzed. Several external debt indicators are used as tools in appraising the country's external debt situation.

4. To investigate and appraise the allocation pattern of external loans and the economic impact of these loans in respect to Jordan's development objectives.

5. To propose policy recommendations for dealing with Jordan's external debt problems.

This study covers the period 1967-1983. It deals with external public debt in Jordan. Data and information regarding Jordan's external public debt are derived mainly from official sources such as the central bank of Jordan and international financial statistics.

This study is organized into six chapters. The first chapter presents a theoretical survey of the impact of external debt on the economy of less developed countries and the econometric model used. The following chapter discusses Jordan's historical background and analyzes its development policy and its overall economic development performance from 1967 to 1983. The analysis in Chapter III is concerned with the determinants of foreign borrowing and the external

indebtedness situation of Jordan. In addition, it analyzes the allocation pattern of public external loans and the economic impact of these loan resources. Chapter IV presents the empirical results regarding the effect of external debt on economic growth and a set of macroeconomic variables. Chapter V analyzes Jordan's debt servicing capacity and the external debt burden in relation to different aspects of the balance of payments problem. In addition, policy measures and an evaluation for external debt administration are discussed. Conclusions and specific policy recommendations are presented in Chapter VI.

CHAPTER I

THEORETICAL FRAMEWORK

This chapter reviews the literature regarding the role of foreign borrowing on the economic development of LDCs and establishes a general framework for analyzing Jordan's external debts. The first section discusses external borrowing and its economic impacts. The second proposes a simple model to test the impact of external borrowing on Jordan's economic growth and some hypotheses presented in the literature. The last deals with the impact of the external debt on macroeconomic variables.

External Borrowing and Its Economic Impacts

There are two broad approaches in analyzing the impact of foreign borrowing on a national economy. One approach, the welfare approach, is mainly concerned with the short-term effect of foreign borrowing on national welfare. This is the so-called transfer problem. The second approach, the growth-oriented approach, is emphasized in this study.

The Welfare Approach

This approach regards foreign aid as a form of transfer payment from one country to another, and analyzes the effect

of unilateral transfer on the welfare of the donor country and the recipient country, whether such transfer is in terms of aid, borrowing, and/or real resources. The basis of the analysis is that a transfer leads to a change in terms of trade, thereby changing real incomes and the welfare level. In fact, most writers investigate the possibility of welfare improvements for the donor country when it gives resources to another country.

This issue has been analyzed by several economists (Leontief, 1936; Samuelson, 1947, 1952; Mundel, 1960; Caves and Jones, 1981; Brecher and Bhagwati, 1982, and others). Leontief pointed out that the donor country may gain by transfer, and Samuelson noticed this possibility was related to the existence of unstable equilibria. However, Brecher and Bhagwati showed that international transfer payments may paradoxically immiserize the recipient country even when world markets are stable.

Generally speaking, the donor country loses and the recipient country gains. It is also conventional wisdom that the donor country's initial loss may be partly compensated by an improvement in the terms of trade. This is possible when redistribution of income results in a net increase in the demand for the donor country's exports and hence an increase in the relative price of exports. In a two-country model, this implies that the initial gain for the recipient country at the time of the transfer would be crowded or eroded. Furthermore, Brecher and Bhagwati

indicated that the recipient country's welfare might fall below the pretransfer level if distortions exist in the home country. They have also shown such a possibility can take place if the donor country imposes additional requirements at the time of transfer (for example, compulsory imports from donor countries).

From the above presentation, the welfare approach mainly emphasizes the welfare impact of the transfer for donor countries. The long-term impacts of the transfer on the economic growth of the LDCs and the problems associated with it have been ignored. The present study is devoted to the long-term impacts of transfers, primarily borrowing, on the economic growth of LDCs, (i.e., the growth-oriented approach).

Economic development is a multidimensional concept. In the broadest sense, it means the overall development of a human being, i.e., economic, social and cultural. The concept can be narrowed down by focussing on the growth of national income. In this study the impact of foreign borrowing on an economy is measured in terms of its impact on the growth of income. Employment and income distribution are excluded from this study. Although these issues are important, this study is mainly concerned with the impact of foreign borrowing on economic growth and other macroeconomic variables such as consumption, investments, exports and, imports.

The Growth-Oriented Approach

According to this approach, development is viewed primarily as a matter of economic growth. Foreign capital, whether in terms of aid and/or borrowing, is a key to attaining a higher rate of economic growth. In fact, there are two appoaches that present different theoretical views about the impact of external debt on the economic growth of the LDCs. The first approach may be called the conventional approach, which is directly related to the growth-oriented approach. The second approach may be called the revisionist or unconventional approach.

The Conventional Approach . In the context of growth models, the impact of foreign borrowing on economic growth has been analyzed theoretically and empirically by Rosenstein-Rodans, 1961; Chenery and Bruno, 1962; Chenery and Strout, 1966; and Chenery and Adelman, 1966. The major constraints to growth, according to this approach, are the savings constraint and the foreign exchange constraint. The role of external borrowing, then, is to fill either gap. The two-gap models were developed as a rationalization of external borrowing and aid requirements for LDCs in order to achieve a targeted rate of growth. With respect to the savings gap, theoretically external loans have two effects: (1) they directly increases the level of investment by the amount of the loan; and (2) they indirectly increase the accumulation rate of capital by raising the level of income

and the domesic savings rate. With respect to the foreign exchange gap, this approach regards external loans as additional foreign exchange that increases the import capacity of the recipient country. Foreign loans can increase investment through an increase in net imports of capital goods or by freeing domestic resources for capital goods production. Thus, an increase in investment leads to a higher rate of economic growth.

The Harrod-Domar model formed the basis of the work done by analysts utilizing the conventional approach. In the Harrod-Domar framework, the rate of income growth (Gy) is given by the ratio of average propensity to save (S) over the capital-output ratio (R). That is, Gy=S/R. Within this framework, a low-growth rate (i.e., Gy) is attributed to low domestic saving ratio given the technologically fixed capital-output ratio. According to the conventional approach, if a country receives, for example, foreign aid (d) and some foreign borrowing (b) expressed as a fraction of its national income, the growth rate will = (S+d+b)/R.

<u>The Revisionist Approach.</u> Writers utilizing this approach have challenged the views of the conventional approach (Rahman, 1967, 1968; Areskoug, 1969; Griffin 1970, 1972; Griffin and Enos, 1970; Weisskopf, 1972; and Voivadas, 1973). On the basis of their empirical results, these writers have argued that external borrowing and foreign aid have a negative or a nonsignificant impact on economic growth. Griffin and Enos (1970) attributed the negative

correlation between growth and foreign aid and/or foreign borrowing in twelve Latin American countries to the decline in domestic savings rate that follows an infusion of foreign capital. Griffin (1971) outlined the theoretical mechanism through which an inflow of foreign capital may cause the domestic savings rate to fall. Briefly Griffin and Enos pointed out that the reduction in domestic savings occurs through the following channels: (1) less effort to collect taxes, (2) reduction in taxation, and (3) a change in the composition of government expenditure in favour of consumption.

Other studies (Griffin, 1970; and Voivadas, 1973) indicated that foreign capital not only reduces domestic savings, but also reduces the incremental output-capital ratio. The output-capital ratio can be lowered as a result of an increase in external loans because

1. A large proportion of foreign loans is frequently channeled into activities that are nonproductive or not directly productive.

2. The concentration of investment in social overhead capital tends to reduce the output-capital ratio.

3. Most external loans obtained by LDCs are tied loans, which can cause a decrease in output-capital ratio. This is because loan tying conditions cause the borrowing country to import capital goods at high prices, which in turn increase the cost of investment.

This approach also has been criticized. As cited by

Shibly (1984), Mrs. Stewart (1971) argued that even if projects financed by foreign borrowing and/or aid involve a high capital-output ratio, it doesn't necessarily mean that they are undesirable. She claimed that the present value of the returns to the project with a high capital-output ratio for the whole life may be higher than that with a lower capital-output ratio. Furthermore, she argued that the domestic savings and foreign inflows may vary inversely as a joint result of a common cause such as an overvalued exchange rate.

Papanek (1972, 1973) argued that there are several factors determining the negative relation between domestic savings and foreign loans. These factors include:

1. War, civil war, or major political problems.

2. A substantial change in the terms of trade mainly for countries heavily dependent on exports.

3. Natural disasters (e.g., earthquakes, floods, and bad weather conditions).

The existence of such factors lead to a reduction in domestic savings and to a draw down in foreign exchange. Therefore countries resort to foreign borrowing, thereby increasing foreign inflows.

<u>A Critique of the Conventional and Revisionist Approaches.</u> Several problems characterize the existing economic literature on the issue. Both approaches overlook one important aspect. The impact of external borrowing or foreign aid depends on resource allocation and the

development strategy and policy adopted by the recipient country. Two main forces stand behind the allocation of foreign inflows. One is related to loan or aid tying conditions imposed by the donor countries. The second one is related to policies followed by the home country in distributing foreign inflows among economic sectors. It is quite possible that such forces lead to an accumulation of foreign inflow in specific sectors even if they are not highly productive thereby distorting the recipient country economy.

For a more realistic analysis and for a better understanding of the role of external borrowing and other foreign financial inflows on economic growth, it is not wise to rely only on naive statistical testing. In addition, it is unreliable to lump all foreign capital inflows together and look at their impacts. External borrowing or aid as well as any other financial inflow may have different impacts on economic growth due to allocation, terms, and conditions. Furthermore, the literature disregards the role of other factors in economic growth such as labor, technology, and natural resources whereas investment and savings as growth determinants are emphasized.

This study proposes a simple model not only to test the impact of external borrowing in the case of Jordan, but also test both conventional and revisionist hypothesis outlined above. In order to verify that external borrowing or any other inflow has either a positive or negative impact on

growth, other impacts on macroeconomic variables will have to be considered. Equations for the macroeconomic variables in the literature will be adapted for empirical testing, using Jordan's time series data.

The proposed study of the relationship between borrowing and economic growth will be conducted in a production function framework reflecting primarily the aggregate supply side. From the production point of view one can state that, as most studies on the subject assumed, output depends on inputs. Growth of real output in an economy can be regarded as having two components. One component is based on changes in the degree of utilization of existing productive capacity of the economy. From this point of view, it is primarily the rate of growth of demand that causes output to grow. It is the expenditures on consumption and investment, both private and public, that generates effective demand and thus determines the aggregate output in the Keynsian framework. In the Keynsian model, the emphasis as indicated above centers on the role of aggregate demand. This translates to mean, the greater the level of aggregate demand, the greater the level of equilibrium employment and prices in the economy. For the case of developing countries, the above approach may lead to an increase in the level of urban unemployment resulting from induced rural urban migration. This could simultaneously be accompanied by domestic inflationary pressures. The Keynsian macroeconomic theory reveals many

inadequacies when applied to the realities of economic conditions in developing countries. The notion that changes in aggregate demand stabilize an economy in the short run may not be appropriate to analyze the case of many developing countries. Most studies based on the Keynsian model give a misleading result for the case of developing countries. The estimating parameters and multipliers, do not refect the actual impact of borrowing or aid on economic growth. One way to overcome such problems is to analyze the impact of these variables on the economy from the supply side. The supply side takes the view that, it is the shortage of inputs that inhibits growth. On the supply side, it is the production function that relates output to inputs. In our study we will take this approach and incorporate foreign borrowing as another input into the aggregate production function besides the conventional inputs of labor, capital and technology. Of course, considerations of demand variations and the resultant variation in capacity utilization are relevant. However, our starting point will be an aggregate production function approach.

Elements of the Model

The proposed study of the relationship between borrowing and other foreign inflows and economic growth will be conducted in a production function framework reflecting primarily the aggregate supply side. The supply side takes the view that it is the the shortage of inputs that inhibits

growth. Since the main obstacles to growth in LDCs are the lack of inputs, an aggregate production function approach is the starting point.

1. Let $y = Af(k,L)$....(1), where y = gross domestic product, K = capital stock, L = labor force, A = technological change.

2. It is assumed that the investment-saving equation is

$I = S+B+F$....(2), where I = gross domestic investment, S = gross domestic savings, B = disbursed external borrowing, F = foreign aid plus factor income from abroad.

3. From (I)

$$dY = A + a_1\, dK + a_2\, dL \;....\; (3)$$

4. Let $K = \bar{T}$, and divide each term in (3) by y, the equation becomes

$$dY/Y = A/Y + a_1\, dK/y + a_2\, dL/y....\; (4)$$

5. By substituting (2) into (4), and manipulating some terms, equation (4) can be written as

$$\dot{Y} = B_o + B_1(S+B+F)/Y + B_2\dot{L} \;....\; (5),$$

where

$\dot{Y}$ = Growth in domestic product.

$\dot{L}$ = Growth in labor force.

6. Assuming the growth in labor force is equivalent to population growth, equation (5) is rewritten as

$$\dot{Y} = B_0 + B_1\,(S+B+F)/Y + B_2\dot{P} \;....\; (6)$$

The above model is amenable to empirical testing of

the following hypothesis:

1. The effect of S or B and/or F on growth is the same. This can be seen by writing equation (6) in the following form:

$$\dot{Y} = B_0 + B_1^s\ S/Y + B_1^b B/Y + B_1^f\ F/Y + B_2\dot{P} \ldots (7)$$

B_1^s, B_1^b and B_1^f according to the conventional approach are supposedly equal.

2. The effect of external inflows on growth is negative, or insignificant. This can be shown by rewriting equation (6) after dropping savings as follows:

$$\dot{Y} = B_0 + B_1^1\ (B+F)/Y + B_2\dot{P} \ldots (8).$$

B_1^1 therefore has to be negative or insignificant.

The Impact of External Borrowing on Macroeconomic Variables

External debt can affect several macroeconomic variables in the borrowing country, consumption, investment, imports, and exports (Areskoug, 1969). External borrowing can also affect domestic savings as indicated earlier. In this study, the impact of Jordan's external debt on consumption, investment, domestic savings, exports, and imports is analyzed. The actual effects of the external debt can be estimated on the basis of the functional relationship specified through the method of cochrane-orcutt regression.

Effect of External Borrowing
on Consumption and Investment

The consumption function (C) is specified as $C = c(Y,B,F)$, where Y, B, and F are as defined earlier. Both B and F may have a positive effect on present consumption. External loans may be used for purchasing imported consumer goods, thus increasing the private consumption in the recipient country. They may be converted into local currency and spent for labor and materials, in which case the increase in money incomes will increase the level of private consumption. The gross domestic product is another explanatory variable in the consumption function. There is a positive relationship between the gross domestic product and consumption.

The investment function (I) is specified as $I = L(Y,B,F)$. As noted earlier, investment is influenced by transferring external borrowing into investment purposes. Moreover, foreign borrowing can increase the capacity of importing capital goods, thereby increasing investment. Another determinant of investment is the GDP. An increase in aggregate demand can increase the demand for investment thereby leading to an increase in the investment level. The impact of external borrowing on domestic savings will be tested by using the same method. The effect of the external debt and other foreign inflows on domestic savings may be positive or negative.

Effect of External Borrowing
on Imports and Exports

The import function (M) is specified as $M = m(Y,B,F)$. External loans and other inflows can have two effects on imports: (1) an increase in capital goods imports thereby leading to an increase in investment and (2) an increase in consumer goods imports. The GDP is another explanatory variable in the import function since income determines the demand associated with investment as well as consumption. The GDP is positively associated with imports.

The export function is specified as $X = x(Y,B,F)$. Exports mainly are affected by the relative price level determined by demand and supply functions (Polak, 1953, pp. 51-52). Exports are affected by external borrowing and other inflows through their impact on the demand and supply functions. They incease the domestic production of exportables through an increase in capital goods imports. Furthermore, they increase the domestic absorbtion. This, however, may lead to a reduction in the export level by increasing the domestic demand for commodities that otherwise would be exported. If exports are viewed as a residual (i.e., domestic production minus domestic consumption), the net impact of foreign borrowing and other inflows on the amount of export may be either positive or negative. The GDP is another explanatory variable in the export function. It can affect exports through its impact

on effective demand and supply in the domestic market. Its effect, therefore, is expected to be either positive or negative.

CHAPTER II

JORDAN'S DEVELOPMENT POLICY AND PERFORMANCE, 1967-1983

This chapter deals with Jordan's development policy and performance from 1967 to 1983. The chapter has two major sections. The first section presents the historical background of Jordan's economic and social development plans for the period, the second section analyzes Jordan's economic development performance. The purpose of these discussions is to present the economic indicators and illustrate the current economic problems encountered by Jordan.

Historical Background and the Economic and Social Development Plans

Jordan is a nonoil exporting Arab country. With the ending of the British mandate established by the League of Nations in 1922, Jordan became independent in 1946. Due to the 1948 Israeli-Arab War, there was large-scale immigration; and by 1950, Jordan's population had tripled since 1946 (IBRD, The Economic Development in Jordan, 1957, p. 49). This population growth created a massive demand for resources and services. Because of the dearth of capital and natural resources, the government of Jordan had to rely on foreign sources to speed up economic growth and overcome

the economic and social problems. By 1961, the economy was growing at an annual growth rate of 11 percent. The gross national product rose from 52.4 million dinar in 1954 to 1985 million dinar in 1966. The Jordanian economy during 1946-1967 faced the following major problems:

1. A deficit in the balance of payments.

2. A heavy dependence on foreign resources especially on foreign aid to finance the development projects and current government expenditures.

3. A low annual per capita income (JD 75 per person).

4. A high level of unemployment 12-14 percent (Akram Steitieh, 1978).

Due to these problems and to the low level of domestic savings, there was an urgent need for planning the development of the economy. The government launched several economic plans. The first one was the five-year plan for economic development, 1962-1967. The main objectives of this plan were to increase national income and employment and improve the trade balance. The implementation of this plan was heavily dependent on foreign resources. With the failure of these sources in financing the plan's projects, a new seven-year (1964-1970) program for economic development was developed. The main objectives were increasing the gross national product by 7 percent per year, reducing the level of unemployment, and reducing trade deficits. Due to the 1967 war, which resulted in the loss of the west bank of Jordan, most projects were cancelled and the pace of

economic development was abated temporarily. The loss of the west bank resulted in great damage to the economy and imposed a heavy burden on Jordan. It brought an influx of refugees (400,000) from the west bank to the east bank and its immediate impact on the economy was severe. In 1966, the west bank contributed 45 percent of the gross national product and produced up to 60 percent of the fruits and vegetables. Due to the loss of the markets in the west bank and to the almost daily Israeli aggressions across the cease-fire line, most products in agricultural and industrial sectors showed substantial declines (Kanovsky, 1970). The economic situation deteriorated in 1969 and 1970 as a result of internal disturbance. The gross national product dropped from JD 979.4 million in 1969 to JD 187 million in 1970. The Jordanian

government immediately recognized that a new economic plan had to be developed to organize and utilize all existing resources for the public welfare. The council of planning was established as an economic central planning and coordinating board in 1971. Since its establishment, the Jordanian government has launched three successive economic and social development plans. The major objectives of the three plans are stated in Table 2.1. This table indicates the general framework of each plan. According to Table 2.1, the main goal for all three plans is a high rate of economic growth. After implementation of the three-year plan (1973-1975) and the five-year plan (1976-1980), the

Table 2.1. Major objectives of economic and social development plans of Jordan, 1973-1986.

Three-year Plan (1973-1975)	Five-year Plan (1976-1980)	Five-year Plan (1981-1986)
1. To achieve 8% annual growth rate of GDP.	1. To increase GDP at an annual rate of 12%.	1. To realize an 11% annual growth rate in GDP.
2. To increase employment opportunities by creating 70,000 new jobs.	2. To distribute development gains among the population in various regions of the country.	2. To change the structure of the national economy in favor of commodity-producing sectors
3. To increase the reliance of the general budget on domestic revenues.	3. To reduce external dependence and augment the reliance of the general budget on domestic revenues.	3. To increase domestic revenues of the general budget.
4. To strengthen the balance of payments and reduce the relative increase in the trade deficit.	4. To reduce the trade deficits from JD 153 million in 1975 to JD 131 million in 1980.	4. To reduce the trade deficit ratio in the balance of goods and services.
		5. To satisfy basic needs and narrow disparities among regions.

Sources: Jordan, National Planning Council, Five-Year Plan, (1976-1980), p. 4, pp. 26-27.
Jordan, National Planning Council, Five-Year Plan, (1981-1986), pp. 35-38.

objective of high rates of economic growth to some extent was achieved. The problems of poverty and economic inequality, however, remained unresolved, therefore, the five-year plans (1976-1980 and 1981-1986) introduced the objective of distributing the development gains among the population in various regions of the country. Not one plan explicitly mentioned the objective of reducing economic inequalities. There has been hardly any reduction in the level of poverty and inequality. This reflects an obvious failure in attaining overall economic development.

The Jordanian government recognized a high rate of growth of the gross domestic product as the most important target of the plans. Each plan called for the overall expansion of the economy. It can't be denied that economic growth was given the highest priority in Jordan's economic planning, although the government claimed that each major objective set forth in each plan was equally important. Table 2.2 indicates the importance placed on economic growth. It shows the overall and sectoral growth targets set in the five-year plans for 1976-1980 and for 1981-1986.

Table 2.2 indicates that the planned annual GDP growth rate in real terms is set at 8,12 and 11 percent per year in the first, second, and third plan respectively. Manufacturing growth is set higher than the agricultural and service sector, because each plan calls for better balance in the economic structure. As indicated in Table 2.2, the agricultural sector's annual growth targets have been set at

Table 2.2. Jordan planned growth by sector.

Sector	3-year Plan (1973-1975)	5-year Plan (1976-1980)	5-year Plan (1981-1986)
G D P	7	12	11
Agriculture	-	7	7.5
Mining and manufacturing	-	26	17.8
Water and elecricity	-	17	18.7
Construction	-	4	12.6
Total service sector	-	8.6	8.4

Sources: Jordan, National Planning Council, Five-year Plan (1976 - 1981), pp. 26-27, and Five-year Plan (1981 -1986), pp 35-36.

7 and 7.5 percent in the second and third plans respectively. The service sector growth targets have been set at 8.6 and 8.4 percent whereas the manufacturing growth targets are much higher, set at 26 and 17.8 percent in the second and third plan respectively.

In order to achieve the targeted overall and sectoral rates of growth, planned development expenditures have been established for each plan (see Table 2.3), and the sources for financing development projects have been planned (see Table 2.4). Planned development expenditures reflect sectoral priorities which point out that the government investment is highly biased in favor of infrastructural development. Together, transportation, communication, and power have constituted a relatively large share of total development expenditures. The infrastructural development share represents 29.2, 24.3 and 20.8 percent in the three plans respectively. Every social sector's share of total expenditures has been relatively large, 36.3, 24.2, and 26.3 percent in the three plans respectively. The shares of expenditures for industry and for mining have been relatively large, 14.6, 29.9 and 23.0 percent in the three plans respectively. This large share indicates that the government has more concern for this sector. Agriculture's share of expenditures has been rather constant and relatively low, although the majority of the population is engaged in the agricultural sector. Within this sector, however, the expenditure share for irrigation and water has

Table 2.3. Jordan's planned development expenditures by sector, 1973-1986.*

Sector	Three-year Plan (1973-1975)	%	Five-year Plan (1976-1980)	%	Five-year Plan (1981-1986)	%
1. Agriculture	13.02	7.2	40.0	5.2	234.5	7.0
2. Irrigation and water	14.64	8.2	97.4	12.7	521.7	15.8
3. Industry and mining	26.12	14.6	229.1	29.9	758.8	23.7
4. Tourism and antiques	7.17	4.0	24.4	3.2	65.7	2.0
5. Electricity and energy	9.78	5.5	42.8	5.6	163.4	5.0
6. Transportation	35.81	20.0	119.9	15.7	545.5	16.5
7. Communication	6.71	3.7	23.0	3.0	106.8	3.2
8. Trade and supply	.78	.4	3.8	.5	37.0	1.1
Total economic sectors	114.03	63.7	580.4	75.8	2433.4	73.7
1. Education and youth welfare	10.91	6.1	34.6	4.6	244.0	7.4
2. Health	1.48	.8	9.0	1.2	100.7	3.05
3. Social affairs and labor	1.46	.8	4.8	.60	24.4	.73
4. Housing and government buildings	34.89	19.5	86.0	11.3	308.1	9.4
5. Municipal and rural affairs	14.76	8.2	38.8	5.1	175.6	5.3
6. Awgaf	1.21	.7	5.5	.7	6.4	.20
7. Statistics, science and technology	.26	.2	5.9	.9	7.4	.22
Total social sectors	64.97	36.3	184.6	24.2	866.6	26.3
Total expenditure	179.0	100.0	765.3	100.0	3300.0	100.0

*Millions of JD

Sources: Jordan, National Planning Council, Three-year Plan (1973-1976), p. 36 and Five-year Plan (1981-1986), p. 59.

Table 2.4. Jordan's sources for financing development projects, 1973-1986.*

Sources	3-year Plan (1973-1976)	5-year Plan (1976-1980)	5-year Plan (1981-1986)
Public sector	99.6	382	1760.0
Loans and grants	65.9	224.0	1064.0
Current surplus and external borrowing	30.1	158.0	696.0
Private sector	79.4	383	1540.0
Total planned expenditures	179.0	765.0	3300.0

*Millions of JD

Sources: Jordan, National Planning Council, Three-year Plan, p. 34; The first Five-year Plan, pp. 34-35, and the Second Five-year Plan, p. 59.

been increasing from 8.2 percent in the three-year plan to 12.7 and 15.8 percent in the first and second five-year plans respectively. This indicates that the government has some concern for improving the agricultural sector.

Regarding the financing of development projects, Table 2.4 indicates that the Jordanian government has relied on domestic as well as foreign sources of financial resources. The share of foreign resources is larger than domestic resources in every plan and increasing at an outstanding rate. It should be noted that the amount of foreign loans and grants was much higher in the third plan than in the second or first plan. The second five-year plan had to rely more on external borrowing because foreign grants are subject to severe fluctuations. Concerning the domestic financing, because of the constraint of the tax system, the government budget has been in deficit almost every year while financing a rapid increase in development expenditures.

An Analysis of Jordan's Economic Development Performance, 1967-1983

This section discusses and analyzes Jordan's economic development performance during the period 1967-1983. This analysis is concerned with the structural changes and the overall performance of the Jordanian economy. It is divided into four subsections: sectoral performance, economic growth and development indicators, public finance, and

foreign trade and balance of payments.

Sectoral Performance

This analysis deals with three economic sectors, agricultural, industrial, and service. It discusses the three sectors' performance and their various aspects, which reflect the structural change in the Jordanian economy.

Agricultural Sector. Agriculture is considered one of the most important economic sectors. In the 1960s, agriculture contributed more than 25 percent of the gross domestic product (Steitieh, 1978). Tables 2.5 and A.1 indicate that as other sectors of the economy expanded, the sector's contribution decreased. The total physical output of agricultural products fluctuate tremendously from one year to another because more than 90 percent of the land depends on rainfall. The agricultural sector's share of the gross domestic product dropped from 20.24 percent in 1967 to 7.51 percent in 1983 (Table A.2). This decline indicates structural changes in the Jordanian economy during the economic planning period. Although crop diversification in the 1970s and early 1980s, particularly cultivation of export crops, has lead to an expansion in the quantity of agricultural production, the Jordanian government has not been successful in developing the agricultural sector as a whole. Agricultural productivity has remained mostly constant, while the socio-economic conditions and the quality of life of those who engaged in the agricultural

Table 2.5. Jordan's GDP and GNP by sectors at market prices

(millions of JD)

Category	67	68	69	70	71	72	73	74	75
Agricultural sector	23.4	26.2	22.5	15.6	23.9	26.6	17.6	30.3	26.0
Industrial sector	21.4	27.4	31.1	25.5	26.0	30.2	39.2	60.3	78.3
1. Mining, quarrying	2.0	2.3	2.5	3.7	2.3	3.3	4.0	10.8	16.3
2. Manufacturing	11.8	13.9	16.3	12.2	14.1	15.2	17.2	29.7	39.7
3. Electricity and water supply	1.2	1.5	1.6	1.9	2.2	2.5	2.8	3.0	3.1
4. Construction	6.1	9.7	10.7	7.7	7.4	9.2	15.2	15.8	19.2
Service sector	71.1	94.6	108.9	113.6	116.1	126.0	132.1	151.8	198.8
5. Wholesale and retail trade	23.1	25.6	34.3	32.2	33.0	35.7	38.1	42.4	66.9
6. Transportation	8.2	12.9	14.4	14.6	17.3	17.9	22.8	22.8	24.9
7. Public administration and defense	24.5	36.4	40.5	42.5	43.6	45.9	46.7	54.3	65.2
8. Others	15.3	19.7	19.7	24.6	24.9	27.1	29.4	32.4	41.8
GDP at factor cost	115.6	138.2	162.5	154.7	166.0	182.8	188.9	262.4	303.1
Plus: net indirect taxes	15.6	17.9	20.9	19.7	20.2	24.4	29.4	4.9	9.0
GDP at market prices	131.2	156.1	183.4	174.4	186.2	207.2	218.3	247.3	312.1
Plus: net factor income from abroad	11.3	10.3	14.0	12.6	13.2	13.8	23.2	32.0	63.9
GNP at market prices	142.5	166.4	197.4	187.0	199.4	221.0	241.5	279.3	376.0

Source: Central Bank of Jordan, monthly Statistical Bulletin, different issues

Category	76	77	78	79	80	81	82	83
Agricultural sector	37.3	41.7	58.6	43.6	64.6	76.6	83.8	99.1
Industrial sector	98.3	120.4	152.5	202.2	281.7	339.9	377.5	412.1
1. Mining, quarrying	17.8	19.9	22.9	27.5	39.9	43.2	45.4	53.4
2. Manufacturing	50.0	58.2	71.4	94.1	127.2	165.1	184.9	203.4
3. Electricity and water supply	3.9	5.5	7.2	10.1	17.1	21.0	25.3	28.5
4. Construction	26.6	36.8	51.0	70.5	97.5	110.6	121.9	126.8
Service sector	242.8	277.8	340.1	422.8	542.1	642.9	739.9	806.8
5. Wholesale and retail trade	80.1	94.2	102.6	123.6	166.5	196.7	220.5	233.7
6. Transportation	32.5	35.9	59.3	62.9	79.7	102.7	123.5	146.3
7. Public administration and defense	81.7	84.4	95.0	129.1	170.2	191.2	218.5	232.9
8. Others	48.5	63.3	83.2	107.2	125.7	152.3	177.4	193.9
GDP at factor cost	378.4	439.9	551.2	668.6	888.4	1059.4	1201.2	1318.0
Plus: net indirect taxes	43.2	74.3	81.0	84.4	91.1	123.1	142.0	169.3
GDP at market prices	421.6	514.2	632.2	753.0	979.5	1182.5	1342.2	1487.3
Plus: net factor income from abroad	140.8	145.9	148.8	168.3	205.8	318.5	352.2	361.0
GNP at market prices	562.4	660.1	781.0	921.3	1185.3	1501.0	1695.6	1848.3

sector has improved little despite more than twenty years of economic and social development planning.

Four major agricultural problems cause persistent poverty among peasants and rural people. These problems include the following:

1. The dependence of more than 90 percent of agricultural land on rainfall results in yearly fluctuations in production. The lack of water and irrigation facilities make investment in the agricultural sector unfavorable and risky. Although the government has spent relatively large amounts on irrigation, it is still insufficient to solve such problems.

2. The agricultural marketing structure is unfavorable for peasants because the price mechanism for agricultural products is tightly controlled by a small number of agricultural product exporters who can depress the prices of the products through local marketing networks. The major share of benefits derived from agricultural production flows to a small group of people in the nonagricultural sector, particularly the exporters of agricultural products.

3. Land fragmentation and dispersed holdings especially in rain fed areas hinder the introduction of modern agricultural practices and discourage investment in these areas.

4. Low agricultural productivity is also constrains agricultural development. Low productivity is caused partly by the lack of a wide adoption of new techniques and

innovations. Low productivity is made more severe because such a small proportion of cultivated land is under irrigation.

The dependence of cultivated land on rainfall, the unfavorable structure of agricultural marketing, and the backward land tenure system perpetuate poverty and underdevelopment in rural Jordan. It is difficult for peasants to improve productivity or average yield per unit of land. As a result, most peasants find it difficult to break this vicious cycle. A low level of real income results in low productivity, thereby perpetuating poverty. In recent years, migration from rural to urban areas has been noticeable and is likely to continue as economic possibilities decline in the rural-agricultural sector. This significant social problem results largely from unsuccessful government performanc in solving agricultural problems.

Problems in the agricultural sector are intensified by developing nonagricultural sectors at the expense of the agricultural sector. In particular, industrialization has led to the neglect of the rural-agricultural sector. There is no doubt that the government has tried to improve development of the agricultural sector by promoting irrigation and agricultural credits, and by reforming the agricultural marketing system, but these efforts have not succeeded. The development of the agricultural sector is a necessary precondition for the overall development of the economy. Without it, it is difficult to improve the

consumption capacity of the rural population without which the market for industrial product cannot be enlarged. In the long run, the industrial sector is likely to suffer in the absence of agricultral development. The short-term gain of the industrial sector may actually prove to be detrimental to the overall performance of the economy in the long run.

Industrial Sector. The industrial sector in Jordan includes manufacturing, mining and quarrying, construction, and electricity and water supply. Manufacturing is the most important subsector, which constituted on the average 49.9 percent of the total industrial production during 1967-1983; mining and quarrying, construction, and electricity and water supply constituted 13.6, 30.4, and 6.1 percent respectively (Table A.3). The value of industrial output increased remarkably during the first five-year plan (1976-1980) and during the first three years of the second five-year plan (1981-1986). The growth rate of the industrial sector at current prices averaged 18.98 percent per year during the whole period (Table A.1). The growth rate of the industrial sector is the highest of the three sectors. The annual growth rate in real terms for the industrial sector was impressive. It averaged 10.0 percent per year from 1967 to 1983 (Table 2.6). These figures confirm that the emphasis on industialization in Jordan's development strategy has been quite successful in terms of achieving high growth rates in industrial output.

Table 2.6. Growth rates of economic sectors, GDP, GNP, at constant prices, 1967-1983.

Category	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	Average
Agricultural Sector	-4.4	-30.5	28.8	35.3	47.3	3.1	-40.5	44.6	-23.5	28.8	-2.6	31.6	-34.7	32.5	7.0	1.7	12.6	4.0
Industrial Sector	-13.0	30.3	5.3	-23.4	-2.1	7.4	17.0	28.8	-2.2	35.0	2.0	.2	42.3	25.4	8.7	3.4	3.9	10.0
Mining and quarrying	-5.0	15.8	2.3	3.8	-40.3	32.4	8.1	126.4	358.0	2.5	-1.8	7.0	5.4	30.7	6.1	-1.8	11.8	13.8
Manufacturing	-6.2	18.6	8.6	-37.8	10.8	-.4	2.2	44.8	-8.4	60.7	3.9	-4.5	34.2	21.7	16.9	4.3	6.1	9.8
Electricity and water supply	-29.1	26.0	-3.4	10.7	12.9	5.7	2.7	-10.5	-8.8	3.2	.0	18.8	71.0	50.7	11.2	11.9	7.6	10.7
Construction	-22.5	58.5	2.7	-32.8	-7.5	15.1	48.2	-7.4	-14.4	30.4	.9	21.2	75.9	24.5	2.1	2.4	-.8	11.6
Service Sector	-10.6	33.5	6.8	-2.5	-1.9	.3	-5.5	-3.7	6.6	12.1	-3.4	18.6	22.8	34.4	-8.0	3.4	3.5	6.2
Wholesale and retail trade	-6.1	11.3	24.3	-12.2	-1.7	.2	-3.9	-6.8	-2.3	25.7	-10.8	20.3	24.3	21.2	6.5	4.4	.8	5.6
Transportation	-32.3	58.0	4.0	-7.3	-5.8	13.7	-6.6	6.7	-6.2	16.8	-3.4	-3.4	-18.1	14.1	16.1	11.8	12.9	5.9
Public administration and defense	30.5	48.8	3.4	1.9	-.32	-9.6	-8.2	-2.6	7.2	7.2	-9.8	5.1	19.0	18.7	1.1	6.4	1.5	7.1
Others	-35.8	29.6	-7.6	16.8	-.3	.8	-2.2	-10.4	12.9	-6.5	20.3	-1.0	70.6	74.9	-33.0	-5.7	2.9	8.8
GDP	-8.7	22.8	8.9	-10.4	2.4	3.0	-4.6	-5.6	12.7	17.5	6.6	15.0	4.0	17.2	12.1	5.7	5.4	6.0
GNP	-8.9	20.6	10.0	-11.3	2.2	2.5	-1.0	-3.6	20.2	30.0	2.5	10.6	3.1	15.9	17.6	5.1	3.8	6.9

Source: Calculated from Table 2.5

The degree of success in this sector can be illustrated by examining industrial production figures as a percentage of the total GDP. Table A.2 shows that this sector contributed only 18.25 percent in 1967 and declined to 15.66 percent in 1971. The figure substantially increased to 31.26 percent in 1983. On the whole, the contribution of industrial production averaged 24.25 percent from 1967 to 1983. The contribution of manufacturing alone to the total GDP averaged 12.1 percent during the same period. However, the share of the total GDP for the other three subsectors totalled 12.15 percent: 3.3 percent for mining and quarrying, 7.4 percent for construction and 1.45 percent for electricity and water supply. The relatively high share of the construction subsector was due to the expansion of infrastructure building because of development needs and several Israeli-Arab wars.

Regarding growth in real terms, the average annual real growth in manufacturing was 9.8 percent from 1967 to 1983. The annual growth rates for the other subsectors within the industrial sector were 13.8 for mining and quarrying, 10.7 percent for electricity and water supply, and 11.61 percent for construction. Their real growth rates in the early 1980s were relatively low. It appears that this decline is directly related to world inflation.

The rapid expansion and diversification of manufacturing products have been a major part of the industrial promotion emphasized by the government since the

implementation of the three-year plan (1973-1975). In order to promote manufacturing expansion and diversification, the government has provided several privileges and incentives to investors including tax-exemption for a certain period and nontariff charges on imported machinery and equipment.

In spite of impressive rates of industrial growth, several problems face this sector. It is useful to discuss some of these problems to gain a clear understanding of Jordan's economic structure.

1. One major problem in the industrial sector is the concentration of factories and industrial investment activities in the Amman metropolis and its surrounding areas. This is because of the availability of the needed facilities, telephones, telex services, and electricity and water supply. This phenomenon has generated an influx of rural-urban migration. In addition, the concentration has resulted in an uneven distribution of growth benefits among the regions in the country.

2. The employment aspect of industrial development is also important, but statistics show that industrial expansion has had a minimal impact on the labor market. The industrial sector employed 9.2 thousand workers in 1973 or 12.8 percent of total employment in the country. In 1978, the industrial sector employed 19.8 thousand workers or 18.8 percent of total employment. This means there is 6 percent increase in industrial employment. However, total employment increased from 71.73 thousand workers in 1973 to

105 thousand workers in 1978 or 46.4 percent. However, this doesn't indicate that the industrial sector's expansion has not been able to increase employment. In fact, the sector continues to suffer from a shortage of skilled labor. The migration of skilled labor to neighboring Arab countries acts as a barrier to further expansion of the industrial sector.

3. There is an oligopolistic tendency in Jordan's industrial structure, i.e., monopolistic control of production of such items as cement, construction materials, petroleum refinery, food processing, and beverages. This oligopolilstic tendency can be detrimental to the qualitative and competitive development of Jordan's industrial economy.

The above analysis makes clear that throughout the 1967-1983 period Jordan's growth rates for industrial output have been quite impressive. Foreign sources have played an important role in the industrial development. As a result, manufacturing products have been substantially diversified in the late 1970s and early 1980s.

Service Sector . The service sector in Jordan consists of the following main subsectors: wholesale and retail trade, transportation and communication, public administration and defense, and other services. This sector employed 70 percent of the total employment in the country in 1973 and decreased to 61 percent in 1978. This reduction was due to the increase in migration to neighboring Arab

countries. The value of the service sector increased markedly from JD 71.1 million in 1967 to 806.8 million in 1983 (Table 2.5). Its annual growth rate at current prices, on the average, was 14.7 percent during the period 1967-1983 (Table A.1). Its annual growth rate in real terms was rather high, averaging 6.2 percent (Table 2.6). Its production as a percentage of the total GDP averaged of 64.93 percent during the period 1967-1983 and was the largest share in the total GDP of the three main sectors (Table A.2). In recent years, its share declined slightly. This decline suggests that government policy in accomplishing sectoral balance so far has been unsuccessful.

According to Table 2.6, the growth rate in real terms during the period from 1967 to 1983 for the wholesale and retail trade averaged 5.6 percent per year. The expansion and increasing significance of trade in terms of growth and share of the GDP illustrates the increasing growth of the free enterprise system in Jordan. The transportation and communication growth rate in real terms averaged 5.9 percent during this period, which is the highest in the service sector. Public administration and defense also recorded quite a high growth rate, averaging 7.1 percent. It has the highest share of the total GDP of all the subsectors under the three main economic sectors.

Several factors contributed to the dominance of the service sector in the economy.

1. Jordan's population has one of the highest growth

rates in the world. The average annual growth rate is more than 3.5 percent. To satisfy the basic requirements of new generations, a considerable amount of expenditures have been channeled toward the service sector.

2. The involvement of Jordan in the Israeli-Arab wars resulted in a huge migration to the east bank of Jordan. This and the continuous destruction and damage due to continuous Israeli aggressions have added a heavy burden on the government. Therefore, Jordan has assigned more expenditures for construction, transportation and communication to meet domestic needs because of migration and war damage.

3. The dependence of the agricultural sector on rainfall has made investment a risky decision. In addition, small domestic markets and competition from outside have made investment in the industrial sector unfavorable for a long time. Furthermore, the easy policy followed by bankers and other financial institutions towards investment in the service sector have made the service sector a dominant one.

4. The inflow of capital from Arab neighboring countries especially Lebanon during the 1970s (due to political disorders) has been primarily channeled to the service sector. This is partly due to the lack of confidence to invest in the other sectors due to the reasons indicated above. In addition, the people preferred to engage in similar work as in their home country. Regardless of its dominance, there are three major problems associated

with the service sector.

1. The concentration of service activities in Amman and Zarka metropolis has led to uneven distribution of growth benefits throughout the country.

2. The cost of services, particularly transportation, has been high because of the rising price of oil. It not only has affected people in all walks of life, especially the poor to a considerable extent, but also has affected the cost of development.

3. As in many underdeveloped countries, Jordan has faced over-employment in government services with low productivity and high inefficiency.

In the light of this evidence, it is clear that growth rates of service production have been high throughout 1967-1983. The impressive growth of the service sector is another positive aspect of Jordan's development results. A rapid expansion of infrastructure investment has greatly contributed to this sector's growth.

Economic Growth and Development Indicators

This analysis deals with the economic growth and the development indicators during the 1967-1983 period, focusing on components of the GNP, consumption, investment, and domestic savings. This section also discusses per capita income, inflation and money, and analyzes such aspects as poverty and economic inequality.

Economic Growth. Throughout the period 1967-1983, the Jordanian economy grew rapidly. The growth rate of the GNP in Jordan averaged 15.57 percent per year in current prices and approximately 7.0 percent per year in real terms (Tables A.1 and 2.6). The GDP growth rate was very close to the GNP growth rate over the same period. It was 14.57 percent per year in current prices and approximately 6 percent per year in real terms. The high and rapid rates of economic growth in Jordan were mainly due to the nonagricultural sector's rapid growth, particularly the industrial sector's. Although the GDP growth rates in real terms didn't reach the rates targeted in the plans, still the rates were quite high. Thus, in general, the growth objectives of development as stressed in the economic plans have been achieved.

Per Capita Income. The per capita income in Jordan averaged JD 222.4 in current prices and JD 177.6 in real

terms during 1967-1983 (Table A.4). The growth rate of per capita income averaged 14.1 percent at current prices and 2.2 percent in real terms. The high growth rate of per capita income was due to high growth rates and partly due to a relatively lower growth rate of population in the late 1970s and early 1980s. Judging from these statistics which show the average of the nominal per capita income to be JD 223.4 (or about 670 US dollars), Jordan might be classified as a relatively prosperous and rapidly developing country, compared to other LDCs. But these figures represent only one side of the story. The per capita income is a crude indicator of Jordanian development because it doesn't reflect the existing reality of the economy in which the distribution of income and wealth is highly skewed.

Consumption. The growth rate of consumption averaged 15.0 percent per year during the same period (Tables A.5 and A.6). Consumption averaged 132.6 percent of the total GDP during the period 1967-1983 (Tables A.5 and A.7). The share of public consumption as a percentage of total consumption averaged 27.0 percent. This is attributed mainly to an increase in defense, general administration, and services. These categories constituted the largest share in the total public consumption throughout the economic planning period. The average propensity to consume equalled 1.3 during 1967-1983, while marginal propensity to consume equalled 1.21 during the same period (Table A.8).

The previous figures indicate that the pattern of

population spending behavior is unhealthy. This reflects the inefficiency and inadequacy of the policies initiated to rationalize consumption and generate more savings. More than 96 percent of the Jordanian population are Muslim. The impact of religion on the population's investment and consumption is tremendous. The people prefer financial institutions that apply and follow religious rules and teachings. The government, however, only recently recognized that reality, through the establishment of the Islamic bank of Jordan. This is not sufficient, and more serious steps are needed to correct a consumption behavior directed by habits, customs, and imitation rather than by economic decisions.

Investment. Investment expenditures constituted 33.4 percent of the GDP in Jordan during the period 1967-1983 (Table A.7). This share increased from an average 27 percent during the three-year plan 1973-1975 to 50 percent in the early years of the second five year plan 1981-1986. The growth rate of investment expenditures was high, it averaged 24.7 percent annually during 1967-1983 (Table A.6). This increase was a result of the rate of change in private investment. As noted earlier the private share in total investment was expected to be 44, 51, and 46 percent for the three-year plan, first five-year plan, and second five-year plan respectively. The government has played a significant role in development. The public investment share in total investment was expected to be 56, 49, and 54 percent during

the three-year plan, first five-year plan and second five-year plan respectively. This indicates that the private sector's investment activities have not tended to dominate and control the price mechanism in the economy, and the free enterprise economic system in Jordan will not be achieved in the near future.

Throughout this period, private investment concentrated in the industrial and service sectors. This pattern of investment concentration was similar for public investment. According to the national planning council, the public sector's investment in the agricultural sector constituted on the average only 6.2 percent of total public investment during 1976-1980. The remaining public investment was allocated to the nonagricultural sectors. This disparity is a clear indication of the highly uneven allocation of the public resources between the agricultural and nonagricultural sectors.

Domestic Savings. Gross domestic savings have grown at an average rate of 24.9 percent per year during the period 1967-1983 (Table A.6). The ratio of gross domestic savings to the GDP was extremely low throughout the economic planning period, averaging (-20.0) percent (Table A.7). The marginal propensity to save during the same period averaged (-.21). Although the overall growth rate was negative, total dissavings were characterized by up and down fluctuations. Low levels of domestic savings were due to the unhealthy pattern of consumption and to inadequate

policies adopted to attract savings.

The objective of decreasing dependence on external sources appears too difficult to be accomplished. From 1967 to 1983, foreign savings constituted 65.1 percent per year of the GDP (Table A.7). This indicated Jordan's increasing tendency to rely on external financial resources. This tendency is supported by another indicator, the investment-saving gap. The investment-savings gap was, on the average JD 294.7 million per year during the 1967-1983 period (Table A.5). It was much higher during the late 1970s and early 1980s and reached JD 828.6 million in 1983.

The investment-savings gap was covered by foreign aid, Jordanian remittances, and external loans. The increasing positive growth of this gap in recent years had to be financed by external loans and other external financial resources because of the reduction in foreign aid. This necessity to balance positive growth with external sources shows that in financing development projects, external loans and other external financial resources necessarily have become an essential part of Jordan's economic policy.

Inflation and Money. Inflation has already become a major problem in Jordan. For 1967 to 1983, the rate of inflation averaged 7.8 percent per year (Table A.9). There are several factors behind Jordan's inflation. Excessive consumption by the private sector and the government's expansionary fiscal policy were responsible to some extent for the rate of inflation. Import and export prices were

primarily responsible for the high rate of inflation during the period 1973-1975. More precisely the high rate of inflation in 1973 (11 percent) and in 1974 (19.4 percent) was due to high prices of oil resulting from the oil crisis in the world, coupled with high prices of imported raw materials and finished goods resulting from worldwide inflation. As Jordan is industrially dependent on imports, the inflationary international markets directly affected the price level in Jordan. Export prices have also affected the domestic price level in Jordan, because Jordan's exports rely mainly on primary products. The growth of money supply appears to have been primarily responsible for the high inflation rate during the periods where import and export prices were not high as in 1976-1978. The growth of money supply was rather high for 1976, 1977, and 1978 due to a dramatic increase in claims to the central government.

Table A.10 shows that the income velocity as measured by the ratio of the GDP to total liquidity declined from a high of 1.54 in 1969 to .92 in 1983, thus displaying a downward trend throughout the period. The income velocity averaged 1.17 during 1967-1983. Income velocity was quite stable during the same period. Stable income velocity indicate that money and income have grown in proportion to each other, which implies a tendency for the income elasticity to approximate unity and a tendency toward some kind of equilibrating adjustment between money and income. The income elasticity as measured by the ratio of the

percentage change of total liquidity to the GDP growth rate averaged 1.07 during 1967-1983.

Money supply (MI) grew at an average rate of 17.72 percent per year during the 1967-1983. The expansion of money supply especially during the 1970s and early 1980s was induced by the inflow of external financial resources as shown by the balance of payments account, the claims on the central government, and the high rate of expansion of the domestic credit to the private sector.

Poverty and Economic Inequality. As indicated earlier, Jordan has recorded a high economic growth rate from 1967 to 1983. However, the problems of poverty and uneven income distribution have persisted and are regarded as the most serious economic problems. In fact, the disparity arises partly because regional and sectoral distribution of growth benefits are uneven. Basic needs such as public utilities, medical services, and education have been concentrated in big cities. Major benefits in terms of wealth and income are concentrated in the hands of a small group of bankers, industrialists, and business tycoons who have a monopoly control over activities in the industrial and service sectors.

A clear picture of economic inequality can be gained with the existence and availability of data concerning income and utility distribution. However, an attempt is made in this section to indicate that the main beneficiaries of economic growth in Jordan are a small group who own the

capital. Table 2.7 shows real growth rates in both wages and rate of returns for capital during 1973-1979. The real growth rate for wages averaged .4 percent per year during 1974-1979. Conversely, the growth rate for the real rate of return for capital was 6.44 percent per year during the same period. Therefore, this evidence strongly indicates that the main receivers of the development fruits is a small group i.e., the capitalists.

Economic inequality as well as opportunity inequality exist. Even if the distribution of income is quite fair, there are other inequalities reflected in the lack of access to basic services and goods. The availability of most industries and services in big cities, indeed deprives the rural people of such services even if they do have income.

In conclusion, the majority of Jordanians still suffer from both economic inequality in terms of income distribution as well as from opportunity inequality. This chapter indicates that the objective of reducing disparities in income, or for regional and sectoral imbalance has not been accomplished.

Public Finance

This section discusses government revenues and expenditures in order to present the fiscal performance of the Jordan's government during the 1967-1983 period. The allocation of resources through fiscal measures reflects the direction and degree of its impact on the economy. The

Table 2.7. Growth rates in real wages and rate of return on capital in Jordan, 1973-1979.

Year	Wage[1]/ day (Dinnar) (1)	Real Wage/ day (Dinnar) (2)	Growth rate in real wage (%) (3)	Return/ unit of capital (Dinnar) (4)	Real return unit of capital (5)	Growth rate in real return/ capital (%) (6)
1973	1.29	1.67	-----	.102	.133	----
1974	1.38	1.56	-6.6	.128	.146	9.8
1975	1.50	1.50	-3.8	.168	.168	15.06
1976	1.88	1.62	8.0	.254	.220	30.9
1977	2.08	1.59	-1.8	.254	.195	-11.4
1978	2.29	1.74	9.4	.268	.204	4.6
1979	2.47	1.66	-4.6	.271	.183	-10.3
Average	1.84	1.62	.4	.206	.178	6.44

Source: Figures in column (1): Yearbook of Labor Statistics, 1981, p. 441.
Figures in column (5): Hammad, Khalil, 1981, p 165.
Figures in columns (2), (3), (4) and (6) are calculated by the present author

1 The figures represent wages in nonagricultural activities.

discussion further deals with the pattern of government expenditures and the expansion of deficit financing.

Government Revenues. According to Table A.11, the government's domestic revenues increased from JD 25.497 million in 1967 to JD 396.0 million in 1983. The rate of increase averaged 18.7 percent per year during 1967-1983 (Table A.12). Total domestic revenues constituted 19.8 percent of the total GNP during the 1967-1983 period, and covered 42.0 percent of the total government expenditures during the same period (Table A.13).

Within the category of tax revenue in Jordan as in other LDCs, the largest component is indirect taxes. Indirect taxes constituted 85.2 percent of the total tax revenues during the period 1967-1983, whereas direct taxes (i.e., mainly income tax) generated only 14.8 percent (Table A.14). Indirect taxes increased from JD 16.115 million in 1967 to JD 289.604 million in 1983 with an average growth rate of 20.8 percent per year (Tables A.11 and A.12). Import duties are the major source of indirect taxes. The Jordanian government has used the import tariff as in instrument to (1) increase the government revenue, (2) curb the imbalance of trade, and (3) protect some infant industries.

The inadequacy of domestic revenues to finance the government expenditures increased the tendency to depend on foreign resources. Foreign grants and external borrowing are the main foreign sources. Foreign grants averaged JD

96.5 million whereas external borrowing was on average JD 34.7 million during the period 1967-1983 (Table 2.26).

Government Expenditures. Government expenditures in Jordan largely exceeded the government revenue in every year. The government expenditures accounted for 47.48 percent of the GNP during 1967-1983 (Tables A.15 and A.16). Public expenditures have two classes, current and capital. Current expenditures accounted for 31.24 percent of the GNP during the same period (Table A.16). The share of capital expenditures in the GNP was relatively small, averaging 16.24 percent during the same period (Table A.16).

Current expenditures, then, constituted the major part of the total expenditure averaging 66 percent during the entire period, whereas the share of capital expenditures averaged 34 percent (Table A.17). As shown in Table A.12, current expenditures increased from JD 44.659 million in 1967 to JD 448.98 million in 1983, or at a rate averaging 18.8 percent per year. Capital expenditures, on the other hand, increased from JD 23.496 million in 1967 to JD 268.673 million in 1983, or at a rate averaging 25.6 percent per year (Tables A.15 and A.17).

The expansion of the government expenditures is attributed to the following: (1) a continued rise in the large amounts of military and national security; (2) periodic increases in government employees' salaries in recent years; (3) a rapid increase in public sector's external debt servicing payments; and (4) a heavy emphasis

on infrastructure building.

In terms of the economic classification, the expenditures for defense, including general administration, constituted 62.3 percent of the total government expenditures during the 1967-1983 period (Table A.16). Expenditures for internal security, including police administration, are included under general administration and services. Hence, the relatively high share of defense and administration and services in the total public expenditures reflects a high opportunity cost in development expenditures.

Expenditures for defense and security alone increased from JD 28.557 in 1967 to JD 203.99 million or at a rate of change of 16.8 percent per year (Table A.15 and A.17). Expenditures for general administration increased from JD 13.479 million to JD 238.587 million or at a rate averaging 25.80 percent per year. This high rate was mainly due to the rising level of government exployees' salaries and a rapid increase in public external debt services.

Expenditures for economic services accounted for 20.4 percent per year of the total public expenditures during 1967-1983 (Table A.16). The average increase in this category was 25.7 percent per year (Table A.15). The average growth rate of expenditures for social services and communication and transport was 19.5 and 25.0 percent per year respectively. Their share of the total expenditures, however, was 12.0 and 5.3 percent per year respectively.

Deficit Financing. During 1967-1983, the Jordanian government budget had a large deficit every year. The treasury deficit averaged JD 164.0 million per year during the same period. The deficit averaged 27.7 percent of the GNP during 1967-1983 (A.16 and A.18).

Regarding deficit financing, the average amount of treasury deficits of JD 164 million was financed mainly by foreign grants, external borrowing, and domestic borrowing. As noted earlier, foreign grants averaged JD 96.5 million during the 1967-1983 period, which on the average covered 58.8 percent of total deficits. On other hand, external borrowing during the same period averaged JD 34.7 million, which covered on the average 21.2 percent of total deficits. However, the rest (20 percent) was covered by domestic borrowing.

Jordan's fiscal system during this time generally retained certain problems of the pre-economic planning period.

1. The share of direct taxes in the total tax revenue has been very small. Many possible factors may help explain this fact. It may be due to a combination of low per capita income, more exemptions, lower rates on smaller incomes, and a general administrative weakness in collecting income taxes. Noneconomic factors may be another explanatory factor. A group of people may directly or indirectly control both the distribution of wealth and income and the political structure. The prevailing income inequality means

that there is great scope for expanding income tax revenue. Seemingly, this did not happen because of influential groups and the availability of many tax loopholes for wealthy individuals.

2. With respect to the tax system of Jordan, a question should be raised: which income brackets bear most of the tax burden? There is no evidence confirming that the tax system in Jordan is unjust and negatively affects the distribution of income. To analyze the incidence and burden of tax one has to compute the effective tax rate for each income class. The tax structure is said to be progressive. The existence of noneconomic factors may change the structure to an aggressive one. If so, the tax incidence puts a heavy burden on the poor. It is worth noting that it is difficult to prove or disprove that the tax structure is equitable for the poor as long as data regarding income distribution, the tax burden, and the tax structure is unavailable.

3. The Jordanian government, even after more than twenty years of planning, still depends heavily on external sources to finance its expenditures and deficits. This dependence has the tendency to increase rather than to decrease. Thus, it can be concluded, the objective of reducing external dependence has not been achieved.

Foreign Trade and the Balance of Payments

Since the first plan, Jordan has followed an open economic approach to international economic relations. As a result of the growth-oriented approach emphasized in the economic development plans, Jordan has pursued relatively nonrestrictive economic policies regarding foreign trade. The analysis of this section deals with exports, imports, the balance of trade, and the balance of payments.

Exports. The value of Jordanian amounted to JD 11.343 million in 1967 and increased to 160.859 million in 1983 (Table A.19). The export growth rate averaged 23.3 percent per year during 1967-1983 and the value of exports accounted for 7.9 percent of the GNP during (Table A.20).

Factors contributing to the generally high growth rates of exports especially during the 1970s and early 1980s were (1) the industrial promotion policy of the economic plans; (2) an expansion of agricultural output due to an expansion of cultivated area; (3) the diversification of export products; (4) rising prices of exports in the world market especially the price of phosphate.

Jordan's export structure, according to the Standard International Trade Classification (SITC), indicates that of all export categories raw material exports (SITC 2) constituted the largest share of total exports, averaging 34.1 percent per year during 1967-1983 (Tables A.21 and

A.22). The following exports are regarded as primary exports: food (SITC 0), beverages and tobacco (SITC 1), crude materials (SITC 2), mineral fuels and lubricants (SITC 3), and animal and vegetable oils and fats (SITC 4). These exports together accounted for 72.4 percent of the total exports during 1967-1983. The major component of primary exports was food and crude materials (e.g., fruits, vegetables, and phosphates), which altogether accounted for 65.9 percent of the total exports during that period. The categories, chemical (SITC 5), manufactured goods (SITC 6), machinery (SITC 7) and miscellaneous manufactured goods altogether constituted 27.6 percent per year of the total value of exports during 1967-1983 (Table A.21). The component that has become increasingly significant in terms of its share of total exports is manufactured goods (SITC 6). Its percentage share averaged 12.6 percent from 1967 to 1983 (Table A.22).

Regarding foreign markets for Jordan's exports, Table A.23 shows that the share of Jordan's exports in total exports to the Arab countries averaged 61.1 percent during 1967-1983. On the average, 9.2 percent per year during the same period was absorbed by the communist countries' markets. This was probably caused by improving political and commercial structures and practices. The European countries, Japan, India, and other countries' markets absorbed an average of 29.7 percent during 1967-1983.

The number of foreign markets importing Jordan's

commodities, however, illustrate only a very general picture of the market's diversification. The degree of market diversification for many of Jordan's principal exports is low in the sense that most of these exports were concentrated largely in a few foreign markets, particularly in the case of primary exports.

With respect to the change of the unit value of exports, the available data in Table 2.8 indicates the average change was 15.55 percent during the period 1971-1982. The average increase in the value of exports throughout the same period was 16.13 percent, which was higher than that for the unit value of exports. From this evidence, it is clear that the high growth rate of the total value of exports (23.3 percent) during 1967-1983 was due to an increase both in the unit price and in the export volume. However, for some years (1973, 1974), it was mainly due to an increase in the unit price rather than to an increase in the export volume. This can be confirmed by the fact that the oil crisis in the early 1970s resulted in worldwide inflation, therefore increasing the prices of Jordan's export commodities. The increase in the value of exports during the period of 1976-1979, on the other hand, was mainly due to an increase in the volume of exports because the unit value of Jordan's exports averaged a negative growth rate per year during that period.

Table 2.8 shows that the percentage change of the volume of exports fluctuated throughout the entire period

Table 2.8. Jordan's trade indices and terms of trade, 1971-1982

Year	Exports Quantum	Exports Unit Value	Imports Quantum	Imports Unit value	Terms of trade	Percentage Change Exports Quantum	Percentage Change Exports Unit Value	Percentage Change Imports Quantum	Percentage Change Imports Unit Value
1971	31.32	39.59	24.12	48.59	77.02	----	----	----	----
1972	38.96	47.69	30.75	52.97	78.90	24.4	20.4	27.5	9.0
1973	42.49	48.11	30.0	55.49	71.23	9.0	.9	-2.4	4.7
1974	60.03	97.84	33.54	70.49	55.87	41.3	103.4	11.8	27.0
1975	51.55	110.93	42.57	96.75	82.57	-14.1	13.4	26.9	37.3
1976	65.32	99.74	63.52	86.62	77.25	26.7	-10.1	49.2	-10.5
1977	71.03	95.28	74.61	96.15	99.2	8.7	-4.5	17.5	11.0
1978	78.08	95.12	85.13	43.41	105.2	9.9	-.2	14.1	-2.8
1979	100.0	100.0	100.0	100.0	100.0	28.0	5.1	17.5	7.0
1980	124.42	118.42	98.1	124.13	78.59	24.42	18.42	-1.9	24.13
1981	145.54	136.31	116.36	151.07	79.95	16.9	15.1	18.6	21.7
1982	148.87	148.96	127.75	153.53	85.81	2.3	9.2	9.8	1.6
Average						16.13	15.55	17.14	11.83

Source: The Central Bank of Jordan, Monthly Bulletin, different issues

with a negative growth rates for some years. This situation reflects both fluctuation in agricultural production resulting from bad climate and the shortcomings governmental policies toward the agricultural sector.

Imports. The value of imports in Jordan increased from JD 55.048 million in 1967 to JD 1103.31 million in 1983 (Table A.20). The average annual growth rates of imports was 19.4 percent during 1967-1983. The value of imports accounted for 53.7 of the GNP during the same period, which was much higher than that of exports (Table A.21).

The high growth rate of imports can be attributed to the following factors: (1) the industrial sector's increased demand for imports of capital goods, raw materials, and intermediate products; (2) the rising prices of fuel oil imports and other imports; (3) the relative low restrictions on imports; and (4) the increased demand for consumption goods.

Jordan's import structure according to the economic classification as in Tables A.25 and A.26 has somewhat shifted since the beginning of the three-year plan 1973-1975. The share of consumer goods imports in the total value of imports, which dominated the import structure for a long time, showed a quite steady decline throughout the economic planning period. It was approximately 50 percent during the late 1960s, but declined to about 32 percent in the early 1980s. This decline may be attributed to an expansion of import-substitute industries. The imports of

consumer goods as a percentage of total consumption increased from 16.1 percent in 1967 to 21.1 percent in 1983. However, the percentage share in the 1980s was lower than during the 1970s. The share of consumer goods imports in total consumption was 20.4 percent during 1967-1983 (Table A.21).

Within the consumer good import component, nondurable and durable consumer goods constituted 34.0 and 6.6 percent of the total imports respectively during the whole period. One reason for a decreasing share of consumer goods in total imports lies in the reduction of nondurable consumer goods items from 39.9 percent in 1967 to 24.7 in 1983 (Tables A.27 and A.28).

The share in total imports of raw materials and intermediate products increased from 25 percent in 1967 to 34.2 in 1983. It averaged 25.3 percent throughout the whole period. Within this component of imports, oil and fuels constituted 9.8 percent and absorbed 62.7 percent on average of export earnings (Table A.20). Capital goods imports constituted 26.8 percent in 1967, but reached 46.5 percent in 1977, and dropped to 28.1 in 1983. The capital goods share averaged 29.1 percent during the whole period, which was quite high. This high average was due to the continued expansion of investment activities in both the private as well as the public sector.

In summary, the import structure of Jordan has shifted slightly away from consumer goods imports in the late 1960s

toward the other components, i.e., raw material and capital goods in the late 1970s and early 1980s.

The import structure is shown by Standard International Trade Classification (SITC) in Tables A.27 and A.28. There were four items important in terms of their shares of the total imports. These items were food (SITC 0), mineral fuel and lubricants (SITC 3), manufactured goods (SITC 6), and machinery (SITC 7). Altogether these four items constituted 77.7 percent of the total imports during 1967-1983.

In terms of import direction, Jordan has relied on industrialized countries, such as European countries, the United States, Japan and socialist countries, as sources of nonoil imports. Table A.24 shows that 44.3 percent of the total imports came from the European common market and the United States during 1967-1983. Imports from the European common market constituted 32.3 percent of the total imports while those from the United States constituted 12 percent of the total imports during the same period. Arab countries supplied 19.7 percent of the imports, which is too low compared to their share of exports. However, imports from the socialist block were approximately 9.2 percent during the period.

The percentage change in the volume of imports as shown in Table A.25 was 17.14 percent per year during the 1971-1982 period, a figure slightly higher than for exports (16.13 percent) during the corresponding period. The rate of change of the unit value of imports averaged 11.83 percent

during the period 1971-1982. In 1974 the unit price of imports sharply increased recording as high as 37.3 percent. This was due to a drastic increase in the price of oil, raw materials, and capital goods imports. Between 1975 and 1979, the rate of change in the value of imports was relatively high, while in some years (1976, 1975) the rate of change in the unit value was negative. According to the evidence presented above, the increase in the value of imports was caused by increases in both the volume and the unit value of imports. Probably the former factor had the greater influence on the increase in the value of imports.

Jordan's import financing structures consists of two sources: (1) the domestic sources and (2) the foreign sources (aid and external borrowing). Although the data concerning Jordan's import financing structure are not available, based on the discussion in the previous sections, it is clear foreign sources do have the highest share.

Balance of Trade. Jordan's balance of trade has had a deficit throughout the whole period 1967-1983 (Table A.20). The amount of the deficit was JD 45.064 million in 1967. In the first year of the three-year plan (1973), the deficit reached JD 94 million and grew to JD 943.231 million by 1983. The average growth of the trade deficit was 19.8 percent per year throughout the whole period (Table A.19). On the average the deficit amounted to JD 336.4 million per year during 1967-1983. As a percentage of the GNP, the trade deficit averaged 45.8 percent. This deficit is likely

to continue as long as no serious measures are taken concerning imports and other economic activities.

Regarding the terms of trade (Table A.25), in general it was almost in every year against Jordan. The rising oil prices and high inflation rates in industrial countries have been the main cause for trade deterioration.

With respect to exports, imports, and the balance of trade, the following conclusions can be made. An increase in domestic investment and industrial diversification in Jordan has been associated with increased importation of capital goods, raw materials, and intermediate products. A large amount of foreign loans and other foreign financial resources has been used to finance these imports. Consequently, external resources played a significant role in Jordan's industrialization and development process. The development of manufacturing has led to a slight shift of exports away from the traditional agricultural products. The recent discovery of oil in Jordan may help reduce oil and fuel imports in the long run. These positive signs suggest that over time trade deficits may be reduced through export increases and import replacement, as Jordan's productive capacity expands.

Balance of Payments. In the late 1960s, Jordan's balance of payments had a surplus except in 1969 when Jordan had a deficit of JD 12.98 million (Table A.29 and A.30). This surplus in the balance of payments during those years was due to substantial unequited transfers inflows from

foreign countries.

In the 1970s, the situation was reversed. Jordan had a deficit in the balance of payment for two consecutive years. The deficits were 5.93 and 21.27 million dinars in 1970 and 1971 respectively. This period of deficit was followed by a period of surplus (1972-1983) except 1974 and 1982 (Table A.29).

Because of a large deficit in the balance of trade the current account has also had a deficit for most of the years during the period 1967-1983 despite a continuing surplus in the net service account and unequited transfers. A large deficit in the merchandise account, however, was offset largely by the surplus in net services and net unequited transfers.

A large income derived from tourism throughout the whole period and a large sum of remittances from Jordanian people working abroad resulted in a surplus in net services. This large sum of remittances from workers abroad was attributable to the striking phenomenon that since the early 1970s, thousands of Jordanians have left Jordan to work in the oil fields in neighboring Arab countries because of relatively high wages and salaries.

The account of unequited transfers relied mainly on foreign assistance, particularly American aid in 1960s. Despite a decline in American aid in the 1970s, the aid from wealthy Arab counties substantially increased. However, in the early 1980s there was a decline in the level of aid.

This indicates that the dependence of the government on external loans may even increase more in the future. The capital movement account showed a surplus throughout the period due to the increase of public external loans for long-term and short-term private investment.

Jordan's currency is quite strong because Jordan keeps a relatively high level of international reserves. The level of international reserves measured in terms of the number of months of the value of imports could be kept high, particularly in the 1960s. In 1967, Jordan's international reserves stood at JD 94.539 million, equivalent to a high of 20.6 months of the value of imports in that year (Table A.30). In 1983, although the volume of Jordan's international reserves was JD 691.197 million, seven times higher than the 1967 figure, it was equivalent to only 7.5 months of the value of imports. The level of Jordan's international reserves in terms of the number of months of imports, which reflects the ratio of international reserves to imports, has been declining quite steadily from a very high of 22.8 months of the value of imports in 1968 to 9 months in 1975 and to 7.5 months in 1983. The level averaged 11.8 months of imports per year during 1967-1983. The declining trend was a result of the deterioration of the balance of trade and payments in Jordan.

CHAPTER III

EXTERNAL INDEBTEDNESS OF JORDAN AND THE ALLOCATION OF PUBLIC EXTERNAL LOANS

This chapter deals with the determinants of Jordan's foreign borrowing, the external debt profile, and the level of external indebtedness, and Jordan's development strategy and policy in the allocation of public external loans and the economic impacts of such loans.

Determinants of the Flow of Foreign Financial Resources to Jordan

As indicated in Chapter II (Table 2.4) Jordan has relied heavily on foreign financial sources throughout its development process. As a result, Jordan's international debt has increased significantly. Factors determining Jordan's dependence on foreign loans and other foreign financial resources may be classified into two sets: internal determinants and external determinants.

Internal Determinants

Jordan's need for foreign financial resources has been related to its development strategy. Because of the high rates of economic growth targeted in the plans and because

of the limited availability of resources, Jordan must rely on foreign loans and other financial resources to finance its development and achieve its growth objectives:

1. To attain a targeted growth rate, a certain amount of investment is required. Due to low level of domestic savings and due to various constraints on mobilizing domestic funds, foreign loans and other foreign financial resources are needed to meet the required investment.

2. The sectoral balance policy and the industrial promotion policy have led to an increase in the demand for imports of capital goods, machineries, raw materials, and fuel oil. As a result, Jordan needs foreign resources to cover the increasing costs of these imported items in order to support its industrial expansion. Due to the increased demand for imports coupled with fluctuations in exports, Jordan has had large deficits in the balance of trade thoughout the entire economic planning period.

3. Jordan also needs foreign financial resources to finance the chronic deficits in the government budget which is caused by the government's high rate of expenditures. Morever, in recent years, financial constraints of the government budget, coupled with the expansion of development projects in the public sector, have led Jordan to borrow from external sources.

External Determinants

1. Frequent increases in oil prices by the Organizaion

of Petroleum Exporting Countries in the 1970s have adversely affected the Jordanian economy. As shown in Chapter II approximately two thirds of Jordan's export earnings is spent to cover the cost of oil imports alone. A large increase in oil prices in the 1970s has resulted in a severe imbalance of trade. As a result, Jordan has had to rely more heavily on external financial resources to finance its oil imports.

2. Several Israeli-Arab wars and the continuous Israeli aggressions resulted in a huge forced migration and complete destruction of several Jordanian establishments. To satisfy the basic needs of the new immigrants and reconstruct the damaged establishments even more foreign funds are needed in the absense of domestic sources.

The Magnitude of Jordan's External Indebtedness

Jordan's external debt derives from two types of external loans: the government direct obligation loans and the government guaranteed loans. The first type of loan represents financial resources committed by the Jordanian government while the second type of loan involves loans raised by state enterprise but guaranteed by the government. According to the sources of borrowing, external public borrowing takes three types of external loans: (1) multilateral loans obtained from international organizations; (2) bilateral official loans obtained

directly from foreign governments; and (3) private loans from financial markets (commercial banks and other private financial institutions.

The contracted amount of the public external loans obtained by Jordan is shown in Table 3.1. It indicates that at the end of 1967, total contracted loans were JD 50.687 million; these increased to 248.268, 840.522 and 1239.022 million dinar in 1975, 1980, and 1983 respectively. This sharp increase was due to the development strategy in Jordan and other factors discussed in the previous section.

Examining the structure of the contracted loans indicates that the government guaranteed loans as a ratio of total loans is quite high. It was 1.7 percent in 1967, then increased to 8.2 and 12.3 percent in 1972 and 1975. It continued to increase reaching its highest level in 1980, 33.4 percent. However, in the early 1980s, the ratio declined slightly. It was 33.2, 31.1, and 30.0 percent in 1981, 1982, and 1983 respectively.

Government guaranteed loan contracts are mostly characterized by unfavorable terms and conditions. Thus an increase of these loans simply leads to an increase in the debt service, thereby reducing the capacity of the Jordanian economy. Furthermore, high debt services may lead to debt rescheduling or default and increase external debt dependence.

With respect to the outstanding public external debt (disbursed portion), it averaged JD 216.489 million per year

Table 3.1. Contracted amount of public external debt obtained by Jordan (millions of JD)

Year	Government loans (1)	Guaranteed government loans (2)	Total loan 3=1+2	1:3	2:3
1949-1967	49.806	.881	50.687	98.3	1.7
1968-1972	33.79	6.571	40.361	83.7	16.3
1973-1975	77.568	15.1	92.668	83.7	16.3
1976-1980	398.375	258.431	606.806	60.7	39.3
1981-1983	308.98	89.52	398.50	77.5	22.5
1972	83.596	7.452	91.048	91.8	8.2
1973	116.47	8.794	125.264	93.0	7.0
1974	132.726	13.28	146.006	90.9	9.1
1975	161.164	22.552	183.716	87.7	12.3
1976	218.941	29.327	248.268	88.2	11.8
1977	317.712	92.116	409.828	77.5	22.5
1978	403.624	132.775	536.399	75.2	24.8
1979	473.056	151.065	624.121	75.8	24.2
1980	559.539	280.983	840.522	66.6	33.4
1981	698.039	345.883	1043.922	66.8	33.2
1982	776.939	352.082	1129.021	68.9	31.1
1983	868.519	370.503	1239.022	70.0	30.0

Sources: Bdaiwi Jalil, Jordan University, 1983.
The Central Bank of Jordan, Annual reports, different issues

during 1967-1983. It was JD 28.489 million in 1967; increasing to JD 107.0 million and JD 382.38 million in 1975 and 1980 respectively and reaching its highest level in 1983, JD 762.87 million. The growth rate averaged 22.69 percent per year during 1967-1983 (Table 3.2). This rate, however, was relatively higher in the late 1970s and early 1980s.

The level of external indebtedness of Jordan's public debt can be shown by examining the outstanding public external debt in relation to the GNP, international reserves and exports of goods and services. During 1967-1983, the outstanding debt as a percentage of the GNP averaged 28.78 percent per year and accounted for 62.78 percent of Jordan's international reserves (Table 3.2). The average ratio of outstanding debt to exports was 130.37 percent. What is more, the ratio of external indebtedness of these three factors has followed a rapidly rising trend in recent years. The ratio of outstanding debt to the GNP increased from 31.75 percent in 1980 to 41.27 percent in 1983. The ratio of outstanding debt to international reserves rose from 61.39 percent in 1980 to 110.0 percent in 1983. These figures undoubtedly indicate that the external debt dependence of Jordan has been increasing sharply.

Jordan's external indebtedness in relation to economic variables appears to be quite large. The accumulation of debt outstanding at a high rates indicates Jordan's external debt problem is more serious than appears in official

Table 3.2. Jordan's outstanding external debt and its relation to the GNP, international reserves, and exports, 1967-1983 (1)

Year	Outstanding debt (millions of JD) (1)	Growth rate of outstanding debt (2)	Outstanding debt as % GNP (3)	Outstanding debt as % of international (4)	Outstanding debt as % of exports (5)
1967	28.053	13.08	19.68	26.23	134.87
1968	33.050	17.81	19.86	30.19	174.86
1969	37.427	13.24	18.95	37.24	181.68
1970	41.757	11.57	22.32	42.56	237.25
1971	51.183	22.57	22.32	42.56	237.25
1972	62.972	23.03	28.49	62.53	170.19
1973	68.930	9.46	28.54	64.19	131.54
1974	79.717	15.64	28.54	67.33	99.27
1975	107.809	35.23	24.43	61.63	90.67
1976	132.582	22.97	24.43	64.64	
1977	193.063	45.61	30.96	70.98	
1978	241.68	25.18	33.25		
1979	306.26	26.72	32.7[illegible]		
1980	382.38	24.85	31.		
1981	533.89	39.64	35.[illegible]		
1982	616.59	15.46	36.3		
1983	762.87	23.72	41.2		
Average	216.489	22.69	28.78		

Sources: The Central Bank of Jordan. Figures are calculated by the present author

(1) Disbursed amount only

reports. Figures in Table 3.2 shows that Jordan needs 110.36 percent of total reserves 149.38 percent of exports and/or 41.27 percent of the total GNP to pay the debt outstanding at the end of 1983. This is another indicator showing Jordan's external debt dependence has been increasing over time. Thus, the objective of reducing external dependence is an unreachable goal at this time.

Terms and Conditions of Public External Loans: The Cost of External Debt

Explicit Terms of Loans: Maturity Period, Grace Period and Interest Rates

The weighted average of the maturity period of government loans during 1975-1980 was the longest of two kinds of loans: 23.7 years (Table 3.3). It was 27.8 years in 1973 and declined to 15.1 years in 1980. However, for guaranteed loans, the maturity period averaged 8.9 years, which is much lower than for government loans.

Table 3.3 indicates that most loan terms and conditions are unfavorable. The grace period for government loans decreased from 6.5 years in 1973 to 4.0 years in 1980, while the grant element declined from 59.3 percent in 1973 to 18.8 percent in 1980. The picture of guaranteed loans was even worse. The grace period and grant element in 1980 were two years and 13.2 percent respectively.

Regarding interest rates, the weighted average for

Table 3.3. Explicit average and conditions of Jordan's external loans, 1973, 1975-1980

Category	1973	1975	1976	1977	1978	1979	1980
All loans							
Interest rate (%)	2.5	4.3	2.5	6.0	6.3	5.3	6.8
Maturity period (year)	25.5	26.8	25.6	14.4	17.9	21.4	14.8
Grace period (year)	6.0	6.2	6.6	3.5	5.6	4.7	3.8
Grant element (%)	54.1	43.6	53.8	23.2	24.2	32.2	18.3
Government loans							
Interest rate (%)	2.1	2.9	2.3	3.5	4.2	4.0	6.8
Maturity period (year)	27.8	33.3	26.4	21.5	20.9	25.2	15.1
Grace period (year)	6.5	7.6	6.8	5.2	6.5	5.5	4.0
Grant element (%)	59.3	56.6	55.6	43.1	40.2	42.	18.8
Government guaranteed loans							
Interest rate (%)	6.6	8.3	6.6	8.0	12.4	8.4	7.0
Maturity period (year)	6.1	7.4	5.5	8.6	9.1	11.0	12.0
Grace period (year)	1.5	2.2	1.6	2.1	2.9	2.3	2.0
Grant element (%)	10.8	5.2	9.2	6.8	-11.5	4.6	13.2

Sources: Bdaiwi Jalil, 1983
IBRD. World Tables - December 1981, p.189

government loans was 3.95 percent during 1975-1980 and for guaranteed loans 8.45 during the same period. There was a drastic change in interest rates for government loans. In 1973, the interest rate was 2.1 percent, while in 1980 it increased sharply and reached 6.8 percent. The weighted average interest rate for guaranteed loans was 8.45 percent. The rate of interest was 6.6 percent in 1973 and increased to its highest level, 12.4 percent, in 1978, then declined to 7.0 percent in 1980.

From the evidence presented above, the Jordanian external public borrowing has shifted from loans with soft terms to loans with hard ones. Consequently, Jordan's debt service obligations increased drastically in the late 1970s and early 1980s. A major portion of Jordan's public loans in recent years have come from the international market. Most of the loans obtained from the international financial market charge the floating interest rate, and this has resulted in a considerable increase in the external debt.

Implicit Terms of Loans

Implicit terms of loans are related to loan tying. The cost of external debt is not only related to the explicit terms of loans but also to the degree of loan tying. This type of loan creates the implicit cost of borrowing, thereby reducing the real value of loans obtained by Jordan. Much of Jordan's public external loans were tied to specific projects and to procurement from the lending market; this

meant that the loan funds of such projects were earmarked, as agreed upon in the loan agreement for particular capital goods, machinery, intermediate imports, semiprocessed imports, and other equipment imports from lending countries.

Ignoring the implicit terms of loans, such as loan tying conditions, may obscure the total cost for Jordan in incurring external debts. That loans are so often tied to purchases is an aspect that cannot be ignored because such contractual restrictions can increase the implicit cost of borrowing, thereby lowering the real value of loans received by Jordan for the following reasons:

1. Goods imported through project loans with tying conditions may be overvalued because Jordan does not have an alternative choice of suppliers. The prices charged by suppliers are higher than those available in the world market on a competitive basis. As a result Jordan can not utilize the loan fund in an efficient way because it can not seek out the lowest prices for its imports. Furthermore, these suppliers may offer poor quality goods, materials, and equipment taking advantage of the restrictions written in the loan agreement. Thus, tied loans are an important constraint since the country can not take advantage of competitive prices and product quality. Following such forced purchases, Jordan must make additional outlays for various spare parts and services for the machines and equipments initially imported from the same supplier. Consequently, this may put additional demands on foreign

exchange holdings, thus affecting the balance of payment position.

2. The loan tying conditions create a negative effect on the choice of production techniques. This is because most capital goods and machinery are appropriate for the lending country and not the borrowing country. This results from creditors selecting specific projects, goods and machinery for such projects. Thus Jordan imported goods whose technology is not suited to local conditions.

In conclusion, conditions of loan tying add to the cost of Jordan's external debt. Therefore, these implicit costs of borrowing should be considered as important as the explicit terms and conditions of loans when dealing with Jordan's external debt policies and administration.

Jordan's Disbursed Loans

Total Disbursements and Their Source

Table 3.4 shows the disbursement amount of public external loans of each type. From 1949 to 1983, the government loans' disbursed averaged 62.8 percent of the total disbursements. The government guaranteed loans disbursements, however, averaged 37.1 percent. During the period 1967-1983, the disbursements of government loans averaged 61.2 percent and for guaranteed loans, 38.8 percent.

The average government loans disbursements was JD 33.39

Table 3.4. Jordan's disbursed amount of public external loans, 1949-1983 (millions of JD)

Year	Government loans (1)	Government guaranteed loans (2)	Total loans (3)=1+2	% 1:3	% 2:3
1949-1967	43.102	.881	34.983	97.5	2.5
1968-1972	27.446	6.474	33.92	80.9	19.1
1972-1975	46.236	14.365	60.601	76.3	23.7
1976-1980	203.133	126.107	329.240	61.7	38.3
1981-1983	260.49	192.88	453.37	61.6	38.4
1949-1983	577.407	340.707	918.114	62.8	37.2
1968-1983	537.305	339.826	877.131	61.2	38.8
1972	10.335	.587	10.922	94.6	5.4
1973	11.617	1.213	12.83	90.5	9.5
1974	10.358	4.712	15.070	68.7	31.3
1975	24.262	8.439	32.701	74.2	86.7
1976	25.735	3.958	29.693	86.7	13.3
1977	36.984	34.242	71.226	51.9	48.1
1978	48.446	17.633	66.079	73.3	26.7
1979	48.394	25.307	73.701	65.7	34.3
1980	43.574	44.968	88.024	49.2	50.8
1981	95.20	66.34	161.54	58.9	41.1
1982	64.24	66.53	130.77	49.1	50.9
1983	101.05	60.01	161.06	62.7	37.3

Sources: Bdaiwi Jalil, 1983
The Central Bank of Jordan, Monthly Statistical Bulletins, different issues
The Central Bank of Jordan, Annual Reports, different issues

million per year during 1968-1983. The loans sharply increased from JD 24.446 million in 1967 to 46.236, 203.133 and 260.49 million dinar during the three-year plan, first five-year plan and the first three years of the second five-year plan respectively. Disbursements from guaranteed loans averaged JD 21.24 million per year during the period 1968-1983. They increased from JD 6.474 million in 1967 to 14.365, 126.107, and 192.88 million dinar during the three-year plan, first five-year plan and the first three years of the second five-year plan respectively.

The ratio of guaranteed loans disbursement to the total increased from 19.1 percent during the three-year plan to 38.4 percent during the first three years of the second five-year plan. This was an unfavorable sign and detrimental to the Jordanian economy. As indicated earlier, such loans are characterized by hard terms and conditions.

Regarding the source of disbursements, Table 3.5 shows that during the period 1968-1983, JD 166.197 million were disbursed from Arab governments (or 18.9 percent of the total disbursements), JD 319.77 million (or 36.5 percent) from foreign countries, JD 111.666 million (or 12.7 percent) from foreign banks, and JD 19.603 million (or 2.2 percent) from foreign companies and institutions. This indicated that 44.6 percent of total disbursements were characterized by hard explicit terms especially interest rates. The sharp increase in Jordan's debt service, therefore, can be attributed to the fact that almost half of Jordan's loans

came from international institutions, foreign banks, and foreign companies. Loans from both foreign and Arab governments usually have favorable explicit terms by requiring a relatively low interest rate. However, the implicit cost of these loans may be quite high.

Distribution of Disbursed Loans According to Economic Sectors

The purpose of this section is to show which sector has benefitted from the government's foreign loan programs. According to Table 3.6, the disbursed amount of external loans obtained by Jordan totalled JD 877.131 million during the period 1968-1983. Almost 76 percent (or JD 665.670 million) of these disbursed loans went to various projects in the area of industrial and service development, 7.0 percent (or JD 61.416 million) for agricultural development, and 17.1 percent (or JD 150.042 million) for social aspects of developments and others.

A breakdown of these investments into subsectors shows that JD 213.409 million (or 24.3 percent) were allocated for industry and mining; JD 302.397 million (or 34.5 percent) for communication and transportation; JD 30.605 million (or 3.5 percent) for construction; JD 34.768 million (or 3.9 percent) for water supply; JD 84.494 million (or 9.7 percent) for power; JD 11.408 million (or 1.3 percent) for education; and JD 138.634 million (or 15.8 percent) for other development aspects. This breakdown shows that of all

Table 3.5. Distribution of Jordan's disbursed loans according to source during 1968-1983

Source	Value (million of JD)	% of Total
Arab governments	166.107	18.9
Foreign governments	319.77	36.5
International and regional lending institutions	111.666	12.7
Foreign banks	259.985	29.7
Foreign companies and institutions	19.603	2.2
Total	877.131	100.0

Sources: Bdaiwi Jalil, 1983. The Central Bank of Jordan, Monthly Bulletins and Annual Reports, different issues, with some adjustments by the present author

Table 3.6. Sector allocation of the disbursed amount of public external loans, 1968-1983 (millions of JD)

Sector	Value	% of Total
Agricultural development (1)	61.416	7.0
Industrial and service development	665.673	75.9
a. Industry and mining (2)	213.409	24.3
b. Transportation and communications	302.397	34.5
c. Construction	30.605	3.5
d. Water supply	34.768	3.9
e. Power	84.494	9.7
f. [Infrastructure (b+c+d+e)]	(452.264)	(51.6)
Social Aspects of Development	11.408	1.3
a. Education	11.408	1.3
Others	138.634	15.8
Total	877.131	100.0

Sources: Bdaiwi Jalil, 1983 and The Bank of Jordan, with some adjustments by the present author

Notes (1) Includes agriculture and irrigation

(2) Tourist industry is included in the figure

subsectors, the transportation and communicaton projects received the highest amount of external loan funds. The evidence presented above clearly indicates that the loan allocation has emphasized infrastructure investment. The total amount of loans appropriated for infrastructure facilities was JD 452.264 million, which accounted for 51.6 percent of the total disbursements during 1968-1983.

From the previous discussion in Chapter II and the above observations two points can be made:

1. External loans have been heavily concentrated in the area of industrial and service activities throughout the entire economic planning period.

2. The distribution of loan resources has been concentrated in and around the metropolis of Amman and Zarka. These two points are related because most industrial and service activities are heavily concentrated in those two cities. As a result, the rural-agricultural sector has been largely neglected in Jordan's economic development and investment attempts.

Impacts of Public External Loans: Hirschman's Trickle Down Effect

From the above discussion, it is clear that Jordan has followed an unbalanced growth strategy emphasizing industrial and service activities. Thus, the nonagricultural sector is regarded as the leading sector, thereby leaving the rural-agricultural sector in a backward

state. Undoubtedly, the uneven sectoral and regional allocation of external loan funds achieves high growth rates of non-agricultural output stressed in Jordan's development policy. But the question is: does this strategy help the overall development of the Jordanian economy? The purpose of this section is to analyze why Hirschman's trickle down effect has failed to produce expected results in Jordan.

Sectoral imbalances in Jordan are quite clear (as discussed in Chapter II). In terms of real growth rates, the industrial and service sectors grew much faster than the agricultural sector from 1967-1983 (See Table 2.6). Although the industrial production share of the total GDP increased substantially from 18.25 percent in 1967 to 31.26 percent in 1983, the share of the agricultural output share declined from 20.4 percent in 1967 to 7.51 percent in 1983 (Table A.2).

External loans raised by the government did not help reduce the level of rural poverty and underdevelopment during the economic planning period, although they benefitted the urban sector substantially. An attempt is made here to show which economic sector and what group of people have received the most direct benefits from the investment concentration of the foreign sources in the urban industrial and service sector. The case can be illustrated by using power projects and telephone development projects.

The total consumption of electric power in Jordan according to the national planning council in 1980

(five-year plan, 1981-1986) amounted to 877 giga watt hour, of which 34.8 percent was consumed by the industrial sector and 28.6 percent by service activities. The remaining 36.6 percent was consumed by households in the country. The number of subscribers in 1980 was 239,000 and approximately 1.41 million inhabitants (about 43 percent of the population) were supplied with electricity.

From the evidence presented above, industrial and business enterprises, as the major users, have derived a substantial benefit from Jordan's electrical development. It is this group that consumes almost 65 percent of the total electricity generated in the country. Although the industrial and service sector enjoy the large amount of electricity, the vast majority of the Jordanian population and the rural sector have little access to electricity.

Another concrete example is the telephone development projects which have relied on external loans. According to the national planning council, almost 70 percent of the total available telephone lines were in Amman in 1980. Evidence indicates that most of the usage of telephone services in Jordan was for business purposes. Furthermore, a substantial proportion of the lines classified as residential were also primarily used for business purposes.

There is no denying that these two services and other infrastructure facilities are necessary and should be provided to contribute to the process of development. As discussed in Chapter II, the investment of these services

and other infrastructure development has greatly contributed to the growth of the service sector. This is a positive aspect of Jordan's development results. Moreover, the development of these services has had a favorable impact on industrial growth. However, the concentration of these services in selective locations such as Amman deprives a large fraction of the total population of the benefit of these services.

Furthermore, the following reasons explain why Hirschman's trickle down effect has not been felt in Jordan's rural-agricultural sector:

1. According to Hirschman's (1958) theory, supply elasticities of agricultural products in LDCs are necessary conditions for sustaining capital accumulation in the industrial sector. He argues that an increasing demand of the industrial sector for agricultural products will stimulate and create a higher growth rate of agricultural output thereby improving rural peoples income.

However, Hirschman's assumption of supply elasticities for LDCs doesn't appear realistic, i.e., supply elasticities of agricultural products are low. For instance, in Jordan the production of major crops are characterized by fluctuations year by year with a low degree of supply elasticity.

Hirschman's assumption of a competitive market for agricultural products is also unrealistic for Jordan, where peasants' prices have been depressed by the oligopsonistic

market controlled by a small group of exporters and local middle men. Moreover, the peasants also have to face monopolistic and oligopolistic markets of these manufactured products (i.e., insecticides, fuel oil, and consumer goods, etc.) which they must purchase at high prices. As a result of the prevailing imperfect domestic market structure and the unfavorable agricultural policy, the agricultural and the nonagricultural sectors are polarized in terms of their development.

2. According to Myrdal (1957), the historical pattern of growth in LDCs confirms that the backwash effects are predominant while the trickle down (or spread) effects are weak. He points out that the industrial and agricutlural sectors' degree of reliance on each other is very weak for most LDCs in the sense that the agricultural sector did not produce raw materials for expanding the industrial sector. Even now, industrial development in many LDCs has to depend significantly on external resources. For instance, Jordan's expansion has been highly dependent on external resources: capital goods, intermediate product, technology and raw materials. Consequently, industrial expansion did not induce growth of the agricultural sector. As discussed earlier, much of the public investment was in the infrastructure, i.e., forward linkage, which greatly contributed to the growth of industral outputs. Despite the impressive rate of its growth, the industrial sector failed to improve the agricultural sector and the peasants'

condition. As a resut, the so-called trickle down (or backward linkage) effect has been felt very little if at all in Jordan.

Foreign Borrowing
Induced Distortions

The impact of foreign borrowing on economic growth mainly depends on the allocation of borrowing and development policies pursued by the recipient country. An effective and efficient allocation policy will foster economic growth, eliminating the possiblilty of financial difficulties and default in the future. However, the allocation process in the recipient country, as in the case of Jordan, stands under two forces that may lead to a distortion in the economy and hence retard economic growth. One of them is related to loan tying conditions imposed by the donor countries. Much of Jordan's public external loans were tied to specific projects and to procurement from the lending market; this meant that the loan funds of such projects were earmarked as agreed upon in the loan agreement, for particular capital goods, machinery, and intermediate imports, semiprocessed imports, and other equipment imports from lending countries.

As indicated earlier in Chapter II, loan tying conditions could create a distortion or a negative effect on Jordan's choice production techniques. The capital goods and machinery imported mostly related to the technique more

appropriate for the lending country than for Jordan. The donor's advantageous position in selecting specific projects, goods, and machinery for such projects, not only leads to capital accumulation in specific sectors in the economy, but also to a technology not suited to local conditions. Furthermore, loan tying conditions may lead to a misutilization of loan funds. Goods imported through project loans with tying conditions may be overvalued. That is, suppliers could charge higher prices than those available in the world market on a competitive basis thereby increasing the cost of investment.

Most of the loans from Japan were tied, requiring Jordan to purchase Japanese goods. This is also true for loans from Iran. Similarly, many loans from France, England and West Germany were also tied to specific projects and to procurement from the lender's market. The loans obtained from the international financial market also provided loan funds to finance purchases from lending countries (e.g., electrical equipment, military equipment, etc.).

The second force that affects the allocation of foreign borrowing is related to the policies followed by the recipient country in distributing foreign loans among the economic sectors. The allocation policies are directed mainly by social and political criteria. Consequently foreign loans may be channeled to unproductive projects and misutilized thereby hindering economic growth.

An efficient allocation policy preassumes that foreign

loans should be channeled to the projects that are highly productive. Thus economic growth will be accelerated and the possibility of default will be avoided. As indicated earlier, the allocation policy followed by the Jordanian government is biased and inefficient. A reallocation of foreign loans among the major economic sectors and subsectors is urgently needed.

In this study an attempt is made to show that by reallocating foreign capital or domestic capital, output may accelerate and economic development may be fostered.

Our discussion in Chapter II has shown that on the average, approximately 10 percent of the total investment are planned to be channeled to the agricultural sector from 1972 to 1986. Furthermore, the evidence indicates that only 6 percent of the total investments in the five-year plan (1976-1980) are channeled to the agricultural sector. In addition, our discussion in Chapter III has indicated that only 7 percent of the total borrowing was transferred to the agricultural sector during 1967-1983. These evidences imply that most capital is accumulated in the industrial and service sectors in general and more specifically in some subsectors (e.g., manufacturing, transportation, and construction). Consequently, the global capital-output ratio increased from 1.9:1 in early 1960s to 3:1 in early 1980s in the Jordanian economy.

Table A.2 in Chapter II shows that the share of the agricultural sector in the GDP averaged 10.8 percent during

1967-1983. As indicated earlier, the share of investment planned to be channeled to the agricultural sector during the same period was approximately 10 percent. Thus it can be claimed that the government has followed an efficient and fair allocation policy. This is in fact misleading because (1) the low share of the agricultural sector is the product of the problems associated with the sector and the unfair and unsuccessful policies followed by the government in solving agricultural problems and (2) efficient allocation policy implies that the productivity of capital on the margin to be equal.

Table 3.7 shows the incremental output capital ratio (g) in some years in the agricultural and industrial sector. The incremental output ratio (g) = y_i / K_i where

Y_i stands for the change in output in sector (i), and

K_i stands for the change in capital stock in sector (i).

In this study, the change in capital stock is assumed to be equal to the average investment in each year. However, this is based on the actual and/or planned investment in each development plan.

Table 3.7 strongly indicates that the incremental output-capital ratio in the agricultural sector is quite higher than in the industrial sector. From the efficiency point, capital should move from the industrial sector to the agricultural sector until the point where the marginal product of capital in both sectors are equal.

A piece of evidence is shown in Table 3.8. It

indicates the expected annual increase in labor productivity during 1976-1980. Such estimates are based on the expected capital labor ratios in the five-year plan (Ian, J. Seccombe, 1981). As the table shows, the labor productivity in the agricultural sector is expected to be half of that in mining and manufacturing. The average product of labor, then, in the industrial sector is much higher than the average product of labor in the agricultural sector. This is mainly due to the development policy followed by the government. More capital is planned to take place in the industrial sector. Therefore, high capital-labor ratios leads to high labor productivity.

Based on the previous evidence, it can be shown that such a policy may involve inefficiency. That is, the marginal product of labor in both sectors may not be equal. This can be shown as follows:

Let $Q_i = F(K_i, L_i)$ .....(1), where Q_i stands for output in sector i, K_i for capital stock in sector i, and L_i for labor in sector i, $i = 1.2....i Q_i/L_i = F(K_i/L_i, 1) = F(^{Ri})....(2)$ where ^{Ri} stands for capital-labor ratio in sector (i) from (2) $Q_i = L_i F(R_i)....(3)$

The marginal product of capital ($MPPK_i$) is $MPPK_i = \frac{\partial Qi}{\partial Ki} = \frac{\partial}{\partial Ki}(LiF(Ri)) = Li \frac{\partial F(Ri)}{\partial Ki} = Li \frac{dF(Ri)}{dRi} \frac{\partial Ri}{\partial K} = LiF'(Ri) \frac{1}{Li} = F'(Ri).....(4)$

The marginal product of labor (MPPLi) is $MPPLi = \frac{\partial}{\partial Li}(LiF(Ri)) = F(Ri) + LiF'i(Ri) \frac{\partial Ri}{\partial Li} = F(Ri) + LiF'(Ri) - \frac{Ki}{L_i^2} = F(Ri) - RiFi(Ri)....(5)$

Table 3.7. Incremental output-capital ratio in the agricultural and industrial sector in Jordan

Year (c)	Agricultural sector	Industrial sector
1974	1.67 (a)	1.2 (a)
1978	1.07 (b)	.35 (b)
1980	1.33 (b)	.88 (b)
1982	.15 (a)	.19 (a)
1983	.32 (a)	.17 (a)

Source: Calculated from Tables (3.2), (2.5), and Table No. 8 (five-year plan, 1981-1985, p. 59)

Notes (a) The incremental output ratio based on the planned investment

(b) The incremental-output ratio based on the actual investment

(c) Indicates good weather circumstances

Table 3.8. Annual labor productivity average growth rate

Sector	Rate (%)
Agriculture	3.5
Mining and quarrying	7.0
Manufacturing	7.0
Electricity, water, and gas	6.0
Construction	3.0
Transportation and communication	3.0

Source: Ian J. Seccombe, 1981, p. 10

Using (4) into (5), it becomes, $MPPLi = F(Ri) - Ri(MPPLi) = F(Ri) - \frac{Ki}{Li}\frac{\partial Qi}{\partial Ki} \cdot \frac{Li}{Li}\frac{Qi}{Qi} = APPLi - APPLi\ \frac{1}{\eta i} = APPLi(1-\frac{1}{\eta i})$.....(6)

where ηi stands for elasticity.

Efficiency implies that the marginal product of labor in the agricultural sector and that in the industrial sector are equal. Assuming $MPPL_1=APPL_1\ (1-1/nl)$ is the marginal product of labor in the agricultural sector, and $MPPL_2=APPL_2\ (1-1/n_2)$ is the marginal product of labor in the industrial sector, then efficiency implies $APPL_1\ (1-1/n_1=APPL_2\ (1-1/n_2)$. As indicated earlier $APPL_2$ is higher than $APPL_1$ and $MPPK_1$ is higher than $MPPK_2$. So if $n_1=n_2$, then $MPPL_2$ is higher than $MPPL_1$. Thus labor should move to the industrial sector and capital to the agricultural sector.

This case can be shown graphically. Figure 1 shows that the current situation in the Jordanian economy stands on some point as (wi), where both the average and the marginal product of labor in the industrial sector is higher than that in the agricultural sector. The efficient point is (wo), where the marginal product of labor in both sectors is the same. This can be achieved by increasing the capital-labor ratio in the agricultural sector. This can be done through two processes: (1) transferring capital from the industrial sector to the agricultural sector and (2) by drawing out some labor from the agricultural sector to the

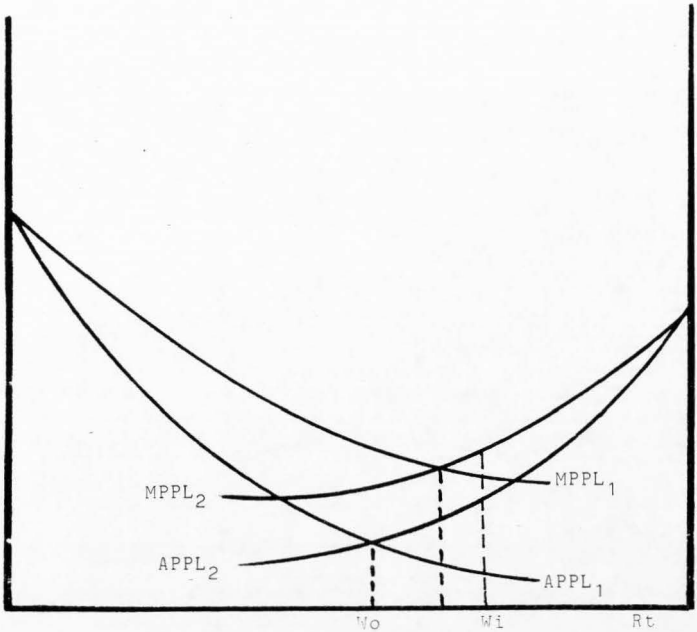

Figure 1. The marginal and average product of labor in the agricultural and industrial sectors.

industrial sector.

Additional evidence is shown in Table 3.9. Regardless of the huge investment in the industrial sector, the tendency to shift labor from the rural-agricultural sector was a failure. The figures show that the share of employment in the agricultural sector declined from 32 percent in 1961 to 18 percent in 1974-1975, while for the industrial sector from 21 percent in 1961 to 18 percent in 1974-1975. In Chapter II it has been shown that only 18.8 percent of the total employment was in the industrial sector in 1978.

In fact, the industrial sector continues to suffer from the shortage of skilled labor. This is mainly due to the migration of approximately 400,000 laborers to neighboring Arab countries (Seccombe, 1981). However, the figures presented above indicate that the industrial sector has become more capital intensive. Regardless of the migration of skilled labor, it can be said that the demand of the industrial sector for labor was quite low.

Table 3.9 shows most of the labor has been shifted to the service sector. The share of employment in the service sector increased from 45 percent in 1961 to 62 percent in 1974-75. Wars, political disorders, forced migration and the dependence of agricultural sector on rainfall are factors contributed to the dominence of the service sector in the economy as indicated earlier. However, in most government services, employment suffers from low

Table 3.9. Sectoral distribution of employment, East Bank, 1961 and 1974-75

Sector	Number (00005) (1961) (1)	East Bank 1974-75 (2)	Share in total employments (%) 1961 (3)	1974-75 (4)
I. Primary production	65	64	35	20
A. Agriculture	60	59	32	18
B. Mining	5	5	3	2
II. Industry	39	60	21	18
A. Manufacturing	17	27	9	8
B. Construction	22	33	12	10
III. Services	85	204	45	62
Total employment	189	328	100.0	100

Source: Michael P. Mazur, 1978, p. 112

productivity and high inefficiency.

The reduction in employment in the agricultural sector has had no impact on total output produced. The agricultural output was growing on average at a positive rate. This is mainly due to an increase in the productivity of land due to the adoption of new techniques of production mainly in the irrigated land. The size of dry land cultivated was decreasing due to bad weather conditons. During 1970s there was a slack in the animal production. Furthermore, there was only a slight change in the size of irrigated land (Mazur, 1978). This indicates that investment in the agricultural sector is a productive one. Production even will be more if more capital and new techniques tranferred to the agricultural sector. A reallocation of foreign capital or domestic capital with some attention to the agricultural sector will be a positive step from economic point of view.

Infrastructure Loans and the Problem of Debt Service Payment

It cannot be denied that infrastructure facilities are a necessary aspect of industrialization and growth in Jordan. However, the important question is: to what extent should Jordan invest in infrastructure projects? This question needs to be considered very carefully because these projects require a large amount of foreign loans, which can force an LDC into a situation of what Payer (1974) calls a

"debt trap."

Jordan's total debt service burden during the period 1968-1983 was JD 260.663 million. Roughly, the total debt servicing payments for public infrastructure projects totalled JD 134.497 million (assuming all disbursements have equal weights in total payments). This amount accounted for 52 percent of the public sector's total debt service payments during this period.

The failure in deriving sufficient revenues from the infrastructure investment, which is mostly the case, to finance debt burdens may lead the government to depend on additional new foreign borrowing for refinancing the previous debts. The consequence of creating more of a burden through such measures with the substantial amount of recent infrastructure loans will be the lengthening of the time required for the government to be able to obtain enough revenues to cover the total costs of such debts.

It should be noted that the use of additional external loans to alleviate the problem of debt servicing payments is only a temporary solution which seems to have no end. The long run solution to the problem will depend on the extent to which infrastructure facilities can have a favorable impact on private investments and on whether these private investments can generate sufficient export earnings to pay back the debts.

Jordan has substantial investment in infrastructure because of the unbalanced growth strategy adopted by Jordan.

This strategy views development as the growth of large scale market operations. Hence, its basic assumption requires a mass-consumption market thereby requiring mass-consumption industries. Thus, the rate of infrastructure has been stressed to serve industrial expansion, and the unbalanced growth strategy require heavy capital investments because an increasing amount of social overhead capital unit of capital investment is required by large-scale mass consumption industries (Onyemelukwe, 1974, p. 11).

Conclusions

The necessity of infrastructure in development process is undeniable. The investment of public infrastructure has had a favorable impact on the growth of the service and industrial sector. However, the heavy concentration of foreign resources on infrastructure projects serving mainly the industrial and service activities in urban centers has adversely affected Jordan's rural-agricultural sector. Although the growth of industrial and service sector in Jordan has been quite high, the rural agricultural sector seems to have suffered. Contrary to Hirschman's expectations of the positive effects of his unbalanced development strategy trickling down the sectoral and social hierarchies, backwash effects appear to have set in. Since infrastructure cannot directly generate output or resources and since its indirect return takes a long time, it may become a long-lasting burden on the government's financial

resources. The allocation policy of foreign borrowing followed by the government has induced distortions in the economy. Therefore, capital should be allocated among sectors to the projects which are highly productive.

CHAPTER IV

THE GROWTH AND MACROECONOMIC EFFECTS OF JORDAN'S EXTERNAL DEBT

This chapter provides an empirical analysis of the effects of Jordan's external debt on a set of macroeconomic variables and on the growth of the gross domestic product. The macroeconomic variables include consumption, domestic investment, domestic savings, exports and imports. All empirical estimates of the effects are based on the model and functional relationships specified in Chapter II. The last section, however, focuses on the causal relationship between consumption and foreign borrowing.

The Macroeconomic Effects

Similar to other empirical studies (Rahman, 1968; Areskoug, 1969, 1976; Griffin and Enos, 1970; and Weisskopf, 1972), the specification of the models being applied in this study exclude some independent variables (e.g., wealth in the consumption function, the interest rate in the investment function). It emphasizes the public external debt and other foreign capital (foreign aid and net factor income from abroad) as explanatory independent variables. Data for the regression analysis are presented in Chapter II except for the public external debt which is given in

Chapter III.

Although data used for regression estimates in this present study are obtained from Jordanian official sources, there are some limitations. As in data from many LDCs, some of the statistical figures may reflect inaccuracies and some degree of unreliability. To obtain a clear understanding of the impact of borrowing on the above variables, the effects of external borrowing on the set of macrovariables will be presented first.

The Effect of External Borrowing on Consumption

The effect of external loans on total consumption during 1967-1983 is presented in the regression (1) below:

$$(1) \quad C = 75.56 + .92B - .11\,F + 1.05\,Y$$
$$(1.53) \quad (-.94) \quad (11.57)$$

$R2 = .998 \quad DW = 1.9 \quad N(\text{period}) = 17\ (1967\text{-}1983)$

where numbers in parentheses denote t-values and starred values denote coefficients significant at the 5 percent level. Although the estimated coefficients of the public external debt is not statistically significant, the positive sign of this coefficient tends to suggest that an increase in public external loans increases the level of consumption. In addition, the other inflows (F) is negatively associated with total consumption even though this negative association is not statistically significant.

The consumption function in equation (1) explains 99.8

percent of the variation in the dependent variable. Regression estimates confirm that consumption is closely related to income (Y). The coefficient of the gross domestic product is significant at the 99 percent level of confidence. The value of the coefficient represents the marginal propensity to consume.

The positive sign of the coefficient of the public external debt can be explained by the fact that a portion of public external loans was used as expenditures on administration and labor for loan projects. Such expenditures had an indirect effect on an increase in private consumption. The results in equation (1) indicate that for each dollar received in terms of borrowing more than 90 percent is consumed. This high marginal propensity to consume (.92) implies that most foreign borrowing is consumed and is also associated with a fall in domestic savings. This fall in domestic savings seems to have resulted from a reduction in both government and private savings.

In conclusion, the extent external borrowing affects consumption depends on how loan funds are utilized. If loan resources are utilized mainly for investment purposes, the consumption effect of these loans will not be significant.

The Effect of External Borrowing on Savings

This study estimates the effects of external debt on

both gross domestic savings (S) and gross national savings (NS). The definition of gross domestic savings is described in Chapter II. However, gross national savings are defined as: gross national savings = gross domestic investment + or (-) the surplus of the nation on current account (or foreign savings). Data on gross domestic and national savings for this regression analysis are obtained from Table (A.5) and Table (5.4).

The regression results shown in equations (2) and (3) explain 94.7 and 98.7 percent of the variation in the dependent variables, domestic savings, and national savings. According to equation (2) and (3) the effect of external borrowing on gross domestic and national savings is negative but insignificant.

$$(2)\quad S = -75.56 - .92B + .11F - .05Y$$

$$(-1.53)\quad (.94)\quad (-.57)$$

$R^2 = .947$ DW = 1.9 N = 17 (1967-1983).

$$(3)\quad NS = -76.66 - .39B + .97*F - .033Y$$

$$(-.68)\quad (8.82)\quad)-.40)$$

$R^2 = .987$, DW = 1.99 , N = 17 (1967-1983).

In equation (2), while the gross domestic product has a negative and insignificant regression coefficient, foreign inflows (F) have a positive but insignificant regression coefficient. This simply means that contrary to the revisionist claim, some foreign inflows do have a positive impact on domestic savings. When gross national savings (NS) are used in equation (3), the results have been

changed. The effect of the gross domestic product on national savings is negative and insignificant. However, the effect of aid and net factor income from abroad (F) is positive and highly significant as indicated by the starred value. This indicates that some foreign inflows indeed have a favorable effect on the economy of Jordan. The revisionist argument that foreign capital substitutes for savings is not valid for Jordan.

The negative association of public external loans with savings can be explained by the fact that a high portion of these loans is utilized for consumption purposes (equation[1]). As a result, domestic savings are negatively affected. An increase in the public investment as a result of an increase in public external borrowing also has resulted in an increase in the government's current expenditures on administration and labor. Furthermore, such increase in public investment required some social services (eg., health, education) consequently, these have led to an increase in public consumption thereby reducing savings.

The Effect of External Borrowing on Investment

Regression estimates of the gross domestic investment (I) is presented in equation (4), where the number in parentheses denotes t-values and starred values denote coefficients significant at the 5 percent level. The goodness of fit measured by the R-square is high. The

regression equation explains 99.6 percent of the variation in the dependent variable, investment. The estimated coefficient of the GDP shows a positive sign as expected and is significant even at 99 percent level of confidence.

$$(4)\quad I = -143.36 + 1.14*B + .23*F + .31*Y$$

$$(3.54 \quad (3.80) \quad (7.00)$$

$$R^2 = .996\ ,\ DW = 2.2\ ,\ N = 17\ (1967\text{-}1983).$$

According to regression equation (4), the public external debt and other inflows have a positive effect on gross domestic investment. The coefficients of both the public external debt and other inflows are statistically significant at a 99 percent level of confidence.

Equation (4) reveals a high positive association between external borrowing and investment with the coefficient relating the two variables standing' at 1.14. The addition of this to the marginal propensity to consume of .92 (estimated previously), gives 2.06 marginal propensity to spend external borrowing. The rationalization of such phenomenon is provided by Shibly (1984). One plausible explanation is provided by the extent to which external borrowing influences the balance of payments. As equation (5) and (6) indicate, the external borrowing coefficients relating to exports and imports were .368 and 3.729 respectively. Another explanation for the high marginal propensity to spend out of external borrowing flows can be found in the process of monetizing the subsistence sector. The introduction of new products in the nonmonetary

sector may create new consumpton habits. Subsistence producers will be persuaded to sell their products and satisfy their new consumption habits. Thus, aggregate domestic consumption will rise considerably.

The Effect of External Borrowing on Imports

Regression estimates of total imports is presented in equation (5), where numbers in parentheses denote t-values and starred values denote coefficients significant at the 5 percent level. The goodness of fit is measured by the R-square explains 99.5 percent of the variation in the dependent variables total imports. The GDP has a strong positive effect on total imports as shown in equation (5). The coefficient of the GDP represents the marginal propensity to import. The relative impact of external borrowing on imports is quite high. The marginal propensity to import is 3.7, which implies that external debt increases imports by more than the amount of the inflow. The regression coefficient is statistically significant at the 99 percent level of confidence. The estimated coefficient of the other foreign flows (F) is lower than that of the public external debt. However, its impact is also statistically significant at 99 percent level of confidence.

$$(5)\quad M = -56.68 + \underset{(5.3)}{3.7*B} + \underset{(2.9)}{.39*F} + \underset{(2.4)}{.24*Y}$$

$$R^2 = .995\ ,\ DW = 1.97\ ,\ N = 17\ (1967\text{-}1983).$$

In addition, the relative impact of the public external debt and other flows on imports of capital goods (Mk), consumer goods (Mc), and raw materials (Mr) is presented in regression equations (6), (7) and (8). The t-values are denoted by the numbers in parentheses, and the coefficients significant at the 5 percent level are denoted by starred values.

(6) $Mk = -5.84 + 1.9*B + 2.6*F - .07Y$

$(4.70) \quad (3.45) \quad (-1.2)$

$R^2 = .687$, $DW = 1.95$, $N = 17$ (1967-1983)

(7) $Mc = -14.7 + .06B + .09F + .21*Y$

$(.291) \quad (1.66) \quad (4.31)$

$R^2 = .993$, $DW = 1.78$, $N = 17$ (1967-1983).

(8) $MR = 81.48 + .003B + .003F - .044*Y$

$(.37) \quad (.15) \quad (-2.25)$

$R^2 = .984$, $DW = 1.68$, $N = 17$ (1967-1983).

Equation (6) shows a positive relation between the public external borrowing and capital goods imports (Mk), and the coefficient is statistically significant at 99 percent level of confidence. The effect of the total other flows (F) on capital goods imports is positive and highly significant. Both the public external borrowing and other foreign flows have a small positive effect on imports of consumer goods and raw materials. The regression coefficients of both in equation (7) and (8) are not statistically significant.

In conclusion, the empirical results presented above

indicate that public external loans and other foreign flows had a strong positive effect on Jordan's total imports during 1967-1983. Public external borrowing and other foreign flows increased Jordan's import capacity thereby having a positive effect on total imports. Moreover, both had a positive effect on imports of capital goods, raw materials, and consumer goods.

The Effect of External Borrowing on Exports

Regression estimates of total exports is presented in equation (9), where numbers in parentheses denote t-values and starred values denote coefficients significant at the 5 percent level. The goodness of fit of this equation is measured by the R-square value, which is very high. The extimated coefficient of external borrowing is positive but insignificant. The regression estimate in equation (9) shows that there is a positive relationship between foreign flows (F) and total exports. The coefficient of foreign flows is statistically significant at the 99 percent level of confidence and relatively smaller than that of external borrowing.

$$(9)\quad X = -30.54 + .36B + .19{*}F + .05Y$$

$$(1.29)\quad (3.52)\quad (1.42)$$

$$R^2 = .984\ ,\ DW = 2.08\ ,\ N = 17\ (1967\text{-}1983).$$

The positive effect of public external loans on exports can be explained by the fact that public external loan

programs, particularly infrastructure facilities, have a favorable impact on the supply of agricultural and nonagricultural products thereby increasing exports. Highway facilities and other communication system aspects have helped to reduce the cost of transportation and economic activities. In addition, public utilities facilitate private investment activities. All these factors help private investment reduce the cost of production. Consequently, private investment activities are encouraged and the expansion of these activities increases exports.

The Effect of External Borrowing on the Balance of Trade

The effect of public external borrowing on the balance of trade is the result of the net effect on both total imports and total exports. The differential impact of the public external borrowing can be seen from the coefficient values in equations (5) and (9). The estimated regression coefficient values of the public external borrowing is 3.7 in equation (5) while it is equal to .36 in equation (9). Therefore, the effect of external borrowing on imports is much larger than that on exports. The same regression equations also show that the effect of the other foreign flows (F) on imports is greater than that on exports. Furhermore, the effect of GDP on imports is greater than that on exports.

In conclusion, the regression results indicate that

external borrowing and other foreign flows had a significant impact on Jordan's foreign trade during 1967-1983. The positive effects of both types of foreign capital were larger on imports than on exports. The net effect was to increase the trade deficits of Jordan during the 1967-1983 period.

The regression results presented above indicate that foreign capital did not help to reduce deficits in Jordan's balance of trade during 1967-1983. However, the results do not imply that these negative impacts will remain over the long run. The negative impacts presented in this study are expected. Because of the fact that the Jordanian economy was initially deficient of essential capital to provide necessary infrastructure, public utilities, and investment funds, Jordan had to rely heavily on foreign resources. External resources were necessary to foster the process of economic development and industrialization. Trade deficits can be associated with a rising inflow of external financial resources since they tend to increase imports of capital goods and raw materials as shown by our evidence during 1967-1983.

Despite large trade deficits and the foreign debt during 1967-1983, the Jordanian economy has shown some signs of change in recent years. Imports of capital goods, raw materials and fuels have increased with the resultant expansion of induced investment. Jordan's export capacity seems to have increased too as indicated in Chapter II.

These signs observed in the Jordanian economy suggest that, over the long run, trade deficits may decrease as Jordan's productive capacity expands.

The Impact of External Borrowing on Growth

This part examines three important aspects which are: (1) The impact of Jordan's external borrowing on the growth rate of the GDP; (2) The conventional proposition that all foreign capital (e.g., borrowing, aid, etc.) has the same impact of growth; and (3) The revisionist proposition that foreign capital has a negative impact on growth. To investigate that, the model developed in Chapter II will be used.

In Chapter I we have derived three testable equations. The first one is the following:

$$\dot{Y} = B_0 + B_1(S+B+F/Y) + B_2 \dot{P} \quad .....(10)$$

The second one is:

$$\dot{Y}=B_0+B^s{}_1 S/Y+B_1{}^b B/Y+B_1{}^f F/Y+B_2\dot{P} \quad ....(11)$$

and the third one is:

$$\dot{Y} = B_0 + B^1{}_1 \ (B+F/Y) + B_2 \dot{P} \quad ....(12)$$

The regression estimates obtained from a time series of data covering the period 1967-1983 are:

$$\dot{Y} = -.13 + .24^* \ (S+B+F/Y) + 2.97 \ \dot{P} \quad .....(13)$$

$$(2.45) \qquad (.67)$$

$R^2 = .473$, DW = 2.05 , N = 17 (1967-1983)

$$\dot{Y} = -.258 - .38(B/Y) + .19(S/Y) + .40(F/Y) + 5.36\dot{P} \quad \ldots (14)$$

$$(-.43) \quad (.37) \quad (1.75)(1.05)$$

$R^2 = .502$, DW = 2.17 , N = 17 (1967-1983)

$$\dot{Y} = -.20 + .27^{*}\ (B+F/Y) + 3.32\ \dot{P} \quad \ldots (15)$$

$$(2.45) \quad (.75)$$

$R^2 = .471$, NW = 2.07 , N = 17 (1967-1983)

where numbers in parentheses indicates t-values and starred valued denote coefficients significant at the 5% level.

Earlier, it was shown that external borrowing has a significant impact on investment. However, it cannot be concluded that the investment generated through external borrowing is reflected in a higher growth rate. In this study, an attempt is made to estimate growth equation incorporating borrowing beside other explanatory variables. The regression estimates presented above in equation (13), (14), and (15) suggest that external borrowing has a negative and insignificant impact on growth. Equation (13) shows that domestic investment, which is mainly financed through foreign savings, has a positive and highly significant impact on growth. The regression results in equation (14) indicate that external borrowing has a negative impact on growth. This suggests that investments financed by external borrowing was ineffective and external borrowing has either helped to foster the rate of growth in the economy nor relax its savings constraints. Thus the hypotheses that external borrowing has negative or

insignificant impact can be accepted.

In contrast, equation (14) indicates that both domestic savings and other foreign flows have a positive impact on growth. However, both coefficients are insignificant at the 5 percent level. But the estimated coefficient of foreign flows (F) has a positive effect and statistically significant at the 10 percent level of confidence. Thus, the proposition that all foreign flows have the same impact on growth is statistically invalid. The results then do not confirm the proposition put forward by the conventional approach. A dollar increase in terms of domestic savings, external borrowing, and/or foreign aid doesn't necessarily give the same impact on growth.

Regression (15) however, doesn't confirm the revisionist hypothesis that foreign capital has a negative or insignificant impact on growth. For the case of Jordan, the estimated coefficient is positive and statistically significant. This suggests that foreign capital indeed has helped to foster economic development in Jordan and industrialization process. The revisionist claim that foreign capital is mostly channelled toward consumption and unproductive projects is invalid as indicated by our empirical results.

Causal Ordering Across Domestic Consumption and Foreign Borrowing in Jordan

Introduction

The relationships between foreign borrowing and domestic economic growth have been much debated in economic literature. As indicated in Chapter I, there are two approaches that analyzed theoretically and empirically the impact of foreign borrowing and other foreign inflows on economic growth of LDCs. The conventional view about the effect of foreign borrowing rests on the assumption that most developing countries suffer from low levels of domestic savings and absence of capital. Foreign borrowing adds to national savings to fill the domestic investment-saving gap, thereby affecting growth of income positively. The analysis is based on Harrod-Domar growth model in which $g = s/v$, where g stands for the rate of growth of income, s for the ratio of domestic savings over income and v for the capital-output ratio. An increase in s with no change in v will raise g. The conventional approach then assumes that there is unidirectional causation running from domestic savings to foreign borrowing.

Critics of the previous view known as the revisionist, argue that foreign borrowing has a negative impact on growth in LDCs. They attribute the negative association to an increase in consumption, which is supplemented by foreign

borrowing. In that case, other things constant, higher consumption and hence lower savings-income ratio reduces the growth rate. This approach simply assumes that there is a unidirectional causation running from foreign borrowing (assumed to be exogenous) to domestic growth.

Papanek (1972, 1973) and Stewart (1971, as cited by Shibly, 1984) argue that there are several factors that may lead to a reduction in domestic savings and hence to an increase in foreign borrowing. Papanek has explained that the following factors: (1) war, civil war, or major political problems and (2) substantial fluctuations in terms of trade may lead to a decrease in domestic savings, and hence countries resort to foreign borrowing. In conclusion, regardless of the factors affecting the domestic savings level, Papanek's view is that low levels of domestic savings lead to an increase in foreign borrowing therefore, this is enhancing the conventional assumption that there is a unidirectional causation running from domestic savings to foreign borrowing.

The foregoing theoretical considerations suggest that it is useful to investigate empirically the pattern of causal ordering across consumption and/or savings and foreign borrowing for the case of Jordan to judge whether there is a unidirectional causality from consumption and/or savings to foreign borrowing or vice versa. In the current study, domestic savings are defined as the difference between gross domestic product and domestic total

consumption. Domestic savings have been treated as a residual. Thus, by studying the causal relationship between consumption and foreign borrowing, it is quite simple to detect the causal relationship between domestic savings and foreign borrowing.

The Bivariate Test Procedure

Many tests can be used to test for causal orderings of time series. Since the work by Sims (1972), many procedures have become available for testing the direction of causation in bivariate contexts. However, most of these tests are based on the concept of causality suggested by Granger (1969). In this study, two methods are followed: (1) the Granger method and (2) the "final prediction error" method.

Granger-Causal Ordering

The studies of Guilkey and Salemi (1981) and Geweke, Meese, and Dent (1982) concluded that Granger's method for testing causal ordering is superior to others mainly for small samples. One version of the Granger test as explained by Guilkey and Salemi (1981) is based on ordinary least square. In our study, this can be done by estimating the following equation:

$$C_{(t)} = \hat{a} + \sum_{j=1}^{J} a_j C_{(t-j)} + \sum_{j=1}^{J} b_j B_{(t-j)} + U_{(t)} \cdots\cdots (1)$$

where,

C = domestic consumption

B = Foreign borrowing

U (t) = disturbance term

(t-j) = number of lags

In equation (1), the trend is omitted, since the sample is quite small and can be considered stationary. The test of the hypotheses that B doesn't cause C is the test that bj = o for all j, which is simply an F-test.

The "Final Prediction Error" Method

This method can be used to determine the optimal lag and test for causality. To determine the number of optimal lags, we have to calculate the minimum "final prediction error" at different combination of lags. As defined by Akaike (1969a and 1969b), the "final prediction error" (FPe) can be written as $FPec(m,n) = \frac{T+m+N+1}{T-m-n-1} \cdot Qc(m,n)/T$, and

$$Q_{c(m,n)} = \sum_{t=1}^{T} (\iota Ct - \hat{a}_j^m C_{(t-j)} - \hat{b}_j^n B_{(t-j)} - \hat{a})^2$$

where,

T = number of observations and M,N = number of lags in C and B.

To test for causality, primarily the number of optimal lags has to be set. To choose the order of lags in C and B and carry out the test. Hsiao (1981, 1982) suggested the following:

1. Determine the order of the one-dimensional autoregressive process, say C using the FPe criterion.

2. Treat C as the only output of the system and assume

B as the manipulated variable, which controls the outcome of C. Use the FPe criterion to determine the lag order of B, assuming that the order of the lag operator on C is the one specified in step (1).

3. Compare the smallest FPes of steps (1) and (2). If the former is less than the latter, a one-dimensional autoregressive representation for C is used. If the converse if true, we say B→C, and the optimal model for predicting C is the one including m lagged C and n lagged B.

The Main Bivariate Results

Table 4.1 contains F-Statistics for tests of the hypotheses of no causality from external borrowing to domestic consumption and from domestic consumption to borrowing. Evidently an insignificant F-value implies an acceptance to the hypotheses of "no causality," and conversely a large value of the F-statistics for the hypotheses that B doesn't cause C and the other section shows the F-statistics for the hypotheses that C doesn't cause B. For each variable the relevant F-statistics are reported for J = 2, 3, and 4. All the results are based on the Jordanian official data from 1967 to 1983 using 1980 constant prices.

It is clear from Table 4.1 that in no case can one reject at any reasonable significance level the hypotheses that there is a causal flow from foreign borrowing to domestic consumption. In fact in all the cases the

F-statistics is quite very high. On the other hand, the hypotheses of causal flow from consumption to foreign borrowing cannot be sustained at the conventional 5 percent significance level in all cases.

Consequently, Table 4.1 provides strong evidence against viewing consumption and/or savings as exerting a significant impact on external borrowing. It also appears to support the view that external borrowing does positively affect consumption.

The "final prediction error" criterion suggested by Hsiao (1981,1982) for determining the optimal lag and testing for causality is used to supplement results in Table 4.1. Table 4.2 reports the FPes for bivariate causality tests across consumption and foreign borrowing. The results indeed support the conclusion suggested by Table 4.1 that no evidence of significant causal flow from consumption to external borrowing and that external borrowing exercises a significant causal impact on consumption and hence on savings.

In conclusion, regardless of the possibility of bidirectional causality between consumption, savings, and foreign borrowing due to the various factors mentioned earlier, both tests confirm that there is a unidirectional line of causation running from external borrowing to both domestic consumption and domestic savings. However, caution is necessary in the sense that such results may not necessarily be valid for any less developing country.

Table 4.1. Results for bivariate test of Granger-causality across consumption and external borrowing in Jordan

Direction of causality	Lag length and F-statistics: significance of coefficients of lagged B and C			
	Lags			
	1	2	3	4
1. B causes C (B C; H_o: B C)	(2.39)a	(9.93)b	(9.6)b	(7.95)b
2. C causes B (C B; H_o: C B)	(.66)a	(.25)	(.31)	(.55)

a. The numbers in parentheses represent t-values.
b. The text statistics is significant at the 5% level.

Table 4.2. Causality testing by computing "final prediction error" (FPe) of the controlled variable: Jordan's data for 1967-1983

Controlled variable	First manipulated variable	FPe X 10^{-4}
a. Consumption (1)[1]		2.8187
b. External borrowing (5)		.03227
c. Consumption (1)	Borrowing (5)	1.720
d. External borrowing (5)	Consumption (1)	.2310

[1] Numbers in parentheses are lags for minumum FPe

Conclusions

The impact of public external debt on consumption during the period 1967-1983 has been positive but not significant. Gross domestic and national savings were negatively affected by the public external debt. Although evidence indicates that the public external debt and other foreign flows did not help reduce Jordan's trade deficits during the same period, the situation in the long run can be expected to be reversed. Based on our empirical results, external borrowing has a negative impact on growth while other flows have a positive effect. Foreign inflows do have different impacts on growth. Thus both the conventional and revisionist views are subject to rejection. The present study indicates that lumping all foreign inflows together may give unfavorable results. What is valid for a component of foreign capital is not valid for others. This mainly depends on the economic development policy and allocation policy followed by the recipient country. Finally, this study suggests, the conclusions reached by different economists concerning the impact of foreign capital on growth are not valid for all countries heavily dependent on foreign capital. The causality test confirms that there is a unidirectional causation running from external borrowing to domestic consumption and/or domestic savings.

CHAPTER V

ANALYSIS OF DEBT SERVICING CAPACITY AND EXTERNAL DEBT BURDEN OF JORDAN

The purpose of this chapter is to analyze the debt servicing capacity and external debt burden of Jordan in relation to its balance of payments. Jordan's external debt policy and administration is evaluated. In addition, policy measures for dealing with problem of deficits in the balance of trade are also discussed. Furthermore, the relationship between consumption maximization and optimal borrowing is presented.

Debt Servicing Capacity

There are two sets of indicators of the debt servicing capacity through which an evaluation of the debt servicing capacity can be made: short-term indicators and long-term indicators.

Short-term indicators relate some statistical ratios of debt service payments to other economic variables in the economy. The debt service ratio is the most frequently used indicator. It is the ratio of total debt service to exports of goods and nonfactor services earnings. Total debt service includes repayments of principal and the interest payments.

A significant cause of the balance of payments troubles of many LDCs arises from fluctuations in their export earnings. A decline in exports earnings would cause an increase in the debt service ratio. A high debt service ratio implies a considerable short-run rigidity in the borrowing country's balance of payments. The higher the ratio of fixed service payments to exports of good and nonfactor services earnings, the greater the strain which a borrowing country may experience when exports earnings fall sharply. For borrowing countries, where there is a tendency for exports to stagnate or decline, a high debt service ratio may mean a weakening of debt servicing capacity. A continuing increase in the debt service ratio of these countries may indicate a rise in the tendency to foreign exchange crises, because fixed debt service payments form a first priority claim on foreign exchange earnings. The higher the debt service ratio, the larger the relative burden on import reduction for a given short-fall in export earnings. As capital goods and material imports decline, the investment ratio decreases. Consequently, a reduction of import capacity may lead to a lower growth of the GNP.

The debt service ratio is criticized on the ground that, in the long run, it is not a good indicator of the debt servicing capacity of the debt country. It ignores other elements in the overall balance of payments and the terms under which countries can refinance maturing debts. It does not include variables indicating the borrowing

country's productive power. Another shortcoming is that the debt service ratio accounts for only current debt servicing payments. This is a poor indication of what repayments will be in the near future particularly for LDCs whose export earnings fluctuate drastically as a result of their dependence on primary product exports. Despite all these criticisms, this indicator is simple to compute, easy to interpret and has no other close alternative. For these reasons, this indicator is widely used by lending agencies and borrowing countries. To gain a better understanding of Jordan's relation to this indicator, other indicators given in the literature will be used, i.e., the ratio of debt services to GNP and vulnerability ratio.

In the long run, the ability of an LDC to service its debt depends mainly on the productivity of the economy. The long-run debt servicing capacity is concerned with the contribution of external loans to the productivity of the borrowing country. Such a contribution depends on the impact of loans on the national level of output of that country and on the ability of that country to generate sufficient savings and on that income for both financing development projects and servicing the debt. In this respect, two indicators could be taken into consideration, domestic savings and reduced external debt dependence.

1. Domestic savings growth could reduce the need for foreign resources thereby reducing debt service payments. To meet service payments without restricting the domestic

capital formation, a continuous increase in the rate of savings is necessary. An increase in domestic savings may be associated with an increase in investments in the exports sector and these with an increase in exports earnings, therefore, the capacity to service the debt can increase.

2. Most LDCs share the common objective of reducing dependence on external loans and other external resources and becoming heavily dependent on domestic resources. This objective is common because a high degree of dependence on external loans simply means more future additions to debt, which result in larger debt servicing payments. As a result, the capacity to service the debt payments will be reduced. Therefore, considering the long-term debt servicing capacity of LDCs is important.

This section deals with the assessment of Jordan's external debt servicing capacity during the period 1967-1983. The procedure will be similar to that followed by the IBRD's in analyzing the LDCs debt servicing capacity; debt services will be expressed in nominal terms in this study. Rising prices and further inflation would reduce the real value of debt service and improve all the ratios discussed in this section.

Short-run Debt
Servicing Capacity

Debt Service Ratio. The average growth rate of debt

services for Jordan's external debt was 35.72 percent per year during 1967-1983 (Table 5.1). The external debt services as a percentage of exports of goods and services, exports of goods and nonfactor services, and exports of goods averaged 7.5, 14.5 and 22.9 percent respectively during this period (Table 5.2). However, it showed a rising trend late in the 1970s. It went from 4.3, 14.8, and 16.5 percent respectively in 1976 to 8.6, 17.4, and 33.6 percent in 1980 reaching a high of 12.3, 33.3, and 49.1 percent respectively in 1983.

The assessment of Jordan's future debt servicing capacity should be based on the recent trend of the debt service ratio. The debt service ratio (by using exports of goods and nonfactor earnings) is considered very high in recent years. Bolivia, Peru, Chile, Brazil, and Uruguay defaulted during 1931 with the debt service ratio indicating 24.5, 16.3, 32.9, 28.4, and 22.4 percent respectively (Avramovic, 1964, p. 46.). This indicates that Jordan's debt service ratio in recent years when compared to the above countries stands within the range of default. As indicated earlier, Jordan's debt services increased sharply in the late 1970s and early 1980s. This is because of the recent shift from soft loans to loans with hard explicit terms. As these loans increase in the future, high debt services will occur, thereby reducing the capacity of the Jordanian economy in the shortrun.

<u>The Ratio of Debt Service to GNP</u> . Another indicator

Table 5.1. Debt servicing payments of external public debt in Jordan, 1967-1983 (millions of JD)

Year	Principal repayments (1)	Interest payment (2)	Total debt services (3)	Growth rate of total debt services (%) (4)	Growth rate of principal repayments (5)	Growth rate of interest payments (6)
1967	.382	.244	.626	11.38	-8.60	69.44
1968	.358	.313	.671	7.18	-6.28	28.27
1969	.813	.407	1.22	81.81	127.09	30.03
1970	.981	.683	1.644	36.39	20.66	67.81
1971	1.767	.765	2.532	52.16	87.35	12.00
1972	2.21	.840	3.05	20.45	25.07	9.80
1973	2.596	1.021	3.617	18.59	17.46	21.54
1974	3.189	1.496	4.685	29.52	22.84	46.52
1975	4.17	2.22	6.39	36.39	30.76	48.39
1976	5.727	2.523	8.25	29.10	37.33	13.64
1977	6.819	5.231	10.958	32.82	19.06	107.33
1978	7.492	6.619	14.111	28.77	9.86	26.53
1979	16.449	11.884	28.333	100.78	119.55	79.54
1980	22.37	18.09	40.46	42.80	35.99	52.22
1981	35.07	27.84	62.91	55.48	56.77	53.89
1982	45.10	25.62	70.72	12.41	28.59	-7.97
1983	39.69	39.0	78.69	11.26	-11.99	52.22
Average				35.72	35.97	41.83

Source: The Central Bank of Jordan, The Annual Reports, different issues

Table 5.2. Jordan's debt service ratio and ratio of debt services to GNP, 1967-1983

Year	Debt service ratio by using exports of goods only	Debt service ratio by using total exports of goods and services	Debt service ratio by using exports of goods and non-factory services	Ratio of debt service to GNP
1967	5.5	3.0	6.1	.44
1968	4.7	3.6	4.5	.40
1969	9.6	5.9	8.9	.60
1970	15.9	9.5	13.8	.90
1971	26.8	14.2	19.7	1.3
1972	24.0	8.2	10.3	1.4
1973	25.2	6.9	9.6	1.5
1974	11.8	5.3	8.3	1.7
1975	15.7	5.4	5.6	1.9
1976	16.5	4.3	14.8	1.5
1977	19.7	5.3	16.5	1.9
1978	21.9	5.3	13.4	2.0
1979	34.0	8.3	17.8	3.0
1980	33.6	8.6	17.4	3.4
1981	37.1	10.0	21.8	4.1
1982	38.1	10.6	26.7	4.2
1983	49.1	12.3	33.3	4.3
Average	22.93	7.5	14.5	2.03

Source: Calculated from Tables 2.5, 2.38 and 5.3

of the short-run debt servicing capacity is the ratio of debt service to the GNP. An increase in this ratio means that the debt service payments have absorbed an increasing share of the GNP. The higher the ratio, the more effort involved in making service payments (Avramovic and Gulhati, 1958, pp. 62-63).

The external public debt service payments as a percentage of the GNP averaged 2.03 percent per year during 1967-1983 (Table 5.2). It has been increasing from 1.5 percent in 1976 to 1.9 percent in 1977 and 3.4 percent in 1980, reaching 4.3 percent in 1983.

During 1967-1983, the average growth rate of public debt services was 35.72 percent per year. However, during this period the growth rate of the GNP averaged 15.57 percent, which was much lower than the averaged growth rate of debt servicing payments. Since a high proportion of the GNP in Jordan is derived from the service sector rather than from agricultural and industrial output, the use of this ratio as an indicator of Jordan's debt servicing capacity is not jusified. Since exports of goods and services are the major source of foreign exchange in Jordan, the debt service ratio gives more accurate evaluations and results compared to the ratio of debt service to GNP. Thus, it can be said, the growth of debt has to be kept in line with the growth of exports rather of the GNP.

Vulnerability Ratio . The vulnerability ratio is used by the central bank of Brazil to assess Brazilian capacity

to repay external debts in the shortrun. In this study, the vulnerability ratio is used for analyzing the case of Jordan. This ratio is a modified form of the ratio of debt service to exports of goods and nonfactor service earnings. This ratio is written as D_s-R-M_3)/x, where

D_s = debt service

R = international reserves

M_3 = value of three months of imports

x = export of goods and non-factor service earning

The Jordanian monetary authority has a policy to maintain the level of international reserves not lower than the equivalent value of three months of imports in order to avoid import financing problems. The portion of the international reserves equivalent to the value of three months is the foreign trade reserves, which is not considered available for debt servicing. The vulnerability ratio indicates the percentage of exports that may be used to cover the portion of the external debt service surpassing the remaining portion of international reserves. The increasing value over time implies an increase of the debt service payments and/or a decline of the country's international reserves. Thus, the larger the ratio, the higher the rigidity in the balance of payments.

From 1967 to 1983, the vulnerability ratio varied between -7.7 percent in 1967 and -.8 in 1982 (Table 5.3). This ratio showed a negative value during the whole period because the international reserves were high. However,

Table 5.3. Jordan's vulnerability ratio, 1967-1983

Year	Value of three months of imports (M_3) (millions of JD)	Remaining portion of international reserves (R-M3) (millions of JD)	Total debt service (millions of dinars)	Exports of goods and non-factor income (X) (millions of JD)	Vulnerability ratio $\frac{D_s-R-M_3}{X}$ %
1967	15.0	79.3	.626	10.10	-7.7
1968	18.4	91.0	.671	14.8	-6.1
1969	24.4	75.1	1.22	13.7	-5.4
1970	19.2	78.91	1.664	12.1	-6.4
1971	22.2	70.68	1.532	12.8	-5.31
1972	29.5	71.2	3.05	29.6	-2.3
1973	34.4	72.9	3.61	37.7	-1.8
1974	49.0	69.4	4.685	56.2	-1.1
1975	75.3	99.6	6.39	113.6	- .82
1976	107.5	97.6	8.25	55.7	-1.6
1977	135.9	136.1	12.05	73.3	-1.7
1978	151.5	209.5	14.11	105.2	-1.8
1979	206.1	244.9	28.333	159.2	-1.4
1980	240.4	382.4	40.46	232.1	-1.4
1981	348.15	318.86	62.91	288.9	- .8
1982	377.9	250.6	70.72	286.03	- .8
1983	366.9	324.3	78.69	236.16	-1.0

Source: Calculated from Tables 2.37, 2.38 and 5.1

since 1979 the ratio has steadily increased from -1.4 in 1979 to -.8 percent in 1982, but declined to -1.0 in 1983. Such an increasing trend in the ratio is a result of (1) a rapid increase in debt servicing payments; and (2) a high rate of increase of imports. This increasing vulnerability ratio in the late 1970s and early 1980s indicates that Jordan's capacity to service external debt has decreased.

Long-run Debt Servicing Capacity

Domestic Savings. The debt servicing capacity of a borrowing country is related to the performance of domestic savings of the country. The ratio of debt services to gross domestic savings can be used as an indicator for this purpose. The higher the ratio, the higher the percentage of savings absorbed by the service payments and the lower the level of savings left for investment to generate additional output for export earning. Thus, an increased ratio value indicates that the debt servicing capacity of the debtor country has decreased. Since Jordan has experienced a chronic dissavings, gross national savings are used instead of gross domestic savings.

During 1967-1983, Jordan's total external debt servicing payments as a percentage of the gross national savings averaged 8.7 percent per year. The percentage of savings absorbed by total external debt servicing payment rose from 7.8 in 1980 to 11.0, 14.1, and 18.8 percent in 1981, 1982, and 1983 respectively (Table 5.4). This

Table 5.4. Jordan's debt service in relation to gross national savings, 1967-1983

Year	Domestic savings (millions of JD)	National savingsl (millions of JD)	Total debt as % of national savings
1967	-16.6	48.63	1.3
1968	-27.2	34.58	1.9
1969	-37.4	23.94	5.1
1970	-37.1	16.15	10.3
1971	-35.9	13.91	18.2
1972	-38.7	43.60	7.0
1973	-44.8	43.06	8.4
1974	-50.2	68.54	6.8
1975	-59.9	110.30	5.8
1976	-48.1	182.65	4.5
1977	-123.9	198.83	6.1
1978	-130.6	137.11	10.3
1979	-204.9	277.80	10.2
1980	-88.8	515.75	7.8
1981	-174.9	574.40	11.0
1982	-169.9	501.00	14.1
1983	-240.1	417.59	18.8
Average			8.7

Sources: Tables 2.11, 2.38 and 5.1

Note 1: National savings calculated in the following way: Gross national savings = gross domestic investment + (or -) the surplus of the nation on current account where: the surplus of the current account= exports of goods and services + net factor income from abroad + current transfers from the rest of the world - (imports of goods and services + current transfers to the rest of the world).

increasing trend indicates that a considerable part of national savings has been absorbed by total debt servicing payments. Moreover the degree of absorbtion has been increasing during the early 1980s. Consequently, the availability of savings for domestic capital formation is affected. Thus, it has affected the savings gap and has forced Jordan to be even more dependent on foreign financial resources.

External Debt Dependence. In the long run, an assessment of the debt servicing capacity is related to the gradual reduction in external dependence. A higher degree of dependence on external loans means a higher debt service and subsequently a low capacity for additional debt service payments. An analysis of Jordan's economic development performance (Chapter II), as reflected by the government efforts with respect to economic plans and implementation indicates that the Jordanian government has made no serious attempt to reduce the degree of external debt dependence. The following indicators reflect Jordan's degree of external debt dependence.

(1.) The Ratio of Disbursements to Imports. This ratio can be an indicator of the extent to which the borrowing country is dependent on external loans (Dhonte, 1975), because a large portion of loan funds is used to finance imports. The greater the value of this ratio over time, the higher the degree of external debt dependence.

With respect to Jordan's external loans, the ratio of

disbursements to imports averaged 10.97 percent per year during 1967-1983 (Table 5.5). It moved up and down due to fluctuations in both the disbursements and imports. It reached 15.71 percent in 1977, the highest ratio during the period, and then fluctuated up and down to reach finally 14.59 percent in 1983. In general, the average ratio is quite high, and the ratio in the late 1970s and early 1980s even higher. This is caused by a high growth rate of disbursements, which averaged 43.04 percent per year during the same period.

(2.) The Ratio of Net Flow of External Debt to Imports. This ratio can be an indicator of the borrowing country's dependence on the continuation of the flow of external loans (Dhonte, 1975). The net flow of external debt is defined as the loan disbursements minus total debt services. Thus, the higher this ratio, the greater is the dependence of external loan funds to finance imports and the higher the debt services will have to be made. Jordan's average ratio of the net flow of external debt to imports was 8.14 percent per year during the period 1967-1983 (Table 5.5). This average in fact is quite high. This is mainly due to the high growth rate of net flow of external debt, which averaged 54.97 percent per year during 1967-1983.

(3.) The Ratio of Debt Services to Disbursements. This ratio shows what percentage of loan disbursements is used up by scheduled debt service payments during a given period. The larger the ratio, the higher the debt service

Table 5.5. Jordan's external debt: disbursements and net flow of external debt and indicators of Jordan's external debt dependence, 1967-1983

Year	Disbursements	Growth rate of disbursements	Net flow of external debt	Growth rate of net flow of external debt	Ratio of Disbursements to imports	Ratio of Net flow of external debt to imports	Ratio of debt services to disbursements
1967	6.8	1.61.53	6.174	202.94	12.53	11.38	9.20
1968	4.07	-40.29	3.399	-44.94	7.13	5.95	16.48
1969	6.128	50.56	4.908	44.39	9.07	7.26	19.90
1970	3.2	-47.78	1.536	-68.70	4.88	2.34	52.0
1971	9.5	200.0	7.068	360.15	12.60	9.27	26.37
1972	10.922	13.77	7.872	11.37	11.51	8.29	27.92
1973	12.83	17.46	9.213	17.03	11.90	8.54	28.19
1974	15.070	17.45	10.385	12.72	9.68	6.67	31.10
1975	32.701	116.99	26.311	153.35	14.03	11.29	19.54
1976	29.693	-9.19	21.443	-18.50	8.76	6.33	27.78
1977	71.226	139.87	60.268	181.06	15.71	13.30	15.38
1978	66.079	-7.22	51.968	-13.77	14.41	11.33	21.35
1979	73.701	11.53	45.368	-12.70	12.52	7.71	38.44
1980	88.024	19.43	47.564	4.84	12.31	6.51	45.96
1981	161.54	83.51	98.63	107.36	15.43	9.42	38.14
1982	130.77	-19.04	60.05	-39.11	11.45	5.26	54.07
1983	161.06	23.16	82.37	37.16	14.59	7.46	48.85
Average	51.96	43.04	32.03	54.97	10.97	8.14	30.67

Source: Calculated from Tables A.29 and 5.1

and the larger the debt burden. Moreover, it indicates that a large proportion of disbursements is used up for refinancing the previous service payments. Thus, the proportion of disbursements that remains for financing development projects is small. For the case of Jordan, the ratio averaged 30.67 percent per year during 1967-1983 which is lower than those recorded in late 1970s and early 1980s. The ratio however, moved up and down due to changes in disbursements and loan terms. The large ratio in the late 1970s and early 1980s was due to unfavorable loan terms of most loan agreements. This high ratio means a continuing reliance on external loans and debt which indicates an increasing degree of debt dependence.

External Debt Policies and Administration

While external resources have become necessary to finance development projects, it is necessary to keep the burden of external debt within a manageable limit to avoid any possibility of future debt problems and foreign exchange crisis. To achieve that, Jordan must have a qualified and efficient administration, so it can minimize the probability of debt rescheduling or default. One of the major objectives and functions of external debt administration is to assure the debt service capacity in the long run and to reduce external dependence gradually.

To be successful the external debt administration needs

to follow guidelines, some of which are outlined below:

1. A rapid increase in the level of external indebtedness, debt service payments, and external debt dependence should be avoided.

2. Loan funds should be limited to projects expected to generate sufficient resources for servicing the debts.

3. The government should apply policies that guarantee no waste and no external diseconomies of the external loan utilization.

4. The government must be concerned about obtaining the best possible average terms of loans, interest rates, grace period, and maturity period and about planning the distribution of principal repayments over future years in accordance with its economic performance in order to avoid the debt servicing difficulty and payment crisis.

Currently, Jordan's public external debt administration has been stipulated and guided by the council of planning. Due to the lack of information dealing with the policy guidelines of the administration concerning its objectives, commitment ceiling, debt service ratio maximum level, organizational structure, and other aspects. This study's critique and evaluation are based on the analytical and empirical results.

The existing public external administrative organization adversely affected the fiscal structure and policy and thus the economy of Jordan. It has been instrumental in Jordan's heavy debt dependence and burden.

Some of these adverse results are as follows:

1. Obtaining unproductive loans and a waste of external loan funds have added to the debt servicing problem. The previous section indicated that Jordan's debt burden has been increasing and has the tendency to continue. Moreover, the empirical results showed that external loans were unproductive and had a negative impact on growth and domestic savings.

2. Excessive debt in certain fields (e.g., infrastructure) which have added to the debt servicing problem.

3. The recent emergence of the punching of maturities as a result of increased borrowing with unfavorable loan terms is likely to result in further punching of repayments and a heavy burden in the near future.

4. The loan disbursements as a percentage of the total contracted loans was approximately 75 percent during the 1968-1983 period. The delay in disbursements indicates that there was a possibility of a delay in the execution of projects, thus increasing commitment charges for undisbursed portion every year and delaying the return from projects financed through external debt.

To conclude this section, based on previous analytical and empirical results, Jordan's external debt administration has been weak and inefficient. Administration inefficiencies have also contributed to Jordan's large external debt burden.

Policy Measures

It is urgent that Jordan improve its capacity to service its debts in order to avoid any possibility of default or debt rescheduling. Some appropriate policies are required to deal with trade deficits.

Tariff Policy

One possible way to reduce imports is to increase their prices by imposing a tariff. Imports of capital goods and consumption goods can be reduced if the tariff rate of imports increase. Since tariffs create some distortions in the economy, they have to be evaluated carefully. Tariffs distort consumption by making the domestic market price higher than the world price. They may also distort production due to an increase in marginal costs, if such tariffs are imposed on raw materials and other factors of production (Lindart and Kindleberger, 1982).

An increase in domestic prices due to an increase in tariffs can have a negative effect on export competitiveness thereby leading to a reduction in exports. However, if tariffs do not apply to raw materials and intermediate goods, they will have no impact on the competitiveness of exports. Therefore, the appropriate policy is to impose tariffs on consumer goods, mainly luxury goods thereby reducing imports and improving trade deficits.

Monetary Policy

The government may use the monetary policy as a tool to reduce trade deficits. A tight monetary policy leads to an increase in interest rates which will reduce the level of investment demand, of import demand, and of private consumption. An increase in interest rate will reduce the level of private investment which in turn leads to a reduction in imports of capital goods, thereby improving the situation of trade deficits. Moreover, high nominal interest rates on deposits in financial institutions and for government bonds may let people feel that their future real income will be larger thus leading them to save more and slow down their current consumption. Subsequently, a reduction in consumption as a result of the tight monetary policy will decrease the demand for imports of consumer goods and services. Thus tight monetary policy can reduce imports and alleviate trade deficits. This policy, however, may be unfavorable and subject to failure for Jordan. The people are motivated by noneconomic factors known by the government. Therefore, the government should adopt some policies taking into consideration the people's social and religious beliefs and attitudes.

Exchange Rate Policy

Jordan's government, through the devaluation of its currency may curb down large deficits in the balance of trade. However, a devaluation policy may not produce favorable results for the overall economy. Jordan currently experiences a high rate of inflation. Hence, devaluation may induce a higher rate of inflation. Moreover, the value of fuels and oil imports constituting almost two-thirds of export earnings may increase because it is difficult to reduce the level of domestic oil consumption in the short run.

With respect to exports, the increase in Jordan's agricultural exports may be very small as a result of the dinar devaluation, because agricultural exports are mainly supply-determined by the agricultural output in the previous and current years. Jordan's industrial exports may be more competitive in the world market, primarily the Arab market, because of devaluation. The analysis in Chapter II showed that the export of manufactured goods tended to increase in late 1970s and early 1980s. Therefore, manufacturing exports could be increased further as a result of the dinar devaluation.

Conclusions

In the short run, increasing tariff rates on consumer goods and the tight monetary policy may be appropriate

policy measures for reducing imports and improving trade deficits. However, the long-term solutions may lie in economic policies that can increase the productive capacity of both the agricultural and nonagricultural sectors, so as to increase the country's export capacity. The government may use subsidies or any other incentives to increase industrial exports. The industrial goods exports could increase further through a reduction of the exchange rate.

The option that debt can be repaid with new borrowing is an unhealthy solution and may be used merely as a short-term solution. Debts should be repaid from export earnings. Foreign borrowing may help reduce trade deficits over time by increasing the export capacity of the country. However, this depends mainly on the external borrowing policy, development policy, and the allocation policy of foreign loans among economic sectors.

Consumption Maximization and Optimal Borrowing

Analysts using the conventional and unconventional approaches mainly focussed on the impact of foreign borrowing on economic growth. Their main conclusion as indicated previously is that foreign borrowing may have a positive or negative and/or negligible impact on the economic growth of LDCs. Writers utilizing the conventional approach argued that foreign borrowing supplements domestic savings, thereby positively affecting output. This point

has been shown by using Harrod-Domar basic equation. This can be shown as follows:

The growth rate (g) without foreign borrowing (B) is

(1) $g = s/v$ where s stands for savings ratio and v for capital-output ratio.

The growth rate with foreign borrowing (g^*) is

(2) $g^* = s^*/v$ where s^* stands for the new savings ratio.

Analysts using the conventional approach also proved their point--foreign borrowing has a negative or insignificant impact on economic growth, by following Harrod-Domar framework (Shibly, 1984). This can be shown as follows:

The growth rate without foreign borrowing is

(3) $g = s/v$

The growth rate with foreign borrowing (g^{**}) is

(4) $g^{**} = s^{**} + (1-c)B/v^*$, where s^{**} stands for the new savings ratio (s^* is not equall to s^{**}), v^* for the new capital-output ratio, and c for the propensity to consume out of foreign borrowing. Growth due to foreign borrowing imports is therefore

(5) $g^{**} - g = [s + s + (1-c)]/(v + v) - s/v$.

It follows from equation (5) that the effect of foreign borrowing on growth may be negligible or negative if s is negative, v is positive, and c is large.

The thrust of the above work is based on the allocation of foreign borrowing. Foreign borrowing will contribute to

growth if it is channeled to productive investment. On the other hand, it may reduce growth rate if it is channelled toward consumption purposes. The present study suggests that the impact of foreign borrowing on the economy of the recipient country mainly depends on two factors

1. The long-term objective function the recipient country pursued.

2. The allocation policy followed to accomplish the objective function.

The recipient country could channel foreign borrowing solely or partly to investment or consumption at any time following some optimal path towards the achievement of the long-term objective function. Both approaches seem to disregard the objective pursued by the recipient country in the longrun. Therefore, both analyses focused on some short-term goals. They failed to lay down the conditions and the means through which the country can determine the optimal amount and path of borrowing necessary for achieving the country's long-term objectives without debt payment difficulties.

In this study, an attempt is made to investigate the previous point, by assuming that the government has an objective of maximization of total utility, U, by choice of optimal consumption path. However, the consumption path is related to the stock of domestic capital and foreign debt.

The Optimization Model

Our model and analysis are based on the following assumptions:

1. the government objective is to maximize the present value of total utility, by choosing an optimal consumption path.

2. There are two factors of production in the recipient country, domestic capital (K_t) and foreign debt (D_t). A country begins with (K_o, D_o).

3. The debt payments are assumed to be a fixed proportion of foreign debt.

Formally, the government intertemporal allocation problem is to maximize:

(1) $U = {}^{t} U (C^* (K_t, D_t)) e^{-pt} dt$ . . .

. . (1), where $U'(C_k) > 0$, $U'(C_d) > 0$, $U''(C_k) < 0$, $U''(C_d) < 0$, $C^* = C_k + C_d$

The maximization of equation (1) is subject to the following constraints:

(2) $Y_t = F (k_t, D_t)$ . . . . . (2), where $F'(K_t) > 0$, and $F' (D_t)$ 0.

(3) $Y_t = Y_k + Y_d + H$ . . . . (3), where Y_k, Y_d are the income generated from domestic capital and foreign debt respectively, and H stands for other income generated from all other sources.

(4) $Y_k = F (K_t)$ . . . . . (4)

(5) $Y_d = F(D_t)$ . . . . . .(5)

(6) $Y_k = I_k + C_k$ . . .(6), where I_k and

C_k stand for investment and consumption expenditures from Y_k respectively.

(7) $Y_d = I_d = I_d + C_d$ . . . . . (7),

where I_d and C_d stand for investment and consumption expenditures from Y_d respectively.

(8) $dk/dt = I_k - \delta k_t$ . . . . . .(8), where stands for depreciation rate on domestic capital and foreign debt.

(9) $dD/dt = I_d - (\delta + R) D_t$ . . . . . .(9), where R stands for debt repayments.

After some manipulations, equation (8) and (9) become

(10) $dk/dt = F(K_t) - C_k - \delta K_t$ . . . . .(10)

(11) $dD/dt = F(D_t) - C_d - (\delta + R) D_t$ . . . . .(11)

<u>The Optimal Consumption Path.</u> The total optimal consumption path (dC^*/dt) is the sum of both optimal paths $(dC_k/dt$, dC_d/dt, i.e., $dC^*/dt = d_k/dt + d^C d/dt$.

To derive the optimal consumption path, use the maximum principal and form the Hamiltonian.

$H = e^{-pt} U (C^*(K_t, D_t)) + \lambda_1 [F(K_t - C_k - \delta K_t] + \lambda_2 [F(D_t - C_d - (\delta + R) D_t]$ . . . . . (12)

By taking the necessary conditions, $\frac{\partial H}{\partial C_k} = e^{-pt} U'(C_k) - \lambda_1 = 0$, therefore $\lambda_1 = \bar{e}^{pt} U'(C_k)$ . . . (13)

By differentiating equation (13) respect to time,

$\frac{d\lambda_1}{dt} = \bar{e}^{pt}(-pu'(c_k) - U''(C_k)\frac{dC_k}{dt})$ . . . . . (14) From the Hamiltonian, $\frac{d\lambda_1}{dt} + \frac{-\partial H}{\partial k_t} = \lambda_1(F'(K_t) - \delta)$ . . . . . (15)

From (13), (14) and (15) we get

$$-\bar{e}^{pt}\, U'(C_k)(F'(K_t) - \delta) = \bar{e}^{pt}(-p'u'(C_k) + U''(C_k)\frac{dC_k}{dt})$$

$$\frac{dC_k}{dt} = \frac{U'(C_k)}{U''(C_k)}(\delta + p - F'(K_t)) \quad . . . . . (16)$$

Following the same procedure we get

$$\frac{dC_d}{dt} = \frac{U'(C_d)}{U''(C_d)}(\delta + p + R - F'(D_t)) \quad . . . . . (17)$$

The total consumption path is

$$\frac{dC^*}{dt} = \frac{U'(C_k)}{U''(C_k)}(\delta + P - F'(K_t)) + \frac{U'(C_d)}{U''(C_d)}(p+\delta+R-F'(D_t))$$

. . . . . (18)

Equation (18) then shows the optimal consumption path a country follows to maximize its total utility. Furthermore, it indicates the following important conclusions and policy implications:

1. The consumption path with foreign debt is higher than that without it, as long as the marginal productivity of foreign debt $[F'(D_t)]$ is higher than the marginal cost $(p + \delta + R)$ at any time within the planning period.

2. If $F'(D_t) \leq$), the consumption path with foreign debt will be lower than without it. Thus, the country is better off without foreign debt.

3. Even (P) and (δ) assumed to be equal to zero, $F'(D_t)$ should be at any time larger than (R), otherwise the consumption path will not be optimal one.

4. It follows from (3) that if productivity of foreign borrowing is reflected in domestic exports or the GNP, the growth in debt payments should not exceed the growth in exports or GNP. Generally, regardless of the econmic capacity measure, debt payments growth should not exceed the growth in that measure.

5. In conclusion, unless the recipient country channels foreign debt to a highly productive investment, the consumption path in equation (18) is difficult to reach.

Assume that a country depends heavily on foreign aid rather than foreign borrowing. Equation (18) indicates that aid has no cost (i.e., R = 0), and the recipient country should be cautious in the way it puts aid to use. The optimal consumption path with foreign aid will be higher than without it, as long as the marginal product of aid is higher than the rate of time preference (P) and depreciation rate (δ). By consuming all foreign aid, the marginal product of aid becomes negative or zero. Therefore, the consumption path will be lower, and hence the recipient country be worse off.

<u>Optimal Path of Foreign Debt.</u> There is only one optimal path helping the recipient country to reach stationary state. Such a path is the one leading to the optimal path of consumption. This can be shown as follows:

From equation (12),

$$\frac{\partial H}{\partial C_d} = \bar{e}^{pt}\, U'(C_d) - \lambda_2 = 0, \text{ and } \lambda_2 = \bar{e}^{pt}\, U'((C_d) \quad . \; . \; . \; (19)$$

By defining another CO-state variable,

$qt = e^{pt}\lambda_2$, where $C_d = g(q_t)$.....(20) and differentiating (20)

respect to time we get

$$\frac{dqt}{dt} = Pe^{\pm pt}\, \lambda_2 + e^{pt}\, \frac{d\lambda_2}{dt} \quad .....(21)$$

From the Hamiltonian,

$$\frac{d\lambda_2}{dt} = -\frac{\partial H}{\partial dt} = -\lambda_2(f'(D_t) - (\delta + R)\;) \quad .....(22)$$

From equation (21) and (22),

$$\frac{dqt}{dt} = Pq_t - q_t \quad (F(D_t) - (\delta + R)$$

$$\frac{dqt}{dt} = (p + \delta + R)\; q_t - q_t\; F'(D_t) \quad .....(23)$$

equation (23) shows the shadow value path of foreign debt.

To draw the phase diagram, both equation (11) and (23) needed

$$\frac{dD}{dt} = f\;(D_{(t)}) - CD - (\delta + R)D_t = f(D_t) - g(q_t) - (\delta + R)\; D_t$$

$$\frac{dqt}{dt} = (P + \delta + R)\; qt = q_t\; (F'(D_t))$$

At stationary state, both are equal to zero, i.e.,

$$F\,(D_t) - g(q_t) - (\delta + R)\; D_t = 0$$

$$(P + \delta + R)\; q_t - q_t\; (F'(D_t)\;) = 0$$

From the first equation,

This indicates that dD/dt is decreasing and later increasing as shown in Figure 2. From the second equation dq/dD = 0, so dqt/dt is vertical as shown in the diagram.

The diagram shows that at stationary state the stock of foreign debt is (D_s), where at that point $F'(D_t) = p + \delta + R$. Furthermore, the diagaram shows the optimal path of foreign debt that gives the optimal consumption path. However, this is valid under the assumption that $F'(D_t) > 0$.

In summary, this optimal control model shows that foreign debt is related to its ability in financing its cost. This implies that foreign debt solely or partly has to be channelled to its highest productive use. The ability of the government to follow an optimal consumption path is mainly related to the growth pattern which is mostly affected by government policies. The growth in debt payments should not increase the growth in exports and/or GNP or any other measure used to present capacity. Foreign aid may become a barrier against the country's objective function. Therefore, it should be used in a way where at least its marginal product is not zero or negative.

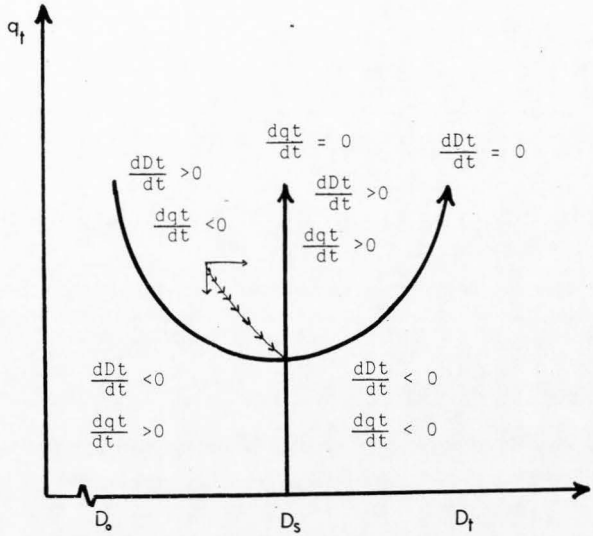

Figure 2. The optimal path of foreign debt.

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

The major objective of this study is to analyze and evaluate the determinants and the impact of external debt on development outcomes for Jordan from 1967 to 1983. A summary of the findings, conclusions, and policy recommendations are presented in this chapter.

Development Policy, Performances and External Debt

Jordan's increasing external indebtedness is related to the development policy and strategy pursued by the government. Jordan's development strategy is based on the concept of unbalanced growth. The main assumption of this developmental strategy is that development benefits trickle down the sectoral, spatial, and social hierarchies.

Following the unbalanced development strategy, Jordan's development resources have been concentrated in certain spatial areas (e.g., Amman and Zarka) and economic sectors (e.g., industrial and services) which are assumed to be growth propelling. As a result, the industrial and service sectors of Jordan have expanded largely. However, Jordan's industrial and service growth process has relied on foreign aid and foreign borrowing, which has increased sharply during the period 1967-1983. The following sections present

some specific findings.

Economic Growth, Industrialization, and the Structure of Foreign Trade

The existing development strategy of Jordan requires a high rate of economic growth. To attain that a certain amount of investment is required and foreign loans and other foreign financial resources are needed to meet the required investments.

This study shows that Jordan's economic growth was quite considerable, and the Jordanian economy did become a little bit diversified. The GNP growth rate in real terms averaged 7 percent during 1967-1983.

The growth and progress of the industrial sector have been quite impressive. The annual growth rate of industrial output in real terms averaged 10.0 percent during 1967-1983 period. An expansion in domestic investment and industrial diversification have been associated with increased importation of raw materials, capital goods, and intermediate products. A large amount of foreign loans and other foreign resources has been used to finance this importation. Consequently, external resources play a significant role in Jordan's industrialization and development process.

Government Expenditures and the Need for External Financial Resources

While the financial resources for the Jordanian

government are limited, its expenditures have increased sharply. As a result, Jordan has experienced a budget deficit almost every year and has been reliant on increased external loans and other external financial resources for financing infrastructure projects and other development projects.

Service Sector's Performance and Infrastructure Development

The annual growth rate of service production in real terms averaged 6.2 percent during 1967-1983. This impressive growth of the service sector is a positive aspect of Jordan's development results. A rapid expansion of infrastructure investment has contributed largely to the growth of this sector.

The necessity of infrastructure development in the process of development and industrialization is undeniable. Nevertheless, Hirschman's unbalanced growth strategy has led Jordan to overinvest in infrastructure development compared to the absorptive capacity of the Jordanian economy. However, infrastructure investment can be expected to diminish as certain needs are met.

Economic Impacts of the Allocation of Public External Debt

The major portion of public external loans has been allocated to infrastructure development projects in and around urban-industrial centers, particularly the Amman and

Zarka metropolis. This concentration of external loans in these centers has had positive impacts on the growth of the industrial and service sectors. However, such a pattern of public external loan distribution has had little positive impact on the country's rural-agricultural sector. Although the rate of growth of the nonagricultural sector has been quite impressive, the agricultural sector seems to have stagnated greatly. Jordan's development policy, which emphasizes industrial and service development has tended to promote the nonagricultural sector at the neglect of the agricultural sector.

Effects of External Debt on Economic Growth and on a Set of Macro-economic Variables

Regression estimates are provided for the effects of foreign borrowing on economic growth, consumption, investment, domestic savings, imports, and exports. The results indicate that external borrowing had a negative impact on the GDP growth rate while other external financial resources had a positive effect. This study's results do not confirm both the conventional and revisionist propositions concerning the impact of foreign resources on economic growth. The separate components of foreign capital have different impacts on growth, while altogether they have a significant and positive impact on growth.

The impact of public external debt on consumption during the period 1967-1983 has been positive, but not

significant. Its impact on imports and investment is positive and highly significant while on exports it is positive but not significant. Gross domestic savings and gross national savings were negatively affected by the public external debt. The evidence indicates that external borrowing and other foreign financial resources did not help reduce trade deficits. Whether this continues in the long run depends on the production capacity of the Jordanian economy.

External Debt Burden and the
Balance of Payments Problem

This study indicates that after almost twenty-two years of economic planning, Jordan's degree of external debt dependence has been increasing rather than declining. The level of external indebtedness has risen considerably since the mid-1970s. The debt servicing difficulty has already put some pressures on Jordan's balance of payments.

This study indicates that Jordan's public external policy and administration have been inefficient and ineffective. This administrative inefficiency has also contributed to Jordan's large external debt burden.

Unless some serious measures are taken, Jordan's external debt burden may create an environment of external financial instability. The solution to this problem requires that the government develop and implement a series of carefully thought-out policy measures and actions. The

following section provides some policy measures that may alleviate or solve the problem of the external debt burden.

Policy Recommendations

The possibilty of improving the long-term debt servicing capacity will depend on several factors such as the efficient utilization of external loans, the government external debt policy and administration, the flexibility and overall performance of the Jordanian economy, and the export performance and import structure. Jordan needs to implement appropriate policies in dealing with the problem of external indebtedness in order to repay large debts on schedule, to improve the debt servicing capacity and to reduce the debt burden.

Some Specific Measures

The government should use the tariff policy as a measure to curb imports of luxury consumer goods by increasing import duties on these items. Quota and quantitative restrictions also may be used as policy means for the purpose of reducing imports.

Export subsidies should be provided for the export industries, particularly for those producing labor intensive goods. These subsidies will increase both the export capacity and employment opportunities. Jordan should increase its processing of primary commodities for exports since this involves labor intensive activities. To increase

agricultural exports, agricultural output can be increased through an efficient policy. Fertilizer industries should be promoted to supply sufficient fertilizers for farmers at a reasonable price in order to expand agricultural output and increase agricultural productivity. In order to improve agricultural productivity, the government should expand irrigation projects and land reform programs should be implemented more efficiently.

One way to alleviate the problem of external debt is to reduce the amount of government expenditures. In some fields, there exists a situation of massive overemployment and functional redundancy. It is recommended that the number of nonproductive or inactive positions be reduced; such a decrease will not decrease the productivity of the activities taking place in different fields.

Continued efforts are required to reform the tax system in order to mobilize domestic revenues for development needs. The government revenue can be increased by expanding the tax base. The personal income tax should be extended equitably for all forms of income. Heavier taxation of lands owned by absentee landlords should be imposed to discourage speculation in real estate. In addition, the tax collection system should be improved in order to increase domestic revenues. The tax policies should be progressive and tax evasion should be minimized to generate domestic savings. A policy to increase domestic savings and to mobilize them efficiently is seriously needed, because an

increase in gross domestic savings is not only significant in increasing Jordan's debt servicing capacity, but also in reducing its external debt burden in the long run.

External Debt Policy

Concerning the external debt policy, this study recommends the following:

1. Infrastructure projects should be financed mainly with domestic financial resources. In addition, in order to minimize the fiscal burden on the government, each project should be responsible for the debt servicing repayment of foreign loans obtained to finance the project. The administration of state enterprises must be improved in order to increase its capacity to service the current heavy debt burden.

2. The allocation policy followed in distributing external loans among sectors should be revised. The continuation of the current policy will create debt difficulties in the near future. This study's empirical results indicate that the policy is a poor one in the sense it contributes nothing to the economic growth process.

3. It is important for the government to exert every effort to improve the efficiency of public external debt administration. The weakness discussed in Chapter V should be corrected. It is recommended that the government follow the major objective and function of the external debt administration and policy guidelines presented in Chapter V.

It is recommended that the long-term objectives of external debt administration should aim at minimizing the problem of external debt burden. External debt may be necessary and even useful during certain stages of economic development. However, Jordan's increasing external debt burden must be reduced in the future.

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APPENDIX

Table A.1. Jordan's GDP, GNP and sectoral growth rates at current prices.

Year	Agricultural sector	Industrial sector	Service sector	GDP	GNP
1967	-15.33	-26.0	-23.90	-22.70	-23.26
1968	-30.76	29.85	33.05		16.77
1969	38.88	13.50	15.11	17.48	18.62
1970	-30.66	-18.0	4.31	-4.90	-5.26
1971	53.20	1.96	2.20	6.76	6.63
1972	11.29	16.15	8.52	11.27	10.83
1973	-33.83	29.8	4.84	5.35	9.27
1974	72.15	53.8	14.91	13.28	15.85
1975	-14.19	9.45	16.86	12.65	22.60
1976	43.46	46.06	25.02	44.18	58.46
1977	11.79	16.80	10.68	18.89	14.90
1978	40.52	7.23	26.92	20.74	16.50
1979	-22.55	62.40	40.24	33.03	28.70
1980	48.16	39.31	49.22	30.83	28.70
1981	18.57	20.66	2.22	20.81	26.60
1982	9.4	11.0	11.0	11.35	11.20
1983	18.2	9.1	9.0	10.7	9.0
Average	11.60	18.98	14.70	14.57	15.57

Source: Calculated from Table 2.5

Table A.2. Percentage share of each sector in GDP.

Year	Agricultural sector	Industrial sector	Service sector
1967	20.24	28.25	61.51
1968	11.72	19.83	68.45
1969	13.84	19.14	67.02
1970	10.08	16.48	73.44
1971	14.39	15.66	69.95
1972	14.55	16.52	68.93
1973	9.31	20.75	69.94
1974	12.5	24.87	62.63
1975	9.65	24.49	65.86
1976	10.40	27.72	61.88
1977	10.33	28.78	60.89
1978	11.84	25.16	63.0
1979	6.38	29.61	64.01
1980	7.12	31.04	61.84
1981	7.07	31.38	61.55
1982	6.97	31.42	61.61
1983	7.51	31.26	61.23
Average	10.82	24.25	64.93

Source: Calculated from Table 2.5

Table 3.1. Contracted amount of public external debt obtained by Jordan (millions of JD)

Year	Government loans (1)	Guaranteed government loans (2)	Total loan 3=1+2	1:3	2:3
1949-1967	49.806	.881	50.687	98.3	1.7
1968-1972	33.79	6.571	40.361	83.7	16.3
1973-1975	77.568	15.1	92.668	83.7	16.3
1976-1980	398.375	258.431	606.806	60.7	39.3
1981-1983	308.98	89.52	398.50	77.5	22.5
1972	83.596	7.452	91.048	91.8	8.2
1973	116.47	8.794	125.264	93.0	7.0
1974	132.726	13.28	146.006	90.9	9.1
1975	161.164	22.552	183.716	87.7	12.3
1976	218.941	29.327	248.268	88.2	11.8
1977	317.712	92.116	409.828	77.5	22.5
1978	403.624	132.775	536.399	75.2	24.8
1979	473.056	151.065	624.121	75.8	24.2
1980	559.539	280.983	840.522	66.6	33.4
1981	698.039	345.883	1043.922	66.8	33.2
1982	776.939	352.082	1129.021	68.9	31.1
1983	868.519	370.503	1239.022	70.0	30.0

Sources: Bdaiwi Jalil, Jordan University, 1983.
The Central Bank of Jordan, Annual reports, different issues

Table A.4. Per capita income in Jordan, 1967-1983.

Year	GNP at current prices (JD. Million) (1)	GNP at 1975 constant prices (JD. Million) (2)	Population (Million) (3)	Per capita income at current prices (4)	Per capita income at 1975 prices (5)	Growth rate of per capita income at current prices (6)	Growth of per capita income at 1975 prices (7)
1967	142.5	273.5	2.08	68.5	131.5	--------	-------
1968	146.4	320.6	2.15	77.4	149.1	13.0	13.4
1969	197.4	353	2.23	88.5	158.3	14.3	6.1
1970	187.0	312.7	2.31	80.9	135.3	-8.6	-14.5
1971	199.4	320	2.38	83.8	134.5	3.6	-.6
1972	221.0	327.9	2.47	89.5	132.7	6.8	-1.3
1973	241.5	322.8	2.56	94.3	126.1	5.3	5.0
1974	279.3	319.7	2.62	106.6	122	13	-3.2
1975	342.5	342.5	2.70	126.8	126.8	18.9	3.9
1976	542.5	486.5	2.78	195.1	175	53.8	3.8
1977	632.5	488.2	2.9	218.1	168.3	11.8	-5.8
1978	726.7	532	3.01	241.4	176.7	10.7	5.0
1979	935.5	599.7	3.13	298.9	191.6	23.8	8.4
1980	1204.2	694.8	3.24	371.6	214.4	24.3	11.9
1981	1524.7	792	3.36	453.8	235.7	22.1	-9.9
1982	1695.4	820.2	3.49	485.8	235.0	7.0	-.3
1983	1848.4	851.4	3.61	512.0	235.8	5.4	.3
Average				223.4	177.6	14.10	2.2

Source: Table 2.5. Figures in columns 5, 6, and 7 are calculated by the present author.

Table A.5. Consumption, gross domestic investment, and gross domestic savings.

Category	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	81	83
Consumption expenditures	147.8	183.3	270.8	211.5	222.1	245.7	263.1	297.5	372.0	469.2	638.1	762.8	972.1	1087.2	1381.1	1512.8	1727.5
Gross-fixed capital information	24.0	24.0	35.8	25.2	30.7	36.3	47.2	63.2	87.9	150.2	197.0	229.1	294.5	397.8	564.8	615.0	591.5
Change in stocks	-1.6	.5	3.9	-3.1	4.5	6.0	-8.0	2.4	.9	12.2	5.5	-6.1	-14.5	6.3	23.1	18.0	-3.0
Gross domestic investment	22.4	24.5	39.7	22.1	35.2	42.3	39.2	65.6	88.8	162.4	202.5	223.0	280.0	404.1	587.9	633.0	588.5
Gross domestic savings (1)	-16.6	-27.2	-37.4	-37.1	-35.9	-38.7	-44.8	-50.2	-59.9	-48.1	-123.9	-130.6	-204.9	-88.8	-174.9	-169.9	-240.1
Investment-savings gap (2)	39.0	51.7	77.1	59.2	71.1	81.0	84.0	115.8	148.7	210.5	326.4	353.6	484.9	512.9	762.8	802.6	828.6

Sources: Central Bank of Jordan, Monthly Statistical Bulletins, different issues

(1) Gross domestic savings = gross domestic product minus consumption expenditures

(2) Investment-savings gap = gross investment minus gross domestic savings

Table A.6. Growth rates of consumption, investment, and savings, 1967-1983.

Year	Consumption	Gross domestic investment	Gross domestic savings	Foreign savings
1967	-21.2	-15.1	77.4	22.6
1968	24.0	9.4	63.8	32.5
1969	20.4	62.0	37.5	49.1
1970	-4.2	-44.3	-.008	-23.2
1971	5.0	59.3	-.03	20.1
1972	10.6	20.1	7.8	13.9
1973	7.0	-7.3	15.7	3.7
1974	13.1	67.3	12.0	37.8
1975	25.0	35.3	19.3	28.4
1976	26.1	82.8	-19.7	41.5
1977	36.0	24.7	69.1	55.0
1978	19.5	10.3	5.2	8.3
1979	27.4	25.5	58.8	37.1
1980	11.8	44.3	-56.6	5.7
1981	27.0	4.5	96.7	48.7
1982	9.5	4.6	-2.8	5.2
1983	14.2	-3.8	41.3	3.2
Average	15.0	24.7	24.9	22.9

Source: Calculated from Table A.5

Table A.7. Consumption, investment, and savings in relation to the gross domestic product (GDP), 1967-1983.

Year	Consumption as % of GDP	Gross domestic investment as % of GDP	Gross domestic savings as % of GDP	Investment -savings gap as % of GDP
1967	127.8	19.6	-14.3	33.7
1968	132.6	17.7	-19.7	37.4
1969	135.9	24.5	-23.0	42.0
1970	136.7	14.2	-23.9	38.2
1971	133.8	21.2	-21.6	42.8
1972	134.4	23.2	-21.1	44.3
1973	139.3	33.0	-19.78	49.0
1974	122.7	27.0	-20.7	47.7
1975	138.0	33.0	-19.78	49.0
1976	130.8	45.2	-12.7	55.6
1977	144.5	45.0	-28.1	74.2
1978	153.3	39.6	-23.7	64.1
1979	142.3	41.1	-30.6	72.5
1980	119.8	44.5	-10.0	57.7
1981	127.5	54.3	-16.5	72.0
1982	125.9	52.6	-14.1	66.8
1983	131.0	44.6	-18.2	62.8
Average	132.6	33.4	-20.0	53.3

Source: Calculated from Tables 2.5 and A.5

Table A.8. Jordan's average propensity to consume (APC), marginal propensity to consume (MPC), and marginal propensity to save (MPS), 1967-1983.

Year	GDP (Millions of JD)	DGDP	C (Millions of JD)	DC	APC $(\frac{C}{GDP})$	MPC $(\frac{DC}{DGDP})$	MPS= 1-MPC
1967	131.2	-38.6	147.8	-40.85	1.12	1.05	-.05
1968	156.1	24.9	183.3	35.5	1.17	1.42	-.42
1969	183.4	27.3	220.8	37.5	1.2	1.37	-.37
1970	174.4	-9.0	211.5	-9.3	1.2	1.03	-.03
1971	186.2	11.8	222.1	10.6	1.19	.89	.11
1972	207.2	21.0	245.7	23.6	1.18	1.12	-.12
1973	218.2	11.1	263.1	17.4	1.20	1.56	-.56
1974	247.3	29.0	297.5	34.4	1.20	1.18	-.18
1975	312.1	64.8	372.0	74.5	1.19	1.14	-.14
1976	421.1	109.0	469.2	97.2	1.11	.89	.11
1977	514.2	93.1	638.1	168.9	1.24	1.81	-.81
1978	632.2	118.0	762.8	124.7	1.20	1.05	-.05
1979	753.0	120.8	972.1	209.3	1.29	1.73	-.73
1980	979.5	226.5	1087.2	115.1	1.10	.50	.50
1981	1182.5	203.0	1381.1	293.9	1.16	1.44	-.44
1982	1343.2	137.0	1512.8	131.7	1.12	.96	.04
1983	1487.6	144.2	1727.5	214.7	1.15	1.48	-.48
Average					1.17	1.21	-.21

Source: Column (1) from Table 2.5
Column (2) from Table A.5
Figures in columns (2), (5), (6), and (7) are calculated by the present author

Table A.9. Prices and money supply in Jordan, 1967-1983.

Year	Consumer price index (1975 = 100) (1)	Rate of inflation (2)	Money supply[1] (millions of JD) (3)	Percentage change in money supply (%) (4)
1967	52.1	-17.4	75.237	34.2
1968	51.9	-.4	87.977	16.9
1969	55.9	7.7	96.221	9.4
1970	59.8	7.0	105.469	9.6
1971	62.3	4.1	107.997	2.4
1972	67.4	8.1	115.024	6.5
1973	74.8	11.0	139.248	21.0
1974	89.3	19.4	170.221	22.2
1975	100.0	12.0	218.505	28.4
1976	111.5	11.5	263.585	20.6
1977	127.7	14.5	314.795	19.4
1978	136.6	6.9	370.517	1.7
1979	156.0	14.2	472.652	27.6
1980	173.3	11.0	594.771	25.8
1981	192.5	11.0	701.656	18.0
1982	206.7	7.4	787.503	12.2
1983	217.1	5.0	869.417	10.4
Average		7.8	323.0	17.72

Source: Column (1), International Financial Statistics, different issues
Columns (2) and (4) are calculated by the present author
Column (3), the Central Bank of Jordan, Monthly Bulletin, different issues

Note 1: Money supply is the sum of currency and demand deposits held by the public.

Table A.16. Jordan's income velocity and income elasticity, 1967-1983

Year	Money (1) (1)	Quasi-money (millions of JD) (2)	Total Liquidity (3=1+2)	Percentage change of total velocity (4)	Income velocity (5+GDP 3)	Income elasticity (6=4 GDP)
1967	75.237	18.836	94.073	24.0	1.40	-1.0
1968	87.977	20.837	108.814	15.7	1.40	.82
1969	96.221	22.616	118.837	9.2	1.54	-.52
1970	105.462	23.667	129.129	8.6	1.35	-1.75
1971	107.997	27.114	135.111	4.6	1.37	.86
1972	115.024	31.45	146.474	8.4	1.41	-.74
1973	139.248	36.814	176.062	20.2	1.23	3.77
1974	170.221	46.528	216.749	23.1	1.14	1.74
1975	218.505	59.241	277.746	28.1	1.0	2.22
1976	263.585	95.338	358.923	29.2	1.12	.66
1977	314.795	124.204	439.0	22.3	1.08	1.18
1978	370.517	226.847	597.364	36.0	.96	1.73
1979	472.632	300.448	773.100	29.4	.99	.89
1980	594.771	389.996	984.767	27.4	1.01	1.90
1981	701.656	478.224	1179.880	29.8	1.02	.95
1982	787.503	615.844	1403.347	18.9	.96	1.66
1983	869.417	745.740	1615.157	15.1	.92	1.41
Average: 1967-1983				20.0	1.17	1.07

Source: Columns (1), (2) and (3): The Central Bank of Jordan, Monthly Bulletin, different issues
Figures in columns (4), (5) and (6) are calculated by the present author

Table A.11. Major sources of Jordan's domestic revenues, 1968-1983 (millions of JD).

Year	Indirect	Direct taxes	Total tax revenue	Non-tax revenue	Total revenue
1967	16.115	2.157	18.272	7.225	25.697
1968	17.27	1.823	19.093	7.176	26.269
1969	20.206	2.408	22.612	8.895	31.507
1970	18.966	2.494	21.46	8.800	30.260
1971	20.406	2.898	23.304	12.451	35.755
1972	24.782	3.262	28.044	14.823	42.867
1973	30.220	3.902	34.122	12.060	46.182
1974	37.830	5.751	43.581	24.483	82.628
1975	48.783	9.362	58.145	24.483	82.628
1976	77.637	11.433	89.070	18.517	107.587
1977	101.747	15.992	117.739	24.510	142.249
1978	101.229	22.052	123.281	35.707	158.488
1979	123.286	27.808	151.094	36.801	187.895
1980	139.802	34.863	174.665	51.483	226.148
1981	184.100	48.772	232.972	76.227	309.199
1982	207.217	53.653	206.87	99.351	366.221
1983	289.604	57.599	289.604	106.396	396.0
Average: 1967-1983					

Source: The Central Bank of Jordan, Monthly Bulletin, different issues.

Table A.12. Growth rate of government revenue, 1967-1983.

Year	Total revenue (1)	Tax revenue (2)	Non-tax revenue (3)	Direct taxes (4)	Indirect taxes (5)
1967	9.4	1.9	15.3	-33.18	9.8
1968	3.0	4.5	164.2	-15.5	7.1
1969	19.9	18.4	18.4	32.0	16.9
1970	-3.9	-5.0	-61.0	3.6	-6.1
1971	18.1	8.6	41.5	16.2	7.6
1972	19.9	20.3	19.0	12.6	21.4
1973	7.7	21.7	-18.6	19.6	21.9
1974	42.3	27.7	83.8	47.4	25.1
1975	25.7	33.4	10.5	62.8	28.9
1976	30.2	53.2	-24.4	22.1	59.1
1977	32.2	32.1	32.4	39.9	31.0
1978	11.4	4.7	43.6	37.9	-.5
1979	18.5	22.5	4.5	26.1	21.8
1980	20.3	19.1	39.9	25.4	13.4
1981	36.7	33.4	48.0	39.9	31.7
1982	16.5	11.9	30.3	10.0	12.5
1983	9.9	11.0	7.0	7.4	39.4
Average	18.7	18.8	26.4	20.8	20.4

Source: Calculated by the present author from Table A.11.

Table A.13. Total domestic revenues as a percentage of GNP and total expenditures, 1967-1983.

Year	Total domestic revenue	Total domestic revenues as % of GNP	Total domestic revenue as % of total expenditures
1967	25.497	17.9	37.4
1968	26.269	.518	32.6
1969	31.507	16.5	36.8
1970	30.260	16.1	37.3
1971	35.755	17.9	43.0
1972	42.867	19.4	42.2
1973	46.182	19.1	38.6
1974	65.744	23.5	44.8
1975	82.628	24.1	40.3
1976	107.587	19.8	40.9
1977	142.249	22.8	42.1
1978	158.488	21.8	43.8
1979	187.895	20.0	36.4
1980	226.148	18.8	40.1
1981	309.149	20.3	47.8
1982	360.221	21.2	54.8
1983	396.0	21.4	55.
Average		19.8	42.0

Source: Tables (2.5, (A.11), and (A.15)

Table A.14. Percentage distribution of government's domestic revenue by major sources, 1967-1983.

Year	Total Revenue = 100%		Tax Revenue = 100%	
	Tax Revenue	Non-tax Revenue	Direct Taxes	Indirect Taxes
1967	71.6	28.4	11.8	88.2
1968	72.7	27.3	9.5	91.5
1969	71.7	28.3	10.6	89.4
1970	70.9	29.1	11.6	88.4
1971	65.2	34.8	12.4	87.6
1972	65.4	34.6	11.6	88.4
1973	73.8	26.2	11.4	88.6
1974	66.3	33.7	3.2	86.8
1975	70.4	29.6	16.1	83.9
1976	82.8	17.2	12.8	87.2
1977	82.8	17.2	13.6	86.4
1978	77.8	22.2	17.	82.1
1979	80.4	19.6	18.4	81.6
1980	77.2	22.8	20.0	80.0
1981	75.3	24.7	20.9	79.1
1982	72.4	27.6	20.5	79.5
1983	73.0	27.0	19.8	80.
Average	73.5	26.5	14.8	85.2

Source: Calculated from Table A.11.

Table A.15. Jordan's government expenditures by economic and functional classification, 1967-1983 (millions of JD).

Year	Economic Classification					Functional Classification		
	Total Expenditures	Current	Capital	Economic services	Social services	Defense	General adminstration services	Communication and transportation
1967	68.155	44.657	23.496	11.491	9.613	28.557	13.479	5.015
1968	80.520	57.186	23.334	8.837	9.962	38.463	16.863	6.395
1969	88.410	65.231	23.179	12.963	12.40	46.165	12.305	4.577
1970	80.703	59.028	21.678	13.081	13.693	38.214	10.467	5.251
1971	83.148	60.706	22.442	10.021	9.436	38.889	23.149	1.653
1972	101.535	70.467	31.068	19.632	10.143	48.226	20.837	2.697
1973	119.511	78.608	40.903	27.930	10.857	48.397	29.7	2.640
1974	146.622	103.603	43.019	31.482	18.373	52.546	41.125	3.096
1975	204.804	125.692	79.172	49.646	23.931	58.334	64.942	8.011
1976	262.484	185.484	76.590	43.823	31.659	104.809	66.515	15.678
1977	337.839	195.587	142.252	97.594	635.545	96.982	89.876	17.844
1978	361.510	212.891	148.619	107.855	40.913	105.552	86.953	21.237
1979	515.664	321.335	194.329	115.055	56.114	137.900	171.025	35.570
1980	563.144	336.053	227.091	142.112	63.687	142.571	181.836	32.638
1981	647.1	391.468	225.632	151.44	79.425	168.222	217.605	30.405
1982	656.276	433.77	222.506	138.462	84.269	191.295	201.906	40.344
1983	717.654	448.981	268.673	154.326	88.638	203.99	238.587	302.113

Source: The Central Bank of Jordan, Monthly Bulletin, different issues

Table A.16. Government expenditures as a percentage of the GNP, 1967-1983.

Year	Total expenditures as % of GNP	Current expenditures as % of GNP	Capital expenditures as % of GNP	Treasury deficits as % of GNP
1967	47.8	31.3	16.5	29.9
1968	48.3	34.3	14.0	32.6
1969	44.8	33.0	14.8	28.3
1970	43.1	31.5	11.6	26.9
1971	41.7	30.4	11.3	23.7
1972	45.9	31.8	14.1	26.5
1973	49.5	32.5	17.0	30.6
1974	52.5	37.0	15.5	28.9
1975	59.8	36.7	23.1	35.6
1976	48.4	34.2	14.2	28.5
1977	54.1	31.3	12.8	31.3
1978	49.7	29.3	20.4	27.9
1979	55.1	34.3	20.9	35.0
1980	46.7	27.9	18.8	27.9
1981	42.4	25.7	16.7	22.1
1982	38.7	25.6	13.1	17.4
1983	38.8	24.3	14.5	17.4
Average	47.48	31.24	16.24	27.7

Source: Calculated from Table (2.5) and (A.15)

Table A.17. Percentage distribution of government expenditures by economic and functional classifications, 1967-1983.

Year	Total expenditures=100% Current	Capital	Economic services	Total expenditures=100% Social services	Defense	Administration and services	Transportation and communication
1967	65.5	34.5	16.8	14.1	41.9	19.8	7.4
1968	71.0	29.0	10.9	12.4	47.7	20.9	8.1
1969	73.8	26.2	14.6	14.0	52.2	13.5	5.3
1970	73.1	26.9	16.2	16.9	47.3	12.9	6.7
1971	73.0	27.0	12.0	11.3	46.8	27.8	2.1
1972	69.4	30.6	19.3	9.9	47.5	20.5	2.8
1973	65.8	34.2	23.4	8.8	40.5	24.8	2.5
1974	70.6	29.4	21.5	12.5	35.8	28.0	2.2
1975	61.3	38.7	24.2	11.7	28.5	31.7	3.9
1976	70.6	29.4	16.7	12.0	39.9	25.3	6.1
1977	57.9	42.1	28.9	10.5	28.7	26.6	5.3
1978	58.9	41.1	29.5	11.3	29.2	24.0	6.0
1979	62.3	37.7	22.3	10.9	26.7	33.1	7.0
1980	59.7	40.3	25.2	11.3	25.4	32.2	5.9
1981	60.5	39.5	23.4	12.3	25.9	33.6	4.8
1982	66.1	33.9	21.0	12.8	29.1	30.7	6.4
1983	62.5	37.5	21.5	12.3	28.4	33.2	4.6
Average	66.0	34.0	20.4	12.0	36.5	25.8	5.3

Source: Calculated from Table A.15

Table A.18. Growth rates of government expenditures, 1967-1983.

Year	Total expenditures	Current	Capital	Economic services	Social services	Defense	General administration and services	Communication and transportation services
1967	76.5	57.7	128.2	66.9	59.0	50.0	37.3	55.1
1968	18.1	28.0	-.7	-23.0	3.6	34.7	25.1	27.5
1969	9.8	14.0	-.6	46.6	2.4	20.0	-27.0	-28.4
1970	-8.7	-9.5	-6.5	.9	10.4	-17.2	-14.9	14.7
1971	3.0	1.6	3.5	-23.4	-3.1	1.7	121.1	-68.5
1972	22.1	16.0	38.4	95.9	7.4	24.0	-9.9	63.1
1973	17.7	11.5	31.6	42.2	7.0	.3	42.5	-2.1
1974	22.7	31.8	5.1	12.7	69.2	8.5	38.4	14.8
1975	39.7	21.3	84.0	57.7	30.2	11.0	57.9	158.7
1976	28.1	47.5	-3.2	-12.4	32.2	79.6	2.4	95.7
1977	28.7	5.3	85.7	-122.7	12.2	-7.4	35.1	13.8
1978	7.0	8.7	4.4	9.5	15.1	8.8	-3.2	19.0
1979	42.6	51.1	30.7	7.7	37.1	30.6	96.7	64.5
1980	9.2	4.6	16.8	23.5	13.5	3.6	6.3	-8.2
1981	14.9	16.5	-.6	6.5	24.7	17.7	19.6	-6.8
1982	1.4	10.8	-1.4	-8.5	6.0	13.7	-7.2	32.7
1983	9.3	3.5	20.7	11.4	5.1	6.6	18.1	-20.4
Average	20.1	18.8	25.6	25.7	19.5	16.8	25.8	25.0

Source: Calculated from Table A.15

Table A.19. Summary of central government budget, 1967-1983

Year	Domestic	Foreign grants	Revenues Foreign borrowing	Others	Total revenues	Expenditures	Surplus of Deficit= domestic revenue-expenditures
1967	25.497	40.409	4.292	.219	70.417	68.155	-42.658
1968	26.269	40.113	5.438	.099	71.919	80.52	-54.251
1969	32.52	38.377	4.724	.648	76.267	88.4116	-55.891
1970	30.26	35.424	2.072	.415	68.1	80.706	-50.446
1971	35.755	35.387	3.556	3.5	78.198	83.147	-47.392
1972	42.867	44.475	10.205	1.183	[illegible].731	101.535	-58.668
1973	46.182	43.608	11.446	2.00	103.236	119.511	-73.329
1974	65.744	57.651	15.211	1.332	139.938	146.622	-80.878
1975	82.628	100.609	16.155	-----	199.392	204.864	-122.236
1976	107.587	66.238	19.888	-----	193.713	262.484	-154.897
1977	142.249	122.202	58.511	-----	322.462	337.839	-195.59
1978	158.488	81.689	90.697	-----	330.886	361.510	-203.022
1979	187.895	210.302	37.624	-----	435.821	515.664	-327.768
1980	226.148	202.834	71.566	6.469	507.017	563.144	-336.996
1981	309.19	206.312	75.731	7.226	598.468	647.100	-364.901
1982	360.221	184.5	61.491	.4	606.612	656.276	-296.055
1983	396.000	130.00	101.547	2.00	629.547	717.654	-321.654
Avg.		96.5	34.715				-164.0

Source: The Central Bank of Jordan, Monthly Bulletin, different issues
The Central Bank of Jordan, Annual Report, different issues

Table A.20. Jordan's total value of foreign trade and foreign trade indicators, 1967-1983.

Year	Exports of goods (millions of JD) (1)	Imports (millions of JD) (2)	Trade balance (millions of JD) (3)	Growth rate of exports (%) (4)	Growth rate of imports (%) (5)	Growth rate of trade deficits (6)
1967	11.343	55.048	-45.064	1.2	-19.3	-20.9
1968	14.116	57.492	-45.32	24.4	4.4	.56
1969	12.699	67.752	-55.836	-2.1	17.8	23.2
1970	16.454	65.882	-56.562	-21.7	-2.7	1.3
1971	9.429	76.627	-67.81	16.3	16.3	19.8
1972	12.705	95.31	-82.704	42.9	24.4	21.9
1973	14.379	108.2	-94.19	11.1	13.5	13.8
1974	40.13	156.507	-117.07	181.5	44.6	24.3
1975	46.57	234.013	-193.938	1.6	49.5	65.6
1976	50.047	339.539	-289.987	23.6	45.1	49.5
1977	61.243	454.417	-394.164	21.6	33.8	35.9
1978	64.408	458.826	-394.697	6.4	.9	.1
1979	83.248	589.523	-506.967	28.7	28.5	28.4
1980	120.206	715.977	-575.87	45.5	21.5	17.5
1981	169.764	1047.504	-878.478	40.7	46.3	47.4
1982	185.86	1142.493	-956.912	9.8	9.0	8.9
1983	160.859	1103.310	-943.231	13.7	-3.4	-1.4
Average				23.3	19.4	19.8

Source: Figures in Columns (1) and (2), The Central Bank of Jordan, Monthly Bulletin, different issues
Figures in columns (3(, (4), (5) and (6) are calculated by the present author

Table. A.21. Jordan's foreign trade indicators, 1967-1983.

Year	Exports as % of GNP	Imports as % of GNP	Trade deficit as % of GNP	Fuel and oil imports as % of total export	Consumer good imports as % of total consumption	Consumer goods imports as % of total imports	Consumer goods imports as % of total exports
1967	7.0	38.6	31.6	26.3	16.1	43.3	239.0
1968	7.3	34.5	27.2	22.8	15.0	48.0	226.8
1969	6.0	34.3	28.3	30.0	15.3	50.0	284.4
1970	4.9	35.2	29.3	35.8	15.6	50.1	354.3
1971	4.4	38.4	34.0	47.1	15.0	43.6	379.3
1972	5.7	43.1	37.4	36.1	18.8	48.5	367.1
1973	5.8	44.8	39.0	28.9	19.2	46.7	361.1
1974	14.1	56.0	41.9	13.0	20.3	38.7	153.7
1975	11.7	70.9	59.2	61.2	24.3	38.7	225.8
1976	9.1	62.6	53.5	74.2	28.4	39.2	269.0
1977	9.6	72.8	63.2	70.3	23.0	32.4	244.2
1978	8.8	63.1	55.3	72.6	23.0	38.2	273.9
1979	8.8	63.0	54.2	88.8	22.1	36.5	260.6
1980	9.9	59.4	49.5	101.6	22.0	33.5	199.9
1981	11.0	68.7	57.7	103.7	23.5	31.0	192.4
1982	10.9	67.4	56.5	124.8	24.3	32.2	198.4
1983	8.6	59.7	51.1	128.9	21.1	33.0	228.0
Aver.	7.9	53.7	45.8	62.7	20.4	40.2	262.2

Source: Calculated from Tables 2.5 and A.22

Table A.22. Jordan's exports by commodity groups, 1967-1983 (millions of JD).

Year	Food (0)	Beverages and tobacco (1)	Crude materials (2)	Mineral fuels and lubricants (3)	Animal and vegetable oils and fats (4)	Chemicals (5)	Manufactured goods (6)	Machines (7)	Miscellaneous manufactured goods (8)	Miscellaneous transactions and commodities (9)
1967	4.639	.676	3.719	.68	.288	.40	.153	.164	.194	.43
1968	5.56	.545	4.471	.88	.271	.86	.654	.174	.281	.42
1969	5.492	.563	3.852	.44	.382	.194	.912	.219	.215	.43
1970	4.663	.519	2.545	.8	.143	.264	.742	.304	.815	.38
1971	3.683	.411	2.347	.31	.320	.832	1.077	.335	.194	.37
1972	4.773	.452	3.716	---	.297	.311	2.426	.451	.179	.1
1973	4.650	.862	4.558	.170	.123	.644	2.213	.453	.295	.41
1974	9.565	8.69	20.032	.129	.474	1.244	5.860	.586	.671	.7
1975	10.203	1.006	20.107	.246	.409	1.946	4.085	.470	1.598	.5
1976	16.379	1.204	20.078	.639	.709	3.544	3.920	.722	2.352	.5
1977	20.643	1.265	18.88	.7	.382	5.221	9.484	.778	3.610	.3
1978	16.336	1.63	20.691	.2	.786	6.278	11.903	1.067	5.417	.1
1979	21.239	3.885	27.557	.11	.486	7.143	14.124	1.677	6.422	.7
1980	23.495	5.583	49.204	.299	0.877	10.937	18.717	2.392	8.602	.1
1981	33.035	6.582	56.688	.397	1.053	17.922	34.636	3.934	14.697	.82
1982	39.144	5.304	61.451	.239	.657	23.119	32.467	3.186	19.983	.31
1983	36.277	3.833	52.712	.55	1.182	36.761	17.981	1.996	9.227	.31

Source: The Central Bank of Jordan, Monthly Bulletin, different issues

Table A.23. Percentage distribution of exports by commodity groups, 1967-1983

Year	Food (0)	Beverages and tobacco (1)	Crude materials (2)	Minerals and fuel lubricants (3)	Animal and vegetable oil and fats (4)	Chemicals (5)	Manufactured goods (6)	Machinery (7)	Miscellaneous manufactured goods (8)	Miscellaneous transactions (9)
1967	40.9	5.9	32.8	6.0	2.6	3.5	1.3	1.5	1.7	3.8
1968	39.4	3.9	31.7	6.2	1.9	6.1	4.7	1.2	2.0	2.9
1969	43.3	4.5	36.3	3.4	3.0	1.5	7.2	1.7	1.7	3.4
1970	44.6	5.0	23.5	7.6	1.4	2.5	7.1	2.9	1.8	3.6
1971	39.0	4.4	24.9	3.3	3.4	4.0	11.4	3.6	2.1	3.9
1972	37.6	3.6	29.2	---	2.3	2.4	9.1	3.6	1.4	.8
1973	32.3	6.0	31.7	1.2	.9	4.6	15.4	3.1	2.0	2.8
1974	23.8	2.2	49.9	.3	1.2	3.1	15.6	1.5	1.7	1.7
1975	25.2	2.5	48.6	.6	1.0	4.8	10.0	1.2	3.9	1.2
1976	32.7	2.4	40.1	1.3	1.4	7.1	7.8	1.5	4.7	1.0
1977	33.7	2.0	30.8	1.2	.6	8.5	15.5	1.3	5.9	.5
1978	25.4	2.5	32.1	.3	1.2	9.7	18.5	1.7	8.4	.2
1979	25.5	4.7	33.1	.1	.6	8.6	17.0	2.0	7.7	.8
1980	19.6	4.6	40.9	.3	.7	9.1	15.6	2.0	7.1	.1
1981	19.5	3.9	33.4	.2	.6	10.5	20.4	2.3	8.7	.5
1982	21.0	2.9	33.1	.1	.4	12.4	17.5	1.7	10.8	.1
1983	22.6	2.4	32.8	.3	.7	22.9	11.2	1.2	1.4	.2
Aver.	31.0	3.7	34.1	2.0	1.6	7.1	12.6	2.0	4.3	1.6

Source: Calculated from Table A.22

Table A.24. Jordan's direction of trade, 1967-1983 (percentage of total)

Year	Arab countries		E.E.C. countries		Communist countries		U.S.A.	India		Japan		Other countries	
	exports	imports	exports	imports	exports	imports	imports	exports	imports	exports	imports	exports	imports
1967	56.7	19.1	9.4	34.2	7.7	11.8	12.3	12.6	2.0	2.7	3.7	10.9	16.9
1968	58.2	19.2	3.9	33.6	8.4	11.9	11.1	13.4	1.9	.7	5.0	15.4	17.3
1969	67.0	21.2	1.6	33.1	11.1	13.9	9.2	10.5	1.8	2.5	7.6	7.3	13.2
1970	68.6	19.9	2.8	33.6	11.5	15.7	11.2	2.4	2.5	1.6	5.9	13.1	13.2
1971	70.9	21.9	4.2	24.8	6.6	6.8	23.6	10.1	1.4	1.8	5.4	6.4	16.1
1972	72.0	17.2	4.0	28.3	3.2	8.6	17.7	11.0	1.5	4.9	4.8	4.9	21.9
1973	70.0	20.0	1.4	28.2	2.4	7.1	10.4	8.3	1.3	4.9	4.9	13.0	28.1
1974	45.9	16.9	1.6	29.2	5.0	9.1	11.2	16.4	1.9	9.4	4.7	21.7	27.0
1975	41.6	19.8	4.9	32.9	15.7	8.0	10.3	4.8	1.9	4.7	7.3	28.3	19.8
1976	48.0	17.9	5.0	37.1	14.6	7.4	9.1	3.4	3.9	3.8	6.3	25.2	18.3
1977	58.8	16.0	1.4	34.8	6.8	9.2	14.9	6.4	.9	4.3	6.3	22.3	17.9
1978	66.2	18.9	2.0	35.9	10.0	10.9	7.3	5.5	.6	2.9	6.7	13.4	19.7
1979	66.9	18.8	1.4	35.8	6.4	8.7	7.5	7.4	.6	3.4	5.5	14.5	23.1
1980	60.7	20.8	1.7	36.3	12.6	7.0	8.6	6.7	.5	3.3	7.2	15.0	19.5
1981	67.4	20.3	1.5	32.4	11.5	7.8	15.9	6.0	.2	2.3	6.8	11.3	16.6
1982	66.3	23.6	1.9	28.8	13.7	8.3	12.6	8.9	.2	2.0	7.6	7.2	18.9
1983	54.1	22.7	5.0	29.9	13.2	7.0	11.9	8.4	.1	2.1	9.3	17.2	19.1
Avg.	61.1	19.7	3.2	32.3	9.4	9.2	12.0	8.4	1.4	3.4	6.2	14.5	19.2

Source: The Central Bank of Jordan, Monthly Bulletin, different issues

Table A.25. Jordan's imports by economic classification, 1967-1983

Year	Consumer goods			Raw materials			Capital goods	Miscellaneous imports	Total imports
	Non-durable (1)	Durable (2)	Total (3)	Oil and fuels (4)	Other (5)	Total (6)			
1967	21.986	1.884	23.87	2.987	10.735	13.722	14.774	2.68	55.048
1968	25.502	2.104	27.606	3.217	8.996	12.213	13.922	3.751	57.492
1969	30.380	3.497	33.887	3.814	10.779	14.593	15.239	4.033	67.752
1970	28.673	4.352	33.025	3.748	11.396	15.144	13.275	4.338	65.882
1971	28.753	4.688	33.441	4.445	9.167	13.612	17.614	11.960	76.627
1972	40.411	5.876	46.287	4.585	14.187	18.772	18.626	11.625	95.310
1973	44.202	6.395	50.597	4.155	18.051	22.206	20.239	15.158	108.200
1974	60.404	9.223	69.627	5.200	24.798	29.998	40.931	15.966	156.507
1975	76.165	14.318	96.513	24.839	32.385	57.222	82.827	3.401	234.013
1976	110.334	23.001	133.335	37.137	52.866	90.002	114.628	1.573	339.539
1977	114.741	32.444	147.185	43.044	78.143	121.187	184.099	1.946	454.417
1978	132.600	43.069	175.669	46.779	70.473	117.252	161.232	4.673	458.826
1979	163.322	51.889	215.211	73.994	105.468	179.462	193.575	1.275	589.523
1980	182.107	58.043	240.159	122.154	104.933	227.087	246.743	1.993	715.977
1981	248.153	77.060	325.213	176.131	129.387	305.518	414.962	1.811	1047.504
1982	294.599	73.704	368.303	231.928	148.352	380.280	391.396	2.514	1142.493
1983	274.722	90.336	365.058	207.399	170.388	327.287	310.552	49.913	1103.310

Source: The Central Bank of Jordan, Monthly Bulletin, different issues

Table A.26. Percentage distribution of imports by economic classification, 1967-1983

Year	Consumer goods			Raw materials			Capital goods	Miscellaneous imports
	Non-durable	Durable	Total	Oil and fuels	Others	Total		
1967	39.9	3.5	43.4	5.5	19.5	25.0	26.8	4.8
1968	44.4	3.6	48.0	5.7	15.6	21.3	24.2	6.5
1969	44.8	5.2	50.0	5.6	15.9	21.5	22.5	6.0
1970	43.5	6.6	50.1	5.7	17.3	23.0	20.3	6.6
1971	37.5	6.2	43.7	5.8	12.0	17.8	23.0	15.5
1972	42.4	6.2	48.6	4.8	14.9	19.7	19.6	12.1
1973	40.8	6.0	46.8	3.8	16.7	20.5	18.7	14.0
1974	38.6	5.9	44.5	3.4	15.8	19.2	26.1	10.2
1975	32.5	6.2	38.7	10.7	13.8	24.5	35.4	1.4
1976	32.5	6.8	39.3	10.9	15.6	26.5	33.8	.4
1977	25.3	7.1	32.4	9.5	17.2	26.7	40.5	.4
1978	28.9	9.4	38.3	10.3	15.3	25.6	35.1	1.0
1979	27.7	8.8	36.5	12.5	17.9	30.4	32.8	.3
1980	25.4	8.1	33.5	17.0	14.7	31.7	34.5	.3
1981	23.7	7.3	31.0	16.8	12.4	29.2	34.6	.2
1982	25.8	6.4	32.2	20.3	13.0	33.3	34.2	.3
1983	24.9	6.1	33.0	18.8	15.4	34.2	28.1	4.7
Average	34.0	6.6	40.6	9.8	15.5	25.3	29.1	5.0

Source: Calculated from Table A.25

Table A.27. Jordan's imports by commodity classification, 1967-1983

Year	Food (0)	Beverages and tobacco (1)	Crude materials (2)	Mineral fuels and lubricants (3)	Animal and vegetable oil (4)	Chemical (5)	Manufactured goods (6)	Machinery (7)	Miscellaneous manufactured goods (8)	Miscellaneous transactions and commodities (9)
1967	13.635	1.1	2.604	2.987	.939	2.88	14.480	11.327	2.414	2.682
1968	15.745	1.317	2.284	3.217	.513	3.022	13.353	11.137	3.153	3.751
1969	17.837	1.317	2.753	3.814	.537	3.412	17.282	13.036	3.796	4.033
1970	18.684	.714	2.382	3.692	.454	3.707	15.466	10.567	3.609	6.607
1971	20.125	1.161	2.36	4.844	.79	3.216	11.916	16.193	4.175	11.876
1972	27.296	1.187	2.819	4.566	1.096	5.362	19.026	15.589	6.757	11.612
1973	30.813	1.081	3.166	4.16	1.514	5.718	23.187	17.193	6.185	15.183
1974	42.74	.940	4.384	5.214	1.153	8.058	33.892	35.339	8.742	16.045
1975	49.42	1.265	5.865	24.893	1.255	12.204	44.838	74.038	16.789	3.446
1976	81.378	2.104	10.182	37.171	3.108	16.343	65.889	101.439	20.101	1.824
1977	75.921	3.009	11.08	43.057	3.066	23.192	102.318	156.843	33.329	2.602
1978	87.569	4.805	12.835	46.832	4.14	21.506	98.425	138.198	40.079	4.438
1979	108.28	5.015	17.966	174.125	2.79	30.327	141.985	153.929	53.621	1.485
1980	118.789	5.268	16.082	122.167	4.709	39.238	147.721	199.971	58.283	3.749
1981	167.93	5.110	29.267	182.319	2.748	50.434	176.578	338.045	91.905	3.186
1982	191.924	4.645	35.111	240.658	5.835	54.160	191.742	319.415	85.636	13.366
1983	180.366	8.800	31.403	212.720	4.105	57.783	198.015	262.305	92.333	55.750

Source: The Central Bank of Jordan, Monthly Bulletin, different issues

Table A.28. Percentage distribution of imports by commodity groups, 1967-1983

Year	Food (0)	Beverages and tobacco (1)	Crude materials (2)	Mineral fuels and lubricants (3)	Animal and vegetable oil (4)	Chemicals (5)	Manufactured goods (6)	Machinery (7)	Miscellaneous manufactured (8)	Miscellaneous commodities (9)
1967	24.8	2.0	4.7	5.4	1.2	5.2	26.3	20.6	4.4	4.9
1968	27.4	2.3	4.0	5.6	.9	5.3	23.2	19.4	5.5	6.4
1969	26.3	1.8	4.1	5.6	.8	5.0	25.5	19.2	5.3	6.4
1970	28.4	1.0	3.6	5.6	.7	5.6	23.5	16.0	5.5	10.1
1971	26.3	1.5	3.1	6.3	1.0	4.2	15.6	21.1	5.4	15.5
1972	28.6	1.2	3.0	4.8	1.1	5.6	19.9	16.4	7.0	12.4
1973	28.5	1.0	2.9	3.8	1.4	5.3	21.4	15.9	5.7	14.1
1974	26.3	.6	2.8	3.3	.7	5.1	21.7	22.6	5.6	10.3
1975	21.1	.5	2.5	10.6	.5	5.2	19.2	31.6	8.6	.2
1976	23.9	.6	3.0	10.9	.9	4.8	19.4	29.8	5.9	.8
1977	16.7	.7	2.4	9.5	.7	5.1	22.5	34.5	7.3	.6
1978	19.1	1.0	2.8	10.2	.9	4.7	21.5	30.1	8.7	1.0
1979	18.4	.9	3.0	12.6	.5	5.1	24.1	26.1	9.1	.2
1980	16.6	.7	2.2	17.1	.7	5.5	20.6	17.9	8.1	.6
1981	16.0	.5	2.8	17.4	.3	4.6	16.9	22.3	8.7	.3
1982	16.8	.4	3.0	21.0	.5	4.7	16.8	27.9	7.5	1.4
1983	16.3	.8	2.8	19.3	.4	5.2	17.9	23.7	8.4	5.2
Avg.	22.5	1.0	3.1	9.9	.8	5.1	20.9	24.4	6.9	5.4

Source: Calculated from Table A.27

Table A.29. Jordan's balance of payments, 1967-1983 (millions of JD)

Category	67	68	69	70	71	72	73	74	75
Trade Balance	-42.9	-57.3	-67.54	-65.53	-76.19	-94.88	-89.65	-84.63	118.33
A.									
Merchandise exports	11.33	14.26	14.75	12.17	11.44	17.01	18.98	49.75	48.88
Merchandise imports	54.23	57.04	67.54	65.53	76.19	94.88	107.5	155.68	232.94
Non-monetary gold	-----	-----	-----	-----	-----	-----	5.17	------	------
Net services	15.5	-1.32	-10.83	6.78	6.87	8.88	22.85	22.13	65.73
B.Unrequited transfers	53.93	54.48	45.3	40.65	36.61	68.29	64.6	86.85	140.36
Current account balance (A+B)	16.18	10.12	18.32	-5.93	-21.27	+.76	+6.03	+2.94	21.47
C.Capital account movement	1.98	4.96	5.34	1.78	6.74	8.32	6.45	10.88	6.76
D.SDRS	-----	-----	-----	.96	.88	-----	-----	-----	----
Net total (A-D)	28.16	15.08	12.98	4.71	13.65	8.5	10.25	13.82	28.23
E.Monetary sector	-33.19	-16.33	10.92	1.52	11.82	-6.71	-12.48	-6.74	50.74
-net errors and omissions	5.03	1.25	2.06	3.19	1.83	-1.79	2.23	-7.08	14.84

Source: The Central Bank of Jordan, Monthly Bulletin, different issues

Category	76	77	78	79	80	81	82	83
Trade Balance	270.03	371.05	368.02	467.4	543.36	444.49	876.59	891.37
A.								
Merchandise exports	68.71	82.06	90.42	120.92	171.45	242.62	264.53	210.09
Merchandise imports	338.74	453.11	458.32	588.32	714.791	1046.36	1141.12	1103.9
Non-monetary gold	------	------	------	------	-------	-------	-------	-------
Net services	160.82	202.76	175.71	150.84	256.21	359.25	385.03	455.12
B.Unrequited transfers	127.85	168.75	107.18	320.69	401.0	432.46	375.36	296.79
Current account balance (A+B)	+17.34	-2.46	+85.8	-2.08	+111.62	-13.69	-118.27	-141.32
C.Capital account movement	3.5	50.18	90.9	58.27	32.04	69.04	113.4	156.76
D.SDRS	---	----	----	1.21	1.21	1.21	-----	------
Net total (A-D)	20.84	47.72	5.1	57.4	144.57	56.56	4.87	15.44
E.Monetary sector	10.91	64.75	36.76	23.69	106.36	109.39	57.91	4.35
-net errors and omissions	13.57	17.03	31.82	6.27	38.51	35.48	53.04	11.6

Table A.30. Jordan's international reserves, 1967-1983

Year	Official reserves* (1)	Commercial banks* (2)	Total* (3)	Ratio of International reserves to imports (4)	International reserves equivalent to number of months of imports (months) (5)
1967	89.235	5.304	94.539	1.7	20.6
1968	103.12	6.324	109.444	1.9	22.8
1969	94.654	4.835	99.489	1.4	17.6
1970	92.044	6.067	98.111	1.5	17.8
1971	89.813	3.072	92.885	1.2	14.5
1972	97.303	3.389	100.692	1.05	12.6
1973	100.817	6.555	107.372	.99	11.9
1974	110.429	7.961	116.391	.75	9.0
1975	162.452	12.451	174.903	.74	8.9
1976	185.845	19.237	205.082	.60	7.2
1977	235.263	36.733	271.996	.59	7.1
1978	286.394	74.632	361.026	.80	9.4
1979	370.992	80.064	451.056	.76	9.1
1980	417.609	205.213	622.822	.86	10.4
1981	433.71	233.298	667.017	.63	7.6
1982	373.07	255.398	628.468	.55	6.6
1983	386.81	304.387	691.197	.62	7.5
Average				.97	11.8

Source: Figures in columns (1), (2), and (3), The Central Bank of Jordan, Monthly Bulletin, different issues
Figures in columns (4), (5), and (6) are calculated by the author
*millions of JD

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