LEVEL II

R-2250-NA

November 1978

The Economic Potential of the Arab Countries

Arthur Smithies

DDC

RECEIVED

FEB 5 1979

D

A Report prepared for

DIRECTOR OF NET ASSESSMENT, OFFICE OF THE SECRETARY OF DEFENSE

Rand
SANTA MONICA, CA. 90406

79 01 31 063

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER R-2250-NA	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) The Economic Potential of the Arab Countries		5. TYPE OF REPORT & PERIOD COVERED Interim
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Arthur/Smithies		8. CONTRACT OR GRANT NUMBER(s) MDA903-76-C-0119
9. PERFORMING ORGANIZATION NAME AND ADDRESS The Rand Corporation 1700 Main Street Santa Monica, CA 90401		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Director of Net Assessment Office of the Secretary of Defense USAF, Washington, D.C. 20301		12. REPORT DATE November 1978
		13. NUMBER OF PAGES 107 p.
14. MONITORING AGENCY NAME & ADDRESS(If different from Controlling Office)		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for Public Release: Distribution Unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

No restrictions

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Arab Countries	Iraq	Jordan
Middle East	Libya	Economic Development
Saudi Arabia	Egypt	Crude Oil
Kuwait	Syria	

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

See reverse side

296600

DD _{1 JAN 73} 1473   EDITION OF 1 NOV 65 IS OBSOLETE

Projects and compares the domestic economic development
of seven Arab countries to 1985 on alternative assumptions
of 2 and 5 percent increases in oil export revenues. All
seven countries should grow rapidly if the oil-rich subsi-
dize the oil-poor, but not as rapidly as they hope. Relative
disparities will remain and occasionally increase. Saudi
Arabia and Kuwait will carry the military expenditure burden.
Foreign asset accumulation will continue, but decline and
may eventually disappear. Saudi Arabia will eventually have
to modify its development plans and reduce construction and
imported labor. Kuwait should grow at a modest rate and have
no foreign exchange problems. Iraq is an enigma, so esti-
mates are highly speculative. Libya's proceeds are committed
to outpayments. Its prospects depend on its ability to in-
crease production, economize, and renegotiate loans. Egypt's
situation depends heavily on peace. Syria's growth rate should
continue at its present pace especially if it can develop
its oil industry. Jordan will be limited by inflation and
labor shortages. (HT)

LEVEL Ⅱ

R-2250-NA

November 1978

The Economic Potential of the Arab Countries

Arthur Smithies

A Report prepared for

DIRECTOR OF NET ASSESSMENT, OFFICE OF THE SECRETARY OF DEFENSE

Rand
SANTA MONICA, CA. 90406

79 01 31 063

PREFACE

This study forms part of Rand's work on the Middle East for the
Director of Net Assessment in the Office of the Secretary of Defense.
The overall aim of this work is to examine, project, and assess various
military and nonmilitary aspects of the balance of forces in the Middle
East in the mid-1980s. The present report, by Rand consultant Arthur
Smithies of Harvard University, deals with one major nonmilitary aspect
of this balance: the relative economic size and potential of the prin-
cipal oil-rich and oil-poor Arab states. The study provides mid-term
projections of economic growth and asset accumulations for these coun-
tries, under varying but explicit assumptions and with a clear acknowl-
edgment of the many uncertainties that inevitably surround such pro-
jections.

SUMMARY

This study attempts to project and compare the economic development of seven Arab countries over the medium-term future, up to 1985. The seven include the oil-rich Saudi Arabia, Kuwait, Iraq, and Libya, and the oil-poor Egypt, Jordan, and Syria.

The main concern here is with the domestic economies of those countries. Their development will depend critically on the application of the oil revenues of the oil-rich both to their own development and to the provision of aid to the oil-poor. It will be assumed that aid to the poor will be sufficient for them to achieve their growth targets and maintain their military establishments. A second concern is the accumulation of foreign assets by the rich countries.

A forecast of future oil revenues is beyond the scope of this study. However, the study must depend on a range of assumptions concerning the world demand for Arab oil and the rate at which the rich countries are prepared to deplete their oil reserves. Projections are made on the alternative assumptions that oil-export incomes will increase at 2 percent or 5 percent annually *in real terms* with 6 percent world inflation; that means 8 percent and 11 percent in money terms.

GENERAL AND COMPARATIVE CONCLUSIONS

1. The availability of oil revenues will permit all the countries to achieve rapid rates of growth of their domestic economies (with the rich growing generally faster than the poor) through the purchase of foreign commodities, skills, and foreign labor, provided the oil-rich and other countries extend sufficient economic aid to the oil-poor.

2. Even the abundance of oil will not transform the domestic economies as rapidly as most of the countries hoped in the euphoria of 1974. Despite the availability of imports, they must rely on purely domestic resources, human and material, which are in short supply. Such shortages have resulted in serious domestic inflation, which has already induced most countries to modify their development plans.

3. Relative economic disparities among domestic economies will,

in some instances, increase. In particular, Saudi Arabia will grow
more rapidly than the rest, largely because of its willingeness to im-
port foreign labor. Kuwait had already achieved a high economic posi-
tion in the 1960s. Disparities among the remaining countries should
not change markedly provided the poor receive sufficient economic aid
from the rich. With the process of growth, disparities will increase
in absolute terms. With insufficient aid, however, disparities between
rich and poor could become even more dramatic than currently. Egypt
will remain very poor.

4. The burden of the heavy military expenditures of the poor will
probably be substantially relieved by economic aid from the rich, par-
ticularly Saudi Arabia and Kuwait. The main effect of reduction of
those expenditures in both rich and poor countries would probably be
reduction of inflationary pressure and raising of consumption stan-
dards, accumulation by the rich would increase, and aid to the oil-
poor would decrease.

5. For the time being, the rich countries (except Libya) will con-
tinue to accumulate foreign assets. But in all of them, except Kuwait,
foreign expenditures to support their own development, for military
purposes and for economic aid, are increasing more rapidly than their
oil earnings. Sooner or later accumulations will probably decline and
balance of payments deficits will probably appear. Because of the size
of its commitments, that could occur in Saudi Arabia by the end of 1985.
Iraq seems to be in a more comfortable position.

6. That conclusion depends on the future of the world demand for
oil, the marketability of natural gas, and the extent of reserves in
the producing countries. These are matters of great uncertainty. But
Saudi Arabia, in particular, cannot envision a future without oil or
gas. (Its industrialization plans all involve using oil or gas as a
raw material.) It must conserve enough to sustain its economy for the
future, which should limit its rates of production in the near term.

7. Consequently, after 1985 or even before, Saudi Arabia may be
impelled to modify its development plans and to reduce the present em-
phasis on construction and, consequently, on foreign labor. It may also
have to revise its aid commitments to other countries. Over the long

run, foreign commitments must keep in step with export earnings and income from foreign assets, which will continue to require income from oil and gas, or industries that depend on them. Iraq will eventually have similar problems. Kuwait already appears to have cut down its growth rate.

8. The future of the oil-poor will clearly be affected by the fortunes of the oil-rich. It will depend on the importance that Saudi Arabia, in particular, attaches to its own development compared with provision of aid to the poor.

MEDIUM-TERM ESTIMATES FOR INDUSTRIAL COUNTRIES

Saudi Arabia

Saudia Arabia can be expected to expand its domestic economy more rapidly than any of the other countries, principally because it is willing and can afford to import large quantities of foreign labor, both skilled and unskilled. It is equally prepared to import technical assistance from the developed world, permitting high rates of productivity growth.

The study estimates the consequences of alternative rates of growth of the domestic economy for the next ten years of 10, 11.6, and 13.5 percent. The 13.5 percent growth rate is based on the employment projections of the Second plan (1975 to 1980). The 11.6 percent rate projects the employment increases of the First plan (1970 to 1975). The 10 percent rate is simply a more moderate projection. With these rates the ratios of foreign to Saudi employment after ten years would be 1.06, 0.71, and 0.40, respectively. The high growth rate is likely to produce continuing inflation. With the low rate, inflation will be moderate.

Saudi accumulation of foreign assets will depend on the assumed growth rates and export income increases. With the highest growth rate and a 2 percent export income growth, accumulation could be practically exhausted after ten years. With a 10 percent growth rate and a 5 percent export income growth, accumulation could amount to about 120 billion of 1976 dollars in 1985--about twice the present level in real

terms. On grounds of domestic inflation, foreign labor, and asset ac-
cumulation, Saudi Arabia has strong reasons to accept a moderate growth
objective.

Kuwait

Kuwait had a head start as an oil-rich country and achieved very
rapid growth rates between 1950 and 1960, aided by heavy reliance on
foreign labor. By 1965, 77 percent of its labor force was foreign.
Since then, the growth rate of the domestic economy has been only about
2.9 percent; immigration has continued, although at a slower rate.
There is evidence that the government is concerned with its foreign
population problem and may be slowing down domestic development to dis-
courage immigration.

In view of these facts, the study projects modest growth rates of
between 3 and 5 percent of the domestic economy. At those rates, Kuwait
will have no foreign exchange problems. It can continue to accumulate
foreign assets and provide substantial foreign aid to the oil-poor.
Depending on the export growth assumption, its accumulation estimates
could range from 79 billion to 124 billion 1975 dollars after ten years.

Iraq

Iraq is supposed to have plentiful oil reserves, although there
is no firm evidence. It does not appear to be giving substantial aid
to its neighbors and is not importing large amounts of foreign labor,
so its development must depend principally on the growth of its own
labor supply.

Before 1973, its domestic economy grew at an annual rate of about
7.7 percent without excessive inflation. This was achieved with a 3.3
percent population increase and a 3.4 percent productivity increase.

After 1974, the country went on a spending spree and GDP grew by
20 percent between 1973 and 1975. But such a rate of growth implies
rates of productivity increase that no country can attain over an ex-
tended period. This study therefore takes the pre-1973 period as a
basis for projection. The rate of 7.7 percent is taken as a lower
limit. However, increased productivity by improved education, health,

and some import of foreign technology could lead to an 8 percent growth rate. Any estimates of accumulation are highly uncertain, but on the basis of assumptions made in the study, they could range from 26 to 42 billion 1975 dollars after ten years.

Libya

Before the revolution of 1969, the Libyan economy expanded rapidly in both its oil and nonoil sectors. After the revolution, the economy stagnated. Oil production declined and is still far below its 1970 level. Growth of the domestic economy sank to a very low rate. The main elements of increase were government consumption and imports, both probably resulting from heavy defense expenditures.

Although Libya is an oil-rich country, its current proceeds of oil exports are fully committed to outpayments on current and capital account. Its ambitious development plans are thus constrained by its balance of payments. Libya's prospects for growth depend on its ability to restore and increase oil production, economize on imports unrelated to development, particularly defense imports, and renegotiate payments to foreign oil companies. All this implies increased political stability. Libya does not at present seem to be an eligible candidate for foreign aid either from Arab countries or from the West.

A rate of 8 percent can be regarded as an optimistic estimate of the future growth rate of the domestic economy, and 5 percent represents a continuation of the present situation. The best assumption of asset accumulation seems to be that it will be negligible.

Egypt

Up until the mid-1960s, Egypt enjoyed a moderate but satisfactory rate of development. Since then the economy has stagnated, with economic growth barely keeping ahead of population growth. This is reflected in a rate of labor productivity growth of about 1 percent.

The poor performance can be attributed to the severe dislocations of the 1967 war with Israel, subsequent high and increasing defense expenditures, and increasing government nondefense expenditures. All these factors lower the rate of investment and make the country

increasingly dependent on an import surplus that amounted to 6 percent of GDP in 1972 and 24 percent in 1975, financed largely by increases in foreign indebtedness. Added to all this the internal economic or- ganization of the country is notoriously inefficient. Entrenched "Arab Socialism" deprives the country of the strong features of both Western capitalism and Russian communisum.

There are some favorable factors in Egypt's present situation. The Suez Canal has been restored, the country is at least self- sufficient in oil, tourism is expanding, and migrant workers in Saudi Arabia and elsewhere remit large sums. The country has the prospect of stable and substantial foreign aid from the oil-rich countries, and there is some glimmering hope of peace in the Middle East and a conse- quent reduction of Egypt's defense burden.

Under favorable conditions the country could restore or even ex- ceed its favorable pre-1967 growth rate, but this would mean success- ful government action to free up the economy and redirect it toward development. With more unfavorable conditions, only a modest increase over recent trends could occur.

This study therefore projects a growth rate of total GDP of 6.5 percent on the optimistic side and 4 percent as a pessimistic figure. To achieve these results Egypt would need net external resources of 16 to 20 percent pf its GDP. This figure could be partly financed by workers' remittances, but Egypt is committed to a comparable amount of debt service. The external requirement could be materially reduced if there were a large reduction in defense expenditures.

Syria

Syria, like Egypt, is an Arab socialist country, but from 1965 on its economic performance was considerably better than Egypt's. Up to 1973 its growth rate was 5.5 percent, compared with 3.3 percent for Egypt.

From 1973 to 1976 the country experienced vary rapid growth--12.1 percent when foreign aid from other Arab countries increased from 3 per- cent of GDP in 1973 to 27 percent in 1976. Syria does not import for- eign labor, so it is hard to see how that growth rate could be sustained,

even with plentiful foreign aid. It implies an impossible rate of productivity increase for an extended period.

On the basis of past performance, this study projects that Syria could continue its pre-1973 growth rate of 5.5 percent. An upper limit to its growth potential might be 8 percent. This would require external resources amounting to, say, 10 percent of its GDP. The estimates assume that government consumption, including defense, flows at the same rate as GDP. Realization of this optimistic estimate will be facilitated to the extent that Syria can develop its oil industry.

Jordan

Since the 1967 war, Jordan has had to reorient its economy to the East Bank. From 1971-1975, its achieved a 5.5 percent growth rate, with the support of external resources rising from 37 percent to 53 percent of GDP, about half coming from foreign aid and half coming from remittances from Jordanians working in Saudi Arabia. Increasingly military expenditures were responsible for the bulk of this increase. At the same time, Jordan's labor supply was increased by migration from the West Bank, Gaza, and Israel. All this was accompanied by substantial domestic inflation.

Jordan is aiming at a much higher growth rate--12 percent. Although external resources are likely to remain plentiful, growth is likely to be limited by inflation and labor shortages. The outflow of Jordanians seems likely to continue, but its sources of immigration are declining.

A 12 percent rate seems excessive. This study therefore projects growth rates ranging from a continuation of the recent 5.5 percent to a high figure of 7.5 percent. To accomplish these results, Jordan would need external resources amounting to about 40 percent of its GDP, implying a continuation of large defense expenditures. About half of it would come from workers' remittances.

CONTENTS

I.   INTRODUCTION

This study is centrally concerned with the domestic economic de-velopment of the Arab countries. For purposes of analysis it is necessary to distinguish between the oil-rich (Saudi Arabia, Kuwait, Iraq, and Libya) and the oil-poor (Egypt, Syria and Jordan) and, in the case of the oil-rich to consider their oil and nonoil sectors (NOS) separately. The development of the oil sectors is determined by condi-tions of world demand and domestic supply that are largely independent of these countries' domestic economies.

The countries themselves are vitally interested in the social and economic development of their domestic economies, upon which the wel-fare of the bulk of the population depends. Oil, however, is increas-ingly the resource on which depends the development of the economies of both the oil-rich and (through economic aid) the oil-poor. Oil revenues can be thought of as an economic aid program of unprecedented scale.

In the oil-rich countries, the oil sector is very large in rela-tion to NOS. Its GDP is determined by conditions of world demand for oil and these countries' decisions on the rate at which they are prepared to deplete their oil resources. The oil sector's development is prac-tically independent of the resources of the NOS.

Because the oil sectors are nationalized, their foreign exchange proceeds accrue to the government and are used to finance imports or the accumulation of foreign assets, or to provide economic and mili-tary aid to the oil-poor. At the present time the oil-rich countries have abundant foreign exchange, which permits full employment for their labor forces, even augmented by immigration. These countries can also afford to import the technological skills needed to attain a high rate of productivity growth. In contrast to LDCs elsewhere, they are labor constrained rather than capital constrained.

The ability of the oil-rich to use oil proceeds for domestic de-velopment will depend on their ability to translate these resources into useful imports. Owing to limitations on that capacity, they are

likely to encounter shortages of domestic resources, which will result
in internal inflation. Their concern to avoid inflation may impose an
additional constraint on the domestic development programs they are
prepared to undertake.

Because of their present oil resources, and for other reasons, the
oil-rich will continue to undertake commitments to provide military and
economic aid, particularly to the oil-poor Arab countries, as well as
to acquire substantial military capabilities of their own. Such com-
mitments will hasten the time when foreign exchange constraints become
operative.

In the oil-poor countries, the export sector cannot usefully be
separated from the nonexport sector. Although export demand depends
on the world economy, the supply of exports generally depends on the
development of the whole economy. Economically, foreign aid plays the
role in the oil-poor countries that oil plays in oil-rich countries.
With sufficient foreign aid, the countries can become subject to a
labor constraint, increased by substantial immigration from the oil-
poor to the oil-rich.

With insufficient foreign aid, the oil-poor can become labor-
surplus countries, where capital and import constraints dominate their
economic growth. Insufficient foreign aid can also deny the oil-poor
the social programs that contribute to productivity increase, partic-
ularly education and training.

With the development programs they are likely to adopt, the oil-
poor will probably suffer domestic inflation. With abundance of aid
this can arise from lack of ability to absorb imports. With less
foreign aid, domestic inflation can arise from shortages of capital or
imports.

The study is organized as follows:

Section II: Assumptions are made concerning future oil revenues.
Such assumptions are necessary for the analysis, even though they have
to be made with respect to a highly uncertain future. This section
also includes a brief discussion of the problem of allocating oil rev-
enues among various uses.

Section III: An analytic growth model will be used, insofar as

data permit, to estimate the growth of the domestic economies. A method is provided for estimating accumulation of foreign assets by the oil-rich and the external resources needed by the oil-poor to achieve their growth objectives.

Section IV: The economies of the seven countries over a ten-year period are projected under alternative assumptions. Their accumulations of foreign assets and external resource requirements are also estimated.

Section V: The effects of military expenditures on the several economies and possible effects of a substantial reduction are specifically examined.

Section VI: Some of the main conclusions of Sec. III are summarized and the economic problems that may confront the countries after a ten-year period indicated.

Appendix: Statistical Summary. The results of Sec. III are summarized in comparative and numerical form.

II. THE OIL SECTORS

ASSUMPTIONS CONCERNING OIL EXPORT INCOME

This study depends on the assumption that conservation measures and production of substitutes will still leave the world with an increasing demand for oil, and for OPEC oil in particular. The OPEC share of the world increase in demand is likely to increase, owing to depletion of oil reserves elsewhere. Conceivably the demand for OPEC oil at constant real prices could expand at the rate of 3 or 4 percent annually.

Confronted with an increasing world demand, OPEC countries can expand production, increase real prices, or both. Assuming they feel no constraint on increasing supply, a rational objective would be to adopt a price-quantity policy that will maximize their export earnings. Here they have to consider the total elasticity of demand for OPEC oil. They have to estimate the effect of price increases when everything else is held constant, the adverse income effects in the consuming countries, and the stimulus that a price increase will give to production of substitutes and to additional conservation measures. The "price moderates" in OPEC are quite aware of these factors.

The next question is to what extent the producers are prepared to increase annual rates of production in view of their long-run oil reserve positions. The oil-rich cannot contemplate with any equanimity a future without oil. Their industrial plans (mainly Saudi Arabia's) center on petrochemicals, which can help them use their abundant gas reserves. But gas is generally associated with oil, and there will be little if any gas available if the oil runs out.

It is rare indeed that a country can grow faster than its imports. Imports are paid for from export earnings and the income from foreign investments, and its accumulation of foreign investments depends on its export growth. For development to continue, an income that will finance a given level of imports is not sufficient. The country must be able to pay for increasing imports.

The reserve problem can be well illustrated by the case of Saudi

Arabia. For 1976, Aramco puts proved and probable reserves at 177.5 billion barrels. Suppose we use a figure of 200 billion barrels. At present production rates of 3.5 billion annually, Saudi oil would have a life expectancy of 57 years. If oil production increased continuously at an annual rate of 2 percent, the life expectancy would be cut to 38 years. With a cumulated increase of 3 percent annually, the expectancy would be 26 years.

In view of these calculations, a Saudi planner should hesitate to increase production steadily by more than 2 percent annually for an extended period. Even that would involve a gamble with the long-run future. He would be betting on new discoveries of oil or minerals or unassociated gas.

Then there is the question of price. What real price increases will the world market stand if production is increased at 2 percent annually? My guess is that feasible price increases from the OPEC point of view might range from zero to 3 percent annually. That would mean an annual increase of export income from oil of from 2 to 5 percent annually. In addition, allowance should be made for exports based on natural gas, but uncertainties concerning gas supplies throughout the world make it very difficult to estimate exports of the Arab countries. The situations of Kuwait and Iraq seem similar to those of Saudi Arabia, and I shall make the same assumptions concerning oil exports.

Because of relative shortage of reserves, Libya is in a different position. It has little opportunity to conserve reserves for the long run, its present need for oil revenues is great, so its interest is in increasing production and raising prices.

The GDP of the oil-rich is determined by world demand and the oil producers' decisions concerning the amount of oil they will supply. The amount spent on capital formation in the oil industry thus depends on the exploration, pipelines, and refineries needed to obtain the planned supply. It can be assumed that there is no constraint arising from shortage of capital. However, there may be significant lags: Delay in constructing capital equipment can affect the assumed growth rate of production.

I shall assume that oil exports are usually a sufficient approximation to the GDP (value added) of the oil sector. To be technically correct, oil-related imports should be deducted. These include imports from the outside world and imports from the NOS. Such imports can be assumed to cover all capital formation in the oil sector. The amounts of nonoil resources so used are small.

The real GDP of the oil sector must include changes in the real price of oil or in the terms of trade. It makes little sense to include in the total GDP of a country the value of oil at any pre-1973 price, or at any post-1973 price for that matter when the terms of trade are expected to improve continually.

In summary, oil exports are determined by world demand for oil as a function of the real price of oil and the available supply. The GDP of the oil sector is equal to oil proceeds minus oil-related imports, which can be taken to depend on the amount supplied.[*] The balance of payments and accumulation estimates for the oil-rich countries will be based on the alternative assumptions that export income increases at the alternative rates of 2 and 5 percent for the next ten years. With 6 percent world inflation that means current price increases of 8 and 11 percent annually.

DISPOSITION OF OIL REVENUES

Receipts from oil exports can be used for the following purposes:

1. Accumulation of foreign assets: cash, securities, or physical investment;

2. Assistance to other Arab countries and LDCs;

3. Imports of military equipment and technical assistance;

---

[*] This simplification can be taken to include refining. Producers' decisions to export refined products rather than crude depend on world market conditions, so refining capacity can be regarded as a derived demand. The situation will become more complicated if the petrochemical industries are developed on a large scale. From an analytical point of view it is probably best to regard the value added in those industries as part of the NOS, so long as they use raw materials imported from the oil sector.

4. Imports directly related to economic development;

5. General imports that largely depend on economic development.

Since 1974, accumulation of the Saudi surplus has been inadvertent rather than deliberate. The Saudis have had far more money than they were able to spend, wisely or unwisely. In the process, they have accumulated earning assets that amounted to about SDR 50 billion in 1976. As other claims on export revenue increase, the desired rate of accumulation may become a matter of deliberate choice in the allocation of oil revenues.

Kuwait already appears to have made foreign accumulation a major objective of policy.

From a military point of view, accumulation of foreign assets can be an important source of military strength in the future, whereas current investment in equipment will become obsolete. Military strength over a 10 to 15-year period requires an appropriate mix of present strength and realizable foreign assets.

One of the Saudi objectives is to build up its economic resources to diminish dependence on oil. The income it receives from foreign investment will be of considerable importance, and the mix it achieves between foreign and domestic investment will be a significant part of its policy.

In economic terms, the Arab countries should logically be concerned with their GNPs, which include the return of foreign assets, but they seem to focus more attention on their GDPs, which do not. In other words, if the rates of return on foreign and domestic investment are equal, the countries often prefer domestic investment. One major reason is that domestic investment directly increases employment and the wages of domestic labor. Foreign investment may do the same indirectly through the disposition of investment income, but the process is not so evident to the policymaker.

Assistance to other Arab countries is vitally important to the oil-rich countries, because their security depends on having friendly Arab neighbors. Egypt, Syria, and Jordan cannot provide themselves with arms or development at anything like current levels from their

own resources. If the oil-rich countries fail to help them, they are likely to turn elsewhere, and the most ominous recourse is the Soviet Union. An extension of Soviet influence is not in the Saudis' interest. Moreover, the rich countries may reduce the cohesiveness of the Arab countries if they are immensely rich and their neighbors are extremely poor. The rich countries already recognize that aid to other Arab countries is an essential part of their foreign policy, but the scale of such aid is open to argument and may not be commensurate with their present wealth. There is also evidence that the Islamic world as a whole, including Pakistan and Bangladesh, will assert their claims to oil riches.

Saudi Arabia is already making strenuous efforts to build up its military forces, largely through purchases of equipment and technical aid in the United States. It obviously suffers no foreign exchange problems, but it has serious manpower constraints. It will presumably want to man its armed forces with its own nationals. Military expansion will therefore increase its need to rely on imported labor to achieve its development goals.

The oil-rich countries, with the possible exception of Kuwait, are aiming toward large-scale development in an attempt to move from almost complete reliance on oil to a diversified and self-reliant modern economy. The feasibility of those programs will depend on the material and technical resources they can obtain from abroad and on their ability to use those resources effectively in their underdeveloped sectors. That ability depends on the extent to which the nonoil sectors can use imports (financed by oil revenues).

III. THE ECONOMIC MODEL

The analysis will proceed in terms of a highly aggregative model constructed on conventional lines, with a Cobb-Douglas production function as a central feature. The model can be adapted to depict the total economies of the oil-poor and the nonoil sectors of the oil-rich.

As a preliminary, it is useful to record the constraints on the model to which the domestic economy of a country may be subject, depending on its circumstances.

The growth of a country may be limited by its supply of labor, coming from a natural increase of the population or from importation. Labor in this case is scarce in relation to capital, but capital accumulation is necessary to attain the desired rate of increase in labor productivity. It is assumed that the desired rate of accumulation can be achieved from internal or external sources. A labor constraint is a leading feature of the oil-rich countries at the present time.

In the case of a capital constraint, the availability of capital from domestic or foreign sources is the limiting factor, and the supply of labor is assumed to be abundant or even excessive. This is the assumption made in most development economics, and care should be taken not to apply the conclusions drawn from it to countries where the dominant constraint is labor.

Economic development depends on increases in "total factor productivity" in addition to increases in the "quantities" of labor and capital. Increases can be attributed to such factors as technology transfer, increasing returns to scale or improved organization and management, and the education and training of the labor force. Unfortunately, direct quantitative relationships cannot be established between the various causal factors and the resulting productivity increase.

A country's development can be constrained by the terms on which it can obtain imports that are complementary to domestic factors and for which there is no domestic substitute. The strength of an import constraint will depend on the terms on which it can sell exports or on its ability to obtain foreign loans or assistance.

A country's export income will depend on foreign demand and domestic supply factors. With a limited natural resource, such as oil, a country may be unwilling or unable to expand export supply; and export proceeds will depend on foreign elasticities of demand and the availability of alternative foreign sources of supply.

In computing real GDP, one should take into account changes in the terms of trade. It is undeniable that the oil price increases of 1973 increased the real GDPs of the oil exporters and reduced those of the importers.

A country's balance of payments includes much more than exports of goods and services and complementary imports. For example, it includes payment on foreign indebtedness and receipts from foreign investments, private remittances, and unrequited government transfers. Such items can compete with or supplement the foreign resources available for economic development and thus may impose a further constraint on domestic development.

However available foreign exchange may be, imports cannot completely substitute for domestic resources, notably services and housing. A development program depends partly on the availability of specific domestic resources. General saving and taxation may not be able to remove shortages of such resources, which may constrain the development program itself or contribute to general domestic inflation.

THE FORMAL MODEL

The model consists of a supply side and a demand side. The supply side consists of the GDP in constant price and the rate of growth that results from application of the available factors of production on the assumption that demand is sufficient to result in full use of capacity. For the time being, possible changes in the terms of trade will be ignored.

The demand side involves the demand for GDP in constant prices and results from the behavior of the government and the private sector. The demand side is partly dependent on the supply side. If the country aims at a rate of economic growth that will prescribe capital requirements on the supply side, it will also affect investment expenditures

on the demand side. But demand includes consumers' and government ex-
penditures on such items as defense and foreign aid that are not di-
rectly related to the desired rate of economic growth. Aggregate demand
in constant prices is not necessarily equal to aggregate supply. Ex-
cess or deficient demand can result.

Demand and supply must be brought to equality. Excess demand is
eliminated by inflation or by direct government action on the variables
under its control. Excess supply may be eliminated by the price sys-
tem, but it is more likely to reduce production.

The process of equating demand and supply is also subject to the
condition that the balance of payments should be in equilibrium and
that that process can react on the domestic economy. If demand and
supply can be balanced only by inflation, an additional constraint is
imposed on the economy. Governments invariably find some degree of
inflation intolerable and consequently cut back government expenditures.
The economic development program may be a casualty in this process.

THE SUPPLY SIDE

The Labor Constrained Economy

The GDP projections in this study necessarily have to rely heavily
on projections of the labor force and the average productivity of
labor* because a more sophisticated neoclassical approach would have
required measurement of the capital stock, and no such statistics are
available for any of the countries under consideration. This precludes
direct projections of total factor productivity on the basis of past
trends in the country under examination. However, trends in the aver-
age productivity of labor can be inferred from statistics on the growth
of GDP and the labor force.

_____

*Other studies have faced the same problem. See, for example,
Michael Bruno, "Economic Development of Israel," in Charles A. Cooper
and Sidney S. Alexander (eds.), *Economic Development and Population
Growth in the Middle East*, American Elsevier, New York and Amsterdam,
1972.

An essential assumption of the method is that labor is a scarce factor, so that employment can be inferred from the growth of the labor force. Even when an Arab country encourages extensive employment of migrant labor, as does Saudi Arabia, it is increasingly concerned with the ratio of foreign labor to the total labor force. If these countries decide that the ratio has reached an upper limit, they will want to ensure that foreign employment increases no more rapidly than domestic employment in the future. Relief from the labor constraint must then depend on increased labor participation by the local population.

Labor is a scarce factor for the oil-rich because enough capital is available from oil for them to achieve full employment. All this is in striking contrast to conventional thinking in development economics, which usually considers capital to be the scarce factor and labor abundant or even redundant.

Whether labor is the operative constraint for the oil-poor will generally depend on the amount of foreign aid they receive. With insufficient aid, they will face a capital constraint.

The neoclassical approach should not be discarded, however. It is useful to analyze the component of labor productivity and to permit international comparisons.

Under the labor-productivity approach, capital enters the picture as a requirement for attaining the desired rates of employment and productivity increase. "Requirement" is not a very satisfactory term, however, because additional capital can increase productivity if the country can absorb it. But there are limits to the extent this is possible over anything but a short period.

Let Y denote GDP, L labor and π average productivity.

$$Y = \pi L. \tag{1}$$

Let there be a Cobb-Douglas production function,

$$Y = A(t)K^{\alpha}L^{1-\alpha}, \tag{2}$$

where A denotes total factor productivity and K the stock of capital (which usually cannot be measured).

For the rate of increase of productivity, differentiating Eq. (1) yields:

$$\frac{\dot{Y}}{Y} = \frac{\dot{\pi}}{\pi} + \frac{\dot{L}}{L} \ . \tag{3}$$

Differentiating Eq. (2):

$$\frac{\dot{Y}}{Y} = \frac{\dot{A}}{A} + \alpha \frac{\dot{K}}{K} + (1 - \alpha) \frac{\dot{L}}{L} \ . \tag{4}$$

Substituting for $\dot{Y}/Y$ in Eq. (3):

$$\frac{\dot{\pi}}{\pi} = \frac{\dot{A}}{A} + \alpha\left(\frac{\dot{K}}{K} - \frac{\dot{L}}{L}\right) \ . \tag{5}$$

Equation (5) states that the increase in labor productivity depends on the increases in total factor productivity and in the capital-labor ratio. The first term relates to the organization of the economy, the quality of the labor force, and other well-known factors. The second term suggests that with a given labor constraint, productivity can be increased to any desired extent by increasing capital intensity; but that matter requires further investigation.

A country will not invest without regard to the rate of return on investment, because it always has the alternatives of investing abroad or increasing consumption. There is a lower limit to the rate of return the country will accept.

The rate of return on capital is equal to its marginal productivity Differentiating Eq. (2) partially with respect to K,

$$\frac{\partial Y}{\partial K} = A\alpha\left(\frac{L}{K}\right)^{1-\alpha} \tag{6}$$

Differentiating Eq. (6) logarithmically yields the rate of change of marginal productivity over time:

$$\frac{d}{dt} \cdot \frac{\partial Y}{\partial K} \Big/ \frac{\partial Y}{\partial K} = \frac{\dot{A}}{A} - (1 - \alpha)\left(\frac{\dot{K}}{K} - \frac{\dot{L}}{L}\right) . \tag{7}$$

As capital intensity increases, marginal productivity declines. Marginal productivity is constant over time when Eq. (7) becomes zero--that is, where

$$\frac{\dot{K}}{K} - \frac{\dot{L}}{L} = \frac{1}{1 - \alpha} \cdot \frac{\dot{A}}{A} . \tag{8}$$

Equation (8) determines the growth of capital intensity that is consistent with a constant return to capital.

Substituting Eq. (8) in Eq. (5),

$$\frac{\dot{\pi}}{\pi} = \frac{1}{1 - \alpha} \cdot \frac{\dot{A}}{A} . \tag{9}$$

This gives a useful relation between labor productivity and total factor productivity. If $\dot{A}/A$ is known, it determines an upper limit to the rate of increase of labor productivity over an extended period. But that conclusion must be qualified. First, an oil-rich country may decide to invest regardless of the rate of return. If it does that, it can increase labor productivity at the cost of a continually diminishing return to capital. Second, a country may start with a shortage of capital and a high rate of return in relation to foreign investment. In that event, it makes good economic sense to continue investment, even with a diminishing marginal return, until the rate of return ceases to be preferable to other alternatives.

Equations (3), (8), and (9) provide a formula for the maximum rate of growth over an extended period with a given labor constraint and capital requirements for that growth; namely,

$$\left(\frac{\dot{Y}}{Y}\right)_{max} = \frac{\dot{K}}{K} = \frac{1}{1 - \alpha} \cdot \frac{\dot{A}}{A} + \frac{\dot{L}}{L} = \left(\frac{\dot{\pi}}{\pi}\right)_{max} + \frac{\dot{L}}{L} . \tag{10}$$

In these conditions, the return on capital is equal to its supply price, and the real wages of labor increase in proportion to productivity. We need to know the investment ratio that will provide these capital requirements. Decomposing $\dot{K}/K$,

$$\frac{\dot{Y}}{Y} = \frac{\dot{K}}{K} = \frac{\dot{K}}{Y} \cdot \frac{Y}{K} \tag{11}$$

or

$$\frac{\dot{I}}{Y} = \frac{\dot{K}}{Y} = \frac{\dot{Y}}{Y} \cdot \frac{K}{Y} . \tag{12}$$

The required investment ratio is the product of the required rate of growth and the capital-output ratio.

Because we often lack a measure of capital, it is necessary to use the incremental capital-output ratio (ICOR) or dK/dY as a proxy for K/Y. In general the two concepts are not equal.

The incremental output-capital ratio is obtained from historical statistics.

$$\frac{dK}{dY} = \frac{dK}{dt} \div \frac{dY}{dt} . \tag{13}$$

From (13), it follows that

$$\frac{dK}{dY} = \left(\frac{\dot{K}}{K} \bigg/ \frac{\dot{Y}}{Y} \right) \frac{K}{Y} . \tag{14}$$

Thus the ICOR will underestimate the capital-output ratio if capital is increasing faster than output and overestimate it where capital is increasing less rapidly.

But by Eq. (10), the economy attains its maximum sustainable growth when $\dot{K}/K = \dot{Y}/Y$. In those conditions, therefore, the ICOR and the capital-output ratio are equal. It seems reasonable to suppose that large deviations from this condition will not occur.

This estimate of the investment ratio makes no allowance for capital consumption. In fact, it implicitly assumes that there will be no capital consumption during the period under consideration. This common practice is adopted because depreciation allowances are generally regarded as an accurate estimate of capital consumption, but some allowance should be made.

The depreciation approach implies that a given proportion s of the capital stock wears out every year, and this amount should be included in investment requirements.

$$I = \dot{K} + sK, \text{ and}$$

$$\frac{I}{K} = \frac{\dot{K}}{K} + s.$$

Consequently,

$$\frac{I}{Y} = \left(\frac{\dot{K}}{K} + s\right) \frac{K}{Y} \quad \left(\text{or } \frac{dK}{dY}\right)$$

$$= \left(\frac{\dot{Y}}{Y} + s\right) \frac{K}{Y} \quad \left(\text{or } \frac{dK}{dY}\right).$$

In empirical work one usually has to derive dY/dK from historical data, where dK represents gross investment, resulting in underestimating Dy/dK. Consequently, failure to take capital consumption explicitly into account involves two errors that partially offset each other. To use the formula

$$\frac{I}{Y} = \frac{\dot{Y}}{Y} \cdot \frac{dK}{dY},$$

where all magnitudes are gross, may not be too wide of the mark.

Average Labor Productivity

Empirical work often requires use of Eq. (1),

$$Y = L\pi.$$

Direct observations of π and its rate of change are important because
of the empirical problems connected with the production-function ap-
proach, but all available information derived from the two approaches
should be used.

My estimate is that an annual increase in labor productivity of
approximately 5 percent is about the most that can be expected in the
Arab countries, with 2.5 to 3 percent as a lower limit. These figures
are based largely on past performance, but comparisons with other coun-
tries should also be made. Some other countries have had a higher rate
than 5 percent and many of the LDCs are lower than 2.5 or 3 percent.
Table 1 presents some examples.

Table 1

GDP PER WORKER AVERAGE
ANNUAL RATE OF GROWTH,
SELECTED COUNTRIES
(1960–1973)

Country	Rate
Iran	7.2
Israel	6.3
Republic of China	6.3
Korea	6.4
Kenya	3.0
Tanzania	2.6
Peru	3.0
Mexico	3.8
Brazil	4.3
Ecuador	1.3
Paraguay	2.5
India	1.6

SOURCE: *World Tables*,
IBRD, Washington, D.C.,
1976.

The high figure for Iran can probably be explained by oil. It is
possible to expand oil production with very little increase in employ-
ment. For example, Libya recorded a 23.6 percent productivity increase
over the period. Where oil is important, we must deal with productivity
in the nonoil sector.

Israel had a period in the 1960s of rapidly increasing capital intensity. It may now have reached the point where capital intensity cannot be increased further without reducing the return on capital to unacceptable levels.

The Republics of China and Korea have relied on Western technology, they have not been impeded by bureaucratic restrictions, they have produced efficiently for the world market, and they have increased capital intensity. Their rates of increase may slow down in the future, however, if things go according to the theory presented in this study.

The rest of the countries shown in Table 1 seem consistent with that theory. If 5 percent were an easy figure to attain, one would expect Brazil or Mexico to have attained it, and India should be at the bottom of the list because of both low capital intensity and low efficiency.

Another check on this hypothesis is to consider total factor productivity, $\dot{A}/A$, which together with α determines $\dot{\pi}/\pi$. Unfortunately, measures of this quantity are not available for the LDCs owing to the difficulty of measuring the stock of capital, but it has been extensively investigated for developed countries.[*] A 3 percent rate of increase is a high figure for a developed country.

If we take 3 percent as a high figure for an LDC and α is alternatively 0.3 and 0.5, Eq. (9) states that the range of labor productivity is 4.5 to 6, which supports my 5 percent figure.

The formulas also indicate what would be required if a country relied on capital accumulation alone to increase labor productivity. Suppose $\dot{A}/A$ is practically zero.[†] Then if labor productivity is to grow at, say, 3.6 percent, its capital intensity must increase at 9 percent according to Eq. (5). If a country's labor force is increasing at 3 percent, its capital stock must increase at 12 percent annually. Such a situation seems untenable as investment would have to occur at a rate that involved a rapidly diminishing marginal productivity of capital.

---

[*] See Edward F. Dennison, *Why Growth Rates Differ*, The Brookings Institution, Washington, D.C., 1967.

[†] Assumed by Bent Hansen, "Economic Development of Egypt," in Cooper and Alexander (eds.), 1972.

The Capital Constrained Economy

The capital constraint arises from the flow of investment available to the economy. This flow results from domestic saving out of the GDP and foreign savings, the latter being represented by the balance of payments deficit on current account. These factors determine I/Y. For analytical purposes we need to know the corresponding value of $\dot{K}/K$, approximated from the relation

$$\frac{\dot{K}}{K} = \frac{I}{Y} \cdot \frac{Y}{K} \ ,$$

corresponding to Eq. (11) above. The capital constraint will apply where I/Y is insufficient to provide full employment of labor, with a resulting labor surplus.

Capacity GDP is determined by

$$Y = \pi_K K \ , \tag{15}$$

where K is the stock of capital and π_K is the average productivity of capital, or the output-capital ratio. For the rate of growth:

$$\frac{\dot{Y}}{Y} = \frac{\dot{K}}{K} + \frac{\dot{\pi}_K}{\pi_K} \ . \tag{16}$$

But for (15) or (16) to hold, labor requirements must be met. I assume that the supply of labor is completely elastic, so that labor is indefinitely available at a given real wage.

By the same procedures as before, it is possible to obtain an equation analogous to (5), namely,

$$\frac{\dot{\pi}_K}{\pi_K} = \frac{\dot{A}}{A} + (1 - \alpha) \left(\frac{\dot{L}}{L} - \frac{\dot{K}}{K} \right) \ . \tag{17}$$

The formula suggests that with a given capital constraint—i.e., a fixed $\dot{K}/K$—average capital productivity, hence output, can be increased to any desired extent. That would be true if labor was prepared to work at any real wage that corresponded to its marginal productivity. But there is a minimum real wage w at which labor is available, and that imposes a limitation on capital productivity.

For a given capital constraint, the maximum increase in employment at a constant real wage will be given by a formula analogous to (8), namely

$$\frac{\dot{L}}{L} = \frac{\dot{K}}{K} + \frac{1}{\alpha} \cdot \frac{\dot{A}}{A} \ . \tag{18}$$

In those conditions

$$\frac{\dot{\pi}_K}{\pi_K} = \frac{1}{\alpha} \cdot \frac{\dot{A}}{A} \ . \tag{19}$$

Also, the rate of growth of total output will be

$$\frac{\dot{Y}}{Y} = \frac{\dot{L}}{L} = \frac{1}{\alpha} \cdot \frac{\dot{A}}{A} + \frac{\dot{K}}{K} \ . \tag{20}$$

That is, output grows at the same rate as employment.

An interesting aspect of this result is that the (constant) level of the real wage does not affect the rate of growth. What the rate of real wages does is to reduce the level of output attainable with a given stock of capital; it does not affect the rate of growth attainable at a constant real wage, with a given rate of increase in the stock of capital.

THE DEMAND SIDE

Confronting the supply of GDP is real demand, which initially is determined in part by factors that depend on supply and in part by factors that are determined independently of supply. This initial

situation must be modified by factors that bring demand and supply into balance, ultimately inflation or deflation.

Real demand is reflected in expenditures in constant prices. It includes planned expenditures, private expenditures, foreign expenditures for exports, and imports.

Planned expenditures (P) consist of government consumption (GC) and gross domestic investment (GDI). Part of GC, such as social services and education, is likely to grow at a rate corresponding to that of GDP. But the other and often the major part of GC is defense, which cannot be regarded as determined by economic factors, although it may be limited by economic capacity.

GDI is assumed generally to be the investment needed to meet the capital requirements of the plan. But in their enthusiasm for development, and stimulated by the present abundance of oil revenues, governments often undertake investments that yield such a low rate of return they do not conform to any rational notion of capital requirements.

Planned expenditures in the countries with which we are concerned consist largely of government budget expenditures. Although a large part of the investment program is carried out by the private sector, the capital resources come from the government budget. In addition, the private sector invests its own funds, notably depreciation allowances. Such replacement expenditures are considered here to be part of the plan. For simplicity it is assumed that net investment is financed directly or indirectly by the government, and replacement by the private sector.

Private expenditures (E) include consumption expenditures and replacement investment. Consumption expenditures depend on disposable income. Private investment is financed by saving from disposable income and private credit creation. In a steady growth situation, the private sector neither increases nor decreases its indebtedness in relation to its income on a permanent basis. Furthermore, the private sector saves to maintain a desired level of liquid assets in relation to GDP. With constant prices, such saving will be assumed proportional

to the growth of real GDP. With rising prices, it will be proportional
to the growth of nominal GDP.[*]

Foreign expenditures for exports (X) are determined by conditions
of domestic supply and foreign demand. Because oil is dealt with sep-
arately, domestic supply is assumed to be the dominant factor.

Imports (M) are plan-related or demand-induced. Plan-related im-
ports are the import components of the development plan. Demand-induced
imports are the import component of private expenditures. Like total
private expenditures, they depend on private disposable income, and
their relation to other items of private expenditures may be comple-
mentary or competitive. In the absence of evidence to the contrary,
they are assumed to be a fixed proportion of income.

DEMAND, SUPPLY, AND INFLATION

Total demand D is given by

$$D = GC + GI + PI + PC + X - M. \tag{21}$$

In this formula,

$$PC = Y - T - R - k\Delta Y. \tag{22}$$

GC and GI denote government consumption and government investment.
PI is private investment (mainly replacement). These three terms to-
gether can be said to make up the government's plan, which we can de-
note by P.

---

[*]I am ignoring the speculative demand for money, which plays such
a prominent role in the macroeconomics of developed countries. This
simplification seems justified in countries that lack financial markets,
particularly a long-term government bond market and a variety of finan-
cial assets. Also, where the general expectation is for inflation, the
private economy will probably spend its income either on commodities or
transactions balances. I ignore the possibility of private interna-
tional capital movements. A tendency to export private capital would
reduce the ratio of private expenditures to income, and a persistent
tendency to import it would have the opposite effect. Such tendencies
depend on relative profit rates at home and abroad and on the exchange
rate.

X - M is the export surplus, but in the cases under consideration this will be negative and will be an import surplus.

Equation (22) states that private consumption (PC) will be GDP less taxes (T) and private saving $R + k\Delta Y$.

At the same time total supply (S) is equal to real GDP:

$$S = Y. \tag{23}$$

From (21)', (22), and (23), excess demand will then be:

$$D - S = (GC + GI - T) + (PI - R) - k\Delta Y - (M - X). \tag{24}$$

P - T will be the budget deficit and M - X the balance of payments deficit on current account. PI - R will be the excess of private investment over replacement savings.

In these economies there is no long-term bond market, so the budget deficit is financed by money or liquid asset creation. Also, the balance of payments deficit by itself results in a reduction of the money supply. Thus (P - T) - (M - X) + (PI - S) is equal to net money creation. The first two terms result from government money creation and the third from private credit expansion. Further, $k\Delta Y$ is equal to the increase in the demand for money or liquid assets at constant prices.

Thus if L_D and L_S denote the demand and supply of liquid assets,

$$\Delta L_S = (GC + GI - T) - (M - X) + (PI - R),$$

and

$$\Delta L_D = k\Delta Y.$$

Demand and supply will be equal at constant prices when net money creation is equal to the increased demand for money resulting from the real growth of the economy. In other words, the increase in liquid assets

is equal to the budget deficit *minus* the import surplus *plus* private credit expansion.[*]

In some of the country studies, it will not be feasible to go further than this. I shall call the ratio of liquid asset creation in the GDP the impact of the plan. Thus

$$\text{Impact} = \frac{\Delta L_S}{Y} .$$

By looking at past history we can form an idea of whether a projected impact is likely to be consistent with a tolerable rate of inflation.

If excess demand is positive at constant prices, it must be eliminated by the process of inflation. The private sector must reduce its expenditures in relation to disposable income to maintain the desired relation between its liquid balances and GDP.

The inflationary process can be demonstrated by a highly simplified model. Suppose the budget deficit, the excess of private investment over normal savings, and the import surplus are fixed proportions α, β, and m of real GDP and that to carry out its plan the government maintains those proportions when prices are rising.

Let y denote real GDP and p the price level, so that $Y = py$ when p is constant. Then zero excess demand may have to be achieved through the rate of change of the price level as well as real output.

From these assumptions, (3) becomes

$$\alpha py + \beta py - mpy = kd(py) = k(py + p\dot{y}).$$

For the rate of inflation,

$$\frac{\dot{p}}{p} = \frac{\alpha + \beta - m}{k} - \frac{\dot{y}}{y} .$$

---

[*]This formula should also take into account private financial items in the balance of payments. For example, worker remittances will increase liquidity, and private capital outflow will decrease it.

To illustrate the formula numerically, suppose α = .40, m = .20, k = .5, β = 0, and $\dot{y}$ = .05. The rate of inflation will then be .35.

If in addition the tax rate is assumed to be a constant proportion t of GDP, after the inflation has achieved a steady state

$$\frac{P}{Y} = \alpha + \beta + t$$

and

$$\frac{PC}{Y} = 1 - \alpha - \beta - t + m.$$

The inflation has reduced the ratio of private consumption expenditures GDP by $\alpha + \beta$, which makes room for the corresponding deficit expenditures needed to finance the plan.[*]

The assumptions of the formula now need to be re-examined.

First, when the government becomes aware of the inflationary implications of the plan, it may reduce the plan and hence α. Second, some plan expenditures, notably defense, cannot be assumed to be fixed proportions of GDP; α may therefore increase or decrease over time, depending on political circumstance. Third, under the stimulus of inflation the government may reduce α by increasing taxation. Fourth, exports may increase or decrease because of conditions of world demand or domestic supply.

Fifth, imports may be increased by lowering the price of imports relative to domestic products. But there are limits to which this is feasible because of the internal resources constraint and the balance of payments constraint.

Sixth, under the influence of inflation, the private sector will attempt to reduce k. With enough inflationary pressure, decreases of

---

[*]In this analysis of inflation, no account has been taken of foreign inflation. Rising import prices that permeate the domestic cost and wage structure should add to domestic inflation. However, with an inelastic demand for imports, rising import prices could be anti-inflationary. I shall assume here that the cost effect prevails and that world inflation should be added to these estimates.

k may be sufficient to prevent the attainment of a steady state of in-
flation. Hyperinflation will then be the outcome.

Finally, the government may be able to increase GDP by increasing
the rate of productivity increase. It would also be possible to in-
crease GDP growth by increased labor immigration, but the possibility
is limited by the labor constraint.

The Nonoil Sectors

The model can be applied to the NOS of the oil-rich countries in
the following way. On the supply side it can be assumed that, because
of the abundance of capital, the NOS are labor-constrained, so that
their GDPs will be determined by the supply of labor and average pro-
ductivity of labor.

On the demand side, NOS exports are assumed to be close to zero.
There is little likelihood of nonoil exports to the outside world dur-
ing the projection period. There will be some exports to the oil sec-
tor, owing largely to expenditures by wage earners in the oil sector,
but the statistics indicate that they are small.

Furthermore, oil export revenues are taxed 100 percent, so there
will be no private consumption expenditures in the NOS arising directly
from oil revenues. The effect of oil revenues on the NOS will come
from government expenditures financed by oil revenues, and private ex-
penditures will depend on the disposable income of the NOS and on pri-
vate credit creation in that sector.

This model can be applied to the NOS with the single modification
that exports are zero, and

> Increase of liquid assets = Budget deficit of the
> NOS minus imports of the NOS plus private credit
> creation in the NOS.

These results may at first sight seem somewhat mystifying, so it
is worth elucidating them further. In a private economy without taxa-
tion, exports create money when exporters sell their foreign exchange
to the monetary authorities in exchange for domestic currency. But

when exports are taxed, exporters pay the proceeds of their foreign exchange sales to the government. When that happens, they create government deposits instead of additions to the money supply. Domestic money creation occurs when the government spends its deposits domestically, and that is equal to the budget deficit of the NOS.

The government can and often does have a budget surplus in the ordinary sense of the term but at the same time a nonoil budget deficit. Also, it can have an export surplus, but at the same time it needs an import surplus with respect to its NOS to provide capital resources for the latter. Because its capacity to absorb imports is limited, it could have excess supply overall but excess demand in the NOS.

The Balance of Payments Constraint

For sustained growth, it is necessary not only that aggregate demand and supply be brought into balance but also that its supply of and demand for foreign exchange be in balance. A country may be import-constrained in the sense that it requires a minimum level of imports that are complementary to its domestic production to attain the desired rate of growth. If it is capital-constrained, it must have an adequate import surplus as a supplement to its domestic capital resources.

Restricting our view of the balance of payments to purely *economic* transactions, the basic equation for the balance of payments in constant price is

$$X + rA = M + \Delta A. \tag{27}$$

X and M are exports and imports of goods and services in constant prices. It is also assumed that the real price of imports does not change (this implies appropriate exchange rate adjustments in response to domestic and foreign inflation). When positive, ΔA represents current accumulation of foreign assets and when negative, decumulation or increase of indebtedness or foreign aid; r is interest receipts or payments from foreign accumulation or indebtedness and is the real and *not* the money rate of return.

A country faced with a capital constraint must rely on foreign borrowing or foreign aid to finance the required import surplus. If that is not forthcoming, it must increase its rates of domestic taxation. There are limits to the willingness of lenders or donors to provide external resources. One is dictated by expectations that loans will be repaid or at least serviced, or that the receiving country will eventually become independent of aid. These expectations require that exports must increase or import substitution must be achieved.[*]

The same considerations apply to an import constraint, which can be met by sufficient exports. If exports are insufficient, foreign aid or loans may be available, but increasing exports or import substitutions are required.

Immediately after 1974, the oil-rich countries obviously felt no import constraint. Export income increased astronomically because of conditions of world demand. Accumulation of foreign assets was involuntary rather than deliberate. The newly rich countries imported without restraint (and some of the poor countries followed their example).

Even now, the rich countries are becoming aware that there is a tradeoff between current imports and accumulation. If export revenues decline in the future or fail to increase, they will become increasingly dependent on their income from foreign investment.

Owing to conditions of foreign demand and limitations of domestic supply, export income will probably not increase as rapidly as the rate of domestic development the rich countries want to achieve. Also, in the absence of counteracting measures, their import demand will probably increase as rapidly as their domestic economies. Therefore, the rate of accumulation will fall and will eventually become negative. Sooner or later an import constraint will afflict the oil-rich. They must either reduce their import demand, seek other exports, or reduce foreign commitments, such as economic aid.

The same kind of problem will confront the oil-poor with greater immediacy. Instead of being concerned about the rate of accumulation

---

[*]As empirical evidence for this statement from 1965 to 1973 these conditions were met in Korea, Taiwan, and the Philippines but not in Egypt and Bangladesh.

of foreign assets, they are concerned with the increase in their foreign indebtedness and the cost of servicing their debts.

A country that faces an import constraint may cut back its development plan and consequently reduce its demand for imports. It would escape the constraint if import demand and its economy grew at the same rate as export income. This is unlikely, in itself, to be a satisfactory solution for a country whose export income comes from an exhaustible resource. Sooner or later its export income will decline, whatever the conditions of world demand. Demands are not price-inelastic. As quantities decline, price increases will eventually fail to compensate.

The country may rely on the law of comparative advantage to achieve nonoil exports and import substitution. That law states that a country will have a comparative advantage in production if it stresses its most abundant factor. If oil ceases to be abundant, it must turn to something else. Eventually exports and imports will be brought into balance through the operation of the law.

What the law does not state is the level of national income at which balance will be achieved. That is bound to be lower if oil is to be replaced by a factor in which the country has a smaller comparative advantage.

The level of national income thus depends on absolute as well as comparative advantage. A successful escape from an import constraint must involve increases in total productivity through the general process of modernization and technology transfer. If a country can match the rest of the world in that respect, the price adjustments needed for international balance should be easy, and it may be possible to compensate for the depletion of oil resources.

This discussion has been confined to the economic aspects of the balance of payments. An oil-rich country particularly has international commitments that do not directly affect its own economy, notably to provide military and economic assistance to other countries. The extent and strength of such commitments will materially affect the foreign exchange resources it is able to devote to its own development plan.

Accumulation of Foreign Assets

Estimates of the accumulation (or decumulation) of foreign assets inherent in the projections will throw light on the validity of the projections themselves and also provide information of intense international interest.

Accumulation of foreign assets after N years can be estimated in the following way.

Let X = export earnings,

M = current debits (it is assumed here that noncommodity debits are proportionate to imports),

A = accumulation of foreign assets, and

r = rate of interest earned on foreign assets.

X is assumed to follow at a given exponential rate from an initial value of X_0. Likewise, M grows at a different (and higher) exponential rate. Thus,

$$X = X_0 e^{\rho_1 t},$$

$$M = M_0 e^{\rho_2 t},$$

where ρ_1 and ρ_2 are the rates of growth.

Accumulation over a given period of N years will depend on accumulated surpluses $M - X$, accumulated interest on those surpluses, and accumulated interest on the initial stock of foreign assets, A_0.

The problem is to estimate accumulation N years after the initial position. The method is to sum the accumulations resulting from each year's exports, deduct the decumulations resulting from each year's imports, and add the accumulation from the initial stock.

Consider exports at time t. If invested, their value after 12 years will be

$$X_0 e^{\rho_1 t} e^{r(N - t)}.$$

The decumulation from a given year's imports will be

$$M_0 e^{\rho_2 t} e^{r(N - t)}.$$

Also at time t, the value of the initial stock of assets will be

$$A_0 e^{rt}.$$

After integration over the period $0 - N$, the following formula for total accumulation is obtained:

$$A = X_0 \frac{e^{\rho_1 N} - e^{rN}}{\rho_1 - r} - M_0 \frac{e^{\rho_2 N} - e^{rN}}{\rho_2 - r} + A_0 e^{rN}.$$

The formula can also be used to calculate the state of the current balance of payments after a given period of years. The current balance at any time will be

$$X + rA - M.$$

Foreign Aid Requirements

As formulated, the model estimated the rate of growth of the economy subject to critical constraints, particularly labor, capital, tolerable inflation, and foreign exchange. The same model can readily be used to estimate the foreign aid needed to enable oil-poor countries to attain some desired rate of growth.

Foreign aid requirements are taken to be the difference between imports and exports of goods and nonfactor services: $M - X$. They are the net addition to the current flow of resources (the GDP) that a country needs to attain its objectives.

The concept excludes factor payments to and from abroad, such as remittances of profits to foreign oil companies, payment of interest on debt, receipts from foreign investments, and remittances from

workers working abroad. Thus, if country A gives aid to country B to enable it to pay interest to country C, that is netted out in the concept M - X. To go into these matters would require balance of payments projections that are beyond the budget constraints of this study.

What is assumed here, in effect, is that providers of aid will finance the desired level of M - X, after taking into account other financial inflows and outflows. There are two approaches to estimating the foreign aid required. One is to base the estimate on import requirements and export possibilities. The other is to base it on plan requirements--that is, on the total need for external resources in addition to its internal resources to enable a country to carry out its investment and government consumption plans. For Egypt, Syria, and Jordan we begin with the latter approach. Aid requirements will then be total plan expenditures less the amount made available from the domestic economy by saving and taxation.

In terms of the model, aid requirements are defined as the value of M - X that will result in zero excess demand for a given growth objective. Thus, by Eq. (22),

$$M - X = GC + GI + PI - T - R - k\Delta Y,$$

where the quantities on the right result from the government's plan. This formulation implies that with sufficient aid a country can avoid inflation and that aid is provided on that scale.

As has been pointed out above, imports are not a complete substitute for domestic resources. An adequate level of domestic saving and taxation is required to release domestic resources in support of the plan. If that level is inadequate, no amount of aid will avoid domestic inflation.

At the other extreme, a minimum level of complementary imports (e.g., oil) may be needed to carry out the plan. Consequently, given export earnings, a minimum level of aid may be needed, whatever the levels of domestic saving and taxation.

IV. SPECIFIC COUNTRY STUDIES

SAUDI ARABIA

Under the influence of the dramatic increase in oil revenues after 1973, Saudi Arabia has embarked on one of the most ambitious development programs ever conceived. Development means not only growth of the domestic economy, which is a matter of central concern, it also includes social development, providing economic and military assistance to oil-poor countries, and accumulation of costs abroad. All these objectives must be taken into account in projecting the country's economic future.

Because of oil revenues, capital resources and foreign exchange are abundant. Saudi Arabia has the means to provide all the capital resources the country can absorb for the next ten years at any rate, but it also needs to look to the longer term future. It may desire to temper its present plans for the sake of conserving oil resources for the long run.

The most pressing shortage is manpower--unskilled, skilled, technical, and entrepreneurial. It is relying heavily on labor imports from abroad. The extent to which it increases the foreign component of its labor force is a matter of acute national concern, and it is assumed here that there are limits beyond which it will not go. Because of those limits, and in conjunction with the present abundance of captial, Saudi Arabia is treated as a labor-constrained economy, in terms of the analytic model.

The study centers attention on the nonoil sector of the Saudi economy. All revenues accrue to the government and affect the private economy through government expenditures. Exports from the NOS to the outside world are negligible.

Growth of the Economy

An examination of the First plan period, 1970-1975, will provide a historical base for projections. The Second plan from 1975-1980 will then be critically examined.

Third, some projections into the longer-run future are attempted.
Table 2 summarizes the results of the First plan.

Table 2

SAUDI ARABIA: RESULTS OF THE FIRST PLAN PERIOD,
1970-1975

(Constant 1975 ryals)

		1970	1975	Annual Growth Rate
(1)	GDP	69.8	149.0	
(2)	Oil	58.3	129.0	
(3)	NOSGDP ((1) - (2))	11.5	20.0	0.111
(4)	Government consumption	4.9	15.6	0.23
(5)	Gross domestic investment	5.4	12.7	0.17
(6)	Plan ((4) + (5))	10.3	28.3	
(7)	Imports	7.8	23.3	
(8)	Impact ((6) - (7))	2.5	5.0	
(9)	Impact/GDP	0.22	0.25	
(10)	Employment			0.066
(11)	Consumer prices	100	207	0.15
(12)	U.S. export prices	100	176	0.12
(13)	Nonoil GDI/NOSGDP	0.40	0.42	
(14)	Average productivity of labor ((3) - (10))			0.045
(15)	ICOR ((3) ÷ (13))			0.275

SOURCES: Second Plan, SAMA Statistical Summary, IMF
International Financial Statistics.

The NOSGDP grew at a compound annual rate of about 11 percent.
Employment grew at 6.6 percent. From this it is inferred that the
average productivity of labor grew at 4.5 percent. This figure will
be important for estimates of the future; it seems reasonable in view
of the low productivity base from which the economy started, and it
is not out of line with international experience. For example, it is
lower than the figures used by Bruno for Israel.[*]

The statistics also yield an estimate for the plan's effects,

_____

[*] Bruno, in Cooper and Alexander, 1972.

rising from 22 percent to 25 percent by the end of the period. This
was accompanied by a 15 percent annual rise in consumer prices during
the period, but it cannot be inferred that the plan produced inflation
of that magnitude. Worldwide inflation was going on at the same time.
For example, U.S. prices rose by 12 percent during the period, and there
can be no doubt that worldwide inflation had an important influence on
inflation in Saudi Arabia.

As a check, I examined the statistics for the period 1966-1970.
An impact of about 20 percent was consistent with stable prices in
Saudi Arabia. A reasonable guess is that a plan on the scale of the
first plan is unlikely to be limited by the internal inflation it gen-
erates. Nor would it be likely to be limited by foreign exchange.
Foreign assets accumulated rapidly during the period.

The most serious possible limitation is labor. The 6.6 rate of
increase in employment was made possible only by large importation of
foreign labor. Consideration of this question is deferred until later,
when the possibility of more rapid rates of growth is considered.

The Second plan must be one of the most ambitious ever prepared.
Table 3 shows planned expenditures in comparison with those of the
First plan, yet the results in terms of economic growth and employment
to be achieved do not differ widely from those of the First plan. See
Table 4. The total investment plan is nine times the size of the First.
It applies predominantly to the NOS, yet it raises the NOS growth rate
only from 11 to 12.5 percent. The conclusion is inescapable that it
cannot be interpreted as an economic development plan designed to take
effect during the planning period. It is, rather, a comprehensive pro-
gram for social and economic modernization.

Many of the economic projects are designed to develop the infra-
structure, and even if they are completed in the planning period they
will not be fully used for years to come. Social measures affecting
higher education and hospital construction are unlikely to affect labor
productivity in the near future. (Incidentally, defense is relatively
less important in the Second plan than in the First.)

It is easy to show that the investment plan is largely redundant
as a five-year plan. If average labor productivity increases by 4.5

Table 3

COMPARISON OF ESTIMATED FINANCIAL REQUIREMENTS
OF SAUDI ARABIAN FIRST AND SECOND PLANS[a]

(In billions of 1975 ryals)

	First Plan		Second Plan		Second Plan/First Plan
	Amount	Percent	Amount	Percent	
Economic resource development	6,033.3	10.7	92,135.0	18.5	15.3
Human resource development	10,198.7	18.1	80,123.9	16.1	7.9
Social development	2,443.0	4.4	33,212.8	6.7	13.6
Physical infrastructure development	14,086.8	25.1	112,944.6	22.7	8.0
Subtotal, development	32,761.8	58.3	318,416.3	63.9	9.7
Administration	10,466.5	18.6	38,179.2	7.7	3.7
Defense	12,994.7	23.1	78,156.5	15.7	6.0
External assistance, emergency funds, food subsidies, and general reserve	--	--	63,478.2	12.7	--
Subtotal, other	23,461.2	41.7	179,813.9	36.1	7.7
Total Plan	56,223.0	100.0	498,230.2	100.0	8.9

[a]First plan values have been adjusted to 1975 prices (used uniformly for the Second plan, except for certain long-term projections that included inflation factors).

Table 4

SAUDI ARABIA: GDP AND EMPLOYMENT
ESTIMATES OF SECOND PLAN

(Billions of 1975 ryals, 000 employed)

	1975	1980	Annual Growth Rate
GDP	149.0	242.0	9.6
Oil	129.0	204.7	
NOSGDP	20.0	37.3	12.5
Employment	1522.1	2330.6	
Oil sector	21.3	24.7	
NOSGDP	1500.8	2306.9	8.6

percent annually, as it apparently did in the First plan, and if employment increases at the estimated rate of 8.6 percent, then the expected rate of growth of NOSGDP will be 13.1 percent. The plan itself specifies an estimate of 12.5 percent. So close a correspondence makes it hard to believe that the planners did not use the same approach as the one in this study. In fact, the plan document begins with an analysis of employment and proceeds to GDP, but the expenditure estimates seem to have practically nothing to do with requirements for the projected rate of growth during the five-year period to which it is supposed to relate.

There is abundant evidence that the expenditure plan itself cannot be accomplished by 1980. For example, the document itself hints strongly that it cannot.

> It is anticipated that actual expenditures, for a variety of reasons will fall short of appropriations (498 billion). The development plans of individual ministries and agencies are not beyond accomplishment, but in combination, they present a formidable task. Bottlenecks and other problems must be expected from time to time, and the achievement of many targets will require extra time.[*]

---

[*] Saudi Arabia Second plan, p. 89.

There are repeated reports, accepted by the CIA and Moran[*] that the cost of the plan is greatly underestimated. This fact may force drastic revisions, but there is no need to rely on this evidence to show that the plan is not feasible.

The expenditure plan clearly should be cut back or stretched out or both. As formulated, it looks more like a 15-year than a five-year plan. That means that it would be much closer to the size of the First plan during the first five years. That should be closer to the realm of feasibility, but the remote observer has no basis for predicting what will be done.

Official reports on attempted execution of the expenditure plan are not available, but there is plenty of evidence that it is encountering delays and bottlenecks and is generating excessive inflation. It cannot be used as a basis for projecting the future, but the employment and GDP projections are useful and will be used in this study.

In the circumstances, the most satisfactory way to make projections is to use the economic model to make projections with 1975 as a starting point. 1975 rather than a later year is chosen because 1976 and 1977 were affected by attempts to carry out the Second plan, and there is already evidence of high inflation that is forcing the government to curtail its expenditures.

Supply Side Projections

Employment, Productivity and Output. With respect to employment, the 8.6 rate of increase contemplated in the Second plan and the 6.6 rate achieved in the First may be taken as alternatives; a 5 percent figure will be included as a more conservative projection. It can reasonably be assumed that the 4.5 percent productivity increase achieved in the First plan will be exceeded as the economy gains in skill and experience. Let us assume that it will be 5.0 percent.

The assumption of 5 percent increase in labor productivity can be checked with the "neo-classical" approach. If total factor productivity increases at 3 percent annually, with a nonlabor share of 60 percent

---

[*]Theodore Moran, *Foreign Policy*, Winter 1966-67.

(which it apparently is), formula (6) of the model will give an increase of labor productivity of 5 percent.

These assumptions will yield growth rates of the NOSGDP of 13.6, 11.6, and 10 respectively.

Capital Requirements. The First plan period yielded an ICOR of .275 or a marginal capital output rate of 3.6. In accordance with the foregoing argument (formula (4) of the model) this is taken as a sufficient approximation for the average capital-output ratio.

The investment ratios corresponding to the three growth rates are obtained by dividing those rates by the ICOR. They will be 49, 44, and 38 percent respectively. These are likely to be underestimates because they do not allow for depreciation. Possibly these ratios should be, say, 3 percentage points higher.

These assumptions are summarized in Table 5.

Table 5

SAUDI ARABIA: ESTIMATES OF REQUIRED
INVESTMENT RATIO

GDP Growth Rate	Employment Increase (%)	Labor Productivity Increase (%)	Investment Ratio (%)
13.5	8.5	.05	.49
11.6	6.6	.05	.44
10.0	5.0	.05	.38

Demand Side Projections

Gross Domestic Investment. Investment demand will consist largely of the investment needed to fulfill the capital requirements of the desired rate of growth of the GDP. This has just been estimated for various growth rates, but additional investment must be taken into account.

First, investment in the oil sector will exert a *demand* effect on the nonoil sector in the same way as any other kind of investment. Second, it is generally agreed that the investment proposed in the Second

plan greatly exceeded the capital requirements for the growth rates
projected on the basis of labor and productivity. Although many proj-
ects have been cut back, many are continuing--in advance on near-term
requirements. In addition, there is a large amount of speculative in-
vestment that is unlikely to be productive.

In 1976 investment amounted to over 99 percent of GDP of the non-
oil sector. Assuming the investment boom will not continue with its
present force, I adopt figures of 85, 80, and 74 percent for each of
the three growth rates. The difference between these figures and the
capital requirements figures represents an assumption concerning un-
planned (and unproductive) investment. This difference will be termed
"excess investment."

Government Consumption. To make estimates of government consump-
tion, defense and nondefense expenditures should be considered sepa-
rately. It seems reasonable to suppose that the demand for civil
services of government is related to the behavior of the NOS. However,
there is no logical reason why defense expenditures should be so re-
lated. A more likely economic hypothesis is that they are related to
oil revenues or the GDP of the oil sector. It is even more likely
that, while oil revenues are abundant, defense expenditures will be
determined mainly by strategic considerations. This hypothesis is
fortified by the fact that defense forces are highly capital and import
intensive, so that they will have little effect on the labor supply.
They rely heavily on imported skills as well as imported equipment.

Table 6 shows nondefense and defense expenditures in relation to
the GDP of the NOS.

Line 6 shows a remarkably stable relationship between nondefense
expenditures and GDP. Consequently it seems reasonable to assume for
projection purposes that those expenditures will amount to 25 percent
of NOSGDP.

Line 5 reveals a strong upward trend in defense expenditures.
Merely for the sake of completing the model I assume they will amount
to 50 percent of the NOSGDP in the future, with the proviso that this
figure should be revised upward or downward in light of unfolding cir-
cumstances.

Table 6

SAUDI ARABIA: RELATION OF GOVERNMENT EXPENDITURES TO GDP
(Billions of current ryals)

		1971	1972	1973	1974	1975	1976
1.	Government consumption	3.8	4.3	5.3	9.9	15.9	28.2
2.	Defense	1.8	1.9	2.5	5.7	9.3	18.4
3.	Nondefense	2.0	2.4	2.8	4.2	6.6	9.8
4.	NOSGDP	8.6	9.6	11.9	15.9	23.0	38.7
5.	Defense/NOSGDP	.21	.20	.21	.36	.41	.47
6.	Nondefense/NOSGDP	.23	.25	.24	.26	.28	.25

SOURCE: *National Accounts*, 1977

These estimates are based on current price figures, whereas we are
interested in constructing a model in terms of constant prices. The
implicit assumption is that the government spends enough money to
achieve its objectives in real terms and lets the burden of adjustment
fall on the private sector. Using current price figures avoids or per-
haps obscures awkward problems of deflation.

Private Consumption. From the point of view of the demand side
of the model, it is necessary to estimate what consumer expenditures
would be in the absence of inflation. Consumption has in fact borne
the brunt of inflation, as the government has spent enough money on
investment and its own consumption to keep their real values intact.

Table 7 shows the relevant statistics. The ratio of consumption
to GDP has fallen over the period, and the fall was particularly sharp
in 1976. This decline corresponds to money creation at an accelerating
rate, with a corresponding acceleration in the rise of consumer prices,
creating a presumption that inflation brought about the decline in the
"propensity to consume."

It is difficult to think of any other explanation. One possibil-
ity would be an increase in rates of NOS taxation, but those taxes
tended to decrease. Another possibility is that income was redistri-
buted away from wage and salary incomes in favor of operating surplus,
but this also does not seem to have happened. Over the period 1971 to

Table 7

SAUDI ARABIA: PRIVATE CONSUMPTION, INFLATION, AND GDP

(Current prices, billions of ryals)

	1971	1972	1973	1974	1975	1976
NOSGDP	8.6	9.6	11.9	15.9	23.0	38.1
Private consumption	6.4	6.9	7.9	9.8	13.8	18.9
Private consumption/GDP	.74	.72	.66	.61	.60	.49
Money and quasi money	3.5	5.0	6.8	9.9	17.7	28.0
Consumer price index	104	109	127	154	208	280

SOURCE: *National Accounts* 1977 and IMF.

1976, wages and salaries remained remarkably stable at about 52 percent of total factor incomes.

I assume that the "normal" consumption percentage is about what it was at the beginning of the period when prices were fairly stable. That is about 70 percent of the GDP of the NOS. The procedure may be objected to on the grounds that private consumption should be made to depend on oil income as well or the nonoil GDP. This is not the case, however, because oil income, apart from payments to foreign oil companies, goes to the government through taxation and royalties. The effect of oil income on private consumption therefore arises indirectly through the effect on the NOS of government consumption and investment. These have already been taken into account. One exception to this statement, however, is the expenditure of oil-industry employees, largely foreigners, in Saudi Arabia. This item is small enough to be ignored here.

Nonoil Exports. It will be assumed that nonoil exports will be negligible for the medium term. Their prospects depend almost entirely on the development of the petrochemical industries. The ambitious second plan has necessarily stretched out. The major projects have barely entered the construction stage. Consequently, petrochemical exports will be negligible for years to come. Likewise there are prospects of exports of nonoil minerals, but such prospects have not even got to the exploration stage and are consequently beyond the range of a medium term projection.

Import Demand. This is particularly hard to estimate, primarily because without elaborate research there is no way of matching import statistics with the GDP sectoral categories. Instead, imports must be related to the expenditure categories, government consumption, private consumption, and gross domestic investment, and even that requires a lot of guesswork.

Government consumption imports can be conveniently separated into defense and nondefense. The national accounts for 1976 record that 90 percent of defense expenditures consisted of "intermediate products." It seems reasonable to suppose that a large percentage of that figure consisted of imported equipment. I shall assume that 40 percent of total defense expenditures consisted of imports of goods.

With respect to nondefense, 40 percent of government consumption consisted of "intermediate products." I assume that half of that consisted of imports. That is, 20 percent of nondefense government consumption is taken to be imports of commodities. In addition, government purchases of services abroad amounted to about 30 percent of total government consumption. There is no way of splitting this figure between defense and nondefense. I shall therefore assume that in addition to the above estimates, 30 percent of total government consumption, defense and nondefense, consists of imports.

Imports for Gross Domestic Investment. For some construction projects, the entire cost consists of foreign materials, payments to foreign labor (including remittances), and profits to foreigners.

The costs of a construction project, again according to educated guesses, can be broken down into 50 percent materials, 20 percent profits, and 30 percent labor. The corresponding import percentages could be 35 percent materials, 5 percent profits, and 10 percent labor, making a total of 50 percent as the import cost of a project. This I shall take to apply to total GDI.

Imports for Private Consumption. A breakdown of imports (extending only to 1973 and published in the SAMA annual reports) gives some indication of imports of final consumer goods. Those figures suggest that imports (largely food) accounted for about 30 percent of consumer expenditures in 1972 and 1973. There seems to be no alternative to using that percentage for projecting the future.

These percentages, even if correct at the present time, must be used with caution for two reasons. First, imports are affected by the relative prices of domestic and home produced goods. The inflation of recent years has raised domestic prices in relation to import prices and may have increased imports in relation to expenditures, especially consumption. Second, to use these percentages for medium-term projections implies that import substitution will not occur to any noticeable extent. This is not an unreasonable assumption, say, until 1990. In the longer run, import substitution will be important for the progress of the economy.

SUPPLY, DEMAND, AND INFLATION

These estimates can now be summarized to arrive at some notion of the amount of excess demand that will result from them. Table 8 relates to the 11.6 percent growth rate. Consequently, total demand less imports will amount to 117 percent of GDP and excess demand to 17 percent. This will be the percentage of GDP that must be financed by the creation of money, if the excess demand is not removed in some other way.

The estimates of excess demand will not be greatly affected by the growth rate assumed, because the only item affected will be investment. With the growth rate of 13.5 percent, excess demand will be 19.5 percent; and with the 10 percent rate, it will be 14 percent.

Table 8

SAUDI ARABIA: ESTIMATE OF EXCESS DEMAND

	Percentage GDP	Import Percentage	Imports as % of GDP
Investment requirement	44	50	27
"Excess investment"	36	50	18
Private consumption	70	31	21
Government consumption Nondefense Defense	25	63	47
Total	225		108

CONSTRAINTS

The constraints on the Saudi economy may impose limitations on the attainment of these growth rates. The possible constraints are inflation, foreign labor, and the balance of payments.

Inflation. With these estimates of excess demand, the inflation formula can be applied. That formula is

$$\text{Rate of Inflation} = \frac{1}{k} \cdot \frac{\text{Excess demand}}{\text{GDP}} - \text{Real Growth Rate of GDP}.$$

The ratio of liquid assets that the public desires to hold as a ratio of GDP is k. Saudi statistics suggest that k is about 50 percent.

For the three growth rates of 13.5, 11.6, and 10 percent, the inflation rates will be 25.5, 22.4, and 18 percent, respectively.

These estimates are lower than the inflation that is apparently occurring because the government and speculators in the private economy are spending even more than is assumed here for a ten-year period. The estimates suggest that the rate of growth is not the main source of inflation. A reduction of the growth rate of 3.5 percent would reduce the inflation rate by 7.5 percent. The same result could be achieved by cutting "excessive investment" by 20 percent or government consumption by about 15 percent. Whether these estimates are tolerable over a ten-year period is, of course, a matter for the authorities to decide, but there seems to be a growing sensitivity to inflation in Saudi Arabia as elsewhere.

Foreign Labor. The Saudi planning authorities estimate that the Saudi labor force will increase at 3.4 percent annually. In 1975 the total labor force was 1,600 with 1,286 Saudi and 314 foreign. Table 9 projects the labor force for a ten-year period, assuming that it will grow at the same rate as employment.

The foreign labor ratio is a matter of vigorous concern and debate in Saudi Arabia. It remains to be seen whether the ratio implied by the various rates of employment increase will operate as a constraint.

The Balance of Payments. The third constraint to consider is the balance of payments and the accumulation of foreign assets. The problem is to project the balance of payments consequences of the projections

Table 9

SAUDI ARABIA: FOREIGN LABOR RATIOS
IN 1975 AND 1985

| | 1975 | With GDP Growth Rates of: | | |
		13.5%	11.6%	10%
Total employed	1600	3728	3088	2534
Saudi	1286	1807	1807	1807
Foreign[a]	314	1921	1281	727
Foreign/Saudi[a]	.24	1.06	.71	.40
Foreign/Total[a]	.20	.52	.41	.29

SOURCE: Second plan.

[a]Does not include Yemenis.

made under the various assumptions concerning export earnings and payments for imports. But some other items, not hitherto considered, must be taken into account. These are payments to foreign oil companies, remittances by foreign workers, and Saudi economic and military aid to other countries.

1976 rather than 1975 will be taken as the starting point, because 1975 was a year of world depression, oil earnings were abnormally low, and foreign commitments seemed low from the point of view of the future. The calculations will be made in 1976 SDRs (1 SDR = $1.16). Table 10 shows the main items in the current balance for 1976.

Exports are almost entirely oil exports and will be assumed to behave according to the assumptions made above. I assume that nonoil exports will be negligible for the next 10-15 years.

Accumulation of foreign assets results from current account surpluses accumulated with compound interest. As calculations are to be made in constant prices, I am concerned with the real rate of return--that is, the money rate of return less the rate of inflation, which I assume to be 2 percent. That figure may even be optimistic. According to the SAMA[*] statistics reported by the IMF, foreign assets amounted

---

[*]Saudi Arabian Monetary Authority.

Table 10

SAUDI ARABIA: BALANCE OF PAYMENTS, 1976

Credits		Millions of SDRs
(1)	Export of goods and services (oil)	31,231
(2)	Income from foreign investment	2,498
	Total	33,729
Debits		
(3)	Imports of goods	9,153
(4)	Imports of services (including workers' remittances)	6,104
(5)	Payments to foreign investors (oil companies)	2,720
(6)	Unrequited aid to other countries	2,883
(7)	Other debits (net)	1,074
	Total	21,924
	Current Amount Balance (addition of foreign assets)	11,805

SOURCE: IMF *Balance of Payments Yearbook*, 1976.

to about SDR 42 billion and they yielded 2.5 billion of income. This represents a money rate of return of 6 percent, barely sufficient even to keep up with world inflation. My figure of 2 percent therefore assumes a shift by the Saudis in the direction of income earning assets.

I assume imports of goods and services will grow at the same rate as the domestic economy. There are three possible reasons why this rate of growth is an overestimate. First, import substitution may occur. Second, the government policy may produce a shift from investment to consumption, thus slowing the growth of the economy as well as import demand. Third, the rate of increase of defense expenditures, with their high import content, may be reduced. I am assuming that none of these factors will be significant in the medium term. Furthermore, imports of services are much harder to project than imports of goods, and they amounted in 1976 to 6 billion SDRs compared with 9 billion SDRs for goods. Conceivably such items as government purchases of services abroad will not grow with the economy.

Payments to foreign investors amounted to about 8.7 percent of export income in 1976, but the process of nationalizing oil is not yet

complete. I assume such payments will amount to 5 percent of export income.

Unrequited aid to other countries amounted to over 9 percent of export income and the trend is clearly upward. Moreover, some loans to weak countries should be included as unrequited aid rather than long-term investments.

In its 1976 report, SAMA stated that in 1975, aid amounted to 4.8 billion SDRs or about 18 percent of export income, but this figure included grants, bilateral loans, and loans to international and regional institutions. Some of the loans should be classified as investments. It therefore seems that 12 percent of export income can be taken as a reasonable figure for Saudi Arabia's implicit commitment to provide unrequited aid.

In the following calculations, I shall assume that 1976 foreign assets amounted to SDR 50 billion to allow for some assets not included in the official figures.

The model worked out in Sec. III (pp. 30-31) can now be applied to estimate accumulation and the balance of payments deficit.

Starting with 1976, from Table 9 (aid and payments to foreign investors are assumed to be 17 percent of export income)

$$X_0 = 31.2 \times .83 = 25.9$$

$$M_0 = 16.3 \text{ (lines 3, 4, and 7)}$$

$$A_0 = 50.$$

These results under various assumptions are shown in Tables 11 and 12 for a ten-year period.

In almost every case accumulation will have reached its peak and is declining. Except for the low growth rate and high export income rate, the country will be in current account deficit after ten years.

These estimates are not predictions. They are intended to show the force of the balance of payments constraint and suggest that some drastic reappraisals of all aspects of policy may be called for,

Table 11

SAUDI ARABIA: ESTIMATED ACCUMULATION
AND BALANCE OF PAYMENTS SURPLUS

(Billions of 1976 SDRs)
(1 SDR = 1.17 U.S. dollars)

GDP and Import Growth (ρ_2)	Accumulation	Balance of Payments Surplus
Export growth, $\rho_1 = .02$		
10	72	-14
11.6	44	-21
13.5	12	-31
Export growth, $\rho_1 = .05$		
10	109	.4
11.6	80	-7.5
13.5	48	-20.9

Table 12

SAUDI ARABIA: SUMMARY PROJECTIONS

Assumed Nonoil Growth Rate	Inflation Rate (%)	Foreign Labor Ratio After 10 Years	Asset Accumulation After 10 Years[a]
13.5	25	1.06	12-48
11.6	22	.71	44-80
10.0	18	.40	72-109

[a]Billions of 1976 SDRs.

including foreign aid, civilian and military consumption, excess investment, oil pricing policy, and the rate of growth of the domestic economy. The numerical projections are summarized in Table 12.

KUWAIT

Kuwait is widely known as having one of the highest per capita incomes in the world. It is also known as an advanced welfare state.[*]
All this was true in the 1960s and is probably still true. The country has also issued economic development plans aimed at diversifying the economy and stimulating the NOS. These apparently have not materialized. The plan of 1967-1973 relied on attracting private investment in the NOS but did not succeed. The 1971-1975 plan relied more heavily on public investment but also has not produced results in terms of economic growth.[†] See Table 13.

During 1965-73, the NOS grew at the rate of 2.4 percent mainly because of increasing nonoil exports. Imports grew even less rapidly. Over the same period, population grew at over 8 percent annually, largely as a result of immigration attracted by the high standard of living. Consequently, per capita consumption, both including and excluding government, declined markedly and steadily over the period.

Nonoil investment continued at over 30 percent of nonoil GDP. This investment was concentrated in construction and transportation and did not produce growth (the implied ICOR was 8.0). Oil production increased by about 1.5 percent annually and oil export income by 5.5 percent.

Kuwait pursued a cautious and conservative policy until at least 1973. It could have increased oil production much faster, and it could have stimulated the NOS more vigorously. It is concerned with the rate of immigration and may want to pursue policies that deter rather than encourage the flow.

With respect to oil, Kuwait has been interested in accumulating foreign assets but has not done so as fast as it could have. It seems to weigh the advantages of keeping reserves under the ground against the advantages of foreign investment.

---

[*] Edmund Y. Asfour, "Prospects and Problems of Economic Development of Saudi Arabia, Kuwait, and the Gulf Principalities," in Cooper and Alexander (eds.), 1972.

[†] See United Nations, "Comparative Survey of Development Plans of the Arab States," New York, 1976, mimeo.

Table 13

KUWAIT: GROWTH OF THE KUWAIT ECONOMY, 1965-1973

(Million dinars, constant 1964 prices)

Item	1965	1967	1969	1971	1973	Annual Growth Rate, 1965-1973
GDP	765	799	898	989	1076	4.7
X	492	495	600	710	806	7.0
X (nonoil)	20	20	22	43	72	
X (oil)	472	475	578	667	734	5.5
NOS (CDP - X (oil))	284	324	300	322	342	2.4
PC	227	264	248	263		
GC	100	124	138	129		
PC + GC	327	384	386	388	363	1.4
GDI	111	170	173	122	120	1.0
M	173	254	261	231	213	1.3
GDI (nonoil)	33	51	52	37	36	
Population (thousands)	475	570	690	789	890	8.2
Per capita consumption (dinars)	690	670	560	490	400	
GDI (nonoil)/NOS	0.29	0.38	0.47	0.30	0.31	
Prices	Not available					

SOURCE: *World Tables, IMF International Financial Statistics,* 1976.

Kuwait's response to the 1974 price increase has been and will be far from clear. Its oil production through 1976 has been consistently below the 1973 level, although in 1976 it began to increase oil exports and production.

Kuwait may decide to continue its pre-1973 policy, but pressures to expand its economy may induce it to expand its nonoil economy moderately.

With its privileged oil position, Kuwait was an early provider of foreign aid to other Arab countries. There is every reason to expect this policy to continue on a conservative but expanded basis.

With respect to the future, Kuwait's nonoil economy can hardly fail to grow at the same rate it has been growing; there is no convincing evidence that its government is determined to make it grow any

faster. A faster growth rate, however, could easily be achieved if that were the country's policy. These considerations account for the projected range in growth rates of 5 percent and 3 percent.

The final problem is to estimate Kuwait's accumulation and current balance of payments after 1985. Some allowance is made for 1975 having been a depression year, then initial exports amounted to SDR 8.1 billion. Deducting 17 percent for foreign aid and payments to foreign oil companies, the initial figure is 6.7 billion. Initial imports amounted to 1.9 billion, and the initial accumulation was about 23 billion.

It will be sufficient to assume that imports grow at 4 percent annually in accordance with the growth estimates. The real rate of return is assumed to be 2 percent. The results are shown in Table 14. On the assumption of low growth rates, Kuwait will still have a substantial rate of accumulation at the end of a ten-year period.

Table 14

KUWAIT: ACCUMULATION AND BALANCE
OF PAYMENTS SURPLUS

(SDR billions in 1975 prices)

Export Rate of Growth	Import Growth 4 Percent	
	Accumulation	Balance of Payments Surplus
1 percent	54	6
5 percent	98	10

IRAQ

Because Iraq is an oil-rich country, though not nearly so rich as Saudi Arabia, the same methodology applied to Saudi Arabia is used here, with attention focused on NOS growth. The role of the oil sector is to provide foreign aid to the NOS. The analysis below concludes that Iraq is unlikely to have a foreign exchange constraint during the next 10 to 15 years.

Although Saudi Arabia is prepared to import large amounts of
skilled and unskilled foreign labor, Iraq's intentions in that respect
are very limited. Iraq is much more richly endowed with nonoil re-
sources, particularly agricultural, but this factor will affect income
levels and distribution rather than growth rates. Furthermore, Saudi
Arabia is oriented toward the West, but Iraq has been operating under
Soviet auspices since 1958. It is uncertain how important this factor
is, but it can be said that the statistical picture has not signifi-
cantly changed.

The Past Record

1969-1973. Table 15 shows the significant aggregates and percent-
ages from 1969 to 1973. These statistics can be interpreted as follows:

Table 15

IRAQ: GROWTH OF THE ECONOMY: 1969-1973

(Million Iraqi dinars, constant 1966 prices)

Item	1969	1971	1973	Annual Growth Rate (%)
GDP	1057	1213	1338	5.9
Exports (=OS)	384	452	421	2.3
NOS - GDP	673	761	917	7.7
Private consumption (PC)	483	514	584	4.7
Government consumption (G)	237	283	379	11.7
GDI	150	179	164	2.2
GDI + G ("Plan," P)	387	462	543	8.4
Imports (M)	197	275	288	9.4
Impact (P - M)	190	107	255	7.3
Ratios:				
P - M/NOSGDP	0.28	0.24	0.28	
GDI/NOSGDP	0.22	0.24	0.18	
M/NOSGDP	0.29	0.36	0.31	
G/NOSGDP	0.36	0.40	0.44	
PC/NOSGDP	0.71	0.67	0.84	
Wholesale prices (1963 = 100)	103	120	121	
Population (millions)	9.1	9.8	10.4	

SOURCE: IMF *World Tables*.

1. The NOSGDP in constant prices grew at an average rate of 6.4 percent between 1968 and 1973.

2. It seems reasonable to suppose that the labor force grew at about the same rate as population--3.3 percent. Decreasing participation by the young and old was offset by increasing participation of women. Immigration is negligible. If unemployment does not increase, the 3.3 percent labor force increase, in conjunction with the 7.7 percent growth rate, leaves an increase in average productivity of 4.4 percent.

3. The impact percentage of about 0.28, combined with the price series and allowing for world inflation, suggests that the plan up to 1973 has been feasible from the point of view of domestic inflation.

4. The investment ratio varies between 24 percent and 18 percent of the NOSGDP (leaving out 1973). It was not possible to identify investment in the oil sector for this analysis, but verbal accounts indicate that investment has been predominantly in the NOS. To allow for these facts, an investment ratio of 20 percent is assumed for the NOS. That figure, in conjunction with a 6.4 percent growth rate, yields an incremental output-capital ratio of 0.32 or a capital-output ratio of 3.1. This ratio is used here as a measure of capital requirements in projections of the future.

1973 to 1975. Table 16 shows constant price series for 1973-1975.

The statistics indicate that, with the dramatic increase in the price of oil, the country went on a spending spree. Imports increased to an extraordinary extent, and so did domestic investment. Even if 30 percent of the investment went to the oil sector (an extreme assumption), it would still leave a ratio of 38 percent for the NOS. From 1973 to 1975, the NOSGDP increased at an annual rate of 20 percent.

These events cannot be used as a basis for projecting the future. A 20 percent growth rate, combined with an employment increase of 3.3 percent, meant an increase in average productivity of 16.7 percent annually. This increase was possible only because of the extraordinary increase in capital intensity between 1973 and 1975. Such an increase is not sustainable over a ten-year period.

What is being done with the imports the figures do not reveal.

Table 16

IRAQ: GROWTH IN THE ECONOMY, 1973-1975[a]

(Million Iraqi dinars, constant 1966 prices)

Item	1973	1974	1975	Annual Growth Rate (%)
GDP	1338	1389	1797	14.7
X	421	475	427	0.1[a]
NOSGDP	917	914	1370	20.0
M	387	714	979	61.0
GDI	164	599	783	78.0
Government consumption	379	1192	1566	49.0
Private consumption	585			
Ratios:				
GDI/NOSGDP	0.31	0.56	0.57	
M/NOSGDP	0.31	0.78	0.71	
Wholesale prices	107	120	133	
Oil export prices	155	524	560	

SOURCE: Central Statistical Organization, Ministry of Planning, *IMF International Financial Statistics.* The 1975 figures are very preliminary.

[a]The increase in the price of oil is not reflected in the constant price figures for GDP and exports. In current prices, exports increased threefold between 1973 and 1975.

They may go to support either private consumption or public consumption (including defense).

The events of 1974 and 1975 suggest something like the Saudi Second plan in terms of its lack of feasibility. Iraq seems to realize this, because the promulgation of a new plan has been postponed.

Projecting the Future

To project future trends, it seems best to go back to the fairly stable past and project from 1972 or 1973, as was done with Saudi Arabia. The investments of 1974 and 1975 will probably provide the country with a higher starting point for the next ten years, but they cannot be used as a basis for projecting the rate of growth.

Because Iraq is averse to importing labor except in some skills, it will have to rely on its natural 3.3 percent rate of increase of the population, and it is hard to see how it can achieve a higher rate of employment increase than that figure in the future.

With respect to productivity, there is no apparent reason to assume a figure higher than the 4.4 percent that was attained in the past. Consequently, a growth rate of 7.7 percent is used here for the GDP of the NOS as a feasible figure. That means a continuation of past trends. With that growth rate and an output-capital ratio of 0.32, the required investment ratio will be 0.23.

The government consumption figure is a matter of almost pure conjecture. It amounted to about 40 percent of NOSGDP in the 1968-1973 period, but even then, the trend was rising under the influence of high oil revenues; and judging by the experience of Saudi Arabia, a figure of 65 percent seems reasonable. Consequently, the total plan (investment and government consumption) is assumed to be 88 percent of NOSGDP.

With respect to imports, there is again little to go on. They amounted to 31 percent of NOSGDP in 1973 and surged to 78 percent and 71 percent in 1974 and 1975, respectively. Within this wide range of choice, I selected a figure of 65 percent as a basis for projection.

These assumed figures at least hang together (if not separately). The plan percentage of 88 percent, together with the import figure of 65 percent, yields a domestic effect of 23 percent. In light of previous experience, this can be taken as imposing no excessive inflationary burdens on the domestic economy.

That conclusion implies that none of the strenuous economic efforts Iraq has been making in recent years will pay off in terms of higher productivity trends. Iraq may also decide to make greater use of foreign labor than it has in the past. Such factors could raise the projected growth rate to 8.5 percent, involving a 5 percent productivity increase and a 3.5 percent rate of increase of employment.

The final question is the possible accumulation of foreign assets. It will be assumed, as in the cases of Saudi Arabia and Kuwait, that export income increases at the alternative rates of 2 and 5 percent. It will be sufficient to make the calculations for an intermediate growth rate of 8 percent for imports.

There is no reliable information concerning Iraq's intentions with respect to foreign aid. It seems to have reduced payments to foreign oil companies to a very low level. Consequently, 1975 exports and imports of goods and services will be projected at the assumed growth rates. Initial exports were 5.6 billion SDRs and initial imports 4.5 billion. However, 1975 is an unsatisfactory starting point. Exports may have been unduly low because of the world depression; imports were inflated by the estimates of requirements for an overambitious investment plan. In 1974, export goods and services amounted to 6.1 billion SDRs and imports to 3.3 billion. That seems to be a more satisfactory starting point and will be adopted.

Interest on foreign investment will be assumed to be at the real rate of 2 percent. Official foreign assets amounted to about 3 billion SDRs in 1975; in the absence of further information, that will have to be taken as the starting point. Table 17 presents the results with these assumptions. These estimates must be taken with great caution. Judging by its previous behavior, Iraq may well have a policy of keeping rough balance in its current account and keeping its oil reserves in the ground.

Table 17

IRAQ: ACCUMULATION OF FOREIGN ASSETS AND
BALANCE OF PAYMENTS SURPLUS

(Billions of 1975 SDRs)

Export Rate of Growth	8 Percent Import Growth	
	Accumulation	Current Balance of Payments Surplus
2 percent	22.2	1.4
5 percent	36.1	3.4

NOTE: These estimates do not take account of military imports from Russia, which apparently do not appear in the statistics.

LIBYA

Table 18 shows the main economic aggregates for Libya for the periods 1965-1969 and 1969-1973. The statistics thus show the performance of the economy before and after the revolution in 1969. There are striking differences between the two periods.

The pre-revolution period was one of extraordinary economic growth for both the oil and nonoil sectors. The 10 percent growth rate in the NOS was associated with a ratio of nonoil investment to NOS of about 35 percent. This would imply an ICOR of 3.5, which seems reasonable.

But there are difficulties on the labor side. If employment increased no faster than the rate of population increase of 3.7 percent, the average productivity rate would have to increase 6.3 percent. This seems implausibly high.

Table 18

GROWTH OF THE LIBYAN ECONOMY, 1965-1973

(In million 1970 Libyan dinars)

Item	1965	1969	1973	Growth Rate (%) 1965-70	1970-73
GDP	658	1273	1485		
X	317	791	879	23	3
NOS	321	482	606	10	6
PC	233	380	390	12	2
GC	76	200	362	24	15
GDI	187	325	440	14	8
GDI nonoil	94	163	273	15	13
M	226	403	585		
M (nonoil)	180	322	570	15	19
Oil export volume (1970 = 100)	37	93	66		
Ratios:					
GDI (nonoil)/NOS	0.35	0.34	0.45		
GC/NOS	0.27	0.41	0.60		
M (nonoil)/NOS	0.64	0.66	0.94		
(GDI + GC - M)/NOS	0.09	0.22	0.11		
Consumer prices	102	116	153	3	7
Exchange rate, $ per dinar	2.8	2.8	2.8		
Population (millions)	1.6	1.8	2.1	3.7	3.7

If the growth figure is right, the figures could be reconciled if
there was considerable absorption of unemployment in agriculture. The
price index shows that growth was accomplished with stable prices,
which is consistent with the low impact percentage.

After the revolution the economy deteriorated. The rate of in-
crease of oil exports slowed markedly. This can be attributed mainly
to a drop in oil production, which in turn was probably due to na-
tionalization of half the industry.

The growth of the NOS also slowed down. Private consumption hardly
increased at all. The rate of increase of public consumption slowed,
despite an increase in defense expenditures from 9 percent to 21 per-
cent of total government consumption.

Incidentally, budget defense expenditures were less than 5 percent
of total GDP in 1973. This seems to contradict many popular impres-
sions of the effects of the revolution. Defense expenditures may be
concealed elsewhere, however. It is said that Libya has a separate
"Administrative Budget" that includes much of its defense expenditures.
No information concerning its size is available.

A striking feature of the period is the increase in nonoil invest-
ment in relation to the NOS. Possibly some defense equipment is in-
cluded in this term.

It is hazardous to guess at a general explanation. Possibly the
slow rate of increase in the oil sector slowed down the increase in
demand for nonoil products, which consist largely of services.

In 1973 the government announced a three-year plan aiming at a
10.75 percent overall growth rate, with 7.5 percent in the oil sector
and 14.5 percent for the NOS. This plan seems ambitious. For example,
it implies a continuing high rate of increase in employment in relation
to the population. Labor shortage is a limitation that the plan itself
recognizes.

The most serious limitation to the plan lay in the foreign trade
sector. The planners expected that the oil sector surplus, after tak-
ing into account payments abroad, would be sufficient to cover the
deficit of the NOS, but the surplus was expected to decline slightly
during the plan.

Because the planners regarded the absolute size of the current
surplus as uncomfortably small, they announced "an effective economic
policy that would depend on the resources comprised in that surplus to
achieve a balanced and rapid development, regardless of the shrinkage
of petroleum resources." The policies contemplated were high customs
duties and production subsidies. Realistically, the planners did not
foresee any place for nonoil exports on a competitive basis.[*]

The Libyan plan did not have a chance to work. Oil exports con-
tinued at a low volume, possibly because of nationalization of half
the industry in 1968. In relation to its capacity, the country was
thus deprived of much of the price bonanza of 1974, a year in which it
increased imports spectacularly at the same time. This increase has
continued and can probably be attributed to defense. The balance of
payments was in deficit in 1975 but had a moderate surplus in 1976.

The Libyan case typifies the economic problems of an oil country
in acute form. Because the oil resources will eventually dwindle, a
country that wants to develop must not only increase its GDP but must
also increase the relative size of its nonoil export surplus to com-
pensate for declining oil export receipts. Import substitution is
unlikely to be enough; consequently, such countries must find nonoil
exports--an exceedingly difficult thing to do.

Meanwhile, Libya must improve its payments position. Several
courses of action are open to it:

1. Cut down on imports, particularly defense imports.

2. Cut down payments to foreign oil companies by further nation-
alization. In contrast to other Arab countries whose industries are
fully nationalized, foreign companies still own 50 to 60 percent of
the Libyan industry.

3. Increase oil production. This approach may conflict with in-
creased nationalization, insofar as Libya depends on the techniques and
organization of foreign companies.

4. Raise oil prices. This raises the whole question of OPEC

_____

[*]For details of the plan, see U.N. Industrial Development Organi-
zation, *Comparative Study of Development Plans of Arab States*, New York,
1976, mimeo.

pricing. Libya is in no position to raise prices unilaterally, especially if it increases production. Consequently, its position compels it to be a "price hawk" in OPEC.

5. Borrow abroad or obtain grant aid. Borrowing from the West at the rates likely to be charged can be ruled out as a long-term policy. Obtaining grants from Saudi Arabia or Kuwait is almost too fanciful to contemplate.

If none of these courses of action are available, Libya may have to face a painful downward revision of its development plans.

If it can overcome its foreign exchange constraints, it may have a good chance of returning to the satisfactory economic performance of the pre-1969 period. In these optimistic circumstances, this study assigns a growth rate of 8 percent for the nonoil sector. A continuation of present difficulties suggests 5 percent, and 6 percent is an intermediate assumption. In view of Libyan policies and difficulties, there seems to be little prospect of appreciable accumulation of foreign assets.

EGYPT

Egypt presents a fairly straightforward (and depressing) picture. It is not an oil-rich country, although it is now at least self-sufficient in oil and can expect to be an exporter on a moderate scale (by oil-rich standards). Consequently, the analyst is free from having to wrestle with the economic consequences of a vast influx of riches starting in 1974.

An important resource is the work of Hansen.[*] It was based on evidence up to 1967, but with the customary statistical lag, Hansen had to base his projections on the period up to 1965. Nothing in the later evidence is cause for departing from the general thrust of his argument, except for his startling optimism. Hansen concludes that a 6 percent growth rate up to 1980 can be taken as a possible though optimistic target even without reliance on extensive foreign aid. This

---

[*]See Bent Hansen, "Economic Development of Egypt," in Cooper and Alexander (eds.), 1972; and also in A. Becker, B. Hansen, and M. Kerr, *The Economics and Politics of the Middle East*, American Elsevier, New York, 1975.

seems patently out of the question. The procedure here will be to con-
sider the trends that occurred up to 1974 and then the modifications in
Egypt's internal policies that might be feasible, with the effects of
such changes on economic development and foreign aid requirements.

The Past Record

Table 19 summarizes the statistical record. The GDP growth rate
is modest by any standards and yields a per capita growth rate of less
than 1 percent from 1965 to 1973. Over the same period, public and
private consumption, particularly public, have increased faster than
the GDP, while the rate of change of GDI was actually negative from
1965 to 1973. The country is moving progressively in the direction of
high consumption and low investment.

Total consumption from 1965 to 1973 amounted to 90 percent of GDP,
while investment amounted to 14 percent. Defense, included in govern-
ment consumption, amounted to 9.6 percent; but according to estimates
by ACDA, defense expenditures increased to over 15 percent in 1972,
1973, and 1974, and were at 12 percent in 1975. To provide for these
expenditures, resources amounting over the period to 4 percent of the
GDP (as will be seen later, the most recent figures are from 6 to 10
percent) had to be provided by an excess of imports over exports. Con-
tinuing balance of payments deficits have meant large accumulations of
interest-bearing debt, which will impede the financing of new deficits
unless Saudi Arabia and to a lesser extent Kuwait come to the rescue.

The figures make it clear that Egypt has not been on the way to
self-sustaining growth, and the investment figures suggest deteriora-
tion. If we can assume, with Hansen, that the labor force and employ-
ment increase somewhat faster than population, we can use a figure of
2.6 percent annually. In conjunction with the GDP growth rates, that
means that the average productivity of labor increased by only 1.5 per-
cent annually from 1960 to 1973 and by 0.7 percent from 1965. By any
international comparison those figures are extraordinarily low.

It is possible that the low rate of productivity increase can be
attributed to a rate of investment that is inadequate to meet the
capital requirements of a higher rate of productivity increase. A 3.3

Table 19

GDP AND AVERAGE ANNUAL PERCENTAGE GROWTH RATES OF
THE EGYPTIAN ECONOMY, 1965-1973[a]

(Egyptian pounds, constant 1965 prices)

Item	1965	1973	Percentage of 1973 GDP (constant prices)
GDP at market prices	2.3	2.9	100.0
Imports of goods and NFS	0.5	0.7	18.9
Exports of goods and NFS	0.4	0.4	14.5
Total resources	2.4	3.3	104.3
Private consumption	1.6	2.1	66.5
General government consumption	0.5	0.8	24.0
Gross domestic investment	0.4	0.36	13.8
Defense			15.5[b]

Average Annual Growth Rate (%), 1965-1973

GNP at market prices 3.3
Net factor income from abroad GDP at
    market prices 3.3
Imports of goods and NSF 6.0
Exports of goods and NSF .... -0.2
Total resources 4.4
Private consumption 4.3
General government consumption 8.8
Gross domestic investment .... -2.2

SOURCE: *World Tables*.

[a]Egypt's population in 1973 was 35.6 million, having grown
at a rate of 2.5 percent between 1965 and 1973.

[b]ACDA figure, which clearly includes items not reflected
in national accounts.

percent growth rate and an investment ratio of 13.8 imply an incremental
output-capital ratio of about 0.24. This seems reasonable (it is also
used by Hansen). If the productivity increase were 2.5 percent and the
growth rate consequently 5.1 percent, the investment ratio to meet
capital requirements would need to be 21.3 percent.

It does not follow that raising investment to that level will pro-
duce the required productivity increase. Meeting capital requirements
is a necessary and not a sufficient condition. To illustrate what this

rather cryptic statement means: Suppose productivity increase depends on shifting employment from agriculture to industry, and the shift requires construction of urban housing. The houses are a necessary condition for the productivity increase, but in themselves they will not yield the labor skills needed to achieve it. In other cases, however, these skills may be present but extra machinery is needed to utilize them.

Egypt apparently corresponds more to the first case than the second. Simply pouring more capital into the country may yield rapidly diminishing returns to capital and do little for the rate of increase of output. Capital shortage can constrain the increase of productivity and employment, but an abundance of capital will not necessarily increase either. These statements need to be examined in more detail.

Employment

Assuming the 2.5 percent population increase, no changes in fertility will significantly affect the labor force for the next decade. The question is whether the labor force and productive employment can increase faster than the 2.6 percent assumed here.

A critical question is whether there is a large pool of disguised unemployment in agriculture that can be drawn into the productive labor force under the influence of development. Hansen maintains that there is not. Adult males and females in agriculture are fully employed for a large part of the year. Increasing school attendance reduces the availability of children. Also, the High Dam may increase the demand for agricultural labor and so reduce any capacity agriculture has to supply industry.

Hansen also refers to the widespread belief that there is extensive underemployment in the bureaucracy (more than in most bureaucracies). This is fostered by the government's policy of guaranteeing every college graduate a bureaucratic job. Although Hansen refrains from committing himself on this point, he could have been less cautious. It should be government policy to reduce the demand for bureaucratic labor and hence release skilled labor from that area.

If Hansen is right, increases in the labor force beyond the rate

of population increase must depend on increased participation by women
(child participation will be reduced). This is a slow process. Con-
sequently, Hansen's assumption of a rate of increase only slightly
higher than the rate of population increase seems reasonable.

Productivity

The government recognizes shortages of skills and good health, out-
side the bureaucracy. Consequently, it is devoting about 8 percent of
the GDP to relieving those shortages.

A major cause of low productivity increase, however, can be attrib-
uted to the organization of the economy. Even under an authoritarian
regime, Egypt has committed most of the mistakes that some liberal
democracies of the West have committed, notably England from 1945 to
1950 and thereafter. Internal demands for welfare and the burden of
repeated wars severely strained the Egyptian fiscal system. It re-
sponded with the familiar scenario of suppressed inflation, wage con-
trols, price controls, rent controls, food subsidies, and so forth.

Egypt has also followed development doctrines that stress large-
scale industry and inefficient import substitution. It has preferred
bureaucratic management to business management. It has not given the
market system a chance nor has it been prepared, despite Soviet influ-
ence, to resort to central planning and control. From the point of
view of productivity increase, it may well have followed the worst pos-
sible course.

Since 1973 the government has attempted to free up the economy
and encourage private investment. After an initial burst of enthu-
siasm, many investors have been discouraged. They are worried about
the lack of infrastructure, such as electric power and telephone. They
are concerned about repatriation of profits and government restrictions
on their projects. They dislike the requirement that they earn enough
foreign exchange to cover their import requirements.

The External Situation

Egypt is living beyond its means and is sustained only through the
assistance of both Arab and Western countries. Table 20 summarizes the

Table 20

EGYPTIAN CONSUMPTION, GROSS DOMESTIC INVESTMENT,
AND BALANCE OF TRADE, 1972-1975

(Percentages of GDP in current prices)

Item	1972	1973	1974	1975
Private consumption	65	64	65	67
Government consumption	27	28	27	28
GDI	14	14	18	24
Total	106	106	110	117
Import surplus	6	6	10	17

SOURCE: IMF *International Financial Statistics.*

situation for several recent years and shows the increasing dependence
of the economy on external resources.

The foregoing may have painted too gloomy a picture of Egypt's
economic performance. Egypt did achieve more than a 5 percent growth
rate between 1960 and 1965. It was seriously dislocated by the 1967
war. Its high level of defense expenditures since 1967 has been a
major factor in cutting down the rate of investment. However, Jordan
and Syria faced similar difficulties, and their economic performance
over the same period was considerably better than Egypt's.

There have been some bright spots in the picture since 1973--
namely, the Suez Canal, the oil industry, workers' remittances, and
tourism. In 1974 and 1975, Saudi Arabia in particular greatly in-
creased its foreign aid. This enabled Egypt to increase its imports
and thereby public investment. Egyptian authorities estimate that the
GDP increased by nearly 10 percent between 1974 and 1975.

A large part of the increased investment in those years went into
the oil industry and the Suez Canal. These will provide increasing ex-
ports and foreign exchange earnings in the future, but expansion in
those sectors will not necessarily stimulate the rest of the economy.
They are likely to have few direct production or employment linkages
with the nonoil, non-Suez sector. The development effect will depend
on whether the country consumes its increased income or invests in do-
mestic development.

Remittances from workers in other Arab countries, particularly Saudi Arabia, have increased markedly in recent years and have the same effects as increased export income from oil or Suez. Tourism is the one additional industry that will both provide increased export income and stimulate domestic activity. It languished before 1973 but now shows signs of vigorous expansion.

The Future

The Egyptian government takes a hopeful view of the future. Table 21 is a draft framework for their 1976 to 1980 plan. This plan seems excessively optimistic, for several reasons:

1. In view of the labor and productivity constraints discussed above, an 11 percent growth rate seems out of the question. A 2.6 percent increase in employment would require an 8.4 percent increase in average productivity--a rate extraordinarily high for any country, let alone Egypt. The country until 1975 did little to remove the bureaucratic restrictions and other inefficiencies that hampered the growth of the economy in the past. The high level of investment will help, especially by improving the infrastructure, which has been sadly neglected; but its effect on productivity will be limited in the absence of internal reform.

Table 21

DRAFT OF EGYPT'S FIVE-YEAR PLAN FRAME: MACROECONOMIC FRAMEWORK

(Egyptian pounds, constant 1975 prices)

Item	1976 Estimate		1980 Plan Target		1976-80
	Million Pounds	Percent GDP	Million Pounds	Percent GDP	Growth Rate (%)
GDP (market prices)	5498	100.0	8382	100.0	11.0
Total consumption	4854	88.0	6835	81.3	8.8
Gross investments	1086	19.7	1930	23.0	15.4
Imports (including NFS)	1696	30.8	3158	37.7	16.8
Exports (including NFS)	1269	23.1	2800	33.4	22.0

SOURCE: Government of Egypt, *Egypt's Development Strategy, Economic Reforms and Growth Objectives, 1976-1980*, March 1977.

Some improvement can be expected, but it is hard to imagine a rate of productivity increase of more than 4.0 percent. That would mean a growth rate of 6.5 percent.[*]

2. The plan frame seems very optimistic from the point of view of capital requirements. A growth rate of 11 percent, together with an average investment ratio of 0.22, implies an ICOR of 2.0. In the earlier period, the ICOR appeared to be 4.2. Allowing for the ICOR underestimating capital requirements anyway, a figure of 3.5 seems reasonable. A 6.5 growth rate would then require an investment ratio of 23 percent.

3. The authorities envision a sharp reduction in the ratio of total consumption to GDP and a consequent increase in domestic saving and taxes. In this they may be indulging in wishful thinking. It means a reversal of previous trends that have been built into the economy. An attempt at reversal was made in the spring of 1974 when the government cut food subsidies. The ensuing riots threatened its existence.

The share of consumption could be reduced if a large cut in defense expenditures, now amounting to about 11 percent of the GDP, were feasible. But even if it were feasible, financial policies would have to achieve the diversion of the consequent savings into investment rather than nondefense consumption.

4. The plan frame envisions faster export growth than import growth, with a consequent relative reduction in dependence on external resources. Where the trade deficit was 10 percent of GDP in 1974 and 17 percent in 1975, the plan expects a deficit of only 4 percent in 1980, even with an 11 percent growth rate.

Of course, the point of view that an increasing proportion of national resources should be devoted to investment--a view evidently shared by the government--rests on the assumption that foreign aid will be limited in the future. This is true of the Western countries and is reflected in the pressure being put on Egypt through the IMF to get

---

[*]In common with many planners, the Egyptians pay insufficient attention to employment and productivity as constraining factors.

its house in order. Saudi Arabia and Kuwait could take the view that Egyptian development is an urgent political necessity and provide the aid to support a 6 or 7 percent growth rate and also rising consumption. One can only answer that the Egyptians don't seem to think so.

With respect to the ten-year future, a 6.5 percent growth rate is taken here as an optimistic figure; it calls for some domestic reforms that will increase productivity at 3.9 percent annually and sufficient foreign aid to enable the country to meet capital requirements for the 6.5 percent growth rate. The required investment ratio with an ICOR of 3.5 would be 23 percent.

A pessimistic projection would be 4 percent compared with the 3.3 percent of the 1967-1973 period. This is a projection of past trends modified by the favorable factors oil, Suez, and tourism. Productivity increase would be 1.4 percent annually and the investment ratio of 19 percent. As an intermediate figure, 5.5 percent appears acceptable. This would require a productivity increase of 3 percent. With a 3.5 ICOR it would mean an investment ratio of 19 percent.[*]

External Resources

With respect to government consumption, it is assumed here that for the intermediate growth rate the ratio will be 28 percent, as it was in 1973 and 1975. Because of fixed items such as defense, it is assumed that the percentage will be 27 percent under the high growth assumption and 29 percent under low growth.

Similar considerations apply to domestic saving plus taxes. It is assumed here that there are fixed items in private consumption, which will lower the savings rate at high levels of growth and increase it at low levels. On the basis of the past record, 28 percent is assumed for the intermediate growth rate, 29 percent for the high, and 27 percent for the low rate.

_____

[*]These estimates depend on Hansen's view that there is not a large available pool of unemployment on which to draw. If there were, the economy would be capital constrained and the estimated growth rates would be increased beyond the above estimates by large infusions of capital from abroad.

With all these factors, Table 22 estimates external resources. These percentages should apply to the beginning of the projection period, say 1976. During the period, the import surplus percentages should be reduced to the extent that the government succeeds in its economy efforts. They should be increased if the government is forced to tolerate past trends toward increasing consumption. The net aid figure (M − X) is likely to be reasonably close to the gross figure, at any rate at the outset. This is because remittances from foreign workers just about counterbalance Egypt's interest payments on foreign debt.

Table 22

EGYPT: EXTERNAL RESOURCE REQUIREMENTS

	Assumed GDP Growth Rate		
	4.0	5.5	6.5
	Percentage of GDP		
GDI	14	19	23
Government consumption	29	28	27
Total	43	47	50
Savings plus taxes	27	28	29
Required import surplus (M − X)	16	19	21

For the intermediate growth assumption these figures amounted to 2.0 billion 1975 SDRs in 1975 and 3.5 billion in 1985. These figures, however, relate to total external resources and not foreign aid. Insofar as Egypt's oil revenues and worker remittances increase, and the government succeeds in taxing them, the aid figure will be reduced.

SYRIA

Tables 23 and 24 trace the aggregative economic history of Syria from 1965 to 1976. It is useful to consider that history in two subperiods, 1965-1973 and 1973-1976.

Table 23

SYRIA: GROWTH OF THE ECONOMY, 1965-1973

(Millions of Syrian pounds, constant 1963 prices)

	1965	1970	1973	Growth Rate (%), 1965-73
GDP	4449	5616	6938	5.5
M	867	1382	2044	10.7
X	855	1200	1805	10.0
M - X	12	182	239	
R	4461	5798	7177	5.9
Private consumption	3290	3919	4527	3.9
Government consumption	714	1091	1680	10.6
GDI	457	788	970	9.4
Ratios:				
M/GDP	.20	.25	.29	
X/GDP	.19	.21	.26	
M - X/GDP	.003	.03	.03	
R/GDP	1.00	1.03	1.03	
PC/GDP	.74	.70	.65	
GC/GDP	.16	.19	.24	
GDI/GDP	.10	.14	.14	
Population (millions)	5.40	6.30	6.90	3.1
Prices (consumer)	85	100	106	3.0
Industrial production	69	100	127	7.6

SOURCE: *World Tables*. IMF *International Financial Statistics*.

1967-1973

The first part of the history is one of moderate, unspectacular, and self-contained growth up to 1973. The 5.5 percent rate increase in GDP combined with, say, a 3.1 percent in employment implies labor productivity increasing at 2.4 percent annually. The implied ICOR, with a 14 percent investment ratio, is 2.5. External resources amounted only to 3 percent of GDP.

The main component of increase was government consumption, which rose from 18 percent of GDP in 1967 to 23 percent in 1973. This increase in turn resulted from steadily increasing defense expenditures, which were 47 percent of government consumption in 1967 and 57 percent

Table 24

SYRIA: GROWTH OF THE ECONOMY, 1973-1976

(Millions of Syrian pounds, constant 1963 prices)

	1973	1974	1975	1976	Growth Rate (%), 1973-76
GDP	6,938	8,256	9,230	9,978	12.1
M - X	239	1,128	1,546	2,352	76.0
R	7,177	9,384	10,776	12,230	18.0
Private consumption	4,527	5,916	6,314	6,936	14.2
Government consumption	1,680	2,219	2,329	2,526	13.5
GDI	970	1,249	2,133	2,768	35.0
Ratios:					
M - X/GDP	.03	.14	.17	.27	
R/GDP	1.02	1.14	1.17	1.27	
PC/GDP	.65	.71	.68	.69	
GC/GDP	.24	.26	.25	.25	
GDI/GDP	.14	.15	.23	.27	
Employment (millions)	1.69		1.84		4.2
Prices	82	93	100	112	
Industrial production	127	149			

SOURCE: *World Tables; IMF Financial Statistics. Central Bureau of Statistics: Syria.*

in 1973, when total government consumption was rising at 10 percent an-
nually. This increase occurred largely at the expense of private con-
sumption.

It seems clear that Syria could have continued that rate of growth
largely on the basis of its own resources beyond 1973. Moreover, had
it been able to cut defense expenditures and divert resources to invest-
ment, the growth rate could have increased.

1973-1976

As Table 24 reveals, dramatic changes occurred after 1973. For-
eign aid from other Arab countries became plentiful. Net external re-
sources (M - X) increased from 3 percent of GDP to 27 percent in 1976.
The government was encouraged to raise its sights and embark on a large
investment program, predominantly government investment. The investment

ratio increased from 14 percent in 1973 to 27 percent in 1976. The
GDP rate of growth was over 12 percent from 1973 to 1976, and the
government proclaimed a 12 percent goal in its Fourth plan (1975-1980).

A 12 percent rate of growth over a longer period is beyond the
realm of likelihood. Between 1973 and 1975 employment increased at a
rate of 4 percent with a 12 percent growth rate, implying an average
productivity increase of 8 percent. That is not feasible on a sustained
basis. In other words, the plan will be constrained by a labor short-
age, which was already being reflected in 1976 by rapid wage increases
in both the public and private sectors. The 4 percent increase up to
1975 was possible only through absorption of unemployment. Moreover,
the government is not inclined to import foreign labor. In fact, it
is encouraging the Palestinians who are there to leave.

The government's economic plans ran into more immediate trouble
because of the Lebanese situation. Syria's intervention was unpopular
with Saudi Arabia and Kuwait, who reduced their aid. This fact more
than any other caused the Fourth plan to be cut down and stretch out.

Future Economic Growth

There is no apparent reason why, despite such handicaps as heavy
defense expenditures, Syria could not continue the 5.5 percent growth
rate it achieved before 1973, with only limited foreign aid, say 3 per-
cent of GDP, and with an investment ratio of 14 percent. This can be
taken as a lower limit to its prospects. But it should be able to im-
prove on that situation. It is actively exploring and developing its
oil resources; their extent is still largely unknown, but Syria seems
unlikely to become oil-rich. It should be able to improve its rate of
productivity increase, compared with the 2.4 percent achieved in the
pre-1973 period, but the possibility of improvement is limited, because
Syria seems to be plagued with the same kind of inefficiencies as
Egypt[*] and is likely to continue to refrain from importing foreign
labor and skills. Employment should continue to increase at about the

---

[*]Bent Hansen, "Economic Development of Syria," in Cooper and
Alexander (eds.), 1972.

same rate as the population, or about 3.1 percent. In these more fa-
vorable circumstances, a rate of growth of 6.5 percent might be fore-
cast, with a 3.4 percent increase in productivity and a 16.3 percent
investment ratio.

Foreign aid is unlikely to make a vast amount of difference, unless
it compensates for unforeseen problems such as more military emergencies
or failure of the oil industry to grow. The country seems too limited
by its internal constraints to make effective use of large amounts of
external resources. This conclusion, of course, rests on my interpre-
tation of the events of 1975 and 1976. Plentiful external resources
on a stable basis could raise productivity increase to 4 percent and
the growth rate to 7.1 percent, which would mean an investment ratio
of 21.3 percent. In comparison with other countries, it is difficult
to go beyond those figures.

Table 25

SYRIA: EXTERNAL RESOURCE REQUIREMENTS

	Assumed GDP Growth Rate		
	5.5	6.5	7.1
	Percentage of GDP		
Investment requirements	14.0	16.3	21.3
Government consumption	26.0	25.0	24.0
Total	40.0	41.3	45.3
Gross saving and taxes	31.0	32.0	33.0
External resources	9.0	9.3	12.3

External Resources

Syria's need for net foreign aid (M - X) will be the difference
between investment plus government consumption requirements minus
gross domestic saving (GDP - private consumption). On the basis of
past history, government consumption including defense should amount

to, say, 25 percent of GDP. A figure of 32 percent for gross domestic saving and taxes seems reasonable, in the light of Table 24. These percentages relate to the intermediate growth assumption.

On these assumptions foreign aid requirements, corresponding to the range of growth rates, are as given in Table 25. For the intermediate assumption the percentages amount to .5 billions of 1975 SDRs in 1975 and .9 billion in 1985.

JORDAN--THE EAST BANK

Before the war of 1967, Jordan was a united country flourishing from the inflow of massive economic aid from the United States (and others). Since the war, the East Bank has been growing much less rapidly, although still receiving massive aid. Tables 26 and 27 give the relevant statistics.[*]

1960-1967

The years 1960 to 1967 were years of extraordinary growth. Aid (M - X) was at a high level, and GDP increased rapidly. At the same time the country made some progress toward independence of aid. The ratio of aid to GDP fell from 34 percent to 19 percent.

Employment increased faster than the population, owing to the availability of a pool of unemployment. But even with a population increase of 3.1 percent, it is hard to imagine that employment increased by more than 5 percent, which would imply a 5 percent rate of productivity increase. This seems very high in comparison with other countries.

On the capital side of the picture, if the investment ratio was about 15 percent during the period, that, in conjunction with the 10 percent growth rate, would imply an incremental output-capital ratio

---

[*]The published UN statistics relate to the whole of Jordan, but figures for the West Bank are based on what the UN describes as an "arbitrary adjustment." Table 26 is based on estimates by the Jordanian National Planning Council.

Table 26

JORDAN: EAST AND WEST BANK, GROWTH OF THE ECONOMY,
1960-1967

(Millions of 1969 dinars, constant prices)

	1960	1967	Annual Growth Rate (%), 1960-67
GDP	108	209	10.0
M	52	68	
X	14	30	
Foreign aid (M - X)	38	38	
Total resources (GDP + [M - X])	145	248	8.3
Private consumption	97	170	8.3
Government consumption	30	50	7.6
GDI	19	28	5.7
Resources/GDP	1.34	1.19	
Private consumption/GDP	.90	.81	
Government consumption/GDP	.27	.24	
GDI/GDP	.18	.13	
Population (millions)	1.7	2.1	3.1
Industrial production			
Prices (consumer)			

SOURCE: *World Tables, IMF Financial Statistics.*

of 0.67 or an incremental capital-output ratio of 1.5. Such a capital-output ratio is extraordinarily low, and there is no convincing reason why it should be.

Much of the investment undertaken was in infrastructure, particularly irrigation, where one would expect fairly high capital-output ratios. However, the service sector of the economy, including tourism, is exceptionally large. The figure of 1.5 still seems low. The statistics probably give too optimistic a view of the expansion up to 1967, and it would be a mistake to use them without qualification for projecting the future.[*]

[*]This analysis corresponds with Michael P. Mazur's much more detailed analysis ("Economic Development of Jordan," in Cooper and Alexander (eds.), 1972), but Mazur seems more confident in the results.

Table 27

JORDAN: EAST BANK, GROWTH OF THE ECONOMY,
1971-1975

(Millions of 1971-72 dinars, constant prices)

	1971-72	1973	1974	1975	Annual Growth Rate (%)
GNP	205	223	248	272	9.4
GDP	195	205	226	230	5.5
M	108	123	144	203	21.0
X	35	52	56	81	27.0
(M - X)	73	71	88	122	17.0
Resources (GDP + [M - X])	268	276	314	352	9.0
Private consumption	157	160	166	217	11.0
Government consumption	65	74	98	84	8.2
GDI	45	42	49	51	4.1
Resources/GDP	1.37	1.34	1.39	1.53	
Private consumption/GDP	.80	.78	.73	.94	
Government consumption/GDP	.33	.36	.43	.37	
GDI/GDP	.23	.20	.21	.22	
Employment (thousands)	301			374	4.3
Population (millions)	1.7			2.0	3.2
Prices (consumer)	124	143	172	192	14.5
Industrial production		159	166	178	

SOURCES: National Planning Council. Employment figures are from
IBRD Section Report on Manpower Situation 1972, and information
supplied to the IMF by the Department of Statistics of Jordan. The
private consumption figures are residuals and therefore not to be
taken too seriously, especially the 1975 figure.

1971-72 to 1975

Statistics for the East Bank are available only from 1971-72 on.
For that period GNP grew at an annual rate of 9.4 percent and GDP at
5.5 percent. The difference is accounted for almost entirely by re-
mittances from Jordanians who are working in the oil-rich countries.
(Debt service abroad amounted to about 6 percent of export income.)

The 5.5 percent figure was affected by the bad harvest of 1975.
Over the period the growth of nonagricultural GDP was 6.4 percent.
This should be taken into account in considering the future.

Over the period, employment increased at the rate of 4.3 percent,

compared with a population increase of 3.2 percent. The employment
increase is the net result of extensive emigration of Jordanians to
the oil countries and compensating immigration of Palestinians into
Jordan from the West Bank, Gaza, and Israel. There has also been some
absorption of unemployment. By the end of 1975, the labor force of
Jordan was fully employed and the authorities were concerned about a
labor shortage.

The employment figure of 4.3, combined with the GDP growth of 5.5
to 6.4 yields a rate of productivity increase of about 2 percent or
less. This is far below the performance of the whole country in the
pre-1967 period.

As Table 26 shows, the country has not been constrained by lack
of external resources. Worker remittances and foreign aid (primarily
from the oil countries, but also from the United States and the UN)
have provided it with increasing foreign resources, amounting in 1975
to more than 50 percent of GDP. Even though Jordan's defense burden
may have been 15 or 16 percent of GDP, there has been no lack of for-
eign exchange to support development requirements. Up to 1975, however,
the country appears to have stressed public and private consumption
rather than investment. The high private consumption figure probably
results in large measure from recipients' spending of workers' remit-
tances.

The Future

The five-year plan for 1976-1980 aims at 12 percent annual growth
of GDP. It is estimated that this will require an investment ratio
of 36 percent, with a corresponding ICOR of 3.

It is hard to believe that employment can continue to increase at
4.3 percent. The demands of the oil-rich for Jordanian labor (partic-
ularly skilled labor) will continue. Jordan could not afford to pay
the wage rates needed to stop the flow. In fact, it may not want to
forgo such a valuable source of foreign exchange. However, the inflow
of Palestinians may well decline. The oil countries also compete for
Palestinian labor, and unemployment in the West Bank and Gaza has fal-
len to very low levels. Labor shortages are already apparent in Jordan.

In view of these factors, a rate of employment increase of 3 percent for the future seems reasonable.

To achieve a 12 percent GDP increase with a 3 percent increase in employment would require a productivity increase of 9 percent annually. This would correspond to the most optimistic interpretation of the economic performance of the united country before 1967.

The low rate of productivity increase recorded is puzzling; perhaps the figures are wrong. In view of Jordan's skills and capabilities, a higher rate can be expected, but there seems no reason to go beyond or even as far as the 5 percent as an upper limit. Let us assume 4.5 percent, which would imply a GDP increase of 7.5 percent under favorable conditions.

With a 7.5 percent GDP increase and an ICOR of 3, the required investment ratio would be 22.5 percent, which is about what it was in the recent past. In that situation foreign exchange should present no obstacle if foreign aid continues at present levels (in 1975 it amounted to close to $500 million). If Jordan could increase domestic taxation and limit the increase in domestic consumption, it could make more use of remittances for development purposes.

Jordan has already embarked on its plan. If the foregoing diagnosis is right, it will run into acute shortages, particularly labor, with consequent inflationary turbulence and painful readjustment. For a 10-year projection, 7.5 percent GDP growth can be taken as an optimistic figure, 6.5 percent as realistic, and 5.5 percent as pessimistic. The latter two imply rates of productivity increase of 3.5 and 2.5 percent, respectively, and investment ratios of 19.5 and 16.5.

External Resources

Estimates of Jordan's need for external resources require estimates of government consumption and gross domestic saving. In light of recent experience (Table 26), 40 percent of GDP is assumed here for government consumption including military expenditures and 20 percent for domestic saving and taxes, for the intermediate growth rate.

Table 28 presents estimates for external resources. Those figures include remittances from Jordanians abroad, which in 1975 may have

Table 28

JORDAN: EXTERNAL RESOURCE REQUIREMENTS

	Assumed GDP Growth Rate		
	5.5	6.5	7.5
	Percentage of GDP		
Investment requirements	16.5	19.5	22.5
Government consumption	41.0	40.0	39.0
Total	57.5	59.5	61.5
Domestic saving and taxes	19.0	20.0	21.0
External resources	38.5	39.5	40.5

amounted to about 20 percent of the GDP. For the intermediate assumption these percentages amount to .4 billion in 1975 and .7 billion in 1985 SDRs.

V. MILITARY EXPENDITURES

This study is based on the assumption that military tensions in
the Middle East continue at about the intensity of 1975. On that basis
military expenditures are assumed to grow at the same rate as the do-
mestic economies of the countries involved. Other assumptions might
appeal to the reader more, but in the absence of abrupt changes in the
political environment, countries do seem to maintain a fairly stable
ratio between their military expenditures and their GNPs. Such an
abrupt change did occur after 1973 in the Middle East, as a result of
the combined effects of the Yom Kippur war and the oil price increase.
The 1975 starting point is obviously open to question.

Again, for want of a better assumption, it is assumed that mili-
tary imports (to be defined later) maintain a constant ratio to mili-
tary expenditures.

In the event of a reduction of tensions, presumably military ex-
penditures would also be reduced. I shall therefore make some esti-
mates of the effects of a large reduction on the economic projections.
The best available compilation of comparative military situations is
the ACDA study for 1967-1976.

Tables 29-33 show the relevant statistics for 1972 through 1976.[*]

Interpretation of these tables, particularly the ratio of military
expenditures to GNP, requires some discussion of the burden of military
expenditures on an economy. Although our main concern is with the con-
sequences of reductions of military expenditures it seems more natural
to discuss the matter in positive rather than negative terms.

The problem can be conveniently discussed in terms of the national
accounts identity: $GM + GC + GDI + PC + X - ZM - ZC = Y$, where GM de-
notes military expenditures and GC civilian government expenditures.
ZM denotes direct military imports and ZC civilian imports; GDI is gross
civilian investment, X is exports, PC is private consumption, and Y is
GNP.

---

[*]These tables are taken without amendment from *World Military Ex-
penditures and Arms Transfers 1967-1976*, United States Arms Control and
Disarmament Agency, Washington, D.C., 1978.

Table 29

MILITARY EXPENDITURES

(In constant 1975 Dollars)

	1972	1973	1974	1975	1976
Saudi Arabia	1730	2240	1380	1940	7110
Iraq	1040	1410	1660	1390	1530
Kuwait	607	398	612	410	478
Libya	182	240	330	203	218
Egypt	1290	1360	1360	1060	1050
Jordan	161	172	157	150	153
Syria	403	702	548	886	832
Israel	2130	4460	3530	4010	4120
Iran	3010	3560	5690	7770	7460

Table 30

GROSS NATIONAL PRODUCT

(In constant 1975 dollars)

	1972	1973	1974	1975	1976
Saudi Arabia	27,004	31,166	27,058	33,225	36,614
Iraq	9,057	10,374	10,602	13,196	14,412
Kuwait	12,266	8,870	11,419	14,959	15,352
Libya	6,966	8,080	10,156	12,242	13,791
Egypt	8,543	8,798	9,133	9,497	9,973
Jordan	1,072	1,190	1,315	1,236	1,622
Syria	4,695	4,675	4,601	5,313	5,657
Israel	11,092	11,767	12,713	12,658	12,785
Iran	33,810	42,625	48,094	53,771	61,031

Table 31

RATIO OF MILITARY EXPENDITURES TO
GROSS NATIONAL PRODUCT

	1972	1973	1974	1975	1976
Saudi Arabia	6.4	7.2	5.1	5.8	19.4[a]
Iraq	11.5	13.6	15.7	10.5	10.6
Kuwait	4.9	4.5	5.4	2.7	3.1
Libya	2.6	3.0	3.2	1.7	1.6[a]
Egypt	15.1	15.5	14.9	11.2	10.5
Jordan	15.0	14.5	11.9	12.1	9.4
Syria	8.6	15.0	11.9	16.7	14.7
Israel	19.2	37.9	27.8	31.7	32.2
Iran	8.9	8.4	11.8	14.5	12.2

[a]According to the Saudi national accounts of
June 1977, the percentages for 1974 and 1975
were 6 and 7 percent respectively and for 1976
it was 12 percent. The figures for Libya seem
extraordinarily low, but there is no reliable
way of checking them.

Table 32

ARMED FORCES IN THOUSANDS

	1972	1973	1974	1975	1976
Saudi Arabia	75	75	80	95	95
Iraq	105	105	110	155	190
Kuwait	14	14	15	25	25
Libya	20	20	25	25	25
Egypt	390	390	410	400	400
Syria	115	115	130	230	230
Jordan	70	70	70	60	65
Israel	130	130	160	190	190
Iran	265	285	310	385	420

Table 33

ARMED FORCES PER 1,000 PEOPLE

	1972	1973	1974	1975	1976
Saudi Arabia	13.13	12.76	13.22	15.25	12.45
Iraq	10.50	10.10	10.28	13.96	16.67
Kuwait	16.59	15.64	15.81	24.75	23.58
Libya	9.26	8.89	10.68	10.25	9.84
Egypt	11.24	11.02	11.33	10.78	10.53
Syria	17.22	16.67	18.23	31.21	30.22
Jordan	29.29	28.34	27.34	22.64	23.72
Israel	40.88	39.63	47.48	55.23	52.63
Iran	8.31	8.66	9.14	11.03	11.67

To the extent that an increase in GM results in a corresponding increase in ZM, there is no immediate burden on the domestic economy. If the increase in ZM is financed by grant aid, as is likely in the cases of Egypt, Syria, and Jordan, the burden falls on the grantors, probably Saudi Arabia and Kuwait. If the country borrows or uses up its foreign assets, the burden will be felt in the future.

Unfortunately, there is no reliable method of determining the relation of ZM to GM without detailed research. The ACDA figures of arms transfers relate to specific military items and do not include services or items that may have alternative civilian uses, such as trucks and bulldozers, if imported for the military. As an example of the problem, allowed arms transfers to Israel in 1975 amounted to about 17 percent of GM, but for the same year, the Bank of Israel records ZM as 31 or 43 percent of GM (depending on which table you look at). Informed guesses in Saudi Arabia suggested 40 percent as a reasonable figure. Despite the uncertainties, the inference seems reasonable that well over half of GM has a domestic effect--is not offset by equivalent military imports.

Increased doemstic GM must increase Y or reduce other items on the left-hand side of the identity. An increase in Y is possible if increased military manpower increases the labor force by increasing participation ratios, or if there is unemployment to absorb. With respect to the expenditure items, the government will be unwilling to reduce

GDI if that will endanger its growth objectives. Obvious candidates for reduction are GC and PC. The former can be reduced by cutting the budget; reduction of private consumption requires an increase in internal taxation, which is hard to accomplish. Also, the government may decide to liberalize its import policy or increase its exports. This would mean increased reliance on foreign nonmilitary aid.

If none of these things can be done by deliberate action, room must be made for military expenditures through the process of inflation-induced imports. Otherwise, its immediate effect is likely to fall on private consumption. But more generally, under the effects of inflation governments may be impelled to lower their development targets and possibly to modify their military programs.

Inflation has been rapid in Saudi Arabia, Iraq, Syria, and Jordan (ranging from 20-25 percent) and less rapid in Egypt between 1973 and 1976. Military expenditures have been an important factor, but the attempted speed of development of those countries has probably been a more important inflationary factor in those years.

If military expenditures could be substantially reduced, say by 50 percent, what effect would that have on the projections? The immediate effects would be reduction of defense-related imports and reduction of inflationary pressure on the domestic economies, provided no offsetting increases in expenditures occurred.

With respect to imports, consider first the poor countries Egypt, Syria, and Jordan. Their military expenditures in 1975 amounted to about $2 billion. With a 50 percent cut, and assuming a 40 percent import share, the direct foreign exchange saving with everything else unchanged would be $.4 billion in 1975, and the saving would presumably accrue to Saudi Arabia and Kuwait. If the Saudis were able to cut their own military expenditures in the future, the total additional accumulation of foreign assets by Saudi Arabia and Kuwait over a ten-year period could be $13 billion in 1975 dollars, higher than the estimates presented above.

On similar assumptions, Iraq could increase its accumulation by $6 or 7 billion in 1975 prices. But it may prefer to keep its reserves under the ground by lowering oil exports, rather than accumulate additional foreign assets.

In the case of Libya, shortages of foreign exchange are likely to impede its projected development. Any savings it can achieve are more likely to validate the projections than to warrant raising development targets.

With respect to inflation, reduction of military expenditures in iteself would reduce demand pressure on those domestic resources for which imports are no substitute, particularly skilled and unskilled indigenous labor. Inflation has been emphasized as a constraint on the ambitious expansion plans adopted after 1973 in all the countries except Kuwait. Projections for the future are based on feasible increases in labor force and productivity, and sufficient external resources. Demand pressure, arising partly from military expenditures, will exist. Reduction of military expenditures would ease that inflationary pressure, which may induce countries to move up in the range of their projected growth rates. This conclusion, however, assumes that it is politically feasible to prevent civilian expenditures, particularly government and private consumption, from increasing, where military expenditures are cut. Moreover, a cut in military investment that also has civilian uses, such as roads or port facilities, may increase purely civilian investment.

VI. CONCLUSIONS

THE INTERMEDIATE FUTURE, 1975-1985

The high hopes for economic growth entertained after the oil rev-
enure abundance in 1974 are unlikely to be realized because of problems
of the domestic economies. Saudi Arabia will grow much more rapidly
than the other oil-rich countries largely because of its willingness
and ability to employ foreign labor and foreign skills.

Kuwait is projected to grow more slowly than the other countries.
It had already attained high income levels and now appears to prefer
accumulation abroad to further rapid domestic development.

The domestic economies of the remaining countries are projected
to grow at roughly the same rates. This, however, assumes that the
oil-poor will receive enough external resources, through economic aid
and worker remittances, to enable them to achieve their growth objec-
tives.

Military expenditures of the oil-poor amounted to about 12 percent
of GDP at the beginning of the period. Aid in the form of military
equipment and general economic aid will greatly relieve the domestic
burden of those expenditures.

Economic disparities in absolute terms among the domestic economies
will increase, largely because the rich began with a higher starting
point in 1975--except for Saudi Arabia, which had a higher growth rate.
Discrepancies, however, will be more than economic. The Arab world
depends on the oil-rich for both its military and its economic capabili-
ties, which may give rise to complicated relations between providers
and receivers of aid.

The major difficulty for the Arab countries that the analysis has
revealed relates to the balance of payments. All the oil-rich countries
(except Kuwait) want to grow faster and make greater foreign commitments
than their oil export income is likely to be able to keep up with, and
their outpayments tend to keep up with their economic growth. Sooner
or later they must catch up with oil exports and income from abroad.

Ironically, the problem is most acute in the richest country, Saudi Arabia. Its plans and expectations have increased more rapidly than its prospective oil revenues. On all but highly optimistic assumptions it could be in balance of payments deficit in ten years, and its accumulation could be decreasing. But this prospect could lead to modification of its policies.

Kuwait is in a more comfortable position because its imports are projected to increase at about the same rate as export income. Iraq is also in a better position than Saudi Arabia because its plans are less ambitious. It may encounter the same difficulties in 15 or 20 years. Libya is living a hand-to-mouth existence; its growth is likely to be determined by its export income.

BEYOND 1985

It seems evident that if projections were made for Saudi Arabia for the decade following 1985, they should be based on the central objective of maintaining equality between the growth of export income and the growth of outpayments. A drastic lowering of growth targets would help. With a growth rate of 7 percent for the domestic economy, no further foreign labor would be needed and consequently no further additions to workers' remittances. But the character of growth should be altered. Construction and transportation, which are highly import-intensive, should be de-emphasized. Agriculture and irrigation should be increased.

As the Saudis are fully aware, accelerated development of nonoil exports, particularly petrochemicals using natural gas, is of great importance, but invasion of the world market in petrochemicals is beset with difficulties. The country must maintain an increasing export income from oil. Successful development with declining oil income is highly unlikely.

Kuwait is in a more favorable position than Saudi Arabia because it set its development sights lower. It could continue with its projected growth rates for another decade without serious balance of payment consequences.

Iraq is also in a comfortable position. If it is forced to econ-
omize on imports, its domestic economy offers more opportunities for
import substitution than does Saudi Arabia's.

The future of the oil-poor will clearly be affected by the for-
tunes of the oil-rich. Their futures will depend on the importance
Saudi Arabia attaches to its own development and to the provision of
aid. Whatever the outcome, Saudi Arabia will have to make harder
choices than appeared necessary in the period of oil abundance.

Appendix

STATISTICAL SUMMARY

Table A.1

GDP GROWTH RATES

(Constant prices)

Country	A	B	C
The oil-rich--nonoil sectors			
Saudi Arabia	13.5	11.6	10
Kuwait	5.0		3.0
Iraq	8.5		7.3
Libya	8.0		5.0
The oil-poor--total economies			
Egypt	6.5	5.5	4.0
Syria	7.1	6.5	5.5
Jordan (East Bank)	7.5	6.5	5.5

Table A.2

ESTIMATED ACCUMULATION OF FOREIGN ASSETS IN 1975 AND 1985

(Billions of 1975 SDRs; 1 SDR = $1.17 in 1975)

Country	1975	With 2% Annual Increase in Export Income	With 5% Annual Increase in Export Income
Saudi Arabia[a]	50	72	109
Kuwait	23	54	98
Iraq	3	22	36
Libya	Small	Small	Small

[a]1976 is taken as the starting point for Saudi Arabia
because 1975 exports and foreign commitments seemed ab-
normally low as a basis for projection.

Table A.3

EXTERNAL RESOURCES REQUIRED TO
ACHIEVE GROWTH OBJECTIVES[a]

(In billions of SDRs--with
intermediate growth assumption)

Country	1975	1985
Egypt	2.0	3.5
Syria	.5	.9
Jordan (East Bank)	.4	.7

[a]These figures relate to current
account deficits. Foreign aid requires
adjustment for debt payments, receipts
from workers' remittances and capital
movements. The aid figure will, in
general, be less than the external
resource figures.

Table A.4

COMPARATIVE ECONOMIC POSITION, 1945 AND 1985

(Constant 1975 dollars)

Country	GDP (billions)		Nonoil GDP (billions)		GDP/P (thousands)		Nonoil GDP/P (thousands)		Accumulations (billions)		Population (millions)	
	1975	1985	1975	1985	1975	1985	1975	1985	1975	1985	1975	1985
Saudi Arabia	38.0	61.1	5.6	15.2	4.9	5.3	5.7	1.3	56	79-121	7.8	11.5
Kuwait	10.9	15.6	2.3	3.4	10.9	12.0	2.3	2.6	27	63-115	1.0	1.3
Iraq	13.6	22.5	5.3	10.8	1.2	1.5	.5	.7	4	26-42	11.1	14.9
Libya	14.7	23.6	7.0	15.6	6.1	7.3	2.9	4.9	small	--	2.4	3.2
Egypt	12.4	21.4	--	--	.3	.4	--	--	--	--	37.1	47.6
Syria	4.7	9.0	--	--	.6	.9	--	--	--	--	7.4	9.9
Jordan	.9	1.7	--	--	.5	.6	--	--	--	--	2.0	2.7

SOURCE: IMF *International Statistics*; IBRD *World Tables*.

NOTES: 1985 GDP figures for the oil-rich assume export income increasing at 3.5 percent annually. Population figures assume 1975 population increases at 3.0 percent annually, with exception of Egypt, which is assumed to increase at 2.5 percent. Population figures unreliable because of difficulty of dealing with migrants in both years. Libya statistics for non-oil sector look implausibly high.