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Sultanate of Oman
Sustainable Growth and Economic Diversification

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ABBREVIATIONS AND ACRONYMS

Ministries and Government Agencies

GTO	General Telecommunication Organization
MOAF	Ministry of Agriculture and Fisheries
MOEW	Ministry of Electricity and Water
MOCI	Ministry of Commerce and Industry
MOF	Ministry of Finance and Economy
OBAF	Oman Bank for Agriculture and Fisheries
ODB	Oman Development Bank
PDO	Petroleum Development Oman
VTA	Vocational Training Authority

Other

CEM	Country Economic Memorandum
CPI	Consumer Price Index
GAMS	General Algebraic Modeling Systems
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GNP	Gross National Product
ICOR	Incremental Capital/Output Ratio
IMF	International Monetary Fund
LIBOR	London Interbank Borrowing Rate
LNG	Liquefied Natural Gas
MUV	Manufacturing Unit Value
OPEC	Organization of Petroleum Exporting Countries
PAC	Planning Assumption Committee (World Bank)
RER	Real Exchange Rate
RMSM	Revised Minimum Standard Model (World Bank)
RO	Omani Rials
SGRF	State General Reserve Fund
SIPRI	Stockholm International Peace Research Institute

Measures

bcf	billion cubic feet
b/d	barrels a day
tcf	trillion cubic feet

Exchange Rate

US dollars ($) = .3845 Omani Rials (RO) (since 1986)

PREFACE

This report was prepared at the request of the Government of Oman, which asked in late 1991 that the Bank examine Oman's longer-term economic prospects, provide a frank assessment of the Government's economic policies, and suggest changes where they appeared desirable. The Government helped greatly in the preparation of the report. With the support of the Deputy Prime Minister for Financial and Economic Affairs and the Secretary General of the Development Council, Bank mission members were afforded generous access to government ministers, who provided a frank and comprehensive overview of prospects, problems, constraints and public policies, and facilitated access to officials. The General Secretariat of the Development Council provided the mission with information, logistical and other support, and general guidance. Development Council Secretariat staff counterparts worked with, and provided information to, Bank staff members. The Bank acknowledges with gratitude this exceptional level of assistance. However, it wishes to make clear that no Omani official is to be held responsible for, or associated with, particular conclusions that it has reached, nor with any of the recommendations of the report.

The report was prepared by a Bank mission that visited Oman in January-February 1993, following a preparatory mission in April 1992. The mission members comprised Ibrahim Elbadawi (Mission Leader, Macroeconomic Modeling and Economic Diversification); Hideo Hashimoto (Petroleum and Gas Developments and Optimum Savings); Nader Majd (Macroeconomic Modeling and Projections); Abdelaleem Sharshar (Private Sector Performance, Subsidization and Privatization); and Derek White (Recent Economic Developments, The Role of Government, Eliminating Deficits, Financial Institutions and Omanization). William Tyler participated in pre-mission discussions of the issues with the Government, led the discussions of an earlier draft with the Government, and provided general support throughout the development of this report. Overall coordination and integration of the various parts of the report were carried out by Derek White. The final revisions were incorporated by Abdelaleem Sharshar. Professor Hossein Askari (George Washington University), contributed valuable clarifications to an early draft. Professor John Cuddington (Georgetown University) suggested a number of further clarifications and proposed useful expositional improvements. The task of the mission was facilitated by access to preliminary versions of two Bank reports being prepared in parallel with this report, viz.: *Oman: Review of Recurrent Public Expenditure, June 1993*, and *Report to the Sultanate of Oman on Legal Reform to Encourage Private Sector Investment, April 1993*.

A draft of the report served as the basis for further intensive discussions with the Omani authorities over the period October 23-28, 1993. These exchanges resulted in mutually sharpened awareness of the key economic policy issues and choices confronting Oman. A chapter-by-chapter review of the report with the Secretary General and staff of the Development Council led to the identification and correction of a number of errors of fact and interpretation, to a fuller presentation of the Government's fiscal position, to improved analysis of the Government's strategic investment choices, and to improved presentation of the Government's Omanization policies.

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EXECUTIVE SUMMARY AND CONCLUSIONS

Background

1. Over the two decades since the Government began its drive for economic, social and political development, Oman has made remarkable strides. Physical infrastructure has been brought up to advanced, modern standards over much of the country. Basic health indicators reveal dramatic improvements in life expectancy and sharp reductions in infant mortality. The coverage of primary education has become almost universal. Twenty percent of boys and girls now attend secondary schools and growing numbers of students in a widening range of fields are graduating from Sultan Qaboos University. Other students are being trained in teacher, nursing and technical institutions. Oman has also developed a complex structure of government and public institutions and an elaborate legal and regulatory framework governing private economic activity.

The Government's Basic Objectives

2. The Government's basic objectives have been: to develop Oman's human resources and distribute oil wealth equitably by providing free public education and largely free public health services; to foster an expansion of private sector agriculture, fishing, manufacturing and tourism through the provision of supporting infrastructure and subsidies; and to encourage growing and higher-level participation by Omanis in the economic life of the country by implementing an active program of "Omanization." A fundamental aim of the Government's efforts to strengthen the private sector has been to promote economic diversification into non-oil goods production so as to enable Oman to avoid a post-resource era collapse in exports and a consequent decline in Omani standards of consumption.

Economic Performance

3. Rapid growth in oil reserves, rising rates of extraction and sharply rising oil prices were accompanied by an explosion in public oil revenues during the 1970s and up until 1981, triggering a massive expansion in public spending. However, since 1981, Oman's economic situation has undergone a fundamental change. Oil prices crested in 1981 at nearly $37 a barrel, declined slowly until 1985, and then collapsed in 1986 to $13.43 a barrel. While rising rates of extraction during the eighties offset the decline in prices, Oman's oil earnings remained virtually unchanged, overall, from 1981 to 1991. Oil reserves continued to rise rapidly until 1985, but an even sharper rise in the rate of extraction led to a decline in their expected life, from a maximum of nearly 26 years in 1984 to about 18 in 1991. Although oil prices have recovered from the lows of 1986 and 1988, they have remained, apart from a spike to $21 during the Gulf war, below US$18 a barrel.

4. Even now, the Government has made only a partial expenditure adjustment to the stagnation in its oil revenues. In consequence, its financial position has seriously deteriorated and continues to do so. This is apparent in: an almost unbroken string of deficits since 1981; declining contributions to the State General Reserve Fund (SGRF); a substantial rise in external debt; increased recourse to borrowing from the domestic private sector; a massive, recent accumulation of negative changes in the Government's accounts; and the virtual disappearance of net government financial reserves. The deficits have been the result of an exceptionally high level of defense and national security expenditures, coupled with continued strong growth in civil

recurrent expenditures. The use of the SGRF as an oil revenue stabilization fund has preempted its potential as a vehicle for long-term public savings and investment. The planned allocation of most of the money flowing into the State Emergency Reserve Fund to the financing of planned public sector deficits means that funds are not available to deal with genuine emergencies.

5. Particularly troubling features of Oman's economic performance have been the very pronounced overall decline in saving and investment -- especially public saving and investment -- over the past decade and a half and the overall shift in the structure of output towards the production of services. The latter mainly reflects a decline in the value of oil production, a pronounced decline in construction, and the growth of government and public services. While manufacturing production has grown strongly -- from only 0.5 percent of GDP in 1976 to over 4 percent in 1991 -- and the share of agriculture and fisheries in GDP has also increased -- from 2.1 percent of GDP in 1976 to 3.7 percent in 1991 -- these two key, non-oil goods-producing sectors remain relatively small.

6. Non-oil goods production remains dwarfed by oil, gas and services. Public and government services alone claimed 17 percent of GDP in 1991 -- more than twice the share of agriculture, fisheries and manufacturing combined. Non-oil goods exports are only 4 to 5 percent of total exports. Private investment has declined appreciably as a share of total and non-oil GDP since 1986. Only about a fifth of this investment goes into manufacturing. Economic diversification into non-oil tradeable goods production thus remains limited and there is little sign of an imminent breakout.

7. Oman's economic performance raises the following basic questions:

- Is the Government saving enough and properly investing enough to prevent a post-oil and gas era letdown in overall consumption?

- What will be the economic consequences if the Government continues its present financial policies?

- Can the Government accelerate the process of industrial diversification; if so, how?

- Is the Government trying to do too much and is it spending too much in some areas?

- What is the best way, first to bring public expenditures and revenues into better balance, and then to increase the long-term rate of public saving?

- What would be the most effective way to strengthen the private sector?

- Are the Government's efforts to Omanize the economy compatible with the maximization of Omanis' economic welfare and Oman's long-term need for efficient labor and goods markets?

These questions are addressed in Chapters 3-9 of this report.

The Adequacy of National Saving

8. Oman's oil and gas wealth, being depletable, is analogous to a large inheritance. If too much is consumed and not enough invested, or if enough is saved but the proceeds are invested poorly, the inheritance will sooner or later be dissipated, leaving the country much poorer at some point in the future. To avoid this outcome, what should be consumed is the *permanent income* from oil, gas and invested capital -- not the transitory, realized oil and gas wealth itself. This means that, at each point in time, a substantial fraction of the proceeds of oil and gas extraction should be saved. The critical question is, "How much"? For the purposes of this report, optimum rates of consumption and saving have been calculated for Oman, using a formal, Bank-developed mathematical model (Chapter 3, Annexes A-B). The model identifies the initial level and steady growth rate of consumption that can be sustained *indefinitely* from the proceeds of oil and gas extraction plus earnings on past and future investments, and, thus, for each point in time, optimum national saving. To arrive at these results, it was necessary to make reasonably realistic assumptions about: Oman's oil and gas reserves; the real rate of return on safe, long-term investments; and Oman's implicit social discount rate (i.e., the "interest" rate that is used by Omani society to discount future consumption versus present consumption. Present rates of extraction from existing fields were assumed to continue. World Bank projections of future real oil and gas prices were used to value future output.

9. The results show that Oman, like most neighboring oil and gas producers, is currently spending an excessive proportion of the proceeds of extraction on current consumption. In other words, it is consuming its capital at a rapid rate. The present rate of Omani national saving (17.6 percent of GNP in 1991 on the basis of Development Council figures) is far below the current optimum rate of about 39 percent. Furthermore, the optimum rate is estimated to rise to a maximum of about 64 percent by around 2009, before dropping back towards the long-term desired rate. These results somewhat overstate required national saving because the model does not allow for the income and saving of labor. They are also subject to a margin of error because the eventual size of reserves of oil and gas and the real rate of return on capital can only be approximated. However, they strongly suggest that the Government would be prudent to cut the present level and future growth of consumption -- particularly public consumption -- very substantially if it wishes to forestall a gradual, but increasingly severe, decline in Omani standards of consumption when the economy moves into the post-resource era.

10. Moreover, it is critically important not merely for public saving to be substantially increased but for the funds to be invested in assets yielding the highest attainable risk-adjusted real rates of return. This means limiting domestic investment to those projects yielding risk-adjusted real (*ex post*) returns above, or equal to, those obtainable on external investment. This, in turn, calls for effective institutional mechanisms to ensure such an outcome through: (i) determination of an efficient allocation of public saving between foreign and domestic investment; (ii) an effective monitoring of foreign and domestic investment performance; (iii) efficient implementation of Oman's foreign investment program; and (iv) upgrading the capability of institutions involved in establishing sectoral and programs' priorities and in the analysis of financial and economic returns on domestic investments. These roles could perhaps be performed within Oman's existing institutional framework by a high level authority whose membership includes the newly created Ministry of Development, the Ministry of Finance, the Central Bank of Oman, and the SGRF. The function of such authority would be to determine and manage Oman's investment portfolio in general and foreign investment in particular.

Public Financial Policies

11. Given the dominant role of public expenditure in Oman, the Government's financial performance has major ramifications for the entire economy. For this reason, a formal, macroeconomic modeling framework was used to examine the implications of two contrasting, future-oriented scenarios (Chapter 4, Annex C). One scenario assumed the continuance of present public financial and other policies. The other assumed some highly important changes: (1) a rise in the rate of public saving towards optimum levels; (2) the adoption of measures to raise the productivity of Omani labor and increased efficiency of capital; (3) the elimination of subsidies; and (4) the introduction of a modest general sales tax.

12. The results are striking. A continuance of recent expenditure trends would quickly lead to a huge public sector financial deficit, a massive deterioration in the current account of the balance of payments, a huge expansion of external public debt, and relatively low levels of private consumption. The Government's present financial policies are clearly unsustainable and would lead to highly undesirable outcomes.

13. The "reform" scenario, on the other hand, featuring rising public saving -- primarily the result of sharply reduced public expenditures -- leads to a growing public financial surplus, rapidly expanding goods exports, reduced imports, a significant current account surplus, much higher GNP and private consumption, the elimination of external debt, and a massive buildup in external net reserves. The large rise in goods exports and the substantial decline in goods imports under the reform scenario reflects the impact of a relatively depreciated real exchange rate compared with the base case. This leads to sharply increased industrial diversification away from services into traded goods production, thereby realizing one of the Government's most important objectives.

The Real Exchange Rate and "Dutch Disease"

14. Increased diversification into tradeable goods production is the reverse of the so-called "Dutch disease." The latter occurs when a major increase in domestic spending takes place as a consequence of the large-scale development of a natural resource and an associated large-scale increase in public revenues and expenditures. This drives up the prices of domestic services relative to those of domestic tradeable goods, i.e., it produces an appreciation of the real exchange rate (Chapter 5, Annex D). (Domestic tradeable goods prices cannot rise because they are kept in check by international competition.) The result is that tradeable goods production becomes less profitable than the production of domestic services. Rising domestic demand also raises the cost of domestic labor and capital. This further reduces the profitability of domestic production of tradeables. Countries, such as Oman, experiencing a resource boom thus typically experience a gradual decline in tradeable goods vis-a-vis services production as factors of production are redeployed in response to the fundamental changes in relative prices and costs.

15. Oman did, in fact, experience an appreciation of the real exchange rate from the late 1970s to the early 1980s. It was accompanied by a relative rise in services production and a relative decline in agriculture and fisheries production, as expected. The depreciation of the real exchange rate after 1986 also, predictably, led to renewed relative expansion in agriculture and fisheries. However, manufacturing did not apparently respond to the appreciation and subsequent depreciation of the real exchange rate, partly because its response time is far slower, given the

heavy fixed investment in plant and equipment involved in manufacturing and the sunken costs of an investment, once made. Moreover, continued high public spending on services meant that the demand for, and the prices of, factors of production, including urban labor, remained high, reducing the incentive for those factors to seek employment in goods production. Nonetheless, the Bank's macroeconomic model projections show that, over time, the combination of a sustained reduction in the public sector's demand for domestic factors of production and the depreciation of the real exchange rate resulting from increased investment abroad leads to a pronounced shift in output away from the domestic production of services and into the production of goods (including manufactured goods) for export and the replacement of imports.

16. If the Omani authorities do decide to increase public saving and external investment, with the objective of fostering economic diversification, substantially offsetting the adverse consequences for the balance of payments either by raising domestic interest rates and deflating the domestic economy or by depreciating the nominal exchange rate. Domestic deflation would entail significant transitional costs in terms of unemployment and reduced output. Such consequences would make it difficult to sustain. A nominal exchange rate depreciation would produce an immediate depreciation of the real exchange rate, would be less economically and socially costly, and would be more likely to gain social and political acceptance.

The Role of the Government

17. The role of government in Oman goes considerably beyond the traditional functions of providing public goods, developing public institutions, promoting efficient resource allocation, stabilizing the economy and promoting an equitable distribution of national income. At the same time, the Government's discharge of the traditional functions has been mixed (Chapter 6). There are serious deficiencies in the quality of basic health and educational services. The legal framework governing private investment and business activity is inadequate. Efficient resource allocation has been promoted by low tariffs and the absence of foreign exchange controls but hampered by public monopolies, legally sanctioned monopolistic private trading and production arrangements, poor internal allocative efficiency in the public sector, and distortion-creating subsidies. The stabilization of the economy has been only partly effective and at the expense of a rundown in savings for the future. The promotion of a more equitable regional distribution of income has been attempted via an expansion of state investment in regional infrastructure but thwarted by limited productivity growth in agriculture and fishing. The promotion of a more equitable interpersonal distribution of income has been fostered by the provision of free access to education but counteracted by the emergence of a privileged class of highly paid public employees, private entrepreneurs and upper-level private sector employees.

18. The Omani Government's extensive involvement in the economy includes: the direct provision of a range of commercial goods and services; guidance and subsidies to private sector activity; controls over the labor market and investment; targeted and subsidized Omanization; the provision of medium-term financing to the private sector; overinvestment (by normal developing country standards) in urban infrastructure and public buildings; and the supply of extensive municipal services. Most of this involvement appears unnecessary and counterproductive. The cost of government could be considerably reduced, and the efficiency of the economy greatly increased, by narrowing the Government's focus and concentrating its efforts on the effective fulfillment of the traditional public functions.

Cutting the Public Sector Deficit and Raising Public Saving

19. Cutting the public sector deficit should be achieved mainly by cutting public spending, which is exceptionally high by international standards (Chapter 7). Public consumption accounts for almost a half of total consumption and public investment, for over three fifths of total investment. The large element of rent in present public sector wages, salaries and allowances cannot be sustained indefinitely. Ways must sooner or later be found to bring public sector remuneration more into line with levels in the private sector.

20. The greatest potential for reducing public spending lies in the area of defense and national security outlays. These are among the highest in the world, equivalent to more than three-quarters of all civil recurrent expenditures combined, three times expenditures on education, and seven times expenditures on health. Recurrent expenditures on education and health (which account for 35 percent of civil recurrent expenditure) can only, by virtue of their relatively small size, make a modest contribution.

21. Nonetheless, the provision of mainly free medical goods and services and free education encourages waste that should be eliminated by the imposition of (initially nominal), selective user fees, notably on medicines, laboratory services, visits to doctors and clinics, school textbooks and higher education. For low-income people, user fees could be a smaller percentage of the cost of supply (in the case of medical and textbook charges) or offset by loans (in the case of higher education). Savings in the health area could also be achieved through better use of hospitals, reductions in the cost of hospital construction, the elimination of redundant staff, and competitive procurement of drugs and medical supplies. In the area of education, there appears to be room for a reduction in administrative costs. More generally, there is considerable scope throughout the public service for a reduction in overstaffing, administrative reform, the simplification of procedures, and improvements in efficiency.

22. Civil development expenditures, although substantially reduced from earlier levels, could also be cut. They are still high by developing country standards and some are being inappropriately used as a primary instrument of job and income creation in economically deprived areas, instead of being confined mainly to high-yield activities supporting private production. While socially attractive, the typically overlooked costs to Oman of such expenditures include: foregone higher earnings on external investments; foregone industrial diversification resulting from the maintenance of a more appreciated real exchange rate than would be the case if the public capital involved were allocated to external investments; a weaker private sector; and the future operation and maintenance costs of additional public infrastructure.

23. Increased public saving should be sought mainly from a reduction in excess demand for public services, from expenditure cuts, and from improvements in efficiency; however, the introduction of some fees, cost recovery charges and taxes would be justified in its own right. In addition to user fees in education and health, cost recovery (which should be based on the accurate identification of unit costs) should be sought wherever public expenditures confer substantial benefits on limited groups of private individuals (as in higher education and certain aspects of Omanization). The introduction of income taxes on high-income earners, as well as taxes on cars, luxury consumer goods and expensive houses, could reduce labor market-distorting public/private sector salary differentials on an after-tax basis and thereby help moderate present income disparities and labor market distortions. Corporate taxes on Omani, as well as foreign,

corporations would encourage domestic firms to be as efficient as, and compete fully with, foreign firms. Corporate taxes on state enterprises would be justified where these enterprises are in competition with private firms.

Strengthening the Private Sector

24. The dominance of public spending has been the major factor inhibiting the development of an independent and dynamic private sector (Chapter 8). Other factors include: a legal and regulatory framework that establishes serious barriers to investment and the entry of new firms as well as sanctioning monopolistic practices; discrimination against, and failure to promote or provide adequate protection to, foreign investment; and the preemptive role of the public sector in utilities, transport, communications, development banking, hotels and some areas of manufacturing. The system of industrial subsidies is distortional, habit-forming and costly. The need for subsidies could be reduced if the Government were to pursue appropriate savings and other policies. Subsidies should not be the main instrument of industrial diversification. For social reasons, some temporary, countervailing subsidies may be unavoidable: for example, where neighboring states' subsidy policies are undermining the livelihood of Omani farmers. However, the preferred remedy is a GCC agreement on the downscaling and harmonization of such subsidies or, failing that, the imposition of countervailing duties, where practicable.

25. The Government's divestiture of its public enterprise holdings, if implemented in the right way and supported by other policies to strengthen the private sector, could quickly and effectively boost the private sector's role. The reservations that have been expressed concerning the desirability of such divestiture can and should be addressed but should not stop the process. The proceeds of divestiture should, of course, add to public saving -- not facilitate further spending. The benefits of privatization would include: an improved private/public sector economic balance; higher and more rapidly rising private income; higher and more rapidly rising overall productivity and output; expanded outlets and strengthened motives for private saving; the revitalization of the stock market; the professionalization of management; and the provision of a wider range of opportunity for able and aspiring Omanis.

26. Successful privatization would call for a clear statement of the Government's objectives and the establishment of a fair and fully transparent process for carrying it out within a well-defined legal and regulatory framework. The Government, on its side, must be assured of a competitive price for its shares. The report proposes initial candidates for privatization and notes the need for special studies or continued public involvement in other cases.

27. The private sector could be further strengthened by channeling more oil money through private hands. Possibilities include the subsidization of private schools and medical facilities, either directly or through the issuance of vouchers to those electing to forego the use of public services, and an extension of subcontracting to include, e.g., medical laboratory services, the operation and maintenance of public infrastructure, ministerial transport services, etc. These measures could reduce public costs, lessen present public sector overloads and improve overall efficiency by subjecting the public sector to needed competition.

28. Private financial institutions could be strengthened by phasing out subsidized public medium-term lending and encouraging private institutions to move into medium- to long-term

lending. Efficiency in the allocation of private financial resources could be improved by removing the ceiling on bank lending rates.

Omanization, Labor Market Efficiency and the Maximization of Social Welfare

29. Present Omanization policies have four major components (Chapter 9):

(a) Improving the education, training and skills of certain groups of Omanis to enable them to compete more effectively with expatriates for satisfactory jobs;

(b) Subsidizing private employers (and in some sectors requiring them, through the establishment of sector Omanization targets) to hire and train Omanis;

(c) Subsidizing the upgrading of Omanis to replace expatriates in the public sector; and

(d) Pursuing economy-wide Omanization targets.

30. The first component, directed towards raising the productivity of Omani nationals, is consistent with the Government's basic objective of maximizing Omani national welfare. The critical issues to be addressed are: the most effective ways to raise Omani productivity, and the priorities for action. Oman's entire education and training system rests on the quality of primary and secondary education, which is seriously deficient. At the same time, economic and social returns to public investment in improving these levels of education are typically very high. This suggests that high priority should be assigned to improving the quality of basic education. Public investment in training adults is, of necessity, selective. Most forms are typically costlier than basic education, have a shorter pay-out period and yield lower returns. It is important for the Government to bear this in mind in determining the allocation of public funds between basic education and Omanization-related adult education, training and skills enhancement.

31. The second component entails significant financial, and possibly significant economic, costs. The financial costs include the direct budgetary costs of the subsidies plus the overhead costs of administering Omanization. The economic costs are hidden. Where private sector Omanization means lower productivity for given wages, firms' unit costs are raised. This can lead to higher product prices, reduced consumer real incomes and lower output. It can also mean reduced exports and the displacement of domestic production by imports. Such measures tend to undermine the efficiency of the labor market, which should assure that wages tend towards equality with the marginal product of labor. Furthermore, the selective impact of these measures may tend to exacerbate Omani income disparities. It also tends to institutionalize rent-seeking behavior, to the detriment of long-term competitiveness. Since qualified expatriates can obtain equivalent positions elsewhere, the main effect of these measures is not, as superficially perceived, to give Omanis preference vis-a-vis expatriates but to give the individual Omanis involved preference at the expense of Omani society as a whole.

32. With regard to the third component, while improving the productivity of Omanis through on-the-job, or closely job related, training is potentially one of the highest-return investments available to the Government and should be continued. However, public expenditures leading to increased Omanization of senior positions at current salary levels will tend to exacerbate income

disparities, could benefit private individuals at public cost, and could entail hidden cost borne by society if the efficiency of Omani incumbents was lower than that of the replaced expatriates.

33. The Government's purpose of the fourth component is to reduce the number of expatriates in low productivity services by raising the cost of rent seeking activities where unskilled expatriates dominate. Also, concerns about the threat to Omani cultural values posed by large numbers of expatriates, an important intangible consideration appear central. Also significant are concerns about the extra pressures placed by expatriates on Oman's scarce water and readily accessible land. However, the costs of arbitrarily restricting the inflow of expatriates when there is little domestic unemployment would be higher inflation, lower average productivity, reduced real incomes for Omanis, slower growth and impediments to economic diversification. These costs could possibly outweigh the benefits, resulting in a decrease in Omanis' overall social welfare.

34. Maximizing Oman's social welfare means employing additional expatriates only as long as the marginal benefits from doing so exceed the marginal costs. This means taxing expatriates or their employers to recover the *external* marginal costs they impose on Omanis; for example, by driving up the cost of scarce resources, such as water, and by adding to the need for public services. (Private employers may be relied upon to balance the *direct* wage and salary costs of expatriates against their marginal products.) At present, expatriate labor is directly subsidized through the provision of below-cost water and electricity to all residents. Subsidies to, and the undertaxation of, expatriates encourage excess demand for their services. If the full monetary (or monetary equivalent) external costs of employing expatriates were payable by them or their employers, there would be no need to establish aggregate Omanization objectives. The market place would automatically determine the socially optimum aggregate Omanization ratio.

35. An optimum Omanization strategy would be based on recognition of the fundamental need to raise Omani productivity and develop an efficient labor market. It would rest on the following six pillars: (1) raising the quality of basic education and improving, particularly through on-the-job training, the work skills of Omanis; (2) fostering realistic expectations and competitive attitudes among young Omanis; (3) eliminating present sources of Omani unearned income (rent); (4) eliminating present labor market imperfections and avoiding the creation of new ones; (5) unifying the labor market by working, over time, towards the elimination of public/private and Omani/expatriate remuneration differentials between people having comparable education, training, skills and experience; and (6) eliminating any implicit subsidization of expatriate employment by ensuring that the employer or the expatriate employee pay the full marginal external costs to Oman of the expatriate's residence in Oman.

Sustainable Growth, Industrial Diversification, and Enhanced Efficiency

36. *In summary*, the Government's development strategy for Oman should focus on the following:

- Eliminating the public sector deficit, mainly by cutting public expenditures;

- Generating and maintaining a high rate of public saving by substantially reducing public consumption and permanently restraining its future growth;

- Allocating a very substantial fraction of total public saving to foreign investment and ensuring the *ex post* realization of internationally competitive risk-adjusted economic returns on both foreign and domestic public investment;

- Establishing separate and effective long-term saving, stabilization and contingency funds;

- Narrowing the scope of government and focusing on the more effective discharge of traditional public functions;

- Strengthening the private sector by: reforming the legal framework; eliminating monopolies; attracting foreign capital; privatizing most domestic public enterprises and authorities; phasing out most subsidies; strengthening the role of the private banks in long-term financing; and

- Pursuing Omanization simultaneously with the pursuit of efficiency in the labor market and the optimization of Omanis' social welfare by improving Omanis' education, skills, training and motivation; by appropriately taxing expatriates; by avoiding the imposition of quantitative Omanization requirements; by fostering more realistic, competitive and less rent-seeking attitudes among Omanis; and by gradually removing present labor market distortions.

37. This strategy would need to be executed as a whole -- not selectively -- since all its parts are interrelated. It could not be executed at once but would require three to five years. The particular steps to be taken at each stage would have to be carefully coordinated and closely monitored. The continued refinement of the national accounts and the carrying out of frequent surveys of employment, unemployment and the characteristics of the unemployed would be needed to track progress and identify problems.

38. The central and most critical concern would be to prevent the emergence of widespread unemployment among Omanis during the implementation phase, as public spending was cut, but at the same time to leave enough labor market slack to permit diversification into goods-producing activities to take place. It would be vital to avoid labor shortages as these might cause disruptions or generate inflationary pressures that could seriously impede or thwart the economic restructuring process. An effective job information system and close cooperation between business and the Government with respect to job training would be essential. It would also be critically important to ensure that measures to strengthen the private sector -- notably, the reform of the legal framework and the establishment of a vigorous and effective foreign investment promotion unit -- were fully in place as public expenditures were scaled back, so that private investment and production could quickly take up any slack left by the Government's assumption of a less dominant role.

SULTANATE OF OMAN

SUSTAINABLE GROWTH AND ECONOMIC DIVERSIFICATION

1
INTRODUCTION AND BACKGROUND

A. Central Themes

1.1 Development in an economy such as Oman's, which is dominated by the extraction of a depletable natural resource that can be sold at a price considerably above its cost of production, has three special characteristics. First, the public sector typically dominates the development process as a consequence of public ownership of the resource and the accrual of the net proceeds of extraction to the public sector. Second, pervasive economic dependence on public spending out of resource revenues tends to foster a private economy dominated by rent-seeking behavior. Third, the government of the country confronts the problem of how to avert economic slowdown or decline when the resource is eventually exhausted. In analyzing such economies, it must be recognized that national income, as conventionally measured, is not adjusted to allow for the depletion of the resource and thus heavily overstates the extent of gains in the country's material and social welfare.

1.2 The government of a country with these special characteristics must determine:

- How rapidly to deplete the resource;
- How much to save and invest out of the proceeds of depletion so as to avert a post-resource era slowdown or decline in consumption;
- How to distribute the proceeds of depletion equitably over the indigenous population;
- What balance to strike between external and domestic public investment;
- What types of domestic public investment are likely to yield the best overall economic returns;
- Whether, when, how, and to what extent, to foster economic diversification away from heavy dependence on the one depletable resource;
- How to insulate the economy from the effects of significant fluctuations in the price of the resource;
- What role should be played by the public sector and how its allocative and administrative efficiency can be assured;

- How to develop a vigorous, internationally competitive private sector; and

- How to deflate excessive public expectations.

Furthermore, in the case of Oman and certain other Middle East oil producers, where the Government's desire to embark on an ambitious program of social and economic development confronted severe domestic absorptive capacity constraints and thus necessitated large-scale recourse to expatriate skills and labor, there was and remains the additional problem of what limits, if any, to place on the employment of expatriates (e.g., for cultural and environmental reasons) and how to deal with the immediate social and economic problems resulting from heavy dependence on them.

Coverage of this Report

1.3 This report addresses most of the central themes identified above. However, because the main decisions have already largely been made, it takes rates of resource depletion as given. Given constraints on the resources available for this exercise, it has not been possible for the report to provide the following, despite their obvious importance: analyses of future prospects and public policy options in agriculture, fishing, tourism and manufacturing; an in-depth analysis and evaluation of the present development planning and investment selection process; an examination of external trade prospects, and the identification of critical issues relating to poverty and the environment. However, the Government's prevailing view that there are serious resource constraints on future development of agriculture is possibly correct. Opportunities for the development of an economically viable fishing, tourism, manufacturing industries are limited only by the Government's ability to provide the legal foundation and the targeted incentives necessary for a successful private sector development and private investment promotion, both domestic and foreign, as laid out in Chapter 8, below.. As for development planning, Oman is clearly in a process of transition, from a heavy emphasis on public investment to a more limited role of Government and dominance of the private sector. This transition would seemingly require more emphasis on policy formulation to guide the transition and on monitoring the impact of policies' implementation on the macroeconomic economic objectives of the Government. Finally, despite the absence of absolute poverty in Oman as a result of the rapid economic growth over the last twenty years and the free provision of public health and education services and subsidization of utility rates to low income users, relative poverty could exist and a strategy of poverty reduction may be called for. For that, an in-depth poverty assessment study is recommended.

B. Economic, Social and Political Background

1.4 Oil production in Oman began in 1967. Following the accession of a new government in 1970, a process of modernization and economic and social development was embarked upon. This accelerated following the quadrupling of oil prices in 1973-74 and the settlement in 1975 of the civil war in the southern province of Dhofar.

1.5 Large-scale infrastructural development and a massive expansion of health, educational and other governmental services have taken place over the past two decades, financed by public revenues flowing from a rapid buildup of oil production to the current level of 250 million barrels a year. Today, the cities of Oman boast a standard of public infrastructure comparable (and not

infrequently superior to) that to be found in the advanced industrial countries. The development of efficient electricity, water and telephone services has permitted people living in the main urban and many rural communities to enjoy high, modern living standards.

1.6 Omani residents have experienced rapidly rising per capita incomes and have also enjoyed fair quality, free education and health care. Oman's main social indicators have recorded remarkable advances (Table 1.1). GNP per capita increased to 10 times its 1970 level by 1980 and more than doubled between 1980 and 1985 to reach US$7,550; however, it had dropped over 30 percent by 1989 as a consequence of the decline in international oil prices. Oman's basic education and health indicators also reveal dramatic improvement. Net enrollment is now 90 percent at the primary level, 50 percent at the preparatory level and 20 percent at the secondary level. Sultan Qaboos University, established in 1986, was expected to graduate 556 students in the 1991-92 academic year, with degrees in arts, education, agriculture, science and engineering. It is expected to begin graduating medical students in the 1992-93 academic year. Oman also has 5 technical and industrial colleges, 4 teacher training centers, and 4 technical secondary schools, spread across Oman. Present teacher training centers are to become colleges. In the area of health, expected age at birth climbed from 44 to 66 years over 1971-90, infant mortality dropped from 64 to 28 per 1,000 over 1980-1991, and crude death rates from 17 to 7.6 per 1,000 over the same period.

Table 1.1: Oman - Social Indicators

	1965	1970	1971	1975	1980	1984	1985	1988	1989	1990	1991
GNP Per Capita (US$)	--	360	--	1280	3660	--	7550	--	5220	5583	--
Crude Death Rate/1,000	--	--	--	--	17	--	--	--	--	7 6	--
Life Expectancy at Birth (Years)	--	--	44	--	--	--	--	--	--	66	--
Children Immunization Coverage (%)	--	--	--	--	40	--	--	--	--	85	--
Infant mortality per 1,000 live births	191	--	--	--	64	36	--	--	--	--	28
Population per physician	23790	--	--	--	--	1700	--	--	--	--	--
Population per nurse	6420	--	--	--	--	390	--	--	--	--	--
Primary school net enrollment	--	--	--	32	--	--	--	82	--	90	--

1.7 While the proceeds of oil production made these truly impressive gains possible, they also inevitably produced a rather lopsided economy, with output dominated by oil production, the servicing of the oil industry's requirements, government spending out of oil revenues, and tertiary service activities ultimately dependent on oil. Petroleum accounted for 95 percent of exports of Omani origin and petroleum and gas output for 42 percent of GDP in 1991. Non-oil exports of Omani origin -- mainly fish and other ocean products, copper cathodes, and textile, mineral and vegetable products -- represented only 5 percent of total exports excluding re-exports. Traditional activities -- notably agriculture and fishing, which employ about 52 percent of the indigenous Omani labor force -- accounted for only 4.4 percent of GDP.

1.8 Rapid economic growth has brought its own problems. Many rural residents do not enjoy access to the modern amenities available to city dwellers and thus feel underprivileged. Within the cities and between the cities and the rural areas, there are very substantial and growing

disparities in the distribution of income and wealth. Not least, the development of human capital, while proceeding very rapidly, has not kept pace with that of physical infrastructure. Upgrading its stock of human capital is one of Oman's most critically important challenges.

1.9 Much of the country's progress in building up its infrastructure and expanding its coverage of social services of improving quality has hinged upon large-scale, unimpeded imports of goods and people. In the absence of major recourse to expatriate skills and labor, Oman could not have realized the output increases it has achieved and could not have absorbed the enormous growth of public spending that has taken place without generating massive inflation.

1.10 Employed nationals were estimated by the Development Council at 244,390 in 1992. However, expatriate employment in the same year was estimated at 455,274. Expatriates thus accounted for about 65 percent of the employed labor force and were concentrated in trade, construction, community and personal services, manufacturing, and agriculture and fishing. Most were in lowly paid jobs, with nearly three quarters earning under RO 70 (US$182) per month in 1990. Foreign worker remittances abroad are a significant element in the balance of payments, amounting to RO 340 million (US$883 million) in 1991. This figure is equal to over a quarter of the value of Oman's goods imports.

1.11 Over time, the proportion of Omanis in public employment has risen slightly. Whereas 24.1 percent of employed Omanis held government jobs in 1975, the proportion had increased to 25.9 percent in 1990. With the enormous influx of expatriates since 1975 (their numbers are estimated to have increased from 74,500 in 1975 to the 455,000 level noted above in 1992), expatriates have come to dominate the private sector, rising from 39 percent of private sector employment in 1975 to 70 percent in 1992. They have also increased their proportion of public employment, rising from 22 to 35 percent of the total between 1975 and 1992 (Table 1.2). However, this still leaves the public service predominantly Omani.

Table 1.2: Omani and Non-Omani Employment, Public and Private Sectors

1975

	Public			Private			Total	
	'000	%		'000	%		'000	%
Omani	33.9	78.1	(25.1)	100.0	60.8	(74.9)	134.8	(100.0)
Non-Omani	9.5	21.9	(12.8)	65.0	39.2	(87.2)	74.5	(100.0)
	43.4	100.0		165.0	100.0		209.3	

1992

Omani	63.2	64.9	(25.9)	181.2	30.1	(74.1)	244.4	(100.0)
Non-Omani	34.1	35.0	(7.5)	421.1	69.9	(92.5)	455.3	(100.0)
	97.4	100.0		602.3	100.0		699.7	

Source: 1975 data, Oman: Development of Human Resources at Crossroads, World Bank, March 8, 1991 p. A11. 1992 data, Development Council. Numbers may not add exactly because of rounding.

1.12 With 52 percent of employed Omanis following traditional pursuits in agriculture and fishing, and over 35 percent in government, only 13 percent were engaged in the remainder of the private sector in 1990. The labor market for native Omanis, like the overall labor market, is clearly highly distorted. Most young, urban Omanis entertain high expectations, regard free social services as a right, and look primarily to the government sector and the more highly paid and prestigious parts of the private sector for employment, refusing to do jobs that expatriate labor (95 percent from the Indian subcontinent and Sri Lanka) is willing to do or being prepared to do so only for substantially higher wages.

1.13 There is thus a sharp divergence of economic interest between Omani employers seeking competent labor at the lowest cost and Omani job seekers expecting preferential status, as well as the potential for increasing unemployment among young, ambitious Omanis. The Government has attempted to avert realization of this potential by adopting measures to "Omanize" the work force, focusing particularly on the better-paying parts of the private sector currently dominated by expatriates. These efforts are described and evaluated in Chapter 9.

1.14 The unbalanced character of the Omani economy is further illustrated by the role played by public spending. In 1991, at 45.8 percent of GDP at market prices, public spending exceeded total private spending (44.6 percent of GDP). (Net exports, equal to 9.6 percent of GDP, constituted the balance of demand for GDP). Government consumption (35.4 percent of GDP) almost equalled private consumption (38.3 percent), while public investment (10.4 percent) substantially exceeded private (6.3 percent). This demonstrates the vastly larger role for government than in most economies, where private consumption normally dominates economic activity, typically accounting for close to two-thirds of total spending.

1.15 The growth of public employment over 1981-90, at 7.2 percent a year, was well in excess of the rate of labor force growth and has, as noted, absorbed a rising proportion of employed Omanis. A substantial fraction of Omanis are underqualified for the positions they hold. Furthermore, there is substantial overstaffing. Informed sources put it at least 10 percent, partly attributable to unnecessary directorates and sub-directorates in the various ministries. Government procedures are viewed by many in the private sector as cumbersome and slow. Public employees are deemed by some private sector groups to be unequal to the tasks required of them. There is a clear and well-recognized need for reforms in the public sector to improve skills and eliminate redundancy.

1.16 Notwithstanding the emergence of such problems, several aspects of Oman's oil revenue use policies represented major steps in the right direction. The decision in 1980 to place a significant portion of public oil revenues into a State General Reserve Fund (SGRF) was a prudent one that stood Oman in good stead when oil prices fell precipitously in 1986. The establishment, under the Fourth Five-Year Development Plan, of an additional, separate Contingency Fund was potentially an important additional improvement. This fund could constitute a first line of defense against unforeseen contingencies, reducing the need for frequent *ad hoc* recourse to the SGRF. The SGRF should help insulate the Omani economy from transitory fluctuations in oil prices and it (or, preferably, a separate fund) is potentially capable of mitigating to some extent the adverse impact on public revenues of the eventual exhaustion of oil

and gas reserves.[1] Whether the two funds as presently constituted and operated are adequate for these tasks is taken up below (Chapter 2).

1.17 A difficult problem confronting the Omani authorities in initiating a large expansion of public spending was how to do so in such a manner as not to introduce major distortions into the structure of private incentives. A further (although largely unrecognized) problem was whether it was feasible to prevent a scale of public spending that was clearly far in excess of indigenous absorptive capacity from simultaneously preempting significant expansion of efficient export-oriented and import-substituting activities.

1.18 In the event, the allocation of an important fraction of public revenues to building up Oman's public infrastructure and to providing free health and educational services to its people represented a use of public revenues that was relatively non-distorting in its impact on the allocation of private resources and constituted a way not only of building up future productive capacity but of spreading oil wealth reasonably equitably. The Government's avoidance of both large-scale, uneconomic publicly financed industrial development and massive subsidies to support uneconomic private development was also commendable. However, it was not possible to prevent the effect on the real exchange rate of the domestic absorption of the bulk of the oil revenues, together with the sheer scale of public expenditure, from preventing substantial, simultaneous expansion of efficient private goods production.

1/ The SGRF was initially established with the intention of providing an inheritance to future generations but has been used largely as an oil revenue stabilization mechanism.

Chapter Annex Table 1.A1: GOVERNMENT REVENUES AND EXPENDITURES (1976 - 1992)

ITEMS/YEARS	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
* Oil Revenue	454.7	482.2	457.7	634.6	1095.5	1341.3	1215.7	1277.5	1304.6	1510.0	928.9	1194.9	993.6	1197.4	1701.6	1515.7	1525.1
Transfers to SGRF	0.0	0.0	0.0	0.0	264.3	215.9	158.4	169.9	172.5	203.2	33.9	51.9	42.8	113.0	113.6	193.0	195.2
Transfers to SERF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	82.0	54.1
1. Net oil Revenue	454.7	482.2	457.7	634.6	831.2	1125.4	1057.3	1107.6	1132.1	1306.8	895.0	1143.0	950.8	1084.4	1538.0	1240.7	1275.8
2. Non-Oil Revenue	32.6	38.3	44.6	57.6	92.4	136.8	118.1	146.3	208.6	266.2	291.9	317.2	254.0	285.7	338.3	344.4	404.4
A. TOTAL REVENUE (1+2)	487.3	520.5	502.3	692.2	923.6	1262.2	1175.4	1253.9	1340.7	1573.0	1186.9	1460.2	1204.8	1370.1	1876.3	1585.1	1680.2
Government Expenditures																	
3. Defense & Nat. Sec.	271.3	237.1	264.5	269.0	406.8	521.9	581.3	670.7	728.2	744.9	665.4	583.6	589.2	600.6	742.3	643.3	777.8
** Capital Exp.	92.2	73.0	63.4	22.6	59.1	71.9	83.4	140.3	159.4	136.0	86.0	42.4	63.9	19.1	26.7	21.7	30.6
** All Other Items	179.1	164.1	201.1	246.4	347.7	450.0	497.9	530.4	568.8	608.9	579.4	541.2	525.3	581.5	715.6	621.6	747.2
4. Civilian	107.0	142.0	172.9	188.3	271.2	335.1	388.9	440.6	507.2	588.8	648.2	648.5	682.0	760.5	827.8	819.7	960.5
5. Development	195.1	145.9	122.7	193.1	246.7	317.4	395.2	377.1	464.7	550.9	532.4	328.8	280.2	270.3	285.8	391.7	471.1
6. Support to Pri. Sec.	N.A.	N.A	N.A	N.A	25.1	49.4	47.5	58.6	60.2	43.8	40.8	48.2	15.9	34.4	31.5	13.4	49.3
B. TOTAL EXPENDITURES (3+4+5+6)	573.4	525.0	560.1	650.4	949.8	1223.8	1412.9	1547.0	1760.3	1928.4	1886.8	1609.1	1567.3	1665.8	1887.4	1868.1	2258.7
C. GOVERNMENT SURPLUS/(DEFICIT)(A-B)	-86.1	-4.5	-57.8	41.8	-26.2	38.4	-237.5	-293.1	-419.6	-355.4	699.9	-148.9	362.5	295.7	11.1	-283.0	-578.5
D. MEANS OF MEETING DEFICIT	60.5	124.5	-3.5	48.9	300.5	353.7	310.6	368.5	278.4	248.5	172.6	39.2	100.3	1.0	94.1	419.2	206.0
7. Grants (Net)	18.0	92.7	6.7	61.9	35.2	50.0	14.7	50.7	72.8	8.8	0.3	2.7	15.8	6.2	22.7	1.3	6.0
8. Loans (Net)	42.5	31.8	-10.2	-13.0	1.0	50.5	41.0	162.8	150.7	73.4	215.9	52.2	72.1	34.6	147.3	4.9	-23.4
9. Government Bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.6	138.3
10. Short Loans	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.0
11. Net Movement on Reserve	0.0	0.0	0.0	0.0	264.3	253.2	254.9	155.0	54.9	183.9	43.0	88.7	188.2	41.8	263.1	325.0	160.1
12. Real Surplus/ (deficit)(C+D)	-25.6	120.0	-61.3	90.7	274.3	392.1	73.1	75.4	-141.2	106.9	-527.3	109.7	462.8	296.7	83.0	136.2	372.5
Movement on Reserve																	
a. Transfers to SGRF	0.0	0.0	0.0	0.0	264.3	215.9	158.4	169.9	172.5	203.2	33.9	51.9	42.8	113.0	113.6	193.0	195.2
b. Transfers to SERF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	82.0	54.1
c. Total Transfers (a+b)	0.0	0.0	0.0	0.0	264.3	215.9	158.4	169.9	172.5	203.2	33.9	51.9	42.8	113.0	163.6	275.0	249.3
d. Reserve Funds Income	0.0	0.0	0.0	0.0	0.0	37.3	96.5	65.1	27.4	280.7	449.4	235.2	43.6	180.3	50.5	470.0	60.0
e. Total (c+d)	0.0	0.0	0.0	0.0	264.3	253.2	254.9	235.0	199.9	483.9	483.3	287.1	86.4	293.3	263	745.0	309.3
f. Withdrawals from R. Fund	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.0	145.0	300.0	526.3	198.4	274.6	254.0	0.0	70.0	149.2
g. Net (e-f)	0.0	0.0	0.0	0.0	264.3	253.2	254.9	155.0	54.9	183.9	43.0	88.7	188.2	41.8	263.1	5.0	160.1

Source: Development Council

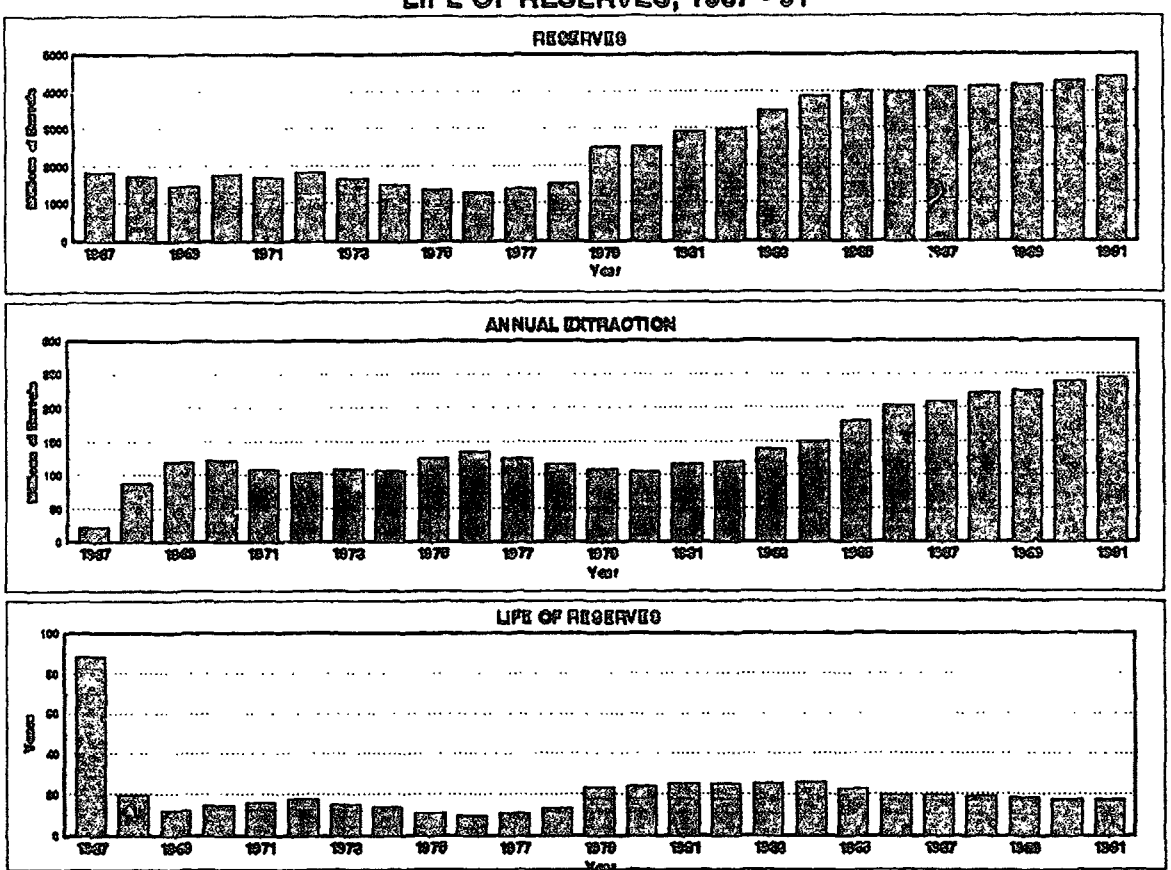
2
RECENT ECONOMIC DEVELOPMENTS

A. Oil and Gas

Oil

2.1 Reserves and Extraction. The initial discoveries in the late sixties established proven oil reserves of about 1.8 billion barrels. These were maintained until 1972 and then began to decline as extraction rose to exceed 100 million barrels a year (Chart 2.1). Reserves expanded rapidly to the 4 billion barrel level as new discoveries were made over 1979-84. Since then, they have grown more slowly than the annual rate of extraction, which rose very sharply over 1983-86 and reached over 240 million barrels in 1991. Consequently, the life of the reserves at the current rate of extraction had fallen to 17.9 years by 1991 from the 1984 peak of 25.8. Proven reserves are currently about 4.7 billion barrels. In the past, the proving of new oil reserves has kept the life of the reserves from falling very much below the 1968 level. Some proving of new reserves will almost certainly also occur in the future, both from new discoveries and enhanced recovery from existing fields. However, it would be inprudent to count on it nor for government policy to make inadequate provision for savings based on expectation concerning ultimate recoverable reserves.

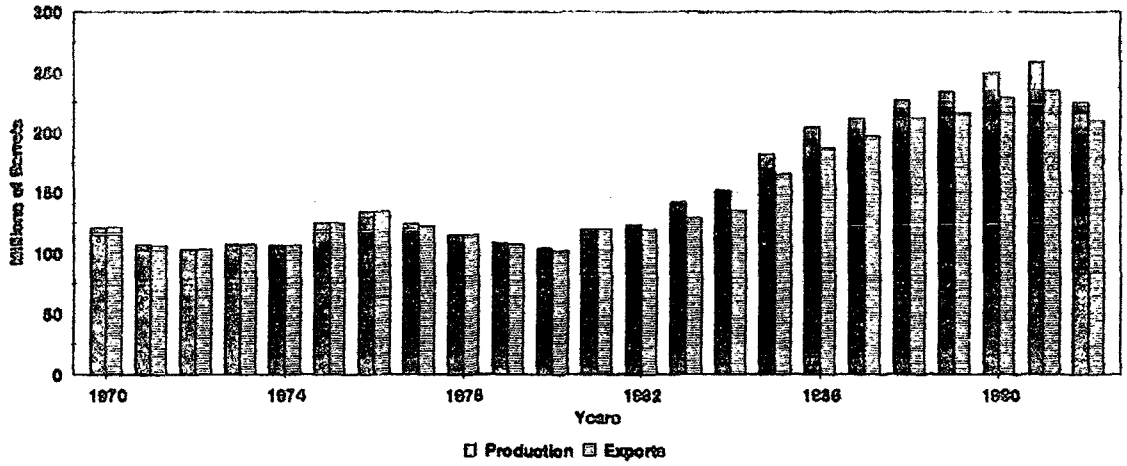
CHART 2.1: OIL RESERVES, ANNUAL EXTRACTION AND LIFE OF RESERVES, 1967 - 91



Source: Development Council

2.2 Uses. Prior to 1982, virtually all of Oman's oil was exported. Since then, with the coming on stream of the domestic refinery, part of the oil, ranging from 13 to 24 million barrels a year, has been consumed domestically (Chart 2.2).

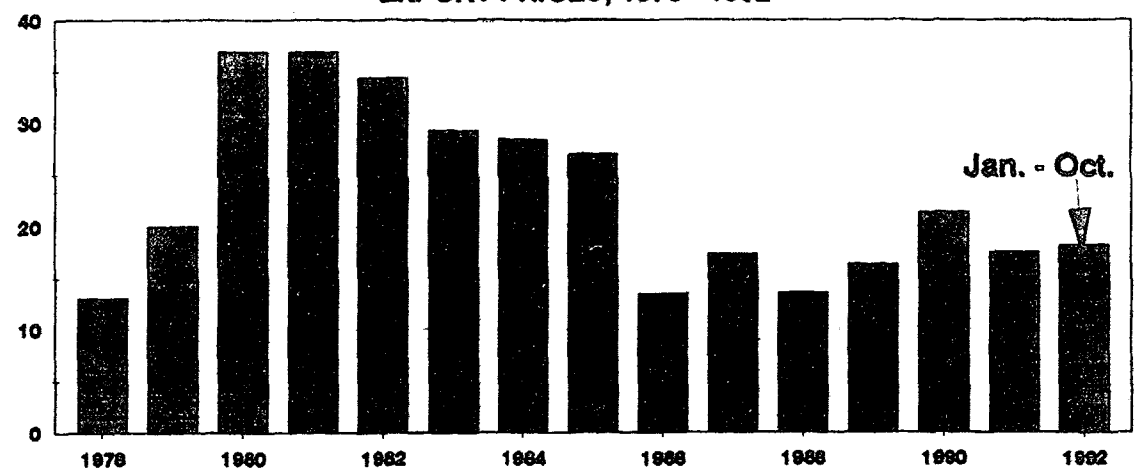
CHART 2.2: PRODUCTION AND EXPORTS CRUDE PETROLEUM



Source: Statistical Year Book, 1992 and Petroleum Development Oman

2.3 Prices. The price at which Oman's oil output could be sold rose precipitously in 1973. It jumped again in the late 1970s, almost tripling between 1978 and 1981 and reaching US$36.92 a barrel in the latter year (Chart 2.3). Prices declined steadily over 1982-85 and then plummeted in 1986 to US$13.43 a barrel -- little more than a third of the 1981 peak price. Following some recovery in 1987, prices fell back to close to the 1986 level in 1988. They have held in the US$16 to US$18 range over 1989-92, except for 1990, when the Gulf War pushed the average price up to US$21.43 a barrel.

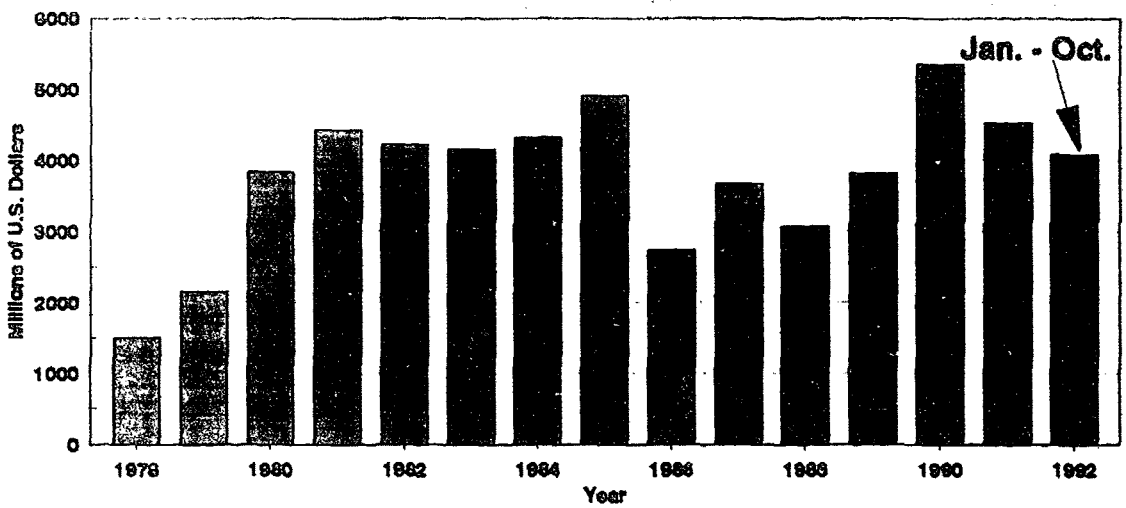
CHART 2.3: AVERAGE CRUDE OIL EXPORT PRICES, 1978 - 1992



Source: Petroleum Development Oman

2.4 The rapid rise in the value of Oman's oil production over 1978-81 reflected primarily the strong increase in prices over that period. The overall effect of oil price declines on the value of output over the 1981-91 decade was offset by increased production, although the value of output was depressed over 1986-89 as a consequence of the particularly low oil prices over that period (Chart 2.4).

CHART 2.4: VALUE OF OIL PRODUCTION, 1978 -1992



Source: Statistical Yearbook, 1991 and Petroleum Development Oman

Gas

2.5 Reserves. Oman has substantial proven reserves of natural gas, estimated in 1992 at 17 trillion cubic feet (tcf) -- equivalent to 2.9 billion barrels of crude oil (i.e., to about 60 percent of Oman's oil reserves). Estimated proven reserves were increased to 20 tcf in late 1993. Only 2.7 tcf are in the form of associated gas. Until 1989, reserves stood at 10 tcf. New fields discovered by deep drilling in 1989 and since have added a further 7 tcf of non-associated gas, with highly valuable condensates. Expectations are for further significant discoveries.

2.6 Uses. It is intended that the pre-1989 fields serve domestic uses and the new discoveries, a proposed LNG project.[2] The use of natural gas for domestic purposes averaged about 185 billion cubic feet (bcf) per annum in 1990-91, equivalent to about 88,000 b/d (about 10 percent of combined oil and gas equivalent extraction) of which about 130 bcf is associated and 55 bcf non-associated. Domestic consumption of the gas is approximately as follows:

2/ For further details, see Annex 2.

	Billion cu ft
Government gas pipeline system serving power stations, copper and cement plants, industrial areas and defense facilities	60
Sales to gas companies converted into butane, etc., and distributed in cylinders to households for cooking purposes	15
Oil-field use for fuel and reinjection	85
Flared	25
Total	185

Domestic demand for gas is projected to increase at 5 percent a year. It is currently sold at half the reference price for crude oil. Consumption by the LNG plant is expected to be 775 million cubic feet (mcf) a day. Under the present plan, 5 million tons of LNG will be produced and exported, beginning in 1999. A decision on whether to proceed with the project, based on the results of ongoing exploration, will be taken at the end of 1994.

B. Public Finance

Allocation of Government Gross Oil Revenues

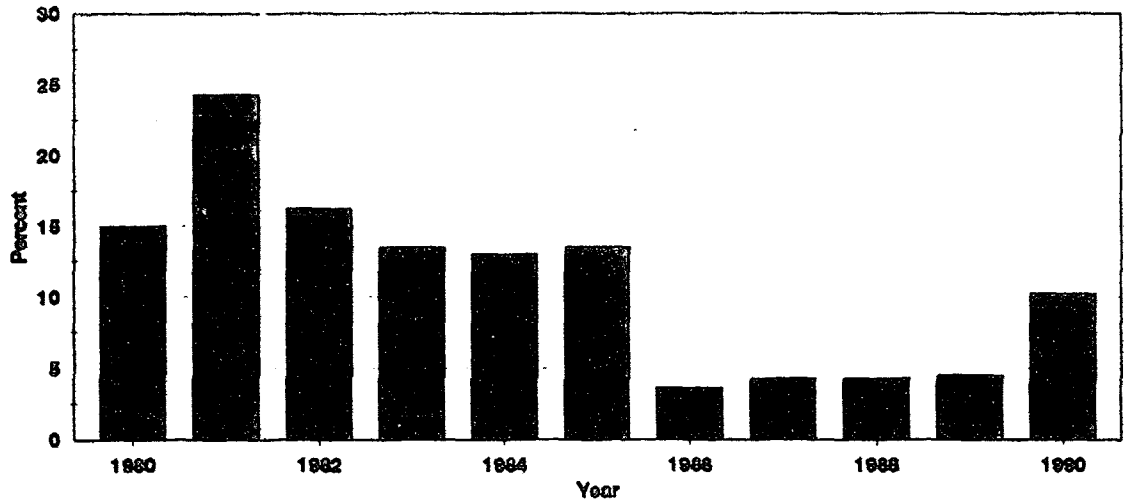
2.7 Establishment of State General Revenue Fund. Initially, following the beginning of oil production in 1967, all oil revenues accruing to the Government went directly into the government accounts. With the explosion in oil revenues resulting from the jump in oil prices over 1978-81, the Government decided in 1980 to put part of the additional revenues into a reserve, outside the budget, called the State General Reserve Fund (SGRF), established by Royal Decree 1/80. The fund was fed not only by its share of Government oil revenues but by its own earnings and capital appreciation. Although set up initially to provide a source of income for the future, it was also to be used to finance the state budget in "years when there was a need."

2.8 The proportion of gross public oil revenues flowing into the reserve fund was initially quite high, reaching 24.3 percent in 1981, but it declined during the early to mid-eighties and plunged to 3.6 percent in 1986 (Chart 2.5). The proportion remained low until 1990, when soaring oil prices gave rise to a 42 percent jump in gross oil revenues and additions to the SGRF climbed to 10.2 percent of the total.

2.9 Establishment of Contingency Fund. In formulating the Fourth Plan, beginning in 1991, the Government allowed for the establishment of a Contingency or Emergency Fund, outside the budget, that would also receive a share of gross oil revenues. Its purpose was to provide an initial source of funding for the public sector deficit and thus obviate ad hoc recourse to the SGRF, which could revert to being a more strategic, long-term reserve. Chart 2.6 shows the overall structure of the Government's financial stocks and flows following the establishment of the Contingency Fund. Under the Fourth Plan, the share of the SGRF in gross government oil revenues was to be increased from 5 to 15 percent. It was, in addition, to receive all surplus oil receipts, defined as those resulting from an oil price above US$25 a barrel. The emergency

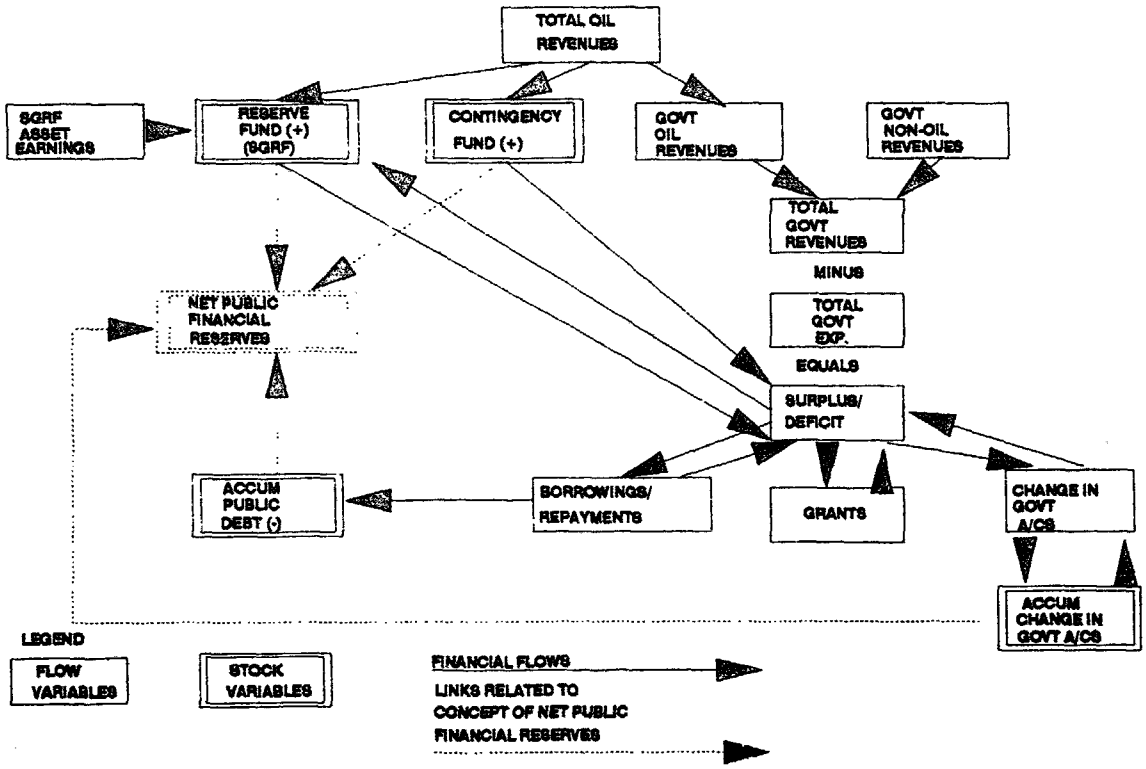
reserve fund was to receive 7.5 percent of oil revenues when the price was between US$18 and US$20 a barrel and 10 percent when the price was between US$20 and US$22 a barrel. The additional revenue accruing when the price of oil was between US$22 and US$25 a barrel was to be allocated to specified public expenditures.

CHART 2.5: PROPORTION OF GROSS OIL REVENUES FLOWING INTO THE STATE GENERAL RESERVE FUND



Source: SGRF Data, Ministry of Finance and Economy; Government Gross Oil Revenue Data, Development Council

CHART 2.6: SIMPLIFIED STRUCTURE OF FINANCIAL STOCKS AND FLOWS



2.10 Changed SGRF and Contingency Fund Allocations. The rules governing the allocation of oil revenues to the reserve and contingency funds were altered in 1992 by Resolution 92/12 of the Council for Financial Affairs. This gave first priority to financing the public expenditure program set out in the Fourth Plan. The SGRF was to receive each month 15 percent of the oil proceeds remaining after deducting 1/12 of the year's public expenditure allocation under the Plan. The Contingency Fund was to receive at least 7.5 percent of the remainder when the price of oil was between US$18 to US$20 a barrel and about 10 percent when the price of oil was between US$20 to US$22 a barrel. Additional proceeds resulting from an oil price between US$20 and US$25 a barrel were to be allocated on the following basis: 40 percent to defense and security; 30 percent to second and third priority civilian economic development projects up to a total of RO 162.8 million; 15 percent to civilian recurrent expenditure; and 15 percent to cover the deficit. Any remaining excess oil proceeds were to be allocated to the SGRF.

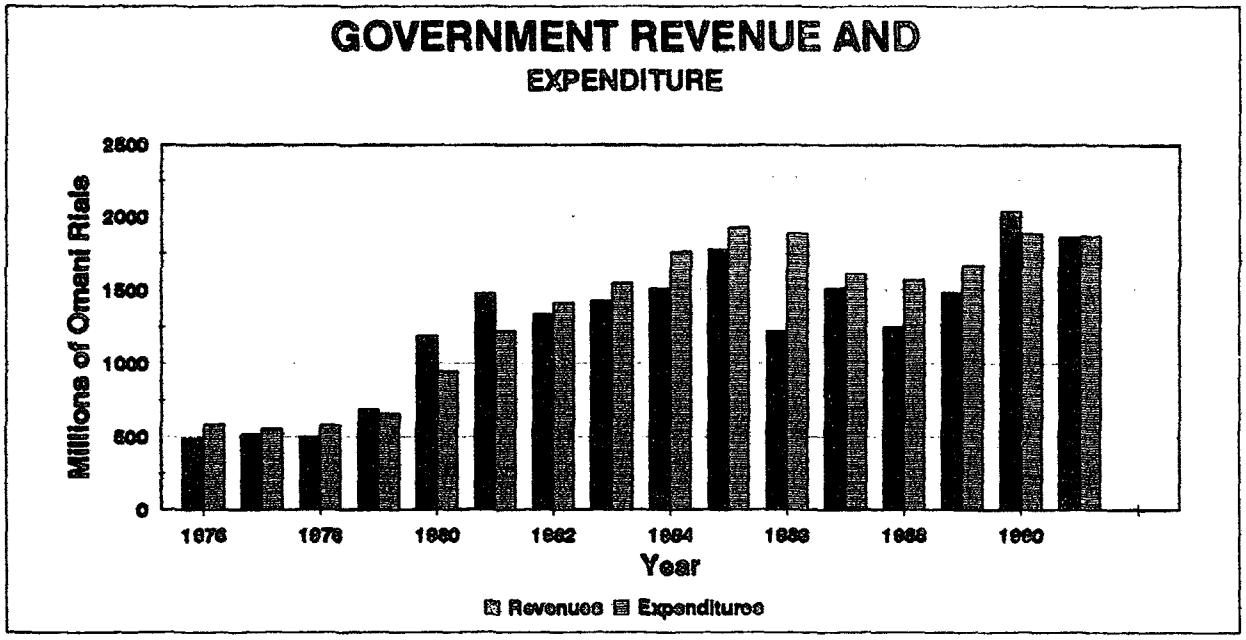
Government Revenues, Expenditures and Deficits

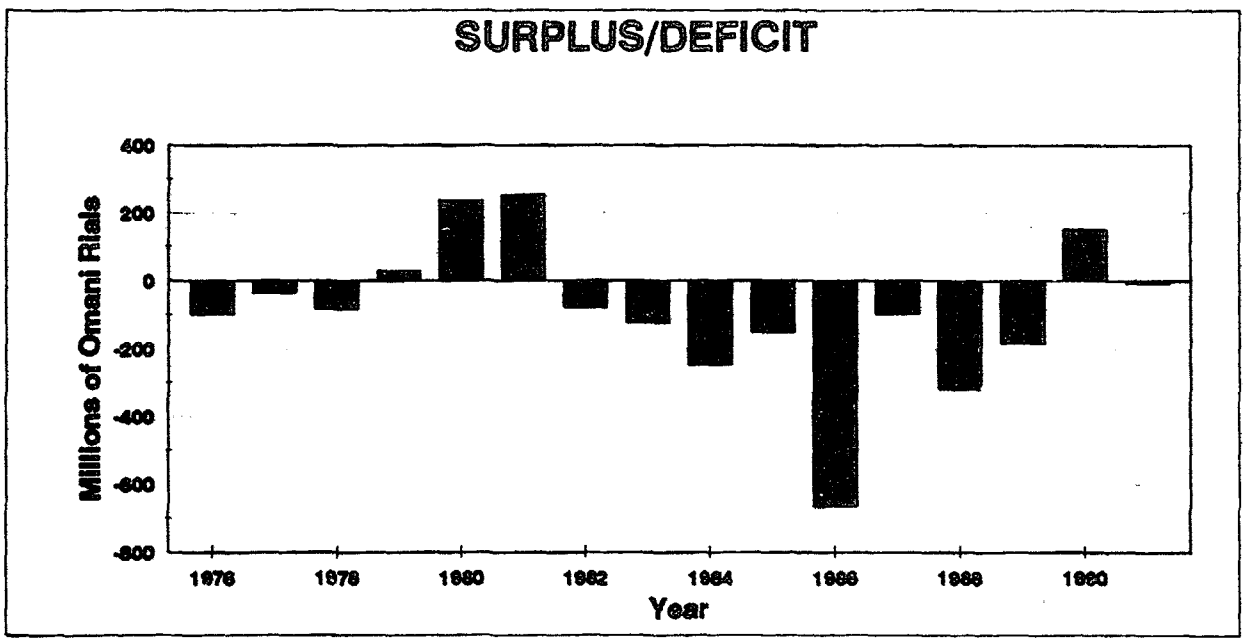
2.11 Oil Revenues and Expenditures. Reflecting the explosive run-up in oil prices, public revenues nearly tripled over 1979-81, temporarily outstripping a huge concomitant rise in public expenditures (Chart 2.7). From 1982 on, however, with oil revenues flattening and expenditures continuing to climb, a long string of deficits emerged. The collapse of oil prices in 1986, following a continuing decline from the peak reached in 1981, resulted in an enormous expansion of the deficit to the unsustainable level of RO 666 million. When government revenues are expressed net of transfers to the SGRF, this figure is increased to R.O. 699.9 millions (Annex Table 2.A1). This led to a sharp curtailment of government expenditure over 1986-88. With the recovery in oil prices in 1989 and a further jump in prices of over a third in 1990 as a consequence of the Gulf War, government revenues climbed rapidly, again temporarily exceeding a renewed expansion in government spending. However, with oil revenues declining again in 1991 and development spending surging, a small deficit reemerged. In 1992, with a major increase in public spending taking place, the deficit rose substantially.

2.12 The main overall cause of the growth in government spending and the emergence of semi-chronic deficits has been the inexorable rise in civilian recurrent expenditures, coupled with the maintenance of an extremely high level of defense and national security spending. Whereas government revenues grew at an average rate of 10.6 percent a year over 1978-91, civilian recurrent expenditures grew far more rapidly, averaging 12.7 percent a year.

2.13 Chart 2.7 shows that 1986 was a watershed year for the Government's finances. Following more than a decade of rapidly increasing revenues, the Government after 1985 was confronted with a situation both of major fluctuations in revenues and negligible overall growth. With a flattening profile of oil extraction and little prospect of any significant rise in the real price of oil, this situation is likely to persist as far as oil is concerned although gas development will provide substantial additional future revenues.

CHART 2.7: GOVERNMENT REVENUE, EXPENDITURE AND DEFICIT*
1976 - 1991
(Millions of Omani Rials)





* The Development Council data used in this chart include gross oil revenues before allocations to the SGRF and the Contingency Fund and a different definition of expenditures than reported by the Central Bank. Thus, the deficit shown here differs from the "Official" deficit.

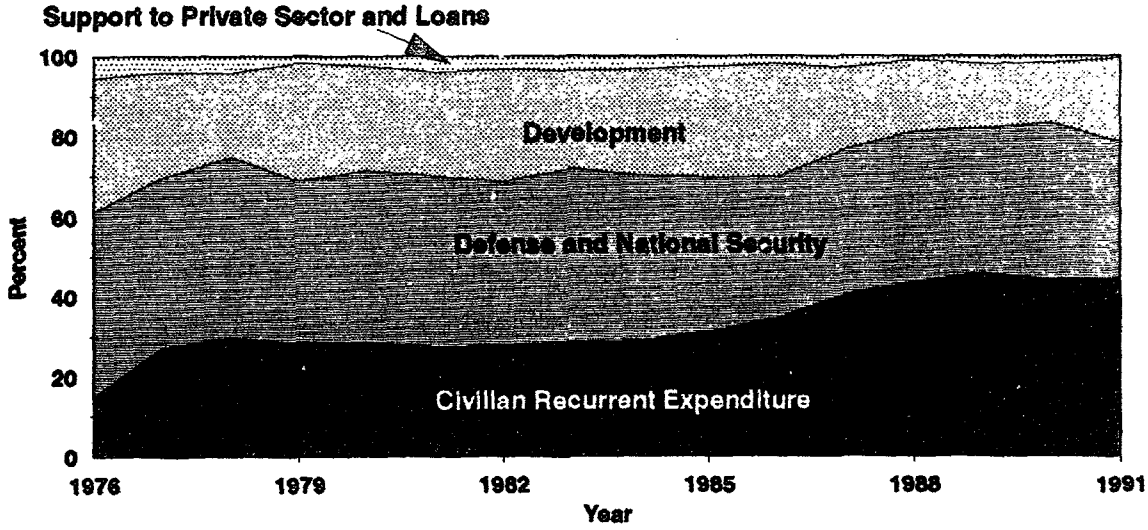
Source: Development Council

2.14 The Government tried to meet the fundamental change in its revenue position after 1986 by substantially cutting public spending, particularly development spending until 1990. By 1991, total public expenditure was still 3 percent lower than in 1985, despite the significant recovery that had taken place in revenues. The deficit was accordingly very sharply reduced from its 1986 level. The renewed massive expansion of spending in 1992, leading to the re-emergence of an unsustainably large deficit, reflects the fact that the Government's policy of trying to adjust recurrent expenditures to lower revenues mainly by squeezing initial departmental budgetary allocations has broken down.

2.15 Shifts in the Structure of Government Expenditure. The decline in public spending after 1985 was borne, as noted, mainly by development spending and (to a much lesser extent) expenditures on defense and national security. Development spending was slashed almost in half, from a peak of RO 534 million in 1985 to RO 270 million in 1989, while defense expenditures dropped from RO 745 million in 1985 to RO 589 in 1988. Civilian recurrent expenditures, on the other hand, merely flattened out between 1986 and 1987, before resuming their rise. One of the main causes was a continuing rise in government employment, which increased by almost a fifth over the four years 1986-90. Public service wages and salaries averaged 56 percent of the recurrent budget over 1987-91 and the overall wage and salary bill rose at an average rate of 8 percent a year over the same period.

2.16 The growth of civilian recurrent expenditures at a rate far in excess of the rate of growth of public revenues, coupled with cuts after 1986 in development spending, has resulted in major changes in the structure of government spending, with the share of development expenditures dropping from 27 percent of the total over 1976-82 to 16.4 percent over 1988-90 (Chart 2.8). While the share of defense and national security has fallen from 46 percent in 1976 to 34 percent in 1991, it remains at a very high level by international standards. Civilian recurrent expenditures rose from only 15 percent of the total in 1976 to 44 percent in 1991.

CHART 2.8: STRUCTURE OF GOVERNMENT EXPENDITURES



Source: Development Council

2.17 Government Non-Oil Revenues. Government non-oil revenues in 1976 represented only 7.1 percent of total government revenues. Their share has gradually expanded since to 9.3 percent in 1981, 15.0 percent in 1985 and 18.5 percent in 1991. However, most of the Government's non-oil and gas current revenue represents non-tax revenue (Table 2.1). Taxes and fees in 1991 were only 4.4 percent of total government revenues and of that amount, income and payroll taxes accounted for under 30 percent, with the remainder accounted for by customs duties and fees, licenses, etc. There are no sales or value added taxes.

Table 2.1: Breakdown of Non-Oil and Gas Current Revenues
(RO Million)

	1987	1988	1989	1990	1991
A. Taxes and Fees Revenues	69.0	70.8	64.9	68.5	81.0
Income tax on companies and establishments	21.2	23.4	16.0	14.4	18.3
Payroll tax	7.?	6.0	6.5	5.8	5.6
Fees on licenses and others	13.6	11.8	13.0	15.4	17.6
Custom duties	29.6	29.6	29.4	32.9	39.5
B. Non-Tax Revenues	174.8	129.3	150.5	196.3	193.9
Electricity Revenues	59.3	47.2	51.3	57.1	59.6
Water Revenue	15.2	12.4	17.3	18.6	19.0
Postal Revenue	2.6	2.5	2.8	3.6	3.7
Airport Revenue	8.3	8.4	8.5	8.3	7.7
Surplus from Public Authorities	2.0	0.6	0.7	0.9	0.6
Rent from Govt real estate	–	14.1	20.5	30.2	30.9
Income of Govt investment	1.7	1.9	1.7	1.9	1.6
Interest on Bank deposits and lending	16.8	9.9	14.0	18.8	17.8
	13.7	8.5	8.8	7.5	9.3
Others	55.2	23.8	24.9	49.4	43.7
Total of Non-Oil and Gas Current	243.8	200.1	215.4	264.8	274.9

Source: MOF

2.18 Financing the Public Sector Deficit. The public sector deficit has been financed from four sources: grants, loans, the SGRF/Contingency Fund, and changes in the Government's accounts (Table 2.2).[3] Grants were important until 1984; since then their net contribution has been

[3] The data included in Table 2.2 and in Chart 2.7 above are based on Development Council definitions that differ from those used by the Ministry of Finance and Economy in defining the "official" deficit. Oil revenues are defined gross of contributions to the SGRF and expenditure definitions also vary slightly from those reported by the Central Bank, based on Ministry of Finance data. An updated ad reformulated table provided by the Development Council to the World Bank Octobe 1993, mission (Chapter Annex Table 2.A1) present government revenues on a net basis and shows the means used to finance the deficit.

negligible. Loans were important until 1986; since then, repayments have exceeded drawings. Up until 1984, large payments were made into the SGRF; however, large withdrawals were made over 1985-88 to finance the deficit. Changes in the Government's accounts, while substantial from one year to the next, did not accumulate significantly over time until 1989-91, when the cumulative total reached the very large figure of RO 623.8 million (US$1.6 billion). A combination of loans and withdrawals from the SGRF financed the very large deficits in 1986 and 1988. The SGRF was rebuilt over 1989-91 but the improvement was more than offset by the cumulation of negative changes in the Government's accounts (Chart 2.9 below).

Government's Net Financial Reserve Position

2.19 The SGRF. The emergence of the series of public sector budgetary deficits after 1981 occurred, as noted above, despite the Government's allocation of a rapidly shrinking proportion of gross oil revenues to the SGRF, particularly after 1985 (Chart 2.9), i.e. despite the allocation of a higher proportion of oil revenue to the budget. At the same time, from 1982 on, the Government was making increasingly large withdrawals from the SGRF to finance the deficit, peaking in 1986 at RO 380 million. Fortunately, strong earnings on fund assets over 1985-87 largely offset these withdrawals, so the balance in the SGRF continued to rise. Over 1987-89, net additions to the SGRF became negative and the level of the fund fell temporarily below the minimum level of RO 1200 million established by Council of Financial Affairs Resolution No. 4/87. During 1990-92, the Government rebuilt the SGRF to new highs but at the expense of large deficits in its own accounts.

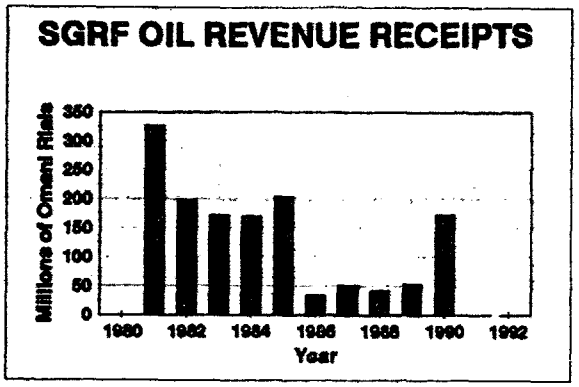
Table 2.2: Financing of Government Deficit/Surplus

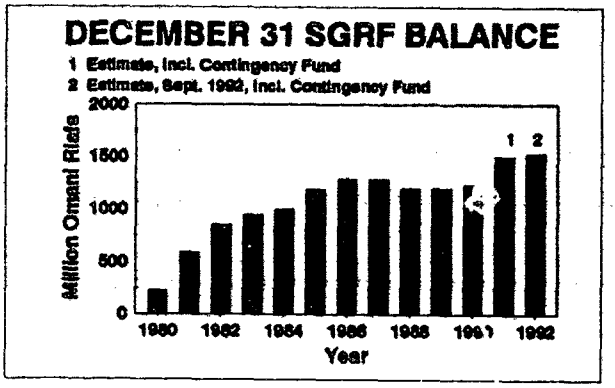
	1976	1977	1978	1979	1980	1981	1982	1983
Deficit/Surplus	(98.4)	(36.7)	(82.8)	30.0	238.1	254.3	(79.1)	(123.1)
Grants	18.0	92.7	6.7	61.9	35.2	50.0	14.7	50.7
Loans	42.5	31.8	(10.2)	(13.0)	1.0	50.5	41.0	162.8
SGRF	0.0	0.0	0.0	0.0	(274.3)	(215.9)	(98.4)	(89.9)
Change in Govt. Acct.	37.9	(87.8)	86.3	(78.9)	0.0	(138.9)	121.83	(0.5)
Total Financing	98.4	36.7	82.8	(30.0)	(238.1)	(254.3)	79.1	123.1

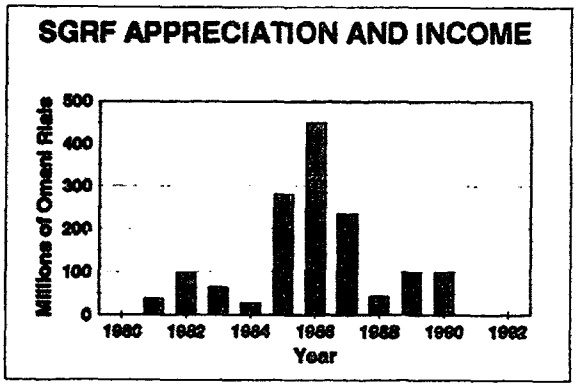
	1984	1985	1986	1987	1988	1989	1990	1991
Deficit/Surplus	(247.1)	(152.1)	(666.0)	(97.0)	(319.7)	(182.7)	152.5	(8.0)
Grants	72.8	(8.8)	(0.3)	2.7	15.8	6.2	(21.7)	(1.3)
Loans	150.7	73.4	215.9	(52.2)	72.1	34.6	(147.3)	4.9
SGRF	(27.5)	96.8	492.4	146.5	231.8	(113.0)	(163.6)	(184.4)
Change in Govt. Acct.	51.1	(9.3)	(42.0)	0.0	0.0	254.9	180.1	188.8
Total Financing	247.1	152.1	666.0	97.0	319.7	182.7	(152.5)	8.0

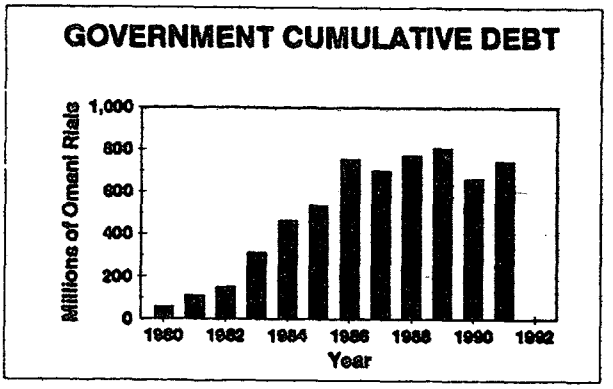
Source: Development Council

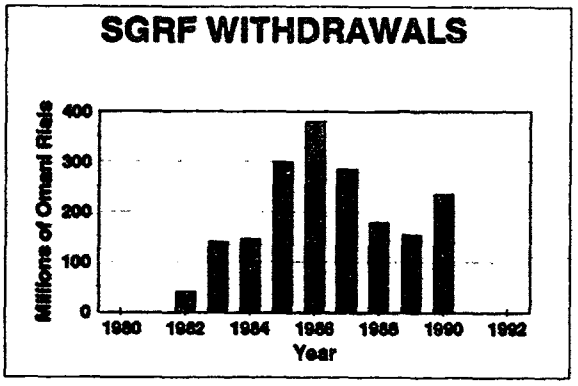
CHART 2.9: STATE RESERVE FUND AND STATE DEBT 1981 - 1991 (Millions of Omani Rials)

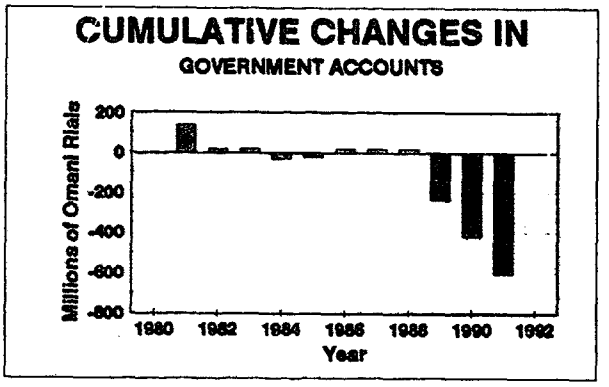


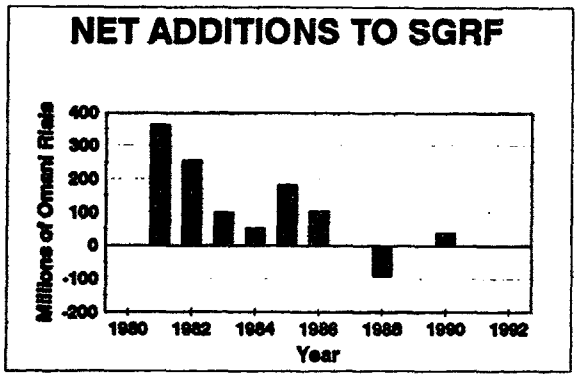


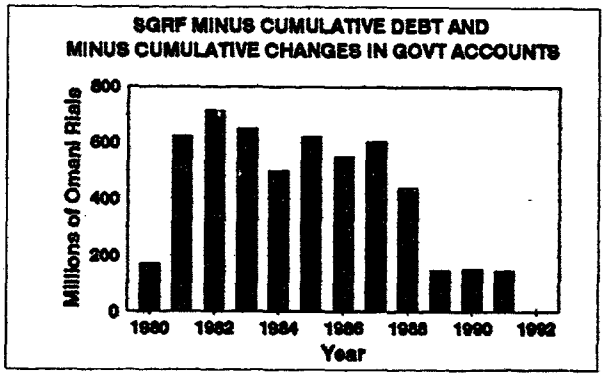












Source: Ministry of Finance (SGRF)

2.20 Government External and Domestic Borrowing. At the same time that the Government was building up financial reserves after 1980, it continued to borrow. Outstanding debt grew quite rapidly during the 1980s, reaching a peak of RO 807 million in 1989. In 1991, it stood at RO 745 million. Beginning in 1991, the Government began borrowing domestically by issuing Development Bonds. These were seen as a means both of contributing to the financing of the deficit and of absorbing excess domestic liquidity. RO 40.6 million was raised from Development Bond sales to finance the deficit in 1991 and RO 138.3 million in 1992.

2.21 Chart 2.9 shows that the growth in the Government's debt has to a considerable extent offset the growth of the SGRF. In fact, after deducting cumulative debt and the cumulated negative public sector balances from the estimated balance in the SGRF account, the Government's net financial reserve position stood at RO 147 million in 1991 -- less than 7 percent of 1990 gross oil revenues -- down from a high of RO 714 million in 1982. It deteriorated substantially further in 1992. The decline in the Government's net reserve position is a further indication that it has failed to make an adequate adjustment to the basic change in its financial position beginning in 1982 and intensifying after 1986.

Fourth Plan Intentions versus Outcome

2.22 Under the Fourth Plan, the Government proposed to reduce the size of the "official" deficit to 10 percent of total government revenues, discontinue borrowing from abroad, and eliminate recourse to withdrawals from the SGRF. The Plan projected the cumulative deficit over the five years 1991-1995 at RO 879 million, of which RO 450 million would be met from withdrawals from the Emergency Fund and RO 429 million from the issuance of domestic Development Bonds.

2.23 Actual public spending during the first two years of the Fourth Plan, i.e. 1991 and 1992, exceeded planned spending by a wide margin (Table 2.3). Actual government expenditures exceeded planned expenditures by 6 percent in 1991, 23.2 percent in 1992, and are expected to exceed planned expenditures by about 14 percent in 1993. The actual current deficit exceeded the planned deficit by 51 percent in 1991, 242 percent in 1992, and is expected to surpass it by 105 percent in 1993. These developments are causing a great deal of concern over maintaining fiscal stability.

Table 2.3: Public Finance (1991-1993)

Item	1991		1992		1993		Excess Rates		
	Planned	Actual	Planned	Actual	Planned	Estimated	1991	1992	1993
Revenue	1577	1585	1649	1660	1698	1698	-	-	-
Expenditure	1764	1868	1818	2239	1881	2138	5.9	23.2	13.7
Current Deficit	187	283	169	579	183	375	51	243	105
% of Revenue	11.8	17.8	10.2	34.9	10.8	22.1	-	-	-
% of GDP	4.9	7.2	4.2	13.5	4.3	8.6	-	-	-

Source: Development Council

Conclusions

2.24 The following conclusions appear warranted concerning the financial performance of the public sector over the past two decades:

(a) The growth of public recurrent expenditure has been clearly excessive, outstripping even the explosive rise in public oil proceeds;

(b) The Government has made only a partial and incomplete expenditure adjustment to the post-1982 flattening of oil revenues;

(c) The SGRF, which was initially established primarily to provide a source of income for the future and only secondly "to finance the public budget of the state in years when there is a need" has in fact been used mainly as a stabilization fund, although other means of financing the public sector deficit have also been employed;

(d) The SGRF only partially offset public oil revenue fluctuations attributable to fluctuating oil prices;

(e) The Government's development strategy has not encompassed the use of the SGRF (or any other fund) as a vehicle for the implementation of an explicit long-term saving strategy designed to yield a numerically defined flow of income during the post-resource era; and

(f) Public civil development expenditures, which the Government has regarded as investments in the promotion of private sector production to replace oil and gas production, have declined markedly over the two decades as a percentage of total public expenditures.

2.25 The clear deterioration in the Government's finances over the past decade raises two highly important questions: (1) What is the appropriate role for the Government and is it trying to do too much? and (2) What expenditure-cutting and revenue-raising measures should the Government adopt in order to restore its finances to a healthy state? (The latter involves not merely eliminating deficits but moving to significant surpluses in order to raise rates of public and national saving to appropriate levels (Chapters 3 and 4.) These questions are addressed in Chapters 6 and 7.

2.26 Significant questions arise concerning the intended and actual roles of the State General Reserve and Contingency funds. The SGRF has not fulfilled its prime objective as a future generations fund that accumulates foreign reserves from oil savings and invest them to generate the highest possible recurrent investment income that can sustain economic growth in the post oil era. The SGRF had overplayed its secondary role of financing the budget deficit when needed. In fact, the record (Table 2.2 and Chart 2.9, above) shows that the secondary objective became the primary objective as the net additions to the fund had mostly decreased or became negative since 1981. For it to be a full saving and investment fund, it would have to receive all net income from oil and gas resulting from oil prices in excess of given figure plus a small annual percentage increase to allow for the anticipated slow long-term rise in real oil and gas prices. In

light of the close connections between government oil and gas revenue, government spending and overall domestic demand shown below (para 2.28), it is clear that a stronger control of public spending would have put the SGRF closer to achieving its long term objective.

2.27 It is also clear that eliminating the instability in public oil and gas revenues attributable to variations in oil and gas prices would result in far stable economic growth in Oman, as well as much less price volatility. The role of the recently established Contingency Fund is, as described in the Fourth Plan is " to meet any international or national economic changes which may occur during the implementation of the Plan and affect . . . expected revenue . . . .[4]" The creation of the fund is described elsewhere as required (together with the SGRF) "to deal with future changes and forestall the consequences of fluctuations in the price of oil, whereby a stable level of oil revenues will be maintained throughout the years of the Plan.[5]" Table 2.3, above, clearly indicates that the Contingency Fund had succeeded in stabilizing revenue, both in absolute terms and as a percentage of GDP, at the planned levels during the first 3 years of the Fourth Plan. Of the total of RO 533 million projected to be allocated to the fund under the Fourth Plan, RO 450 million was to be used to finance the public sector deficit.[6] However, the same Table 2.3, ove, shows that public spending and thus the budget deficit had exceeded their projected levels ruling out any significant use of the fund either to deal with unforeseen contingencies or to stabilize oil revenues in the face of price fluctuations. Again, the main cause of macroeconomic instability is the lack of expenditure control.

2.28 It is apparent that, if it is more fully to achieve its diverse aims in establishing the SGRF and the Contingency Fund, and, in addition, to save, and invest externally, a much higher proportion of its oil revenues, as recommended later in this report, the government will need to redefine objectives and uses of the two funds. First, SGRF, as a long-term saving fund, should be the recipient of all net government saving out of oil proceeds that might result from the Government's pursuit of an optimum strategy (Chapter 3) designed to provide Omanis with income from oil capital during the post-oil era. (Net government saving in this context are defined as government revenues minus (substantially scaled down)[7] public domestic recurrent and development spending). The SGRF would receive each month the proportion of total proceeds from oil that had been determined on the basis of the saving strategy for that point in time.[8] The fund would invest, primarily abroad, in long-term assets. Second, the Contingency Fund, as a separate stabilization mechanism, would receive all oil proceeds, net of SGRF contributions, that might result from an oil price above a predetermined, conservative, and infrequently adjusted benchmark level or trend (e.g., US$17.25 a barrel or US$17.25 a barrel plus x percent p.a.). It would hold its balance primarily in shorter-term liquid assets. The Contingency Fund balance

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[4] The Fourth Five Year Development Plan, p. 122.

[5] Ibid, p. 81.

[6] Ibid, pp. 89 and 107.

[7] See Chapter 7, paras. 7.5-7.16 , which discuss the need to reduce both pubic recurrent expenditures and certain types of domestic development expenditure.

[8] The way in which the savings rate might vary over time under different scenarios is illustrated in Annex II, Chapter 3, which presents the numerical results of the optimum savings model.

would hold its balance primarily in shorter-term liquid assets. The Contingency Fund balance would be drawn upon to make up government revenue deficiencies whenever the price of oil fell below the fixed benchmark and to meet truly unforeseen emergencies. Government net oil revenues *would thus be impervious to oil price changes* (as long as the fund retained a positive balance) but would rise in response to any increase in oil and gas production.

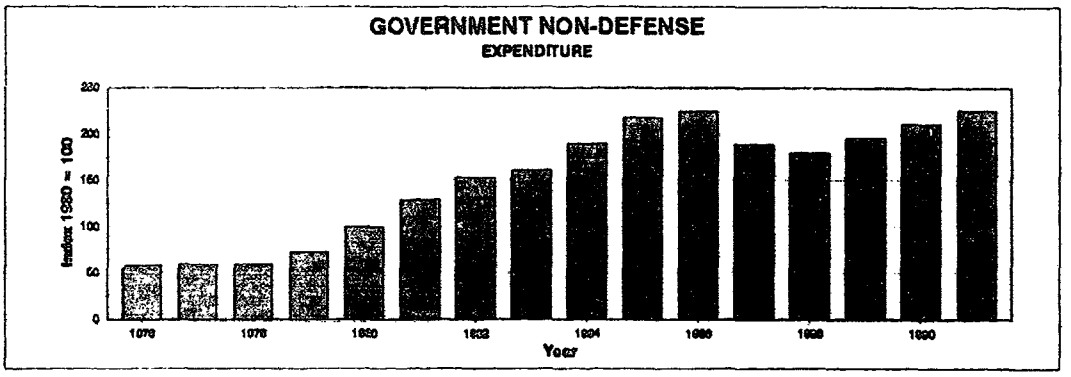
C. Domestic Production

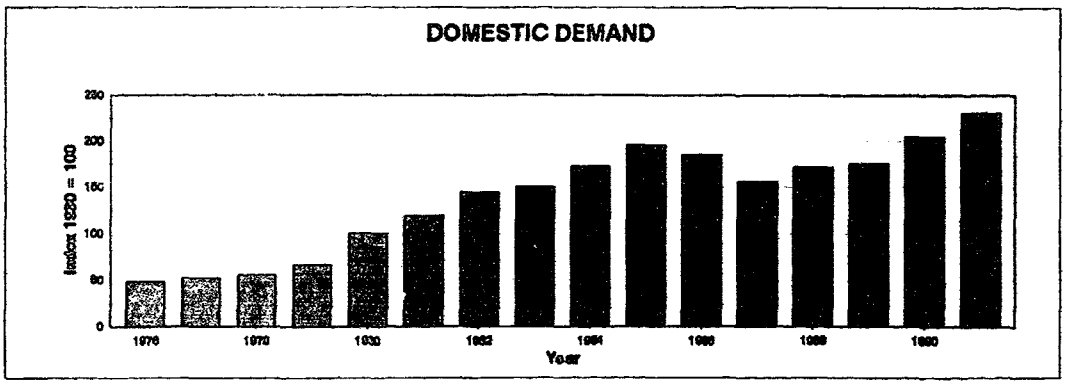
Fluctuations in Overall Production

2.29 The level of public spending largely determines the level of spending for the entire domestic economy (Chart 2.10). Throughout the second half of the 1970s and the first half of the 1980s, domestic demand, like government non-defense spending, enjoyed an uninterrupted rise. As with public spending, the growth of total domestic demand fell sharply over 1985-91 (to 2.8 percent) compared with 1976-85 (16.9 percent). (This compares with nominal overall GDP growth of 2.2 percent over 1985-91 and 16.3 percent over 1976-85.)

2.30 The relationship between overall GDP and public non-defense spending is less close than that between public total domestic demand and non-defense spending because overall GDP is strongly affected by changes in the value of exports, in turn attributable to variations in oil prices (Chart 2.11). For example, net exports were 26.5 percent of GDP 1981 but dropped to minus 1.7 percent in 1986.

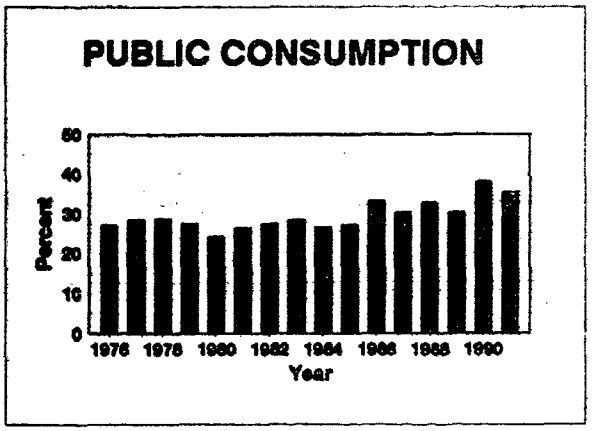
CHART 2.10: GOVERNMENT EXPENDITURE AND FINAL DOMESTIC DEMAND* 1976 - 1991

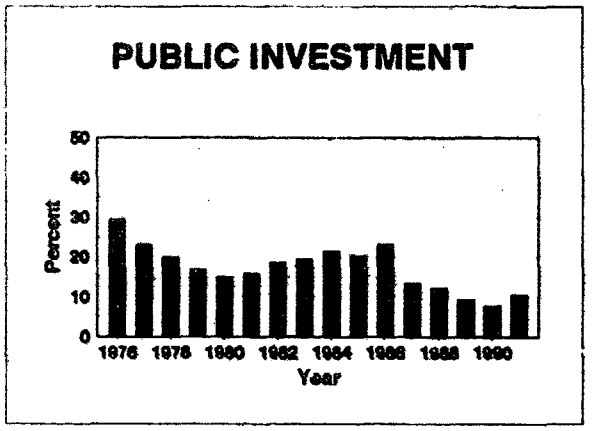


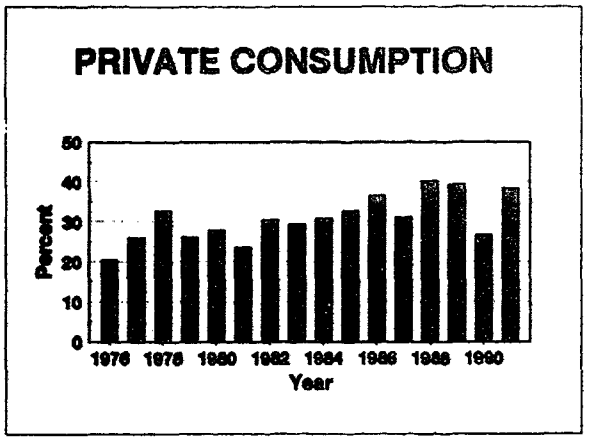


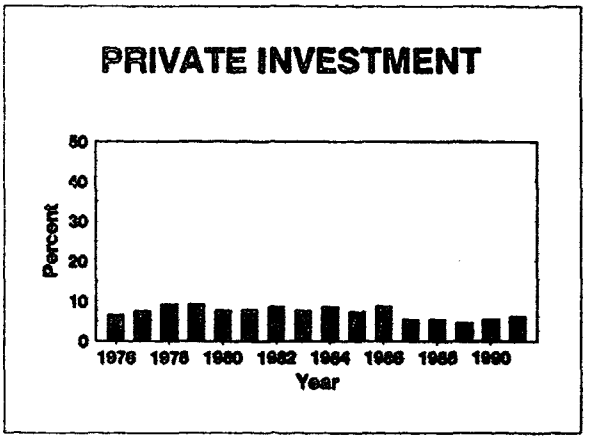
* Government and Private Consumption and Investment
Source: Development Council

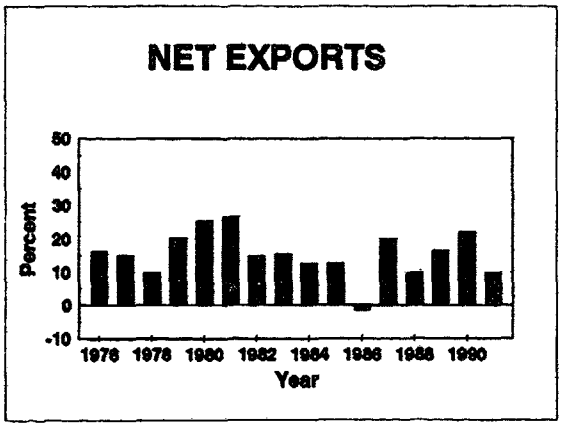
CHART 2.11: COMPOSITION OF GROSS DOMESTIC EXPENDITURE 1976 - 1991







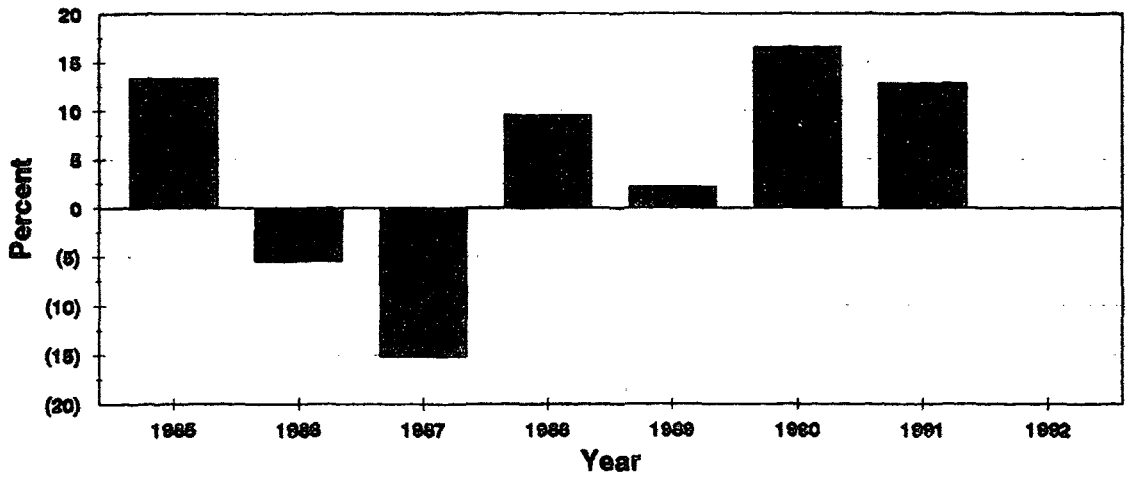




Source: Development Council

2.31 Chart 2.10 made it clear that, even after eliminating the instability induced in the growth of GDP by sharp variations in the value of oil exports caused by fluctuations in international oil prices, there remains a great deal of instability attributable to variations in the level of public spending, again mainly in response to revenue fluctuations associated with variations in the price of oil. These variations in public spending caused the rate of change in overall domestic demand to swing sharply from one year to another, as shown in Chart 2.12. If the Government were able to reduce the level of public spending and restrain its future growth, thereby generating increasing surpluses (as recommended in Chapter 3) the problem of public revenue induced instability in financial domestic demand would be largely eliminated, since public revenues and expenditures would be far less closely related.

CHART 2.12: CHANGES IN DOMESTIC DEMAND
1985 - 1991

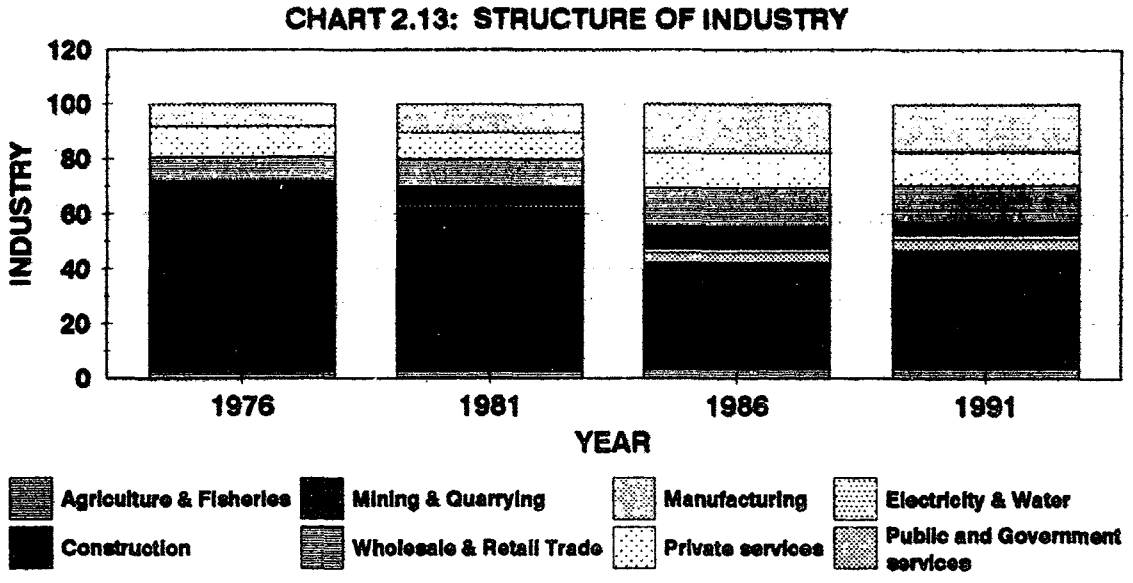


Source: Development Council

The Structure of Production

2.32 The structure of production has undergone major shifts in the past decade and a half (Chart 2.13). Mining, quarrying and oil wells, already dominant in 1976, accounting for 59 percent of GDP at factor cost, increased its share to 60 percent in 1981. However, reflecting the drop in oil prices, its share fell to 39 percent in 1986. It recovered to 43 percent in 1991 as a consequence of increased production and the recovery in oil prices. There was a major decline in the role of construction. In 1976, during the construction boom, its share of GDP was 10 percent. With the decline in public construction, its share fell to only 4 percent in 1991. On the other hand, mirroring the rise in public recurrent spending, public and government services rose from 8 percent of GDP in 1976 to 11 percent in 1981, 18 percent in 1986 and 17 percent in 1991. The decline in mining, quarrying and oil wells, together with the drop in construction, coupled with the strong rise in public and government services, combined to increase the share of the overall services sector from 29 percent in 1976 to 32 percent in 1981, 47 percent in 1986 and 46 percent in 1991. Thus, since the early days of the oil boom, the Omani economy has evolved from one dominated by oil output and construction, with services accounting for less than three-

tenths of GDP to one in which services now account for a little under a half of total output.



2.33 In the non-oil goods-producing sector, manufacturing -- the most strongly growing of all the components of GDP over the decade and a half -- rose from only 0.5 percent of GDP in 1976 to over 4 percent in 1991. This appears attributable to a number of underlying factors. First, the income elasticity of demand for manufactured goods is typically high, i.e., as incomes rise, the demand for manufactured goods rises more than demand for basic foods and services, since these are already largely filled. Second, the Government has, over the past decade or so, initiated a number of activities, such as cement manufacturing, flour milling and copper cathode production, involving relatively large increments to an initially minuscule manufacturing base. Third, the Government has provided a range of significant subsidies to manufacturing activities (see Chapter 8) in the interests of diversifying the economy away from oil and gas. Despite its rapid growth, manufacturing remains relatively small at 4.3 percent of GDP. Its 1991 GDP share was still only equivalent to about a quarter of the share of public and government services. In relation to GDP excluding mining, quarrying and oil wells, its share was close to 8 percent in 1991. (However, on this basis, public and government services accounted for 30 percent of the total.) Agriculture also increased its share, from 2.1 percent of GDP in 1976 to 3.7 percent in 1991. This was not solely due to the decline in the share of mining, quarrying and oil wells. Even in relation to GDP excluding mining, quarrying and oil wells, its share rose from 5.0 percent to 6.5 percent over 1976-91.

2.34 While the growth of manufacturing and agriculture has been encouraging, their role remains quite minor. Moreover, private investment in these industries remains quite low. If domestically produced non-oil goods and services are eventually to replace oil exports, then manufacturing, agriculture, fishing and tourism must expand considerably in the future. The factors producing the present industrial distribution of production and those that would produce diversification away from the production of domestic services and towards externally competitive goods and services production are analyzed in Chapter 5.

D. Saving and Investment

2.35 Chart 2.11 showed that the GDP shares of both public and private investment have declined substantially since the seventies, while the shares of public and private consumption have risen. The lack of private investment appears in large part to reflect the dominance of public spending and the absence of export and efficient import-substituting opportunities in an oil-dominated economy with an appreciated real exchange rate. The share of net exports, while highly variable, as noted, has fallen slightly (its average GDP share was 16.9 percent over 1976-85 and 12.6 over 1986-91).

2.36 The decline in gross domestic saving and gross investment is also shown graphically in Charts 2.14 and 2.15. Saving and investment were relatively high in the early days of the oil boom, averaging 46.7 percent of GDP over 1976-81. The average declined to 41.8 percent over 1982-85 and dropped to 31.3 percent over 1986-91. Although these rates of saving appear high by industrialized country standards, they are extremely low -- especially in recent years -- for an oil-dominated economy in which government gross oil receipts -- essentially realized oil capital -- repre ented 35 percent of GDP. Furthermore, national saving (Chart 3.1) are much lower than domestic saving, reflecting large external transfers by expatriate workers. Chart 2.15 shows that the decline in the GDP share of total domestic saving is primarily explained by the drastic decline in public saving.

2.37 The decline in the GDP shares of saving and investment -- particularly public saving and investment -- has serious implications for Oman's economic future. The Government has been relying on developing the non-oil economy as a means to sustain Omanis' real incomes when the proceeds from the extraction of oil and gas start to decline. The Government's strategy required that high levels of domestic saving be maintained and that this saving flow into highly productive private investment This has not been happening. How much Oman -- particularly the public sector -- should be saving and how its saving should be invested are issues that are taken up in the next two chapters.

CHART 2.14: GROSS DOMESTIC SAVING AND INVESTMENT

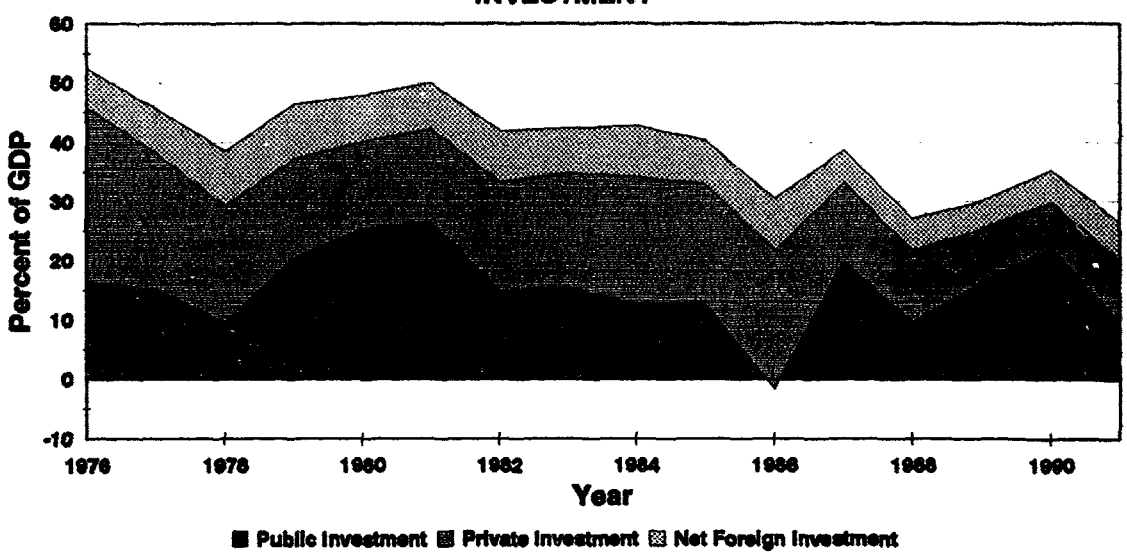
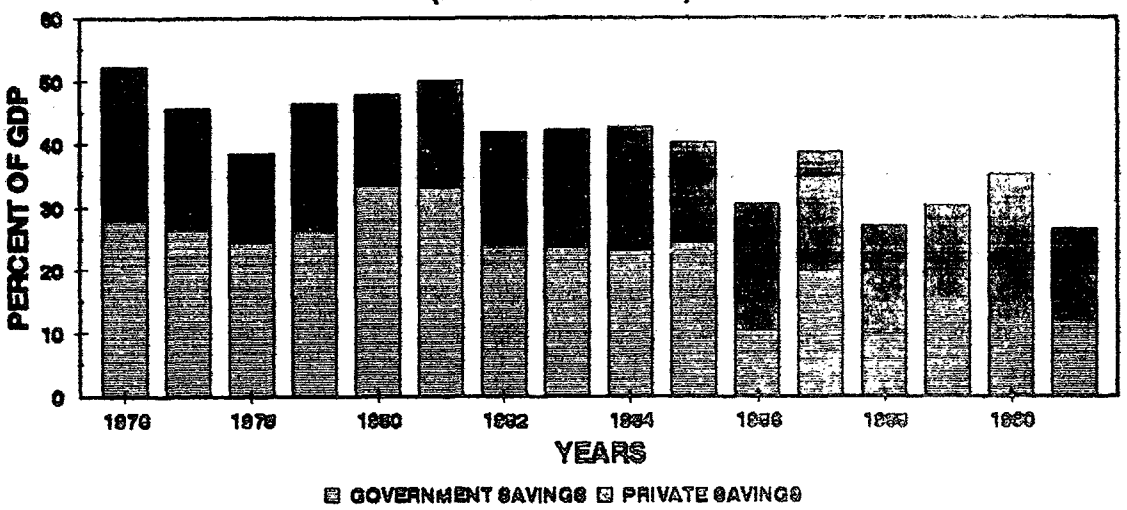


CHART 2.15: GROSS DOMESTIC GOVERNMENT AND PRIVATE SAVING (PERCENT OF GDP)



E. Balance of Payments and the Exchange Rate

Structure of the Balance of Payments

2.38 The structure of Oman's balance of payments reflects the characteristics of an economy dominated by oil and oil exports, heavily dependent on expatriate labor and external entrepreneurs. Chart 2.16 and Statistical Appendix Table 3 summarize the main elements. Oman typically experiences a large positive trade balance, dominated by oil exports, partly offset by a substantial negative services balance, dominated by remittances of profits and the earnings of expatriate labor. The latter are particularly large, averaging about 30 percent of the value of goods imports over 1989-91. The trade balance is typically large during periods of high oil prices, such as 1980, 1981, and 1990, and small during periods of low oil prices, such as 1986 and 1988. The negative services balance, while typically smaller than the positive trade balance, is less variable. Thus, although Oman normally runs an overall current account surplus, during periods of weak oil prices and low trade balances, such as 1986 and 1988, the current account has become negative -- markedly so in 1986, when it reached minus RO 383 million.

2.39 With a typically positive capital inflow -- largely reflecting the government's net foreign borrowing -- in addition to a typically positive current account, Oman's overall balance of payments position is normally positive, leading to an accumulation of foreign exchange reserves. Exceptions were the years 1986 and 1988, again because of low oil prices and a sharply reduced trade balance not entirely offset by increased government borrowing. (The negative overall balance of payments in those years was financed by reductions in government reserve assets, as the Government drew on them to cover the budgetary deficit resulting from the decline in oil

revenues, and by reductions in Central Bank foreign reserve assets.) Conversely, years of heavy foreign exchange reserve accumulation, such as 1980 and 1981, coincided with years of high oil prices and large trade surpluses. 1990 was also a year when reserves were accumulated, but some of the effects of the enlarged trade surplus were offset by a large net foreign loan repayment. The Government resumed significant net foreign borrowing in 1991.

Non-Oil Exports

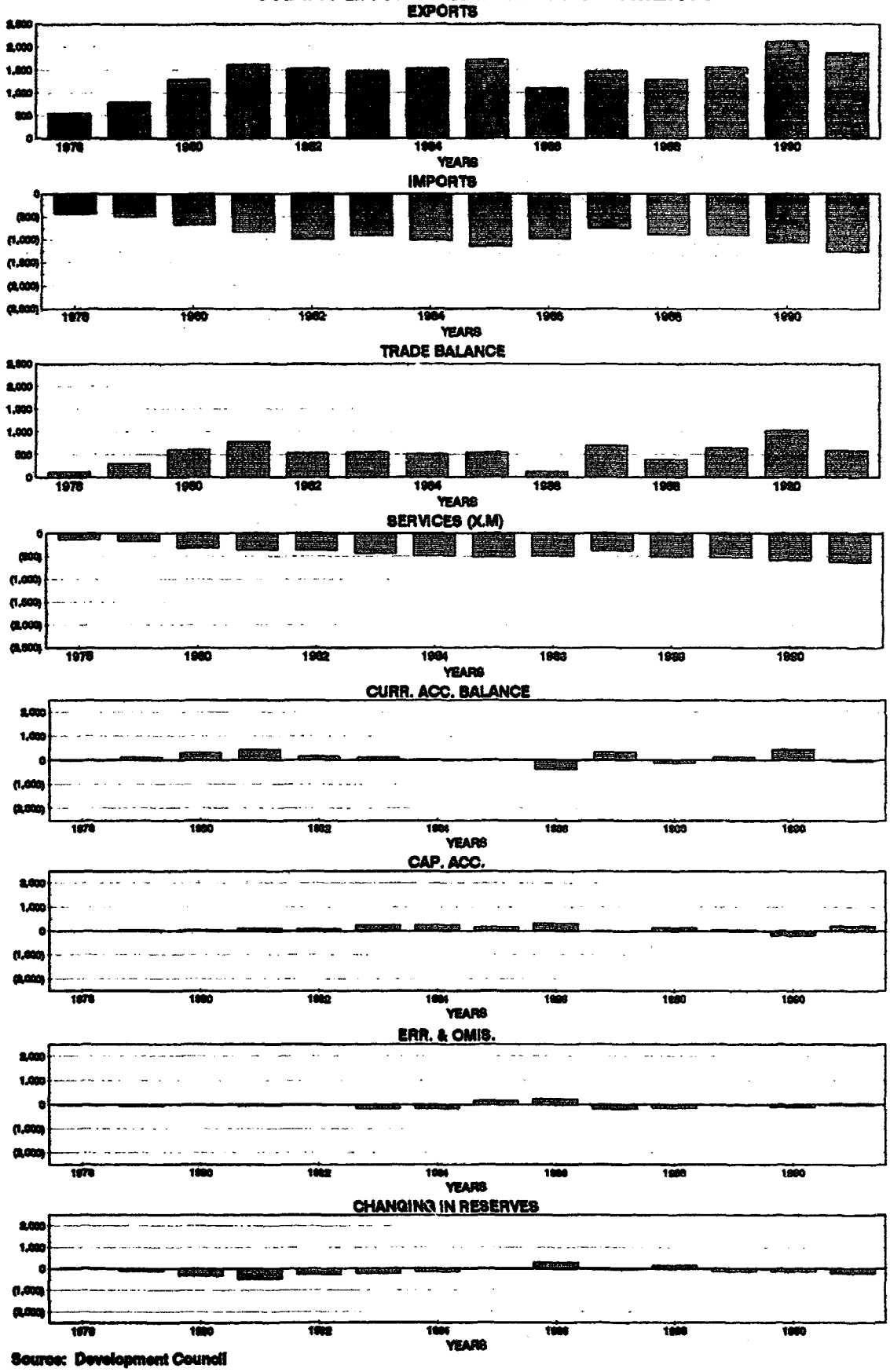
2.40 Non-oil exports have gradually increased in importance since the late 1970s, although goods exports are still dominated by crude oil. From 0.2 percent of total goods exports (excluding re-exports) in 1976, non-oil exports rose to 4.6 percent in 1991. Domestic non-oil exports, which totalled RO 79 million in 1991, have more than tripled since 1985, reflecting, in part, not only the depreciation of the rial in dollar terms but the much larger depreciation of the nominal and real effective exchange rates (see below). Table 2.3 shows that manufactured goods exports have grown rapidly in recent years and now account for more than 60 percent of total non-oil exports of domestic origin. However, they still represented less than 3 percent of total exports in 1989. Other than miscellaneous manufactured goods and copper cathodes, Oman's non-oil goods exports are made up mainly of fish and ocean products, accounting for about a quarter of the total, and live animals (10 percent of the total). Clearly, diversification of Oman's exports has not proceeded very far. Neither could it have been expected to, given the dominance of oil and Oman's limited indigenous absorptive capacity in relation to the level of oil-driven overall spending. Nonetheless, the performance of miscellaneous manufactured exports since 1985 suggests that they are highly responsive to movements in the real exchange rate.

The Exchange Rate

2.41 The Omani rial is pegged to the US dollar. The fixed nominal rate of US$1 = RO .3454 was maintained from February 1973 until 1986, when the rial was devalued 10 percent to US$1 = RO .3845. The nominal effective exchange rate has been influenced by the decline in the value of the US dollar in relation to other currencies in recent years. The nominal effective exchange rate in consequence depreciated by 37.6 percent over 1985-91 compared with the 10 percent depreciation of the Omani rial in dollar terms. In real terms, the effective exchange rate depreciated even more markedly, falling 43 percent since 1985. Since oil, Oman's dominant export, is priced in US dollars, the effect of the devaluation of the rial on Oman has been mainly to raise the cost of Oman's imports substantially in terms of the domestic currency, both as a consequence of the decline in the rial vis-a-vis the dollar and as a consequence of the decline in the value of the dollar versus other currencies. This rise in import costs has had the effect of reducing the volume of imports and raising consumer goods prices. As noted above, non-oil exports have been favored by the large depreciation of the official and effective rates.

2.42 The maintenance of a fixed exchange rate regime implies that constraints are placed on the conduct of monetary policy in Oman. Specifically, in order for the country not to gain or lose reserves, interest rates in Oman must be maintained at levels that will discourage any large-scale influx or exodus of funds seeking better returns. Thus, Omani domestic interest rates tend to move up and down with international rates.

CHART 2.16: BALANCE OF PAYMENTS



Source: Development Council

Table 2.4: Non-Oil Exports
Percentage of Total Non-Oil Exports Excluding Reexports

	1986	1987	1988	1989	1990
Live Animals	8.5	12.8	9.1	11.3	9.7
Fish and Ocean Products	36.5	30.4	30.1	22.5	25.1
Wheat Flower	2.4	0.1	0.0	0.0	0.1
Dates	2.7	1.2	1.3	1.1	1.1
Limes, Citrus Fruits	9.5	2.6	3.0	1.0	1.1
Other Fruits and Vegetables	2.7	2.0	1.9	2.3	2.2
Tobaccos (unmanufactured)	1.4	1.0	0.8	0.6	0.5
Copper Cathodes	34.4	24.7	27.6	28.7	18.4
Other (mainly manufactured)	1.9	25.3	26.2	32.3	41.9
Total	100.0	100.0	100.0	100.0	100.0
Percent of total exports excluding re-exports	2.6	2.8	5.3	4.5	3.4

Source: Central Bank

F. Prices

2.43 There is a serious lack of comprehensive and reliable historical price data in Oman. The Government first introduced a comprehensive consumer price index, covering the City of Muscat in January 1989. Prior to that time, the consumer price index covered only foods, beverages and tobacco. Annual data for this limited index are available for the period 1978-91. Other, less comprehensive official price data relate to selected imported food commodities (since 1975), the prices of building materials (since 1975), and unit values of imports (since 1980). The Development Council prepares deflators for overall and non-oil GDP.

2.44 The new CPI showed an annual rate of inflation of 7 percent over the three-year period January 1989-1992. Eighty-six (86) percent of this increase was attributable to rents.[9] Questions as to the accuracy of the weights ascribed to rents and of the representativeness of the rental information collected left open the possibility that the rise in rents and thus in the overall index was somewhat overstated. Nonetheless, rents (and house prices) are highly responsive to variations in the inflow of expatriates, they show considerable cyclical instability, and they are the main cause of fluctuations in overall consumer prices. New, more appropriate weights for the CPI, based on the results of the recent household expenditure survey have now been introduced and will improve the future accuracy of the CPI.

2.45 The non-oil GDP deflator indicates that the domestic price level more than doubled over 1978-81 and then declined 37 percent to 1986. It shows an average annual rate of inflation of 2.9 percent over 1986-91. The limited coverage of the consumer price data and the lack of data to

[9] See informal World Bank report to the Government entitled Recent Omani Inflationary Developments, June, 1992.

deflate investment expenditures suggest that the non-oil GDP deflator may not be a very reliable guide to overall price movements. The unit values of imports index indicates an average annual rate of increase of 5.9 percent a year over 1978-86 and only 2.6 over 1986-91, which is difficult to reconcile with the decline in the effective nominal exchange rate over the latter period.

2.46 The available data appear to support the conclusion that the rate of domestic inflation in Oman has been quite modest during recent years, apart from whatever may be appropriately attributed to rents. While the CPI reflects, in addition to the impact of rising rents, the effects of rising import prices associated with the depreciation of the nominal effective exchange rate, imported inflation is in principle eliminated in the construction of the GDP deflator. The evidence suggesting limited recent inflation in Oman (apart from that in explicit and implicit rents) is supported by theoretical considerations. Oman's highly elastic supply of expatriate labor should ensure that wage-based inflation can only raise the prices of domestic services in the short term. However, this does not appear to have been the case during the oil boom years of 1978-81, when Oman experienced very substantial inflation.

The Rest of this Report

2.47 A number of critical issues identified in the above review, plus some additional issues, are discussed in the following chapters. Chapter 3 addresses the question of what, in Oman's circumstances, is the optimum rate of national saving. Since this is a quantitative problem, it requires the solution of a formal mathematical model. Chapter 4 considers the quantitative implications (e.g., for the deficit, the balance of payments, external debt and exports and imports) of, on the one hand, the Government's continuing its present expenditure policies and, on the other, its adopting a desired saving strategy, together with other reforms. This requires the use of a suitable macroeconomic model. Chapter 5 assesses the factors producing the present structure of industry and the best means to achieve the Government's intermediate goal of industrial diversification.[10] Chapter 6 considers the existing and optimum roles for the public sector and Chapter 7, the most appropriate means to eliminate the public sector deficit and raise the rate of public saving. Chapter 8 addresses the issue of how to strengthen the private sector. Chapter 9 reviews Omanization policies and issues. Finally, Chapter 10 looks at future prospects and outlines an overall strategy for more rapid and sustainable long-term growth, improved economic stability and increasing industrial diversification.

[10] Industrial diversification is not an end in itself. It is sought (i) as a means to balance the economy, and thus reduce instability arising from a narrow base of goods production; and (ii) as a means to assure continuity of exports and reduced dependence on imports in the post-resource era. The basic economic objective of the Government is maximizing the present value of future Omani consumption.

3
THE NONRENEWABLE RESOURCE BASE AND THE CASE FOR HIGHER NATIONAL SAVING

A. Conceptual Issues

The Central Policy Problem

3.1 Chapter 2 showed that, over 1976-81, a rising share of Oman's GDP was devoted to consumption. Gross domestic investment underwent a decline that was severe in the case of public investment. The decline in investment should be a matter of serious concern to a country heavily dependent on transitory proceeds from the extraction of oil and gas. Oman's oil and gas are nonrenewable resources that will eventually be depleted. The proceeds of extraction accruing to the public sector are thus not an indefinitely continuing stream of income but a once-and-for all realization of Oman's national natural endowment of in-ground wealth, i.e. capital, a good part of which should be soundly invested, not consumed (or invested in low- or negative-return projects). Oman's consumption should depend not on this transitory infusion of capital but on the country's *permanent income*. Thus, one of the most critically important decisions confronting the Government is *how much* of its oil proceeds can be regarded as permanent income. This will in turn determine how much Oman should save and invest at each point in time out of the stream of oil and gas proceeds. If the Government were to continue to save and invest an inadequate fraction of this stream (or were to invest an otherwise adequate fraction very poorly), at the end of the oil and gas eras, a slow but increasingly severe decline in public revenues would occur, necessitating increasingly severe cutbacks in public expenditure. If the economy were still heavily dependent on government spending as the driving force for the entire economy (as would be highly likely if government spending were to continue at very high levels until oil and gas approached depletion) a gradual but increasingly severe decline in overall economic activity would occur as government revenues and expenditures declined. Furthermore, since oil and gas would no longer be providing the means to pay for the bulk of its imports, a gradual but major depreciation of the real exchange rate would be forced on Oman.

Potential Bust

3.2 Its effect would be to produce an increasingly large rise in the price of imports, which would result in deep cuts in Omani real wages and consumption. Thus, the worst type of "boom and bust" pattern of oil development would be realized and most of the oil capital that had accrued to the Government would be seen in retrospect to have been dissipated on a temporary splurge of public and private consumption and largely unproductive investment. The result would be a major economic and social upheaval as the oil and gas era came to an end and Omanis were forced to give up accustomed standards of consumption.

Averting a Post-Resource Era Crisis

3.3 In order to avoid this outcome, it is necessary for the Government to invest in appropriately secure assets yielding internationally competitive real rates of return a substantial share of the oil and gas capital being realized through the process of extraction. The income from the accumulation of such assets will permit higher consumption than would otherwise be feasible

after the nonrenewable resources are exhausted. If the Government wishes to avoid *any* disruption at the end of the oil and gas eras, the amount saved should be such as to permit *uninterrupted growth in overall consumption*. An important technical problem that needs to be solved in this connection is precisely what proportion of oil and gas revenues should be saved at each point in time in order to permit such steady, uninterrupted growth of consumption to be realized. This question is addressed below.

B. The Savings Model

The Model

3.4 Optimum saving rates for Oman have been estimated using a modified version of a model employed in other Bank analytical work.[11] The model assumes a simplified economy that can only receive income from the extraction of oil and gas reserves, consume, and accumulate yield-bearing non-oil assets. (These restrictive assumptions are relaxed below.) The model solves for the saving rates that maximize economic welfare (assumed to be a function of consumption) both during and after the oil era. The optimum saving ratio estimated by the model depends on a number of variables: (i) the life span of the oil and gas reserves; (ii) the real long-term rate of oil price and production cost changes; (iii) the real long-term rate of return on investment; and (iv) the desired saving ratio in the post-oil era. The essential problem that the model is required to solve may be stated as follows: given reserve levels for oil and gas, an initial stock of non-oil capital, and expected values for the abovementioned variables, how much needs to be saved out of the proceeds of extraction and income from investment in order to build up a stock of capital big enough that, with the assumed yield on that capital, total consumption can rise steadily and continue to rise uninterruptedly even after the oil and gas are exhausted. The model is presented in detail in Annex A.

Assumptions and Results

3.5 The model was solved for a number of scenarios. Details are presented in Annex B. The scenario selected for the purposes of the projections presented in this report (Chapter 4) assumes that future gas discoveries will double the size of existing proven gas reserves in the "old" field from 10 tcf to 20 tcf. In addition, 5 tcf of natural gas from the "new" field is assumed to be processed into LNG. Given rates of extraction for oil and gas (and thus the lives of the estimated reserves) and based on the assumptions that the rate of return on invested capital is 3 percent, the required post-oil saving rate 30 percent, and the real price of oil rises in accordance with the assumptions noted in Annex B, the initially required saving rate (in 1992) is 38.7 percent and the maximum saving rate, 64.1 percent, reached in 2009 (see "optimum national saving rates" Chart 3.1, which also shows, for comparison, actual national saving rates over 1976-91.

3.6 These estimated optimum saving rates for Oman, while seemingly high, are not out of line with those estimated for other oil-producing countries. Optimum saving rates relative to GDP have been computed at about 37 percent for countries, such as Egypt, Turkey and Indonesia,

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[11] World Bank, Bahrain - The Requirements for Economic Diversification and Sustainability, Report No. 11281-BH, March 1993. See also Annex I.

which only partially depend on oil. For other countries, such as Saudi Arabia and the UAE, that are more heavily dependent on oil, the computed saving rate can be as high as 60 percent.

3.7 It will be noted that the required saving rate illustrated in the chart is a discontinuous function, rather than a smoothly rising curve. This reflects the fact that the saving model assumes fixed rates of extraction, leading to successive collapses in output as reserves in each field are exhausted.[12] With the resulting sharp variations in receipts from oil and gas, it is necessary for annual saving rates out of these revenues to vary sharply also, if the smooth flow of consumption spending is to be maintained.[13] The latter is what matters to a government.

3.8 It should be emphasized that the assumptions underlying these results are quite optimistic, both with respect to future discoveries of gas and with respect to the real rate of return (3 percent) on the existing capital stock and new investments. If future gas discoveries are not as great as assumed or the rate of return on capital is less than 3 percent, the required rates of saving shown will represent *underestimates*. The rates shown in Chart 3.1 on this account represent *minimum* required rates of public saving out of oil revenues.

3.9 Relaxing the Assumptions. The assumption that net proceeds from sales of oil and gas and earnings on accumulated capital are the only sources of income is obviously not true for the overall Omani economy, in which labor is an important factor of production that receives income and saves. Thus, the estimates of required national saving are on this account *overestimates*.

3.10 For the purposes of the projection exercise undertaken for this report, a rate considerably lower than the estimated optimum rate has been used, reflecting the current low public and national saving rates and the difficulty of moving directly to the optimum saving rate. Somewhat lower than optimum rates may be justified by the fact that the optimum saving rates somewhat overstimate required saving for the reasons set out in the previous paragraph. (The projected rate is labeled "reform scenario projected national saving rate" in Chart 3.1 and its rationale is explained in para 4.20).[14]

3.11 The foregoing has not dealt explicitly with the important issue of the effects of uncertainty on the optimum saving rate; for example, uncertainty about the future value of oil reserves in the face of potential competition from substitute energy sources, which could make it beneficial to speed up the extraction rate. Faster extraction implies a shorter life span for the oil reserves, implying, in turn, higher optimum and "desired" saving ratios.

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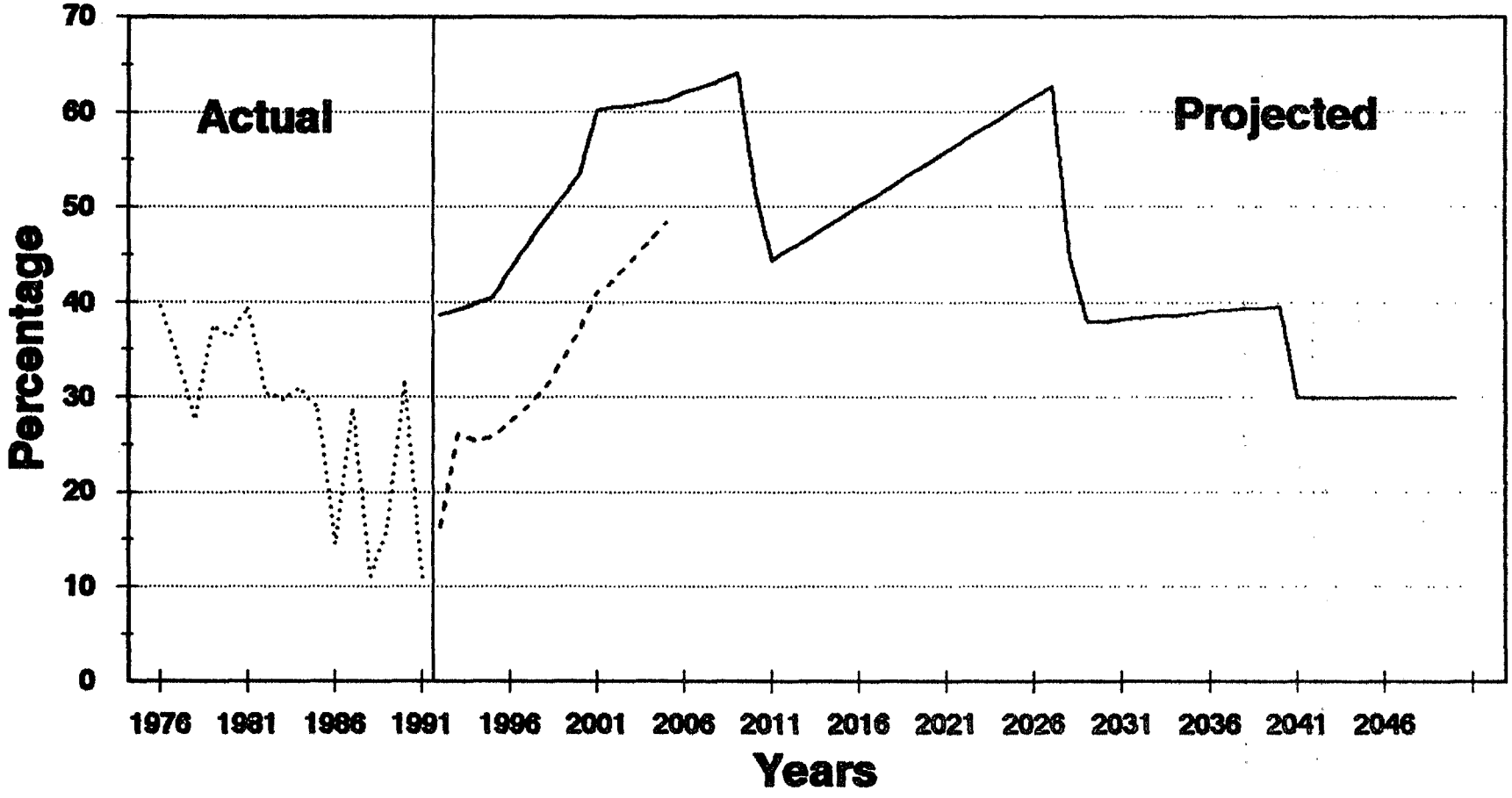
[12] This reflects the approximate character of the assumptions, given the unavailability of projected long-term extraction rates. In reality, rates of extraction would drop off long before a field approached exhaustion, producing a slow decline, rather than a collapse, in the rate of extraction.

[13] Again, if extraction rates declined slowly, rather than collapsing, saving rates would change more smoothly, rather than in the saw-tooth fashion shown in Chart 3.1.

[14] It will be noted that the reform scenario projected saving rate is shown on Chart 3.1 only to the year 2005. This is due to technical limitations of the projection model that limit its horizon.

CHART 3.1: ACTUAL, OPTIMUM AND PROJECTED SAVING RATES



C. Policy Implications

General Implications

3.12 As shown in Chart 3.1, the optimum national saving rates generated by the model and the projected "desired" saving rates are far in excess of those currently being realized in Oman. Based on Development Council data, national saving represented only 10.7 percent of GNP in 1991, whereas the projected "desired" rate is 16.3. Thus, Omani national saving at present rates appear quite inadequate to stave off a gradual but increasingly severe post-oil and gas era economic decline. If new gas discoveries do not at least double present gas reserves, or less than 3.0 percent is earned on public investment out of saved oil capital and the existing capital stock, the situation is in fact worse, since public and national saving would have to be far higher and thus the current gap between desired and actual saving would be greater.

3.13 This poses a dilemma for policy. In order to avert a post-oil and gas decline in consumption beginning early in the next century, significant cuts in public consumption will have to be accepted over the next few years as the rate of saving out of public oil revenues is raised so as to move national saving towards the "desired" level. Faced with the choice of cuts in potential consumption in the near future as opposed to a major drop in consumption in the longer-term future, the strong temptation will exist to avoid early cuts, particularly if it is hoped that still further oil and gas discoveries (beyond those already assumed) may lower the required saving rate.

3.14 There are, however, strong arguments against significantly postponing an increase in the rate of public saving. First, gambling on an extremely optimistic outcome for future gas reserves would not represent prudent public policy. Second, the lives of the assumed gas and oil reserves, while stretching well into the next century and thus seemingly far off, are relatively short in the context of the economic development of a country. Third, adjustments now can be managed in an orderly way by the Government, rather than being forced on it eventually by circumstances beyond its control. Fourth, unduly delaying an increase in public saving would mean that an even higher rate of saving would be required in the future to avert a post-resource era decline. Fifth, a steady rise in the saving rate towards the optimum level over the next few years would be less drastic in its impact than a major post-oil and gas era slide in Omani living standards. In fact, total consumption, with increased overall productivity, could continue to increase in absolute terms. This is because, while increasing the saving ratio requires lowering the consumption ratio, this need not necessarily entail a reduction in the *absolute* level of consumption. With faster economic growth, both a higher saving *ratio* and higher consumption *in absolute terms* can be realized. Medium-term projections for Oman presented below (Chapter 4) indicate that, under a reform scenario, it is possible to increase the saving ratio to a level compatible with the objective of achieving long-term sustainable growth in consumption, while still allowing overall consumption to grow at about 2 percent a year. Finally, as shown below (Chapters 4 and 5), increased public saving could contribute to earlier restructuring and industrial diversification of the economy than would otherwise take place.

3.15 Cutting present public consumption and restraining the growth of future public consumption need not entail corresponding decreases in overall social welfare. Defense and national security expenditure, for example, can be cut with little impact on domestic living standards. Eliminating surplus public sector employment and reducing the GDP share of the

public service wage and salary bill would also have little impact beyond that on those immediately involved. Moreover, improvements in the efficiency of the public sector and increased contracting out to the private sector could enable the same level of service to be provided at lower cost.

Budgetary Implications

3.16 There are major implications of the analysis for the budget. The implications are twofold: (a) public spending should be cut and revenues raised in order to strengthen the Government's financial position, as recommended elsewhere in this report; and (b) the Government's aim should be to go much further and generate a very substantial net surplus, to be invested mainly outside Oman. Ways of doing this are explored in Chapter 7.

Implications for Public Investment and Overall Productivity

3.17 It is difficult to overstate the critical importance for the Government of securing the highest possible rate of return on invested capital and of simultaneously raising the productivity of Omani workers, improving techniques of production, and increasing the overall efficiency of the Omani economy. Improving the productivity of the Omani labor force and economy should be the Government's fundamental domestic investment objective. Improvements in production techniques can be achieved through, e.g., effective research and extension in agriculture and joint ventures with foreign partners in fishing, manufacturing and mining. Increased efficiency in the overall economy can be achieved through a reduction in the GDP share of the public sector and a corresponding increase in the share of the private sector. The productivity of the private sector can be enhanced by the removal of the numerous allocative distortions resulting from the present wide-ranging system of public subsidies and regulation.

Optimum Public Investment Strategy

3.18 A strategy for raising the rate of return on public investment should comprise three elements. First, a substantial fraction should be invested abroad if it is clear that returns are likely to be higher. (The actual amount should depend primarily on a comparison of expected economic rates of return risks and covariances on potential foreign and domestic investments.) Second, existing procedures for determining domestic investment priorities should be revised and the bulk of public investment devoted to projects promising competitive, risk-adjusted economic rates of return.[15] Third, an adequate proportion of public investment should be allocated to high-return activities that upgrade Oman's human capital (typically investments in improving standards of primary and secondary education).[16] Whether this will entail increased investment in Oman's case, or simply more effective use of existing investment, remains to be seen.

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[15] This will require substantial changes in present procedures for determining investment priorities.

[16] See, for example, William Easterly and Ross Levine, Is Africa Different?, World Bank, March 1993, p. 17. This paper shows that, in cross-country growth comparisons, primary education enrollment rates were positively and significantly related to per capita economic growth performance.

4
THE MACROECONOMIC FRAMEWORK AND MEDIUM-TERM PROJECTIONS

Introduction

4.1 Chapter 2 drew attention to the marked deterioration in the financial position of the public sector over the past decade or so and to the need to take steps to improve it. Chapter 3 has pointed to the need to go considerably further and to generate a growing volume of public and national saving. This would require the realization of increasing public sector financial surpluses. The question that now needs to be addressed is what would be the overall economic consequences of the continuance of past trends in public finance compared with what would happen if the Government were to consume less and save and invest more, as indicated by the analysis in Chapter 3? To address this question, the Bank has adapted a suitable macroeconomic model to embody the key features of the Oman economy, as described below.

A. The Structure and Solution of the Macroeconomic Model

Model Structure

4.2 The macroeconomic model developed for Oman comprises three interrelated components: (i) a macroeconomic consistency framework that involves assembling the macroeconomic statistics into a flow-of-funds matrix format[17] (a source of funds (income) for one sector is a use (expenditure) for another sector); (ii) a behavioral model that defines the interaction between, and integrates, the goods and financial markets; and (iii) the saving module (Chapter 3), which (after adjustments) is integrated sequentially into the other two blocks, and gives the optimum national saving rates incorporated into the reform scenario.

4.3 With regard to the first two blocks, the macroeconomic model employed is an extended version of the World Bank Revised Minimum Standard Model (RMSM-XX).[18] In addition to the consistency accounts, it incorporates similar behavioral functions for the main macroeconomic variables to those employed in the Bahrain model, *op. cit.*[19] The model framework explicitly accounts, in block 3, for Oman's *fundamental* resource constraint (the eventual depletion of oil and gas).[20]

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[17] For more on the consistency accounts see Annex III.

[18] See, for example, Easterly et al (1990), "Modelling the Macroeconomic Requirements of Policy Reforms," WPS#417, The World Bank; Elbadawi and Majd (1993), "Bahrain: The Requirements for Economic Diversification and Sustainability," The World Bank; and Elbadawi and Schmidt-Hebbel (1991), "Macroeconomic Adjustment to Oil Shocks and Fiscal Reform: Simulations for Zimbabwe, 1988-95," WPS#772, The World Bank.

[19] However, optimum savings for Oman were derived under a more flexible set of assumptions than in the case of Bahrain.

[20] Another feature of the model is that it simulates the required public sector behavior consistent with jointly specified "target values" for real exchange rates and real interest rates. Unlike the conventional RMSM-XX, the model generalizes the Easterly *et al* framework, which allows for simultaneous solutions for the behavioral equations.

4.4 Features designed to Facilitate Policy Analysis. The difference between actual and potential non-oil GDP is specified as a function of relative prices and the real wage rate adjusted for productivity improvement, where the latter is made to depend on Oman's investment in indigenous human capital. This productivity improvement produces a positive effect on growth over time. A related equation derives the demand for foreign labor as a negative function of the real wage and the stock of Omani labor. These two equations permit the model to depict the trade-off between the Government's "Omanization" policy and economic growth. This is an important extension of the model designed to accommodate Oman's particular needs for policy analysis. Finally, the asset market disaggregation permits identification of the level of public debt. Holdings by the private sector of base money and debt are determined *endogenously* as functions of interest rates and inflation.

Solving the Model and Making Projections

4.5 The model is used as follows: first, the behavioral block simulation results are obtained from a general equilibrium model. The equations of this model embody parameters derived from the estimation results for the behavioral block variables (see Annex C). The model is solved simultaneously for the endogenous variables. At the next stage, these simulation results are linked to the accounting blocks of the RMSM-XX model, which are solved recursively for the remaining endogenous variables. For predetermined variables such as oil prices, the international manufacturing unit value index (MUV), LIBOR, etc., World Bank planning assumptions committee (PAC) projection assumptions have been used. In the reform scenario (one of two scenario examined), the targeted policy variables[21] are adjusted so as to bring about greater economic diversification. The implications of "desired" domestic saving for the evolution of the main macroeconomic variables are identified. "Desired" domestic saving (adapted from the saving model) are based on the conditions necessary for sustaining the growth of consumption into the post-oil era, as explained in Chapter 3. In both simulations, the implications of the alternative sets of target variables for the size and composition of the fiscal deficit, etc., may be observed.

4.6 The closure rule adopted for the core consistency framework is "normative." The idea is to solve for the fiscal implications of the "target values." The "normative" (i.e., policy related) and "requirements" (i.e., given or predetermined parts of the model) together determine the endogenous variables, such as government current and capital expenditures and the foreign and domestic borrowing needs of the private sector.

B. Medium-Term Projections

The Key Assumptions

4.7 The key assumptions underlying the medium-term simulations are summarized in Table 4.1. They fall into two sets. One contains assumptions that are the same for both the "reform" and "base case" scenarios (the General Assumptions). These are the assumptions regarding population growth, the nominal exchange rate, international prices, MUV, the

[21] In the reform-based simulation, the key target variables include: higher domestic national saving ratios, higher productivity of Omani labor, improvements in the efficiency of capital, the removal of subsidies, and the introduction of a 3 percent general sales tax.

hydrocarbon sector production and price assumptions, and, finally, transfers to public enterprises and the private sector. The assumptions regarding the hydrocarbons sector are consistent with those used in the saving model to derive optimum saving (Chapter 3 and Annex B). The nominal exchange rate is assumed to remain fixed throughout the simulation period. This assumption, while imposing a constraint on the authorities' ability to achieve timely and relatively costless real exchange rate adjustment to higher public saving coupled with external investment, is dictated by assumed constraints on Oman's ability to initiate unilateral nominal devaluation under the GCC arrangement.[22]

4.8 The differences between the two scenarios (the Specific Assumptions) are attributable to the assumptions regarding national saving, labor productivity and taxes. The most significant, indeed the hallmark of the whole modeling exercise, are the assumptions about national saving. In the "base case," national saving is derived residually, using the national income identity and behavioral specifications for private consumption, non-oil GDP, a projected path for oil GDP (Annex C), and an assumed historical path for public saving. The resulting national saving ratios under this scenario show a steadily declining trend, from 21 percent in 1993 to only 8 percent in 2001-05.

4.9 On the other hand, national saving under 'reform' is derived from assumptions about the hydrocarbon sector, the rate of return on invested capital, and the post-oil national saving rate, using the saving model of Chapter 3 (and Annexes A and B). Unlike the procedure in the "base case," given the behavioral specifications for private consumption, non-oil GDP, and projected oil GDP, public saving are derived residually. Under the reform scenario, the ratio of national saving to GDP starts off at its historical value in the base year (1991). In 1993, the ratio is equivalent to that in the "base case," at 25 percent. It declines to 24 percent in the following year, rises to an average of 30 percent in 1996-2000, and then increases further to average 38 percent in the 2001-05 period.

4.10 Comparison of the two saving profiles indicates a big difference between the two scenarios. However, the desired national saving ratio under reform is scaled to agree with its historical value in the base period. Therefore, these saving ratios under reform represent, particularly initially, a conservative assessment of required national saving, given the fundamental resource constraint facing Oman (the nonrenewable nature of the resource base). Hence, *ceteris paribus*, the implied policy reforms suggested by the model should be viewed as minimum requirements for the sustainability of growth and the welfare of future generations.

4.11 Another assumption differentiating the two scenarios relates to labor productivity, where the *status quo* is maintained and no improvements are assumed under the 'base case', while an improvement of 0.76 percent per annum is assumed under the "reform" scenario. Enhanced labor productivity plays a key role in stemming the potentially negative consequences for growth of higher wages resulting from reduced recourse to foreign labor [see Chapter 9 (on the labor market and Omanization)]. Finally, sales taxes of 3 percent of GDP are assumed in the reform scenario. The sales tax is viewed as the least distortional tax option. In addition, it has the potential to

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[22] The assumed unavailability of nominal exchange rate realignment as a variable is the reason behind the absence of strong real exchange rate depreciation under the reform scenario, despite the high national saving under this scenario.

Table 4.1: Oman - Major Assumptions of the Model

	1993	1994	1995	1996-2000	2001-2005
General Assumptions					
Population Growth Rate (%)	3.0	3.0	3.0	3.0	3.0
Nominal Exchange Rate	0.385	0.385	0.385	0.385	0.385
Growth Rate of International Prices	3.58	2.35	2.88	3.8	3.65
Growth Rate of MUV[a]	3.75	1.86	2.67	3.50	2.80
Hydrocarbon Sector					
Oil Price (US$/bbl)	16.7	16.8	17.5	21.6	25.9
LNG Price (oil equivalent)	19.1	19.1	19.1	20.0	21.5
Oil Production ('000 bbl/d)	750	750	750	750	750
Gas Production ('000 oil equivalent)	36.5	36.5	36.5	36.5	36.5
Specific Assumptions					
Transfers As % of GDP					
to Public Enterprises	2.00	2.00	2.00	2.00	2.00
to Private Sector	2.00	2.00	2.00	2.00	2.00
Domestic Saving/GDP					
Base Case	0.37	0.35	0.34	0.32	0.24
Reform Base	0.38	0.36	0.36	0.39	0.42
Labor Productivity Growth (%)					
Base Case	0.00	0.00	0.00	0.00	0.00
Reform Base	0.76	0.76	0.76	0.76	0.76
General Sales Tax Rate (% of GDP)					
Base Case	0.0	0.0	0.0	0.0	0.0
Reform Base	3.0	3.0	3.0	3.0	3.0

[a] MUV is the international index of manufacturing unit values.

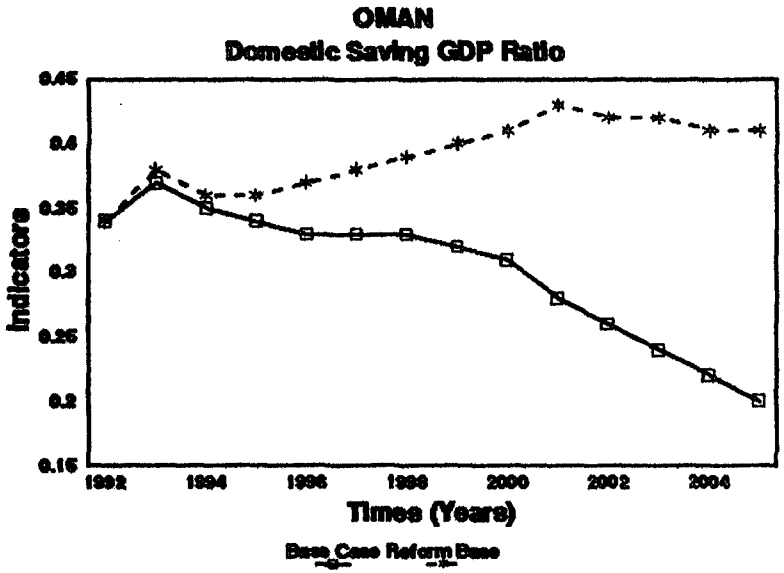
[b] Note that, in the "base case" scenario, the saving rate is derived residually, using the national income identify and behavioral specifications for private consumption, non-oil GDP, a projected path for o'l GDP, and an assumed historical path for public saving.

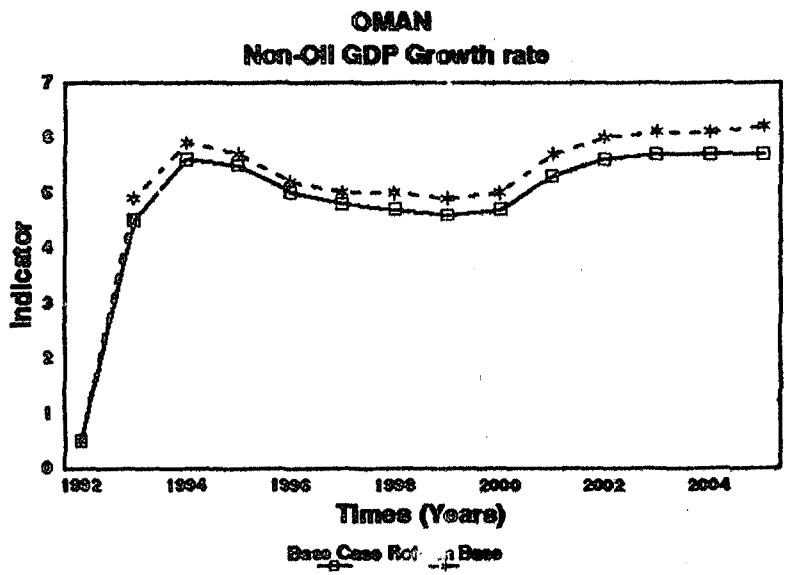
yield considerable revenue. The guiding principles underlying the selection of this assumption were that: tax policy should not be a substitute for much needed fiscal retrenchment; it should not compromise the competitiveness of the economy; and it should not be excessive, non-transparent or distortional.

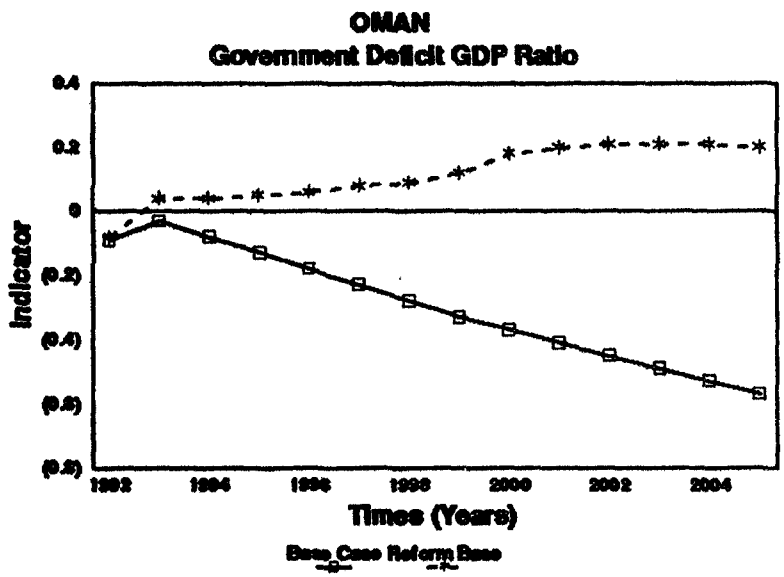
The Main Results

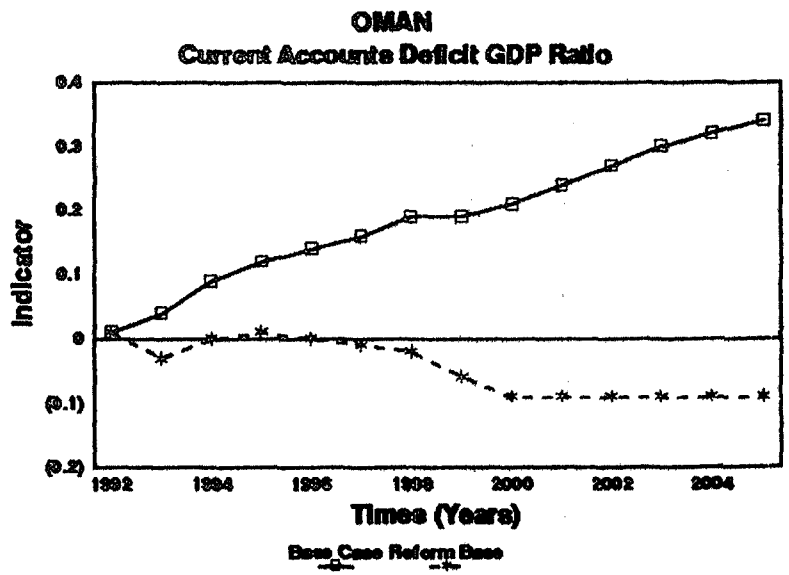
4.12 The simulation results for the base case and the reform scenario are summarized in the four graphs presented in Chart 4.1.

CHART 4.1: KEY VARIABLES UNDER BASE CASE AND REFORM SCENARIOS









Source: Macroeconomic Model Projection Results

These graphs first demonstrate the significant contrast between the two scenarios in terms of national saving, the variable that drives the main differences between them. National saving under reform is high and rising up to the year 2001, before gradually declining towards the desired post-oil and gas level of 30 percent of GNP (see Annex B for discussion of this assumption). This optimum national saving profile is contrasted with the base case projection of an initially low and stagnant national saving rate that by the year 2000 goes into a steep decline down to the level of only 2 percent by 2005. This path is clearly unsustainable, given the progressively depleting resource base of the economy. While GDP growth, although lower, remains close to that under reform, the current accounts and fiscal deficit ratios provide two further significant contrasts between the scenarios. The emerging fiscal crisis in Oman is testimony to the message that comes from these projections: the status quo is not sustainable. While crises like that in the mid-1980s could conceivably trigger a corrective policy response temporarily halting the deterioration in Oman's economic situation, the qualitative conclusions of these simulations will remain valid unless a *long-term* policy change oriented towards substantially raising the rate of national saving is put into effect.

The Base Case Scenario

4.13 The base case projection assumes neither major changes in government policy nor unforeseen external shocks. It shows that, under the best of circumstances, continuation of present government financial policies would result in a sluggish export growth rate, huge fiscal and current account imbalances, mounting external debt, and an eventual deterioration of the standard of living, particularly in light of declining oil, and subsequently gas, revenues.[23] In the absence of any explicit provision in the model for nominal currency adjustment, macroeconomic policy, especially government saving, is the major factor explaining the differences between the two scenarios. As can be seen, the ratio of national saving to GNP is projected to decline to very low levels in the base case.

4.14 If the Government were to continue to follow an expansionary fiscal policy by continuing to increase current expenditures, the widening gap between revenue and expenditures would enlarge the public sector deficit from about 8 percent of GDP in 1992 to more than 57 percent by as early as 2005. Since oil and gas revenues are limited, the unfunded portion of budgetary expenditure would need to be financed by withdrawals from the SGRF and foreign borrowings. (Since the SGRF would quickly be exhausted and foreign resources on such a scale would not be forthcoming, circumstances would in fact force discontinuance of such policies well before 2005.)

4.15 On the supply side, government dissavings play a crucial role in determining the future paths of output, inflation and the real exchange rate. In the base case scenario, government expenditures in real terms are allowed to grow at a rate equivalent to their historical rate of about 9 percent per year. The inflationary pressure resulting from the Government's current spending would increase non-oil GDP, albeit at a lower rate than the historical annual rate of around 11 percent over 1978-91. In addition, non-oil GDP growth would most likely be driven by an

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[23] As mentioned above, GDP under the base case remains lower but close to that under reform. However, GNP is 21 percent lower by 2005. A caveat is in order due to data limitations, which hamper thorough analysis of the macroeconomic situation in Oman. Some of the accounts, especially those for the public enterprises, had to be estimated by the authors, while inconsistencies among the data for the various sectors had to be brought into balance.

increase in the output of the peripheral services sector, the reason being that domestic inflation would cause an appreciation of the real exchange rate. Such an appreciation would inhibit the growth of output in the tradeable sectors, reduce exports, increase imports, and shift factors of production towards the production of non-tradeables. The "Dutch disease" effect appears to be at work when producing sectors such as agriculture, fisheries and manufacturing suffer.

4.16 On the demand side, the real appreciation would foster private consumption. However, the surge in private consumption would not be sufficient to match the rate of population growth. As a result, per capita private consumption growth would decline for a number of years before again registering positive rates, beginning in 2001. Private investment would dwindle due to a combination of lower productivity of capital and the public sector's "crowding out" effects. Firms in the private sector would invest only the amounts necessary to maintain the existing stock of capital, without adding much to output growth. This is shown by an increasing implicit five-year ICOR, from about 3 in 1992 to around 7 at the end of the projection period (Chapter Annex Table 4.A1, Key Indicators, Base Case).[24]

4.17 The most dramatic effect is the increase in the current account deficit of the balance of payments, which is projected to reach around 34 percent of GDP by the end of the simulation period. The current account deficit is a consequence of the behavior of imports, which increase rapidly between 1990-2005, and exports, which remain stagnant due to a combination of the by then modest performance of the hydrocarbon sector and the effect of the appreciation of the real exchange rate on non-oil exports. As the current account deficit increases, so does external debt, which is projected to climb to more than $62 billion by the end of the projection period. This would result in a debt service ratio of about 57 percent of exports of goods and services and 10 percent of GDP in 2005, again a clearly unacceptable outcome.

4.18 Rapidly rising government current expenditures have been the prime source of fiscal imbalance in Oman. The present trend clearly cannot be sustained. Oil and gas revenues at projected levels will not be sufficient to offset rapidly growing government current expenditures in the future. Moreover, the rapid rise in interest payments on foreign and domestic loans would compound fiscal imbalances further as the Government resorted to more borrowing from the foreign and domestic nonbank sectors to finance its deficit.

4.19 The future need for external financing of the current accounts and fiscal deficits would be extremely high, putting additional pressures on the service accounts. Unlike the neighboring GCC countries, Oman has not been heavily involved in major foreign investment ventures. The only significant sources of foreign investment income have been interest receipts from the country's international reserves and returns on SGRF investments.

4.20 One peculiar aspect of Oman's economy has been developments in the money market. During most of the 1980s, the Government has been a net lender to the banking system, despite

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[24] However, there are reservations in interpreting the efficiency of investment on the basis of a simple ICOR parameter, measured in terms of actual GDP (as is the case here) rather than on the time path of the potential output. In the model, the implied ICOR may be interpreted as a mixture of efficiency factors (determining the path of potential GDP) and capacity utilization (determining the discrepancy between actual and potential GDP). In that sense, changes in the ICOR may imply changes in efficiency or in the degree of capacity utilization or a mixture of both.

its substantial fiscal deficits. This is shown by the large deposits of the central government in the banking system. This situation is assumed to continue in the future, with government deposits increasing over time, from about RO 350 million in 1992 to around RO 1 billion in 2005. Meanwhile, private sector borrowings from the banking system are projected to increase from about RO 0.9 billion in 1992 to more than RO 5 billion by 2005. Moreover, the share of broad money in GDP is projected to decline from about 28 percent in 1992 to around 23 percent by the end of the projection period, indicating increasing financial disintermediation.

The Reform Scenario

4.21 The reform policy simulation assumes, as noted, significant changes in the model's key variables, including higher national saving rates, higher productivity of Omani labor, improvements in the efficiency of capital, the removal of subsidies, and the introduction of a 3 percent general sales tax. A key component of the reform-based simulation is the assumption concerning the national saving rate. The optimum savings rate model (Annex B) calls far an initial national saving rate of 38.7 percent in 1992 (the base year). Given an actual rate of only 16 percent in 1991,[25] such an abrupt jump would not be practical. Moreover, as discussed in Chapter 3, the quantitative results of the optimum savings rate model must be adjusted to allow for income and saving outside the public oil revenue sector. The saving rate used in the reform-based simulation (referred to earlier as "desired" saving) is derived from the "optimum" saving curve of Annex B by rescaling the latter to be equal to actual saving in 1992.[26] This yields a path for national saving that avoids a sharp break yet produces similar cumulative national saving over the projection period to those indicated by the optimum national saving estimates provided in chapter 3 (Chart 3.1). The projection model, under the reform scenario, generates higher non-oil GDP growth, much higher GNP growth, a more stimulative real exchange rate, enhanced export performance, and a sustainable fiscal balance, among other things. The full results are summarized in Chapter Annex Table 4.A2.

4.22 Non-oil GDP is projected to grow at a slightly higher rate in the reform scenario than in the base case despite a significant projected reduction in government expenditure (15 percent of GDP by 2005). (Government expenditure is projected to rise steadily under the base case, reaching a staggering 75 percent of GDP by 2005.) Furthermore, the expansion of non-oil output and exports has reversed the current account deficit.

4.23 A complement to the fiscal reform program in Oman should be wage policy. Any significant wage increases that are not consistent with labor productivity improvements could have profoundly adverse effects on the fiscal balance and overall growth. In the production function,

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[25] This figure corresponds with Central Bank data. Development Council data indicate a national saving rate of only 10.7 percent in 1991

[26] Adjustment of the intercept (initial conditions) while allowing the slopes of "desired" and "optimum" saving rates to be the same, is in line with a common simulation practice of adjusting projected variables to be equal to their actual values at the base year (add factor -- Elbadawi and Scmidt-Hebbel, 1991, op. cit.).

potential productivity improvements are allowed for[27] so that the wage-raising effect of reduced use of expatriate labor under the Government's Omanization policy may be partially offset. As it should, the model indicates that output growth would be hampered should the nominal wage rate or the price of imported capital goods increase relative to domestic prices. The nominal wage rate, adjusted for productivity change, is exogenously determined, based on its historical trend. The model solution jointly determines domestic prices and output for given prices of imports.

4.24 Obviously, given the limited life span of the hydrocarbon resource base, the Government of Oman needs to diversify the economy away from its heavy dependence on the sector. The key policy instrument should be a significant increase in public saving. The higher public saving will lead to depreciation, or avoidance of appreciation, of the real exchange rate (defined as the price of non-tradeables relative to tradeables). Higher public saving will make available financial resources that can be invested in part domestically (but mainly abroad) and free up domestic factors of production, while the performance of the real exchange rate will direct the freed-up factors of production towards the production of non-oil tradeables. Furthermore, the depreciated or less-appreciated real exchange rate should enhance private saving and investment. Depending on the level of public saving and the performance of the real exchange rate, the economy will end up with a more diversified structure and sustainable fiscal and external balances.

4.25 The improvement in the current account balance and the Government's fiscal situation is reflected in very large increases in the stock of foreign reserves. Interest receipts from the stock of gross reserves are projected to be high enough to accommodate the flow of imports, thus compensating for flattening oil and gas export earnings.

4.26 Meanwhile, the central government would be able to increase non-oil revenue as a result of the introduction of either a value-added tax or a general sales tax and to reduce expenditures by removing most existing implicit and explicit business subsidies.

4.27 On the goods market, the implications for non-oil GDP growth would be striking, as the value added of this sector increases on average by about 5.5 percent per year during the projection period. Moreover, the behavior of the RER would shift resources away from the service sectors of the economy to the goods sectors, boosting non-oil exports by a factor of 10 in real terms, from about RO 200 million in 1992 to around RO 2 billion in the year 2005. In addition, the expenditure-switching effect of the RER adjustment results in higher investment and consumption by the private sector. The net result would be higher efficiency of investment, as shown by improvements in the implicit five-year ICOR relative to the base-case scenario.

4.28 One important feature of the reform scenario is the shift that takes place in the SGRF, which is converted from a source of government deficit financing into an externally invested saving fund. The stock of the SGRF is projected to increase to RO 4.9 billion in the year 2005 from RO 1,750 million in 1992. Total public foreign assets, which include Central Bank reserves and non-SGRF government assets, increase to US$65 billion by 2005.

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[27] Potential productivity improvements are accounted for by incorporating Harrod-neutral productivity increases at a rate of, where ρ is given by the share of expenditure on education and training to GDP. In the base case scenario ρ is set equal to 0.0076 (the historical average), while in the reform scenario it assumed to rise to 0.015.

4.29 In the assets and money markets, the projected economic adjustment would help the deposit money banks increase their stock of net foreign assets to more than RO 1 billion by the year 2005 from about RO 200 million in 1992. At the same time, real quasi-money balances would increase sharply, implying large amounts of private sector deposits within the banking system, or growing financial "deepening."

Overall Summary

4.30 A useful portrayal of the overall implications of the projections is provided by juxtaposing the base case and reform scenario results for selected key variables for the year 2005 -- a dozen years hence (Table 4.2).

Table 4.2: Key Variables - Base Case and Reform Scenario Projections for the Year 2005

	Base Case	Reform
Government Revenues/GDP(%)	17	36
Government Expenditures/GDP(%)	75	15
Deficit (-)/ Surplus (+)/GDP (%)	-57	+20
Current A/C deficit (-) surplus (+)/GDP (%)	-34	+9
Non-oil Exports /GDP (%)	5	30
Imports/GDP (%)	37	24
GDP (RO 1985 millions)	7892	8410
GNP (RO 1985 millions)	7174	9042
Public consumption (RO 1985 millions)	4015	1345
Private consumption (RO 1985 millions)	1976	3230
Stock of External Debt / GDP (%)	120	0
Net Reserves (US$, million).	6821	64920

Source: Macroeconomic Model Projections

Table 4.2 shows that, if the Government of Oman is prepared decisively to implement the fundamental, long-term policy changes corresponding to the key assumptions of the reform scenario, the predicted consequences for the Omani economy will be vast and far reaching. The reformed economy would feature a very modest role for public spending, an enormously strengthened government financial position, a far stronger balance of payments position, massively increased non-oil exports, reduced imports, a GNP 25 percent larger, greatly increased private consumption, and an enormously strengthened external reserve position.

4.31 While the usual cautions must be expressed concerning the significant range of error in such long-term, quantitative projections, there is little doubt that, under reform, the Omani economy in the year 2005 would move in the broad directions indicated, with major quantitative differences of the general order shown. The Government confronts a clear choice.

Chapter Annex Table 4.A1: Oman - Key Indicators' Base Case Scenario

	Estimate						Projection							
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
GDP Growth Rate	2.90	1.40	2.80	4.70	6.00	5.90	5.90	7.10	6.90	4.10	4.00	4.00	3.90	3.80
Non-oil GDP Growth Rate	0.50	4.50	5.60	5.50	5.00	4.80	4.70	4.60	4.70	5.30	5.60	5.70	5.70	5.70
GDP Per Capita Growth Rate	-0.08	-1.54	-0.17	1.62	2.89	2.84	2.81	3.99	3.80	1.09	0.99	0.92	0.85	0.79
Pvt Consumption Per Cap. Gr. Rate	-0.05	3.45	0.83	-1.87	-4.52	-4.95	-5.36	-5.79	-6.33	0.14	0.60	0.88	1.10	1.32
Debt Service (in US$)	219.00	218.00	223.00	293.00	412.00	573.00	789.00	1070.00	1412.00	1854.00	2431.00	3170.00	4098.00	5240.00
Debt Service/XGS	0.04	0.04	0.04	0.05	0.07	0.09	0.12	0.14	0.18	0.23	0.29	0.36	0.46	0.57
Debt Service/GDP	0.02	0.02	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.09	0.10
Stock of External Debt/GDP	0.18	0.18	0.20	0.23	0.28	0.35	0.42	0.49	0.57	0.68	0.80	0.93	1.07	1.20
Domestic Saving/GDP	0.34	0.37	0.35	0.34	0.33	0.33	0.33	0.32	0.31	0.28	0.26	0.24	0.22	0.20
National Saving/GDP	0.21	0.25	0.23	0.22	0.22	0.21	0.21	0.19	0.17	0.14	0.11	0.08	0.05	0.02
Gorss Investment/GDP	0.19	0.20	0.21	0.22	0.22	0.23	0.23	0.24	0.24	0.24	0.25	0.25	0.26	0.26
Public Investment/GDP	0.13	0.13	0.14	0.14	0.15	0.15	0.15	0.15	0.16	0.16	0.16	0.16	0.16	0.17
Private Investment/GDP	0.06	0.17	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09
Implied 5-Year ICOR	3.40	4.30	4.40	5.40	6.00	5.30	4.60	4.00	3.90	4.20	4.60	5.00	5.80	6.70
Government Revenues/GDP	0.36	0.33	0.30	0.28	0.26	0.25	0.24	0.24	0.23	0.22	0.21	0.19	0.18	0.17
Government Expenditures/GDP	0.50	0.38	0.39	0.42	0.46	0.50	0.53	0.57	0.61	0.64	0.67	0.70	0.72	0.75
Deficit/GDP (+)	-0.09	-0.03	-0.08	-0.13	-0.18	-0.23	-0.28	-0.33	-0.37	-0.41	-0.45	-0.49	-0.53	-0.57
GDP Deflator (1985=1)	0.91	0.97	1.04	1.13	1.21	1.30	1.39	1.50	1.61	1.75	1.91	2.09	2.29	2.51
Inflation (% Change GDP Deflator)	-1.50	5.90	7.90	8.00	7.50	7.30	7.30	7.30	7.40	8.70	9.30	9.50	9.60	9.70
Nominal Exchange Rate ($/BD)	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Real Exchange Rate (1985=1)	0.54	0.55	0.58	0.31	0.63	0.65	0.67	0.69	0.71	0.74	0.78	0.82	0.86	0.91
Terms of Trade Index (1985=1)	0.87	0.81	0.81	0.82	0.84	0.87	0.89	0.92	0.95	0.94	0.93	0.92	0.91	0.90
Implied 5-Year Import Elasticity	0.62	0.65	1.47	1.5	1.36	1.27	1.29	1.20	1.15	1.16	1.17	1.19	1.22	1.24
Exports as % of GDP	0.38	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.40	0.40	0.39	0.39	0.38
of which: Non-oil Exports	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05
Imports as % of GDP	0.20	0.20	0.23	0.24	0.25	0.26	0.27	0.28	0.29	0.30	0.32	0.34	0.35	0.37
Current Account Deficit/GDP	0.01	0.04	0.09	0.12	0.14	0.16	0.19	0.19	0.21	0.24	0.27	0.30	0.32	0.34
Current Account Deficit (in US$)	86.00	486.00	1113.00	1734.00	2300.00	2985.00	3806.00	4546.00	5770.00	7429.00	9423.00	11747.00	14395.00	17453.00
Net Reserves (in US$)	2366.00	2462.00	2753.00	3045.00	3313.00	3591.00	3886.00	4204.00	4572.00	4961.00	5393.00	5851.00	6327.00	6821.00
Gross Reserves (in Month Imports)	9.70	9.20	8.70	8.30	7.90	7.50	7.10	6.80	6.50	6.20	6.00	5.80	5.60	5.40

Chapter Annex Table 4.A2: Oman - Key Indicators' Reform Base Scenario

	Estimate						Projection							
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
GDP Growth Rate	2.90	2.10	3.00	4.80	6.10	6.10	6.00	7.70	7.60	4.90	4.80	4.70	4.70	4.60
Non-oil GDP Growth Rate	0.50	4.90	5.90	5.70	5.20	5.00	5.00	4.90	5.00	5.70	6.00	6.10	6.10	6.20
GDP Per Capita Growth Rate	-0.08	-0.85	0.04	1.79	3.03	2.98	2.96	4.56	4.42	1.82	1.72	1.68	1.62	1.57
Pvt Consumption Per Cap. Gr. Rate	-0.05	0.67	5.84	2.18	2.75	1.02	0.03	-0.65	-0.68	15.66	0.85	0.62	0.57	0.19
Debt Service (in US$)	219.00	214.00	258.00	279.00	304.00	346.00	383.00	393.00	375.00	307.00	377.00	0.00	0.00	0.00
Debt Service/XGS	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.02	0.03	0.00	0.00	0.00
Debt Service/GDP	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.00	0.00	0.00
Stock of External Debt/GDP	0.18	0.25	0.25	0.24	0.25	0.25	0.22	0.17	0.10	0.12	0.04	0.00	0.00	0.00
Domestic Saving/GDP	0.34	0.38	0.36	0.36	0.37	0.38	0.39	0.40	0.41	0.43	0.42	0.42	0.41	0.41
National Saving/GDP	0.21	0.25	0.24	0.25	0.26	0.28	0.30	0.32	0.34	0.36	0.37	0.38	0.39	0.40
Gorss Investment/GDP	0.19	0.19	0.19	0.19	0.20	0.20	0.20	0.20	0.20	0.22	0.22	0.23	0.23	0.23
Public Investment/GDP	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.14	0.14	0.14	0.14	0.15
Private Investment/GDP	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.09	0.09
Implied 5-Year ICOR	3.40	4.10	4.10	4.80	5.20	4.50	3.90	3.40	3.10	3.40	3.60	3.90	4.40	5.00
Government Revenues/GDP	0.36	0.42	0.40	0.39	0.38	0.39	0.38	0.39	0.40	0.39	0.38	0.37	0.37	0.36
Government Expenditures/GDP	0.50	0.38	0.35	0.34	0.32	0.30	0.29	0.27	0.26	0.19	0.18	0.17	0.16	0.15
Deficit/GDP (+)	-0.08	0.04	0.04	0.05	0.06	0.08	0.09	0.12	0.18	0.20	0.21	0.21	0.21	0.20
GDP Deflator (1985=1)	0.91	0.91	0.94	0.98	1.01	1.03	1.06	1.09	1.12	1.16	1.21	1.27	1.33	1.39
Inflation (% Change GDP Deflator)	-1.50	-0.10	3.80	3.60	3.00	2.70	2.70	2.70	2.70	3.90	4.40	4.60	4.60	4.60
Nominal Exchange Rate ($/BD)	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Real Exchange Rate (1985=1)	0.54	0.52	0.53	0.54	0.53	0.53	0.53	0.53	0.52	0.52	0.53	0.53	0.54	0.55
Terms of Trade Index (1985=1)	0.87	0.81	0.81	0.82	0.84	0.87	0.89	0.92	0.95	0.94	0.93	0.92	0.91	0.90
Implied 5-Year Import Elasticity	0.62	0.73	1.58	1.52	1.31	1.16	0.98	0.91	0.88	0.94	0.98	1.03	1.08	1.13
Exports as % of GDP	0.38	0.47	0.46	0.46	0.46	0.46	0.46	0.47	0.48	0.50	0.50	0.50	0.50	0.50
of which: Non-oil Exports	0.07	0.20	0.20	0.19	0.20	0.20	0.21	0.22	0.25	0.27	0.28	0.29	0.30	0.30
Imports as % of GDP	0.20	0.22	0.24	0.24	0.23	0.23	0.22	0.21	0.21	0.22	0.22	0.23	0.23	0.24
Current Account Deficit/GDP	0.01	-0.03	0.00	0.01	0.00	-0.01	-0.02	-0.06	-0.09	-0.09	-0.09	-0.09	-0.09	-0.09
Current Account Deficit (in US$)	86.00	-334.00	-39.00	168.00	61.00	-75.00	-271.00	-1088.00	-1783.00	-1949.00	-2042.00	-2233.00	-2443.00	-2586.00
Net Reserves (in US$)	2366.00	3378.00	4736.00	6168.00	8024.00	10405.00	13176.00	16812.00	21374.00	28701.00	36636.00	45318.00	54777.00	64920.00
Gross Reserves (in Month Imports)	9.70	10.80	13.80	16.40	19.80	24.00	28.50	34.20	40.30	47.5	55.10	61.90	67.90	73.20

5
ECONOMIC DIVERSIFICATION: ISSUES AND OPTIONS

A. The Real Exchange Rate and Sectoral Diversification

Introduction

5.1 It was shown in Chapter 2 that, despite significant growth in the GDP shares of agriculture, fisheries and manufacturing since 1976, the Omani economy remains dominated by the production of oil, gas and services. The previous chapter showed that, under a reform scenario characterized by substantially reduced public consumption, a shift takes place towards increased production of goods, both for exports and to replace imports. The mechanism producing this shift is the difference between the two scenarios in the behavior of the real exchange rate. In view of the Government's fundamental interest in realizing greater industrial diversification into non-oil goods production, this chapter elaborates upon the critical role of the real exchange rate in limiting or increasing the share of tradeable goods production in total output.

5.2 Apart from providing basic physical and institutional infrastructure and greatly improved educational and health services, the Government has itself sought restructuring of the economy mainly through the development of the comprehensive system of subsidies described below (Chapter 8B, and Annex D). The subsidy policy seemed justified in the short to medium run in view of:

(a) The initially rudimentary nature of the private sector and the lack of an entrepreneurial class in the country;

(b) The pressures created by the elaborate and excessive subsidy schemes in neighboring GCC countries; and

(c) The natural tendency of the oil dominated economy to create an economy-wide structure of incentives inhibiting the growth of the non-oil tradeable sectors (i.e., manufacturing and agriculture).

5.3 The fundamental issue, however, is not the appropriateness of the subsidy scheme as a transitory measure but rather its viability as a long-term development strategy for achieving economic diversification. Both economic theory and the lessons learned from history and practical development experience make it abundantly clear that the real exchange rate (the price of non-tradeables/price of tradeables) is the key economy-wide price determining the relative structure of incentives (profitability) in the domestic economy as well as its degree of external competitiveness. Oman has yet to recognize and allow for the effect of public spending on the real exchange rate in determining the structure of domestic production. Subsidies can, of course, if large enough, modify, or even completely overcome, in some sectors, the influence of an appreciated real exchange rate on the structure of production. However, this is tantamount to the Government's spending even more to offset the consequences of having spent excessively in the first place. It is not an efficient policy.

5.4 Annex D presents a descriptive model of the real exchange rate (RER), emphasizing the role of the oil boom in triggering public spending and the adverse consequences of the latter for economic diversification. The framework of analysis suggested by the model is applied below to Oman in an effort to explain the extent to which macroeconomic policies and the level of the RER have helped or inhibited the growth of the non-oil traded goods sectors. Finally, the implications of the analysis for the design of a long-term diversification strategy are outlined.

5.5 The broad proposition that can be drawn from the real exchange rate model of Annex E is that government expenditure should ideally be stabilized and relatively delinked from the oil cycle, so that the RER does not appreciate due to temporary booms and thus does not shift the structure of production away from tradeable goods production and towards the production of services. The implication of this is that government saving should be increased during the oil boom, i.e., government consumption should be held to a *permanently* sustainable rate of growth (Chapter 3). In the case of Oman, except for certain high-return domestic investments (e.g., in human capital and carefully selected oil and gas-related industrial development) the bulk of public saving should be allocated to foreign investment.

The Evidence on Relative Prices and Diversification in Oman

5.6 Oman's experience strongly supports the predictions of the model in terms of the effect of the oil cycle on the real exchange rate (Table 5.1). As in other GCC countries, three oil episodes can be distinguished over 1978-91. The first two years (1978-79) witnessed relatively poorer terms of trade and lower purchasing power for oil, compared to the median period (1980-85), characterized by an improvement in both indicators. Both indicators plummeted over the last (1986-91) period. Two measures of the real exchange rate [(a) and (b) in Table 5.1] mimic the oil cycle fairly closely, as predicted by the model. The real exchange rate was depreciated (lower) during the first and last periods relative to the booming median period.

5.7 Public domestic absorption on the other hand, seems to have been insulated from the oil cycle. While the average GDP shares of both total government expenditure and government consumption stayed about the same over the first two periods, both shares rose, rather than declined, in the last period, which witnessed sharply worsened terms of trade for oil. If these high levels of public expenditure were appropriate and sustainable, it would not be appropriate to interpret any real exchange rate appreciation caused by them as "overvaluation" and it would not be harmful to long-term economic objectives. However, the analysis of Chapters 3 and 4 shows that current rates of national (and especially public) saving are substantially below optimum levels, i.e., current public spending is excessive. Therefore, even though the real exchange rate in Oman has experienced some depreciation as the terms of trade worsened during the second half of the 1980s, it is still substantially overvalued (i.e., higher) in relation to what would be consistent with higher (and more desirable) national saving rates. The present fundamental, economy-wide structure of incentives is thus not adequately supportive of sectoral diversification into tradeable goods production.

5.8 In light of the predictions of the model, what actually happened in the 1980s in terms of changes in sectoral GDP shares may be examined and the relative influence of the real exchange rate and the subsidy programs in effecting changes in these shares assessed. It may be asked, specifically, (i) whether, during oil booms and appreciation of the RER, the shares of the two traded sectors (agriculture/fisheries and manufacturing) increased or declined; (ii) if a sector

increased its share of GDP despite the RER appreciation, whether this can be attributed to the subsidy program; and (iii) if, when the real exchange rate depreciated, the shares of the two traded sectors rose and that of the service sector declined.

5.9 The share of agriculture and fisheries does seem to have responded in the predicted way to both real exchange rate depreciation and appreciation (Table 5.1). The share of the sector in total GDP declined by 16 percent between the first and second periods as the RER appreciated by more than 60 percent. On the other hand, in response to RER depreciation in the last period (relative to the second), its share grew by 35 percent. However, it remains rather small and, despite the real depreciation in the last period, did not rise above the level (relative to both GDP and non-oil GDP) reached in the first period. This should be expected, given the resource constraints that limit the expansion of the agricultural sector in the short run. However, the fisheries industry should have the potential to expand quite rapidly, given appropriate incentives and technology.

5.10 In accordance with the predictions of the model, the share of manufacturing increased during the last episode of oil bust and real exchange rate depreciation. On the other hand, contrary to predictions manufacturing in fact also benefited and grew during the period of oil boom and real appreciation. There are several explanations: first, manufacturers setting up operations in Oman (or any where else) are, by virtue of the significant fixed investments involved, concerned with long-term prospects rather than relatively short-term price and profit variations; second, with rapid income growth in Oman and a high income elasticity of demand for manufactured goods, compared with unprocessed goods, there is a very strong secular expansion of demand for manufactured goods; third, once an investment is made, production will continue as long as variable manufacturing costs are covered (i.e., fixed costs are regarded as sunken costs and production is not responsive even to significant price changes); fourth, subsidies (including protection) to manufacturers are significant and may have provided a substantial profit cushion (Chapter 8); and fifth, two large public companies -- Raysut Cement (1981) and Oman Refinery (1983) -- began operations in 1980-85 whereas none started up afterwards. These factors combined to bring about continued increases in output in manufacturing, notwithstanding the appreciation of the RER.

5.11 Table 5.1 also indicates that the GDP share of services has steadily risen, both during the median period of the oil boom and during the last period when the real exchange rate experienced some depreciation. The continued rise in the share of services despite the real exchange rate depreciation during 1986-91, for example, is the direct result of the fact that public expenditure, the main trigger and component of the service sector, has been relatively insulated from the oil cycle.

Conclusions and Policy Implications

5.12 The main conclusions from the preceding analysis are as follows. The GDP share of services remains about 10 times that of manufacturing, even though manufacturing has grown much faster than services. On the other hand, the share of agriculture and fisheries appears to have responded to shifts in the real exchange rate. The construction sector has been steadily shrinking with the decline in investment. The share of direct subsidies in total government expenditure has been rather negligible, but was significant for manufacturing. There

Table 5.1: Oman - Major Economic Indicators

	Period Average		
	1978-79	1980-85	1986-89
1 Real exchange rate:			
a) Multilateral RER (IMF)	61.1	99.9	62.9
b) Pnoilgdp/neer.cpi	59.5	82.9	62.7
2 Terms of trade for poil/pm (for $ price)	75.5	117.3	47.1
3 Purchasing power of oil (poil/pm quantity x of oilx)	50.6	91.0	60.5
4 Share of subsidies in govt expenditures	NA	1.0	1.1
5 Govt current expenditures/gdp	40.8	37.4	40.3
6 Govt consumption/Govt total expenditures	50.1	50.3	63.7
7 Selected distribution of GDP oil & gas	54.3	54.2	44.4
Agriculture & fisheries[a]	3.2	2.7	3.7
	(7.0)	(5.9)	(6.6)
Manufacturing	0.9	1.9	4.0
	(2.0)	(4.1)	(7.2)
Construction	7.1	6.6	4.6
	(15.6)	(14.0)	(8.3)
Services	34.5	34.6	43.3
	(75.4)	(75.6)	(77.9)

Notes:
NA = not available
pnoilgdp = Non-oil GDP deflator
Neer = Nominal effective exchange rate
CPI = Consumer price index
Poil = oil price index
Pm = import price index
Oilx = oil exports
govt = government

[a] Numbers between brackets indicate percentage share in non-oil GDP.

were episodes of both real exchange rate depreciation and appreciation reflecting the oil cycle but public expenditure remained insulated from the latter and was maintained at high and unsustainable levels.

5.13 A key issue emerges from a comparison of the evolution of the services and the manufacturing sectors. Obviously, from a long-term development perspective, the continued high share of services is undesirable, since the objective should be to diversify towards tradeables (agriculture and manufacturing) and progressively to reduce dependence on non-renewable oil and gas. The implicit RER policies and the subsidy programs pursued so far have not been particularly successful in achieving these goals. Because of the potentially adverse budgetary consequences of massive subsidies and the inability of Oman to compete with most of its GCC partners on this score, the subsidy program is at best a short-term instrument and cannot be a substitute for an appropriate, economy-wide structure of incentives (i.e. an adequately depreciated RER). It is also clear that adequate and sustained real depreciation consistent with this long-term strategy requires that public expenditure be consistent with much higher public saving rates coupled with increased external investment. High saving and external investment are not only critical in providing incentives to diversification through a more depreciated real exchange rate but also are needed to provide income during the post-resource era and to free up the resources needed to develop up a renewable resource base.

B. Quantitative Implications for Industrial Diversification of an Optimum National Saving/Higher External Investment Strategy

5.14 In the reform scenario (Chapter 4 above) a higher national saving rate (adjusted from the derived "optimum" rate of Chapter 3) is assumed. The fiscal closure procedure that is adopted in the model solution means that, given national saving, government expenditure is determined residually. Furthermore, the behavioral equation estimated for domestic inflation gives an elasticity of 0.5 for the rate of change in the ratio of government expenditure to GDP. Hence, for a given nominal effective exchange rate and given foreign prices, this component of the model provides a strong and a direct link between public (and national) saving and the real exchange rate. The implication of this aspect of the model was a projected RER (1992-2005) that avoided appreciation under a reform scenario characterized by higher national saving. Over the projection period the RER was virtually stationary, with an average annual rate of change of 0.14 percent. This contrasted with the steady and appreciable appreciation (at an average annual rate of about 5 percent of the projected RER under the base case.

5.15 This key relative price is estimated to have a significant effect on the demand for Omani non-oil exports (Chapter 4) and is reflected in a tremendous projected increase in the share of exports to GDP, which rise from 7 percent at the beginning of the projection period to 30 percent by 2005. On the other hand, under the base case, the share of exports steadily declines from 7 percent to 5 percent between 1992 and 2005 (Chart 4.1). Thus, the model of Chapter 4 amply demonstrates the impact of the RER, reflecting higher public saving, in achieving the desired restructuring of the economy.

5.16 The other components of the reform scenario of relevance to the diversification issue are: the efficiency of investment and higher labor productivity. Reflecting an emphasis on external investment and higher-return domestic investment, the incremental capital/output ratio (ICOR) is assumed to decline to an average of only 5 compared with 6.7 in the base case. Also, more

effective and efficient investments in education and training are assumed to lead to an exponential increase in labor productivity under reform, so that the real wage is assumed to be lower relative to the base case.

5.17 Even though non-oil GDP grows faster (at an average annual rate of more than 5 percent over 1993-2005) under the reform scenario compared with the base case, the differential averages less than 1 percent per annum. The explanation for this is that non-oil GDP is dominated by the non-traded service sector, which continues to grow under the no-reform scenario, with government expenditure providing the main impetus.[28]

5.18 Despite the relatively similar growth profiles of non-oil GDP under the reform and non-reform scenarios, there is a fundamental difference in the composition of non-oil GDP that needs to be made explicit, because it is of paramount importance for the structure of the economy. Under the reform scenario, the share in non-oil GDP of the service sector is increasingly accounted for by the private sector, as government expenditure is progressively reduced to levels consistent with higher public saving. On the other hand, the public sector continues to be the mainstay of the service sector under the base case scenario.

5.19 While it is critical that the tradeable sectors, especially export manufacturing, agriculture and fisheries, have the opportunity to grow rapidly in order to achieve the desired economic diversification in Oman, the recent experience of successful reforming countries has shown that improved export performance and increased market shares require the support of an efficient and adequate service sector (including transport, marketing and banking services) and favorable and transparent regulatory and legal frameworks. Therefore, in considering the issue of economic reform and diversification, even though the dichotomy between tradeables and non-tradeables needs to be emphasized, it should not be overlooked that other factors are also important. The simulations of the model presented in Chapter 4 have shown that an integrated reform program, anchored in higher national saving and an unappreciated (or depreciated) RER, but including enhanced investment in human capital, new productive investment, and product market efficiency-raising measures, could constitute an effective strategy for achieving economic diversification in Oman.

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[28] Labor market efficiency and real wages figure very prominently in the determination of non-oil output supply. The ratio of current to potential non-oil output is estimated to be negatively influenced by the productivity adjusted real wage, with an elasticity of 0.52. The output ratio was also specified as a negative function of the cost of imports relative to the price of non-oil output, where the estimated elasticity is equal to 0.13. The dampening effect on real wages of higher labor productivity assumed in the reform scenario, is, however, counterbalanced by the more depreciated real exchange rates, which imply a lower domestic price relative to the nominal wage and the cost of imports.

6
THE ROLE OF THE PUBLIC SECTOR

Introduction

6.1 The apparently excessive level and growth of public expenditure, the inadequacy of domestic and national saving and investment, and the disappointing performance of private goods production and investment detailed in Chapter 2 suggested that the public sector in Oman, apart from being costly and inefficient (Chapter 7) could be trying to do too much in some areas. The question of reducing the scope of the public sector is also raised by the desirability of cutting the present level and restraining the future growth of public expenditure so as to realize the benefits of earlier industrial diversification plus sustained growth of consumption into the post-resource era. It may therefore be asked whether a less extended role for the Government, consistent with sharply reduced public outlays, would be economically harmful or beneficial.

A. The Traditional Responsibilities of Government

6.2 The basic responsibilities of the public sector have traditionally been defined as the following:

- Providing public goods (national security; control over immigration; the preservation of internal order; legal and juridical systems; basic health, educational and social services; environmental protection; roads, bridges and other public infrastructure; etc.);
- Promoting efficient resource allocation;
- Stabilizing the economy; and
- Promoting an equitable distribution of income.

These definitions provide a useful framework for analyzing the role of government in the Omani economy.

B. The Role of the Omani Government

Government As Engine of Development

6.3 Government became the dominant economic agent in Oman on account of its receipt and expenditure of oil revenues that were of an order of magnitude far in excess of all income being generated by private non-oil activities. In this position, the Government had a responsibility not merely to support existing economic activities but to assume a leading developmental role. To ensure that its activities were conceived within a rational and coherent framework, it established the Development Council, composed of the key ministers involved in economic matters, assisted by a technical secretariat, to prepare comprehensive development plans. The Council has produced four five-year plans, the latest covering 1991-95 inclusive. These have embodied the Government's development aims and philosophy and have served both as a blueprint for the

budgets and activities of government departments and as a guide to private sector activity. The plans provided for largely free educational and health services and involved forward budgetary planning, detailed, integrated planning of public developmental expenditures on infrastructure, and increasingly detailed planning of manpower use and development.

6.4 The Government also assumed an active entrepreneurial role, becoming involved in electric, communications and water utilities, manufacturing and tourism. It has also attempted to define, and influence the direction and character of, private sector development. The Government's development plans have had legal force with respect to the activities of the public sector.

Continued Expanded Role

6.5 Since the collapse of world oil prices in 1986, the Government has become aware that its resource limitations will increasingly limit its role as the engine of growth in Oman. In any case, now that the basic physical infrastructure of a modern state is in place, it believes that it has accomplished its objective of providing an environment in which a modern, efficient private sector can take root and flourish. It is therefore increasingly looking to the private sector to provide the stimulus for further growth. It has also accepted, in principle, the desirability of divesting itself of some of its commercial-type activities, although it has not yet taken significant steps to do so. Furthermore, there is some division of opinion within the Government as to how far the privatization process should go.

6.6 Despite the Government's wish to see accelerated private sector development, it envisages it nonetheless as occurring within the indicative framework established in the development plans. The Government's instruments for pursuing its private sector output targets include the provision of supporting infrastructure, information, training, tariff exemptions, tax incentives, and interest-free and low-interest loans. However, government assistance is conditional upon private firms' compliance with social, environmental and economic pre-conditions, including the attainment of specific Omanization targets. The Government's role in financing private economic activity also exerts a significant influence on the overall pattern of private sector development. The Government furthermore feels that it has a leading role to play in identifying and supporting opportunities for the private sector in external trade.

6.7 From the foregoing, it is apparent that the role of government in Oman goes considerably beyond the basic four areas of traditional public sector responsibility to include:

- The promotion of desired forms of private sector activity;
- The provision of subsidies to encourage industrial diversification;
- The promotion of Omanization and the imposition of Omanization targets;
- The provision of medium-term financing to the private sector;
- The supply of a range of commercial-type goods and services;

- The provision of numbers and standards of roads, bridges, buildings and other infrastructure in greater quantities and of higher quality than normally associated with a country at Oman's stage of development; and

- The provision of extensive municipal administrative and other services.

As noted earlier, the Government is proposing to withdraw to some degree from its present extensive participation in the provision of commercial goods and services.

C. Analysis of the Government's Role

Government's Expanded Role

6.8 The Development Planning Process. Oman's development planning evolved in response to the need for a process to coordinate the Government's development policies and future activities and to establish public expenditure envelopes in light of anticipated public revenues. In view of the economic dominance of the public sector, it was desirable for the exercise to be carried out in the context of the economy as a whole.

6.9 While this conceptual basis for development planning was unexceptionable, a fundamental problem with implementing it has been that the proceeds from oil and gas have been regarded by the Government primarily as income, rather than as capital, although the Government has tried to promote industrial development and diversification with a view to building up an economic base that would eventually replace oil and gas. The plans have thus not accorded central importance to the generation of adequate levels of public saving. As a consequence, planned public saving and investment have been far too low and public capital has flowed primarily into domestic infrastructure in health, education, communication, electricity and water, with little left for external investments that would possibly yield future public income. Domestic investment has been occasionally employed, for socio-political reasons, as a primary instrument of job creation and regional development rather than as a complement to private sector economic activity.

6.10 Realization of the Plans' objectives has encountered some difficulties that the Government had moved to overcome. First, as might be expected, Plan expenditure projections and outcomes have diverged considerably, partly because Oman's oil revenues were unpredictable. Substantial adjustments in public expenditures have thus occasionally been called for, as was the case in 1986. The establishment of an emergency fund was intended to lessen the need for drastic adjustments, but the high rise in government expenditures in 1991 and 1992 and the drop in the price of oil in 1993 has shown the basis for serious fiscal restraint. Second, the budgetary expenditure projections incorporated in the Plan have not been regarded as firm ceilings by the ministries and have frequently been exceeded. Ministers' awareness of the availability of SGRF and SERF funds for budgetary support, if required, appears to have contributed to the undermining of fiscal discipline. Third, the use of expatriate labor is difficult to control. Fourth, the level and direction of private investment and output are not adequately in line with what is required to fulfil the Plan's diversification goals. Fifth, gaps and inaccuracies in the Government's information base relating to the national accounts, output, prices and employment, (now in process of correction and upgrading) mean that the foundations of the planning process have in the past been rather weak.

6.11 One of the main benefits from Oman's planning process appears to have been the systematization of government recurrent and development expenditure planning and budgeting. This came about mainly because of the effective and interlocking relationship between the Development Council and the Financial Affairs Council, on one hand, and between the Ministry of Finance and the General Secretariat of the Development Council on the other. The Finance/Development complex is perceived by other ministries as too conservative and as promoting unnecessary fiscal constraints. This perception, coupled with the rising public expectations for higher levels of government spending, leads to a lack of consensus within the Government that is undermining the integrity and effectiveness of development planning as pressure intensifies on MOFE to continuously expand the budget ceiling above planned levels. As the development process evolves and becomes more oriented toward policy formulation and priority setting, and less oriented toward allocation of public resources, the Finance/Development complex will need more representation at the Cabinet level to foster adherence to the policies that are required for sustainable economic growth in Oman.

6.12 Return on Public Investment. Table 6.1 shows that social structures (education, health, social centers and youth centers) were together slated to account for 23 percent of development expenditures under the Fourth Plan. While such expenditures appear desirable from a social and political perspective, as well as to address regional imbalances in income and job opportunities, some appear unlikely, by definition in certain instances, to yield positive economic returns. Also, while infrastructural investment in roads and water appears likely to yield positive real returns, the part of infrastructural investment that relates to elaborate public buildings appears also likely to generate low real returns. The opportunity cost of such expenditures is foregone investment of realized oil capital in external higher-yield assets that could mitigate the severity of the potential post-resource era decline in Omani incomes. Furthermore, regional expenditures on social and other infrastructure appear unlikely to be successful -- and certainly less successful in the long run than measures to raise productivity and wages (e.g., in agriculture) -- in reversing rural-urban migration driven both by high levels of public spending and the external economies of spatial concentration of economic activities in cities. Finally, investments in public infrastructure entail higher future recurrent costs for operation and maintenance, further inflating the already excessive level of public recurrent expenditure.

6.13 It may be concluded that, while public development spending currently accounts for a smaller proportion of total government spending and GDP than during earlier periods, it remains relatively large. It could be to Oman's advantage substantially to reduce such spending in favor of a higher level of external investments offering a significant future economic payoff. Oman could benefit from a formal Bank public investment review and from the introduction of systematic procedures to rank investments on the basis of their expected economic rates of return. This would lead to a better understanding of economic effectiveness of the public investment program and strengthen the Government's capacity to determine overall domestic investment priorities.

6.14 Productiveness of Expanded Government Role. It is doubtful if the present wide-ranging scope of government economic intervention is benefitting Oman. First, with regard to the desirability of such widespread government economic intervention to foster economic diversification, this report demonstrates in Chapter 8 the rather moderate effectiveness of subsidized industrial diversification in an oil-dominated economy with an appreciated real exchange rate. Second, in Chapter 9, it makes clear the hidden economic costs and distortions

involved in forced or subsidized Omanization. Third, Chapter 8 notes the need to reduce the Government's role and expand the role of the private sector in the term financing of private investment. Fourth, it is noted above that public infrastructure can appropriately support, but not supplant, private development as an engine of economic growth. It may be concluded that the

Table 6.1: Regional/Sectoral Distribution of Investments in the Fourth Five-Year Plan
(Showing Regional Share of Total and Sectoral Share within Regions)
(RO Million)

Region	Total Cost		Commodity Sector		Services Sector		Social Structures Sector		Infrastructure Sector	
	RO	%	RO	%	RO	%	RO	%	RO	%
Muscat	242.437	25.16	19.049	18.03	109.179	34.39	22.525	11.61	91.684	26.47
%	100.00	-	7.86	-	45.03	-	9.29	-	37.82	-
Al-Janubia	116.814	12.12	20.688	19.59	32.511	10.24	22.851	11.71	40.764	11.77
%	100.00	-	17.17	-	27.83	-	19.56	-	34.90	-
A'Dkhliya	122.536	12.72	16.24	15.38	21.023	6.62	33.077	17.04	52.195	15.07
%	100.00	-	13.25	-	17.16	-	29.99	-	42.59	-
A'Sharqiyah	135.132	14.03	20.596	19.05	42.399	13.36	31.510	16.24	40.627	11.73
%	100.00	-	15.24	-	31.38	-	23.32	-	30.06	-
Al Batinah	198.536	20.61	19.424	18.39	53.281	16.78	50.915	26.23	74.916	21.63
%	100.00	-	9.78	-	26.84	-	25.64	-	37.73	-
A'Dhahira	103.972	10.79	3.433	3.25	49.043	15.45	22.800	11.75	28.696	8.29
%	100.00	-	3.30	-	47.17	-	21.93	-	27.60	-
Musandam	44.080	4.57	6.193	5.86	10.032	3.16	10.395	5.36	17.460	5.04
%	100.00	-	14.05	-	23.73	-	26.58	-	39.61	-
Total Regional Allocations	963.507	100	105.624	100	317.468	100	194.073	100	346.342	100
%	100.00	-	10.96	-	32.95	-	20.14	-	35.95	-
National Projects and Projects Outside Muscat	322.537	-	89.978	-	13.627	-	98.193	-	120.742	-
%	100.00	-	27.89	-	4.22	-	30.44	-	37.40	-
Total	1286.44	-	195.599	-	331.095	-	292.266	-	467.084	-
%	100.00	-	15.2	-	25.745	-	22.726	-	36.319	-

Source: The Fourth Five Year Development Plan (1991-1995).

extended role of the Government in Oman involves substantial economic, as well as financial, costs. If the scope of government activity were cut back, the Government could strengthen both the economy and its own finances.

6.15 The dominant role and pervasive influence of the Government not only inhibit the dynamism of the private sector but place heavy demands on the Government's administrative apparatus that it is not fully capable of meeting. There are evident weaknesses in the public sector's analytical, administrative, and supervisory capacities that are exacerbated by the extended reach of government activities. At the same time that the Government is attempting to improve the performance of the entire economy, important deficiencies remain in its provision of

traditional basic services -- notably in health and education -- and in its overall financial and economic management, as discussed below.

Government's Discharge of Traditional Government Responsibilities

6.16 Providing Public Goods. There are some deficiencies in the Government's provision of public goods. First, it currently falls short of meeting adequate standards in the provision of basic educational and health services.[29] Second, the system of laws governing private business activity currently lacks transparency and fails to embody a coherent philosophy favoring the development of a vigorous and efficient private sector. (This latter problem is currently being addressed.)[30] Third, there are gaps in Oman's provision of basic social services, particularly in implementing measures to raise the productivity and incomes of small farmers, fishermen and women. The policy objective is established in the Fourth Plan but progress towards its attainment has been limited.

6.17 Promoting the Efficient Allocation of Resources. The Government's performance in this area is mixed. On the positive side, Oman's external tariffs are low for non-GCC countries and non-existent for GCC countries, implying very little protection for inefficient domestic goods production. Further, the absence of foreign exchange controls implies little distortion in capital markets from that source.

6.18 On the other hand, the substantial participation of the public sector in frequently ineffective activities that go beyond the essential functions of government entails a major diversion of Oman's scarce economic resources away from more productive activities. The Government's monopoly on the supply of electricity, gas, gasoline, and water and the lack of competition in petroleum exploration and development mean that inefficient activities can survive without check. The absence of competition, overstaffing, inefficiency and the lack of unit cost controls in health and education imply poor resource allocation within these areas of traditional government involvement, as well as the diversion of resources from more productive activities in the private sector. The provision of free health and education, creating excess demand, contributes to further misallocation. Government subsidies to manufacturing and other enterprises tend to foster activities that are uneconomic under current macroeconomic conditions, producing additional misallocation. (However, it is recognized that, given the high subsidies granted by neighboring GCC governments to their producers, Oman's freedom to remove subsidies is heavily constrained.) Finally, the Government's provision of no- and low-interest medium-term loans to support favored activities contributes to the misallocation of capital.

6.19 Stabilization of the Economy. Evidence presented elsewhere in this report indicates that Oman experienced high inflation during the oil boom years of the late 1970s to early 1980s and has also undergone sharp fluctuations in output since 1985 (Chart 2.12). However, during recent years, the Government has been quite successful in limiting the extent of price increases, maintaining Omani unemployment at low levels and preserving nominal exchange rate stability vis-a-vis the dollar. The use of SGRF over 1986-89 represented a positive government effort to

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[29] See Oman: Review of Recurrent Public Expenditure, pp. 52-53 and p. 68.

[30] See Review of the Commercial and Investment Laws of the Sultanate of Oman, World Bank, April, 1993.

stabilize public expenditure and output in the face of reduced oil prices, although at the cost of running down the Government's accumulated saving. Government borrowing also contributed significantly to the stabilization of public spending and the overall economy but at the cost of weakening the Government's net financial reserve position. These two means of stabilizing public revenues and the economy were moderately effective but by no means completely insulated Oman from the decline in oil prices. This was hardly to be expected, given the previously strong up trend in oil prices and the magnitude of the price downturn in 1986. However, a more effective stabilization fund was, and is, required.

6.20 Promoting an Equitable Distribution of Income. Two aspects of this function may be distinguished: the promotion of regional balance and the reduction of interpersonal income disparities. With regard to the former, since the advent of the oil era, heavy public spending in Muscat, Salalah and other large centers, coupled with the concentration of highly paid public servants in Muscat, have favored the growth and prosperity of these areas vis-a-vis smaller cities and rural areas. The Government is trying to redress these disparities by spending more in the latter areas under the Fourth Plan. However, more basic measures are needed to address the real underlying problems: the large public/private sector wage/salary differentials; the appreciation of the real effective exchange rate resulting from the domestic absorption of the bulk of net oil receipts; and low productivity in agriculture and fishing.

6.21 There is considerable overlap between interregional and interpersonal income disparities. Hence, addressing the former would go a long way towards addressing the latter. However, government policies also affect interpersonal income disparities directly. The assurance of universal access to health and educational services is itself a powerful force in equalizing opportunity across social groups. However, the poor quality of primary and secondary education dilutes this impact, while the subsidization of expensive, higher-level education raises the danger of creating new disparities. The existence of large public/private sector wage and salary differentials also contributes to the widening of income disparities, while the absence of income and luxury taxes means that public policies are not playing the remedial role they potentially could.

6.22 As noted in Chapter 1, the Government confronted the problem, when it began to receive substantial funds from the extraction of oil, of determining how to distribute them. Recognition of the principle that Oman's oil and gas wealth belongs to the people of Oman would imply that the role of the public sector was that of trustee in the management of these resources and of intermediary in the distribution of the wealth (or the income from the wealth). An alternative to the decisions that were actually made could have been to distribute the net proceeds of extraction (or the income therefrom) directly to all adult Omani citizens resident in Oman, who would then have made their own choices as to how to use them. The adoption of this radical alternative would have implied a far smaller and more conventional governmental apparatus and a much larger role for private production and consumption than have in fact evolved. The distribution of income would also have been very different. The Government's decision to spend the proceeds of oil and gas extraction itself meant that the distribution of income among Omanis became implicit in its expenditure programs, rather than explicit, as it would have been had the proceeds of oil and gas extraction been distributed directly to the population.

6.23 While certain expenditure programs, such as the education and health programs, have transparently, if implicitly, served to distribute the proceeds from oil on a reasonably equitable

basis, others have had the less transparent and largely unintended, maldistributive effects mentioned above. When the Government elected to forego the option of distributing cash vouchers -- which would have simplified the problem of distributing oil receipts equitably -- it implicitly assumed responsibility for the distributional consequences of its actions. It should thus retain awareness of the impact of its expenditure policies on income distribution and be prepared, if necessary, to use the tax system and cost recovery to remedy any seriously adverse consequences. (It is assumed that, at this point, it is too late to consider any direct distribution of oil and gas receipts, or of income therefrom, even on a partial basis.)

D. The Optimum Role for Oman's Public Sector

6.24 The assumption of a more appropriate role by Oman's public sector would entail withdrawing from ineffective, unnecessary or undesirable activities and focusing on performing the more traditional functions of government better. Actions to narrow the Government's focus and strengthen its ability to discharge traditional public responsibilities could include:

- Refocusing development planning, away from physical and financial planning and monitoring and toward priority setting , reformulating development policies, and monitoring the impact of the implementation of those policies on the economy. In setting national priorities, now that the basic economic and social infrastructure is in place, more reliance on economic criteria in the selection of public investment programs would lead to more efficient use of Oman's resources.

- Substantially reducing or eliminating government involvement in commercial activities;

- Reducing the Government's role in directing private sector development and review current policies and instruments for promoting industrial diversification with an aim of using more efficient means;

- Rationalizing Omanization policies and instruments of Omanization by considering not only the benefits but also the cost of Omanization; and

- Scaling down public expenditures on buildings and other low-return infrastructure.

6.25 Actions to strengthen the Government's performance in traditional areas of responsibility would include:

- Improving the quality of basic health and primary and secondary education;

- Establishing a transparent and effective legal and regulatory system to facilitate the vigorous development of private economic activity;

- Closing gaps in the Government's social welfare net;

- Establishing unit costing capabilities, user fees and cost recovery in health and education;

- Introducing long-run marginal cost pricing for electricity and water;
- Strengthening the Government's revenue stabilization mechanisms;
- Establishing the foundation for the introduction of a modest income tax on high income earners;
- Improving the efficiency of government operations;
- Strengthening Oman's system of national accounts and its public information base relating to prices, employment and unemployment;
- Strengthening the Government's capacity to undertake economic policy analysis;
- Reducing public/private sector wage differentials;
- Strengthening cost-effective efforts to raise productivity in agriculture and fishing; and
- Improving the Government's mechanisms for establishing investment priorities based on the application of economic rates of return analysis.

6.26 The implementation of this agenda would not only strengthen and raise the efficiency and effectiveness of the public sector and raise the productivity of the overall economy but, by reducing the overall scale of government and public spending, facilitate the increase in public and overall saving that is needed to foster industrial diversification and avert a post-resource era economic slump. In order to achieve an adequate level of public saving, the Government will need to introduce a number of specific financial reforms. These are considered in the next chapter.

7
ELIMINATING DEFICITS, GENERATING SURPLUSES AND RAISING PUBLIC SAVING

Introduction

7.1 It is clear from the analysis presented in Chapters 3, 4 and 5 that, as a first step, the Government should eliminate the public sector deficit and that it should thereafter introduce the necessary measures to generate rising public sector surpluses. The previous chapter has shown that a significant cutback in the role of government could contribute to the required financial retrenchment by reducing or eliminating the need for certain categories of public expenditure. This chapter identifies an overall package of measures that might be considered to strengthen the Government's financial position.

A. General Considerations

7.2 The fundamental choice confronting the Government is what *mix* of expenditure cuts, new as tax and cost recovery measures to adopt. In Oman's circumstances, there are important reasons, in addition to those discussed in the previous chapter, for focusing primarily on reducing public expenditures.

7.3 First, it was shown earlier that government consumption and investment in Oman account for exceptionally high proportions of GDP by international standards, even though these proportions have gradually been declining. Government consumption was still almost a half (48.1 percent) of total consumption in 1991, while government development spending was close to two-thirds (62.2 percent) of total investment. Oman is evidently providing a relative level of government services far in excess of what most governments deem necessary. Second, the Government's goal of strengthening the private sector would be enhanced by reducing the present dominance of public spending. Third, the higher the share of private spending in total spending, the higher the productivity and efficiency of the economy are likely to be, the more closely is the allocation of resources likely to approach the optimum, and the higher is likely to be the level of consumer satisfaction. Thus, Oman could reap benefits from reducing the level of public expenditure over and above realizing a potentially large contribution to the desired increase in public saving.[31]

B. Cutting Public Expenditures

7.4 In 1991, the basic structure of government expenditure was as shown in Table 7.1.

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[31] Since the Bank has recently prepared a detailed review of Oman's public recurrent expenditures, the discussion of cost-cutting and revenue-raising in this chapter is confined to a summary of key points. See Oman - Review of Recurrent Public Expenditure, World Bank Green Cover Report, August 1993.

Defense Expenditures

7.5 Oman's defense and national security expenditures have been among the highest in the world, representing about 23% of GDP. At present, defense and national security spending in Oman alone consumes the equivalent of 78 percent of all civilian recurrent expenditures combined, more than three times expenditures on education, and seven times expenditures on health. The sheer scale of such spending means that any economies that might be achieved could have a far greater impact on the Government's financial position than those achievable anywhere else. Clearly, Oman has much to gain by if possible substituting collective security arrangements for defense spending.

Civilian Recurrent Expenditures

7.6 As noted in Chapter 3, civilian recurrent expenditures have been growing for a long time at a rate considerably in excess of that of government revenues and have been accounting for a steadily increasing share of overall public spending. This situation is obviously unsustainable. The 1991 structure of civilian recurrent expenditures is shown in Table 7.3.

7.7 Excess Demand for Services. In the areas of education and most parts of the health care syste· , where the services provided are free, there is by definition no mechanism for balancing benefits received against costs incurred. This situation has led to excess demand for the services involved and unnecessary costs to the Government. While the provision of free basic services, such as primary health care and primary and secondary education, may be to some extent be justified on the basis of the major social benefits accruing therefrom, the low likelihood of excess demand and waste, and their contribution both to the alleviation of poverty and the promotion of equitableness in income distribution, this is not the case with respect to other medical and educational services.

Table 7.1: Structure of Government Expenditure, 1991

	Percent
Defense (current)	34.4
Civilian (current)	43.9
Development	21.0
Other	0.7
Total	100.0

Source: Development Council

Table 7.2: Structure of Civilian Recurrent Expenditures, 1991

Education Affairs and Services	23.9
General Public Sector	16.4
Fuel and Energy	14.9
Housing	11.4
Health	11.2
Transport and Communications	3.5
Agriculture, Forestry & Fishing	2.8
Other	15.9
	100.0

Source: Ministry of Finance and Economy

7.8 Need for User Fees. There is a need for realistic user fees in health and education in order to achieve better alignment of costs and benefits and to curb waste. Free medicine and doctors' consultations lead to excess demand, waste, and an eventual deterioration in standards as arbitrary ceilings have to be imposed on spending. In Oman, the number of visits to public health facilities, encouraged by free access, is abnormal (about 5 visits per person per year). There is also overconsumption of laboratory services and other forms of health care in general.

7.9 User fees may be opposed on the grounds that they discriminate against the poor. This problem can be dealt with by making medical user charges fractional in the case of people below a given income level. Educational user charges could be met from repayable medium-term loans in the case of students from poorer families. The imposition of user charges would not only limit excess demand but improve the allocation of educational and medical resources and increase government saving. Even in the case of primary and secondary education and primary health care, the imposition of fractional user charges would encourage a sense of user participation typically leading to improved quality. The establishment of a system of user charges and cost recovery needs to be based, on the one hand, on the accurate identification of unit costs and, on the other, on the development of efficient, cost-effective collection mechanisms.

7.10 Although water and electricity services are not provided free, there is an element of subsidy in the provision of both (about 30 percent of the cost, in the case of electricity) that also leads to excess demand. Some cutback in the growth of demand, as well as improved allocation of resources, could also be achieved in these subsectors through the imposition of user charges set at levels equal to the long-run marginal costs of supply.

7.11 Inefficient and Costly Supply. Over and above the problem of excess demand for public services, there is the perhaps even greater problem of very expensive supply, partly attributable to widespread inefficiency (paras 7.25-27). Government civil employment of Omanis has grown in recent years at a rate substantially in excess of the rate of population growth, despite substantial evidence of excess public service employment. Furthermore, not only is the efficiency both of employees and of government organization and procedures low but the remuneration of public employees is typically more than that of private sector counterparts (Chapter 9). Civil servants' salaries and wages represent the major component of civilian recurrent expenditure, averaging

56 percent of the total over 1987-91. Excess demand growth for public services and expensive and inefficient supply are multiplicative in their effects on the growth of public recurrent expenditures and appear to constitute the essential cause of their apparently inexorable rise.

7.12 There is particular evidence of low inefficiency and high costs in education and health. Inefficiency in the primary school system adds enormously to the cost of primary education. Subsidization of private schools could permit the Government to avoid incurring the full costs of such expensive public education. Competition from private schools could help improve the efficiency, and lower the unit costs, of the public system. Recurrent expenditures for the health sector accounted for 12 percent of total 1991 civil recurrent expenditures, up from only 8 percent in 1988, indicating extremely rapid growth. Cost saving could be achieved by eliminating redundant staff. The cost of drugs could be cut by about 20 percent through improvements in the procurement system. The cost of medical supplies could be reduced in the same way. Hospital construction costs are high on a per-bed basis and hospital overcapacity is estimated at 15-20 percent.

7.13 Inadequate Budgetary Control. The forces driving the strong expansion of civilian recurrent expenditure since the start of the oil era could not have produced the growth that was realized without a loose and permissive budgetary environment. Oman currently possesses most of the necessary elements of an effective medium-term expenditure planning and control process. The essential underlying problem is therefore not that of inadequate administrative control but the widespread perception that budgets are elastic and that the reserve funds can be drawn upon if the ministries press their case. This relieves ministers of the need to set firm internal priorities and to budget accordingly. Further administrative reforms designed to improve budgetary planning and management cannot succeed if there is not a strong ministerial commitment to control expenditures. This, in turn, requires that Omanis at all levels of society become much more fully aware of the need to conserve oil capital and diversify the economy by very substantially increasing the rate of public saving.

7.14 Conclusions. The problem of stemming the growth of public recurrent expenditures must be tackled on a number of different fronts: the imposition of significant user charges to prevent excess demand and waste; the reduction of public service overstaffing; the reduction of public/private wage and salary differentials; improvements in the quality and efficiency of public employees; improvements in the efficiency of government organization and procedures; and much firmer budgetary control backed by a clear public commitment to higher levels of public saving. If, as and when functions that are currently public are privatized, major improvements in efficiency should be brought about through the normal workings of a competitive market.

7.15 Civil Service Redundancies. If the Government removes existing barriers to the provision of private educational services and health care, undertakes a program to privatize public enterprises (as it has proposed) and implements the recommendations in Chapter 6 to narrow the scope of government to the efficient exercise of certain key functions, the problem of civil service redundancies will almost certainly arise. This suggests that, following the imposition of an immediate freeze on overall public sector employment and the present salary structure, the Government should conduct an in-depth study of means to downscale public sector employment and reduce public/private wage and salary differentials without imposing undue hardships on present employees.

Civil Development Expenditures

7.16 As was shown in Chart 2.7, government development expenditure declined from a high of 33 percent of total government expenditure in 1976 to 15.1 percent in 1990. As a share of GDP, it dropped from an average 15.3 percent over 1976-86 to 9.2 percent over 1987-91.

7.17 Despite the fact that the decline in the share of development spending coincided with the rise in the share of civil recurrent expenditures, it would be incorrect to conclude that the latter have crowded out needed growth-producing development spending. First, the share of public development spending in GDP, at 9.2 percent in recent years, remains high by usual developing country standards. Second, the main needs for public infrastructure have now been met, so a decline in the share of such spending was to be expected. Third, there do not appear to be large, unmet needs for investment to support economic activity, although some additional investment in ports and further infrastructural support to agriculture, fishing and tourism may be warranted. Fourth, an explicit aim of a substantial fraction of Fourth Plan investments is not to support, or undertake, high-return investment directly raising Oman's productivity but to shift emphasis away from the Muscat region and provide jobs and income to other regions via an expansion of public spending on infrastructure. Whereas the Muscat region received 42, 56 and 49 percent of total development spending under the first, second and third plans, respectively, it was scheduled to receive only 25 percent of regional allocations under the fourth (Table 6.1). As noted in Chapter 6 (paras 6.10-11), a reduction in the scale of public development spending -- and particularly spending to support regional social and employment objectives -- would be to Oman's long-term economic advantage. However, where public investment to extend primary public services to the rural population could be clearly identified, the social benefit may be high enough to justify public investment, provided that the proposed infrastructure investment is the most appropriate and least cost for the provision of the primary service needs of the rural population.

C. Introducing User Fees, Unit Costing and Cost Recovery

7.18 The case for user fees is strong in areas in which the demand for public services is excessive and wasteful. The case for full cost recovery is compelling in those areas in which public costs are high, while substantial benefits accrue to individuals. The latter is particularly true in higher education. With only 0.79 percent of total enrollment, university education claims 22 percent of recurrent educational expenditures, which in turn claimed 26 percent of total government civil recurrent expenditures in 1991. The Government is currently studying proposals for student sharing of textbook costs; the targeting of university-related social services to students unable to afford the direct and opportunity costs of university education; student contributions to their meals, accommodation and transport; and the undertaking of a study of the feasibility of establishing a student loan program.[32] Cost saving could also be sought from administrative reforms and through the introduction of procedural reforms to encourage private grants and funding. Additional resources for earlier levels of education could be obtained from parents, through cost-sharing; from local participation in management and funding; and through greater participation by the private sector.

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[32] See the World Bank's review of recurrent expenditure cited earlier, para 22, p. 54.

7.19 In the area of health, the Government could consider the introduction of gradual and progressive user charges for medicine and individual health services and the introduction of cost accounting to provide the basis for measures of utilization, performance indicators, and cost-efficient budgets.

7.20 The introduction of cost accounting systems to permit the accurate identification of cost per good or unit of service is essential if costs are to be controlled, efficiency measured and improved, and a sound basis established for a system of cost recovery. Recent analysis has shown that unit of service costs in various health-providing facilities vary over a very wide range, suggesting very considerable scope for the attainment of efficiency gains.[33] The more widely used unit costing becomes and the greater its level of detail and accuracy, the more scope will exist for identifying cost saving and cost recovery possibilities and exercising proper management control.

D. Raising Non-Oil Taxation

7.21 As noted earlier, the required increase in the rate of public saving should be sought essentially through major reductions in public spending. Nevertheless, given the magnitude of appropriate increases in public saving, some tax increases will probably be required. The imposition of a 3 percent sales tax is assumed in the projections discussed in Chapter 4. Furthermore, the existence of very wide disparities in income suggests that consideration could be given to the imposition of income taxes on high-income earners. As a complement or alternative, consideration could also be given to the imposition of taxes on luxury consumer goods, cars, expensive residential real estate, etc. The existing gasoline tax was a step in the right direction. Consideration could be given to applying corporate taxation to state enterprises, particularly those actually or potentially in competition with foreign suppliers or private sector companies paying taxes.[34] This would force the latter to be more efficient, as well as raise revenues.

E. Improving the Efficiency of the Public Sector

7.22 Evidence of a low level of efficiency in the public sector is scattered but persuasive. At the general level, informed senior officials estimate that the public service as a whole is 10 percent or more overstaffed, with many unnecessary departments. The Omani two-tier level of government itself inevitably gives rise to duplication and inefficiency. Outside organizations indicate the Government is bureaucratic and slow-moving in its dealings with business. In the specific area of education, repeat and dropout rates are high. In a generation of primary school students (primary plus preparatory education), it takes the average student over 9 years to complete the 6-year elementary education cycle, implying low efficiency and enormous waste of resources. About RO 1,087 (US$2,823) per student could be saved by a completely efficient system. There are indications of excessive expenditure on administration in the educational sector. Personnel to total current educational expenditures amounted to 84 percent in 1991. Although this rate of personnel spending is comparable to the rate in a well developed educational

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[33] op. cit., para 54, p. 70.

[34] Monopolistic enterprises could simply raise prices to cover increased taxes, at the expense of private consumption.

system as in Jordan, rate of spending on quality improving inputs, such as teaching material, is much lower in Oman.

7.23 A similar situation prevails in the health sector. Salaries and allowances claim over 60 percent of recurrent health expenditures and preliminary estimates indicate that excessive numbers of people are employed. Six sources of inefficiency have been identified: (1) misallocation of professional staff; (2) mediocre quality of primary health care; (3) poor state of health facilities outside urban centers; (4) relatively high cost of drugs; (5) shortage of medical supplies coupled with waste of supplies, services and staff; and (6) inadequate maintenance of buildings and equipment. In both education and health, competition from private sector institutions would foster increased efficiency.

7.24 It would be unusual if the inefficiencies in the educational and health sectors were confined to these two sectors only. The overall potential for cost saving through efficiency gains thus appears to be very considerable. Addressing the problem of duplicative functions within the administrative structure of government will require a thoroughgoing review of the structure of the public administration, followed by significant reforms. Credible anecdotal evidence indicates that a significant number of public service positions have become sinecures, as reorganizations have left incumbents in place after their tasks have been effectively eliminated. This suggests that the proposed administrative review should include, or be supplemented by, a general review of the effectiveness of manpower use.

F. An Initial List of Cost-Cutting and Revenue-Raising Measures

7.25 An initial list of expenditure-cutting and revenue-raising measures that would be consistent with the implications of the analysis and recommendations of this report is as follows:

Expenditure Cuts

- If feasible, reduce expenditures on defense and national security;
- Freeze overall public service employment at the present level; leave unfilled positions not already contracted for vacant unless specifically authorized by Cabinet order; develop cost-effective early retirement options to speed the rate of attrition;
- Freeze the structure of public service positions, salaries and allowances but retain seniority and merit promotions;
- Phase out redundant positions in teaching and health services and administration, as well as more generally, redundant administrative positions throughout the public service;
- Encourage more responsible demand for medicines, doctors' visits and clinical services by introducing user charges;
- Gradually cut or eliminate support for university education, substituting loans for grants in the case of students from poor families;

- Reduce public expenditure on Government office buildings and on housing except for social reasons and only when building houses is the best way to affect the desired equity outcome;

- Reduce public spending on regional and other infrastructure by limiting new public investments to the levels necessary to extend primary public services to areas where they do not currently exist;

- Attempt to render costly agricultural and industrial subsidies unnecessary by seeking to harmonize GCC subsidies at lower levels; and phase out all interest rate subsidies that do not lead to the development of a comparative cost advantage over an appropriate length of time ;

- Phase out net Omanization payments in the public and private sectors.

Fees, Taxes and Cost Recovery

- Impose initially modest but progressively more realistic user fees for medicines, visits to doctors and clinics, and higher education;

- Raise electricity, water and communications charges to equality with long-run marginal costs;

- Impose sales taxes on expensive automobiles and luxury goods;

- Introduce income taxes on upper income groups;

- Introduce income taxes on Omani private and public enterprises, as they were applied to foreign corporations. Despite the fact that most of public enterprises' surplus is transferred to MOFE, some of this surplus is not surplus at all but is a cost of business that foreign corporations bear. If taxes, and cost of capital, are taken out first then public enterprise surplus would become a better indicator of internal efficiency.

- If necessary, introduce a moderate value-added tax.

7.26 Full implementation of this program would need to be carried out over a period of, say, two to four years. The aim should be to reduce public spending, as quickly as circumstances permit, to about 70 percent of present levels, in line with the projections of Chapter 4. Thereafter, restraining the growth of public consumption to about 6 percent a year in current rials would be compatible with the attainment of an optimum rate of public and national saving.[35] *A fortiori*, the public sector deficit would be eliminated at an early stage and the Government would generate rising surpluses.

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[35] See Table 9, Reform Scenario, Macroeconomics of Oil Cycles, Annex 3.

Chapter Annex Table 7.A1: Country Rankings of Military Expenditures Based on Proportion of GDP, 1972-1988

	Rankings		Averages (in percent of GDP)		Variance/Mean	
	SIPRI	Adjusted SIPRI	SIPRI	Adjusted SIPRI	SIPRI	Adjusted SIPRI
Algeria	89	76	2.0	3.0	0.05	0.15
Angola	3	2	17.2	29 1	0.85	0 97
Argentina	40	47	4.6	4.6	0.19	0 19
Australia	71	82	2 7	2.7	0.03	0 03
Austria	113	114	1.2	1 2	0.01	0.01
Bahrain	42	51	4.5	4 5	0.61	0 61
Bangladesh	111	110	1.4	1.6	0 09	0.07
Belgium	65	73	3.1	3 1	0.01	0.01
Benin	98	75	1.8	3.0	0.06	0.24
Bolivia	58	58	3.4	3.7	0.33	0.35
Botswana	59	61	3.4	3.6	0.15	0.20
Brazil	112	113	1.3	1.3	0.09	0 09
Bulgaria	44	39	4.3	5.3	0.10	0.17
Burkina Faso	74	70	2.6	3.2	0.19	0.30
Burundi	72	69	2.7	3.2	0.09	0.13
Cameroon	97	95	1.8	2.1	0.05	0.11
Canada	92	100	2.0	2.0	0.01	0.01
Central African Rep.	88	96	2.1	2.0	0.05	0 17
Chad	39	29	4.6	6.1	0.36	1.29
Chile	19	20	7.1	7.6	0.30	0.32
China	14	18	9.1	9.1	1.19	1 19
Colombia	105	102	1.6	1.8	0.15	0.18
Congo	55	50	3.6	4.5	0.27	0.20
Costa Rica	122	122	0.6	0.7	0.02	0.03
Cote D'Ivoire	115	112	1.1	1.4	0.01	0.04
Cuba	16	15	7.9	11.7	0.80	1.99
Cyprus	104	94	1.7	2.1	0.18	0.09
Czechoslovakia	38	43	4.6	4.9	0.00	0.01
Denmark	80	87	2.3	2.3	0.01	0.01
Dominican Republic	107	106	1.6	1.6	0.03	0.02
Ecuador	93	79	1.9	2.8	0.07	0.14
Egypt	8	8	14.8	17.6	7.20	6.51
El Salvador	67	56	2.9	3.9	0.58	1.48
Ethiopia	18	10	7.1	14.0	1.29	3.10
Fiji	124	124	0.4	0.4	0.05	0 06
Finland	100	104	1.8	1.8	0.04	0.04
France	49	57	3.9	3.9	0.00	0.00
Gabon	84	83	2.2	2.6	0.56	0.61
German Democratic Rep.	31	37	5.2	5.6	0.03	0.03
Federal Rep. of Germany	60	67	3.3	3.3	0.01	0.01
Ghana	117	116	1.0	1.1	0.21	0.21
Greece	24	24	6.3	7.1	0.12	0.16
Guatemala	94	93	1.9	2.1	0.32	0.27
Guinea-Bissau	45	19	4.2	8.3	0.50	0.76
Guyana	21	22	6.5	7.2	1.36	1.04
Haiti	110	111	1.4	1.5	0.01	0.01
Honduras	63	60	3.1	3.6	0.87	1.08
Hungary	75	65	2.6	3.3	0.10	0.04
India	61	63	3.1	3.6	0.02	0.05
Indonesia	50	54	3.8	4.0	0.22	0.21
Iran	23	31	6.3	6.1	2.10	2.18
Iraq	7	7	16.3	22.3	3.77	4.00
Ireland	106	109	1.6	1.6	0.03	0.03
Israel	2	3	19.6	27.1	1.36	2.05
Italy	81	88	2.3	2.3	0.01	0.01
Jamaica	116	117	1.0	1.0	0.10	0.10
Japan	120	120	0.9	0.9	0.00	0.00
Jordan	5	4	16.8	25.5	0.69	0.74
Kenya	68	64	2.9	3.5	0.32	0.42
Korea, South	33	35	5.1	5.9	0.08	0.07
Kuwait	27	36	5.7	5.7	0.43	0.43
Lebanon	30	33	5.2	6.0	0.88	1.29
Liberia	90	89	2.0	2.3	0.71	0.78
Libya	11	12	10.3	13.9	1.32	1.81
Luxembourg	119	119	0.9	0.9	0.02	0.02

Chapter Annex Table 7.A1: Country Rankings of Military Expenditures Based on Proportion of GDP, 1972-1988

	Rankings		Averages (in percent of GDP)		Variance/Mean	
	SIPRI	Adjusted SIPRI	SIPRI	Adjusted SIPRI	SIPRI	Adjusted SIPRI
Madagascar	85	84	2.2	2.6	0.12	0.20
Malawi	91	92	2.0	2.2	0.58	0.77
Malaysia	25	26	6.2	6.7	0.16	0.15
Mali	48	42	4.0	5.0	0.79	0.82
Mauritania	15	17	8.2	9.5	3.05	4.04
Mauritius	125	125	0.2	0.3	0.04	0.07
Mexico	123	123	0.6	0.6	0.01	0.01
Morocco	34	27	4.9	6.2	0.27	0.54
Mozambique	17	14	7.6	12.6	0.16	0.61
Myanmar	51	28	3.8	6.1	0.10	1.32
Nepal	114	115	1.1	1.2	0.14	0.12
Netherlands	62	71	3.1	3.1	0.00	0.00
New Zealand	99	103	1.8	1.8	0.02	0.02
Nicaragua	13	13	9.5	12.7	10.97	14.38
Niger	121	121	0.7	0.8	0.01	0.09
Nigeria	78	80	2.6	2.8	0.60	0.46
Norway	64	72	3.1	3.1	0.01	0.01
Oman	1	5	23.2	23.2	0.74	0.74
Pakistan	20	25	6.5	6.9	0.03	0.06
Panama	108	108	1.4	1.6	0.17	0.19
Paraguay	109	107	1.4	1.6	0.05	0.03
Peru	32	30	5.2	6.1	0.54	0.53
Filipinos	83	85	2.2	2.4	0.23	0.20
Poland	53	53	3.7	4.3	0.03	0.03
Portugal	47	52	4.1	4.3	0.43	0.36
Romania	103	98	1.7	2.0	0.08	0.11
Rwanda	102	99	1.7	2.0	0.02	0.08
Saudi Arabia	4	9	17.0	17.0	1.24	1.24
Senegal	76	78	2.6	2.8	0.15	0.21
Sierra Leone	118	118	0.9	1.0	0.05	0.07
Singapore	29	38	5.5	5.5	0.05	0.05
Somalia	56	21	3.5	7.3	0.52	1.23
South Africa	54	62	3.6	3.6	0.13	0.13
Spain	86	90	2.1	2.2	0.07	0.08
Sri Lanka	95	97	1.9	2.0	0.77	0.80
Sudan	77	66	2.6	3.3	0.12	0.09
Swaziland	87	91	2.1	2.2	0.14	0.12
Sweden	66	74	3.0	3.0	0.04	0.04
Switzerland	96	101	1.9	1.9	0.01	0.01
Syrian AR	9	6	14.3	22.4	0.43	0.80
Taiwan Province of China	22	23	6.4	7.1	0.07	0.07
Tanzania	43	41	4.3	5.2	0.46	0.67
Thailand	46	46	4.2	4.8	0.20	0.20
Togo	82	77	2.2	2.9	0.16	0.24
Trinidad and Tobago	101	105	1.7	1.8	0.55	0.55
Tunisia	57	55	3.5	4.0	0.99	1.15
Turkey	36	40	4.7	5.3	0.10	0.07
Uganda	70	68	2.8	3.3	0.21	0.23
U.S.S.R.	10	16	11.7	11.7	0.02	0.02
United Arab Emirates	41	48	4.6	4.6	1.81	1.81
United Kingdom	35	44	4.8	4.8	0.02	0.02
United States	26	34	5.9	5.9	0.05	0.05
Uruguay	73	81	2.6	2.8	0.12	0.14
Venezuela	79	86	2.3	2.3	0.08	0.08
Yemen, AR	12	11	9.6	13.9	2.21	4.24
Yemen, PDR	6	1	16.3	37.2	0.59	5.16
Yugoslavia	37	45	4.6	4.8	0.09	0.09
Zaire	69	59	2.8	3.7	1.05	0.95
Zambia	52	49	3.8	4.6	0.45	0.56
Zimbabwe	28	32	5.7	6.1	0.30	0.36

Source: David P. Hewitt, unpublished manuscript, IMF May, 1991.

8
STRENGTHENING THE PRIVATE SECTOR

Introduction

8.1 Chapters 5 and 6 made it clear that increasingly important government objectives have been to strengthen the private sector and diversify the economy into non-oil goods production and tourism. This chapter details the Government's policies and identifies what more could be done to realize its objectives.

A. Private Sector Development

Government Private Sector Development Policies

8.2 Introduction. Since the early stages of Oman's drive for modernization that began in the early 1970s, the public sector has led the transition from the primitive market arrangements that prevailed initially to the relatively well functioning mixed economy of today. Reflecting the dominance of oil exports and skyrocketing oil prices, this transition was brought about by an expansionary fiscal policy and a sizeable public investment program that provided the basic economic infrastructure upon which future development could be built. The Government took the leading role in utilities, manufacturing, transportation, communications, and tourism through the establishment of public authorities and wholly or partially owned companies. Throughout, the Government assumed responsibility for providing Omanis with free education and health services, in addition to fulfilling the traditional role of regulating business and providing for social welfare.

8.3 Long-term Objectives, Policies and Programs. With the evolution of development planning from 1976 on, the Government embarked upon another transition mission with two clearly defined, long-term objectives. The first was to lessen the economy's dependence on oil through the diversification of the economic base and the development of a strong private sector. The second was to promote social and regional balance, in the process drawing non-market participants into the market economy and widening the economic base of Omani society.

8.4 Through it all, the basic policies remained the same: an expansionary fiscal policy and an aggressive public investment program. The tools, also, remained the same: the Budget and the Plan. The Government's approach to lessening the dominance of the oil sector and fostering private sector development followed four identifiable policy tracks:

(a) Continued Efforts to Build Institutions and Infrastructure;

The former included setting up a regulatory framework, e.g., a commercial code and supporting regulations, and organizing core financial institutions such as the Central Bank, the specialized development banks and the Muscat Stock Exchange.

(b) Investment in large-scale projects the capital requirements of which far exceeded the capacity of the private sector, e.g., telecommunications, desalination plants, the oil refinery, cement, mining and large hotels;

It was believed that these projects would generate linkages to the private business sector that would encourage it to invest in a host of related productive activities. The ultimate step, now under consideration, would be the transfer of the public interest in these businesses to private investors.

(c) The development of a system of incentives under which the private sector now receives a variety of input subsidies, protection, preferential treatment in government contracts, tax exemptions, price support, and training allowances to encourage the employment of Omanis;

Some of these subsidies are targeted to particular industries or areas, e.g., manufacturing, agriculture, fisheries and housing. Most encourage private production indirectly, by subsidizing labor, capital, land, and material inputs, rather than being targeted directly to production.

(d) The adoption of a social policy based on the principle that every citizen had the right to free education and health services regardless of his income or the level of service required;

The social welfare extension of this policy calls for raising substandard living conditions attributable to poverty or disability to an appropriate level and for the provision of housing appropriate to the needs of the different segments of the Omani population.

Private Sector Performance

8.5 Nature of Private Sector Development. The private sector evolved primarily as a supplier of services in response to rapidly increasing public expenditures. Construction, real estate, trade, banking, and business and personal services were, and remain, basically private activities. Private saving increased with rising incomes and the expanding demand for private sector services meant that private investment was channeled into low-risk, high-yield activities in import and domestic trade (under government-sanctioned monopolistic agency arrangements) and into real estate and residential and other construction. With the expanding public and private demand for labor and as a consequence of the sponsorship system and the Government's liberal policy toward the use of foreign labor, private businessmen increasingly became rent-seekers and risk-averters.

8.6 Distribution of Private Investment. The distribution of private investment between economic activities between 1986 and 1990 illustrates the foregoing developments. The biggest share went into housing (45 percent), followed by trade and other services (28 percent) (Table 8.1). Manufacturing received 21 percent, while agriculture and fisheries received only 6 percent of non-oil private investment. In 1991, this pattern of private investment allocation continued.

8.7 Distribution of Commercial Bank Credit. The distribution of commercial bank credit to the private sector in Oman reveals the strong orientation of bank lending towards the financing of import trade, construction, domestic trade, and personal acquisitions (Section F of this chapter).

Table 8.1: Sectoral Distribution of Non-Oil Private Investment

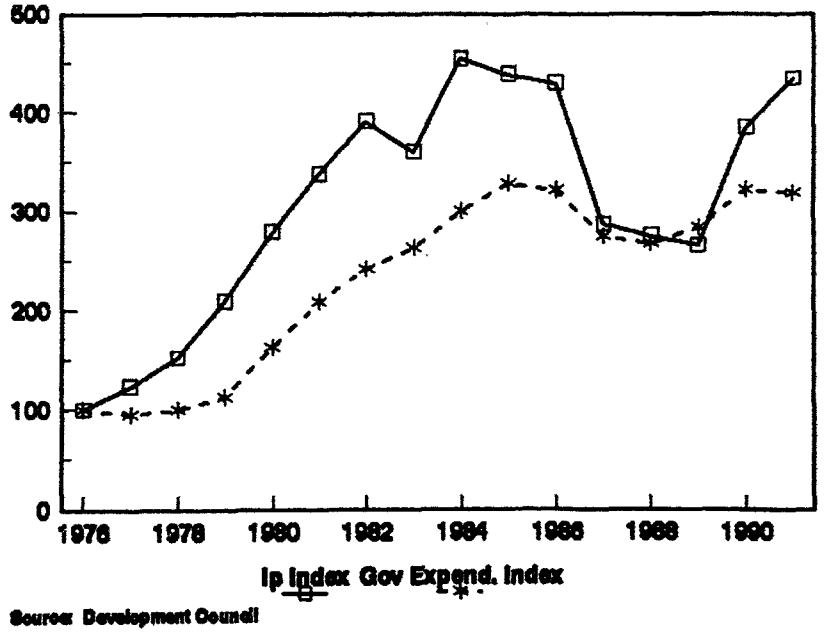
Sector	1986-1990		1991	
	RO Million	Percent	RO Million	Percent
Housing	199.2	44.6	70.6	54.1
Trade & Other Services	126.0	28.2	27.1	20.8
Manufacturing	93.1	20.9	24.4	18.7
Agriculture & Fisheries	27.9	6.3	8.5	6.5
Subtotal	446.2	100.0	130.6	100.0
Total investment (public and private)	2925.0		659.0	
Percentage of total investment	15		20	

Source: Development Council

Manufacturing, mining, water, electricity, transport and communications received only 8.5 percent of commercial bank credit in 1991 and this share has changed little over the last six years. The increase in the money supply (M2) in relation to GDP has not been accompanied by higher private investment in relation to non-oil GDP. It may be inferred that the low rate of private investment in goods-producing activities is not due to the lack of financial resources available to Omani investors so much as to the lack of profitable investment opportunities.

8.8 Historical Performance of Private Investment. Non-oil GDP is clearly driven by government expenditures. As public spending rises, so do private sector activities and private investment (Chart 8.1). That was evidently the case between 1976 and 1988. However, since 1988 the private sector's response to public expenditures has weakened considerably.

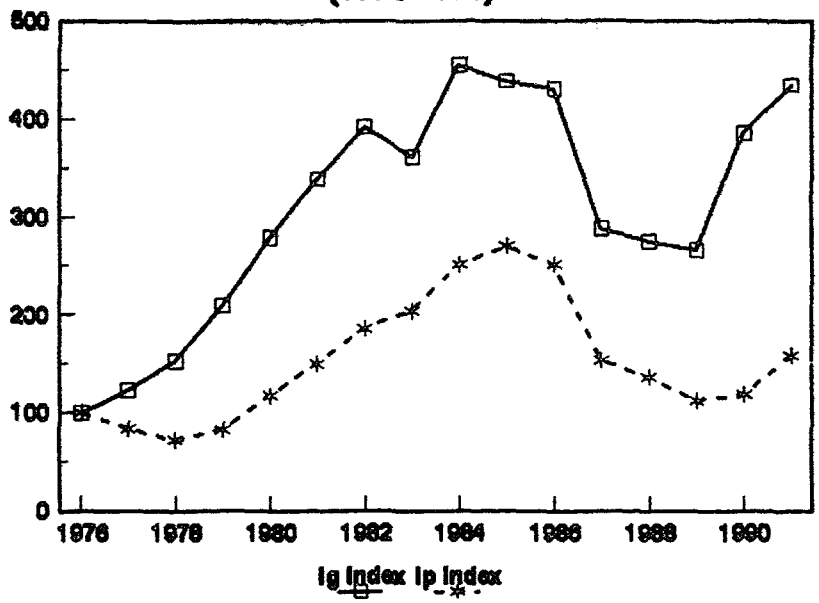
CHART 8.1: PRIVATE INVESTMENT & GOV. EXPENDITURE (Index, 1976=100)



Source: Development Council

8.9 Throughout the 1980s, and especially since 1986, the ratio of private investment to non-oil GDP has been falling (Table 8.2). It dropped from over 21% in 1979 to 15% in 1986, and plummeted to 9% in 1988. This phenomenon is related to the very strong growth in the output of low-capital services and was exacerbated by severe cuts in public spending, particularly government investment (Chart 8.2), following the sharp drop in oil prices and revenues in 1986. This ratio began rising modestly after 1989 and reached 11% in 1991 as public investment began to rise again. However, it is still far below the 1986 rate.

CHART 8.2: PRIVATE & PUBLIC INVESTMENT INDICES (1976=100)



Source: Development Council

8.10 Over the five year period 1987-91, the ratio of private investment to overall GDP averaged about 5.5 percent and the ratio of private investment to non-oil GDP averaged about 10 percent (Table 8.2). These are low in comparison with the averages in the previous five years (1982-86) of 8 percent and 16.5 percent respectively. These results provide a strong indication that the Government's policies to increase private sector participation in goods-producing activities have been unsuccessful.

Table 8.2: Private Investment

(percentages)

YEAR	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
of GDP	9.3	7.7	7.8	8.6	7.6	8.6	7.3	8.8	5.5	5.4	4.7	5.5	6.3
of non-oil GDP	21.2	21.0	19.0	19.0	16.0	17.0	15.0	15.0	11.0	9.0	9.0	11.0	11.0

Source: Development Council

8.11 The Growth of Manufacturing. The overall growth of the manufacturing sector over the period 1975-1991 has been quite strong. At the end of 1991, the number of registered industrial firms in Oman, the great majority of which are private, reached 3,643, compared to only 10 in 1975 (Table 8.3).

Table 8.3: Indicators of Industrial Growth

ITEM	Manufacturing Stock at end-1975	Manufacturing Stock at end-1991
1. Registered Firms (number)	10	3643
2. Investment Capital (RO,000)	471	401,320
3. Output Capacity (RO,000)	642	436,149
4. Employment (number)	115	29,680

Source: Ministry of Commerce and Industry

As can be seen, capital employed, capacity and employment also showed very large increases. The availability of domestic raw materials, especially building materials, was a basic factor in determining the volume of investment. Non-metallic mineral products took[36] the lion's share, followed by basic metals, chemicals, and food and beverage manufacturing.

8.12 Assessment. Despite its impressive growth since 1975, the contribution of manufacturing to GDP has remained disappointingly low and stagnant in recent years, at the level of 4% of GDP. This reinforces the conclusion that diversification efforts, especially into goods-producing activities, have not been particularly successful. The reasons are, as noted in Chapter 5, that current public expenditure/saving policies discriminate against goods production, while other policies inhibit non-rent seeking investment, sanction monopolistic practices, distort relative prices, and distort the priorities and allocation of resources that would further the Government's private sector development objectives. Furthermore, the role of public enterprises limits the investment opportunities open to the private sector. A full assessment of why Government policies toward the private sector are achieving limited success should recognize the dominance of small scale enterprises in Oman and explore the potential for promoting medium and large size firms engaging in goods production that could only become profitable through efficient management and economies of scale. It should also consider the impact of changing the present market structure on expatriate employment.

[36] For further details on the evolution of industrial firms, investment, output and employment, see Annex Tables 8.A1-A4.

8.13 The Government's social objectives are being reasonably well met, but at an increasing cost in terms of sacrificed opportunities elsewhere, inefficient allocation among the public social service programs themselves, and reduced standards of welfare for future generations.

B. The Incentive (Subsidy) Framework

8.14 The System of Incentives. Oman's overall system of incentives includes both general subsidies and subsidies applicable to particular industrial sectors and subsectors. General subsidies include subsidized prices for electricity and water and grants of land for residential, agricultural, commercial and industrial purposes. In a broad sense, general subsidies also include free educational and health services available to all Omanis. Subsidies applicable to particular sectors and subsectors include the following.

8.15 Manufacturing Subsidies. Subsidies to the manufacturing sector include both input and output subsidies. Input subsidies include: capital subsidies (interest-free and low-interest loans); subsidized industrial sites providing integrated facilities (roads, water, electricity, gas, telecommunications, waste water treatment, waste disposal facilities, plots, and factory and office buildings); exemption from customs duties on equipment, raw materials and semi-processed goods; preferred utility rates; free feasibility studies; support for commercial advertising; advice and technical assistance; and training subsidies for the employment of Omanis. Small industry is promoted, in addition, with capital grants. Output subsidies include tariff protection on a very limited range of products; government procurement preferences; 5-year renewable partial or complete exemption from business taxes; export guarantees; and interest subsidies on export credit granted to foreign purchasers by Omani exporters. The numbers of individual approvals of the main types of support other than capital subsidies provided over 1986-92 by the Ministry of Industry and Commerce, which administers the system of industrial incentives, are shown in Table 8.4.

Table 8.4: Numbers of Cases Approved for Various Types of Public Support to the Private Sector

Type/Year	1986	1987	1988	1989	1990	1991	June 1992
Tariff protection	5	9	8	9	-	2	-
Exemption from custom duties on equipment	19	9	20	31	34	57	51
Exemption from Custom Duties on Materials	27	29	26	28	65	35	30
Exemption from Income Tax	-	-	-	3	-	3	1

Source: Ministry of Commerce and Industry

8.16 Subsidies to Other Sectors. Eligibility for no- and low-interest loans is also extended to firms undertaking capital projects in the tourism sector. Low-interest loans from the Oman Development Bank have also been made available for a limited range of service activities (e.g., drilling, medical facilities, a nursery and preliminary school, a vocational institute, an engine reconditioning workshop, etc.). Agriculture and fishing receive low-interest loans through the Oman Bank for Agriculture and Fisheries similar to those available to industry and services through ODB. Again, like ODB, OBAF administers a special incentive program involving grants, as well as loans, to small farmers and fishermen. Finally, loans at subsidized interest rates (2 to 4 percent) are available for housing. Low-income Omanis can obtain such loans interest-free. A fuller description of Oman's system of subsidies is provided in Annex E.

Evaluation

8.17 Overall Cost. Table 8.5 provides a partial and approximate estimate of the subsidy element in industrial value added in 1991. The basis for this estimate is specified in Annex E.

Table 8.5: Cost of Industrial Subsidies, 1991
(RO Million)

(a) Input Subsidies:		11.8
Electricity Subsidy*	2.1	
Capital Subsidy through Financial Institutions	3.9	
Support to Public Authorities	2.6	
Support through MOCI programs	1.5	
Tariff-free material imports	1.7	
(b) Output Subsidies:		6.8
10% premium on Government Purchases from Private Sector	2.5	
Protective Tariffs on Competing Imports	4.3	
(c) Total Subsidies		18.6
(d) Industrial Value Added		168.0
(e) Subsidies/Industrial Value Added (%)		11.0

Source: Annex E
* Direct power subsidy as calculated by MOEW.

Table 8.6: Budgetary Costs of Public Support to the Private Sector
(RO Million)

Item	1982	1985	1990	1992	1993
Total Spending	950	1,928	1,563	1,873	2,065
Private Sector Support	19.2	14.0	19.0	23.0	23.5
%	2.0	0.7	1.2	1.2	1.1

Source: Development Council

8.18 Total budgetary appropriations for private sector support provided through sector ministry programs and the specialized development banks represent a minuscule portion of total public spending, as can be seen in Table 8.6.

8.19 In the late 1980s, the GCC Secretariat commissioned a study of industrial incentives in the GCC Member States.[37] This study revealed that Oman has the lowest level of subsidization among the GCC countries. Successive IMF missions had reached similar conclusions. The preceding shows that the situation has not changed. Not only has the level of subsidization remained relatively low but, except for the distortions introduced by subsidized water, the degree of distortions of private sector development associated with non-targeted subsidization schemes (e.g., health, education) is also minimal.

8.20 Inclusion of the full costs of those elements of the incentive system not covered in Table 8.5 (e.g., the subsidies implicit in industrial estate rentals) would undoubtedly raise the real cost of private sector support considerably but it would remain fairly modest.[38] This is not to suggest that Oman is immune to the potentially harmful effect of higher levels and new forms of industrial subsidization. In fact, pressures are mounting for higher subsidies to counter the effects of heavy subsidization by neighboring states and to minimize its impact on the competitiveness of Omani products in these markets, as well in Oman itself.

8.21 The evidence presented above indicates that the subsidy system, while contributing to some extent to the growth of manufacturing, has not been successful in achieving substantial economic diversification. Achieving significant diversification through an expansion of the subsidy system is likely to prove costly in fiscal and economic terms. More fundamental, more effective and less costly means need to be employed to achieve the Government's goals.

C. Reforming the Legal Framework

8.22 Background. The Omani Government, in the Fourth Plan, committed itself to "emphasize the adoption of a free economic system which depends on market mechanisms and to maintain free competition and efficiency."[39] The Government has recognized that foreign firms can play an important role in providing Oman with capital, technology, job training, management skills, and access to foreign markets and has been actively involved in identifying existing obstacles to foreign investment. Private business firms -and particularly foreign firms considering the choice between Oman and its competitors- need a transparent legal and regulatory framework that will permit them to operate with the minimum of unnecessary cost, friction and delay.

8.23 While there are many positive aspects to Oman as a venue for private investment and promising developments has taken place with regard to the in international arbitration of commercial disputes and foreign equity participation, the legal system has contained many barriers

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[37] M. Girgis and R. Shaban: Impact of Industrial Incentives in the GCC countries, KISR, 1988.

[38] A business organization estimates that total subsidies average 20 to 25 percent for manufacturing and range up to 40 percent in individual cases.

[39] Fourth Five Year Development Plan (1991-1995).

to such investment including: time-consuming, bureaucratic, discretionary licensing of investment projects; the fact that foreign investors are limited to minority ownership of companies; a difficult bureaucratic and time-consuming process for the formation of joint stock companies; a restrictive Companies Law that permits undue government interference in company affairs; inadequacies in the Commercial Register Law; tax laws that discriminate against companies and foreigners; gaps and inadequacies in the laws protecting intellectual property and technology; lack of Omani subscription to the major international agreements pertaining to such protection; insufficient remedies to enforce contract rights effectively; prohibition against ownership of land by companies; absence of clearly defined basic contract rights and remedies; lack of certain non-contract legal rights; absence of laws against monopoly and monopolistic practices; lack of a clear and comprehensive framework for the conduct of international trade; and impediments to freedom of trade and contract permitted by the Commercial Agency Law.

8.24 The Government requested the World Bank to undertake a review of Oman's commercial, financial and investment laws and the Bank presented to the Government a draft report containing recommendations for removing the barriers identified above.[40] Recently, measures have been undertaken (e.g. realignment of the responsibilities of the Central Bank and the Muscat Security Exchange and the taxing of Omani companies to deal with issues raised in the Bank's report. More impediments are expected to be removed as a result of a review by the Development Council and the Ministry of Commerce and industry of the Bank's report.

D. Privatizing Public Enterprises and Authorities

Population of Public Sector Entities

8.25 At the end of 1991, there were some 25 domestic public authorities and public companies owned entirely by the Government or jointly with the private sector, with a total market value of over RO 1 billion. In 17 of these entities, government participation is 51 percent or higher. Of these majority-owned entities, 14 are owned almost entirely by the Government. In 6 cases, most of which are financially successful, the Government is a minority shareholder. Businesses wholly or partly owned by the Government operate in a variety of activities, including banking, refining, mining, cement, transportation, telecommunications, agriculture, fisheries, hotels, insurance, food processing and industrial estate management. Some of them are profitable and regularly pay dividends to the Government, while the others receive support from the general budget. Table 8.7 provides information relating to the 25 authorities and companies as of the end of 1991.

8.26 As can be seen clearly from the table, all these entities are young, with most having been established in the late 1970s and the 1980s. They were created to implement the Government's strategy of leading the development of a diversified market economy. The demonstrative role of these ventures has in part paid off, considering the healthy competition which public enterprises are now facing from private sector latecomers, e.g., in insurance.

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[40] Draft Report to the Sultanate of Oman on Legal Reform to Encourage Private Sector Investment, World Bank, April 1993.

8.27 In addition to these public sector entities, there are three other categories of public commercial organization. *First*, there are Petroleum Development Oman (PDO) and the other joint oil ventures with foreign oil companies (except for Oman Refinery, which serves the domestic market and is among the 25 companies listed above). Their articles of incorporation, which require the consent of the foreign partners to alter, make them unlikely targets for privatization. In addition, the capital requirements of ownership are beyond the capacity of the domestic private sector. However, as the private sector matures, Omani private participation in downstream industries should not be ruled out when new joint ventures are negotiated. Eventually the question of selling Government's share would need to be considered. *Second*, the Omani Government participates with other governments, as a shareholder, in 28 foreign organizations outside Oman (Annex Table 8.A6). These, too, are unlikely targets for privatization, in part for the same reasons but also for political and foreign policy reasons. Privatization of these concerns could in any case pose further problems, as permitted capital participation by the Omani Government in some of them exceeds the actual capital subscription. The unsubscribed capital far exceeds the financial capacity of the private sector. *Third*, water and electricity are supplied by the Ministry of Electricity and Water (MOEW) for a price, but its revenues are considered public revenues and its expenditures are included in government expenditures in the general state annual budget. This treatment separates these utilities from other domestic public sector entities.

Financial Arrangements and Supervision

8.28 Government supervision of public authorities and companies is carried out through the representation on their boards (as members or chairpersons) of officials from the sector ministry involved and the Ministry of Finance and Economy. In the latter ministry, the General Directorate of Revenues oversees, periodically, the financial performance of public enterprises. The financial system of these public entities is regulated by Financial Circular No. 6/85. Each is required to keep its own independent accounts and an annual budget, which becomes an annex to the general state budget. The link between the two budgets is established through revenue received by MOF in the form of dividends if the entity makes a profit or through transfers from MOF to cover all or part of the financial losses of the entity if it shows a loss. Only public authorities, and not public companies, can receive such budgetary support. In addition, the entity can use its internal sources or borrow from domestic or foreign sources to finance its capital expenditures, subject to approval by the Council for Financial Affairs of the entity's decision. Increasing government capital participation in these entities could be an additional way of financing capital expansion.

Privatizing Public Authorities and Companies

8.29 Recent Proposals. In 1987, the Government considered the question of privatizing public companies by transferring publicly held shares to the private sector. This consideration came as a result of the recommendation of a high-level committee the function of which was to propose measures to encourage the private sector to invest in directly productive activities. Privatization was also discussed as one of the measures to deal with the fiscal crisis following the 1986 collapse in oil prices. However, no decision was made to implement any of the many recommendations made by several committees and further studies were called for. Early this year (1993), the newly established Consultative Council undertook a study of its own, the results of which are still being debated.

8.30 Meantime, the Government has implemented, successfully, a program of transferring certain public operations to the private sector, e.g., billing and collection for water and electricity, maintenance and cleaning contracts, and operating contracts for water and power stations and hotels. It also sold some or all of its share holdings in a few companies to private investors, e.g., the Flour Mill and Raysut Cement. The lack of transparency in some of these transactions became a factor in stalling the drive towards privatization. The valuation of public shares and the methods used to transfer them are issues that require careful study of each individual case and absolute transparency. The basic principle is that public companies and authorities should be sold through a competitive process that guarantees the highest price and, thus, guarantees the transfer of public assets to those who place the highest value on them. Those would likely be the ones that have the best plans to improve the commercial performance of sold entities.

Table 8.7: State-Owned Enterprises As of End 1991

Enterprise	Date of Establishment	Subscribed capital (RO '000)	% of Shares Owned by Government
Central Bank[a]	1975	175000	100.0
Telecom[a]	1975	50000	100.0
Golf Hotel	1974	2000	32.1
Oman Aviation	1981	7000	35.0
Bank of Agriculture & Fisheries	1981	19000	99.0
Oman Cement	1977	41429	99.9
Oman Development Bank	1977	10000	54.1
Oman Fisheries	1989	12500	24.0
Oman Flour Mills	1975	10500	60.0
Housing Bank	1976	30000	61.0
Oman Mining	1978	25000	99.0
Oman National Insurance	1977	5000	15.0
Oman National Transport	1975	6000	99.9
Oman Refinery	1983	30000	99.0
Port Services	1975	4800	35.6
Raysut Cement	1981	8000	20.0
Marketing Agricultural Production	1985	9807	100.0
Salalah Hotel	1978	2500	99.9
Sub-Total			
Al Bustan Hotel[a]	1985	N.A.	100.0
Inshirah Restrnt[a]	1987	N.A.	100.0
Muscat Intercon Hotel[a]	1987	N.A.	100.0
Storage & Food RSV[a]	1980	N.A.	100.0
Rusail Indus. Estate[a]	1983	N.A.	100.0
Seeb Novotel[a]	1982	N.A.	100.0
PDO[a]	1980	N.A.	N.A.

Source: MOF

[a] Organization and companies whose shares are not traded on the Muscat exchange.

8.31 In November 1989, The Financial Council recommended that the Cabinet of Ministers approve the principle of privatization. The Council went even further when it recommended to the Cabinet a reorganization plan based on the formation of a holding company to which all government-held shares would be transferred. The shares of this holding company were to be distributed as follows: 40% to the Government, 20% to major public sector pension funds, and the remaining 40% to the public.

8.32 Government Reservations. The drive towards privatization stalled because of some lingering concerns:

(a) The sale of profitable public companies would deprive the Government of an important source of non-oil revenue. (However, if these companies were priced appropriately, the proceeds of the sales would adequately compensate the Government. Furthermore, the Government has the option to tax the income.) The budgetary burden of supporting those companies that remained in the public domain would rise. (This need not be the case, though, if an aggressive program of liquidation were adopted as part of the privatization strategy.)

(b) Given the expansionary bias of public spending, which has led to the incurring of record deficits, the proceeds from selling public shares would lead either to still higher public spending or would be applied to the financing of the deficit, as an alternative to reducing spending or paying off external debt. (Again, this need not be the case, if the proceeds are earmarked for income-earning investments or the redemption of debt, rather than the financing of government consumption.)

(c) The Omanization of the labor force could suffer as a result of privatization. Efforts by private owners to maximize profits could retard the drive towards Omanization. Worse still, some private operators might, for cost-saving reasons, fire Omanis and replace them with non-Omanis. In either of these cases, privatization policy would run counter to the Government's Omanization policy. (This report recommends (Chapter 9) that coercive and subsidized Omanization be abandoned.)

(d) The thin spread of shares among a large number of small investors could permit the privatized concerns from attracting the type of entrepreneurial owners that have a personal interest in the success of the business. The need to spread share ownership might have, then, to be balanced against the need to attract successful business leaders. (Luckily, in Oman, the private financial and managerial resources needed for successful limited privatization are available. Furthermore, a nucleus of respected entrepreneurs may, in fact, be necessary to attract the large-scale participation of small shareholders.)

(e) Privatization could mean passing existing privileges on to certain buyers of public shares, including protection from competition and dependence on government financial support, or the granting of new privileges of this type. (Here again, privatization should not be thought of as an all-encompassing remedy for sluggish diversification but as one element in a policy reform package which would include, *inter alia*, reforming the regulatory environment.)

8.33 Rationale for Privatization. Privatization of selected Omani state-owned entities could certainly produce several positive results:

(a) As stated earlier, perhaps the most important impediment to private sector development in Oman is the lack of economically viable investment opportunities. Privatization of government holdings would provide the private sector with investment opportunities outside its traditional activities. It would mobilize private resources currently invested in low-risk, local and foreign interest-bearing instruments for productive domestic, profit-making ventures, the earnings of which would add to the pool of domestic private capital.

(b) If privatization took the form of public offering of government shares, it would expand the common stock ownership base among small Omani investors and create a motive for increasing private saving. If safeguards were established to condition the control of the privatized concerns by large investors, the sale of public shares of these already traded companies would undoubtedly revitalize the stock market.

(c) By limiting the role of government and expanding the role of the private sector in commercial-type activities, the productivity, responsiveness and entrepreneurial dynamism of the overall economy would improve, as the supply of private goods would be determined on the basis of purely economic criteria.

(d) With privatization comes professional management at the top and middle management levels. These positions could provide the right motivation needed for public managers and other aspiring public servants to seek employment in the private sector, thus reducing existing distortions in the labor market.

A Strategy for Privatization

8.34 Objectives. A successful privatization plan requires a clear statement regarding the government objectives that privatization is to achieve. The early development plans of Oman clearly aimed at the promotion of non-oil activities as a major objective, concurrently with developing the economy's infrastructure. Successive development plans clearly elevated diversification as the infrastructural base was approaching completion. It is now the most important government policy objective. Thus the key objective is to strengthen the private sector n order to facilitate and promote economic diversification.

8.35 Strategic Classification of State-owned Entities. A distinction was drawn earlier between three types of domestic public entity: departmental organizations (water and electricity), public authorities (e.g., the Port Services Authority) and public companies. However, pragmatic classification criteria are required to identify those entities that can best achieve the stated objectives and benefits of privatization while minimizing its potential hazards. Financial performance, degree of competition and linkage to other private sector activities are among the most important such criteria. Public entities with a good financial record will be attractive to the private sector. Entities operating and performing well in a competitive environment will strengthen competition after the transfer of ownership to the private sector and are less likely to require protection or subsidy in order to survive, since private management is likely to lead to

even greater success. Finally, companies with strong linkages to other private companies will stimulate and strengthen the private sector as a whole and serve a basic objective of privatization.

8.36 A Phased Approach to Privatization. A review of the population of public sector entities (Chapter Annex Table 8.A2) reveals that few of them will remain, or are likely to remain, in the public domain such as the Central Bank and, perhaps, development banks (Development, Agriculture and Fisheries, and Housing), and public authorities (Marketing Agricultural Products, Storage and Food Reserves, Rusail Industrial Estate, and Al Bustan Palace). A study of the feasibility of merging the three development Banks is justified on grounds of overhead reduction, benefits from loan diversification, and increasing private sector participation. Only few of the public companies satisfy the proposed criteria at the present time:

- Gulf Hotel Company which owns Muscat Intercontinental, Muscat Holiday Inn and Seeb Novotel
- Oman National Fisheries
- Oman National Insurance

8.37 A few other companies may qualify at a later stage. These companies currently operate in a monopolistic setting as they are the only providers of the services that they offer. Clear and efficient rules for regulation of their behavior need to be in place before they can become candidates for privatization. These companies are:

- Oman Aviation Services
- Oman Port Services Corporation
- Oman Cement Company
- Oman Flour Mills
- Oman National Transport

8.38 Two companies require special consideration, because of their strategic status, monopolistic position, the size of the financial resources needed for their acquisition by the private sector, and because of the involvement of foreign partners in one of these two cases. A special study of these two cases would be required before any decision to privatize them could be made.

- General Telecommunication Organization (GTO)
- Oman Refinery Company

8.39 Other companies may be targeted for liquidation or sold at a discount to individual buyers. The idea of reorganizing them and nursing them to profitability, before offering their shares publicly for sale, may be costly. These include:

- Oman Mining Company
- Inshrah Restaurant
- Seeb Novotel
- Salalah Hotels Co.

8.40 Finally, it should be noted that privatization does not necessarily mean the total transfer of ownership from the Government to private owners. Many of the government concerns cited

above may be partially addressed by retaining minority government ownership, as well as instituting efficient regulation. Partial government ownership should be transitional and it should not convey to the private sector the notion that the Government is guaranteeing private investment.

E. Strengthening Private Sector Financing

Structure and Control of Banking and Financial System

8.41 Oman's banking system comprises the Central Bank of Oman, 22 commercial banks, and 3 specialized, publicly owned banks (the Oman Housing Bank, the Oman Development Bank, and the Oman Bank for Agriculture and Fisheries). Ten of the commercial banks are locally incorporated (some with majority foreign ownership) and 12 are branches of external banks. At end-1991, there were 245 commercial bank branches. Certain institutions are licensed to undertake specific investment banking, hire purchase finance, and leasing activities, but there are at present no investment banks. The Muscat Securities Market provides a market for new issues and the secondary trading of a small range of stocks. Nine companies are licensed to engage in money exchange and the issuance of drafts, and 40 establishments are licensed to exchange money only.

8.42 The Central Bank controls liquidity via the imposition of reserve requirements (5 percent), the maximum loan-to-deposit ratio (85 percent), rediscount operations and currency swaps. The Central Bank started issuing treasury bills in June, 1987. These have been used both to meet government financing requirements and as an additional instrument to control bank liquidity. In August, 1991, it began issuing longer-term development bonds on behalf of the Government as a means of assisting in the financing of the public sector deficit and to provide longer-term investment options for private individuals, banks and foreign purchasers. RO 40.6 million of development bonds were issued in 1991, RO 138.3 in 1992, and the Government proposes to issue RO 83 million in 1993.

8.43 To ensure the financial soundness of the commercial banks, the Central Bank imposes minimum capital and leveraging requirements (capital adequacy of 8 percent under the Basle Agreement by end-1992); limits lending to individual borrowers (15 percent of net worth; 10 percent in the case of senior bank management); sets restrictions on investments (maximum of 25 percent of capital or time deposits in real estate); requires diversification of foreign assets; and places limits on foreign exchange exposure (40 percent of capital and reserves excluding loan loss provisions). All banks and financial institutions are subject to reporting requirements and inspections. To guard against conflicts of interest, commercial banks are not allowed to lend to their auditors. The Central Bank also sets ceilings on deposit and loan rates.

Evolution of the Banking System

8.44 The essential role of the banking system is to serve as an effective intermediary between savers and borrowers, providing security and competitive returns to lenders and meeting efficiently and competitively the various financial needs of borrowers. The growing use of banking intermediary services in a developing country is an indicator of confidence in, and the effectiveness of, the banking system and of the growing sophistication both of savers and borrowers. It is also an indicator of economic progress, since the efficient deployment of

individual saving to finance productive investment activities leads to increased economic efficiency and more rapid growth. A measure of the extent of such "financial deepening" is the relationship between the volume of saving held in the banking system and the overall level of economic activity, given by, eg., the ratio of M2 to GDP. The latter has in fact risen substantially in Oman since the early years of the oil boom, from 18.2 in 1976 to 31.4 in 1991. This increase in the rate of mobilization and efficient allocation of private saving has undoubtedly contributed significantly to Oman's private sector growth.

Relative Importance of Banking Institutions

8.45 A useful indicator of the relative importance of the various banks in financing economic activity is the relative size of their assets (Table 8.8).

Table 8.8: Assets of Banking Institutions, 1991

	RO Million	Percentage
Deposit Money Banks	1,646.300	90.3
Oman Housing Bank	115.125	6.3
Oman Development Bank	41.012	2.3
Oman Bank for Agriculture and Fisheries	19.775	1.1
Total	1,822.212	100.0

Source: Development Council

It is evident that the *mainly short-term* financing carried out by the commercial banks dominates overall financial activity in Oman. The Oman Housing Bank accounts for about two-thirds of the *longer-term* financing channeled through the government-owned term lending institutions.

Roles of Banking and Financial Institutions

8.46 The Commercial Banks. The bulk of commercial bank credit (78 percent) relates to personal loans, import financing, construction and trade (Table 8.9). The normal maximum term loan is three years and the maximum on mortgage loans, 10 years. Reflecting the small size of manufacturing (value-added RO 151 million in 1990) and the short-term character of commercial bank lending, credit to the sector was very limited.

8.47 Most commercial banks were established in Oman during the 1970s oil boom. Since 1981, there has been a moratorium on the establishment of new banks and branches of foreign banks. After the collapse of oil prices in 1986, some commercial banks (particularly those overexposed to real estate, where prices plunged about 50 percent) experienced difficulties and the authorities concluded that there were too many small, undercapitalized banks. The Government is now trying to promote mergers by imposing a minimum capital requirement of RO 10 million by end 1993 and by offering financial incentives.

8.48 As noted, while the private financial sector dominates short-term financing, the three public development banks dominate longer-term financing. Their salient characteristics are as follows.

8.49 The Oman Housing Bank. The Oman Housing Bank, the prime source of finance for housing in Oman, is 60.9 percent owned by the Government of Oman, 39.0 percent by the Ministry of Finance of Kuwait, and 0.1 percent by the Oman Development Bank. It was

Table 8.9: Distribution of Commercial Bank Credit, 1991

	RO Million	Percentage
Personal Loans	337.5	35.4
Home Mortgages	65.2	6.8
Other	272.3	28.5
Import Trade	231.5	24.3
Construction	112.0	11.7
Wholesale & Retail Trade	58.7	6.2
Manufacturing	32.5	3.4
Services	31.8	3.3
Mining & quarrying	22.5	2.4
Transport & Communication	9.3	0.9
Export Trade	6.8	0.7
Agriculture & Allied Activities	6.1	0.6
Other	105.7	11.1
Total	954.4	100.0

Source: Central Bank of Oman

established in 1977 and by end-1991 had approved 14,657 loans, mostly for housing in the Muscat area (61 percent) and Salalah (18 percent). 858 loans were approved in 1991. 57 percent of the loans were for people earning under RO 400 per month (US$12,500 a year). Loans are granted at subsidized rates (mostly 2 to 4 percent). The bank also operates a no-interest loan scheme for low-income Omanis and a low-interest loan scheme for members of the security and armed forces. Mortgage interest received by the bank was RO 4 million in 1991 versus an interest subsidy from the Government of RO 5.7 million. This is an indication of the high degree of subsidization involved in the bank's operation. The bank is financially very strong, with 43 percent of its liabilities in the form of shareholders' equity and another 33 percent in the form of government loans. Over half of its outstanding loans are for terms of less than five years.

8.50 The Oman Development Bank. The Oman Development Bank is 40 percent owned by the Government of Oman, 40 percent by regional and foreign institutions, and 20 percent by Omani individuals and companies. The Government guarantees a minimum dividend of 5 percent. The bank began operations in 1979 and at end-1991 had approved 335 projects totaling RO 63.9 million in ODB financing, of which RO 1.6 million (2-1/2 percent) was in the form of equity. Over 60 percent of its combined equity and loan financing has been provided to 3 subsectors: chemicals, foods beverages and storage facilities, and construction (Table 8.10). In 1991, the

proportion of ODB financing to total project costs was 36 percent. This reflects the typical pattern of project financing in Oman in which the principals put up a one-third share, one-third is borrowed from the MOCI in the form of an interest-free loan, and one-third is borrowed from the ODB at the rate of 6 percent in the capital area and 4 percent outside. As in the case of the housing bank, a notional market rate of 9 percent is used as the basis for determining the subsidy to be paid by the Government to the bank.

Table 8.10: ODB Financing by Economic Subsector, 1979-1991

	RO Million	Percentage
Chemical Industries	15,442,500	24.3
Foods, Beverages and Storage	12,045,000	19.0
Construction	11,151,630	17.6
Instant Products	5,625,000	8.9
Agriculture & Fisheries	5,175,000	8.1
Paper & Printing	4,602,000	7.3
Textiles & Clothing	2,775,000	4.4
Furniture	2,245,000	3.5
Other Industries	1,925,000	3.0
Services	1,872,000	2.9
Small Industries & Vocational Training	643,000	1.0
Total	63,501,130	100.0

Source: Oman Development Bank

8.51 The Oman Bank for Agriculture and Fisheries. This bank was established in 1981 and is essentially government owned. Over the 10 years 1982-91 inclusive, it approved 11,025 loans for a total amount of RO 37.2 million, of which about 70 percent (75 percent of the total amount) were for agricultural projects and the remainder for fisheries projects. The bank executes and administers government subsidy programs for farmers and fishermen (for the purchase of water pumps, tractors and fishing boats) and provides complementary low-interest loans. Loans may be for a period of up to 20 years -- more in certain special cases. Interest rates of between 2 and 6 percent are determined by the income of the borrower. The difference between these rates and the notional 9 percent market rate is provided by the Government as a subsidy. By a royal decision, 50 percent of outstanding loan balances were remitted in celebration of Oman's 20th national day.

Other Sources of Financing

8.52 Muscat Securities Market. The Muscat Securities Market was established in 1989 and in 1991 listed the shares of 88 joint stock companies with a market value of RO 571 million and 52,545 shareholders. 1991 trading volume was RO 58 million. The market is clearly an important source of equity capital. It also provides for the trading of government development and commercial bank bonds. It thus provides an array of investment vehicles and represents an important source of liquidity for security holders. Average share prices have recently fallen

considerably from earlier levels, resulting in some decline in public confidence. Primary (new issues) market activity was dominated in 1991 by sales of government development bonds. These accounted for RO 40.6 million out of a total of RO 48.4 million of new issues, with stock offerings accounting for only RO 5.8 million and a bond issue by one of the banks for RO 2 million. As noted, secondary market trading was slightly larger than the volume of new issues, at RO 58 million.

8.53 Investment Banking. Two commercial banks are permitted to engage in specific investment banking activities and one is permitted to market a foreign investment fund through an agency brokerage agreement. Three companies also engage in specific investment banking operations on behalf of the Government. Two foreign companies also engage in restricted investment banking activities. Banks are not allowed to engage in underwriting or futures trading.

8.54 Other Sources of Financing. The Ministry of Commerce and Industry provides no-interest loans for industrial development projects meeting government development and Omanization objectives. It also administers a grant scheme for Omani technical school graduates wishing to start their own businesses. The total amount of loans issued by MOCI in 1991 was RO 3,888,000.

Relative Importance of Main Longer-Term Financing Sources

8.55 Table 8.11 shows that lending for housing accounted for close to a half of longer-term lending in 1991.

Table 8.11: Loan Approvals of Specialized Long-Term Lenders, 1991

	RO Million	Percentage
Oman Housing Bank	16,000,000	49.1
Oman Development Bank	7,980,000	24.5
Oman Bank for Agriculture and Fisheries	4,722,000	14.5
Ministry of Commerce and Industry	3,888,000	11.3
Total	32,590,000	100.0

Sources: Banks and MOCI

The Oman Development Bank's lending to industry was more than double that provided by MOCI, reflecting the more demanding conditions attached to MOCI loans. Government receipts from local sources from sales of development bonds amounted to RO 114.1 million, indicating that it was a substantial net recipient -- by some RO 82 million -- of longer-term financing from the private sector despite its dominance of longer-term lending to the private sector.

Conclusions

8.56 It is apparent that the structure of banking in Oman reflects the basic characteristics of the economy as it has developed under the dominant influence of oil exports and government spending. The commercial banks are, as noted, heavily oriented towards the short-term financing of personal acquisitions and investments, imports, construction and trade, except for some longer-term housing loans. The longer-term financing of industrial investment is deemed by the commercial banks to be highly risky. In any event, the appreciated real exchange rate ensures that there are only limited opportunities for profitable longer-term investment in goods production. In addition, the ample availability of no- and low-interest loans through the MOCI and the public banks creates an environment for longer-term lending in which it would be difficult for private banks to compete.

Issues

8.57 The fact that longer-term development bonds have been received by banks, pension funds, financial institutions, non-financial companies and individuals as attractive vehicles for investment testifies to the fact that the essential constraint on expanded investment in goods production is not the unavailability of private longer-term funds but the lack of profitable opportunities to deploy them coupled with unwillingness to take risks, perhaps related to the scope for discretionary government intervention in the labor market and investment decisions. Development bonds do not appear to be crowding out private investment at this stage, although they could do so under other circumstances. If the recommendations in this report substantially to reduce domestic public spending, eliminate interest rate subsidies, and shrink the role of government to the exercise of the traditional public functions are put into effect, new opportunities for private business to move into tradeable goods production will begin to open up. If the Government wishes to strengthen the private sector, it will be important at that stage for the private financial system to be able to participate fully in providing funds for investment and to establish direct links with private companies to do so. For this to occur, the Government would need gradually to withdraw from subsidized lending and to facilitate a shift by the commercial banks and other private institutions into longer-term development lending.

8.58 At present, the Central Bank maintains ceilings on commercial bank deposit interest rates of 9.5 percent and on lending rates of 7.5 percent. Deposit interest rate ceilings are defended as preventing excessive rates being granted to directors and preferred clients. Lending rate ceilings are defended as protecting the interests of small borrowers and to discourage excessively risky investments. Since the general level of interest rates is currently below these levels, the ceilings are non-binding. The imposition of ceilings appears either redundant (as at present) or, where binding, potentially distorting. Properly enforced conflict of interest provisions in the banking laws should prevent discrimination in the granting of deposit rates without requiring recourse to arbitrary deposit rate ceilings. Binding ceilings on lending rates are likely to limit smaller and riskier borrowers' access to funds. Higher interest rates are required to compensate for higher risks or the higher costs of handling small loans. The Government should consider eliminating lending rate ceilings as a means to improve the allocative efficiency of commercial bank lending. Interest rate cieling is not an optimal measure for consumer protection. Other measures are less distortive, e.g. enforcable cost raising penalties paid by those who violate set standards.

8.59 It is not clear that the Government's efforts to merge banks by increasing the size of their capital base will necessarily strengthen the banking system. The soundness of a bank depends more on the quality and diversity of its loans than on the scale of its operations.

F. Channeling More Oil Revenue Through Private Hands

8.60 The primary vehicle for strengthening non oil-related private goods and services production identified in this report is increased government saving out of oil revenues coupled with increased public foreign investment. This would result in increased private income from export activities and import substitution. A further means of strengthening the private sector would be to allow more oil revenue to pass directly into private hands rather than via expenditures out of civil servants' salaries and via factor payments by entrepreneurs providing construction and other services to the Government. This could be accomplished in the fields of health and education either through the provision of subsidies or subcontracting out to appropriately regulated private suppliers or through the distribution of vouchers to individual users opting out of the public system. The unit value of subsidies or subcontracts should be below the Government's own unit costs for the services involved. Similarly, the cash value of public subsidies or vouchers would be only a fraction (e.g., 50 percent) of the cost of the foregone service to the Government. These measures would reduce the Government's costs of providing these services, lessen the extent of overload on the present public systems, strengthen the private sector vis-a-vis the public sector, and subject the latter to needed competition. An additional means to reinforce the private sector, reduce costs, increase efficiency, and spur competition would be to extend the present system of contracting out to cover additional public services (e.g., ministerial transport and secretarial services and the maintenance of public infrastructure and equipment).

G. Attracting Foreign Capital

8.61 The deficiencies in the legal system outlined in para 8.23 above constitute serious obstacles to foreign investment. The draft Legal Reform Report contains several recommendations in this context including such measures as: generally eliminating legal provisions that discriminate against foreign investment; eliminating red tape associated with investment licensing; reducing or eliminating restrictions on the percentage of a company that can be foreign owned and on share purchases by foreigners; providing guarantees common in other countries relating to the transfer by foreign investors of profits and capital; and an active foreign investment promotion program by the Sultanate.

H. An Overall Strategy

8.62 Conclusions. The long-term performance of the Omani economy depends to a large extent on the private sector's assuming the leading role in the economy. Getting it to do so will be difficult or impossible without reducing the dominance of oil-financed public expenditures as the driving force for the domestic economy. Initiation by the Government of a bold program of privatization may be the jumpstart that the private sector needs to begin the transformation of its role.

8.63 In summary, an overall strategy for strengthening the private sector and improving the efficiency would include the following:

- Sharply cutting public spending and severely curtailing its future rate of growth (as in the reform scenario of Chapter 4);

- Removing present legal and regulatory obstacles to investment and eliminating the capacity licensing systems;

- Privatizing most of the present public companies and authorities, subject to safeguards designed to assure a fair and transparent divestiture process and competitive standards of subsequent performance;

- Improving the performance of the remaining public enterprises and authorities, possibly through the introduction of a system of performance contracts;

- Phasing out most private sector subsidies and using targeted and less distortive methods of dispensing subsidies;

- Strengthening private sector financing by phasing out subsidized lending, phasing out public investment in longer-term financing, fostering private longer-term financing, and eliminating interest rate ceilings;

- Fostering an exp nsion of private education and health services via additional subcontracting a d cash equivalent vouchers;

- Phasing out coercive and subsidized Omanization; a d

- Actively promoting foreign investment.

Chapter Annex Table 8.A1: Numbers of New Industrial Firms, 1975-1991 by Subsector

	1975	1976-80	1981-85	1986-90	1991	TOTAL
Food & Beverage		14	39	90	23	166
Textile & Apparel		1	1	19	8	29
Wood Products & Furniture	2	104	428	227	26	787
Paper Products & Printing	1	7	14	13		35
Chemicals		9	16	22		47
Non-Metallic Minerals	4	204	1150	509	56	1923
Basic Metals				2		2
Fabricated Metals	3	54	283	262	45	647
Others				6	1	7
Total	10	393	1931	1150	159	3643

Source: MOCI

Chapter Annex Table 8.A2: Industrial Investment, 1975-1991 by Subsector

Investment RO '000

	1975	76-80	81-85	86-90	1991	TOTAL
Food & Beverage		10402	9589	14341	7198	41530
Textile & Apparel		914	105	12890	2421	16357
Wood Products & Furniture	32	1864	4842	3510	366	10613
Paper Products & Printing	44	1539	2397	4251		8232
Chemicals		1678	53979	18547	5175	79378
Non-Metallic Minerals	369	11762	97857	21190	3244	134421
Basic Metals				89200		89200
Fabricated Metals	26	2389	7479	10140	1144	21178
Others				399	12	411
Total	471	30575	176246	174468	19560	401320

Source: MOCI

Chapter Annex Table 8.A3: Gross Value of Industrial Output, 1975-1991 by Subsector

(RO '000)

	1975	76-80	81-85	86-90	1991	TOTAL
Food & Beverage		6408	8641	11694	5700	32443
Textile & Apparel		772	126	225551	18663	42111
Wood Products & Furniture	60	5884	10988	6697	1125	24753
Paper Products & Printing	60	2799	3029	3540		94929
Chemicals		1712	156411	12988	3830	174941
Non-Metallic Minerals	483	15591	61593	30002	3823	111492
Basic Metals				8795		8795
Fabricated Metals	39	3009	13806	12744	1787	31385
Others				773	27	800
Total	642	36175	254594	109783	34955	436149

Source: MOCI

Chapter Annex Table 8.A4: Industrial Employment, 1975-1991 by Subsector

	1975	76-80	81-85	86-90	1991	TOTAL
Food & Beverage		557	631	943	467	2598
Textile & Apparel		116	22	3678	1640	5456
Wood Products & Furniture	13	697	1974	1117	93	3894
Paper Products & Printing	10	266	254	199		729
Chemicals		150	558	428	217	1353
Non-Metallic Minerals	81	1812	6417	2456	344	11110
Basic Metals				973	2	975
Fabricated Metals	11	585	1643	1090	177	3506
Others				56	3	59
Total	115	4183	11499	10940	2943	29680

Source: MOCI

Chapter Annex Table 8.A5: Position of State-Owned Enterprises As of End 1991

(RO '000)

Enterprise/ Position	Date	Subscrip	% of Shares	No of Shares	Par Value Share RO	Paid in Value	Net Worth end of 1991	Apprec-iation	Cumulative Dividend		
									Received	% of Cost	Annual Average %
Central Bank	1975	175000	100.0	N.A.		175000	378895		122000	69.7	5.4
Telecom	1975	50000	100.0	N.A.		50000	115947	65947	37250	74.5	5.7
Golf Hotel	1974	2000	32.1	642020	1	642	1743	1101	806	125.5	9.0
Oman Aviation	1981	7000	35.0	2450000	1	2450	5488	3038	4703	192.0	27.4
Bank of Agriculture	1981	19000	99.0	3760000	5	16730	18819	2090	0	0.0	0.0
Oman Cement	1977	41429	99.9	41428900	1	41429	45047	3618	7457	18.0	1.7
Oman Dev. Bank	1977	10000	54.1	5412120	1	5412	6159	747	2910	53.8	4.9
Oman Fisheries	1989	12500	24.0	600000	5	30006294	3337	337	720	24.0	2.2
Oman Flour Mills	1975	10500	60.0	6294540	1	18270	16737	10442	10565	167.8	13.0
Housing Bank	1976	30000	61.0	3654000	5	24950	30087	11817	6955	38.1	3.2
Oman Mining	1978	25000	99.0	24950000	1	750	5530	-19420	0	0.0	0.0
Oman Nat. Insurance	1977	5000	15.0	750000	1	5259	1830	1080	1442	192.3	17.5
Oman Nat. Transport	1975	6000	99.9	5998000	1	29700	3117	-2143	0	0.0	0.0
Oman Refinery	1983	30000	99.0	300000	100	1714	42980	13279	30459	103.0	20.5
Port services	1975	4800	35.6	1713854	1	1602	4878	3165	4212	245.8	19.0
Raysut Cement	1981	8000	20.0	1602200	1	9807	23327	21724	641	40.0	5.7
Marketing Agri Produc	1985	9807	100.0	N.A.		2500	7351	-2455	0	0.0	0.0
Salalah Hotel	1978	2500	99.9	2499980	1	395734	1303	-1195	0	0.0	0.0
Sub-Total							712576	316842	230120		
Al Bustan Hotel	1985	N.A.		N.A.							
Inshirah Restrnt	1987	N.A.		N.A.							
Muscat Intercon Hotel	1987	N.A.		N.A.							
Storage & Food RSV	1980	N.A.		N.A.							
Rusail Indus. Estate	1983	N.A.		N.A.							
Seeb Novotel	1982	N.A.		N.A.							
PDO	1980	N.A.		N.A.							

Source: MOF

CHAPTER ANNEX TABLE 8.A6
MINISTRY OF FINANCE & ECONOMY
INVESTMENT DEPARTMENT
SHAREHOLDING INFORMATION STATEMENT
(FOREIGN ORGANIZATIONS)
POSITION AT DECEMBER 31 1991

	NAME OF ORGANIZATION	DATE OF INVST.	PO-RN CUR-CY	SUBSCRIBED SHARE CAPITAL OF ORGANIZ-ATION	% OF SHRS HELD BY GOVT	# OF SHARES HELD BY GOVT	NOMI-NAL VALUE /SHARE F.CY	TOTAL PAID UP AMNT INVESTED BY GOVT		NET WORTH OF INVESTMENT				EXCESS/ (DEFICIT) OF NET WORTH OVER COST OF INV.	CUMMLTV DIVIDEND RECEIVED SINCE INCEP-TION	RTRN OF CUM DIV % OVER INV.	AVG. % RTRN SIN-CE INC-PT-ION
								F. CY	RO	DATE OF BLNCE SHEET	SHARE-HOLDERS EQUITY F.CY	PROPRT. SHR. OF GOVT. F.CY	RO				
1	ALUBAF ARAB INT. BANK-BAHARAIN																
2	ARAB BK ECO.DEV.IN AFR.(BADEA)	06-05-75	U.S.$	1,049,250,000	1.49	156.19032	100,000	13,619,032	5,236,941	31-12-91	1,579,402,000	23,533,090	9,044,708	3,807,767	0	0.0	0.0
3	ARAB CO.FR DRUG IND.&MED.APPL.	15-01-83	KD	54,350,000	0.92	50	10,000	500,000	660,832	31-12-88	67,414,924	620,217	841,635	180,803	63,670	9.6	1.9
4	ARAB FUND FOR ECO. & SCL. DEV	28-01-76	KD	694,800,000	2.49	1,728	10,000	17,280,000	23,428,128	31-12-91	1,307,534,000	32,557,597	44,180,659	20,752,531	0	0.0	0.0
5	ARAB INTERNATIONAL BANK (AIB)	23-08-73	U.S.$	165,000,000	4.78	394	20,000	7,880,000	3,029,398	30-06-91	253,425,000	12,113,715	4,655,785	1,626,387	3,248,578	107.2	7.1
6	ARAB SATL.TLCOM.ORGN.(ARABSAT)	27-05-76	U.S.$	163,141,262	1.23	20	100,000	2,000,000	768,722	31-12-91	130,578,624	1,606,117	617,295	(151,427)	0	0.0	0.0
7	ARAB TOWN DEV. FUND	04-04-79	KD	5,000,000	4.00	-	-	50,000	71,413	31-12-88	5,691,462	227,658	308,933	237,520	0	0.0	0.0
8	ARAB WINGS CO.	05-10-75	JD	2,232,940	24.00	53,590	10	535,900	640,849	31-12-88	(1,227,085)	(294,500)	(166,982)	(807,831)	0	0.0	0.0
9	ARAB GLF. STATES PRG.PROD.INST.	31-12-82	KD	2,500,000	2.50	-	-	62,500	83,726	31-12-88	3,702,436	92,561	125,605	41,879	0	0.0	0.0
10	EUROPEAN ARAB HOLDINGS S.A.																
11	GULF AIR CO.	22-12-70	BD	64,000,000	25.00	160,000	100	16,000,000	16,228,061	31-12-91	116,625,073	29,156,268	29,447,831	13,219,770	5,513,316	34.0	1.9
12	GULF ALUMUN. ROLLING MILL CO.	04-03-81	BD	42,400,000	5.66	2,400,000	1	2,400,000	2,448,371	31-12-91	19,312,102	1,093,065	1,103,996	(1,344,375)	0	0.0	0.0
13	GULF INFORMATION BANK (GIB)																
14	GULF INV. CORPORATION. (GIC)	02-11-83	U.S.$	2,100,000,000	16.67	350,000	1,000	90,000,000	34,590,600	31-12-91	823,897,000	137,343,630	52,786,651	18,196,051	6,918,120	20.0	4.0
15	INTL. TELECOM. SATTELLITE ORGN.	08-04-75	U.S.$		0.237	-	-	3,812,674	1,467,482	31-12-91	1,872,049,023	4,437,505	1,705,511	238,029	3,053,648	208.1	16.0
16	INTR. ARAB INV. GUARANTEE CORP.	30-04-77	KD	25,025,000	2.00	500	1,000	500,000	700,474	31-12-91	52,619,213	1,052,384	1,428,085	727,611	0	0.0	0.0
17	INT. BANK FOR RECN.&DEV.(IBRD)	24-11-74	U.S.$	9,392,549,000	0.09	876	SDR10000	1,314,016	504,988	30-06-91	—	1,314,016	504,988	0	0	0.0	0.0
18	INTER. DEV. AGENCY (IDA)	1973	U.S.$	69,183,917,000	0.26	-	-			30-06-91	—	—		0	0	0.0	0.0
19	INT. FINANCE CORP. (IFC)	28-01-76	U.S.$	1,177,138,000	0.06	671	1,000	671,000	257,916	30-06-91	2,103,976,000	1,262,386	485,185	227,269	0	0.0	0.0
20	INT.MARIT.SATL.ORFN.(INMARSAT)	06-01-81	U.S.$	368,878,000	0.05	-	-	-		31-12-91	467,979,000	233,990	89,932	89,932	1,582		0 0
21	ISLAMIC DEV. BANK	1975	ISD	1,692,568,000	0.36	700	10,000	7,000,000	3,131,602	11-07-91	2,066,785,000	7,440,426	4,090,002	958,400	0	0.0	0 0
22	MULTILAT.INV.GRNT.AGENCY (MIGA)	1989	U.S.$	156,908,000	0.32	94	SDR10000	US$101,708	78,405	30-06-91	162,415,000	519,728	199,752	121,347		-	-
23	THE ARAB INVESTMENT CO.	15-12-75	U.S.$	290,500,000	1.70	50	100,000	5,094,550	1,958,565	31-12-91	380,937,000	6,475,929	2,488,959	530,394	224,552	11.5	0.9
24	THE ARAB MONETARY FUND	03-04-77	AD	323,840,000	1.49	180	50,000	5,000,000	6,678,625	31-12-91	495,347,000	7,380,670	12,171,463	5,492,838	0	0 0	0.0
25	THE HOUSING BANK OF JORDAN	27-07-77	JD	12,000,000	8.33	1,000,000	1	1,000,000	1,188,889	31-12-91	33,008,383	2,749,598	1,559,022	370,133	1,068,961	89.9	8.2
26	TUNASIAN ECO. DEV. FUND	01-02-83	TD	32,500,000	6.92	450,000	5	2,250,000	1,260,837	31-12-91	49,940,931	3,455,912	2,503,322	242,485	393,417	31.2	6.2
27	UBAC CURACAO N.V.	02-08-78	U.S.$	258,408,600	0.78	31,977.68	50	1,598,884	614,696	30-06-91	129,194,579	1,007,718	387,306	(227,390)	22,649	3.7	0.4
28	UBAF ARAB AMERICAN BANK	21-06-78	U.S.$	39,874,000	1.56	62,230	10	6,229,433	2,394,952	31-12-91	33,653,000	524,987	201,773	(2,193,179)	336,465	14.0	1.4
									107,424,472				169,761,416	62,336,944	20,844,958		

Source: Ministry of Finance

9
OMANIZATION, LABOR MARKET EFFICIENCY, AND THE MAXIMIZATION OF SOCIAL WELFARE

A. Definition and Context of Omanization

9.1 The term "Omanization" refers in part to the process by which the Government is attempting to secure increased and higher-level participation by Omanis in the economic life and development of their country. As noted in Chapter 1, a high proportion of Omanis (52 percent in 1990) are engaged in agriculture and fishing. However, most young, urban Omanis, particularly if well educated, entertain high expectations and have until recently looked primarily to the government sector and the more highly paid and prestigious parts of the private sector for employment. Omanis are typically not prepared to accept certain low paying jobs that expatriates are willing to do.

9.2 Omanis' attitudes and expectations concerning employment are the outcome of two decades of growing incomes and expanding job opportunities generated by rising public spending financed by the realization of Oman's oil and gas wealth. Jobs in the public sector offered not only more generous pay and allowances than those in the private sector but shorter hours, a typically more congenial work environment, and more frequent association with fellow Omanis. Recently, however, growing financial constraints have forced the Government to curtail the expansion of public sector employment. In consequence, Omanis have been increasingly obliged to vie for private sector positions with expatriates whose attitudes and expectations have been formed in very low income environments. These expatriates tend to undercut some Omanis in the job market, giving rise to Omani unemployment.

9.3 However, the relatively uncompetitive attitudes, expectations and qualifications of young Omanis are only part of the problem of actual or threatened Omani unemployment. On the other side, private sector expatriate employers have revealed a tendency, for linguistic or cultural reasons, to favor their own nationals over Omanis when hiring new workers. This amounts to implicit or explicit discrimination against Omanis. The Government, confronted with the possibility of significant unemployment among Omanis, has felt obliged to address the problem. On another level, Oman has a long and well established tradition of private sector employment and entrepreneurship in agriculture, fishing, and trade but a short and less established tradition in the management of organized business in other economic activities. This means that Omanis need training and assistance if they are to be able to participate fully in the ownership and management of diversified business. Government Omanization policies at a number of levels, including the sector and company levels, are attempting to meet these problems.

9.4 However, the Government has additional, possibly more basic, concerns relating to the fact that the high proportion of expatriates may tend, over time, to undermine deeply cherished Omani social and cultural values and to the fact that the overall increase in the resident population places extra pressure on the country's scarce water and urban land. Both considerations have led to pressures on the Government to reduce Oman's overall dependence on expatriates, i.e., to raise the economy-wide Omanization ratio. Thus, the term "Omanization" means two different things: (1) fostering the participation of Omanis in higher-level jobs in the public and private sectors; and

(2) increasing the proportion of Omanis to expatriates in the overall economy. This chapter, for clarity, refers to the latter as "aggregate" Omanization.

B. Government Omanization Policies

The Government's Omanization Program

9.5 The Government's Omanization program initiatives set out in the Fourth Plan represented part of a comprehensive manpower development and planning program. The Omanization program itself involves institutional reforms to improve the education and training of Omanis (including permitting the establishment of private vocational training institutes and centers), and establishing mechanisms and quantitative targets for Omanization. (Sector Omanization targets in the private sector are enforced in banking and voluntarily observed in insurance.) In addition, it involves increasing the participation of Omanis in higher-level government jobs and further increasing the proportion of Omanis in the public sector. The Plan allocated RO 10 million to implement a Ministry of Civil Service program to Omanize about 3,200 public sector jobs during the Fourth Plan period and RO 40 million to Omanize public sector jobs not included in the Ministry of Civil Service program. Additional sums were to be spent in support of Omanization in the private sector.

Specific Features of the Omanization Plan

9.6 As part of the overall Plan, the Government, using a Manpower and Education Model (MEM) developed with World Bank assistance, set out quantitative Omani and expatriate labor requirement projections covering 14 industrial sectors and 30 occupational categories.[41] In order to achieve these quantitative targets, the Government indicated that it was considering the following:

(a) Limiting expatriate inflows into each sector to the numbers projected in the Plan[42];

(b) Omanizing personnel departments in private sector companies, in order to establish "the appropriate climate" for the placement of Omanis;

(c) "Arabizing" the administration of the companies;

(d) Providing compensation to private sector companies to compensate them for training Omanis to replace expatriates or to fill new positions;

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[41] The model comprised three submodels: (1) a manpower requirement model (MRM); an educational and simulation model (ESM); and a manpower allocation model (MAM). The MRM estimated labor requirements by sector, based on projected output and productivity. The ESM used "efficiency rates" to simulate the output of Omani educational and training institutions. The MAM allocated school leavers with comparable skills expected to enter the labor market to pools feeding the occupational categories generated by the MRM, thereby linking labor demand by occupational category with incremental labor supply from the education/training system. Omani nationals were allocated proportionally to demand in the various sectors except that lower priority was assigned to the allocation of Omanis to the domestic and maid categories in the service sector and to the unskilled and semiskilled manual categories in the construction sector (see Oman: Development of Human Resources at Crossroads, World Bank, March 8, 1991, Annex D).

[42] See The Fourth Five-Year Development Plan, (1991-1995), p. 161.

(e) Continuing to give priority in the awarding of government contracts to private companies and institutions with an Omanization timetable and giving such companies a preferential margin to cover the costs of training Omanis;

(f) Tying government grants, loans and support to private companies to their adherence to Omanization requirements and objectives;

(g) Encouraging graduates of training institutes and technical colleges to establish their own businesses by providing soft finance, tax exemptions, and business support services; and

(h) Initiating an extension of the pension scheme to the private sector, in order to increase its attractiveness vis-a-vis the public sector, where such a scheme is already in effect.

C. Complementary Labor Market Policies

Fourth Plan Proposals

9.7 This Omanization program was to be complemented by efforts to: achieve better understanding of the manpower requirements of the labor market, so as to be able to align Omani education and training more closely with the needs of the economy; involve the private sector in developing and assessing vocational training; improve vocational and technical training; support the establishment by the private sector of a business school; support private educational and training organizations; and encourage more women to enter the labor force.

9.8 Complementary institutional policies and measures were to include: the development of basic employment and occupational data; the introduction of measures to improve the efficiency and effectiveness of labor recruitment offices; the introduction of regulations and other measures to eliminate "unjustifiable" job turnover among Omanis and thereby ensure that they stayed in their private sector jobs; and the development of labor planning units in key ministries and authorities.

Other Government Policies Giving Special Labor Market Status to Omanis

9.9 The Government's Omanization policies constitute elements of a broader and more longstanding government policy of according special labor market status to Omanis. The Government, when filling civil service positions, accepts lower qualifications in the case of Omanis[43] and pays (predominantly Omani) civil servants wages, salaries and allowances higher than those of private sector counterparts with comparable education, training, skills and

[43] This is attributed by a senior official to the fact that the Omani public service pay system is based on educational qualifications and years of service, rather than on the position occupied, or the job performed. It is claimed that, without some means of correction, this system could result in an expatriate, not infrequently having educational qualifications above those required for a given position, earning a salary higher than that earned by an Omani doing the same job.

experience. It also sets a higher private sector minimum wage level for Omanis than for expatriates (see Annex F for details).

Fourth Plan Follow-Up Measures

9.10 A summary of measures taken by the Government to implement and extend the Omanization proposals set out in the Fourth Plan is provided in Annex G.

D. Key Omanization Issues

9.11 Review of the Government's Omanization program suggests the need:

(a) To clarify the Government's aggregate Omanization policies and identify more effective means to attain its basic objectives;

(b) To weigh the financial and potential economic costs of establishing sectoral and company Omanization targets against the social benefits;

(c) To recognize the potentially adverse impact of certain Omanization measures on the attainment of other development goals; and

(d) To collect additional data permitting better definition and analysis of labor market issues.

Clarifying the Government's Aggregate Omanization Objectives

9.12 The Fourth Plan explicitly recognized that the aggregate Omanization ratio is inversely related to the growth of domestic demand.[44] With the increase in the supply of Omani labor given by demographic trends, any excess labor demand for labor stemming from strong demand for goods and services has to be met (if cost-driven inflation is to be averted) by increased recourse to expatriate labor. With zero to moderate aggregate demand growth, the Omanization ratio, *ceteris paribus*, would rise; with more rapid growth, it would either remain stable or decline. The Plan projected moderate growth (6.3 percent per annum) and an increase in the Omanization ratio from 39.2 percent in 1990 to 44.7 percent in 1995.

9.13 Although the Government's projected Omanization targets were based -among other factors- on the projected increase in the supply of Omani labor, the balance that was struck seems to reflect a willingness on the part of Government to sacrifice some growth in order to raise the aggregate Omanization ratio. Furthermore, the Plan indicated that the Government would "limit the amount of foreign labor permitted to be brought in annually for sectors in which jobs may be Omanized easily, provided the numbers conformed with the rates of growth targeted in the development plans." It noted, furthermore, that "from the details and tables . . . it is possible to specify 45 percent Omanization of jobs in industry, mining and tourism by 1995 and 25 percent in the trade sector."

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[44] See, for example, The Fourth Five Year Development Plan, Section 6.6.1, p. 152.

9.14 However, despite this apparent commitment to aggregate and sector-specific Omanization targets, the Government did not, in fact, treat the Plan's aggregate Omanization objectives as binding and did not place limits either on the aggregate expatriate labor inflow or the inflow into specific sectors. Senior officials confirm that the Government is not prepared to compromise its objectives relating to growth and the preservation of price stability in order to achieve quantitative targets for Omanization.

9.15 While the Plan envisaged growth in labor requirements over the plan period of 161,000, of whom 101,000 would be Omani and 60,000 expatriates, in the event, the number of expatriates grew by 76,000 in 1991 alone – 16,000 more than envisaged over the entire 5-year plan period. The number increased by another 69,000 between 1991 and 1992. (Over the 2-year period, the aggregate Omanization ratio thus declined by about 5.2 percentage points.) This very large influx of expatriates was not matched by a corresponding increase in GDP. In 1991, real GDP increased by only 7.5 percent, despite a 27 percent increase in non-Omani private sector employment and a 19.1 percent increase in overall private sector employment. This implies that the bulk of the expatriate inflow was absorbed into very low-productivity (or statistically undermeasured) occupations. From this, it is clear that the aggregate Omanization ratio not only depends on the level of aggregate domestic demand; it can also be highly sensitive to the mix of demand for goods and services.

9.16 While the Government has been unwilling to subjugate its spending decisions to the attainment of aggregate Omanization objectives, it has a clear and legitimate interest in assuring that the influx of large numbers of expatriates into low-productivity jobs is in the best interests of Oman. Its recent decision to impose a poll tax on expatriate domestic servants is indicative of the fact that it views the excessive use of such labor as inimical to the optimization of Omanis' social welfare. While the grounds for the Government's action lay primarily in its perception that excessive reliance on expatriate domestic servants posed particular risks for the preservation of Omani social and cultural values, there are also valid economic reasons for the imposition of poll taxes on all forms of expatriate labor (paras 9.36-9.39 below). Whatever the reasons for imposing poll taxes, it is important to recognize that expatriate labor provides importance benefits to, as well as imposing costs on, Omanis and thus to avoid setting poll taxes at excessive levels.

9.17 Omanization at the sector and company levels is frequently seen by government officials as a means of raising the aggregate Omanization ratio and of conserving foreign exchange. Worker remittances are regarded as a "drain" of resources from Oman. It is argued that, if these funds were spent in Oman, they would create needed jobs for Omanis. These arguments need to be reexamined.

9.18 First, as noted, the overall demand for expatriate labor is determined partly by the level of public spending out of oil revenues and partly by the mix of the resulting demand for goods and services. In these circumstances, unless public spending drops and/or the mix of demand for goods and services changes, the Omanization of a particular sector could mean that more expatriates will be employed in other sectors. The aggregate Omanization ratio could remain largely unaffected.

9.19 Second, it is inappropriate to regard the conservation of foreign exchange as a basic policy objective calling for Omanization measures. Remittances represent part of the payments made for the services provided by foreign nationals that cannot be supplied by Omani nationals.

They are thus analogous to payments for goods imports. It would be deemed highly inappropriate to adopt potentially distortion-creating microeconomic administrative measures to restrict goods imports, in a situation of excess domestic demand for goods, in order to conserve foreign exchange. It is the task of macroeconomic (monetary and exchange rate) policies to assure that an appropriate balance is maintained between the demand for, and supply of, foreign exchange.

9.20 Third, the perceived "drain" of resources in fact benefits Oman. The presence of expatriate workers in Oman in the first place signifies (in the absence of significant Omani unemployment) the existence of a level and composition of domestic demand that cannot be satisfied solely by recourse to indigenous labor. Thus, any additional domestic demand resulting from limiting foreign remittances could only be met, without generating inflation, by employing still more expatriates.

9.21 In summary, while the Government has valid concerns about the number of expatriates in Oman, it recognizes, in practice, that it would inadvisable to address them by imposing aggregate Omanization targets, since this could adversely affect the attainment of more basic objectives relating to growth, economic diversification and the preservation of price stability. A preferred approach would be, first, to restrain the growth of public expenditure (as recommended in Chapters 3, 4 and 5, to raise public and national saving, and foster industrial diversification). This would reduce aggregate demand and thus the need for expatriate labor, thereby tending to raise the Omanization ratio. As a second step, expatriate labor should be taxed at appropriate rates, raising its overall cost to employers. Market forces would then reduce demand for expatriates, automatically generating a higher (socially optimum) rate of Omanization, without the need for the Government to set targets. Taxes on expatriates would need to be set at levels equal to the external costs they impose on Omani society. If they were set above this level, the price of expatriate labor would exceed its true cost, leading to sub-optimum use of such labor and a reduction in Omanis' social welfare.

Recognizing the Overall Costs, As Well As the Benefits, of Omanization at the Sectoral and Company Levels

9.22 It is necessary to weigh the full financial and economic costs of Omanization against the perceived benefits, if Omani welfare is to be maximized. The financial costs of the public sector Omanization program are projected in the Fourth Plan at RO 40 million for general Omanization policies, mainly in the health and education sectors, and RO 10 million to the Ministry of Civil Service for general public sector Omanization measures. Budgetary data for 1991 are provided in Annex H, Table 9.A5. The overall Omanization program is both extensive and expensive. Its effective administration will entail significant additional costs. Incentives such as interest-free loans provided by the Ministry of Industry and Commerce and low-interest loans provided by the Oman Development Bank, linked to the attainment by firms of Omanization objectives, add to the financial costs of Omanization and entail additional administrative costs.

9.23 The potential economic costs are less visible but potentially significant. If Omanis were forced into or held in positions for which they were inadequately qualified, the economic cost would be borne initially by the firm involved, in the form of lower productivity and high unit labor costs, but ultimately by all Omanis in the form of higher prices for domestic goods and services and thus reductions in real incomes and international competitiveness. Of course, if Omanization merely corrected for labor market distortions (e.g., discrimination against Omanis by

private sector employers), it would not entail any economic cost and would in fact contribute to the evolution of an efficient labor market. However, it is widely accepted that some Omanis are in fact looking for special, rather than equal, treatment.

9.24 If Omani employees are paid more than expatriate counterparts, or their productivity is lower yet they receive the same pay, the price per unit of labor paid by employers will be higher in the case of Omani employees. If so, firms' average costs will be raised. The overall consequences (see Annex H for a simple microeconomic analysis) could be reduced output, reduced exports, higher prices for domestic consumers and a reduction in their social welfare. None of these consequences would be readily visible.

9.25 The economic costs of Omanization could be considerable if it were to lead to a significant deterioration in the technical and managerial capabilities of domestic firms, since this would affect these firms' overall efficiency, again including their ability to compete against imports and in foreign markets. These costs would be likely to increase as the level of such positions moved progressively higher. The proposed "Arabization" of the administration of private firms could thus add to their costs.

9.26 Finally, the attractiveness of investment in Oman is likely to diminish vis-a-vis alternatives if it is perceived that Omanization will add to the costs of production or that it presages continuing government intervention. The hidden economic cost of reduced private investment would again be lower productivity and incomes for all Omanis.

9.27 In summary, the potential for Omanization to impose significant economic, as well as financial, costs needs to be borne in mind by the Government in pursuing Omanization at the sectoral and company levels. The impact of such public intervention should be closely monitored to identify any adverse financial and economic consequences. The Government's aim should be both to eliminate existing market imperfections and avoid creating new ones.

Recognizing the Potentially Adverse Consequences of Sectoral and Company Omanization Measures for the Attainment of Other Development Goals

9.28 The Government's goal of improving Omanis' access to attractive jobs is in principle unexceptionable. However, it should be recognized that some Omanization measures may inadvertently impede the attainment of other development objectives or represent relatively inefficient means to achieve the Government's goal.

9.29 First, Omanization, if it were to raise costs, lower efficiency, and reduce the international competitiveness of private sector firms, as discussed above, would conflict with the Government's objective of strengthening the private sector, including its ability to compete internationally. Second, it would distort, and reduce the efficiency of, the labor market. Third, even if Omanization in the private sector was achieved and maintained entirely through the provision of incentives, without raising costs or reducing efficiency, the process would still involve increased public spending.

9.30 Fourth, in the public sector, expenditure leading to the increased Omanization of senior positions at current salary levels will again tend to exacerbate present income disparities, could again benefit private individuals at public cost, and could entail hidden costs, borne by society as

a whole, if the efficiency of Omani incumbents was lower than that of replaced expatriates. (To the extent that the program were to lead to an upgrading of the skills and productivity of existing incumbents without entailing additional compensation, these potentially adverse consequences of Omanization would, of course, be averted.)

9.31 Fifth, remedying the deficiencies in terms of education, skill and experience of adults is relatively costly. Furthermore, the payout period on the investment is shorter for an adult than it would in the case of investments in educating children and youths. The social rate of return to investment in primary and secondary education are thus likely to be far higher than that to most forms of investment in training or retraining adults. Substantial public expenditures on adult education and training would be difficult to justify on economic grounds if serious deficiencies in the quality of primary and secondary education attributable to budgetary constraints were left unaddressed. Strengthening early education would also have more equitable consequences for income distribution than the specific measures of training support included in the Omanization program.

9.32 These considerations suggest that, while the Government has little option but to respond to current pressures to achieve early Omanization results, it should try to do so in such a way as to minimize the costs in terms of foregone progress towards the realization of other important goals.

9.33 In summary, the implementation of Omanization measures at the sectoral and company levels potentially entails both significant costs and conflicts with other objectives, some of which may not readily be visible. In order to limit these costs and conflicts, it would be desirable to monitor the consequences of such measures very carefully and to adopt remedial measures (such as cost recovery from individuals enjoying windfall gains) wherever appropriate.

Collecting More Quantitative Data

9.34 The current lack of quantitative information is particularly apparent with regard to the extent and characteristics of Omani unemployment, the occupational characteristics and sectoral distribution of Omani private sector employment, and public/private sector wage, salary and allowance differentials for people with comparable education, training and skills. These deficiencies will be partly remedied when the results of the 1993 census of population, households and establishments become available. However, the lack of time series on Omani unemployment means that its secular, cyclical and seasonal characteristics are, and will continue to be, unknown. To the extent that Omanization policies are directed towards the alleviation of unemployment, they are thus based, and will continue to be based on purely anecdotal and sporadic information.

9.35 This is not a trivial issue. While it is clear that senior officials are concerned about the prospect of significant unemployment among recent and prospective graduates from the educational system, other, well-informed, government sources maintain that there is little current unemployment among Omanis and that the labor market, particularly in filling the more lowly-paid positions. Thus, whether the Government's intrusive Omanization policies are needed to deal with socially significant Omani unemployment is a matter of some internal debate. This issue could be resolved objectively if statistical information on the extent and duration of Omani unemployment and the characteristics of the unemployed were to be collected and made regularly available. Public policy would then be placed on a more secure foundation.

E. Optimizing the Employment of Expatriates

9.36 A key implicit assumption of this report has been that the Government of Oman's fundamental economic objective is to maximize the economic welfare (assumed to be a function of consumption) of Omanis. If this concept is applied to the issue of Omanization, it follows that, at each moment in time, the employment of expatriates should rise to the point where the (rising) direct and external marginal costs associated with their employment equal the (declining) marginal benefits. The *direct* costs are typically paid by the employer, who will hire additional expatriates up to the point where their marginal productivity has fallen to equality with their wage. The main *external* costs to Omanis of increased employment of expatriates are:

- The difference between the price paid by expatriate consumers of scarce resources (e.g., water) and the marginal costs of the additional supply;

- The higher costs to Omani renters of urban property in convenient and desirable locations stemming from increased demand attributable to expatriates;

However, (Omani owners of urban property receive an offsetting windfall.)

- Any untaxed part of the marginal costs of expatriates' consumption of public goods (e.g., educational and health services, municipal services, roads, police, juridical services, general government, etc., plus any public subsidies received by expatriates, either directly or indirectly, through their employers);

- The marginal monetary equivalent costs[45] of diluting Omani cultural and social values.

9.37 The underpricing of water and electricity and the provision of a significant range of subsidies to various types of industrial activity in Oman not only distort the allocation of resources in general but, in particular, implicitly subsidize, and thus tend to lead to the excessive use of, expatriate labor. This over-use is compounded by the absence of taxes to recover the costs of the whole range of public services consumed by expatriates. It is further exacerbated where expatriate demand pushes up the price of a scarce resource, thereby imposing an uncompensated implicit tax on indigenous consumers (see Annex H for a microeconomic analysis of the external costs of expatriate consumption of scarce resources without and with public subsidies). An expatriate employee-specific poll tax (i.e., a tax not proportional to the wage or salary paid to the expatriate or the type of activity he or she is engaged in) commensurate with otherwise unrecompensed marginal public costs (including subsidies) per expatriate employee, plus compensation for the implicit welfare costs imposed on Omanis by expatriates consumption of increasingly scarce resources, thus appears justified. It would particularly discourage the

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[45] The omnipresence of expatriate labor indicates that Omanis have in the past accepted some dilution of their cultural and social values in order to realize the economic benefits of employing expatriates, i.e., they have implicitly placed a low price on such dilution. If the monetary equivalent costs of dilution were made explicit, they could be added to the other (measurable) marginal external costs associated with the employment of expatriates to arrive at an estimate of the total marginal external costs per expatriate that should be added to the direct costs to assure proper pricing.

proliferation of low-productivity, expatriate-intensive activities yielding little or no net social welfare benefit to Oman.

9.38 The appropriate pricing of expatriate labor would foster its optimum allocation among potential uses. To the extent that the full recovery of external costs raised its price, overall demand for it would be reduced. This would raise the Omanization ratio to a level compatible with the maximization of Omanis' welfare.

9.39 The proper pricing of expatriate labor should also include the elimination of abuses under current expatriate sponsorship arrangements. At present, the requirement that an expatriate be sponsored by an Omani national encourages the exploitation of expatriates, who are in some cases required to pay part of their incomes to their initial sponsors, even when working for someone else. This practice not only encourages indolence and entrenches a rentier mentality among Omanis but leads to sub-optimum employment of expatriates. This is because the employer is effectively paying a private tax on his expatriate wage bill that must be covered by restricting the use of expatriates to higher productivity tasks. A detailed review of the sponsorship system should be undertaken, with a view to eliminating such impediments to the efficient functioning of the labor market. The review should, if possible, identify the quantitative impact of sponsorship arrangements on the pricing of expatriate labor.

F. Conclusions and Recommendations

Conclusions

9.40 The preceding analysis suggests that the Government's Omanization strategy should rest on six basic pillars:

(1) Raising the education, training (including vocational training) and skills of Omanis;

(2) Gradually lowering unrealistic Omani expectations;

(3) Gradually eliminating present sources of unearned income or rent;

(4) Eliminating existing labor market imperfections and avoiding the creation of new ones;

(5) Unifying the labor market by gradually eliminating public/private and Omani/non-Omani remuneration differentials for people with comparable education,t raining, skills and experience; and

(6) Eliminating the implicit subsidization of expatriate labor by ensuring that the employer or the employee covers the full marginal external costs to Omanis of the expatriate's residence in Oman.

Recommendations

9.41 It is recommended that the Government consider introducing the following measures in order to implement this strategy:

Raising the Qualifications of Omanis:

- First and foremost, improving the quality of primary and secondary education and encouraging the establishment of a vigorous, innovative and competitive private school system;

- Continuing with cost-effective efforts to train Omanis for private sector employment, emphasizing, in particular, on-the-job training, preferably under apprenticeship arrangements;

Lowering Omani Expectations:

- Acquainting Omanis with the facts concerning the Government's fiscal position and prospects and Oman's seriously inadequate rate of saving;

- Imposing an overall freeze on the number of public servants;

- Tolerating a moderate amount of frictional unemployment among Omanis

- Introducing a modest tax on the personal incomes of upper middle- to high-income Omanis and imposing luxury taxes on items of conspicuous consumption;

- Placing a time limit on the applicability of the reimbursable training allowance scheme and conducting a critical review of its results, with a view to moving subsequently towards a more conventional type of apprenticeship scheme involving a substantial reduction in the level of public support coupled with some sacrifice of current income by a trainee in exchange for his or her higher earnings prospects following training;

Eliminating Sources of Unearned Income or Rent:

- Eliminating private rents arising out of the abuse of present expatriate sponsorship arrangements;

- Requiring an Omani public servant undergoing skills upgrading in order to qualify for employment in a more highly paid position to accept a salary reduction during the period of training or, as an alternative, to accept postponement, for a period related to the length of the training, of the salary increase associated with the promotion;

- Requiring Omani public servants holding positions for which they are inadequately qualified either to upgrade their skills without additional compensation or to accept early retirement;

- Reducing or withdrawing public grants for students undergoing post-secondary education and substituting loans in the case of students from poor families; as a minimum, reducing public support to, or withdrawing support altogether from, students from wealthy families taking degrees in arts, social sciences, sociology, and geography that are of little help to them subsequently in obtaining, without state help, a satisfactory job;

Improving the Efficiency of the Labor Market:

- Avoiding, to the extent possible, the imposition of increased labor costs on private sector companies as an unintended by-product of Omanization;

- Continuing to avoid the imposition of quantitative, aggregate Omanization targets;

- Continuing with present efforts to identify, on a regular basis, the education and skill requirements of various types of private sector employment and disseminating this information widely in order to guide the choices of both students and providers of educational and training services;

- Improving the availability of basic labor market data as an essential basis for informed public decision-making; in particular, initiating a periodic (e.g., quarterly) labor force survey to obtain information concerning employment and unemployment trends and the characteristics of Omani unemployed;

- Accepting enough slack in the labor market to assure the absence of wage inflation;

Unifying the Labor Market:

Imposing a freeze on the public sector remuneration structure;

Fostering the gradual elimination of public/private and Omani/expatriate remuneration differentials; and

Avoiding the Subsidization of Expatriate Labor:

Introducing a system for recovering from expatriates or their employers the costs of their present untaxed consumption of public services and the implicit taxes they impose on Omani consumers by driving up the costs of scarce resources.

9.42 The underlying objective of these changes would be to: (1) raise Omani productivity; (2) foster a gradual transition towards an efficient, competitive and distortion-free labor market; and (3) assure an adequate flow of qualified labor into newly expanding industries. These changes appear vital if the Government is to achieve its objective of diversifying the economy via internationally competitive production of tradeable goods.

10
A LONG-TERM DEVELOPMENT STRATEGY FOR OMAN

A. Future Prospects

Oil and Gas

10.1 Proven oil reserves were set at the present level of approximately 5 billion barrels for the purpose of preparing the optimum saving estimates presented in Chapter 3 and Annex B. Given the low rate of discovery of oil in recent years, no further discoveries were allowed for. Proven gas reserves were placed at double existing proven reserves of 10 tcf in the "old" field plus 7 tcf in the new field, of which 5 tcf would be exploited for the LNG project.[46] Under these reserve assumptions, given the assumed fixed rates of extraction (Annex B), Oman's oil reserves would be exhausted in 18 years, the pre-1989 gas discoveries in 36 years, and the recent and projected gas discoveries in 48 years.

10.2 However, the current oil extraction rate of 750,000 b/d is confidently expected to be maintainable for only another 10 years, after which it will begin to taper off. At increasingly lower rates of extraction, oil reserves will be depleted more and more slowly. Thus, oil production may be expected to continue for considerably longer than the 18 years it would have continued at the current high rate of extraction. Similar considerations apply in the case of gas. The rate of extraction will at some stage begin to tail off, so production from the two gas fields will continue well beyond 2029 and 2041, the years in which projected proven reserves would be exhausted at current rates of extraction.

10.3 If the Government's tentative plans materialize, the export of gas to India could begin as early as 1996 and the production of LNG for export around 1999, prior to the beginning of the projected decline in oil production around 2003. Thus, for the period between 1996 and about 2003, prior to the projected dropoff in oil production, the Government will be receiving very significantly increased resource revenues. However, sometime after 2003, with gas production assumed fairly flat, gradually declining oil production will lead to a slowdown in the growth of overall public resource revenues. The slowdown and decline in revenues associated with the tailing off of oil and gas production will be offset to some extent by the assumed real increase in oil and gas prices.

Other Sectors

10.4 As noted, the Bank has not initiated any new work on prospects in agriculture, fishing, tourism, manufacturing and services (e.g., the transport and transshipment sectors). The following thus represents a very limited extension of the assessment provided in the Bank's previous Country Economic Memorandum (CEM) and must be regarded as subject to updating, refinement, and reevaluation.

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[46] Since the World Bank mission visited Oman, the Government has announced a proposed pipeline to carry gas exports to India. This project would presumably be additional to the proposed LNG project and suggests that additional reserves to service the pipeline have been proven.

10.5 Given the possibly limited net advantages accruing to Oman from any significant expansion of heavily expatriate-intensive activities, the main scope for fruitful development in the non-oil sectors appears to lie in increasing value added per Omani via improvements in productivity and measures to increase the value of the final product.

10.6 In *agriculture*, with improved water management and more efficient production methods, there is scope both for increases in crop and livestock production and the upgrading of output to include higher value-added products such as dates, limes, beans, strawberries and melons. Japan is one of a number of potential markets for this output. Increasing output per worker would both raise average farm income and permit surplus labor to be reallocated to other sectors. To achieve it, emphasis would need to be placed on the development of practical, cost-effective research and extension services. The availability of credit is not a problem. However, economically efficient investment does not need to be subsidized, as at present.

10.7 Currently, *fishing* is carried on a small scale, with about 33,000 fishermen operating about 9,000 boats. The phased introduction of more efficient, larger-scale methods would raise productivity and permit redeployment of excess labor to higher-productivity pursuits elsewhere. Phasing would be necessary to avoid the sudden destruction of traditional lifestyles and permit the evolution of satisfactory employment alternatives. Overfishing would, of course, have to be avoided. There is also potential for further fish processing, particularly in making better use of fish currently sundried. Japan again appears to be a potential market for processed fish products. Infrastructure in the form of improved docking, refrigeration, processing, packaging and marketing facilities would be required to realize the potential for increased value added. Some infrastructure is already in place and more will be added by the end of the current five-year plan. Most of the rest would ideally be developed by private entrepreneurs.

10.8 While Omani social attitudes, reflected in the tourism development plan, are such as to preclude the promotion of mass *tourism*, there is evident scope for some further expansion of the existing "upscale" variety. Oman has a rich legacy of forts, other historical sites, ancient irrigation systems and interesting artifacts, as well as attractive seascapes and a colorful variety of customs, people and dress. What is currently lacking is more hotels, mainly outside Muscat, and other tourist infrastructure (Oman has only about 5,000 hotel beds), effective marketing, simple visa processing, and trouble-free entry. Given the nature of tourist industry employment and Omani attitudes, however, an expansion of tourism is likely to call for heavy use of expatriate labor for menial tasks, limiting the extent of employment benefits to Omanis.

10.9 There is some, apparently limited, potential for an expansion of *mining*. Oman is already a copper producer and may be able to exploit several pockets of chromite. A French firm has been engaged in a study of Oman's mineral (including semiprecious metals) potential.

10.10 *Manufacturing* opportunities in the tiny domestic market are limited. External opportunities, apart from those related to increasing the value added of agricultural and fishing products, appear to depend primarily on finding new niches in the wider Gulf States market and on the exploitation of existing Omani advantages in location (e.g., flour), quality and/or natural resources (e.g., cement, copper), access (e.g., textiles), and, potentially, know-how. An expansion of existing production of building materials, oil industry consumables such as water and oil pumps, and miscellaneous equipment appears feasible. Small-boat and furniture manufacturing offer possibilities.

10.11 It has been shown in Chapters 4 and 5 that economic diversification into, and expansion of, manufacturing and agricultural goods production will take place in response to market forces as and when basic changes in supply and demand favoring manufacturing occur. The latter appear likely only when oil-financed domestic spending undergoes a significant relative decline, either at the end of the resource boom or as the Government shifts to a higher saving/external investment strategy.

10.12 Finally, Oman, because of its situation outside the Gulf, is believed to have some modest potential as a *transshipment* center for ocean and air freight, with possibly synergistic interconnections between them. Spinoff activities could include the provision of related services. Development of this potential would call for some public investment in the necessary infrastructure, as well as the availability of substantial amounts of highly trained manpower. In evaluating any proposal for establishing such a center, the Government would need to be fully assured that the fundamental requirements for profitable (unsubsidized) operation were likely to be met and to recognize that, in the short to medium term, in the absence of an indigenous pool of suitably trained labor, there would need to be further extensive reliance on expatriates.

B. Development Constraints

10.13 The main constraint on the development of the non-oil goods economy is almost undoubtedly the appreciated real exchange rate, as previously discussed. The higher income elasticity for manufactured goods than for agricultural goods, together with other factors such as subsidies and public investment, has provided some counterbalance to the appreciation of the real exchange rate in the case of manufacturing, so it has suffered less from Dutch disease than agriculture. Nonetheless, manufacturing would almost undoubtedly have grown more had it not been for the high level of oil-financed domestic spending. The size and regulatory impact of the public sector on private sector development , coupled with the dominance of public enterprise in a number of commercial sectors, is another basic constraint, as noted previously.

10.14 A more fundamental, longer-term constraint is the still low level of Oman's human resource development. Despite the enormous progress of the past two decades, about 41 percent of adult Omanis remain illiterate and, as noted, the quality of basic education still leaves much to be desired. Oman currently lacks, *inter alia*, adequate numbers of Omani business managers, accountants, engineers, technical and computer specialists, doctors, nurses and teachers. It will take time and strong effort, though not necessarily more financial resources -- if the efficiency of the educational sector can be improved -- to overcome this constraint.

10.15 A further basic constraint is the shortage of water. This limits the volume and composition of agricultural output and adds to the costs of urban expansion, which now calls for recourse to expensive desalination. Overpumping from the aquifer adjoining the northern coast has led to the incursion of sea water and progressive salination. While a great deal can be done to limit unnecessary evaporation and runoff and improve the efficiency with which water is used in agriculture, as well as, possibly, to lower the costs of desalination, the limited availability of water constitutes a major barrier to both large-scale agricultural development and water-intensive forms of industrial development.

10.16 An additional, long-term, potential constraint on economic growth is the extent to which Oman is prepared to continue to rely on expatriates, given the fact that rising numbers of

expatriates place extra pressures on scarce land and water and in certain areas make it more difficult, according to some Omanis, to preserve indigenous cultural values. Although there is clear awareness of these pressures in some parts of the Government, it has not so far led to binding restrictions on the employment of expatriates, despite the fact that their numbers have increased sharply in recent years, particularly in manufacturing. However, there is increasing support for the imposition of a poll tax on expatriates employed in non-essential domestic services. Further, limiting recourse to expatriates may have growing and justifiable appeal in the future with respect to other activities yielding little, if any, net benefit to Oman. What is important for Oman is not economic growth *per se* but the maximization of social welfare.

10.17 Finally, there is a potential shortage of private capital and entrepreneurship in Oman, given the primary flow of oil money into government hands and the lack of a well-rooted entrepreneurial tradition. As shown earlier, private sector purchases of development bonds considerably exceed government longer-term lending to the private sector, so there is no immediate shortage of private capital for investment. However, there could be a problem in the future if larger-scale opportunities opened up for private investment in goods production and in the shares of currently public companies. Any shortages should be alleviated by easing restrictions on foreign investment and promoting joint ventures.

C. A Comprehensive Reform Strategy

Optimum Investment of Saving

10.18 This report has made it clear that reducing public consumption to a level and rate of growth that can be sustained into the post-resource era is crucial. If the Government decides to implement such a strategy, a basic choice confronting it will be where best to invest its increased saving. The broad choice is between domestic and foreign investment. This is not just a question of opting for what promises to be the highest-yielding investment, irrespective of whether it is foreign or domestic for four reasons. First, foreign investment will yield an assured future flow of public income, as opposed to a potential flow of public income from what is hoped will be a more rapidly growing domestic economy, stimulated by increased public investment. Second, increased foreign investment which lowers the real effective exchange rate, encouraging economic diversification. Third, the rate of return on investment is a microeconomic concept. The return on a particular investment is itself strongly influenced by the Government's macroeconomic policy choices. The apportionment of public investment between foreign and domestic alternatives is thus essentially a macroeconomic decision. Finally, the need to obtain the highest possible risk-adjusted yields, to achieve adequate diversification, and to lay off the risks associated with the present concentration of Oman's wealth in oil and gas deposits cannot be overemphasized.

Foreign Investment

10.19 The overall case for foreign investment may be summarized as follows:

(a) It provides global opportunities (a far wider choice than domestic investments).

(b) The wider choice will afford the highest possible risk-adjusted yields.

(c) It would permit some investment to be made in technologies and industries competing with oil and gas, thereby reducing the risks of major dependence on the realization of oil and gas wealth.

(d) Greater diversification can be achieved across industries and countries (reducing risk).

(e) It is a flexible outlet for temporary investments, while comparable domestic investments are unavailable or are being assessed.

(f) It provides an assured, rather than potential and uncertain, future public income flow.

(g) It results in a real depreciation of the exchange rate, promoting non-oil exports, efficient import substitution, private investment and economic growth.

Domestic Investment

10.20 On the other hand, high-yielding domestic investments, while more limited, may further the attainment of social objectives, such as creating attractive employment opportunities or providing jobs in areas where there is unemployment. However, although achieving social objectives is important, choosing the right means to do so is even more important. Domestic investment in low-yielding projects, while seemingly helpful in the short run, will exacerbate long-term economic problems. Domestic investments fall into two categories: public and private.

10.21 Public Investment. Oman has a well-developed base of physical infrastructure but overall development of its human resource base is lagging. The case for public investment in basic education to build up the stock of Omani human capital is very strong, provided the expenditures are targeted efficiently and yield high economic returns.[47] In addition, a strong case can be made for public investments in productive (high-return) projects which are large in size and capital-intensive, e.g., petrochemical plants, although potential investments would need to be subjected to overriding risk and diversification criteria. In such projects, the feedstock should be appropriately priced (international netback prices) and the Government should anticipate future privatization. However, investments which yield low returns relative to foreign investment can only be detrimental to Oman's future economic prospects, however attractive they may appear when judged purely from a current social perspective.

10.22 Institutional Framework for Public Investment. In order to implement an optimum saving and investment strategy and to achieve an appropriate allocation of public investment between foreign and domestic alternatives, as well as to ensure attainment of the highest possible yields on public investment, four functions would need to be exercised. The four functions are:

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[47] The Bank's Review of Recurrent Public Expenditure makes it clear that expenditures on basic education in Oman are not being undertaken efficiently. It is thus not clear whether more investment in education is needed to improve the quality and effectiveness of primary and secondary education or simply better use made of existing expenditures.

(a) determining the optimum public saving/investment rate;

(b) allocating public investment between foreign and investment outlets, taking into account *inter alia* both expected yields and macroeconomic objectives (e.g., reducing excessive levels of domestic demand or promoting the domestic production of tradeables via the effect of increased foreign investment in depreciating the real exchange rate);

(c) assuring the optimum allocation of foreign investment, taking into account considerations relating to yield, risk, liquidity, portfolio diversification, and the laying off of risks associated with the Government's present heavy investments in oil and gas exploration and development; and

(d) placing increased emphasis on the preparation and analysis of realistic estimates of financial and economic rates of return on domestic investments and on strengthening the use of such calculations in the determination of public investment priorities.

These roles could perhaps be performed within Oman's present institutional framework.

10.23 Private Investment. A rapidly growing and productive private sector can also compensate for the depletion of oil and gas and private investment should be facilitated and encouraged by implementing the measures proposed in Chapter 8. It is noteworthy that the Government has accepted most of the Bank's proposals relating to the removal of legal impediments to domestic and foreign private investment and implementation is now under way. Subsidies, as noted, should be phased out to the extent possible. They constitute in most cases simply a form of public consumption and are very hard convincingly to justify in economic terms. Also, they generate a growing financial drain and distort relative prices. Furthermore, they typically create a powerful political constituency for their perpetuation. Unless they are very large (and therefore very expensive) they are likely in any event to continue to be only partly effective. Where basic economic conditions are such as to provide suitable opportunities and there are no significant impediments to private domestic and foreign investment, subsidies should not be necessary (except where required to offset the unwise subsidy policies of competing countries). If such conditions are not present, subsidies are probably inappropriate.

10.24 Key Elements of an Overall Reform Strategy. The analysis presented in this report suggests that the following should be the Government's key objectives in its pursuit of a long-term strategy to raise Oman's rate of economic growth, reduce macroeconomic instability, promote soundly based industrial diversification and increase economic efficiency:

- Eliminating public sector deficits, mainly by cutting public expenditures (Chapter 7);

- Generating and maintaining a high rate of public saving by permanently restraining the growth of public consumption (Chapters 3-4, 7);

- Strengthening internal institutional arrangements to allocate public saving between domestic and foreign investments and ensure high economic returns on both forms (above);

- Establishing separate long-term saving, stabilization and contingency funds (Chapter 2);

- Narrowing the scope of government and focusing on the more effective discharge of traditional public functions;

- Strengthening the private sector by: continuing with reforms to the legal framework; attracting foreign capital; privatizing most public enterprises and authorities; phasing out subsidies where feasible; strengthening the role of private banks in the provision of longer-term financing; and limiting subsidized Omanization (Chapters 6, 8-9); and

- Pursuing higher incomes for Omanis in a manner consistent with the development of an efficient and undistorted labor market through: improvements in the quality of all levels of education (but particularly at the primary and secondary levels); the discouragement of rent-seeking behavior; the avoidance of aggregate Omanization targets; the proper pricing of expatriate labor; the promotion of competitive behavior; and the deflation of unrealistic expectations (Chapter 9).

Implementation

10.25 The strategy would need to be executed as a whole, not selectively, since all of its parts are interrelated. It could not all be implemented all at once but would require 3 to 5 years. The immediate priority is to eliminate the public sector deficit as a first step on the road to generating a rising public sector financial surplus. Additional steps that could be undertaken at an early stage could include: removing present obstacles to private domestic and foreign investment, strengthening the institutional mechanisms for achieving higher returns on public investment, establishing separate long-term investment, stabilization and contingency funds, determining the measures required to improve basic education, laying the foundation for the introduction of a tax on higher incomes, introducing public sector unit costing and cost recovery capabilities, developing a privatization plan for the public enterprises, developing a program for public service reform and the reduction of public/private sector wage and salary differentials, and initiating a campaign of public education on the choices for Oman's economic future and the need for increased international competitiveness.

10.26 These measures could be followed by: increasing expenditure cuts; the introduction of user fees and modest income and luxury taxes; active investment promotion; significant privatization; the implementation of public service administrative reform; the implementation of educational and health system reforms; the promotion of private schools and medical facilities; increased contracting out to the private sector; the imposition of taxes to recover the external costs of expatriate labor; the initiation of the subsidy phase-down program; the strengthening of the role of private financial institutions in the provision of longer-term financing; and the introduction of cost recovery from those privately benefiting from public services.

10.27 The reform process would be completed by: completing the program of expenditure cuts, public service reform and downsizing; raising taxes, user fees, and cost recovery measures to long-term levels; completing the privatization program; completing the programs of educational and health system reform; and completing the phase-down of subsidies.

10.28 It would be important constantly to coordinate the elements in play and to monitor implementation closely. The continuing refinement of national accounts data and the carrying out of frequent surveys of employment, unemployment and the characteristics of the unemployed would be necessary. The central and most critical concern would be to prevent the emergence of widespread unemployment among Omanis during the implementation phase, as public saving was increased, but at the same time to leave enough labor market slack to permit diversification into internationally competitive goods-producing activities to take place without giving rise to labor shortages causing disruptions or generating inflationary pressures that would impede or thwart the process. An effective job information system and close cooperation between business and government with respect to job training would be essential.

10.29 Conclusions. The difficulties of effecting the touchy major changes required to implement the proposed reform strategy are not to be underestimated. A prerequisite would be that Omanis at all levels become far more aware than at present of the unsustainability of present policies based on the consumption of nonrenewable resource wealth. This would need to be part of an overall program designed to alter unrealistic expectations and attitudes formed over two decades of rising oil revenues and to supplant them with more realistic and competitive ones.

10.30 Fortunately, Oman's prospects are anything but bleak. Taking into account the large strides already made, Oman can, with appropriate policies, look forward to continuing, if moderate, growth in consumption, an increasingly diversified and internationally competitive economy, permanently rising public income from invested oil capital, and rising returns on previous investments in infrastructure. If further oil or gas discoveries were to prolong the life of its reserves beyond those assumed in this report, Oman would, of course, be in a position moderately to increase consumption -- preferably private -- beyond the levels projected in Chapter 4, without risking a post-resource era economic collapse. However, if it were to raise consumption now in anticipation of even further oil and gas discoveries, it would be taking imprudent risks. In this connection, it is important for Omanis to recognize that they appear to be in a fundamentally different position from neighboring states endowed with a far larger and longer-lasting resource base. The relatively limited character of Oman's resource base implies that Omanis have less room for error and waste.

10.31 Even if Oman were fortunate enough to discover major new gas or oil fields, it would not alter the substance of the findings of this report. Oman's previous additional discoveries of oil led to higher, and ultimately unsustainable, levels of defense, national security, and civilian public expenditure. Without adequate public recognition of the imprudence and economic costs of the public sector's consuming most of the proceeds of extracting a nonrenewable resource, coupled with willingness to discontinue the practice, Oman could find that new discoveries merely postpone the need for a fundamental change of course and make the eventual post-resource era adjustment more difficult.

Further Work

10.32 This report has identified a number of areas in which further work could usefully be undertaken. The following additional studies are recommended:

- A comprehensive review of Oman's public investment program;
- A comprehensive study of the labor market in Oman that would include a study of the external costs of expatriate labor and a study of the expatriate sponsorship system;
- An analysis of feasible alternative permanent consumption profiles from Oman's oil and gas wealth;
- A feasibility study relating to the possibility of achieving cost savings through the merging of development banks and the identification of appropriate steps towards their eventual privatization; and
- A study of the apparently inadequate response of businesses to the present structures of production incentives, including the effect of firm size and the potential for promoting more efficiently managed medium and larger-scale companies.
- A poverty assessment study.

OPTIMUM SAVING MODEL -- THEORETICAL UNDERPINNING

A-1 This annex provides the theoretical underpinning for the optimum savings model described in general terms in Chapter 3 of the main report and is intended to be read in conjunction with that chapter by those with an interest in reaching a fuller conceptual and mathematical understanding of the model. The derivation of the numerical assumptions used in solving the model for optimum Omani saving rates is provided in Annex B.

A-2 The main question for a country whose economy heavily depends on an exhaustible resource, say oil, is: what should be the saving rate that, after oil is exhausted, assures the same growth rate of consumption as before. The model to answer the question has been developed and applied to oil-producing countries in the Middle East, such as Saudi Arabia, United Arab Emirates and Bahrain, by M. L. Weitzman,[1] Y. H. Farzin,[2] and I. Elbadawi and N. Majd[3]. The model is formulated as a social welfare maximization problem on a continuous-time infinite-time horizon. Although the model is convenient for analyzing the quantitative characteristics of the optimal saving rate, it is difficult to derive numerical solutions unless extraction capacities, oil prices and production costs can be expressed in exponential forms. The framework is much more general where the above variables are not constrained to take specific functional forms. Following Farzin, Elbadawi and Majd, the general analytical solution of the model will be developed in the annex. A GAMS program will then be used to execute the numerical solution of the model.

Continuous-Time Infinite-Time-Horizon Model

A-3 The question can be rephrased as follows: what is the saving rate $s^*(t)$ in the resource era to attain a given post-resource era saving rate, say $Ps^*(T^*)$, so that the economy realizes the maximum social welfare, defined as the sum of the utility stream discounted with a socially agreed-upon discount rate over infinite time. The problem can be written as follows:

Maximize $W \equiv \int_{t=0}^{\infty} e^{-\rho t}\, U[C(t)]\, dt$ (1.1)

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[1] Martin L. Weitzman, "Net National Product for an Exhaustible Resource Economy," in Hossein, Askari, Saudi Arabia's Economy: Oil and the Search for Economic Development, JAI Press Inc., Greenwich, Connecticut, 1990, pp. 187-199.

[2] Y. Hossein Farzin, "Optimal Saving and Investment Policies for the Petroleum-Based Economy of the United Arab Emirates," manuscript of the World Bank.

[3] Ibrahim A. Elbadawi and Nader Majd, "Managing a Nonrenewable Resource, Savings and Exchange Rate policies in Bahrain, WPS 1134, World Bank.

Subject to:

$$\dot{K}(t) \leq \bar{p}(t)\,E(t) + rK(t) - C(t) \tag{1.2}$$

$$-\dot{R}(t) \leq E(t) \tag{1.3}$$

$$E(t) \leq \bar{E}(t) \tag{1.4}$$

$$K(0) = \bar{K}_0 \tag{1.5}$$

$$R(0) = \bar{R}_0 \tag{1.6}$$

$$C(t),\ K(t),\ R(t),\ E(t) \geq 0 \tag{1.7}$$

where

W = Discounted present value of utility stream resulting from consumption flow $C(t)$

$C(t)$ = Consumption level at time t

$U[C(t)]$ = Utility associated with consumption $C(t)$

$K(t)$ = Stock of non-oil capital assets at time t

$R(t)$ = Proven oil reserves at time t

$E(t)$ = Oil extraction rate at time t

$\dot{K}(t) \equiv \frac{\partial K(t)}{\partial t}$ = Investment in non-oil capital assets at time t

$\dot{R}(t) \equiv \frac{\partial R(t)}{\partial t}$ = Change in proven oil reserves at time t

$\bar{K}_0$ = Stock of non-oil capital assets at the initial time (given)

$\bar{R}_0$ = Proven oil reserves at the initial time (given)

$\bar{p}(t)$ = Oil price in real terms at time t (given)

$\bar{E}(t)$ = An upper limit of oil extraction rate at time t (given)

ρ = Social discount rate (given, $\rho \geq 0$)

r = Rate of return (in real terms) on non-oil capital assets (given, $r > 0$)

The current-value Hamiltonian of the problem above is as follows:

$$H \equiv U[C(t)] + \mu(t)\,[\bar{p}(t)\,E(t) + rK(t) - C(t)] - \lambda(t)\,E(t) + \phi(t)\,[E(t) - \bar{E}(t)] \tag{1.8}$$

The necessary optimality conditions of the problem can be written as follows:

$$\frac{\partial H}{\partial C(t)} = 0,\ U'[C(t)] = \mu(t),\quad \mu(t) \geq 0 \tag{1.9}$$

$$\frac{\partial H}{\partial E(t)} = 0,\quad \mu(t)P(t) \geq \lambda(t) + \phi(t),\ \lambda(t) \geq 0,\ \phi(t) \geq 0 \tag{1.10}$$

$$-\frac{\partial H}{\partial K(t)} = -r\mu(t) = \dot{\mu}(t) - \rho\mu(t) \tag{1.11}$$

$$-\frac{\partial H}{\partial R(t)} = 0 = \dot{\lambda}(t) - \rho\lambda(t) \tag{1.12}$$

with the following transversality conditions:

$$\lim_{t\to\infty}\ e^{-\rho t}\,\mu(t)\,K(t) = 0 \tag{1.13}$$

$$\lim_{t\to\infty}\ e^{-\rho t}\,\lambda(t)\,R(t) = 0 \tag{1.14}$$

where

$\mu(t)$ = the shadow price of a unit of non-oil capital assets K(t), measured in utility terms.

$\lambda(t)$ = the shadow price of a unit of oil reserves R(t), measured in utility terms.

$\phi(t)$ = the shadow price of a unit of given extraction capacity $\bar{E}(t)$, measured in utility terms.

Before deriving the optimality saving rate, let us make two preliminary discussions on: first, consumption and, then, extraction of oil.

First, to make the problem manageable, the utility function concerned is assumed to be of constant elasticity of marginal utility such that;

$$\eta = -\frac{C(t)\,U''[C(t)]}{U'[C(t)]} \tag{1.15}$$

With this class of utility functions, the following growth rate of consumption can be derived from equations (1.9) and (1.11):

$$\frac{\dot{C}^*(t)}{C^*(t)} = \frac{r-\rho}{\eta} \equiv \gamma \tag{1.16}$$

This means that, in optimality, consumption grows at the constant proportionate rate γ, so long as the rate of return r is greater than the social discount rate ρ.

Second, differentiating equation (1.10) with respect to time and using equations (1.11) and (1.12), we can derive:

$$\frac{\dot{p}(t)}{P(t)} \geq r + \frac{\dot{\phi}(t) - \rho\,\phi(t)}{\mu(t)p(t)} \tag{1.17}$$

The second term in the equation above is the rate of change in the quasi-rent (in real terms) generated by the given extraction capacity constraint.

Because the growth rate of oil and the rate of returns on non-oil capital assets are given exogenously, there are three possibilities with respect to the relations of these two exogenous rates.

In the first case, if $\frac{\dot{p}(t)}{p(t)} < r$; then, it is economical to extract the entire resource out of ground immediately at the initial point of time. However, the model (and the real world) has a given extraction capacity constraint (1.4); thus, equation (1.4) holds with equality; that is, $E(t) = \bar{E}(t)$. Hence, with a given finite quantity of the reserves $\bar{R}_0$, we can find out a finite time of T^* such that:

$$\int_{t=0}^{T^*} \bar{E}(t)dt = \bar{R}_0 \qquad (1.18)$$

(T^* is the time when all the given oil reserves are exhausted.)

In this case, because the extraction rate is bound by the constraint; a positive quasi-rent $\phi(t)$ is generated. As for the change of $\phi(t)$ over time, as more oil is extracted, the severity of the extraction constraint will ease; thus, the quasi-rent (in real terms) will decrease over time; that is, $\dot{\phi}(t) - \rho\phi(t) < 0$. Furthermore, because $E(t) > 0$, equation (1.10) holds with equality; and so does equation (1.17).[4]

In the second case, if $\frac{\dot{p}(t)}{p(t)} > r$; then, it is economical to leave the reserves in the ground rather than to extract. In such a case, $E(t) = 0$ for all time; consequently, the given extraction capacity constraint is unbound; thus, the quasi-rent $\phi(t) = 0$ for all time; hence, equation (1.17) holds with strict inequality.

In the third case, if $\frac{\dot{p}(t)}{p(t)} = r$; then, it is indifferent between (a) extracting the resource today and investing the earnings in non-oil capital assets yielding the rate of return r and (b) keeping the resource in the ground to be extracted at a future date while the resource price will be appreciated at the same proportionate rate of r.

Now let us derive the optimality saving rate: first, in the post-resource era and then, in the resource era.

[4] Equality of (1.17) can be attained by negative rates of change in the quasi-rent in real terms.

In the post-resource era ($t \geq T^*$), because national income derives only from the earnings from non-oil capital assets, the saving rate can be written as:

$$Ps(t) = 1 - \frac{C(t)}{rK(t)} \qquad (1.19)$$

where

$$\dot{K}(t) = rK(t) - C(t) \qquad (1.20)$$

In optimality, the steady-state holds; thus,

$$\frac{\dot{K}^*(t)}{K^*(t)} = \frac{\dot{C}^*(t)}{C^*(t)} = \gamma \qquad (1.21)$$

This is followed by:

$$\frac{C^*(t)}{K^*(t)} = r - \gamma \qquad (1.22)$$

Thus,

$$P^*s(t) = \frac{\gamma}{r} \qquad (1.23)$$

Because the post-resource-era saving rate is given as $Ps^*(T^*)$, $Ps^*(t)$ can be written as follows:

$$Ps^*(t) = Ps^*(T^*) = \frac{\gamma}{r} \qquad (1.24)$$

thus, γ^* as follows:

$$\gamma^* = rPs^*(T^*) \tag{1.25}$$

In the resource era ($0 \leq t < T^*$), the saving rate is written as:

$$s(t) = 1 - \frac{C(t)}{p(t)E(t) + rK(t)} \tag{1.26}$$

To obtain the optimal saving rate in the resource era $s^*(t)$, first let us derive $C^*(t)$ and $K^*(t)$, and then $s^*(t)$.

In the resource era, the economy's capital assets, denoted by X(t), consist of two kinds of assets; that is,

$$X(t) = K(t) + V(t) \tag{1.27}$$

The first term is non-oil capital assets at time t, which is nothing new. Complexity lies on the second term V(t), which means the exhaustible resource stock whose asset value at time t will be the capitalized value of the resource earnings discounted back to time t; namely,

$$V(t) = \int_{\tau=t}^{T^*} p(\tau)E(\tau)e^{-r(\tau-t)}d\tau \tag{1.28}$$

Thus,

$$V(0) = \int_{\tau=0}^{T} p(\tau)E(\tau)e^{-r\tau}d\tau \tag{1.29}$$

Then, we can derive s*(t) in the following way. First, from the optimality conditions, we know:

$$\frac{\dot{C}^*(t)}{C^*(t)} = \gamma \tag{1.30}$$

Then, from equations (1.30) and (1.31), $C^*(t)$ can be derived below:

$$C^*(t) = (r - \gamma)[V(0) + K_0]e^{\gamma t} \tag{1.32}$$

and

$$\frac{C(t)}{X(t)} = \frac{C(t)}{K(t) + V(t)} = r - \gamma \tag{1.31}$$

Next, $K^*(t)$ can be derived as follows:

$$K^*(t) = \frac{1}{r - \gamma} C^*(t) - V(t) \tag{1.33}$$

Finally, $s^*(t)$ can be derived as follows:

$$s^*(t) = 1 - \frac{(r - \gamma)[V(0) + K_0]e^{rt}}{\bar{p}(t)\,\bar{E}(t) + r[V(0) + K_0]e^{rt} - rV(t)} \tag{1.34}$$

Now that

$$\gamma^* = r\,Ps^*(T^*) \tag{1.35}$$

by replacing γ in equation (1.34), $s^*(t)$ can be written as follows:

$$s^*(t) = f[r, Ps^*(T^*)] \tag{1.36}$$

A-4 Two remarks are noteworthy here. First, unless the integrand of V(t) in equation (1.28) is written in an exponential form, it is difficult to solve $s^*(t)$ numerically. Second, the optimality saving rate in the resource era $s^*(t)$ can be solved without specifying the elasticity of marginal utility η and the social discount rate ρ, if the post-resource-era saving rate $Ps^*(T^*)$ is given.

A-5 In the numerical model, the assumptions of which are shown in Annex B, the growth rates of oil, natural gas and LNG are not constant over time. In addition, the production costs of oil, natural gas and LNG are not zero, and vary over time. The solutions are derived directly from a discrete-time maximization of utility specified in (1.1) with the constraints specified in (1.2) through (1.7). The model is written on GAMS. The printouts of the model solution are provided upon request.

OPTIMUM SAVING MODEL -- NUMERICAL PRESENTATION

B-1 Following the theoretical model of Annex A above, this annex explains the numerical assumptions applied to the actual setting of the Omani economy. The annex is composed of three blocks. First, the assumptions and characterics of the empirical model are presented in Section I. Second, the past and future outlook of the oil and gas sector is discussed in Section II. Building on this, the model assumptions are presented for oil and gas (from both the old and new fields, including the LNG project). Finally, the salient features of the model solution are reported.

I. Assumptions and Characteristics of the Model

A. Scenarios

B-2 Since the discovery of natural gas in Central Oman in 1989, Oman appears to have redirected its resource development strategy. With limited prospects for significant discoveries of oil in the future, the focus of exploration of new fields is shifting towards natural gas. Particularly interesting is the proposed liquefied natural gas[1] (LNG) project, the feasibility of which the Government is now seriously studying. In the present model, in addition to the standard exercise, namely, derivation of the optimum saving rate, an effort is made to asses the LNG project from a national welfare standpoint. For this purpose, the model is applied to the following scenario:

> The existing level of proven reserves of oil (5.0 billion barrels) does not change but there is a doubling of natural gas reserves at the old (pre-1989) fields (20 tcf). In addition, it is assumed that the LNG project is undertaken as conceived and that the LNG plant will produce 5 million tons of LNG per annum, starting at the end of the decade. The natural gas feedstock for the plant is assumed to be from the fields discovered after 1989.

B. Sub-periods

B-3 The model is a finite-time-horizon discrete-time model covering 98 years -- from 1992 through 2090. With the assumed reserves and extraction capacities, oil and natural gas from the old and new fields will be exhausted in 2011, 2029 and 2041 respectively. Therefore, the present model that explicitly covers the years until 2090 is sufficiently long to eliminate any significant influence from the post-model period.

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[1] Liquefied natural gas consists essentially of methane. Liquefaction of methane is achieved by cooling the gas to below minus 160 degree C under normal atmospheric pressure. In contrast to LNG, liquefied petroleum gas (LPG) consists primarily of butane and propane.

B-4 Taking into account expected changes in oil and natural gas prices over time, discussed later, and the start-up of the LNG project at the end of the decade, the overall period is divided into the following five sub-periods:

		Prices of oil and natural gas	LNG production
1	1993-95	constant	nil
2	96-2000	3.7% increase per annum	nil
3	2001-05	1.1% increase per annum	production of 5 million tons per annum
4	2006-20	constant	production of 5 million tons per annum
5	2021-90	constant	nil

C. Other Notes on the Model

B-5 The model is written in GAMS, which provides a detailed description of the model and its solutions. All the quantity figures are expressed in million barrels of oil equivalent, unless otherwise stated. The conversion rates used in this model are as follows:

1 cubic feet of gas = 0.000172 barrels of oil equivalent

1 ton of LNG = 8.38 barrels of oil equivalent[2]

Prices and intermediate costs are expressed in terms of constant 1992 US dollars per barrel of oil equivalent. Values such as capital stock in the initial year are expressed in terms of constant 1992 million US dollars. The current exchange rate, namely:

1 US dollar = 0.3845 Rials Omani (RO)

was used to convert from RO figures into US dollar figures.

[2] The conversion factor: one ton of LNG = 8.38 barrels of oil equivalent is used in this model. This conversion factor is the mean of those for SG (i.e., specific gravity) = 0.425 (conversion factor: one ton of LNG = 8.85 barrels of oil equivalent) and SG = 0.475 (conversion factor: one ton of LNG = 7.91 barrels of oil equivalent).

II. Oil and Gas in Oman: Past, Future Prospects and Corresponding Model Assumptions

A. Oil

1. Proven Reserves

B-6 Proven reserves at the end of 1992 were 4.6 billion barrels.[3] In the early fall of 1992, the Government announced that proven reserves would increase to 5.0 billion barrels by the end of the year; however, no further announcement has been made.[4]

B-7 In retrospect, since the 1960s, it has been always said that Oman's oil would be depleted in about 20 years, even though oil extraction has progressively increased. With an annual extraction of 750 thousand barrels per day and reserves of 4.6 billion barrels, Oman's oil will still last for 17 years. This outcome has been made possible by Oman's policy of obliging the oil companies to explore new fields and increase existing reserves so as to compensate for the oil being extracted.

B-8 Around the late 1970s to early 1980s, significant discoveries were made in "frontier" fields in the South. In fact, in the year 1979 alone, proven reserves increased from 1.5 billion barrels to 2.5 billion barrels, and further to 4.0 billion barrels by 1985. Since 1985, however, the net increase in proven reserves has been modest -- only 0.5 billion barrels in 7 years.[5][6]

B-9 At present, the authorities are confident that the current extraction plateau of 750 thousand barrels per day can be maintained for 10 years. It would be almost impossible to project proven reserves after 10 years. However, in recognition of the fact that "frontier" fields like that in the South in the late 1970s and early 1980s do not exist any more, it seems safe to say that proven

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[3] The resource base or "oil in place" in Oman is estimated at 45 billion barrels.

[4] Proven reserves of 4.6 billion barrels were a firmly "booked" figure at the end of 1992, while the announced figure of 5.0 billion barrels represented an estimate of proven reserves that would be realized around the end of 1992. Exploration is a continuous activity; proven reserves have been changing continuously. PDO officials indicated that it would be difficult to give an exact figure at a particular point of time.

[5] During the period 1985-1992, 1.6 billion barrels of oil were extracted; thus, the (gross) increase in proven reserves was 2.1 billion barrels, or 300 million barrels per year. In 1992, a year of high success in exploration, the total (gross) increase of reserves was 507 million barrels — 257 million barrels by exploration and 257 million barrels by appreciation of reserves in existing fields. In 1993, the target for the (gross) increase in reserves is set at 125 million barrels.

[6] Among PDO's exploration expenditures, 50 percent is spent for frontier exploitation (or wildcatting), 25 percent for conventional exploration in nearby areas, and 25 percent for appraisal wells in existing fields.

reserves are not likely to increase substantially beyond the 5.0 billion barrels projected by the Government.[7]

2. Oil Extraction Capacity

B-10 In the Fourth Five-Year Development Plan, oil extraction is assumed to be 682 thousand barrels per day, representing a "feasible technical and economic level." Actual extraction of oil (the annual average in 1990 and 1991) was slightly higher, at 697 thousand barrels per day. Most (659 thousand barrels per day) was extracted by Petroleum Development Oman (PDO) and the rest (38 thousand barrels per day) by three non-PDO companies (listed below). The recent PDO report covering corporate plans until 1997 shows that PDO alone will extract 700 thousand barrels per day throughout the plan period. Thus, annual extraction of 750 thousand barrels per day by PDO and non-PDO companies combined is considered to be feasible and is the figure assumed in this exercise.

3. Oman's Share

B-11 In Oman, 95 percent of oil is extracted by PDO, and the rest is extracted by three non-PDO companies (ELF, OXY and JAPEX). The PDO is a partnership of the Government (60 percent), Royal Dutch Shell Company (34 percent), Compagnie Francaise des Petroles-Total (4 percent) and the Participation and Exploration Corporation (PARTEX) (2 percent). Oil extracted by PDO is distributed to the participants, based on their shares. The distribution of oil extracted by non-PDO companies is more complicated. To avoid undue complexity, it is assumed, in this exercise, that 60 percent of extracted oil accrues to the Government of Oman, and the rest to foreign companies. In other words, 60 percent of Oman's oil contributes to Oman's welfare. Accordingly, 60 percent of the proven reserves and the oil extraction capacity are fed into the model.

B-12 In the model, RO0 stands for oil reserves in the initial year (in million barrels). It is set at 3,000 (i.e., 60 percent of 5,000 million barrels of proven oil reserves). Similarly, EOt ($t=1, \ldots, 5$) stands for oil extraction capacity in million barrels per year, and is set at 450.0 (60 percent of 750 thousand barrels per day).

4. Oil Prices

B-13 Average export prices for Oman's crude oil (in current US dollars per barrel) are compared to OPEC prices below:

[7] Intensive exploration is taking place in the far south, in the area close to the border with Yemen, as agreed upon in November 1992. Offshore drilling was undertaken by PDO in 1992, but the well turned out to be dry.

	1988	1989	1990	1991
Oman	13.5	16.3	21.4	17.5
OPEC[a]	13.6	16.3	21.2	17.3

[a] average OPEC price: OPEC spot prices weighted by OPEC export volumes

Sources: PDO for Oman's prices and The World Bank for OPEC prices.

The figures above show that prices for Oman's oil were very close to OPEC prices.

B-14 Recent World Bank projections of OPEC oil prices in constant 1992 US dollars are as follows:

1992	1993	1994	1995	2000	2005
16.3	15.1	14.9	15.1	18.0	17.0

Source: The World Bank, International Trade Division, (February 10, 1993).

B-15 Because the prices of Oman's oil were close to OPEC prices in the past few years, it is assumed that Oman's oil prices in the future will be equal to the projected OPEC prices shown above. Furthermore, because of the long-term nature of the optimum saving exercise, the trend of oil prices (in constant US dollars) is more meaningful than annual changes in prices. Thus, oil prices in the future are grouped into the following five sub-periods:

1	1993 -- 95	constant
2	1996 -- 2000	3.7% increase per annum
3	2001-- 2005	1.1% increase per annum
4	2006-- 2020	constant
5	2021-- 2090	constant

B-16 In the model, POt stands for oil prices in constant 1992 US dollars per barrel. PO1 is set at 15.0.

5. Production Cost[8]

B-17 The expenditures of PDO (in millions of current US dollars) projected by PDO are shown below:

[8] Production costs are approximated by expenditures.

	1991	1992	1993 actual	1994	1995	1996	1997
Capital	685	659	736	737	778	785	791
Operating	332	360	380	401	424	451	477
Total	1017	1019	1116	1138	1201	1236	1269

Source: PDO

B-18 These expenditures are converted into constant 1992 million US dollars by using the World Bank's MUV:

	1991	1992	1993 actual	1994	1995	1996	1997	1993-97 average
Capital	730	659	709	698	717	699	681	701
Operating	354	360	366	379	390	401	411	390
Total	1083	1019	1075	1077	1107	1100	1092	1090

B-19 Because no breakdown of expenditures between oil and natural gas is available, it is assumed it may be based on the amounts extracted. The ratio of extraction of oil to that of natural gas in 1990 and 1991 was 9 to 1 (oil 697,000 barrels per day versus natural gas 88,000 barrels of oil equivalent per day); thus, annual expenditures related to oil and natural gas are estimated below (in constant 1992 million US dollars):

	Oil	Natural gas
Capital	631	70
Operating	351	39
Total	982	109

6. Intermediate Costs and GDP Component in Price

B-20 Among operating expenditures, wages and salaries contribute to Oman's GDP.[9] The share of wages and salaries in operating expenditures is estimated below on the basis of past data. (Wages and salaries, and operating expenditures are expressed in terms of thousands of current RO):

[9] Interest payments to domestic lenders are insignificant; thus, they are not included in the GDP component.

	1989	1990	1991
Wage and salaries[a]	49,128	58,344	56,297
Operating expenditures[b]	109,352	125.039	27,808
Share of wage and salaries (%)	45.0	46.6	44.0

Sources: Development Council of Oman, Statistical Year Book, 1991, p. 20 for wages and salaries; PDO for operating expenditures.

B-21 From these statistics, the share of wages and salaries in operating expenditures is estimated to be about 45 percent.

B-22 While, among total expenditures, wages and salaries constitute a GDP component, the rest of operating expenditures and the whole of capital expenditures constitute intermediate costs. On the basis of the assumed share of wages and salaries (45 percent), projected total expenditures are decomposed in the following manner:

	Annual Expenditures (constant 1992 million US dollars)	Expenditures Per Barrel (constant 1992 US dollars)
Intermediate	824	3.01
GDP component	158	0.58
Total	982	3.59

B-23 Based on these figures, the components of the oil price are shown below (in constant 1992 US dollars per barrel):

	1992-93	2006-
Intermediate cost	3.01	3.01
GDP component	11.99	14.49
Price	15.00	17.50

B-24 In the model, IMO stands for intermediate costs in constant 1992 US dollars, and is set at 3.01.

B. Natural Gas

1. Proven reserves

B-25 Total proven reserves at the end of 1992 were 17 tcf or 2.9 billion barrels of crude oil equivalent. Of the 17 tcf, 2.7 tcf is associated gas and the rest is non-associated. The Government has intensified exploration for natural gas in recent years and a significant increase in proven reserves is expected in coming years.

B-26 1989 was a breakthrough year for natural gas. In that year, it was found at the depth of 4,200 meters at Saif Nihayda in Central Oman. Although the size of the reserves was relatively small (0.9 tcf), this finding prompted the discovery of larger fields in the same area, i.e., Saif Rawl andBarik (2.5 tcf each).[10] Thanks to these new discoveries, Oman's reserves of natural gas have increased significantly since 1989.[11] The gas at these three new fields is non-associated gas with highly valuable condensates.[12]

B-27 Natural gas from the new (post-1989) fields will be entirely used as feedstock for the planned LNG, while that from the old (pre-1989) fields will be consumed for domestic uses, as at present. Therefore, in the model, natural gas is separated into two parts: (a) 10 tcf (assumed doubled to 20 tcf) from fields discovered before 1989 for domestic uses and (b) 5 tcf from new fields discovered after 1989 for the LNG project. They are reviewed in this order.

B1. Natural Gas for Domestic Uses

1. Extraction Capacity

B-28 The use of natural gas in Oman started in 1978. Annual average extraction of natural gas in 1990 and 1991 was about 185 billion cubic feet (bcf) per annum, or 88 thousand barrels of oil equivalent per day (about 10 percent of oil and natural gas combined); associated gas accounted for 130 bcf and non-associated, gas 55 bcf.

B-29 The extracted natural gas was consumed roughly in the following manner (the figures below represent mean figures far 1990 and 1991):

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[10] In this neighborhood, natural gas has been found at Mabrouk. Evaluation is still under way. The size of the reserves at Mabrouk is not known yet.

[11] Proven reserves at the end of 1989 were 9.8 tcf, equivalent to 1.9 billion barrels of oil. Because proven reserves at the end of 1992 were 17 tcf, the net increase in proven reserves over the last three years was about 7 tcf.

[12] Very light oil (API 50) with gas.

The Government Gas System 60 bcf
distributed through pipelines to power stations, copper and cement plants, industrial areas, and defense facilities

Sales to gas companies 15 bcf
converted into butane, etc and distributed in cylinders to households for cooking gas, etc.

Uses at oil fields 85 bcf
as fuel and for re-injection

Flared 25 bcf.

B-30 Use of the government system and sales to gas companies are projected to increase at an annual rate comparable to that of GDP. Use by oil fields (for re-injection) may increase until the end of oil extraction, while the flared portion would decrease steadily. To make it simple, it is assumed that domestic uses of natural gas as a whole grow at an annual rate of 5.0 percent - roughly the real GDP growth rate in the Fourth Five-Year Plan. Extraction and processing capacities are assumed to increase at the same rate as the use of natural gas.

B-31 In the model, RGO0 stands for reserves of natural gas from the old fields in the initial year (in million barrels of oil equivalent) and is set at 3,440 (i.e., 20 tcf). Similarly, EGOt (t=1, ..., 5) stands for the extraction capacity for natural gas in million barrels of oil equivalent per year, and EG1 is set at 33.9 (i.e., 197 bcf). The annual growth rate of EGOt, denoted as EGORT, is set at 0.05 (i.e., 5 percent).

2. Prices of Natural Gas

B-32 Currently, natural gas is sold at a price equal to one half of the reference price for crude oil. However, in an optimum situation, there should be no price distortion and, thus, the price of natural gas is assumed to be equal to that of its crude oil equivalent. In the model, the price of natural gas from the old fields is represented by the price of oil, POt.

3. Production Cost, Intermediate Costs and GDP Component

B-33 As stated before, it is assumed that the cost of production and its components are the same as those for oil. The assumed breakdown is as follows:

	Annual expenditures of oil (constant 1992 million US dollars)	Expenditures per barrel equivalent (constant 1992 US dollars)
Intermediate	70	3.01
GDP component	39	.58
Total	109	3.59

B-34 Based on these figures, the components of the oil price (in constant 1992 US dollars per barrel) are shown below:

	1992-93	2006-
Intermediate cost	3.01	3.01
GDP component	11.99	14.49
Price	15.00	17.50

B-35 Because the intermediate cost of natural gas is assumed to be equal to that of oil, it is represented by IMO in the model (the same as for oil).

B2. Natural Gas for LNG

1. Main Features of the LNG Project

B-36 Prompted by the discovery of natural gas at Saif Nihayda, etc, the Government is seriously assessing the feasibility of an LNG project. According to the present plan, 5 million tons of LNG per annum will be produced and exported, starting in 1999, if the project materializes. The feedstock for the plant (775 million cubic feet per day) will be supplied from the newly discovered fields, Saif Nihayda, Saif Rawl and Barik.

B-37 The LNG project consists of two parts:

(a) the upstream portion -- from the site of gas extraction through the pipelines up to the gate of the LNG plant. The Government will own 100 percent of the shares, and PDO will operate on the behalf of the Government.

(b) the downstream portion -- the LNG plant, jetties, LNG tankers and marketing. A new company -- Oman LNG -- will be formed, with the shares owned by the Government (51 percent) and foreign participants, i.e., Royal Dutch Shell, Total, PARTEX, and three Japanese firms (49 percent altogether).

B-38 The Government is active in exploring the three fields. Their size has increased significantly in recent months. The feasibility study for the LNG project has been completed. At the end of 1994,

it will be decided whether the project is to be undertaken, taking into account the results of on-going exploration.

2. Reserves, Extraction Capacity and Oman's Share

B-39 The Government owns 100 percent of the upstream portion of the project and 51 percent of the downstream. On the assumption that the GDP component of the upstream portion is equal to that of the downstream, the Government's share in the GDP component relating to the whole LNG project would be 75 percent and the share of the foreign partners, 25 percent.

B-40 Therefore, as in the case of oil, 75 percent of proven reserves (974 million barrels of oil equivalent) and 75 percent of extraction capacity (48.7 million barrels of oil equivalent per year) should be fed into the model.

B-41 In the model, RGN0 stands for reserves of natural gas from the new fields in the initial year (in million barrels of oil equivalent) and is set at 730.5 (i.e., 75 percent of 974 million barrels of oil equivalent, or 5.7 tcf). Similarly, EGNt stands for the extraction capacity of natural gas from the new fields (in million barrels of oil equivalent per year), and is set at 0 for t=1, 2 and at 36.5 for t=3, 4, 5 (75 percent of 48.7 million barrels of oil equivalet per year, or 5 million tons of LNG per year).

3. Estimation of Price and Production Costs

B-42 Efforts were made to estimate the price of LNG and production costs. The major elements are as follows:

(a) It was understood that the reference price for LNG would be US$15 per barrel of oil at Dubai; actual prices would include significant premiums.

(b) Total project (capital) cost in constant 1992 prices is estimated at 6 billion US dollars, broken down as follows:

upstream 2 billion US dollars
LNG plant 2 billion US dollars
LNG tankers 2 billion US dollars

The capital cost in current prices is estimated at 9 billion US dollars.
Because the Dubai price is the reference price, cost related to LNG tankers are excluded in the following computation. Then, because the project would last for 20 years, the capital cost excluding LNG tankers is estimated at US$4.77 per barrel of oil equivalent (in constant 1992 prices).

(c) The operating cost per annum is estimated at 2 percent of the capital cost; therefore, it would be $2.86 per barrel of oil equivalent in constant 1992 prices.

(d) The projected financial rate of return is estimated on this basis at 12 percent in constant 1992 prices.[13] Thus, the cash flow related to the portion of the project up to Dubai (namely, excluding the capital cost related to the LNG tankers and the operating costs of LNG tankers) would be $11.46 per barrel of oil equivalent

(e) Based on (a) through (d), the cost/profit structure (in constant 1992 US dollars per barrel of oil equivalent) is constructed in the following manner:

Capital cost	4.77
Operating cost	2.86
Profit	11.46
Total	19.09

(f) Compared to the Dubai price of US$ 15 per barrel, the premium for Oman's LNG is estimated at 27.3 percent.

(g) On the assumption that the share of wages and salaries in operating costs is equal to that for oil and natural gas from the old fields, namely 45 percent, the break-down of the LNG price is estimated below:

Intermediate cost		
	Capital cost	2.39
	Operating cost except W&S	1.57
	Sub-total	3.96
GDP component		
	Wage and Salaries	1.29
	Profit	13.84
	Sub-total	15.13
Total		19.09

(h) As in the case of oil and natural gas from old fields, the price of LNG is assumed to change in the following manner:

1	1993 -- 1995	no change at the level of $19.1/bbl
2	1996 -- 2000	3.7 percent increase per annum
3	2001 -- 2005	1.1 percent increase per annum
4	2006 -- 2020	no change
5	2021 -- 2090	no change

[13] The rate of cash flow in current prices is estimated at 17 percent.

B-43 In the model, PGNt stands for prices of natural gas from the new fields in constant 1992 US dollars per barrel of oil equivalent. PGN1 is set at 19.1. Furthermore, IMGN, which stands for intermediate production costs of LNG in constant 1992 US dollars, is set at 6.34.

C. Other Assumptions

1. Nonoil capital Stock in the Initial Year

B-44 The nonoil capital stock and the stock of the State General Reserve Fund (SGRF) at the end of 1991 are as follows:

RO 6.0 billion, i.e.,	
Capital stock[a]	US$15.6 billion[b]
SGRF	US$ 3.0 billion
Total	US$18.6 billion

[a] corresponds to RO 5.8 billion at the end of 1989 and the depreciation rate of 4.0 percent.
[b] converted into US dollar terms with the current exchange rate: US$1 = RO 0.3845.

B-45 In the model, K0, which stands for the non-oil capital stock in the initial year in constant 1992 million US dollars, is set at 18,600.

2. Rate of Return

B-46 The rate of return on non-oil capital stock is assumed to be 3 percent per annum.

3. Social Discount Rate

B-47 It is denoted by RHO, set at 0.020387.

4. Saving Rate in the Post-Resource Era

B-48 The saving rate in the post-resource era is assumed to be 30 percent. In the current model, it is solved endogenously. Iterations are needed to attain the specified post-resource-era saving rate.

III. Salient Features of Model Solutions

Year of depletion	
Oil	2011
Old natural gas	2029
New natural gas	2041
The optimum saving rate (in 1993)	38.7%

The highest saving rate (in 2009)	64.1%
Annual growth rate of consumption	0.90%
Consumption	
(in 1993)	1798
(in 2090)	4327
Value of objective function	378.1
Assumed Social Discount Rate	0.0204

THE MACROECONOMIC FRAMEWORK

I. MODEL STRUCTURE

C-1 This annex, which constitutes the underpinning for Chapter 4, presents the model described in general terms in that chapter and provides detailed estimation and projection results. Section I specifies the structure of the model. Section II presents estimation results for the fifteen equations in the behavioral block specified in Section I. Section III presents simulation results for the two contrasting scenarios of policy interest discussed in Chapter 4.

C-2 The macroeconomic model for Oman comprises three interrelated components: (1) a macroeconomic consistency framework, which involves assembling the macroeconomic statistics into a flow-of-fund format: any source of funds for one sector is a use for another sector; (2) a behavioral model which integrates, and describes the interactions between, the goods and financial markets; and (3) the saving module, which is integrated sequentially into the other two blocks and gives optimum national saving rates under the reform scenario. In addition, the model includes the "closure rules", which determine the choice of the residual variables that satisfy the accounting identities.

C-3 In the goods market, it is assumed that the economy produces two types of good: domestic goods, which are an imperfect substitutes for international goods, and export goods, including oil. In the financial market, foreign and domestic assets are assumed to be imperfect substitutes for the private sector.

C-4 Market clearing in the goods market is achieved by an inverse relationship between the real exchange rate and the real interest rate. An appreciated real exchange rate creates excess demand for domestic goods which must be offset by a rising interest rate to lower private investment.

C-5 Equilibrium in the financial market is maintained by adjustment in domestic prices and the real interest rate in the high-powered money and domestic debt market. The foreign asset market must clear, by Walras's law, as the two other markets clear.

Accounting Identities

C-6 The accounting identities ensure consistency in the data as the budget constraints for all economic sectors are satisfied simultaneously. Each budget constraint consists of two statements: current and capital, respectively of the type:

CURRENT INCOME - CURRENT EXPENDITURE = NET SAVINGS
NET SAVINGS = NET ACCUMULATION OF WEALTH

These two equations can be reduced into a single expression:

CURRENT INCOME - CURRENT EXPENDITURE = NET ACCUMULATION OF WEALTH

Definition of Variables and Intersectoral Flows

C-7 Sector-specific variables and sectoral flows are shown by the following abbreviations attached as subscripts to each variable:

b	Budgetary Government
o	Other non-financial public sector
g	Consolidated public sector
p	Private sector
m	Monetary sector
f	External sector
t	Total
cen	Central bank
com	Commercial Bank

C-8 For instance, Yfc_b (Equation 1 below) denotes factor income of the budgetary government, and L_{mp} stands for loans from the monetary system to the private sector.[1]

C-9 We assume that there are five sectors in the economy: (1) the government budgetary sector, (2) other government (primarily the non-financial public sector), (3) the monetary system (central bank and others), (4) the foreign sector, and (5) the private sector. The current and capital accounts for each sector, interpreted as 'ex-post', are defined as follows:

C-10 Equations (1) - (7) determine savings of the budgetary government (S_b), loans of the private sector to the budgetary government (L_{pb}), savings of the other public sector (S_o), loans of the private sector to the other public sector (L_{po}), monetary system loans tc the budget (L_{mb}), foreign saving (S_f), and foreign loans to the private sector (L_{fp}). Equations (8) and (9) are used to complete the accounting system of the model.[2]

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[1] For other definitions and model nomenclature see Appendix A.

[2] Note that the variables used in the accounting identities are all in nominal terms whereas those in the behavioral equations are in real terms.

Central Government

Current Account Budgetary Government:

(1) $Td + Ti + OTHR + Yfc_b + COG_b + N_{ob} - P_{cb}.C_b - T_{bo} - Sub_b - T_{bp} - N_{bm}\&N_{bp} - N_{bf} = S_b$

Capital Account Budgetary Government:

(2) $P_i.I_b + L_{bo} + L_{bp} - KOG_b - L_{pb} - L_{mb} - L_{fb} = S_b$

C-11 Equation (1) shows that government budgetary saving (S_b) is equal to current revenue minus expenditure. Revenue consists of direct and indirect taxes, government factor income, and profit transfers from public enterprises. Government revenue is used to finance interest payments on foreign and domestic debt instruments, current transfers to other economic sectors, subsidies, and government consumption. On the capital account, government saving (S_b) is determined by the difference between government borrowing from the private, monetary, and foreign sectors, as well as unrequited official grants, on the one hand, and outlays on investment and lending to the private and public enterprises, on the other.

Public Enterprises

Current Account Other Public Sectors:

(3) $DRS + T_{bo} + COG_o - Sub_o - N_{ob} - N_{om}\&N_{op} - N_{of} - T_{op} - P_{co}.C_o = S_o$

Capital Account Other Public Sectors:

(4) $P_i.I_o + L_{op} - KOG_o - L_{bo} - L_{po} - L_{mo} - L_{fo} = S_o$

C-12 Because of the importance of oil and gas production in Oman, it would have been better to treat this sector separately from other public enterprises. Unfortunately, data limitations precluded such a distinction[3]. Therefore, we have used the consolidated accounts of the other public sector, shown by equations (3) and (4), which determine the sector's savings (S_o) in terms of revenues generated by profits, surpluses, depreciation, (DRS), transfers (T_{bo}), and grants (COG_o). Expenditure is composed of interest payments to all other sectors, including foreign, transfer payments, subsidies, and consumption. Similarly, capital account equation (4) derives (S_o) as a balancing item between borrowing by public enterprises and outlays on investment plus public enterprise lending to the private sector.

Monetary System

Capital Account Monetary System:

(5) $DC_g + L_{mb} + L_{mo} + L_{mp} + NFA_{cen} + NFA_{com} - MQM - NOL = 0 = S_m$

C-13 The main feature of the monetary system is that the assets and liabilities of the banking sector always remain in balance, i.e., savings by the monetary system (S_m) are equal to zero. For the identity (5) to hold, the money market operates in such a way that the following conditions are simultaneously satisfied: (1) the market for the real money balances (MQM) is cleared on the basis of factors such as real interest rates, price expectations, and real income (more about this later), (2) movements in the net foreign assets of the central and deposit money banks (NFA_{cen} and NFA_{com}) that instantaneously respond to BOP financing requirements, (3) exogenously determined borrowing by the

[3] Time series data for the public enterprises do not exist in Oman. Therefore, the bulk of data on public enterprises are derived either as residuals to the central budgetary accounts or based on ratios to the other key macroeconomic indicators, such as sectoral value-added, consumption, imports, or investment. The introduction of a system of accounting to expand the current data base to include public enterprises would be a major step towards better understanding of macroeconomic issues in Oman.

public enterprises and private sector (L_{mo} and L_{mp}) in terms of real GDP, (4) exogenously determined domestic credit expansion (DC_g), and (5) central government borrowing (L_{mb}) from the monetary sector, which serves as a residual and balancing item.

Balance of Payments

Current Account Balance of Payments:

(6) $N_{bf} + N_{of} + N_{pf} + NS_{pf} + Nknei + Prof - P_x.exp + P_m.imp - COG_b - COG_o - COG_p - T_{fp} - N_{fm} = S_f$

Capital Account Balance of Payments:

(7) $L_{fb} + L_{fo} + L_{fp} + LS_{fp} + KOG_b + KOG_o + KOG_p + DFI + Knei - NFA_{cen} - NFA_{com} = S_f$

C-14 Identities (6) and (7) are the familiar balance of payment current and capital accounts. Accordingly, the balance between current payments abroad by the domestic sector and current revenues from the foreign sector determine foreign savings (S_b). Thus, imports of goods and non-factor services and net factor payments in the forms of interest payments and profit remittances plus foreign savings are equal to exports plus current transfers to the domestic economy.

C-15 Similarly, the capital account shows that foreign savings must equal the net financing of the foreign debt (net of foreign reserves changes) plus the financing flows of direct foreign investment and unrequited official transfers.

Private Sector

Current Account Private Sector:

(8) $Yfc_p + T_{bp} + T_{op} + T_{fp} + COGp + N_{bm}\&N_{bp} + N_{om}\&N_{op} + N_{fm} - P_c.C_p - Td$

$- OthR - Prof - N_{pf} - NS_{pf} - Nknei = S_p$

Capital Account Private Sector:

(9) $P_i.I_p + L_{pb} + L_{po} + MQM + NOL - L_{bp} - L_{op} - L_{mp} - L_{fp} - LS_{fp} - DFI$

$- KOG_p - Knei = S_p$

C-16 The budget constraints of the private sector, expressed in identities (8) and (9), are the final budget constraints in the consistency framework. Private sector revenues include its own factor income, interest receipts on domestic debt, earnings to the banking system, transfers receipts from the domestic and foreign sector, and private savings (S_p). These revenues are used to finance tax payments to the government, interest payments on domestic and foreign debt, profit remittances, and private sector consumption.

C-17 The capital account consists of total financing which is equal to the sum of private savings, capital transfers from government, net credit from the banking system, and net changes in the stock of foreign debt.

National Accounts

C-18 In addition to the budget constraints mentioned above, the national accounts identities are added to complete the system. These are simply defined in terms of current prices which maintain equilibrium in the goods market. Accordingly, GDP equals consumption plus total savings, which is equivalent to the savings and investment identity in (11).

(10) $Y = C_b + C_o + C_p + S_b + S_o + S_p + S_f$

(11) $I_b + I_o + I_p = S_b + S_o + S_p + S_f$

The Behavioral Equations

C-19 In this section, the behavioral equations that reflect the salient features of Oman's economy and allow us to study the macroeconomic requirements of the policy target are discussed. This module draws on a combination of Easterly *et al* (1990), Elbadawi and Schmidt-Hebbel (1993), and Elbadawi and Majd (1993), in that it incorporates similar behavioral functions for the main macroeconomic variables, namely private consumption, private investment, money demand, demand for quasi-money, export supply, and import demand.

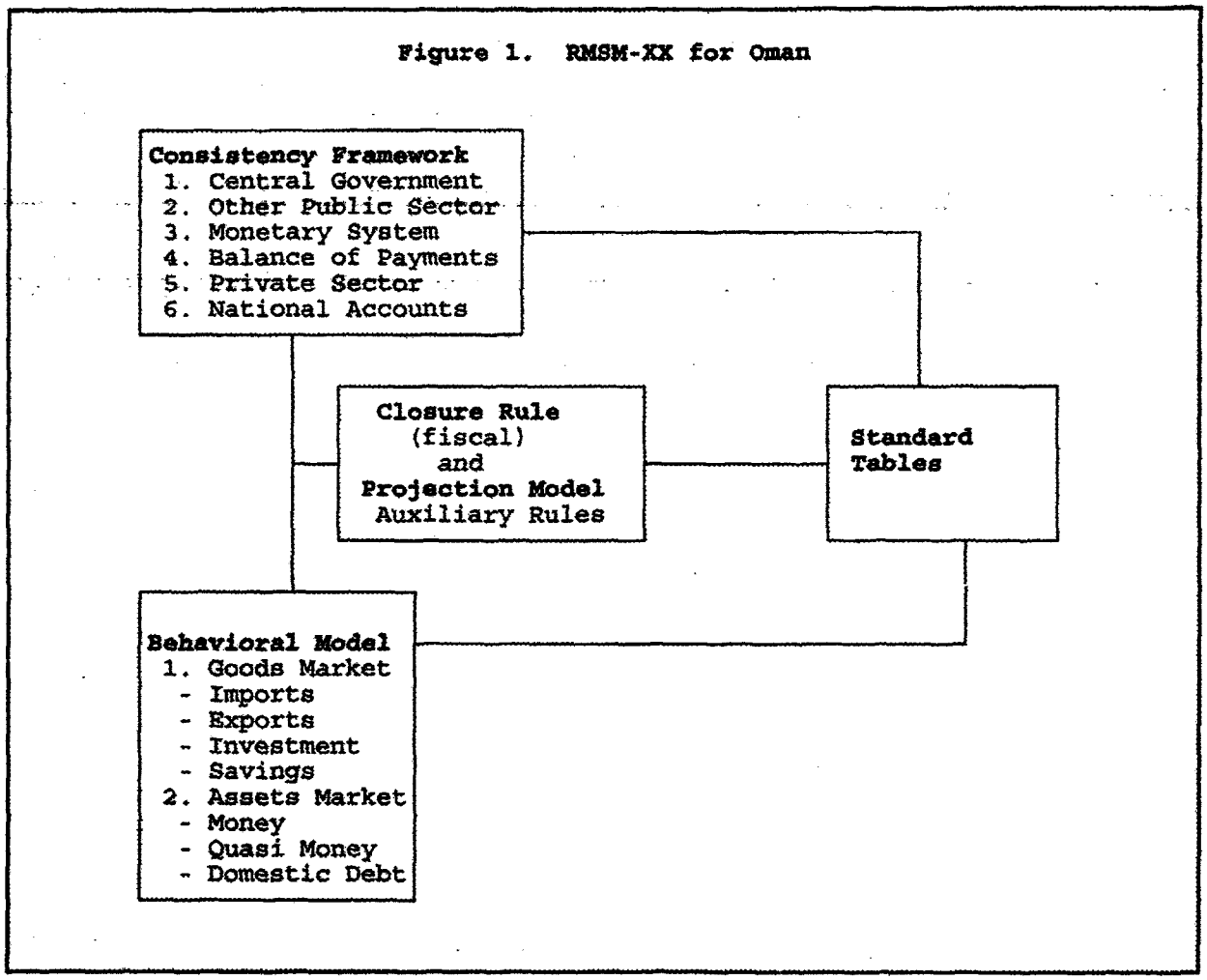
C-20 However, the present model incorporates two major extensions to the above mentioned models. The first extension is an explicit consideration of the resource constraint that characterizes the Oman economy (see introduction). The exhaustible nature of the main resource base in this economy implies that a higher national saving rate is needed if the resource-era standard of living is to be maintained after depletion of that resource. Subscribing to the popular optimizing models in this literature [see Elbadawi and Majd, (1993)], estimates of "optimum" saving ratio relative to GDP

are derived for given assumptions about extraction rates and the expected life of oil reserves, future oil prices, expected real rates of return on investment, and the assumed post-oil saving rate.[4]

C-21 The second novel feature of the model is that it simulates the required public sector behavior consistent with jointly specified "target values" for the real exchange rate and real interest rates. Unlike the conventional RMSM-XX, the model generalizes the Easterly *et al* framework, which allows for simultaneous solutions for the behavioral equations.

C-22 The behavioral model described below (Figure 1) presents the structure of the goods and asset markets. The main emphasis here is to explain succinctly the main economic features of the model and to illustrate how it can be used to address the issues of interest. A discussion of the goods and asset markets follows.

[4] For a sketch of the optimum saving model, see Elbadawi and Majd, (op. cit., (1993)).



Goods Markets

C-23 Goods market equilibrium is expressed in the basic macroeconomic equilibrium condition that requires output supply to be equal to aggregate demand: consumption plus investment and exports less imports of goods of nonfactor services.

$$(12) \qquad Y = C_p + C_b + I_p + I_b + I_o + EXP - IMP$$

where IMP is imports (inclusive of net interest payments), EXP is total exports, I_p, I_b, and I_o are respectively private, budgetary government, and other public sector investment, C_p is private consumption and C_g is public consumption; all measured in constant prices.

C-24 On the supply side of the goods market, total output is decomposed into oil and non-oil. While the output of the oil sector is assumed to be exogenous, non-oil output is determined by relative input prices as well as the deviation of actual from potential non-oil output supply. The latter is simply defined as the fitted value of real non-oil GDP in terms of a trend factor by:

$$(13) \qquad YP_{noil} = \beta_0 + \beta_1 TREND$$

C-25 The deviation between actual and potential non-oil output is defined by the following logarithmic function, in terms of relative input prices:

$$(14) \qquad Log\left(\frac{Y_{noil}}{YP_{noil}}\right) = \gamma + \lambda\left[\delta Log\left(\frac{P}{We^{-\rho t}}\right) + (1-\delta)Log\left(\frac{P}{P_{imp}}\right)\right]$$

where P is the non-oil GDP deflator, W is the nominal unit wage, P_{Imp} is the import price index, and t is time. The nominal wage in (14) is adjusted for Harrod-neutral productivity increases at an annual rate of $\rho = 0.0076$, where ρ is given by the historical average ratio of expenditure on education and training to GDP.

C-26 Equation (14) is a semi-reduced supply function consistent with input demand for labor and imported capital, and a Cobb-Douglas direct production function with Harrod neutrality, as shown in (14).

Capital Stock, Potential Output, and Imports

C-27 In this section, we attempt to derive the link between capital stock and potential output, for which time series do not exist. Under the assumption of a steady state, the capital stock should grow at the same rate as GDP, accordingly

$$(15) \qquad \frac{\Delta K}{K_{-1}} = \frac{\Delta Y}{Y}$$

C-28 Moreover, we know that capital stock is accumulated as follows:

$$(16) \qquad \Delta K = f_I - \delta k_{-1}$$

where f_i is the fixed capital formation and δ is the rate of depreciation of the capital stock.

Rearranging (15) and (16) and solving for the capital output ratio, we obtain

$$(17) \qquad \frac{K_{-1}}{Y} = \frac{f_I/Y}{\frac{\Delta Y}{Y} + \delta}$$

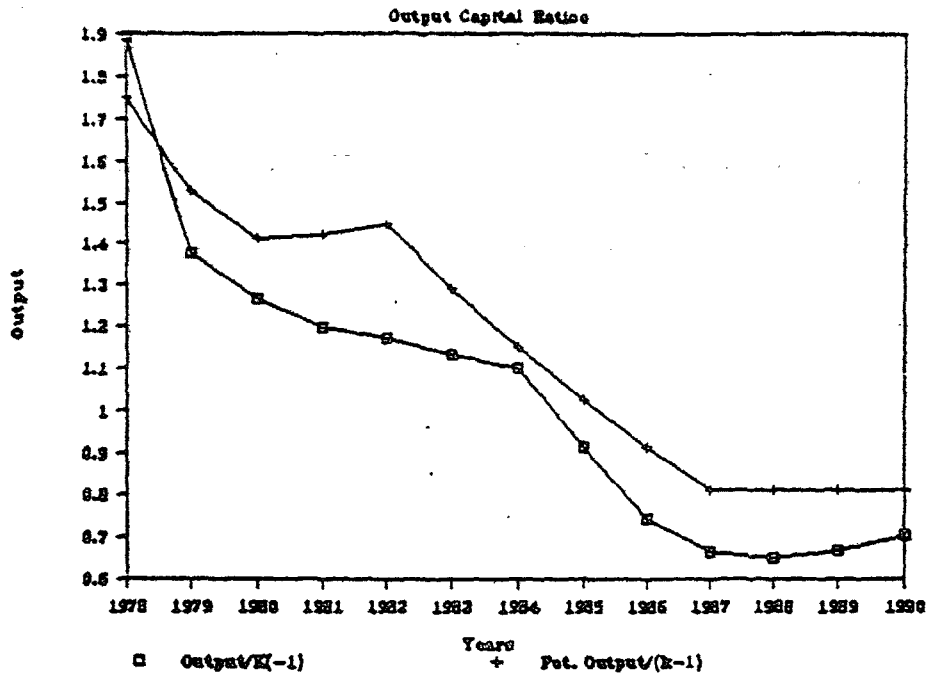
C-29 Using I/Y and $\frac{\Delta Y}{Y}$ for a normal year (or period) and a suitable estimate for the depreciation rate, the K_{-1}/Y ratio can be derived. Then for a given 'normal' year, k_{-1} can be obtained and subsequently be used in (17) to derive the series on capital stock. The series can be used to derive the potential output Y_p as follows:

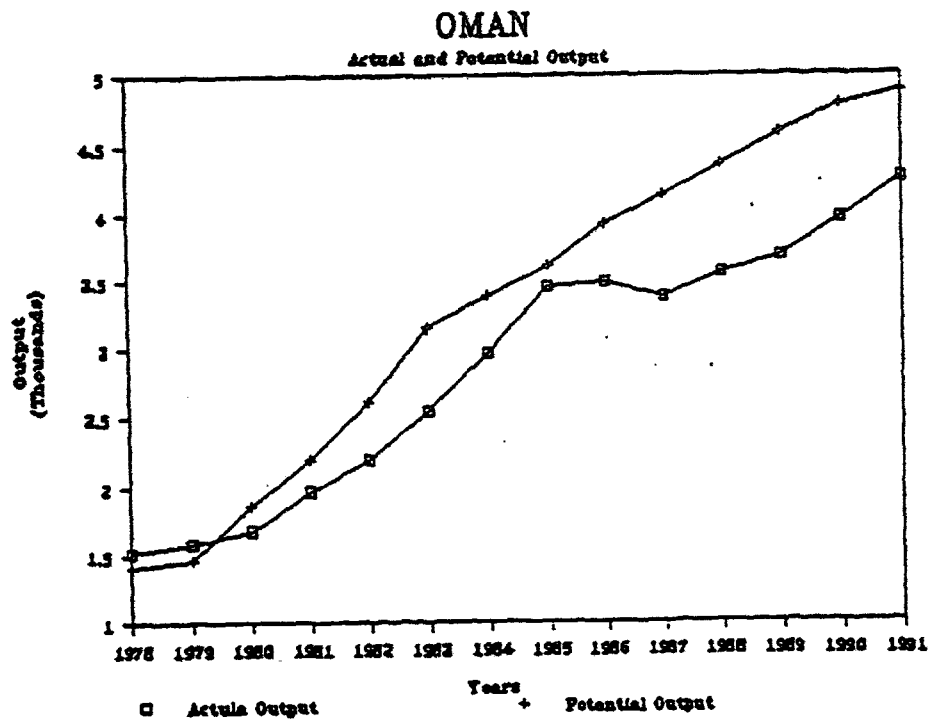
$$(18) \qquad Y_p = \mu_0 + \mu_1 K_{-1} + \mu_2 TREND$$

C-30 Output/capital ratios for two distinct periods (1978-82, 1983-91) have been identified (Figure 2). During the period 1978-82, the ratio of actual output to the stock of capital in Oman, specified by (Y/K_{-1}), was relatively high when compared with that of late 1980s. This clearly shows a decline in the marginal productivity of capital.

C-31 To derive the link between capital stock and potential output, potential output capital ratio for whole period (1978-91) is derived as a weighted average of current output capital ratios. The current output-capital ratio of the first of the two sub-periods (1978-91) is assumed to reflect full capacity utilization. The weights assigned for the first and last periods are 0.75 and 0.25, respectively. Therefore, the corresponding weight for the period 1987-91 will be 0.25. Using these weights, actual and potential output-capital ratios are computed, as shown by the upper part graph of Figure 2. Figure 2 also compares actual and derived potential output for Oman (lower part).

Figure 2. Actual and Potential Output Graph





Imports

C-32 Imports are disaggregated into consumption (C), capital (I), and intermediate (int) goods. A further disaggregation of IMP_I into private (IMP_{Ip}), budgetary government (IMP_{Ib}), and other government (IMP_{Io}), and of (IMP_c) into (IMP_{cp}) and (IMP_{cb}) is also adopted.

$$IMP = IMP_{cp} + IMP_{cb} + IMP_{Ip} + IMP_{Ib} + IMP_{Io} + IMP_{int} \quad (19)$$

C-33 The behavioral equations for the above categories of imports are stated below:

$$\frac{IMP_{cp}}{DYP} = \frac{IMP_{cp}}{DYP}\left(\underset{(+)}{e}, \underset{(+)}{\frac{DYP}{DY}}\right) \quad (20)$$

where DY is disposable income in real terms, defined as

$$DY = GDP - NFP_p + r_L B - T, \quad (21)$$

where NFP_p is the net factor payments, T is net taxes, and r_L is

$$(22) \qquad r_L = \frac{i_L - \pi^e}{1 + \pi^e}$$

i_L is the nominal lending interest rate, DYP is the trend fitted value of DY, and π^e is the inflation expectation, derived by a time series autoregressive representation of the general form, representing inertia, and percentage changes in the ratio of government current expenditures to real GDP (G/Y), as follows:

$$(23) \qquad \pi^e_t = \sum_{i=1}^{k_1} \delta_{1i} \pi^e_{t-1} + \sum_{j=0}^{k_2} \delta_{2j} \Delta \log \left(\frac{G}{Y}\right)_{t-j}$$

C-34 Equation (20) depicts imports of consumer goods by the private sector relative to permanent disposable income as a function of the real effective exchange rate and the ratio of permanent disposable income to real disposable income. The *a priori* signs for the right hand side variable are based on the notion that (1) an appreciation of the real exchange rate would increase imports of consumer goods as these goods become cheaper relative to similar goods produced in the domestic market, and (2) an increase in permanent income relative to real DY would increase imports.

C-35 Imports of consumption goods by the budgetary government are specified as a fixed share of GDP.

$$(24) \qquad \frac{IMP_{Cb}}{Y} = \alpha_{Cb}$$ [5]

C-36 Imports of capital goods by the private sector as a ratio to permanent income (YP) are shown to be dependent on the relative price of imports P_{Imp} (a proxy for the price of imported capital goods) to domestic price (P), the ratio of nominal wages adjusted for Harrod neutral labor production to domestic price $\left(\frac{We^{-pt}}{P}\right)$, and the ratio of GDP to permanent income (Y/YP).

$$(25) \qquad \frac{IMP_{Ip}}{YP} = \frac{IMP_{Ip}}{YP}\left(\underset{(-)}{\frac{P_{Imp}}{P}}, \underset{(-)}{\frac{We^{-pt}}{P}}, \underset{(+)}{\frac{Y}{YP}}\right)$$

C-37 Similarly, imports of capital goods by public enterprises (IMP_{Io}) as well as imports of intermediate goods (IMP_{Im}) are defined by equations (26) and (27). These specifications are consistent with the derived input demands given by profit maximization based on labor, capital and non-consumer imports.

$$(26) \qquad \frac{IMP_{Io}}{YP} = \frac{IMP_{Io}}{YP}\left(\underset{(-)}{\frac{P_{Imp}}{P}}, \underset{(-)}{\frac{We^{-pt}}{P}}, \underset{(+)}{\frac{Y}{YP}}\right)$$

$$(27) \qquad \frac{IMP_{Int}}{YP} = \frac{IMP_{Int}}{YP}\left(\underset{(-)}{\frac{P_{Imp}}{P}}, \underset{(-)}{\frac{We^{-pt}}{P}}, \underset{(+)}{\frac{Y}{YP}}\right)$$

[5] Ideally, IMP_{cb} should be specified a fixed ratio to total public consumption. But to the extent that GDP and the latter are co-moving, equation (24) could be justified.

C-38 On the other hand, as in (24) above, imports of capital goods by the central government are assumed to be a fixed ratio of GDP, where the proportion α_{Ip} as shown by equation (28), is given by the historical trend.[6]

$$(28) \qquad \frac{IMP_{Ib}}{Y} = \alpha_{Ib}$$

Exports

C-39 Exports are divided into oil and non-oil exports

$$(29) \qquad X = X_{oil} + X_{Noil}$$

C-40 While the export of oil is determined exogenously, based on world oil price projections and Oman's extraction rate, the foreign demand for non-oil exports is specified as depending on the export price relative to the price of substitutes as well as foreign income, defined as world real GDP. These are shown by equations (30) and (31).

$$(30) \qquad X_{Oil} = \overline{X}_{Oil}$$

$$(31) \qquad \frac{X_{Noil}}{Y} = \frac{X_{Noil}}{Y}\left(\underset{(-)}{\frac{P^*_{Exp}}{P^*}}, \underset{(+)}{Y^*}\right)$$

Investment and Savings

C-41 Similar to (24) and (28) above, investment by the central government is given as a fixed ratio to GDP:

$$(31) \qquad \frac{I_b}{Y} = \alpha_{Ib}$$

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[6] The qualification of footnote (6) applies here as well.

C-42 However, investment by the private sector and non-budgetary government as ratios to GDP is specified as a function of the real rate of interest, the relative price of imported to domestic goods, and the productivity of capital.

$$(32) \qquad \frac{I_p}{Y} = \frac{I_p}{Y}\left(r_L \underset{(-)}{,} \frac{P_{Imp}}{P} \underset{(-)}{,} \frac{Y}{K_{-1}} \underset{(+)}{}\right)$$

where (Y/K_{-1}), the average product of capital, is used as a proxy for the marginal product of capital. Similarly,

$$(33) \qquad \frac{I_o}{Y} = \frac{I_o}{Y}\left(r_L \underset{(-)}{,} \frac{P_{Imp}}{P} \underset{(-)}{,} \frac{Y}{K_{-1}} \underset{(+)}{}\right)$$

C-43 Private consumption (C_p) as a ratio to real disposable income (DY) is specified to depend on the real effective exchange rate (e), inflation expectation (π^e), the ratio of permanent disposable income to real disposable income (PDY/DY), and the availability of domestic credit, proxied by the ratio of domestic credit to GDP ($DomCr_p/Y$).

$$(34) \qquad \frac{C_p}{DY} = \frac{C_p}{DY}\left[\underset{(+)}{e}, \underset{(-)}{\pi^e}, \left(\frac{PDY}{DY}\right)_{(+)}, \left(\frac{DomCr_p}{Y}\right)_{(+)}\right]$$

A Measure for Omanization: Derived Demand for Non-Omani Labor

C-44 A derived demand for labor equation, consistent with the above non-oil output supply and the derived demand for imports, is specified in equation (35) below to permit study of the requirements for non-Omani labor. The ratio of demand for foreign labor relative to total Omani labor is specified as a weighted average of the ratio of the prices of oil and non-oil GDP relative to the productivity adjusted nominal wage rate, where the weights

$\hat{\alpha}_o = 0.10$ *and* $\hat{\alpha}_{no} = 0.78$ are respectively the imputed shares of wage bills in oil and non-oil GDP.

$$(35) \quad \Delta Log\left(\frac{L_f}{L}\right) = \left(\frac{1}{1-\hat{\alpha}_o}\right)\Delta Log\left(\frac{P_o}{We^{-\rho t}}\right) + \left(\frac{1}{1-\hat{\alpha}_{no}}\right)\Delta Log\left(\frac{P_{no}}{We^{-\rho t}}\right)$$

Equilibrium in the Goods Market

$$(36) \quad M[\underset{(+)}{e}, \underset{(+)}{\frac{Y}{YP}}, \underset{(+)}{\frac{DYP}{DY}}, \underset{(-)}{\frac{P_{Imp}}{P}}, \underset{(-)}{\frac{We^{-\rho t}}{P}}] - X_{Noil}[\underset{(-)}{\frac{P^*_{Exp}}{P^*}}, \underset{(+)}{Y^*}] - \bar{X}_{Oil}$$

$$= I_p(\underset{(-)}{r_L}, \underset{(-)}{\frac{P_{Imp}}{P}}, \underset{(+)}{\frac{Y}{K_{-1}}}) + I_o(\underset{(-)}{r_L}, \underset{(-)}{\frac{P_{Imp}}{P}}, \underset{(+)}{\frac{Y}{K_{-1}}}) + \alpha_{Tb}Y - SY$$

$$(37) \quad S_g = \bar{S}Y - S_p(\underset{(-)}{e}, \underset{(+)}{\frac{PDY}{DY}}, \underset{(?)}{\pi^e}, \underset{(?)}{\frac{DomCr_p}{Y}})$$

$$(38) \quad \frac{Y}{YP} = \frac{Y}{YP}(\underset{(?)}{e}, \underset{(-)}{\frac{P_{Imp}}{P}}, \underset{(?)}{\pi^e}, \underset{(?)}{r_L}, \ldots)$$

where $\bar{s}$ (under the reform scenario) is determined by the model of the optimum saving rate based on assumptions about oil extraction rates, the real rate of return on investment, future oil prices and the post-oil saving rate. In the base case projections, however, $\bar{s}$ will be set at the historical average.

C-45 Assuming that the elasticity of the real exchange rate in the current account is of larger magnitude than that in the private consumption demand function, it is clear that for a given GDP growth rate (and disposable income), the goods market equilibrium defines a negative relationship between the real interest rate (r_L) and the real exchange rate (e).

Assets Market

C-46 Following Easterly *et al* (1990), two relations for equilibrium in two of the three asset markets are specified. The three assets in the core model are high powered money, domestic debt, and foreign debt. Figure 3 presents the balance sheets of the three sectors in the assets market.

C-47 The equilibrium condition for money and domestic debt is stated below.[7]

$$(39) \qquad NFA_{cen} + DC_g = h \cdot p \cdot QM\left(\underset{(+)}{r_L}, \underset{(+)}{Y}\right) + P \cdot M1\left(\underset{(-)}{R_L}, \underset{(-)}{\pi}, \underset{(+)}{Y}\right)$$

Where the sum of domestic credit to the government (DC_g)and the net foreign assets of central bank (NFA_{cen}) must be equal to its liabilities which is the stock of high powered money, disaggregated in the equation into reserve against the nominal value of quasi-money (P.QM) at the reserve ratio (h) and nominal currency holdings (P.M1). Equilibrium in the money market implies a negative

[7] In the case of Oman, no loans from the central bank to the banking system (L_{cenb}) or to the private sector (L_{cenp}) exist.

relationship between inflation and the real interest rate. A fall in inflation (and P, since expectations are assumed static) leads to lower the value of nominal currency holdings as long as we are in the left side of the inflation tax Laffer curve. For a given stock of domestic credit (DC_g) and foreign reserves (NFA_{cen}), the real interest rate must rise to maintain equilibrium in the demand for high-powered money by raising demand for bank reserves against quasi-money.

C-48 Finally, equilibrium in the domestic debt market is given by setting holdings of quasi-money less reserve requirements equal to the sum of loans to the private and public sectors from the rest of the banking system.

Figure 3. Balance Sheets of Central and Commerical Banks
(Stocks)

Central Bank

Net Foreign Assets	Reserves
Reserves	M1 + Currency
$Loans_{ceng}$	

Commercial Banks

Net Foreign Assets	Quasi Money
Reserves	M1 + Currency
$Loans_{comg}$	Net Other Items
$Loans_{comp}$	

Foreign Sector

$Loans_{fg}$	Net Foreign Assets
$Loans_{fo}$	Direct Foreign Investment
$Loans_{fp}$	

$$NFA_{com} + Lcom_g + Lcom_p = (1-h) \cdot P \cdot QM(\underset{(+)}{r_L}, \underset{(+)}{Y}) + Stk_{NOL} \quad (40)$$

This equilibrium implies a positive relationship between real interest rates and inflation.

C-49 In our model, as mentioned before, inflation and interest rates are adjusted to maintain equilibrium in the market for real balances. Moreover, the net foreign assets of the central bank adjust instantaneously to correct changes in the overall balance of payments situation. The market for domestic debt is simultaneously cleared with the equilibrium in the market for high powered money so that the savings are zero in the domestic asset markets. By Walras' law, the foreign debt market has to be in equilibrium when two out of the three asset markets are in equilibrium.

Fiscal Closure

C-50 The above specification of the model results in the so called "fiscal closure"[8] In this closure the public sector is the residual. The implications of the fiscal closure on the above model are described in Diagram I below.

Diagram I: Fiscal Closure

	Oil Resource Constraint	National Accounts Identity	Balance of Payments	Monetary	Other Identity
Residual Variable	Public saving (S_g)	Public Consumption (C_g)	Changes in public foreign debt (DOD_g)	Credit to public Sector (DC_g)	Capital flows are Residual for public sector accounts (KAP)

C-51 A key result of this closure is that instead of exogenously projecting public saving and consumption, they are the residual variables to balance the national accounts identity and the resource

[8] The other closure generated by this model is the "private closure" which gives the private sector as a residual as in the case of the traditional RMSM (see Easterly et al (1990) for details).

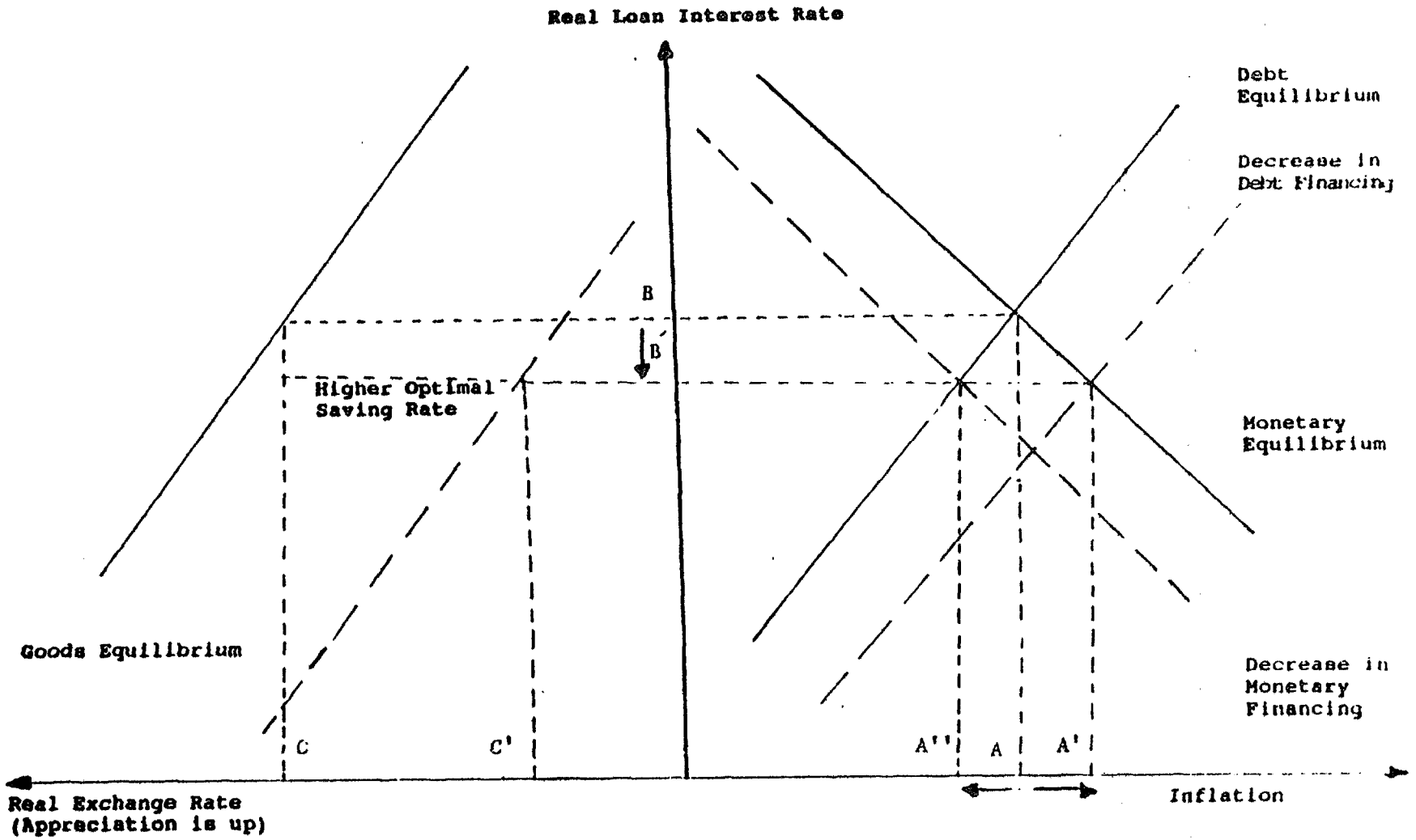
constraint. In terms of the BOP, the fiscal closure requires that the change in reserves be determined exogenously (for example, that necessary to meet a target rate of imports), while net loans to the public sector will be the residual. Given the rather low debt ratio for Oman, deriving the stock of debt as an unconstrained residual is not likely to present a problem.

C-52 Equations (35)-(37) together with (39) and (40) which respectively give the conditions for the equilibrium in the goods market, money markets and domestic debt can be used to determine endogenously the real interest rate, the real exchange rate, and domestic price inflation. This provides a framework to discuss the implications of targeting these variables. Determination of the equilibrium and some comparative statistics are provided in Diagram II (a la Easterly), which provides a schematic view of the working of the model.[9] The Diagram depicts equilibria in the goods market and the asset market; the interaction of the two markets gives the equilibrium solutions for inflation (A), the real interest rate (B), and the real exchange rate (C).

C-53 Diagram II can be used to draw comparative static implications for three polar cases. First, an increase in the national saving rate shifts the goods market schedule inward. If conditions in the asset market did not change, the real interest rate would adjust and a real depreciation would take place from (C) to (C'). Second, if the increase in the savings rate were achieved through reduced monetary financing, with debt financing remaining as before, the money market equilibrium would shift inward. In that case, the real exchange rate will remain unchanged at (C), but both the real interest rate and inflation will adjust. The real interest rate will decline from (B) to (B') and inflation

[9] For a definition of all the variables other identities and auxiliary projection rules see Appendix A.

Diagram II. Determination of Real Exchange Rate, Real Interest Rate and Inflation Rate



will be also be reduced from (A) to (A''). Third, if, on the other hand increased saving is matched by reduced debt financing, with the money market conditions remaining unchanged, the debt schedule will shift inward. Here again, the real exchange rate remains fixed at (C) and the real interest rate will decline to (B'), but inflation will rise from (A) to (A'). A combination of reduction in both monetary and debt financing for a target increase in national saving will lead to real exchange rate depreciation and lower real interest rate. Finally, depending on the relative magnitudes of the reduction in the debt and monetary financing, inflation could either increase, decrease, or remain stationary.

II. ESTIMATION RESULTS

C-54 This section provides a brief description of the estimation results for the behavioral equations specified in Section I of the paper. To get sensible empirical estimations for the export, import, and consumption equations, a useful normalization was imposed by expressing the dependent variables in levels ratios (LR) with respect to the relevant scale variable, such as GDP, permanent income, and disposable income. This helps overcome problem of "nonstationarity", when only a few degrees of freedom are available and reduces the "spurious regression problem" (see for example, Granger and Newbold (1974)).[10]

C-55 The sample covers annual data for the period 1978-91. The estimation results are presented in Table I, where t-statistics are in parentheses. Generally speaking, the results broadly corroborate the behavioral structure of the model and are consistent with the stylized facts of Oman's economy.

C-56 Oman is a small and relatively open economy dominated by oil and gas. The revenue generated in the hydrocarbon sector accrues to the government and subsequently is spent in the economy in the form of current and development expenditures. In that sense, the evolution of public expenditure has a resounding and highly significant impact on aggregate demand, particularly private consumption and investment, as well as on movements in domestic prices.

C-57 The estimation results for the inflation equation confirm not only the existence of strong inertia, reflected by a high elasticity of 0.45, but the impact of public expenditure on domestic inflation is equally remarkable with an elasticity of 0.50 (Equation 1, Table 1).

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[10] However, given the small sample (1978-91) available to us, we cannot do any formal stationarity or model validation tests. Despite this limitations, the estimation results do not appear to be seriously mis-specified. Apart from the two trend equations, only three equations in Table I suffer from very low adjusted R-Square and or Durbin Watson.

Table 1. Estimation Results

		Rsq.	Adj.Rsq	DW
1.	$\pi = \underset{(2.77)}{0.45}\pi_{-1} + \underset{(1.85)}{0.50}\Delta Log\left(\frac{G}{Y}\right) + \underset{(1.24)}{0.02} D_1$	0.49	0.38	1.40
2.	$YP_{noil} = \underset{(6.42)}{603.9} + \underset{(9.04)}{99.8}\ TREND$	0.87	0.86	0.47
3.	$Log\left(\frac{Y_{noil}}{YP_{noil}}\right) = -0.20 + 0.65\left[\underset{(2.52)}{0.79} Log\left(\frac{P}{We^{-pt}}\right) + \underset{(2.52)}{(1-.79)} Log\left(\frac{P}{P_{Imp}}\right)\right]$	0.20	0.20	0.20
4.	$DYP = \underset{(10.98)}{1061.5} + \underset{(16.07)}{182.4}\ TREND$	0.96	0.95	0.75
5.	$\frac{Imp_{cp}}{DYP} = \underset{(-1.16)}{-0.11} + \underset{(2.86)}{0.07} e + \underset{(1.20)}{0.11}\left(\frac{DYP}{DY}\right) - \underset{(-0.85)}{0.01} D_2 + \underset{(0.75)}{0.007} D_3 - \underset{(-0.70)}{0.01} D_4$	0.60	0.35	0.70
6.	$\frac{Imp_{IP}}{YP} = \underset{(6.26)}{0.11} - \underset{(-9.06)}{0.07}\left(\frac{P_{Imp}}{P}\right) - \underset{(-3.39)}{0.02}\left(\frac{We^{-pt}}{P}\right) + \underset{(2.65)}{0.03}\left(\frac{Y}{YP}\right)$	0.97	0.95	2.78
7.	$\frac{Imp_{Io}}{YP} = \underset{(6.11)}{0.07} - \underset{(-8.79)}{0.05}\left(\frac{P_{Imp}}{P}\right) - \underset{(-3.32)}{0.01}\left(\frac{We^{-pt}}{P}\right) + \underset{(2.54)}{0.02}\left(\frac{Y}{YP}\right)$	0.96	0.95	2.59
8.	$\frac{Imp_{Intr}}{YP} = \underset{(6.31)}{0.24} - \underset{(-8.78)}{0.16}\left(\frac{P_{Imp}}{P}\right) - \underset{(-3.44)}{0.05}\left(\frac{We^{-pt}}{P}\right) + \underset{(2.29)}{0.07}\left(\frac{Y}{YP}\right)$	0.96	0.95	2.41
9.	$\frac{X_{noil}}{Y} = \underset{(-0.43)}{-0.01} - \underset{(-1.87)}{0.01}\left(\frac{P^*_{Exp}}{P^*}\right) + \underset{(1.81)}{0.07}\ Y^* - \underset{(-1.55)}{0.01} D_4$	0.34	0 14	0.92
10.	$\frac{I_p}{Y} = \underset{(2.88)}{0.09} - \underset{(-1.40)}{0.10}\ r_L - \underset{(-2.11)}{0.04}\left(\frac{P_{Imp}}{P}\right) + \underset{(1.83)}{0.01}\left(\frac{Y}{K_{-1}}\right)$	0.77	0.70	2.37
11.	$\frac{I_o}{Y} = \underset{(2.88)}{0.05} - \underset{(-1.40)}{0.05}\ r_L - \underset{(-2.11)}{0.02}\left(\frac{P_{Imp}}{P}\right) + \underset{(1.83)}{0.01}\left(\frac{Y}{K_{-1}}\right)$	0.77	0.70	2.37
12.	$\frac{C_p}{DY} = \underset{(-2.26)}{-0.88} + \underset{(2.58)}{0.31} e - \underset{(-0.30)}{0.13}\pi + \underset{(2.1)}{0.47}\left(\frac{PDY}{DY}\right) + \underset{(4.47)}{2.54}\left(\frac{DomCr_p}{Y}\right)$	0.80	0.71	2.49
13.	$QM = \underset{(-3.41)}{-169.67} - \underset{(-1.43)}{457.55}\ r_{L_{-1}} + \underset{(0.68)}{214.93}\ r_L + \underset{(22.36)}{0.22} Y$	0.98	0.98	1.24
14.	$M1 = \underset{(3.16)}{453.29} - \underset{(-2.63)}{1998.03}\ r_L - \underset{(-2.84)}{2660.85}\ \pi + \underset{(1.08)}{0.02}\ y$	0.95	0.93	1.93
15.	$\Delta Log\left(\frac{L_f}{L}\right) = \left(\frac{1}{1-\alpha_o}\right)\Delta Log\left(\frac{P_o}{We^{-pt}}\right) + \left(\frac{1}{1-\alpha_{no}}\right)\Delta Log\left(\frac{P_{no}}{We^{-pt}}\right)$	n.a.	n.a.	n.a.

C-58 The partial[11] estimated non-oil output function shows that Oman is a relatively open economy, albeit the real wage appears to dominate the real exchange rate as a more prominent determinant of short-term non-oil GDP.

C-59 This seems plausible given that non-oil GDP is dominated by (almost one third of valued added in non-oil GDP) the services sector, which is in turn triggered by a public administration typified by rather generous public sector wages.

C-60 As expected, the results for the derived demand for intermediate and capital goods imports suggest that labor is a relatively less important factor than capital in the production decisions of firms. The real wage complementary effects are estimated to be lower in magnitude than that of own effects (Equations 6-8 of Table 1) although the elasticities vary according to the type of imported good concerned.

C-61 Moreover, these results provide the best indication of the existence of large wage differentials between the public and private sectors, as the latter depends more on non-Omani labor, with much lower wage rates.

C-62 In addition to input prices, an increase in excess capacity, as depicted by the ratio of actual to potential output, is found to influence import decisions by private firms and public enterprises. However, this effect is more transparent for intermediate than capital goods imports.

C-63 On the demand side, the most significant determinants of aggregate private consumption are found to be, in order of significance, the availability of domestic consumer credit, the actual and permanent disposable income ratio, and the real effective exchange rate (see Eq.(12) of Table I). No significant effect could be established for inflation.

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[11] This became the non-linear elasticity λ (of equation (14)) which is inputed at $\lambda=0.65$, before the resulting linear model is estimated using regression, where 0.65 is gien by the ratio of expenditures on education to total government expenditures.

C-64 Imports of consumer goods by the private sector are influenced by the real effective exchange rate and ratio of permanent disposable income to disposable income and a set of dummy variables for exogenous shocks.[12] As expected, both the real exchange rate and income are positively related to imports of consumer goods (Equation 5 of Table 1) and are significant. The coefficient of the real exchange rate (RER) implies that an appreciation of the RER would make imports of consumer goods cheaper and thereby lead to an increase in import demand for such goods.

C-65 Two equations have been estimated for investment goods: investment demand by the private sector and public enterprises.[13] A rise in the real interest rate would impede investment demand while an increase in the marginal productivity of capital would increase investment in both sectors. On the other hand, an increase in prices of imported goods relative to overall domestic prices is found to have a negative effect on investment.

C-66 Non-oil exports are linked to the ratio of export prices relative to the prices of substitutes, and to the level of foreign demand, given by real foreign GDP. The estimation results for both independent variable fit well with the conventional export demand formulation, with appropriate signs and statistically significant t-statistics.

C-67 Finally the asset demand estimations support the conventional portfolio structure. Income is shown to have a positive and strong effect on the demand for quasi-money while the impact of the real interest rate is indeterminate. The reason for this is that, in Oman, the bulk of time deposits comprise deposits for the purpose of import licenses and as such may have a causal relation with

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[12] The set of dummy variables are used to capture the impacts of exogenous shocks confronted Oman's economy during the period 1978-91. These are respectively the first and second oil price shocks (D_2 and D_3), the Gulf War shock (D_4), and the output supply shock (D_1).

[13] Public enterprises in Oman behave like the private sector in the sense that the government of Oman plays an insignificant role in managing these firms. Like private sector companies, these enterprises are managed and operated based on profit-maximization considerations. The government participates in the equity sharing of these firms by having a representative in the board with the voting power similar to other members from the private sector.

movements in the rate of interest. On the contrary, both interest rate and inflation are found to have a highly negative and significant impact on the demand for narrow money.

C-68 In Equation 15, $\alpha_o = 0.10$ and $\alpha_{no} = 0.78$ are respectively the imputed shares of wage bills in oil and non-oil GDP.

III. OMAN'S MEDIUM-TERM PROSPECTS

C-69 In this section, medium-term prospects for Oman's economy are generated and analyzed. The conditions for achieving convergent paths in the context of government fiscal policy choices are discussed. In particular, we focus on the evolution of the hydrocarbon sector, government savings and investment patterns, and growth.

C-70 At first, the model is used to estimate a base case, in which targets for the key macroeconomic variables are set to be broadly similar to actual values prevailing in the base year.

C-71 The simulation of the behavioral structure is obtained on the basis of a general equilibrium model formulation, using the estimation results of the previous section and simultaneously solving the system for the endogenous variables on a Macro-TSP package. At the subsequent stage, these simulation results are linked to the accounting blocks of the RMSM-XX model to solve recursively for all other exogenous and endogenous variables. For predetermined variables such as the oil price, MUV, LIBOR, etc., World Bank PAC projection assumptions have been used.

C-72 In the 'policy based' scenario, targeted policy variables are adjusted appropriately to bring about required economic diversification, with less emphasis on the oil and gas sectors and non-Omani labor. The implications of the desired rate of domestic saving, in line with Oman's oil resources, as well as extraction rates and future oil prices, for the evolution of the main macroeconomic variables are also tested. The derivation of the desired domestic savings is based on the conditions necessary for sustaining the present Omani standard of living in the post-oil era.

C-73 In both simulations we observe the implications of the alternative target variables for the size and composition of financeable fiscal deficits. Since the non-oil GDP growth rate will be relatively

higher in the 'policy-based' simulation than that in the base case, the implications for the sources of financing of the public deficit (internal and external) will also be observed very closely.

Uses and Sources of Funds Matrix

C-74 The model uses the flow-of-funds framework. This framework allows for historical and projected data on income, expenditure, saving, investment, and the financing flows of different sectors to satisfy the budget constraints in the accounting identities. The consistent macroeconomic accounts for 1995 are presented in Table 2.

C-75 The upper-left quarter of the matrix shows current income and expenditure streams, with expenditure flows shown down and income flows shown across. Each current account framework is followed by a capital account matrix for the same sector. The balancing item for each sector is saving which ensures that current sources are equal to current uses. Therefore, by definition the totals in each row and column of the matrix must be equal. The capital account framework utilizes the "below the line" concepts of the public sector and balance of payments accounts as well the income-expenditure identity in the national income accounts, e.g., saving-investment identity. In other words, uses of financing are equivalent to their sources, including own saving, i.e., for each sector, excess investment over saving is equal to net borrowing from domestic and external sources.

V.2. Simulation Results

C-76 The closure rule adopted for the core consistency framework is "normative". The idea is to find fiscal implications of the user-specified "target values." A combination of the "normative" rule and the "requirements" version of the model determines the endogenous variables, such as government current and capital expenditures, as well as foreign and domestic borrowing needs, given the behavior of the private sector.

C-77 The assumptions concerning the future movements of the variables in the oil and gas sector are similar to those derived for the optimum savings rate (See Hashimoto, (1993)). Figure 4 shows projections of oil and gas revenues consistent with the optimum savings rate model.

C-78 Simulation results for the base case and reform base scenarios are summarized in the four graphs presented in Figure 4 below. These graphs show the implications of a higher desired savings rate for the non-oil output growth rate, the fiscal deficit, and the current accounts.

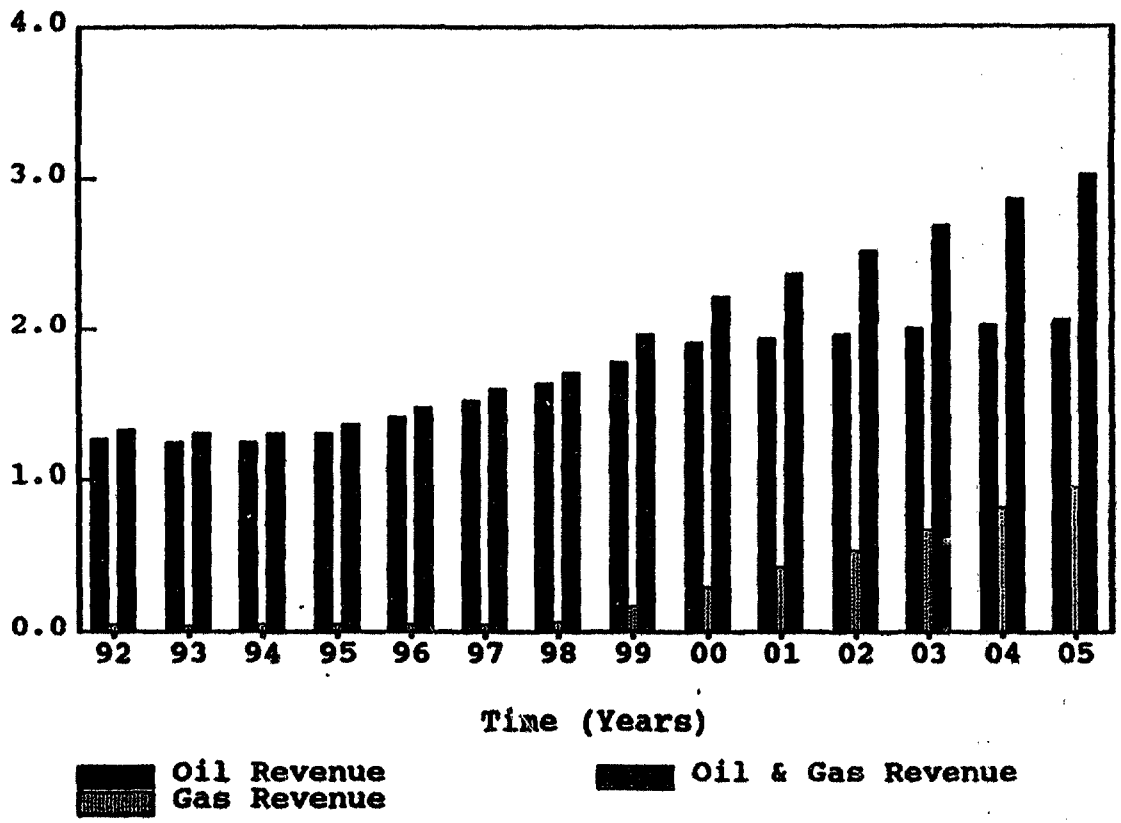
C-79 The base case projection assumes neither major changes in government policy nor unforeseen external shocks. It shows that, under the best circumstances, continuation of the present government policy would result in sluggish output and export growth rates, fiscal and current account imbalances, mounting external debt, and a deterioration of the standard of living, particularly in light of declining oil revenues.[14]

C-80 In the absence of nominal currency adjustment, other policy-influenced variables, especially government savings, appear to explain much of the differences between the two scenarios. As can be seen, the ratio of domestic savings to GDP is projected to be much higher in the reform base scenario than the one in the base case. The attainment of such a higher saving rate would only be possible through the adoption of more stringent budgetary discipline on the part of the central government.

C-81 If the government continues to follow the existing expansionary fiscal policy pattern by increasing current expenditures, the widening gap between sources of revenue and expenditures would enlarge the public sector deficits from about 8 percent of GDP in 1992 to more than 57 percent in the year 2005. In the base case scenario, the government would need to rely on oil and gas revenues as

[14] A caveat is in order due to data limitations, which hamper a thorough analysis of the macroeconomic situation in Oman. Some of the accounts, especially those for public enterprises, had to be estimated by the authors, while inconsistencies among various sectors were brought into balance.

Fig 4. Oil and Gas Revenue
(RO Million)



a source of financing of the budget deficit. Since such revenues are in limited supply, the unfunded portion of the budget deficit would have to be financed either by continued withdrawals from SGRF or by resorting to foreign borrowing.

C-82 Non-oil GDP is projected to grow at a higher rate in the reform base than the base case. Much of the difference between the two cases is due to increases in the value-added of the services sectors in the base case and a shift of resources to the tradeable goods sectors, and consequently higher output of the latter sectors, in the reform base scenario. Real depreciation due to policy reforms would bring about the required economic diversification in favor of the tradeable sectors. In addition, an expansion of non-oil output and exports would reduce the fiscal burden and take the pressure off the current accounts deficits.

C-83 Alternatively, economic adjustment is envisaged to come as a result of deflating the domestic economy by controlling the upward trend in nominal wages. An improvement in Omani labor productivity would keep nominal wages from increasing and result in higher growth rates for non-oil GDP and exports. In the production function, Harrod-neutral technological change has been adjusted, in the reform base, to offset the impact of the government Omanization policy on nominal wage increases.

C-84 The main determinants of non-oil GDP growth rates are relative input prices. The Cobb-Douglas formulation of the production function adopted in the non-oil sector implies that output growth would be hampered should the nominal wage rate or the price of imported capital goods relative to domestic prices increase. The nominal wage rate, adjusted for the Harrod neutral technological change, is exogenously determined, based on its historical trend. The model solution jointly determines domestic prices and output for given prices of imports.

C-85 On the supply side, government dissaving plays a crucial role in determining the future paths of output, inflation, and the real exchange rate. In the base-case scenario, government expenditures in real terms are allowed to grow at a rate equivalent to their historical rate of about 9 percent per year. The inflationary pressure resulting from government current spending would increase non-oil GDP, albeit at a lower rate when compared with its historical annual rate of around 11 percent for the period 1978-91.

C-86 In addition, the base case non-oil GDP growth rate would most likely be driven by an increase in the output of the peripheral services sector, the reason being that domestic inflation would cause an appreciation of the real exchange rate. Such an appreciation would inhibit the growth of output in the tradeable sectors. The "Dutch disease" effect appears to be at work when the producing sectors, such as agriculture, fisheries, and manufacturing suffer. The "*de industrialization*" process would shift resources towards the production of nontradeables. Therefore, domestic prices for the nontradeables would rise and an inflationary spiral ensue.

C-87 On the demand side, real appreciation would foster private consumption. However, the surge in private consumption would not be sufficiently high to match the rate of population growth and as a result the per capita private consumption growth rate would decline for a number of years before registering positive rates again, beginning in the year 2001.

C-88 Private investment would dwindle due to a combination of lower productivity of capital and the public sector's 'crowding out' effects. Firms in the private sector would invest only the amount necessary to maintain the existing stock of capital without adding much to output growth. This is shown by an increasing implied 5-year ICOR from about 3 in 1992 to around 7 at the end of projections period (Table 3).

Table 3. Key Indicators Base Case Scenario

	Estimate		Projection											
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
GDP Growth Rate	2.9	1.4	2.8	4.7	6.0	5.9	5.9	7.1	6.9	4.1	4.0	4.0	3.9	3.8
Non-Oil GDP Growth Rate	0.5	4.5	5.6	5.5	5.0	4.8	4.7	4.6	4.7	5.3	5.6	5.7	5.7	5.7
GDP Per Capita Growth Rate	-0.08	-1.54	-0.17	1.62	2.89	2.84	2.81	3.99	3.80	1.09	0.99	0.92	0.85	0.79
Pvt Consumption Per Cap. Gr. Rate	-0.50	3.45	0.83	-1.87	-4.52	-4.95	-5.36	-5.79	-6.33	0.14	0.60	0.88	1.10	1.32
Debt Service (in US$)	219	218	223	293	412	573	789	1070	1412	1854	2431	3170	4098	5240
Debt Service/XGS	0.04	0.04	0.04	0.05	0.07	0.09	0.12	0.14	0.18	0.23	0.29	0.36	0.46	0.57
Debt Service/GDP	0.02	0.02	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.09	0.10
Stock of External Debt/GDP	0.18	0.18	0.20	0.23	0.28	0.35	0.42	0.49	0.57	0.68	0.80	0.93	1.07	1.20
Domestic Savings/GDP	0.34	0.37	0.35	0.34	0.33	0.33	0.33	0.32	0.31	0.28	0.26	0.24	0.22	0.20
National Savings/GDP	0.21	0.25	0.23	0.22	0.22	0.21	0.21	0.19	0.17	0.14	0.11	0.08	0.05	0.02
Gross Investment/GDP	0.19	0.20	0.21	0.22	0.22	0.23	0.23	0.24	0.24	0.24	0.25	0.25	0.26	0.26
Public Investment/GDP	0.13	0.13	0.14	0.14	0.15	0.15	0.15	0.15	0.16	0.16	0.16	0.16	0.16	0.17
Private Investment/GDP	0.06	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09
Implied 5-Year ICOR	3.4	4.3	4.4	5.4	6.0	5.3	4.6	4.0	3.9	4.2	4.6	5.0	5.8	6.7
Government Revenues/GDP	0.36	0.33	0.30	0.28	0.26	0.25	0.24	0.24	0.23	0.22	0.21	0.19	0.18	0.17
Government Expenditures/GDP	0.50	0.38	0.39	0.42	0.46	0.50	0.53	0.57	0.61	0.64	0.67	0.70	0.72	0.75
Deficit/GDP (+)	-0.09	-0.03	-0.08	-0.13	-0.18	-0.23	-0.28	-0.33	-0.37	-0.41	-0.45	-0.49	-0.53	-0.57
GDP Deflator (1985=1)	0.91	0.97	1.04	1.13	1.21	1.30	1.39	1.50	1.61	1.75	1.91	2.09	2.29	2.51
Inflation (% Change GDP Deflator)	-1.5%	5.9%	7.9%	8.0%	7.5%	7.3%	7.3%	7.3%	7.4%	8.7%	9.3%	9.5%	9.6%	9.7%
Nominal Exchange Rate ($/BD)	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Real Exchange Rate (1985=1)	0.54	0.55	0.58	0.61	0.63	0.65	0.67	0.69	0.71	0.74	0.78	0.82	0.86	0.91
Terms of Trade Index (1985=1)	0.87	0.81	0.81	0.82	0.84	0.87	0.89	0.92	0.95	0.94	0.93	0.92	0.91	0.90
Implied 5-Year Import Elasticity	0.62	0.65	1.47	1.50	1.36	1.27	1.29	1.20	1.15	1.16	1.17	1.19	1.22	1.24
Exports As % of GDP	0.38	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.40	0.40	0.39	0.39	0.38
of which: Non-oil Exports	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05
Imports as % of GDP	0.20	0.20	0.23	0.24	0.25	0.26	0.27	0.28	0.29	0.30	0.32	0.34	0.35	0.37
Current Account deficit/GDP	0.01	0.04	0.09	0.12	0.14	0.16	0.19	0.19	0.21	0.24	0.27	0.30	0.32	0.34
Current Account deficit (in US$)	86	486	1113	1734	2300	2985	3806	4546	5770	7429	9423	11747	14395	17453
Net Reserves (in US$)	2366	2462	2753	3045	3313	3591	3886	4204	4572	4961	5393	5851	6327	6821
Gross Reserves (in Month Imports)	9.7	9.2	8.7	8.3	7.9	7.5	7.1	6.8	6.5	6.2	6.0	5.8	5.6	5.4

C-89 However, there are reservations in interpreting the efficiency of investment on the basis of a simple ICOR, parameter, measured in terms of actual GDP (as is the case here) rather than on the time path of the potential output. In our model, the implied ICOR may be interpreted as a mixture of efficiency factors (determining the path of potential GDP) and capacity utilization (determining the discrepancy between actual and potential GDP). In that sense, changes in ICOR may imply changes in efficiency or in the degree of capacity utilization or a mixture of both.

C-90 The most dramatic effects are increases in the current accounts deficit of the balance of payments, which is projected to reach around 34 percent of the GDP by the end of the simulation period and the budgetary fiscal deficit, surging to about 57 percent of the GDP by the year 2005.

C-91 The current account deficit is a consequence of the behavior of imports which increase rapidly between 1990-2005, and exports, which remain stagnant due to the meager performance of the non-oil sector. As the current account deficit widens, so does the external debt situation, which is projected to climb to more than $17 billion by the end of the projection period. This would result in a debt service ratio of about 57 percent of exports of goods and services and 10 percent of GDP in 2005.

C-92 Given the amount of implicit and explicit subsidies in the economy, increases in government current expenditures have always been the prime source of fiscal imbalance in Oman. The present trend appears not to be sustainable. Oil and gas revenues will not be not sufficiently high to offset rapidly growing government current expenditures in the future. In addition, the rapid rise in interest payments on foreign and domestic loans would compound fiscal imbalances further as the Government resorts to more borrowing from foreign and domestic nonbank sectors to finance its deficit.

C-93 The future need for external financing of the current account and fiscal deficits would be extremely high, thus putting additional pressures on the services accounts. Unlike neighboring GCC countries, Oman has not been actively involved in any major foreign investment ventures. The only

source of foreign investment income has been interest receipts from the country's international reserves and minor returns from the SGRF.

C-94 One peculiar aspect of Oman's economy has been developments in the money market. During most of the 1980s, the government has been a net lender to the banking system while running substantial fiscal deficits. This is shown by large deposits by the central government in the money market. The key indicators base case (Table 3) situation is assumed to continue in the future with the government deposits increasing, over time, from about RO 350 million in 1992 to around RO 1 billion in 2005. Meanwhile, the private sector borrowing from the banking system is projected to increase from about RO 0.9 billion in 1992 to more than RO 5 billion by 2005. Moreover, the share of broad money in GDP is projected to decline from about 28 percent in 1992 to around 23 percent by the end of projections period.

C-95 The reform base simulation involves changes in the model's key variables, such as the RER adjustment, higher domestic and national saving ratios, higher productivity of Omani labor, improvement in the efficiency of capital, more rapid GDP, non-oil GDP and export growth rates, removal of subsidies, and introduction of a 4 percent general sales tax. The results are summarized in Table 4.

C-96 Given the limited life span of the hydrocarbon resource base, the government of Oman needs to diversify the economy away from its heavy dependence on oil. The RER, roughly defined as the relative price of home goods *vis-avis* tradeables, would be adjusted, making production of tradeables more profitable. The reallocative impact of the RER adjustment, when accompanied by higher savings due to more prudent revenue-generating and cost-reducing measures by the government, would eliminate fiscal and external imbalances.

Table 4. Key Indicators Reform Base Scenario

	Estimate		Projections											
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
GDP Growth Rate	2.9	2.1	3.0	4.8	6.1	6.1	6.0	7.7	7.6	4.9	4.8	4.7	4.7	4.6
Non-Oil GDP Growth Rate	0.5	4.9	5.9	5.7	5.2	5.0	5.0	4.9	5.0	5.7	6.0	6.1	6.1	6.2
GDP Per Capita Growth Rate	-0.08	-0.85	0.04	1.79	3.03	2.98	2.96	4.56	4.42	1.82	1.72	1.68	1.62	1.57
Pvt Consumption Per Cap. Gr. Rate	-0.50	0.67	5.84	2.18	2.75	1.02	0.03	-0.65	-0.68	15.66	0.85	0.62	0.57	0.19
Debt Service (in US$)	219	214	258	279	304	346	383	393	375	307	377	0	0	0
Debt Service/XGS	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.02	0.03	0.00	0.00	0.00
Debt Service/GDP	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.00	0.00	0.00
Stock of External Debt/GDP	0.18	0.25	0.25	0.24	0.25	0.25	0.22	0.17	0.10	0.12	0.04	0.00	0.00	0.00
Domestic Savings/GDP	0.34	0.38	0.36	0.36	0.37	0.38	0.39	0.40	0.41	0.43	0.42	0.42	0.41	0.41
National Savings/GDP	0.21	0.25	0.24	0.25	0.26	0.28	0.30	0.32	0.34	0.36	0.37	0.38	0.39	0.40
Gross Investment/GDP	0.19	0.19	0.19	0.19	0.20	0.20	0.20	0.20	0.20	0.22	0.22	0.23	0.23	0.23
Public Investment/GDP	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.14	0.14	0.14	0.14	0.15
Private Investment/GDP	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.09	0.09
Implied 5-Year ICOR	3.4	4.1	4.1	4.8	5.2	4.5	3.9	3.4	3.1	3.4	3.6	3.9	4.4	5.0
Government Revenues/GDP	0.36	0.42	0.40	0.39	0.38	0.39	0.38	0.39	0.40	0.39	0.38	0.37	0.37	0.36
Government Expenditures/GDP	0.50	0.38	0.35	0.34	0.32	0.30	0.29	0.27	0.26	0.19	0.18	0.17	0.16	0.15
Deficit/GDP (+)	-0.08	0.04	0.04	0.05	0.06	0.08	0.09	0.12	0.13	0.20	0.21	0.21	0.21	0.20
GDP Deflator (1985=1)	0.91	0.91	0.94	0.98	1.01	1.03	1.06	1.09	1.12	1.16	1.21	1.27	1.33	1.39
Inflation (% Change GDP Deflator)	-1.5%	-0.1%	3.8%	3.6%	3.0%	2.7%	2.7%	2.7%	2.7%	3.9%	4.4%	4.6%	4.6%	4.6%
Nominal Exchange Rate ($/BD)	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Real Exchange Rate (1985=1)	0.54	0.52	0.53	0.54	0.53	0.53	0.53	0.53	0.52	0.52	0.53	0.53	0.54	0.55
Terms of Trade Index (1985=1)	0.87	0.81	0.81	0.82	0.84	0.87	0.89	0.92	0.95	0.94	0.93	0.92	0.91	0.90
Implied 5-Year Import Elasticity	0.62	0.73	1.58	1.52	1.31	1.16	0.98	0.91	0.88	0.94	0.98	1.03	1.08	1.13
Exports As % of GDP	0.38	0.47	0.46	0.46	0.46	0.46	0.46	0.47	0.48	0.50	0.50	0.50	0.50	0.50
of which: Non-oil Exports	0.07	0.20	0.20	0.19	0.20	0.20	0.21	0.22	0.25	0.27	0.28	0.29	0.30	0.30
Imports as % of GDP	0.20	0.22	0.24	0.24	0.23	0.23	0.22	0.21	0.21	0.22	0.22	0.23	0.23	0.24
Current Account deficit/GDP	0.01	-0.03	0.00	0.01	0.00	-0.01	-0.02	-0.06	-0.09	-0.09	-0.09	-0.09	-0.09	-0.09
Current Account deficit (in US$)	86	-334	36	168	61	-75	-271	-1088	-1783	-1949	-2042	-2233	-2443	-2586
Net Reserves (in US$)	2366	3378	4736	6168	8024	10405	13176	16812	21376	28701	36636	45318	54777	64920
Gross Reserves (in Month Imports)	9.7	10.8	13.8	16.4	19.8	24.0	28.5	34.2	40.3	47.5	55.1	61.9	67.9	73.2

C-97 The immediate impact would be an improvement in the current account balance and the government fiscal situation. The accumulation of wealth due to the higher saving rate is reflected in significant increases in the stock of foreign reserves. Interest receipts from the stock of gross reserves are projected to be high enough to accommodate imports, thus compensating for flattening oil export earnings. The combined effects of both of these measures are reflected in a drastic improvement in the current accounts balance.

C-98 Meanwhile, the central government would be able to increase non-oil revenue by perhaps introducing either a non-cascading value-added tax or a general sales tax and removing (or reducing to sustainable levels) existing implicit and explicit subsidies.

C-99 On the goods market, the implications for non-oil GDP growth would be striking, as the value added of this sector increases on the average by about 5.5 percent per year during the projections period. Moreover, the adjustment of the RER would shift resources away from the statutory sectors of the economy to the real sectors, thereby boosting non-oil exports by as much as ten times in real terms, from about RO 200 million in 1992 to around RO 2 billion in the year 2005. In addition, the expenditure-switching effect of the RER adjustment is reflected in higher investment and consumption by the private sector. The net result would be higher efficiency of investment, as shown by improvements in the implied 5-year ICOR relative to the base case scenario.

C-100 One important feature of the reform base scenario is the lessening of pressure on the utilization of the SGRF as a source of the government deficit financing. The stock of SGRF is projected to increase to about RO 5 billion in 2005 from RO 1 billion in 1992. In the present simulation, however, the SGRF is assumed not to be monetized.

C-101 In the assets and money markets, the projected economic adjustment would help the deposit money banks increase their stock of net foreign assets to more than RO 1 billion by 2005 from about

RO 200 milllion in 1992. At the same time, real quasi-money balances would increase sharply, implying large private sector deposits within the banking system.

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Appendix A
Definition of Variables

The model nomenclature is based on prefixes attached to each variable, except for current price flow variables in Dinars. The prefixes are:

H	Historical Data (1987-1989)
Dol	Nominal Variables denominated in US$
K	Constant Price Variables
P	Prices
Stk	Stock Variables
z	Assumptions
d	Ratios

Some variables have two prefixes. For instance, a stock denominated in US$ would have both Stk and Dol as prefixes.

Sector-specific variables and intersectoral flows are represented by the following abbreviations at the end of each variable:

b	Budgetary Government
o	Other Non-financial Public Sector
g	Consolidated Public Sector
p	Private Sector
m	Monetary Sector
f	External Sector
t	Total
cen	Central Bank
com	Commercial Bank
LF	Employment

So, for instance, Yfc_b denotes factor income of the budgetary government, and L_{mp} denotes loans from the monetary system to the private sector.

The nomenclature used for specific variables is presented next in alphabetical order. The upper-case letters are used for current prices while the lower-case letters show the variables in constant prices.

C	Consumption
COG	Current Official Grants
DC_g	Domestic Credits to Government by the Central Bank
DFI	Direct Foreign Investment
DRS	Depreciation, Interest and Retained Surplus of the Other Public Sector
Exp	Exports
GDP	Gross Domestic Product in Current Prices

GroRes	Gross International Reserves
I	Gross Investment
INT	Interest Rate
Imp	Imports
ImpC	Imports of Consumer Goods
ImpINV	Imports of Investment (or Capital) Goods
ImpINT	Imports of Intermediate Goods
IntlLiab	International Short-Terms Liabilities of the Central Bank
Knei	Foreign Capital Flows not Elsewhere Included
KOG	Capital Official Grants from Abroad
L	Domestic and Foreign Loans other than LS
LS	Short-term Foreign Loans
M1	Money Supply
QM	Quasi Money
MQM	Change in Current-Price Money Stock
N	Interest Payments on Domestic Loans and Medium-long Term Foreign loans
NFA_t	Change in Net Foreign Assets (Total)
NFA_{cen}	Change in Net Foreign Assets (Central Bank)
NFA_{com}	Change in Net Foreign Assets (Commercial Banks)
NOL_{com}	Change in Net Other Liabilities of Commercial Banks to Private Sector
h	Reserve Ratio of Commercial Banks
NS	Interest Payments on Short-term Foreign Loans
OthR	Other Revenues of the Budgetary Government Collected from the Private Sector
Prof	Profit Remittances Abroad
RG	Resource Gap
S	Saving
Sub	Subsidies paid by the Budgetary Government
T	Current Transfers
Td	Direct Taxes
Ti	Indirect Taxes
Yfc	Factor Income

National accounts constant price variables and deflators are defined as follows, where the first definition is as it appears in the model and the second, in parentheses, as it appears in the Javelin program.

Nomen-clature	Var in Javelin	Definition
E	(P ExRNIndex80)	Nominal Exchange Rate Index
P	(P ImplGDPDef80)	GDP deflator
px	(P ExpPILCU)	Domestic Price Index for Exports
p_{x^*}	(P ExpPIDol)	Foreign Price Index for Exports
p_m	(P ImpPILCU)	Domestic Price Index for Imports
p_{m^*}	(P ImpPIDol)	Foreign Price Index for Imports

p_{mc}	(P ImpCPELCU)	Domestic Price Index for Consumer Goods Imports
p_{mc}*	(P ImpCPIDol)	Foreign Price Index for Consumer Goods Imports
p_{minv}	(P ImpINVPILCU)	Domestic Price Index for Investment Goods Imports
p_{minv*}	(P ImpINVPIDol)	Foreign Price Index for Investment Goods Imports
p_{mint}	(P ImpINTPILCU)	Domestic Price Index for Intermediate Goods Imports
pmint*	(P ImpINTPIDol)	Foreign Price Index for Intermediate Goods Imports
p_{cb}	(P CbDef80)	Budgetary Government Consumption Deflator
p_{co}	(P CoDef80)	Other Public Sector Consumption Deflator
p_{cp}	(P CpDef80)	Private Consumption Deflator
p_i	(P ItDef80)	Total Gross Investment Deflator
y	(K GDP)	Gross Domestic Product in Constant Prices
x	(K Exp)	Exports in Constant Prices
m	(K Imp)	Imports in Constant Prices
c_o	(K Co)	Other Government Consumption in Constant Prices
c_b	(K Cb)	Budgetary Consumption in Constant Prices
c_p	(K Cp)	Private Consumption in Constant Prices
i_b	(K Ib)	Budgetary Government Investment in Constant Prices
i_o	(K Io)	Other Public Sector Investment in Constant Prices
i_p	(K I_p)	Private Investment in Constant Prices
y	(K GDP)	Gross Domestic Product in Constant Prices
PDY^p	(K DYP_p)	Permanent Disposable Income in Constant Prices
k	(Stk Cap)	Capital Stock at Constant Prices
M	(Stk M)	Money Supply
i	(INT)	Interest Rate
π	(Pi e)	Price Expectation
Ω	(Omega)	Export Subsidies
ϵ_x	(ELS X)	Export Price Elasticity
ϵ_m	(ELS M)	Import Income Elasticity
DY_p	(K DispInc)	Disposable Private Income in Constant Prices
Exp	(EXP)	Exports in Current Prices
Imp	(IMP)	Imports in Current Prices

Appendix B
Money Market Identities and Projection Rules

(C.1) $MQM = (M - M_{-1})$

(C.2) Stk NOL = Stk NOL_{-1} (1 + GRNOL)

(C.3) NOL = Stk NOL - Stk NOL_{-1}

(C.4) $L_{mo} = L_{mo}$%GDP.GDP

(C.5) $L_{mp} =$ Stk L_{mp-1}(GDPNomGR.ELCvp)

(C.6) Nknei = Stk $Knei_{-1}$ INTknei

(C.7) N_{fm} = Stk $GroRes_{-1}$ MSEarn Gros Res - Stk $IntLiab_{-1}$ MSPay IntLiab

(C.8) NFA_{cen} = GroRes - IntLiab

(C.9) $NFA_{com} = NFA_t - NFA_{cen}$

PRICE BLOCK and Projection Rules

(C.10) $P^* = ep(NER)^*$ where e = RER and P is international inflation

(C.11) $P_x = P_x^* . E$

(C.13) $P_m = P_m^* . E$

(C.14) $P_i = \lambda (P y - Px.x)/(y - x) + (1 - \lambda) P_m$

(C.15) $\hat{P}_{cb} = (1 + P_{cb}) P_{cb-1}$

(C.16) $P_{cp} = [P.y_d - P_{cb}.c_b - P_i (i_b + i_o + i_p) - P_x.x + P_m.m]/c_p$

(C.17) $P_{co} = 0$

AGGREGATE DEMAND Current Prices

(C.18) $Y = C_p + C_b + C_o + I_p + I_b + I_o + X - IM$

(C.19) $C_p = P_{cp}.c_p$

(C.20) $C_b = P_{cb}.c_b$

(C.21) $C_o = 0$

(C.22) $I_p = P_i.i_p$

(C.23) $I_b = P_i.i_b$

(C.24) $I_o = P_i.i_o$

(C.25) $DY_p = [P.y + T_{bp} + T_{op} + E.(Tfc_p+COG_p+Prof) + N_{bp} + N_{op} - Td - Othr - N_{pf} - NS_{pf}]/P_{cp}$

(C.26) $I_T = I_p + I_b + I_o$

INCOME IDENTITIES (Nominal Terms)

(C.27) $P . y = Yfc_b + DRS + Yfc_p + Ti - Sub_b - Sub_o$

(C.28) $S = P_i.I_p + P_i.I_b + P_i.I_o - S_f$

(Nominal national saving = Nominal gross domestic investment minus nominal foreign saving)

(C.29) $GDP = P.y$

(C.30) $Exp = P_x.x$

(C.31) $Imp = P_m.m$

AUXILIARY PROJECTION RULES

(C.31) Td = Td%GDP*GDP

(C.32) Ti = Ti prod%GDP*GDP + Ti imp%Imp*Imp + Ti exp%Exp*Exp

(C.33) Yfc_b = Yfc_b%GDP*GDP

(C.34) OthR = OthR%GDP*GDP

(C.35) Sub_b = Sub_b%GDP*GDP

(C.36) T_{bo} = T_{bo}%GDP*GDP

(C.37) $T_{bp} = T_{bp}\%GDP \cdot GDP$

(C.38) $L_{bp} = Lbp\%GDP \cdot GDP$

(C.39) $L_{bo} = L_{bo}\%GDP \cdot GDP$

(C.40) $I_b = I_b\%y^s \cdot y$

(C.41) $DRS = DRS\%\ GDP \cdot GDP$

(C.42) $Sub_o = T_{bo}$

(C.43) $T_{op} = T_{op}\%GDP \cdot GDP$

(C.44) $C_o = C_o\%GDP = 0$

(C.45) $L_{op} = L_{op}\%GDP \cdot GDP$

(C.46) $Prof = Prof_{-1} + (DFIProfRate \cdot DFI_{-1})$

(C.47) $T_{fp} = T_{fp}\%GDP \cdot GDP$

(C.48) $DFI = DFI\%I_p\ I_p$

Interest Payments

(C.49) $N_{ob} = Stk\ Lbo_{-1} \cdot INTob$

(C.50) $Nbm\&Nbp = Stk\ Lmb_{-1} \cdot INTbm + Stk\ Lpb_{-1} \cdot INTbp$

(C.51) $N_{bf} = Stk\ Lfb_{-1} \cdot INTbf$

(C.52) $N_{of} = Stk\ Lfo_{-1} \cdot INTof$

(C.53) $N_{pf} = Stk\ Lfp_{-1} \cdot INTpf$

(C.54) $NS_{pf} = Stk\ LSfp_{-1} \cdot INTSpf$

(C.55) $Nom\&Nop = Stk\ Lmo_{-1} \cdot INTom + Stk\ Lpo_{-1} \cdot INTop$

A DESCRIPTIVE MODEL OF THE REAL EXCHANGE RATE

D-1 This annex sets out the theoretical basis for the discussion in Chapter 5 for those wishing to achieve a more precise understanding of the concept of the real exchange rate and the role of shifts in the real exchange rate in generating (and reversing) "Dutch disease."

D-2 It is convenient to view Oman as composed of three sectors: oil, non-oil tradeables (agriculture and manufacturing) and a non-tradeable or home goods sector (government services, construction and housing, etc.). The tradeables are commodities that are traded in the international market or are close substitutes for internationally traded goods; for a given set of nominal exchange rate and commercial policies, the prices of traded goods are determined by international prices. The prices of non-traded goods, on the other hand, are determined by conditions of domestic supply and demand.

D-3 The demand for non-traded goods depends positively on the prices of exportables and importables relative to the price of home goods, and it depends positively on Government expenditure and aggregate demand in the domestic economy. On the other hand, the supply of non-traded goods is a negative function of relative prices and a positive function of the non-price upward "shifters" of supply, such as productivity and technological improvement. Market equilibrium is established at the point where demand equal supply. Focusing on the short to medium runs, the equilibrium condition described above gives the solution of the RER consistent with equilibrium in the home goods market, as a function of the above fundamentals.[1]

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[1] Algebraically, the above equilibrium can be written as follows:
$D_N\ (P_X,\ P_M,\ P_N,\ \text{Gov. Exp.},\ A_P) = S_N\ (P_X,\ P_M,\ P_N,\ T)$. GDP, where D_N and S_N are,
(+) (+) (-) (+) (+) (-) (-) (+) (+)
respectively, demand and supply for non-traded goods; P_X, P_M, P_N are prices for exportables, importables and non-tradeable goods, respectively; Gov. Exp. is government expenditure; A_P is private sector domestic absorption (consumption plus investment); and T is the level of technology. The expected sign of the influence of a variable appears in parenthesis. Assuming that technology is fixed in the short to medium runs and exploiting the price homogeneity of demand, the above equation allows writing the equilibrium RER

$$\left(RER = \frac{P_N}{P_X^a\, P_m^{1-a}} \right)$$

as follows:

$$RER = f\left(\frac{P_X}{P_M},\ \frac{Govt.\ Exp.}{GDP},\ \frac{A_P}{GDP} \right).$$
(?) (?) (+)

As argued in the text, empirical regularities suggest that both

$$\frac{P_X}{P_M}$$

and

$$\frac{Govt.\ Exp.}{GDP}$$

have positive effects on the RER.

D-4 More specifically, the basic model of the real exchange rate described above, which is relevant to Oman's type of economy, predicts the level of the RER that yields equilibrium (between supply and demand) in the non-traded good market as a function of the terms of trade for oil (the foreign price of oil relative to imports), the ratio of government expenditure to GDP, and the ratio of the resource balance (imports minus exports) to GDP. Given the further dependence on oil of both of the last two policy-induced factors, it is clear that the oil cycle is the key variable influencing the evolution of the RER and hence the competitiveness and the structure of the economy over time.

D-5 According to the equilibrium condition described above, the RER should depreciate (i.e., decline) as the trade deficit declines (or the trade surplus increases). The reason is straightforward: a larger trade surplus implies that there has been a reduction in spending relative to income. At least some of the reduction must have fallen on non-traded goods, so their prices must have fallen.

D-6 An improvement in the terms of trade for oil (the foreign price of oil relative to imports) should lead to appreciation of the RER. Given the dominance of oil exports in Oman, a large increase in the price of oil relative to imports or to other exports will generate significant domestic spending. Experience also suggests that governments tend to have higher propensities to spend in the non-traded goods sectors. Thus, an increase in the rate of government spending or in the relative price of oil is likely to lead to appreciation of the RER.

D-7 A *temporary* improvement in the terms of trade for oil (or a temporary increase in the volume of oil exports) will increase government revenue and permit higher government spending, leading, in turn, to higher private sector domestic absorption. The net effect will be higher demand for both traded and non-traded goods. Since the prices of traded goods are given and the price of non-tradeables goes up, appreciation of the RER will ensue. The appreciated real exchange rate will encourage additional importing (now that imports are cheaper) while the domestic production of import substitutes and non-oil exports will be discouraged. The non-oil trade deficit will widen.

D-8 From the foregoing, it is clear that if a temporary oil boom is allowed to influence government expenditure, it can have serious negative consequences for the non-oil traded sectors. This influence of a dominant booming sector is referred to in some economic literature as the "Dutch Disease."

D-9 In addition to the spending effect described above, the boom raises the marginal product of factors initially employed in the booming sector and subsequently it also raises returns to factors in the non-traded goods sector, so resources (i.e., factors of production) will be drawn from the non-oil traded sectors to both the oil and home goods sectors. This is the so-called resource movement effect. Given the low linkage between the oil sector and the rest of the economy in terms of the factor market and the capital-intensive technology that characterizes its production, the service non-traded sector rather than the oil sector is likely to be the main beneficiary of the resource movement effect of the "Dutch Disease."

OMAN'S INCENTIVE SYSTEM

E-1 This annex describes the main elements of the current incentive system.

Input Subsidies

E-2 Subsidized inputs include capital, electricity and water services, tariff-free materials and equipment, labor and land.

Electricity Subsidies

E-3 Direct Power Subsidy. According to estimates by MOEW, the total cost of electricity production in 1991 was RO 78.1 million, with consumers paying RO 54.9 million, making for a direct subsidy of RO 23.2 million, or 30 percent of total cost. Based on electricity use, about 89 percent of the 1991 subsidy went to household users, 9 percent to industrial and commercial users (including Oman Mining Company), and the remaining 2 percent to public users. Applying the rate of industrial use to the 1991 subsidy, the industrial share comes to RO 2.1 million. Electricity subsidy rates are higher in rural areas because of the use of higher-cost diesel fuel in power generation while tariff rates are the same.

E-4 Fuel Subsidies. Natural gas was highly subsidized when the opportunity cost of fuel was at its highest, in the early 1980s. But, with the drop in oil prices and their leveling off at around US$18 per barrel in recent years -- way below the US$29 of the early 1980s -- and with the delivered price of gas remaining the same, some Omani officials maintain that the fuel element in power generation is now taxed rather than subsidized. It may be concluded that the fuel subsidy element is negligible.

Capital Subsidies

E-5 These subsidies takes several forms: capital grants, interest-free loans, and soft loans. They are administered by different agencies.

E-6 The Ministry of Commerce and Industry (MOCI). MOCI administers an interest-free loan program to implement Royal Decree 40/87 on financial support to the private sector in industry and tourism. Under this program, the Ministry dispensed about RO 33 million to over 82 industrial firms over the period 1981-92, and over RO 4.5 million to tourism establishments over the period 1988-92.

E-7 In addition, MOCI provides capital grants to support Omani small industries (with capital under RO 100,000), especially those established by university graduates. So far, more than RO 0.5 million has been granted since the program started in late 1991. According to Royal Decree 99/91, the capital grant could range from 30 percent of investment in Muscat to 60 percent in remote areas. For Omani graduates, the capital grant could range from 40 percent in Muscat (plus another 40 percent as an interest-free loan) to 60 percent in remote areas. It is estimated that the total 1991 cost of MOCI-administered programs was about RO 1.5 million.

E-8 The Oman Development Bank (ODB). Since commencing operations in 1979, and up to 1991, the Bank supplied over RO 63 million to over 324 Omani registered projects in various sectors, with a total investment of over RO 174 million. Chemical, foodstuff and construction industries absorbed most of these loans (60 percent), with minor shares going to finance agriculture and fisheries, and other medium-size manufacturing. The current annual interest rate charged by ODB is about 9 percent, of which the government subsidizes 3 to 6 percent, depending on the location of the project (with those in Muscat receiving the least subsidy). Although the Bank's lending policy emphasizes medium- and long-term lending, very few loans are repayable in more than five years. In addition to lending, ODB has participated to a moderate extent in the equity financing of Omani joint stock companies (with a limit of 51 percent of the capital of each company).

E-9 Recently, the Bank extended its operations in two directions; the provision of loans to small business (with investment under RO 100,000, especially those run by Omani graduates) and the promotion of exports. In the former area, ODB complements MOCI, so that the sources of finance would typically be one-third equity, one-third MOCI and one-third ODB. Interest charges on these loans for small business could range from 3 percent to zero. The export promotion scheme is discussed below, under output subsidies.

E-10 During the period 1980-92, the cumulative cost of the ODB private sector capital subsidyprogram reached over RO 23 million. The cost of the export promotion scheme is projected to total RO 7 million by the end of the current Plan in 1995. For the year 1991, it is estimated that capital subsidies through financial institutions totaled RO 3.9 million.

E-11 The Oman Bank for Agriculture and Fisheries (OBAF). OBAF's role in the agricultural and fisheries sectors is similar to that of ODB with regard to manufacturing and services. Its lending policy differs, though, in that it gives priority to small-size family farming and fishing. In 1991, more than 68 percent of loans were given to small farmers (loan size less than RO 10,000). The division of subsidized loans between agriculture and fisheries ran at the rate of 2:1 in the same year. Over 1991-92, OBAF received about RO 35 million in the form of public support to cover interest differentials on loans made by the Bank.

Land Subsidies

E-12 Industrial Estates. In 1989, the Oman government completed the last stage of the Rusayl Industrial Estate about 45 km from Muscat, with integrated facilities for industrial development, including roads, water, electricity, gas, telecommunications, waste water treatment, waste disposal facilities, plots of varying sizes, and standard factory and office buildings. The estate is almost fully occupied. The current rent for lots is 250 Baisa per square meter for lots and RO 2 to 4 annually for factory buildings. These are about half comparable market rates. The Government appropriated RO 460,000 for direct support of the Estate Authority in 1993. Other industrial estates are planned for Raysut and Suhar.

E-13 Agricultural Land. Land use policy is difficult to assess in the absence of comprehensive information relating to laws, regulations, administration, and the management of public land, little of which was available to the Bank. The Ministry most involved in land use management is the Ministry of Housing, rather than the Ministry of Agriculture. It primarily determines who gets how much

land, when, and under what conditions. Generally, public land is available free after a five-year grace period during which a farmer must show enough improvement of the land to satisfy the Ministry that he is a serious, and preferably a full-time, farmer. The size of the grant can be anywhere between 10 and 100 or more hectares. There are cases where applicants have waited years without any ruling on their application to use public land.

E-14 By the end of 1991, of a total 124,165 plots distributed throughout Oman, only 4.3 percent were for agricultural use, while 87 percent were for residential use. The remainder were used for commercial, industrial, and government purposes.

Other Input Subsidies

E-15 Like MOCI, the Ministry of Agriculture and Fisheries (MOAF) administers an incentive program to encourage farmers to introduce modern water-efficient irrigation systems. Total appropriations under the current Fourth Five-year Plan (1991-1995), including projects started during the previous Third Plan, amount to more than RO 12 million.

E-16 The support program for farmers and fishermen is similar to that for industries, giving preference to small operators and Omani graduates. It involves capital grants for irrigation equipment, boats, motors, lange lines, nets, storage facilities, seeds, fertilizers, animal feed, poultry and animal production, etc. These grants and loans are handled by OBAF on behalf of MOAF. But, again, appropriations for these purposes are very modest, e.g., only RO 1.6 is requested annually for support to the fisheries.

E-17 Industrial subsidies are provided or authorized by MOCI in many other forms: exemption from custom duties on equipment and raw materials; tariff protection against imported competing products; free feasibility studies; support for commercial advertising; preferred utility rates (higher levels of subsidization); and, for those who qualify, exemption from all or part of current and future business income taxes.

Labor Subsidies

E-18 The Government subsidizes the employment of Omanis in the private sector, by paying employers part of their salaries while they are under training or the cost of training in Oman or outside Oman, whichever is smaller. The source of financing for this subsidy is a progressive training tax (2 to 6 percent of the non-Omani wage bill) imposed on businesses, based on the number of expatriates employed. The objective of this tax subsidy package is to encourage the replacement of non-Omani by Omani labor in the private sector. But, given the current distortion in the wage structure (a 2:1 Omani/non-Omani wage differential), subsidizing the employment of Omani labor is an inefficient way of achieving this objective.

Output Subsidies

Tariffs

E-19 Tariffs are imposed to protect locally produced products from foreign competition. At present, 18 products are protected in this way, with the level varying from 20 to 50 percent (normal import tariffs average 5 percent). They include cement, plastics, detergents, vegetable oil, paint, bananas and limes (100 percent). In 1991, the value of this form of subsidy to local producers (assuming an average 20 percent protection rate minus the 5 percent normal rate) is 15 percent, times RO 28.5 million worth of competing foreign imports, is estimated at RO 4.3 million. So in fact local producers charged equivalent prices that included the 15% protection premium. In other words, local producers charged 15 percent more than they could have charged without protection. That extra charge is in fact an indirect subsidy on local production. While government revenue increases by the amount of the tariff on competing imports the consumers pay most of it back to the importers; and in addition, they pay the local producer's indirect production subsidy. Therefore, the real cost to Omani consumers is much larger than the estimated RO 4.3 million that the Government collects as tariffs on protected goods.

Local Product Preference

E-20 Output subsidization in the form of preferential treatment to local products in Government purchases is legally exercised in Oman as well as in all other GCC countries. This preference amounts to a price premium of 10 percent over foreign and 5 percent over GCC-originating competitive products. In reality, the price premium could be much higher in the case of foreign competitive products, as a duty would be added before the 10 percent premium is assessed. In 1991, the Government purchased RO 25 million worth of domestic products (minimum of 40 percent domestic value added). The 10 percent premium would represent a subsidy of about RO 2.5 million.

Export Guarantees

E-21 The program of export credit guarantees against payment default by foreign buyers, which started in 1991, is, as noted, administered by ODB. The scheme includes, also, an export finance subsidy to enable Omani companies to reduce their costs of export lending. A local value added content of 40 percent or more is required to qualify for export guarantees or for interest subsidies. Following modest budget support of RO 0.5 million in 1991, such support is estimated to triple to RO 1.5 million during 1992-1994, and to quadruple to RO 2.0 million by 1995, adding up to an estimated RO 7 million by the end of the Fourth Plan.

GOVERNMENT POLICIES GIVING PREFERENCES TO OMANIS

F-1 Civil Service Preference. The granting of preferential status to Omanis in recruitment to the civil service is apparent in the very high Omanization ratio for the public sector (67 percent in 1990) compared with that for the overall economy (42 percent).

F-2 Acceptance of Lower Qualifications. The Government's acceptance of lower qualifications for given positions in the case of Omanis is pervasive. Data pertaining to required qualifications for the various grades in the top and second civil service groups (Table 9.A1) indicate that less experience or lower academic qualifications are accepted in the case of Omani applicants. For a Group 1, Grade 3, Level A position, for example, a Doctorate and seven years experience is required in the case of an expatriate while a Doctorate and only four years experience is required in the case of an Omani. For Group 2, Grade 4, Level A, a Bachelor's degree is the eligibility requirement for a non-Omani whereas a general secondary certificate or its equivalent is accepted in the case of an Omani. For the highest salary special positions (Table 9.A2), the preference given Omanis is significantly reduced, with an Omani being allowed only a year's less experience than a non-Omani.

F-3 Higher Civil Service Salaries for Civil Servants. Precise comparisons between civil service and private sector salaries are not feasible because public servants are classified by group, grade and level, whereas private sector employees are (loosely) classified by occupation. Nonetheless, certain broad comparisons may be made. Positions in the top group of the public service require a university degree as a minimum qualification. The mean of the means of starting and maximum salaries plus allowances for the first (top) and sixth (bottom) group is RO 1,226 (Table 9.A3). This compares with an average of RO 425 in 1991 for private sector employees falling within the International Standard Classification of Occupations (ISCO) classifications 0-1 to 0-9, the most highly paid category of private sector university graduates (Table 9.A4). The most highly paid private sector classification was economists, earning, in 1991, RO 784/month. The most highly paid category of public servant (Special Category A) starts at RO 1,658 plus RO 534 in allowances.

F-4 At the other end of the scale, the mean of the starting and maximum salaries, including allowances, of the most lowly paid category of public servants was RO 151/month. This was exceeded among non-Omanis working in the private sector in only a few skill categories and by professional, managerial and supervisory employees (Tables 9.A3-9.A4). There appears to be a very large element of rent in public sector salaries.[1]

1/ Informed Omani officials have indicated that the extent of public/private sector salary differentials suggested by these comparisons overstates the true situation because the data pertaining to the private sector understate salaries and allowances for comparably qualified individuals. There is evidently a need for a detailed study comparing public and private salary and allowance scales for people with similar qualifiations and experience.

F-5 Higher Minimum Wages for Omanis in the Private Sector. Ministerial Decree No. 87/89 set the minimum wage for Omani graduates of secondary schools or equivalent at RO 150/month plus RO 50 in allowances and the minimum wage for those not completing secondary education or its equivalent atRO 80 plus RO 20 in allowances. By comparison, the general minimum wage in the private sector was set at RO 50/month.

F-6 Industry Omanization Incentives. For borrowers wishing to avail themselves of industrial incentives under the Law for the Organization and Encouragement of Industry (1978) and amendments thereto, Omani employees must represent at least 25 percent of the establishment's workforce (Article 30). Similarly, an Omanization ratio of 25 percent or more is a condition of eligibility for Ministry of Industry and Commerce zero-interest loans (Royal Decree 10/91). The banking sector is required to achieve an Omanization rate of 90 percent by the end of 1993. It had achieved an 80 percent rate by the end of 1992 but anticipates considerable difficulty in raising the rate by an additional 10 percentage points. Furthermore, problems remain with the performance of some of the Omanis already employed. The insurance industry sets its own targets, raising the Omanization ratio 20 percentage points every two years.

Grade	For Omanis	For Non-Omanis
3	A. Doctorate + 4 years of experience B. Master's degree + 6 years of experience C. Bachelor's degree + 11 years of experience D. Post-general secondary diploma with no less than two years of study + 12 years of experience E. General secondary certificate or its equivalent + 15 years of experience	A. Doctorate + 7 years of experience B. Master's degree + 11 years of experience C. Bachelor's degree + 15 years of experience
4	A. Doctorate + 2 years of experience B. Master's degree + 6 years of experience C. Bachelor's degree + 8 years of experience D. Post-general secondary diploma with no less than 2 years of study + 10 years of experience E. General secondary certificate or its equivalent + 12 years of experience	A. Doctorate + 4 years of experience B. Master's degree + 8 years of experience C. Bachelor's degree + 12 years of experience
5	A. Doctorate B. Master's degree + 4 years of experience C. Bachelor's degree + 6 years of experience D. Post-general secondary diploma with no less than 2 years of study + 8 years of experience E. General secondary certificate or its equivalent + 10 years of experience	A. Doctorate + 2 years of experience B. Master's degree + 6 years of experience C. Bachelor's degree + 10 years of experience
6	A. Master's degree + 2 years of experience B. Bachelor's degree + 4 years of experience C. Post-general secondary diploma with no less than 2 years of study + 6 years of experience D. General secondary certificate or its equivalent + 8 years of experience	A. Doctorate B. Master's degree + 4 years of experience C. Bachelor's degree + 8 years of experience

Annex Table 9.A1
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	For Omanis	For Non-Omanis
1	A. Master's degree B. Bachelor's degree + 2 years of experience C. Post-general secondary diploma of no less than 2 years study + 4 years of experience D. General secondary certificate or its equivalent + 6 years of experience E. Preparatory certificate + 10 years of experience	A. Master's degree + 2 years of experience B. Bachelor's degree + 6 years of experience C. Post-secondary diploma with no less than 2 years study + 10 years of experience D. General secondary or its equivalent + 12 years of experience
2	A. Bachelor's degree B. Post-general secondary diploma of no less than 2 years study + 2 years of experience C. General secondary certificate + 4 years of experience D. Preparatory certificate or its equivalent + 8 years of experience	A. Master's degree B. Bachelor's degree + 4 years of experience C. Post-general secondary diploma with no less than 2 years study + 8 years of experience D. General secondary certificate or its equivalent + 10 years of experience
3	A. Post-general secondary diploma with no less than 2 years study B. General secondary certificate or its equivalent + 2 years of experience C. General preparatory certificate or its equivalent + 6 years of experience D. Primary certificate or its equivalent + 10 years of experience E. Experience of no less than 20 years	A. Bachelor's degree + 2 years of experience B. Post-general secondary diploma with no less than 2 years study + 6 years of experience C. General secondary certificate or its equivalent + 8 years of experience
4	A. General secondary certificate or its equivalent B. General preparatory certificate or its equivalent + 4 years of experience C. Primary certificate or its equivalent + 8 years of experience D. Experience of no less than 16 years	A. Bachelor's degree B. Post-general secondary diploma with no less than 2 years study + 4 years of experience C. General secondary certificate or its equivalent + 6 years of experience

	For Omanis	For Non-Omanis
5.	A. General preparatory certificate or its equivalent + 2 years of experience B. General primary certificate or its equivalent + 6 years of experience C. Experience of no less than 12 years	A. Post-general secondary diploma with no less than 2 years study + 2 years of experience B. General secondary certificate or its equivalent + 4 years of experience C. Preparatory certificate or its equivalent + 9 years of experience
6	A. Preparatory certificate or its equivalent B. Primary certificate or its equivalent + 4 years of experience C. Experience of no less than 10 years	A. Post-general secondary diploma with no less than 2 years study B. General secondary certificate or its equivalent + 2 years of experience C. Preparatory certificate + 7 years of experience
7	A. Primary certificate or its equivalent + 2 years of experience B. Experience of no less than 8 years	A. General secondary certificate or its equivalent B. Preparatory certificate + 4 years of experience
8	A. Primary certificate or its equivalent B. Typing certificate C. Experience of no less than 6 years	A. Preparatory certificate or its equivalent + 2 years of experience

Annex Table 9.A2
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Sultanate of Oman

Office of Personnel Affairs

Annex No. 1 to Circular No. 41/82

Minimum Qualifications and Experience Required

for Omanization of Non-Omani Special Schedule Posts

Salary Category	Required Qualifications and Experience for Omanization	
	Technical Qualifications Holders	Non-technical Qualifications Holders
A.	- Doctorate + 11 years of experience - Master's degree + 14 years of experience - Bachelor's degree + 21 years of experience	- Doctorate + 12 years of experience - Master's degree + 15 years of experience - Bachelor's degree + 22 years of experience
B.	- Doctorate + 9 years of experience - Master's degree + 12 years of experience - Bachelor's degree + 18 years of experience	- Doctorate + 10 years of experience - Master's degree + 13 years of experience - Bachelor's degree + 19 years of experience
C.	- Doctorate + 7 years of experience - Master's degree + 10 years of experience - Bachelor's degree + 15 years of experience	- Doctorate + 8 years of experience - Master's degree + 11 years of experience - Bachelor's degree + 16 years of experience
D.	- Doctorate + 5 years of experience - Master's degree + 8 years of experience - Bachelor's degree + 12 years of experience	- Doctorate + 6 years of experience - Master's degree + 9 years of experience - Bachelor's degree + 13 years of experience
E.	- Doctorate + 3 years of experience - Master's degree + 6 years of experience - Bachelor's degree + 9 years of experience	- Doctorate + 4 years of experience - Master's degree + 7 years of experience - Bachelor's degree + 10 years of experience

First Group	
Second grade	University
Third grade	
Fourth grade	
Fifth grade	
Sixth grade	
Second Group	
First grade	Master's degree: Bachelor of Medicine or Engineering
Second grade	Bachelor's degree
Third grade	Post-secondary diploma
Fourth grade	General Secondary
Fifth grade	Between preparatory and secondary
Sixth grade	Preparatory
Seventh grade	Part of preparatory
Eighth grade	Primary
Third Group	
Third grade	Can read and write
Fourth grade	Can read and write
Fifth grade	No schooling
Sixth grade	No schooling
Seventh grade	No schooling
Eighth grade	No schooling

TR's Note: Source text of this page is handwritten.

Annex Table 9.A3
Page 1 of 2

General Schedule and Special Category Posts
Grades, Salaries and Allowances

Group	Grade	Starting Salary	Maximum Salary	Annual Raise	Housing Allowance	Electricity Allowance	Water Allowance	Telephone Allowance	Nature of job Allowance	Transport Allowance	Fixed supplemental Allowance	Other Allowances
	Special	1,200	1,200	-	400	70	30	50	-	-	-	
First	First	800	1,200	40	400	50	20	30	-	15%	Housing allowance for non-Omani staff in First Group, and First and Second Grades of Second Group is RO 100 in Muscat, Salala, Mesendam and El-Buraimi; and RO 50 in other regions.	
	Second	545	710	15	330	36	8	15	-	15%		
	Third	497	662	15	330	36	8	15	-	15%		
	Fourth	448	580	12	330	36	8	15	-	15%		
	Fifth	412	544	12	250	24	6	15	-	15%		
	Sixth	376	508	12	250	24	6	15	-	15%		
Second	First	327	437	10	250	24	6	15	-	15%	Housing allowance for non-Omani staff in Third Grade or lower of the Second Group is RO 60 in Muscat, Salala, Mesendam and El-Buraimi; and RO 30 in other regions.	
	Second	279	356	7	180	12	5	-	-	30		
	Third	218	295	7	180	12	5	-	-	30		
	Fourth	194	249	5	70	12	4	-	-	30		
	Fifth	170	225	5	50	10	4	-	-	30		
	Sixth	146	201	5	40	9	3	-	-	30		
	Seventh	121	176	5	30	8	2	-	-	30		
	Eighth	104	148	4	30	8	2	-	-	30		
Third	First	170	360	6	25	6	2	-	-	30	-	-
	Second	150	260	6	25	6	2	-	-	30	-	-
	Third	130	240	6	25	6	2	-	-	30	-	-
	Fourth	109	197	4	25	6	2	-	-	30	-	-
	Fifth	92	180	4	25	6	2	-	-	30	-	-
	Sixth	80	146	3	25	6	2	-	10	30	8	-
	Seventh	68	134	3	25	6	2	-	-	30	-	-
	Eighth	55	121	3	25	6	2	-	-	30	-	-
Special Category	A	1,658	Unlimited	50	400	36	8	15	-	75	Housing allowance for non-Omani Special Schedule Staff is RO 100 in Muscat, Salala, Mesendam and El-Buraimi; and RO 50 in other regions.	
	B	1,271	1,658	40	400	36	8	15	-	75		
	C	981	1,271	30	400	36	8	15	-	75		
	D	787	981	20	400	36	8	15	-	75		
	E	605	787	15	400	36	8	15	-	75		

Special Schedule for Grades and Salaries

Category	Starting Salary RO	Annual Raise RO	Maximum Salary RO
A.	1,658	50	Unlimited
B.	1,271	40	1,658
C.	981	30	1,271
D.	787	20	981
E.	605	15	787

Note: Above schedule was amended by Royal Decree No. 89/80 amending both grade and salary schedules.

عدد بطاقات العمل التي منحت للمشتغلين غير العمانيين في القطاع الخاص
حسب المهنة ومتوسطات الاجور الشهرية

No. of Labour Cards issued to Non-Omanis Working in the Private Sector by Occupation and Average Monthly Salary

OCCUPATION	عدد بطاقات العمل NO. OF LABOUR CARDS 1991	1990	1989	متوسط الراتب الشهري AVERAGE MONTHLY SALARY R.O. ر.ع 1991	1990	1989	المجموعة المهنية الرئيسية	التصنيف الدولي ISCO Code
								0
- PHYSICAL SCIENTISTS AND RELATED TECHNICIANS	539	462	405	732	720	695	- علماء الفيزياء والكيمياء والجيولوجيا والارصاد والفلك والمتصلون بهم	0-1
- ARCHITECTS AND ENGINEERS	5028	4313	4682	437	430	444	- مهندسون ومعماريون والمتصلون بهم	0-2
- ARCHITECTURAL AND ENGINEERING TECHNICIANS	2190	1878	1876	273	269	297	- فنيو الهندسة ، مساحون ، رسامون	0-3
- AIRCRAFT AND SHIP OFFICERS	66	57	68	558	549	642	- ضباط السفن والطائرات	0-4
- LIFE SCIENTISTS AND RELATED TECHNICIANS	90	77	100	189	186	201	- علماء الاحياء والمتصلين بهم	0-5
- MEDICAL, DENTAL, VETERINARY AND RELATED WORKERS	1010	866	815	281	276	290	- اطباء (بشري ، بيطري) اطباء اسنان	0-6
	450	386	359	166	163	173	- الممرضون والمتصلون بهم	0-7
- STATISTICIANS, MATHEMATICIANS, SYSTEM ANALYSTS AND RELATED WORKERS	604	518	416	403	396	423	- احصائيون ورياضيون ومحللو النظم	0-8
- ECONOMISTS	12	10	8	784	771	403	- اقتصاديون	0-9
								1
- ACCOUNTANTS	7310	5638	5642	169	175	107	- محاسبون	1-1
- JURISTS	123	95	97	442	457	501	- قانونيون	1-2
- TEACHERS	1260	972	817	296	306	312	- مدرسون	1-3
- WORKERS IN RELIGION	266	205	183	108	112	107	- رجال الدين والمتصلون بهم	1-4
- PUBLIC RELATION OFFICERS, JOURNALISTS AND RELATED WORKERS	45	35	31	297	307	220	- علاقات عامة ،كتاب صحفيون والمتصلين بهم	1-5
- SCULPTORS, PAINTERS, PHOTOGRAPHERS AND RELATED CREATIVE ARTISTS	1366	1054	1000	100	103	113	- مصورون ونحاتون والمتصلون بهم	1-6
- COMPOSERS AND PERFORMING ARTISTS	28	22	28	317	328	441	- موسيقيون والمتصلون بهم	1-7
- ATHLETES, SPORTSMEN AND RELATED WORKERS	174	134	106	241	249	274	- رياضي محترف ، ومدرب رياضي واخرون	1-8
- PROFESSIONAL, TECHNICAL AND RELATED WORKERS N.E.C	142	109	84	307	317	237	- فنيون اخرون غ.م.س	1-9
								2
- LEGISLATORS, ADMINISTRATORS	-	-	2	-	-	1089	- مشرع قوانين ، مسئول اداري	2-0
- MANAGERS	4739	4044	4366	524	526	534	- مدراء وكبار الاداريين	2-1
- EXECUTIVE OFFICERS	-	-	-	-	-	-	- موظف تنفيذي	2-5

Contd. 8-5 تابع

OCCUPATION	عدد بطاقات العمل NO. OF LABOUR CARDS 1991	1990	1989	متوسط الراتب الشهري AVERAGE MONTHLY SALARY R.O. ر.ع 1991	1990	1989	المجموعة المهنية الرئيسية	التصنيف الدولي ISCO Code
								3
- CLERICAL SUPERVISORS	63	52	38	388	397	400	- مشرفوا الكتبة والمتصلون بهم	3-0
- EXECUTIVE OFFICERS	6	5	7	102	105	84	- موظفون تنفيذيون	3-1
- STENOGRAPHERS, TYPISTS AND CARD AND TAPE PUNCHING MACHINE OPERATORS	2035	1689	1909	189	194	201	- طباعون والمتصلون بهم	3-2
- BOOK-KEEPERS, CASHIERS AND RELATED WORKERS	739	613	736	172	177	186	- ماسكو الدفاتر وامناء الصندوق	3-3
- COMPUTING MACHINE OPERATORS	275	228	180	190	195	106	- مشغلو اجهزة الحسابات	3-4
- TRANSPORT AND COMMUNICATIONS SUPERVISORS	23	19	27	242	248	280	- مشرفوا نقل	3-5
- CONDUCTORS	-	-	-	-	-	-	- محصل	3-6
- MAIL DISTRIBUTION CLERKS	-	-	-	-	-	-	- مراسلون وموزعو البريد والمتصلون بهم	3-7
- TELEPHONE AND TELEGRAPH OPERATORS	102	85	95	187	192	195	- مشغلو التليفون والتلغراف	3-8
- CLERICAL AND RELATED WORKERS	4635	3846	4804	149	153	164	- كتب اخرون والمتصلون بهم	3-9
								4
- COMMERCIAL MANAGERS - SALES MANAGERS	2870	2121	2326	215	260	272	- مدير تجاري - مدير مبيعات	4-0
- SELF WORKER MANAGING HIS OWN WHOLESALE AND RETAIL BUSINESS	-	-	-	-	-	185	- صاحب عمل يدير عمله بنفسه : تجارة الجملة والتجزئة.	4-1
- SALES SUPERVISORS AND BUYERS	4200	3103	2554	148	178	181	- مراقبو المبيعات	4-2
- TECHNICAL SALESMEN, COMMERCIAL TRAVELLERS AND MANUFACTURERS' AGENTS	1749	1292	1197	85	102	108	- بائع فني ، مندوب وكيل منتجات وغيرهم	4-3
- INSURANCE, REAL ESTATE, SECURITIES AND BUSINESS SERVICE SALESMEN AND AUCTIONEERS	36	27	12	283	341	328	- مندوبو شركات التامين ووسطاء العقارات ومماسرة	4-4
- SALESMEN, SHOP ASSISTANTS AND RELATED WORKERS	39413	29121	26216	2 59	71	73	- باعة اخرون يشتغلون في البيع	4-5
- SALES WORKERS N.E.C	40	29	17	80	96	104	- عمال بيع اخرون غ.م.س	4-9
								5
- MANAGERS AND WORKING PROPRIETORS	373	267	228	180	177	204	- مدراء التموين واصحاب العمل	5-0

Contd. 8-5 تابع

OCCUPATION	عدد بطاقات العمل NO. OF LABOUR CARDS			متوسط الراتب الشهري AVERAGE MONTHLY SALARY R.O. ر.ع			المجموعة المهنية الرئيسية	التصنيف الدولي ISCO Code
	1991	1990	1989	1991	1990	1989		
- CATERING AND LODGING SERVICES	197	141	352	106	104	96	- العاملون في خدمات التموين	5-1
- HOUSE-KEEPING AND RELATED SERVICES SUPERVISORS	50	36	60	115	113	129	- مسئول الخدم في المنزل ، مشرف موظفين فنادق	5-2
- COOKS, WAITERS, BARTENDERS AND RELATED WORKERS	25501	18253	15885	67	66	69	- طباخون وحرسولات	5-3
- MAIDS AND RELATED HOUSE-KEEPING SERVICE WORKERS N.E.C	20914	14970	10200	53	52	66	- مربيون وخدم الفنادق وغيرهم	5-4
- CLEANERS AND RELATED WORKERS	5217	3734	3849	57	56	58	- مشرفو المباني ومنظفوها وغيرهم	5-5
- LAUNDERERS AND DRY-CLEANERS AND PRESSERS	5664	4054	3168	59	58	60	- مشتغلون في الغسيل والكي	5-6
- HAIR-DRESSERS, BARBERS, BEAUTICIANS AND RELATED WORKERS	4445	3182	2500	67	66	69	- حلاقون ومصففو الشعر والمتصلون بهم	5-7
- PROTECTIVE SERVICE WORKERS	73	52	51	328	322	399	- العاملون في خدمات الامن والحراسة	5-8
- SERVICE WORKERS N.E.C.	418	299	324	67	66	63	- العاملون في الخدمات الذين غ.م.س	5-9
								6
- FARM MANAGERS AND SUPERVISORS	142	96	65	158	150	159	- مدراء ومشرفو المزارع	6-0
- FARMERS	42023	28461	21986	57	54	55	- مزارعون	6-1
- AGRICULTURAL AND ANIMAL HUSBANDRY WORKERS	701	475	390	56	53	68	- عمال زراعة وتربية مواشي	6-2
- FORESTRY WORKERS	-	-	36	-	-	98	- حطابون	6-3
- FISHERMEN, HUNTERS AND RELATED WORKERS	-	-	88	-	-	93	- صيادو اسماك وغيرهم	6-4
								7
- PRODUCTION SUPERVISORS AND GENERAL FOREMEN	11253	8701	8788	192	194	207	- مشرفوا ومراقبو الانتاج	7-0
- MINERS, QUARRYMEN, WELL DRILLERS AND RELATED WORKERS	433	335	385	439	444	436	- عمال المناجم وحفارو الابار والمتصلين بهم	7-1

Contd. 8-5 تابع

OCCUPATION	عدد بطاقات العمل NO. OF LABOUR CARDS 1991	1990	1989	متوسط الراتب الشهري AVERAGE MONTHLY SALARY R.O. ر.ع 1991	1990	1989	المجموعة المهنية الرئيسية	التصنيف الدولي ISIC Code
- METAL PROCESSORS	380	294	347	8.8	89	105	- عمال التعدين	7-2
- WOOD PREPARATION WORKERS AND PAPER MAKERS	21	16	15	106	107	114	- عمال تجهيز الخشب والورق	7-3
- CHEMICAL PROCESSERS AND RELATED WORKERS	57	44	53	243	246	251	- مشتغلون في اعمال كيميائية وغيرهم	7-4
- SPINNERS, WEAVERS, KNITTERS, DYERS AND RELATED WORKERS	362	280	121	50	51	70	- مشتغلون في الغزل والنسيج والحياكة والمتصلون بهم	7-5
- TANNERS, FELLMONGERS AND PELT DRESSERS	-	-	11	-	-	86	- عمال الدباغة	7-6
- FOOD AND BEVERAGE PROCESSORS	4552	3519	3266	64	65	66	- العاملون في اعداد الاغذية والمشروبات	7-7
- TOBACCO LEEAVES PROCESSING	32	25	35	61	62	68	- تجهيز اوراق التبغ	7-8
- TAILORS, DRESSMAKERS, SEWERS, UPHOLSTERERS AND RELATED WORKERS	29622	22904	17243	61	62	64	- خياطون ومدجون والمتصلون بهم	7-9
								8
- SHOEMAKERS AND LEATHER GOODS MAKERS	88	74	53	79	82	64	- صناع الاحذية والمنتجات الجلدية	8-0
- CABINET-MAKERS AND RELATED WOOD WORKERS	4110	3446	3307	63	63	64	- العاملون في صناعة الخشب والمتصلون بهم	8-1
- STONE CUTTERS AND CARVERS	91	76	93	61	63	60	- قاطعو وحفار والصخر والاحجار	8-2
- BLACKSMITHS, TOOLMAKERS AND MACHINE TOOL OPERATORS	6967	5842	5976	62	63	65	- حدادون ومشغلو مكائن	8-3
- MACHINERY FITTERS, MACHINE ASSEMBLERS AND PRECISION INSTRUMENT MAKERS	10763	9025	8845	88	91	97	- مركبو مكائن وصانعو الادوات الدقيقة	8-4
- ELECTRICAL FITTERS AND RELATED ELECTRICAL AND ELECTRONICS WORKERS	10991	9216	9285	74	76	78	- العاملون في تصليح وتثبيت وتركيب الاجهزة كهربائية	8-5
- BROADCASTING STATION, SOUND EQUIPMENT OPERATORS AND CINEMA PROJECTIONISTS	51	43	27	97	100	72	- مشغلو اجهزة الصوت والسينما والاذاعة وغيرها	8-6
- PLUMBERS, WELDERS, SHEET METAL, STRUCTURAL METAL PREPARERS AND ERECTORS	9060	7597	7429	68	70	70	- سباكون ، لحامون وصلحو ومركبوا الهياكل الحديدية والمتصلون بهم	8-7
- JEWELLERY AND PRECIOUS METAL WORKERS	1303	1093	1237	81	84	85	- عمال الصياغة والمعادن الثمينة	8-8
- GLASS FORMERS, POTTERS AND RELATED WORKERS	369	309	219	72	74	76	- العاملون في صناعات الزجاج والخزف والمتصلين بهم	8-9

Contd. 8-5 تابع

OCCUPATION	عدد بطاقات العمل NO. OF LABOUR CARDS			متوسط الراتب الشهري AVERAGE MONTHLY SALARY R.O. ر.ع			المجموعة المهنية الرئيسية	التصنيف الدولي ISCO Code
	1991	1990	1989	1991	1990	1989		
								9
- RUBBER AND PLASTIC PRODUCT MAKERS	1255	1122	880	63	65	65	- العاملون في منتجات المطاط والبلاستيك	9-0
- PAPER AND PAPERBOARD PRODUCT MAKERS	27	24	14	72	74	66	- صانع ورق وصانع ورق مقوى وآخرون	9-1
- PRINTERS AND RELATED WORKERS	452	404	387	101	104	104	- العاملون في المطابع	9-2
- PAINTERS	5653	5053	4987	60	62	63	- صباغون	9-3
- PRODUCTION AND RELATED WORKERS N.E.C	6972	6232	6682	58	59	59	- مشتغلون في الانتاج والمتصلون بهم غ.م.س	9-4
- BRICK-LAYERS, CARPENTERS AND OTHER CONSTRUCTION WORKERS	41382	36988	40615	58	60	62	- عمال البناء والمتصلون بهم	9-5
- STATIONARY ENGINE AND RELATED EQUIPMENT OPERATORS	2169	1939	1424	102	105	106	- مشغلو معدات ومكائن ثابتة	9-6
- MATERIAL HANDLING, RELATED EQUIPMENT, OPERATORS, DOCKERS AND FREIGHT HANDLERS	1443	1290	1563	84	86	88	- مشغلو اجهزة التحميل (حمالون)	9-7
- TRANSPORT EQUIPMENT OPERATORS	12772	11415	13071	82	84	84	- مشغلو معدات النقل	9-8
- LABOURERS N.E.C.	1630	1457	1617	68	70	78	- عمال غ.م.س	9-9
TOTAL	351606	275888	258360	-	-	-	الحصلة	

GOVERNMENT FOURTH PLAN FOLLOW-UP OMANIZATION MEASURES

Since the preparation of the Fourth Plan, the Government has considered or implemented a number of measures to implement and extend its overall labor market strategy and Omanization program. These may be summarized under five headings: (1) institutional/ administrative measures; (2) measures to strengthen the collection and analysis of data; (3) general education and training measures; (4) Omanization/training in the public sector; and (5) Omanization/training in the private sector.

Institutional/Administrative Measures

- The Supreme Committee for Labor and Vocational Training was established by Royal Decree No. 31/91;

- The Vocational and Training Authority was established by Royal Decree No. 115/91;

Measures to Strengthen the Collection and Analysis of Data

- The General Secretariat of the Development Council implemented measures to collect Omani labor market data from public bodies and made preparations to carry out a general census of population, households and establishments in 1993;

- The VTA initiated surveys of private sector training requirements for employees in technical and industrial areas and of Omanization operations and training in 100 large firms.

- The Development Council implemented measures to strengthen the Manpower Planning Unit of its General Secretariat;

General Education and Training Measures

- The Development Council passed resolutions to implement measures to strengthen the training and employment of women;

- The Supreme Committee for Labor and Vocational Training and the Development Council examined a range of issues relating to technical education, preparatory schools, vocational training, and the output of Sultan Qaboos University;

- The VTA was requested to reconsider the quality of the evening courses it was proposing to offer to enable participants to meet labor market needs;

- A request was made to the German Agency for Technical Cooperation (GTZ) for assistance in preparing an assessment of, and an action plan to address the problems facing, the vocational training institutes[1];

- The Development Council approved projects costing RO 10.9 million to improve vocational institute facilities;

- The Supreme Committee approved the conversion of a number of vocational centers into short-term training centers and others into technical colleges, and an expansion of the secondary technical education system;

Omanization/Training in the Public Sector

- The Development Council passed resolutions to formulate a Ministry of Civil Service national training plan and, under the Ministry of Civil Service Plan, to establish a project, with a budget of RO 10 million, for the Omanization of posts held by expatriates;

- The Government and the Omani-American Joint Commission established a US$48 million program of scholarships and training to support the Omanization of management and technical positions in the public service;

- The Government decided to provide a grant of RO 1.5 to RO 2 million to support the Institute of Public Administration's programs for training middle and senior management;

- A draft Royal Decree envisaged the attainment of a 25 percent Omanization rate during the four years following the establishment of a new hospital and within two years in existing hospitals;

Omanization/Training in the Private Sector

- By Decision No. 2/92, the Supreme Committee issued regulations governing career development and on-the-job training of Omanis by private sector firms.

- The Vocational Training Authority, by Decision No. 1/92, issued regulations governing private vocational training institutes and centers;

- The Vocational Training Authority, by Decision No. 4/92, issued regulations governing public reimbursement of approved private sector vocational training costs.

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[1] It is understood that this activity has led to the strengthening of technical education and the closing of some vocational training institutes.

The latter included provisions for the partial reimbursement of salaries paid to Omani trainees in accordance with the scheme set out in Table 9.A5 below:

Table 9.A5: On-the-Job Training Regulations

Stage	Gradution Level	Maximum training duration	Reimbursement as percentage of salary and allowances by training duration					
			Duration	%	Duration	%	Duration	%
I.	University and technical college level	18 months	1st 6 months	80	next 6 months	70	last 6 months	50
II.	General secondary and vocational training Institutes	2 years	1st year	80	next 6 months	70	last 6 months	50
III.	Preparatory, primary and droputs of two levels	3 years	1st 18 months	80	next 9 months	70	last 9 months	50

Source: Supreme Committee for Labor and Vocational Training

- The approval by the Sultan of foreign scholarships to retrain at public expense, for private sector employment, 145 unemployed Omani graduates;

- The Government established quantitative targets for Omanization in individual industrial sectors.

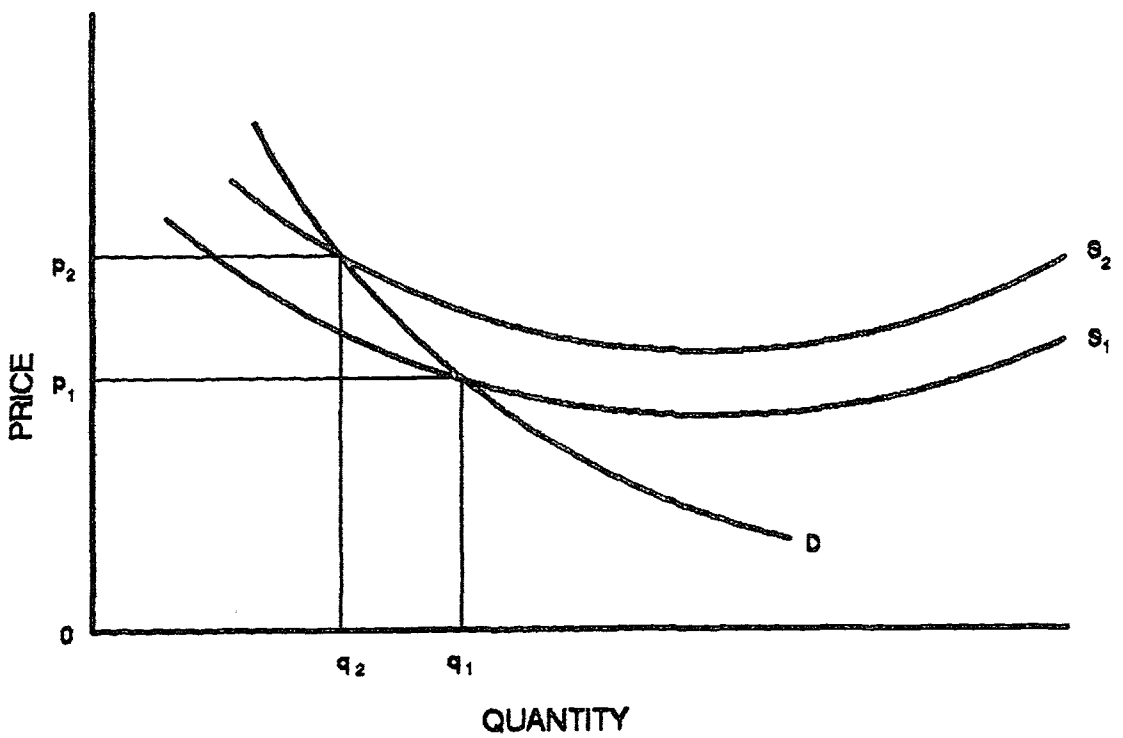
OMANIZATION - SUPPLEMENTARY ANALYSIS AND DATA

H-1 The purpose of this annex is to provide additional support for statements made in the text of Chapter 9 relating to the effects of imposing Omanization targets on firms, the external costs of expatriate consumption of scarce and subsidized resources, and the budgetary costs of Omanization.

The Effects of Imposing Omanization Targets on Firms in a Given Sector

H-2 Paragraph 9.19 notes that if the imposition of Omanization ratios on private firms entails placing workers with lower productivity in jobs with the same pay, the firms' average costs will be raised. If wage costs are proportional to output, average unit costs of production are increased by a given proportion, raising the firms' aggregate supply (average cost) curve (Chart 9.1).

Chart 9.A1: EFFECTS OF IMPOSING OMANIZATION RATIOS ON FIRMS

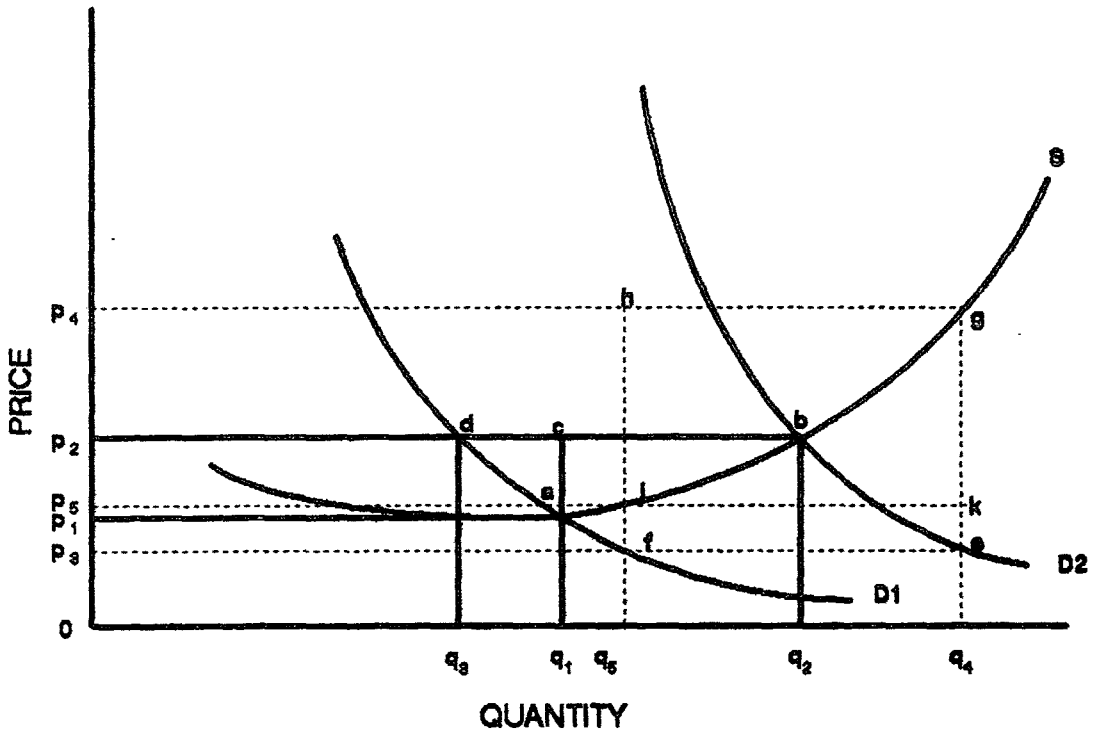


The resulting rise in price would reduce demand from q_1 to q_2. Consumers would pay more per unit and consume less. In the case of producers supplying both the domestic and foreign markets, some of the reduction in demand would probably come from foreign customers now able to meet their needs more cheaply elsewhere.

External Costs of Expatriate Consumption of Scarce and Subsidized Resources

H-3 Paragraph 9.33 noted that expatriate consumption of a scarce resource, such as water, imposes costs on Omanis that are increased if the product is subsididized. This situation is analyzed in Chart 9.2. It is assumed that rising demand for water leads to higher average costs of supply, as costly desalination plants are brought into operation to supplement natural water supplies, leading

Chart 9.A2: THEORETICAL SUPPLY OF, AND DEMAND FOR, WATER



supplies, to a rising supply curve for water, S. If Omani demand is represented by D_1 and it is assumed that water is competitively priced at its average cost of supply, the price of water is p_1 and Omanis pay a total of oq_1 ap_1 for the water, q_1, they consume. The addition of demand from expatriates shifts total demand to D_2 and the price to p_2. At the higher price, Omanis reduce their water consumption to q_3. Expatriates pay q_3 q_2 bd for their water and Omanis pay oq_3 dp_2. To compensate Omanis for their reduced consumption and increased price of water, expatriates should pay them p_1 acp_2.

H-4 If water is subsidized at price p_3, total demand is q_4 and expatriate demand is q_4 - q_5. Expatriates receive a subsidy equal to the difference between what they pay for their water (q_5q_4ef) and its cost of production (q_5q_4gh). However, expatriate demand has raised the averagage cost of supplying Omani (subsidized) demand from oq_5 ip_5 to oq_5hp_4. The difference (p_5ihp_4) should be added to the cost of meeting expatriate demand. The overall cost per expatriate should be collected from expatriates or their employers. This would raise the cost of expatriate labor, requiring a reduction in the numbers of expatriates to the point where their marginal productivity had risen to equality with their direct and external cost to Omanis.

Budgetary Costs of Public Service Omanization

H-5 Para 9.17 noted that the Fourth Plan allocated RO 40 million to the Government's program to increase Omanization of the public service. Table 9.A1 provides data on the related budgetary allocations.

Table 9.A1: OMANIZATION PROGRAM PROVISIONS

(RO)

Project Number and Name		Total Amount	Years				
			1991	1992	1993	1994	1995
Ministry of Health							
43/91	Pharmacist Assistants Institute in Muscat	1,627,520	1,627,520	-	-	-	-
44/91	Nursing Institute at Ibra	1,077,588	1,077,588	-	-	-	-
45/91	Nursing Institute at Nizwa	1,068,973	1,068,973	-	-	-	-
46/91	Nursing Institute at Sur	1,077,673	1,077,673	-	-	-	-
47/91	Nursing Institute at Salalah	1,078,973	1,078,973	-	-	-	-
48/91	Nursing Institute at Sohar	1,069,273	1,069,273	-	-	-	-
	Total	7,000,000	7,000,000	-	-	-	-
Ministry of Education							
86/91	Constructing and Operation the Educational Rehabilitation Institute	5,000,000	867,195	1,000,000	1,044,268	1,044,268	1,044,269
	Total	5,000,000	867,195	1,000,000	1,044,268	1,044,268	1,044,269
Ministry of Labor and Social Affairs							
01/92	Training 20 Omani Females	30,000	-	30,000	-	-	-
	Total	30,000	-	30,000	-	-	-
Ministry of Civil Service							
00/00	Provision of Training and Support for Omanization of Posts	10,000,000	-	2,500,000	2,500,000	2,500,000	2,500,000
	Total	10,000,000	-	2,500,000	2,500,000	2,500,000	2,500,000
	Grand Total	22,030,000	7,867,195	3,530,000	3,544,268	3,544,268	3,544,269
	Budget allocation	40,000,000	4,000,000	6,000,000	10,000,000	10,000,000	10,000,000
	Balance	17,970,000	(3,867,195)	2,470,000	6,455,732	6,455,732	6,455,731

Source: Ministry of Finance