

Report No. 7777-YAR

Yemen Arab Republic

Country Economic Memorandum

Agenda for Sustainable Growth during the Oil Era

(In Two Volumes) Volume I

November 7, 1989

Country Operations Division

Country Department III

Europe, Middle East and North Africa Region

FOR OFFICIAL USE ONLY



Document of the World Bank

This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without World Bank authorization.

CURRENCY EQUIVALENTS

Durrency Unit = Yemeni Rial (YR1) = 100 Fils

Yemeni Rials per US Dollar

<u>Period</u>	<u>End of Period</u>	<u>Period Average</u>
1972	4.6900	4.6900
1973	4.5750	4.6215
1974	4.5750	4.5750
1975	4.5625	4.5662
1976-1982	4.5625	4.5625
1983	4.6765	4.5785
1984	5.8600	5.3533
1985	6.4850	6.4143
1986	8.9900	7.3980
1987	8.9900	8.9900
1988	9.7600	9.7717

Source: IMF, International Financial Statistics

WEIGHTS AND MEASURES

1 km - kilometer	= 0.62 mile
1 t - metric ton	= 2,205 pounds

FISCAL YEAR

July 1 to June 30 prior to 1981.
January 1 to December 31 after 1981.

ABBREVIATIONS

bpd	Barrels per day
CPI	Consumer Price Index
GDP	Gross Domestic Product
GNP	Gross National Product
GNS	Gross National Savings
ICOR	Incremental Capital Output Ratio
HWC	High Water Council
MAF	Ministry of Agriculture and Forestry
MOLSA	Ministry of Labor and Social Affairs
OPEC	Organization of Petroleum Exporting Countries
PDRY	People's Democratic Republic of Yemen
REER	Real Effective Exchange Rate
TFYP	Third Five Year Plan
tpy	Tons per year
UNDP/ILO	United Nations Development Program/International Labor Office
YAR	Yemen Arab Republic
YGEC	Yemen General Electricity Corporation
YMA	Yemen Migrants Association

YEMEN ARAB REPUBLICAGENDA FOR SUSTAINABLE GROWTH DURING THE OIL ERAVOLUME ITable of ContentsPage No.

COUNTRY ECONOMIC DATA	
COUNTRY SOCIAL INDICATORS DATA SHEET	
PREFACE	
ABSTRACT AND EXECUTIVE SUMMARY	
SUMMARY AND CONCLUSIONS	i-vi
INTRODUCTION	1
<u>CHAPTER I . RECENT ECONOMIC DEVELOPMENTS 1985-89</u>	3
A . The Intensification of the Stabilization Program during 1985-86	3
B . The Relaxation of the Stabilization Program during 1987-89	10
<u>CHAPTER II . THE MEDIUM-TO-LONG-TERM PROSPECTS</u>	23
A . Macroeconomic Prospects	23
B . The Macroeconomic Framework	30
C . Sectoral Issues and Priorities	40
D . The Diversification Process: Tapping the Manufacturing Sector's Potential	46
ANNEX I . MACROECONOMIC PROJECTIONS	
ANNEX II . THE CAPITAL CONTENT OF OIL REVENUE	
MAP	

COUNTRY ECONOMIC DATA - YEMEN ARAB REPUBLIC

GNP PER CAPITA in 1987: US\$ 580 1/

NATIONAL ACCOUNTS - ANNUAL RATE OF GROWTH	1988	1983-87	1988			
	----	-----	----			
	(Yrln Mln)	(%, constant prices)				
GDP at Market Prices	57722	5.6	19.7			
Imports of GNFS	16537	-11.2	-0.2			
Exports of GNFS	9274	-10.9	591.1			
Consumption	57591	2.7	-1.2			
of which Government	11290	-3.2	24.8			
Investment	7395	-4.5	7.3			
Gross National Savings	3135	18.6	61.2			
GOVERNMENT FINANCE	1984	1985	1986	1987	1988	1988
	----	----	----	----	----	----
	-----Yrln Million -----					% of GDP
Current Receipts	4678	5341	7189	7631	12876	22.3
Grants	761	661	1838	1460	883	1.5
Current Expenditures	6189	6894	7801	9413	13480	23.4
Current Deficit (-) / Surplus (+)	-750	-892	1226	-322	280	0.5
Capital Expenditures	2882	2464	2923	5682	5747	10.0
Extrabudgetary Expenditures	977	1674	2163	2941	2017	3.5
Overall Deficit	-4609	-5030	-3859	-8946	-7484	-13.0
External Assistance, net	802	767	649	2347	2200	3.8
Domestic Financing, net	3807	4263	3210	6599	5284	9.2
MONEY CREDIT AND PRICES	1983	1984	1985	1986	1987	1988
	----	----	----	----	----	----
	-----Yrln Million Outstanding End Period-----					
Money Supply	15967	20365	24431	30652	33743	35832
Domestic Credit	15952	20895	25992	29778	35477	41509
Of which:						
Claims on Government	12332	16134	20431	23642	30241	35682
Claims on Private Sector	2722	3566	3989	4879	4203	4747
	-----Percentages-----					
Money Supply as % of GDP	73.0	82.3	78.9	80.1	76.1	62.1
Annual Increase in:						
Money Supply	23.6	27.5	20.0	25.5	10.1	6.2
Consumer Price Index	5.3	12.6	27.4	29.4	21.7	16.4

1/ World Bank Atlas Methodology.

COUNTRY ECONOMIC DATA - YEMEN ARAB REPUBLIC

BALANCE OF PAYMENTS (US\$ Mln)	1983	1984	1985	1986	1987	1988
	----	----	----	----	----	----
Exports of Goods, FOB	10	9	8	16	57	853
Imports of Goods, CIF	1796	1414	1106	868	1260	1311
Trade Balance	-1786	-1405	-1098	-851	-1203	-458
Non Factor Services, net	-99	-70	-91	-94	-197	-283
Transfers and Factor Income, net	1151	1018	767	604	716	217
Official Grants	189	143	103	241	160	91
Balance on Current Account	-545	-313	-319	-101	-524	-433
M & LT Capital, net	294	158	133	154	15	174
Disbursements on Loans	324	209	189	214	115	312
Repayments on Loans	30	51	56	60	100	138
Other Capital (incl. Errors & Omissions), net	34	34	25	141	456	-16
Overall Balance (- = deficit)	-216	-121	-161	194	-53	-275

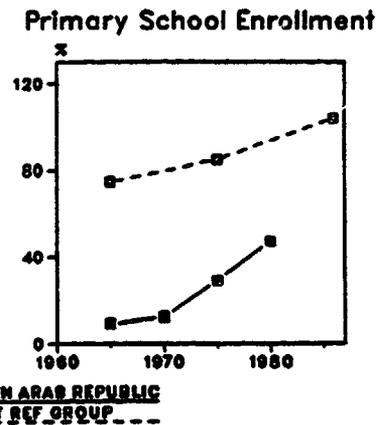
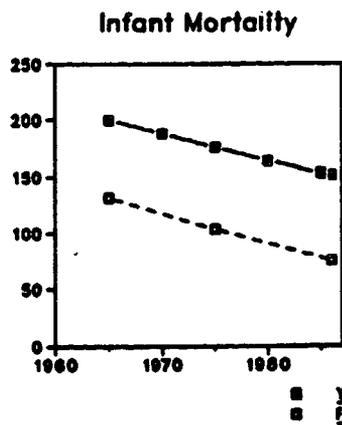
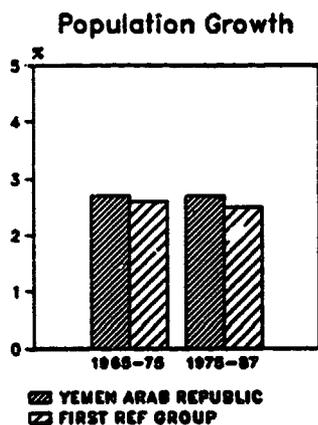
EXTERNAL PUBLIC DEBT (US\$ Mln)	1987	DEBT SERVICE RATIO	1987
	----		----
Total Outstanding	2976	Debt Service (US\$ Mln)	152
Of which Disbursed	2389	as % of Exports, incl Services and Workers' Remittances	10.9

October 1989.
cemstan4.

1988 SOCIAL INDICATOR DATA SHEET

YEMEN ARAB REPUBLIC

	Reference Groups (MRE)				
	1965	1975	Most Recent Estimate	Lower mid income	Upper mid income
AREA					
Total land area (thou sq km)	195.0	195.0	195.0		
Agricultural (% of total)	42.5	42.8	42.8		
GNP PER CAPITA (current US\$)	..	140	580	730	2,510
POPULATION AND VITAL STATISTICS					
Total population (thou)	4,659	6,075	8,430		
Urban pop. (% of total)	5	11	21	38	64
Population growth rate(%):					
Total		2.7	2.7	2.5	2.0
Urban		10.9	8.9	4.2	3.2
Life expect. at birth (yrs)	37	40	46	59	67
Population projections:					
Pop. in 2000 (thou)			12,338		
Stationary pop. (thou)			38,863		
Population density per sq km of agricultural land	56	73	93	404	775
Pop. age structure (%):					
0-14 yrs	43	47	46	42	36
15-64 yrs	54	50	51	55	59
65 and above	3	3	3	3	5
Crude birth rate (per thou)	49	49	49	35	27
Crude death rate (per thou)	27	25	20	10	8
Total fertility rate	6.8	6.8	6.8	4.7	3.5
Infant mort. rate (per thou)	200	176	151	76	43
Child death rate (per thou)	55	49	34	11	5
Family planning:					
Acceptors, annual (thou)	..	..	..	..	..
Users (% of married women)	..	..	2	..	..
FOOD, HEALTH AND NUTRITION					
Index of food production per capita (1979-81 = 100)	106	109	121	106	101
Per capita supply of:					
Calories (per day)	2,002	2,022	2,266	2,507	2,964
Proteins (grams per day)	65	63	65	56	76
Pop. per physician (thou)	58.2	37.6	7.1	7.5	1.3
Pop. per nurse (thou)	7.6	..	3.4	..	0.9
Pop. per hospital bed (thou)	..	1.3	2.2	1.1	..
Access to safe water (% of population):					
Total	..	4	31	..	..
Urban	..	30	100	..	..
Rural	..	2	21	..	..



1988 SOCIAL INDICATOR DATA SHEET

YEMEN ARAB REPUBLIC

	1965	1975	Most Recent Estimate	Reference Groups (MRE)	
				Lower mid income	Upper mid income
LABOR FORCE					
Total Labor Force (thou)	1,321	1,336	1,732		
Female (%)	7	10	13	29	30
Agriculture (%)	79	73	69	55	30
Industry (%)	7	8	9	16	30
Participation rate (%):					
Total	29	25	25	37	37
Male	54	48	45	51	51
Female	4	5	6	23	23
Age dependency (%)	85.1	99.7	95.9	82.7	71.8
HOUSING					
Average size of household:					
Total	..	5	..	..	..
Urban	..	5	..	..	..
Rural	..	5	..	..	..
Percentage of dwellings with electricity:					
Total	..	5	..	..	..
Urban	..	..	..	..	..
Rural	..	..	..	..	..
EDUCATION					
Enrollment rates:					
Primary: Total	9	29	67	104	105
Male	16	50	112	109	108
Female	1	7	22	99	102
Secondary: Total	0	4	10	42	57
Male	..	8	17	47	57
Female	..	1	3	36	56
Pupil-Teacher ratio:					
Primary	56	39	56	31	25
Secondary	15	16	20	23	18
Pupils reaching grade 6 (%)	..	31	57	72	65
INCOME, CONSUMPTION, AND POVERTY					
Energy consumption per cap. (kg of oil equivalent)	..	8	117	351	1,313
Percentage of private income received by:					
Highest 10% of households	..	..	..	..	..
Highest 20%	..	..	..	..	..
Lowest 20%	..	..	..	..	..
Lowest 40%	..	..	..	..	..
Est. absolute poverty income level (US\$ per capita):					
Urban	..	..	223	..	..
Rural	..	100	179	..	..
Est. pop. below absolute poverty income level (%)					
Urban	..	..	..	..	..
Rural	..	..	..	..	..
Passenger cars/thou pop.	..	..	..	..	..
Newspaper circulation (per thousand population)	..	10.0	..	43.5	106.2

IECSE August 1988

.. Not available. Note: Most recent estimates of population and GNP per capita are for 1987 unless otherwise noted.
Group averages are population weighted. Country coverage depends on data availability and is not uniform. Unless otherwise noted,
1965 refers to any year between 1962 and 1968; 1975 between 1972 and 1978; and most recent estimate between 1980 and 1988.

PREFACE

This report is based on the findings of an economic mission that visited YAR in December 1987. The mission was composed of Messrs. Slaheddine K' enissi (Mission Leader), John Wall (Mission Advisor), Maurice Boissière (Labor Market Economist), and Gholam Azarbayejani, from the Chief Economist's office. The report also draws on an informal paper on the manufacturing sector in YAR prepared by Messrs. Dhananjaya Kumar (Industrial Economist) and Tribuhwan Narain (Policy Analyst). Ms. Jeanne Giddings (Research Assistant) prepared the statistical appendix and assisted in preparing the projections of Annex I.

The report consists of two volumes. The first one reviews recent economic developments and explores YAR's prospects under alternative scenarios, in view of which it recommends early policy reforms. The second volume comprises two annexes on the labor market and the manufacturing sector, and the statistical appendix.

The Green Cover report was sent to the YAR Government in June 1989 and was discussed in Sana'a in July 1989 by a mission led by Mr. Parvez Hasan (EMENA Chief Economist). Since then, the report was revised to reflect the discussions with the Government, new domestic data and updated projections of international oil price and inflation.

AGENDA FOR SUSTAINABLE GROWTH DURING THE OIL ERA

ABSTRACT AND EXECUTIVE SUMMARY

After nearly four years of increasing adjustment, the 1987-88 period witnessed a marked relaxation of the stabilization program, probably in anticipation of oil exports which started at the end of 1987. The resulting deterioration in YAR's macro-financial position was so serious that it nearly offset the gains made since 1982. Thus, at the beginning of the oil era, the YAR economy was not all in a good shape. In addition, projections based on recoverable oil reserves of one billion barrels, which would last only about 15 years, show that relative to the early 1980s, when YAR's external position was already tight, the improvement expected from oil revenue will be modest. In view of the above and of the numerous weaknesses that continue to constrain the economy, good economic management during the oil era is essential. The core of YAR's development strategy should be to diversify the economy, and reduce its excessive dependence on oil, private transfers from abroad, and aid. In view of YAR's overall external situation, borrowing at non-concessional terms should be kept at a minimum. It is also important, during the oil era, to avoid the expansionary policies which, in the past several years, have been associated with windfall income.

Progress towards such objectives would require: (a) estimating oil reserves prudently and projecting the oil extraction profile and revenue conservatively; regularly assessing YAR's long-term prospects in light of the changing oil picture, and revising the country's external borrowing policy accordingly; (b) implementing efficient trade policies, including the relaxation of import restrictions and a flexible exchange rate; (c) improving domestic resource mobilization, notably through a greater tax effort, higher user's charges, positive real interest rates and efficient prices; (d) strengthening financial intermediation, notably through the speeding of debt recovery and positive real interest rates; (e) building up foreign exchange reserves to smooth the transition to the post-oil era; and (f) preserving existing positive features, in particular, limited price controls, absence of subsidies, cost-effective income redistribution, and limited public investment in direct production. YAR's economic prospects would be reasonably good if the appropriate macroeconomic policies indicated in this report were promptly introduced. However, without these changes, projections for the end of the oil era show economic stagnation and even negative real GDP growth, unsustainable current account deficits and external debt burdens.

SUMMARY AND CONCLUSIONS

i. Between 1983 and 1986, YAR's economic agenda consisted mostly of a reduction in major macro-financial imbalances which were exacerbated by the steep decline in workers' remittances resulting from the economic slowdown in the Gulf. Until 1986, progress was made in reducing the budget deficit (mainly through expenditure cuts, especially investment), and the current account deficit (through devaluations, but chiefly through direct import controls). However, after nearly four years of increasing adjustment, 1987 and 1988 witnessed a marked relaxation of the stabilization program, mainly in anticipation of oil exports which started at the end of 1987. The high fiscal and current account deficits in 1988 (14 percent and seven percent of GDP, as compared to 10 percent and two percent of GDP in 1986) illustrate the extent of the deterioration. Increased imports were partly financed by an unusually high recourse to short-term loans, which was partly responsible for the rapid increase in the total debt service ratio from 12 percent in 1986 to 16 percent in 1988. Inflation decreased somewhat but remained high (22 percent in 1987 and 16 percent in 1988), a further indication of the inflationary pressures in the economy. High inflation kept interest rates negative in real terms.

ii. Unemployment, traditionally low in YAR (about 4 to 6 percent of the labor force in the early 1980s), has recently increased, as the economic slowdown in the Gulf countries, and the increased competition from South and East Asia workers caused a number of Yemeni migrants to return home. Unemployment is estimated to exceed 8 percent, and considerable disguised unemployment is likely. Higher unemployment tended to push real wages downwards. However, without this flexibility of real wages, unemployment would probably be higher.

iii. Thus, despite considerable progress during the past 15 years or so, the YAR economy is still characterized by major weaknesses, namely: (a) excessive dependence on transfers from abroad, aid, and oil (with the first two variables themselves depending on oil); (b) a narrow domestic production base, excessive consumption (chronically larger than GDP) and imports, with negligible commodity exports; (c) an overvalued currency which artificially cheapens imports and discriminates against domestic production, creating the "need" for protection, including quantitative restrictions; (d) serious fiscal deficit, which is partly due to the need for large public expenditures (which in turn reflects YAR's late start in development) and partly due to the low tax effort; and (e) weak financial intermediation, which is further strained by problematic debt recovery and negative interest rates.

iv. On the positive side, despite an increasingly interventionist trend, large segments of the economy continue to operate within the free market. The Government is aware of the mistakes made by other countries which benefitted from windfall income and is determined to avoid committing similar errors. If properly managed, the recently discovered gas and oil resources will be major assets to the country.

v. Gas and oil were discovered in 1984. Estimated reserves of gas exceed five trillion cubic feet (TCF), with about 2.5 TCF in associated gas; these are large enough to justify substituting gas for oil products. Oil reserves are likely to be as high as one billion barrels. Oil began to be exported in late 1987, at the rate of about 130,000 barrels per day (bpd); exports increased to 180,000 bpd in early 1989. However, even at its peak in 1997 (\$1 billion in 1983 constant prices), oil revenue would not fully compensate for the drop in private and public transfers from abroad from 1983 to 1988 (\$1.1 billion in 1983 constant prices).

vi. Projections show that relative to the early 1980s when YAR's external position was already tight, the improvement that can be expected from oil revenue is modest. The main difference with that period is that while a large fraction of transfers from abroad were privately spent, future oil revenue will accrue to and be spent by the Government. The most beneficial effect of the oil discovery will be to improve the structure of the YAR economy, notably by reducing its excessive dependence on the rest of the world. In the reforms-based scenario (which assumes one billion barrels in recoverable oil reserves), the lasting reduction in the ratio of imports to GDP, the positive domestic savings and the smaller contribution of net factor income from abroad to GNP are among the most significant signs of the projected improvement in YAR's economic structure. However, in view of the recent relaxation of the stabilization effort, sustainable growth in the 1990s and beyond is contingent on a comprehensive adjustment in the short-term. Furthermore, two alternative scenarios (see Annex I) based on 25 percent lower oil prices, and suboptimal policies result in unsustainable current account deficits and external debt burdens. In such scenarios, stronger and earlier austerity, notably slower growth and less external borrowing, would be needed. These projections show that the sustainability of YAR's growth depends on the implementation of appropriate policies, which are summarized below.

vii. In view of the numerous constraints and structural weaknesses in the YAR economy, and despite the discovery of gas and oil, good economic management during the oil era is essential. The core of YAR's development strategy should be to diversify the economy and reduce its excessive dependence on oil, private transfers from abroad and aid; it should use oil revenue to improve the country's long-term prospects. Given the relatively short oil era, it is crucial that YAR take advantage of the good years to prepare for the lean ones of declining oil revenue. This requires building up foreign exchange reserves to smooth the transition to the post-oil era. It also requires rapid progress in efficient import substitution and non-oil exports in order to prevent unsustainable external deficits in the post-oil era. In addition, it requires minimal external commercial borrowing. It finally necessitate a sustained increase in the presently low tax effort so that tax revenue might compensate for the decline in oil revenue. Although these concerns, at present, may seem remote, they need to be addressed as soon as possible because several years will be needed to improve the country's capacity to substitute domestic production for imports and to strengthen the weak tax system. Progress towards these objectives can be fostered by the following mutually supportive policies.

viii. It is essential to base economic decision-making on prudent estimates of oil reserves and extraction, rather than on hopes of further discoveries. In particular, the Government should adopt an extraction profile which prevents a too rapid depletion of oil reserves. An adequate proportion of oil revenue should be used for efficient investment, including abroad, rather than for consumption. However, investment should not hinder the adequate financing of operation and maintenance costs, which have been seriously underfinanced in recent years. As far as the public sector is concerned, efficient domestic investment means continuing to limit investment in direct production, which is better left to private initiative (Yemeni and foreign), while concentrating on: (a) developing the country's oil and gas resources; and (b) expanding and improving its physical and social infrastructure. In particular, development of the energy sector should reflect the fact that based on available information, YAR seems to have more gas than oil. Therefore, the economic viability of substituting gas for fuel oil (e.g., in the power and cement plants) should be rapidly investigated and, if proven, the substitution should be made quickly.

ix. Diversifying the YAR economy has always been a priority, given the weight of transfers from abroad. Now, in view of the drop in these transfers and the likely short duration of the oil era, diversification is more important than ever. Therefore, it is essential to promote the development of the non-oil tradables sector, particularly agriculture, manufacturing and also mining. In addition, tourism -- though it is not in the tradable sector -- has good potential for diversification, job creation and foreign exchange earning. The development of the non-oil tradables sectors requires appropriate sectoral policies, such as improving irrigation efficiency, expanding extension efforts in agriculture; and enhancing the regulatory and incentive system in industry. However, as the past mediocre performance of the tradables sector (particularly agriculture) has shown, appropriate sectoral policies alone will not foster growth, if macro policies continue to encourage imports and consumption.

x. In this regard, an overvalued exchange rate was and would be among the most counterproductive policies. Unfortunately, and as the recent history of countries which benefitted from windfall income has shown, oil revenue tends to increase the likelihood of such an overvaluation. It artificially cheapens and encourages imports and discriminates against domestic production. Conversely, an adequate exchange rate is probably the most important instrument to foster the efficient development of the tradables sector and to check imports and consumption. In the past, when imports represented over 60 percent of GDP, the overvaluation of the rial was instrumental in moderating inflation, at the cost, however, of excessive consumption and imports, stagnating agriculture and rapidly dwindling foreign exchange reserves. This policy has become less defensible now that imports represent less than 30 percent of GDP (in 1988) and are projected to stabilize at about 20 percent of non-oil GDP. Clearly, the exchange rate should not be viewed exclusively as a short-term policy instrument, but also as a means to bring about lasting improvements in competitiveness and resource mobilization.

xi. Investing a significant fraction of oil revenue abroad would help depreciate the rial. Progress towards an appropriate exchange rate would also require the gradual relaxation of import restrictions and the reviving of the foreign exchange market, which the monetary authorities have nearly suppressed in their efforts to stabilize the rial. In particular, money changers, who were closed in early 1987, should be allowed to reopen. It should not be excluded that market forces, reflecting the improvement in YAR's external position due to oil exports, may push the rial upwards. However, since oil revenue is expected to barely compensate for the loss in private transfers from abroad since 1983, the risk of appreciation appears to be limited.

xii. The exchange rate should be the main instrument of trade policy. An appropriate exchange rate would confine tariffs to revenue-earning purposes. However, even for such purposes, excise taxes on imports and on domestic production would be preferable to tariffs (as the former would have a larger tax base). In addition, they would be less distortionary than tariffs.

xiii. Because of the insignificance of YAR commodity exports, export promotion policies should be actively pursued. The rich neighboring countries are potentially excellent markets for YAR exports. In addition to an adequate exchange rate, export promotion incentives should include duty drawback and foreign exchange retention schemes, tax exemptions, preferential credits and assistance in gathering marketing intelligence.

xiv. Economic growth, notably that of the tradables sector, requires more efficient financial intermediation, and most importantly, a political commitment to ensure the speedy recovery of debts. Smaller fiscal deficits and/or surpluses are expected to decrease the overliquidity of the economy, which could be alleviated further by allowing banks to resume lending abroad. This could help build up reserves of foreign exchange and further facilitate the depreciation of the rial. Smaller budget deficits and/or surpluses are also expected to bring down inflation, which should result in positive real interest rates. However, developments on this front should be closely monitored to ensure that interest rates are positive in real terms.

xv. During the oil era, it is important to avoid excess demand, which could be exacerbated by the overvaluation of the currency, low interest rates and the budget deficit. However, even with smaller budget deficits and/or surpluses, the existing overliquidity could result in excess demand, reemphasizing the importance of an appropriate exchange rate and of realistic interest rates. To avoid the reoccurrence of large budget deficits, particularly after the oil boom is over, it will be necessary to increase the domestic resource mobilization effort in the non-oil sector and to moderate spending.

xvi. Domestic resource mobilization can be improved, most notably through enlarging the scope of excise taxation -- presently very limited -- and better cost recovery in the public sector, which would also serve the purpose of curbing consumption. Moderation in public spending would curb demand and reduce the risk of large budget deficits after the oil boom. Adequate funding of recurrent expenditures, following several years of underfinancing, should be viewed as a priority. The public investment program should be continuously reviewed to avoid costly "white elephants." Again, the recurrent cost requirements of new investments, likely to last well beyond the oil era, should be carefully considered. Unjustified growth in recurrent expenditures might also result from unwarranted wage increases or hiring in the public sector; these temptations should be resisted.

xvii. Budgetary improvements would help wage a more effective war on poverty, within the existing policy framework. At present, most of the Government's poverty alleviation efforts are aimed at increasing the availability of basic services, rather than securing a minimum income for everyone. These efforts are complemented by a limited program providing cash and food to the poor. Such poverty-focussed actions are more cost-effective than indiscriminate welfare programs (e.g., a general consumer subsidy), which also can be detrimental to economic efficiency. It is, therefore, recommended to continue the present conservative approach, and within such framework, to increase outlays only cautiously.

xviii. The prudent management of YAR's external debt, together with a greater reliance on domestic resources and foreign investment, is a priority. Although oil revenue would improve YAR's creditworthiness, such improvement is likely to be limited, and YAR cannot afford to borrow more than about US\$50 million a year on non-concessional terms. In addition, the possible overestimation of the volume and/or duration of oil revenue could easily result in the overestimation of the country's long term capacity to service its external debt and might lead to overborrowing. Hence, YAR's debt servicing capacity should be reassessed regularly. Following the heavy short-term borrowing in 1987-88, such borrowing should be limited in the future, to keep the debt service under control.

Conclusion

xix. In conclusion, good economic management during the oil era consists of the following:

- maintaining moderate Government intervention in the economy;
- estimating oil reserves prudently and projecting the oil production profile and revenue conservatively;
- limiting non-concessional borrowing to about US\$50 million a year; reassessing YAR's long-term prospects regularly in light of the changing oil picture, and revising the country's external borrowing policy accordingly;

- adopting moderate growth and investment targets to avoid unsustainable pressures on the balance of payments and excessive recurrent costs in the future;
- suppressing the fiscal deficit through moderate spending and, more importantly, through a greater tax effort in the non-oil sector;
- building up foreign exchange reserves;
- relaxing restrictions on imports and foreign exchange transactions, while implementing a competitive exchange rate policy; and
- strengthening financial intermediation, notably through the speeding of debt recovery and positive real interest rates.

INTRODUCTION

0.01 The last Country Economic Memorandum ^{1/} (CEM) dealt with four major issues, namely: a) the adjustment of the economy to much reduced transfers from abroad during 1982-84; b) the prospects for the future, given the oil and gas discoveries; c) the scarcity of water, especially in the Sana'a area; and d) the rapid population growth. Its abstract reads as follows:

"Following several years of rapid economic growth and balance of payments surpluses, the YAR economy slowed down in the late seventies/early eighties, and the macro-financial position deteriorated sharply. The leveling-off in the inflow of workers' remittances and officials aid and the drought were the main causes of the economic slowdown, while the fast increase in public expenditures and the overvaluation of the local currency were the chief factors of fiscal and external imbalances. The Government started to correct those imbalances in 1983, mainly by reducing expenditures (notably investment), adjusting the exchange rate, and restricting imports. However, considerable inflationary pressures remain in the economy, and the stabilization effort, particularly the tax effort, should continue. Oil and gas, discovered in 1984, could improve the country's economic prospects, depending on the volume and price of oil and the level of traditional foreign exchange receipts (workers' remittances and official aid). However, the uncertainties about these key parameters and the country's great need for more and better public services both call for efficient use of oil revenue, and caution in fixing growth targets and in managing the external debt. Even with correct macroeconomic policies, YAR's development prospects are limited unless the Government addresses two long-term issues: the increasing water scarcity (particularly around Sana'a) and the rapid population growth."

0.02 This report starts where the last CEM ended. Volume I includes two chapters and two brief annexes. Chapter I reviews economic developments during 1985-89, notably the increasing stabilization effort until 1986 and the marked deterioration in 1987-89 after the relaxation of the stabilization program. In view of the return of migrant workers to YAR, employment trends are also briefly examined. Chapter II explores YAR's prospects. Section A shows that the improvement expected from oil revenue is modest, at best, and is contingent upon appropriate macroeconomic and sectoral policies which are reviewed in sections B and C. These policies emphasize the need to diversify the economy in order to reduce its dependence on transfers from abroad and on oil. Diversification requires the rapid growth of sectors, such as the manufacturing sector, whose potential has not been fully tapped, which is the object of section D. Annex I summarizes macroeconomic projections. Annex II briefly argues that since oil is a depletable natural resource, its wise use requires that part of the proceeds from oil exports be reinvested, so that the expected return on investment makes up for the expected decline in oil revenue. Volume II includes two annexes and the statistical appendix. In view of the return of migrant workers to YAR and the resulting increase in unemployment, Annex III examines issues and prospects in the labor market. Annex IV reviews recent developments and the outlook for the various manufacturing subsectors, as well as the industrial policy framework.

1/ Report No. 5621-YAR Current Position and Prospects - March 17, 1986.

CHAPTER I. RECENT ECONOMIC DEVELOPMENTS: 1985-89

1.01 The years from 1985 to 1989 include two distinct periods: 1985-86, when the stabilization program launched in 1983 was strengthened and progress was made in reducing the fiscal and external deficits; and 1987-89, which witnessed a considerable relaxation of the stabilization program--largely in anticipation of oil exports which started in late 1987--and a marked deterioration in the macro-financial position and in the incentive system. Both periods have the lasting deterioration in YAR's external environment in common; the volume of aid and private transfers from abroad remained very low compared to the early 1980s. This chapter reviews these two periods.

A. THE INTENSIFICATION OF THE STABILIZATION PROGRAM DURING 1985-86

1.02 The 1985-86 period witnessed the intensification of the stabilization program, which, in turn constrained economic growth. Increased austerity resulted in lower budgetary expenditures (notably capital outlays), lower imports (including equipment and inputs), and lower investment. The manufacturing sector slowed down, as it was affected by import restrictions which lowered capacity use, while the construction sector was severely hit by the decline in investment. In particular, less than 30 kms of asphalted roads per year were built in 1985-86, versus about 300 kms in the early 1980s.

1.03 Economic growth was further constrained by the lasting deterioration in YAR's external environment. The fall of international oil prices and the subsequent economic slow-down in neighboring oil-exporting countries resulted in fewer employment opportunities and lower wages for Yemeni migrant workers in those countries. This, in turn, resulted in a sharp decline (50 percent over 1983-86) in the inflow of private transfers from abroad--the main source of foreign exchange and a major factor of domestic growth. Also, part of the decline may have meant that: (a) more money was sent home through unofficial channels where the exchange rate was better than the official one; and (b) more transfers came in the form of goods, due to the more stringent import restrictions.

1.04 The return of a number of migrant workers increased unemployment, which was traditionally low in YAR (about 4 to 6 percent of the labor force in the late 1970s and early 1980s), to more than 8 percent of the labor force. To facilitate the reintegration of returning migrants, the Government, with UNDP/ILO assistance, instituted a "crash training" program directed at unskilled and semi-skilled returnees. However, only a few of these have enrolled in the program, mainly because the latter, still in its pilot phase, has been set up in the three main cities, while most of the returnees have gone back to their home village. Higher unemployment has tended to push real wages down. However, without this downward flexibility of real wages, unemployment would probably have been higher.

1.05 Despite these constraints, economic growth accelerated to nearly seven percent a year during 1985-86 (versus three percent a year during 1983-84) mainly due to two factors. The first was the gradual end of the 1983-84 drought, which made possible the rapid growth of non-traditional crops--some of which progressed even during the drought. Non-traditional crops benefited from irrigation investments and, more importantly, from incentives, especially the ban since 1984 on the imports of fruits and

vegetables. By contrast, traditional crops (sorghum, millet, maize, barley and legumes) which still accounted for nearly 80 percent of the cultivated area in 1986, remained below their pre-drought level. These crops have been declining since the early seventies, due to a shift in consumer demand in favor of wheat, vegetables, fruits and livestock products. As a result, land used for traditional crops is becoming marginal. The second factor of higher growth was the beginning of oil extraction and refining in 1986, and the construction of the oil pipeline, which boosted economic growth. (The oil refinery has a 10,000 barrels per day capacity and meets about 30 percent of the country's needs for refined products.)

1.06 Despite the faster domestic growth, total resources (GDP plus imports) stagnated in 1985-86; however, this was still an improvement over 1983-84 when total resources fell. The stagnation of resources was due to the sharp decline in imports and led to a leveling off in government consumption. By contrast, following a marked decrease in 1984, private consumption began growing again. Although 1986 per capita private consumption was still below its 1982 level, the growth of private consumption in 1985-86 was high enough to affect YAR's savings and investments.

1.07 Investment declined to 13 percent of GDP in 1986, a ratio which is reminiscent of the late 1960s. Investment fell in most sectors, especially in transportation, which accounted for nearly 30 percent of the overall decrease. However, the manufacturing sector witnessed a considerable increase in investment during 1985-86, mainly as a result of investment in cement and oil refining. The overall decline in investment was due to a decrease in gross national savings, which, however, financed a greater fraction of investment, as the latter fell faster than the former. Because of the marked decline in savings, foreign exchange reserves financed an unusually high proportion of investment (26 percent in 1985). However, this trend was reversed in 1986 when savings rose significantly, due to a marked improvement in YAR's budgetary position. The overall ICOR (five years, one year lag) was still on the high side (4.8 at end 1986), despite the smaller share of infrastructure in total investment, and despite the improved rainfall, and the start of oil refining in 1986. This was partly due to the sluggish growth in 1983-84 (less than three percent a year).

1.08 The 1985-86 period witnessed the intensification of efforts to reduce the budget deficit, mainly through capital expenditures cut. The Government was not as successful with the less compressible current expenditures, which continued to increase. However, the wage freeze in the government sector, which started in 1983, was sustained through 1985-86. Despite the increase in current expenditures, the operation and maintenance requirements of the massive capital accumulation during the late 1970s and early 1980s were not fully met. The underfinancing of current expenditures lowered capital efficiency and tended to shorten capital lifetime. The Government has also not been successful in raising revenue, which grew more slowly than GDP, despite oil revenue. Although a substantial increase in revenues during an economic slowdown is usually difficult, in view of the persistently large budget, such an increase was badly needed. Considering the low tax effort in YAR, such an increase was, and still is, possible. Despite the above shortcomings, the deficit did decline relative to GDP; however, this was not enough to quell inflationary pressures or to lower the demand for imports.

1.09 Therefore, tight fiscal policies were complemented by restrictive trade and foreign exchange policies. Concerned about the inflationary impact of a large devaluation (imports were 43 percent of GDP over 1983-84), the Government gradually devalued the rial, by over 40 percent in total during 1985-86 (23 percent in real effective terms). In addition to this considerable devaluation, the Government maintained and actually tightened the import restrictions introduced in 1984. As a result, the decline in imports accelerated during 1985-86 and more than compensated for the substantial fall in private and official transfers from abroad. These policies were effective in reducing the current account deficit to a low of US\$92 million in 1986. The financing of a smaller deficit was, however, constrained by steadily declining disbursements on official loans.

1.10 In effect, and despite YAR's increased need for official assistance during the stabilization program, commitments and net transfers on official loans (notably from OPEC sources) continued to fall, reflecting the decline in oil prices and the Iraq-Iran war; in addition, the terms of new commitments became less favorable. This reduction in official assistance largely explains two unusual events in 1986: the borrowing, on commercial terms, of US\$70 million; and the recourse to supplier's credit (mainly on short-term) for US\$130 million. Also, debt service increased rapidly in 1985-86, and its ratio to exports (including private transfers) increased even faster, due to the decline of the denominator. However, the debt-service ratio remained low by international standards (12 percent in 1986), partly because of debt rescheduling.

1.11 More precisely, a second debt rescheduling agreement was signed with the USSR in 1986 (the first took place in 1984), which covered principal payments on several loans, including the rescheduling loan signed in 1984, and carried new terms for five equal annual payments beginning in 1989 at an interest rate of four percent. The second rescheduling totaled US\$250 million, with US\$80 million for 1986, and US\$85 million for both 1987 and 1988. Without debt rescheduling, the debt service ratio would have been about 21 percent in 1986, instead of the actual 12 percent.

1.12 Neither the reduction in the budget deficit (and the subsequent slower growth in the money supply), nor the cautious devaluation of the currency, prevented inflation as measured by the Sana'a Consumer Price Index (CPI) from accelerating to 25 percent in 1985 and to 29 percent in 1986, the lagged result of years of fiscal laxity. A new inflation factor during 1985-86 was the smaller demand for money (or the increased velocity of circulation), reflecting higher inflationary expectations. Despite the higher inflation during 1985-86, the structure of interest rates remained practically unchanged, which meant that they became considerably more negative in real terms (relative to the Sana'a CPI). The distortionary effects of negative interest rates were not obvious, as the relationship between them and the volume of savings and lending was blurred by exchange rate anticipations, and restrictions on imports and investment. Mainly due to such restrictions, lending to the non-government sector actually declined in real terms. Nevertheless, when the anticipation of currency depreciation was at its maximum in 1986, negative real interest rates exacerbated speculative borrowing to buy foreign exchange (foreign currency deposits jumped 86 percent in 1986). On the deposit side, negative interest rates considerably slowed down the quasi-money's annual real growth (from 22 percent in 1983-84 to 8 percent in 1985-86).

1.13 The Government tried to moderate inflation by: (a) increasing the availability of essential goods at reasonable prices; and (b) expanding its income redistribution program. The three major public trade corporations ^{1/} considerably increased their sales of essential goods (e.g., food, clothes, soap). Sales of the Government's Employees Cooperative (GEC) increased 40 percent per annum between 1983 and 1986, versus 11 percent per annum between 1980 and 1983. In volume, sales of major items (wheat, rice, sugar) more than doubled between 1983 and 1986. These corporations sell at government-set prices, which are somewhat below market prices, but sufficient to cover costs. Thus, the GEC's profit margin on sales went down from 15 percent in 1981 to 5 percent in 1985, but rose to 8 percent in 1986.

1.14 The Government also strengthened its small but rapidly growing income redistribution program, which provides the poor with cash assistance (up to YR 600 per month per family) and food under a World Food Program project aimed at about 21,000 beneficiaries. Intended beneficiaries are not defined with reference to a poverty line, but rather with reference to their presumed inability to earn a decent living. Specifically targeted are the disabled, young orphans, the elderly, and widowed and divorced women. Applicants go through a quite elaborate screening process involving social workers, local leaders and the police. Beneficiaries tend to live in urban areas, although the Government is attempting to improve the coverage in rural areas. The cost and number of beneficiaries increased from less than YR one million and 9,470 persons in 1981, to about YR three million and 27,614 persons in 1986.

Conclusion

1.15 Progress was made until 1986 in reducing the fiscal and external deficits, although the tax effort remained too low, interest rates were negative and import cuts were obtained more through quantitative restrictions than through devaluation and tariffs. Inflation, the most visible factor of economic hardship during 1985-86, was moderated by the Government's efforts to increase the availability of essential goods at reasonable prices and to expand its income redistribution program. The absence of wage rigidities (which has probably limited the increase in unemployment) and the absence of food subsidies (which meant that there were none to cut) facilitated the Government's task, as did good rainfall and the start of oil extraction in 1986. The severe wage freeze in the Government sector was not opposed, due to the relatively small number of Government employees and their sense of discipline. Furthermore, strong tribal and family ties, and a well-established tradition of self-reliance, helped limit the social cost of the stabilization program. However, the budget deficit remained too high (10 percent of GDP in 1986), necessitating further austerity. Unfortunately, the stabilization program was substantially relaxed in 1987-88, which resulted in a serious deterioration in the macro-financial position, despite the start of oil exports at the end of 1987.

^{1/} The Government Employees' Cooperative, the Military Economic Corporation and the Foreign Trade Corporation. Contrary to what their names may suggest, these corporations sell to anybody and not just to the military or government employees.

B. THE RELAXATION OF THE STABILIZATION PROGRAM DURING 1987-89

a. 1987-88

1.16 In 1987-88, the Government followed more expansionary policies, which stimulated growth, but at the high cost of worsening the already serious macro-financial imbalances. The relaxation of the stabilization program probably reflected the political difficulty of imposing austerity for the fifth—and sixth—straight year, but it was more likely the result of a conscious decision to spend in anticipation of the revenue from oil exports.

1.17 Due to expansionary fiscal, investment and external policies, and to the large increase in oil extraction, overall growth augmented to 12 percent a year in 1987-88 ^{1/}, versus seven percent a year in 1985-86. The growth differential was especially substantial for some sectors, notably construction, which benefited from the recovery of investment, and Government services, whose faster growth reflected the expansion of budgetary expenditures. Naturally, the start of oil exports in late 1987 at the rate of about 130,000 barrels per day (bpd), subsequently increased to an average of 155,000 bpd during 1988, tremendously accelerated the growth of the mining sector, which contributed about 33 percent of the overall growth in 1987-88. By contrast, the manufacturing sector recorded its lowest growth since the early 1970s, (two percent in 1988), the lagged result of years of restrictions on the importation of inputs. Due to these restrictions, the average level of industrial capacity use was barely 50 percent. After two years of rapid recovery following the end of the drought, agriculture slowed-down, although its growth rate remained a healthy 3.8 percent a year.

1.18 Private transfers from abroad fell sharply in 1988, to about half of their 1986 level, as migrant workers continued to return to YAR and real domestic wages continued to fall (the daily wage of the unskilled worker in Sana'a declined 25 percent in real terms over 1984-87). Nevertheless, unemployment is still not considered a serious issue by the Government, partly because of the investment recovery in labor-intensive sectors, e.g., agriculture, transportation and housing (para. 1.20).

1.19 The relaxation of the stabilization program widened the resource gap, as imports increased faster than exports, even with oil exports. The considerably larger volume of resources (GDP plus imports) made possible a rapid increase in consumption, which kept domestic saving negative. Government consumption grew more than twice as fast as private consumption, which, still, grew fast enough to raise the per capita private consumption above its pre-stabilization program level. Although constrained by the consumption increase, investment expanded rapidly; however, its ratio to GDP remained low (14 percent).

1.20 Investment rose in agriculture, housing, and most importantly in the transportation sector, which was the major beneficiary of fiscal expansion and accounted for nearly 40 percent of the overall increase. By contrast, investment in other sectors (e.g., electricity and water, public services)

1/ Including the foreign contractor's share in oil revenue.

barely increased in real terms. ICOR (five years, one year lag) fell to about two, due mainly to the large increase in oil extraction. Investment expanded despite the precipitous decline in gross national saving (GNS), which was due to the mediocre domestic saving performance and to the catastrophic fall in factor income from abroad (mainly labor income). GNS financed only about 16 percent of investment during 1987-88, its lowest level since the late 1960s; higher external borrowing, including on short-term, compensated for most of the decline in savings and financed about 60 percent of investment. The rest was financed through a substantial draw-down on reserves of foreign exchange, which declined from 5.8 months of imports in 1986 to 2.5 months of imports in 1988.

1.21 The saving performance was particularly weak in the government sector, as budgetary saving reached a record low level in 1987 (-YR4 billion, excluding grants). Saving became less negative in 1988 (-YR1.2 billion), mainly due to oil revenue, without which saving would have been even lower than in 1987 (-YR5.5 billion). The deteriorating saving performance reflected: (a) the substantial increase (63 percent during 1987-88) in recurrent expenditures in all sectors, mainly due to salary increases after a four-year freeze; (b) the still large share of defense in recurrent expenditures (51 percent in 1983, 41 percent in 1988); (c) the persistent large volume of extrabudgetary expenditures, which were more than twice their 1983-84 level; and (d) the mediocre growth of revenue, despite oil, which accounted for nearly 40 percent of revenue in 1988. Actually, in 1987-88 the ratio of non-oil revenue to non-oil GDP declined, mostly due to the fall in revenue from import taxes (the main source of non-oil revenue), as the structure of imports became dominated by essential and less taxed items.

1.22 Despite the disappointing savings performance, capital spending more than doubled, following four years of decline. This considerably widened the budget deficit, notably in 1987 when the deficit reached 20 percent of GDP. Oil revenue reduced the deficit to about 14 percent of GDP in 1988, although the non-oil deficit was higher than in 1987, and represented about 23 percent of the non-oil GDP. Due to the large deficit, inflationary pressures remained strong. Despite the more than trebling of external borrowing, the financing of the deficit remained essentially domestic. In 1987, commercial banks were ordered by the Central Bank to reduce credit to the private sector by 15 percent, in order to facilitate the financing of the deficit.

1.23 The relaxation of the stabilization program was also visible in the external accounts. In particular, imports sharply increased in 1987 (46 percent, in current US dollars), most of which reflected higher Government imports of capital goods. Private imports also increased, although most restrictions remained and money changers' shops were closed in early 1987. Thus, YAR remained an excessively protected economy. Preliminary results of a study on effective protection and domestic resource costs ^{1/} indicate that the protection enjoyed by the YAR manufacturing sector in 1988 was too high, and at the same time, varied considerably from one subsector or firm to another, thus causing substantial inefficiencies: for the 60 firms of the

1/ The Manufacturing Sector of the YAR: Effective Protection and Domestic Resource Costs. Preliminary Report by G. Fane and C. Jones, March 1989.

sample, the average effective protection was about 60 percent with a standard deviation of 29 percent. While effective protection of leather and rubber products was low (it was indeed negative for leather, which is mainly exported), it was high for cement (about 80 percent), plastics (74 percent) and tobacco (70 percent). Due to the ban on imports of fruits and vegetables, agriculture is likely to be even more protected than industry.

1.24 This excessive reliance on quantitative restrictions reflects the Government's reluctance to further depreciate the rial. This reluctance, in turn, mirrors an acute concern about the short-term inflationary effects of devaluation, even though the real cause of inflation is the excessive increase of the money supply (20 percent a year during 1983-88) due to large budget deficits. However, a devaluation should not necessarily increase the price of imported goods and services, as the latter already reflect the scarcity of foreign exchange. By contrast, there seems to be little concern about the artificial encouragement of consumption and imports, or the undue discouragement of domestic production brought about by an overvalued rial. In addition, there is a persistent self-fulfilling pessimism about non-oil commodity exports.

1.25 The Government's reluctance to set the exchange rate closer to the market level is also due to a lack of confidence in the ability of market forces to: (a) direct scarce foreign exchange towards priority needs; and (b) give small importers their "fair" share of foreign exchange. However, despite foreign exchange rationing, priority goods such as drugs, fertilizers and industrial inputs were in short supply over the past few years. Besides, market mechanisms are normally superior to rationing in allocating scarce foreign exchange according to priorities, and in giving each its "fair" share, except in the case of market failure. But there was no evidence of such a failure in YAR before the introduction of foreign exchange and import controls. The reluctance to devalue the currency also reflects the Government's concern that a devaluation may trigger wide fluctuations of the exchange rate. Clearly, excessive exchange rate anticipations can be destabilizing. However, keeping the exchange rate at an unrealistic level for too long builds up pressure in the system and leads to such expectations.

1.26 Due to the reluctance to further depreciate the rial, the exchange rate has remained practically unchanged at YR 9.75 to the US dollar since 1987. This stabilization meant a 35 percent appreciation in the real effective exchange rate (REER) over 1987-88 and has weakened YAR's competitiveness. The above-mentioned study (para. 1.23) estimates the exchange rate overvaluation to be 20 to 50 percent.

1.27 The official exchange rate was overvalued during 1987-88, even though the gap between the market and official exchange rates narrowed considerably during the same period. In effect, the narrowing of the gap was largely artificial; it was the result of the sharp reduction in the demand for foreign currencies, brought about by more stringent import and foreign exchange restrictions. Without an import license, importers cannot use their own foreign exchange to finance imports. In this way, the demand is, for all intents and purposes, brought down to the level of the official supply of foreign exchange.

1.28 Despite the appreciation of the REER, non-oil commodity exports continued their rapid growth started in 1986 (76 percent a year), though from a small base. Actually, exporters attributed this growth--which tends to contradict the official pessimism about exports--to the weaker rial; the latter remained about 20 percent lower than in 1983 (in real effective terms). Oil exports were a major novelty in 1988. However, the relatively large share of oil revenue going to foreign contractors (partly for the repayment of oil investment), and the low international oil prices meant that the Government's oil revenue was barely US\$400 million (about half of total oil exports).

1.29 The most dramatic event in 1988 was the sharp decline in private transfers from abroad, after a small increase in 1987 due to reversed exchange rate anticipations brought about by the stabilization of the rial. Transfers plunged US\$420 million (to less than 30 percent of their level during 1981-83), thus nullifying the effect of oil exports in 1988. The continuous decline in private transfers was due to fewer job opportunities and lower wages abroad. However, other factors may have played a role in the decline: (a) increased in-kind remittances due to import restrictions; (b) more frequent use of unofficial channels to transfer money; and (c) fewer transfers repatriated due to foreign exchange restrictions.

1.30 Lower transfers, higher imports and large oil investment repayments combined to widen the current account deficit to about US\$700 million in 1988 ^{1/}, despite oil exports; however the deficit was already high (about US\$500 million) in 1987. The larger deficit was financed by a higher level of external borrowing and, in 1988, by a massive draw-down on reserves of foreign exchange. Disbursements on official loans nearly doubled relative to 1985-86, and net disbursements came close to their level in the early 1980s (in current dollars), despite the higher amortization. In addition, suppliers' credit (mainly on short-term), which was a novelty in 1985-86, increased rapidly: disbursements on such credit exceeded those on official loans in 1988. Due to higher principal repayments and higher interest on short-term borrowing, the debt service rose 80 percent relative to 1985-86, and absorbed 16 percent of exports (including private transfers from abroad, but excluding the foreign contractor's share in oil exports).

1.31 Despite the deteriorating trend in the fiscal and external positions, inflation subsided during 1987-88, though it still remained high. Inflation was particularly high in 1987, due to the more than doubling of domestic lending to the Government, and despite the stabilization of the rial, which briefly lowered inflationary expectations. Inflation declined to 16 percent in 1988, due to the slow-down in the growth of the money supply brought about by the somewhat smaller fiscal deficit, and more importantly, by the massive

^{1/} According to the Central Bank presentation. If oil investment repayments were "below the line"--as they should be--the deficit would be reduced to US\$433 million.

draw-down on reserves of foreign exchange. A major inflation factor during 1987-88, and particularly in 1988, was the lower demand for money, an indication of persistent high inflationary expectations. The Government intensified its efforts to moderate inflation, as shown by the near twelve-fold increase in outlays for its income redistribution program from 1986 to 1987, and the decoupling of cash assistance per beneficiary, which reached YR 1,029, i.e., 21 percent of the per capital GDP in 1987. The Government also attempted to expand the scope of price controls, but its efforts were not very effective, largely due to an acute shortage of personnel.

1.32 Real interest rates remained negative during 1987-88, despite lower inflation. Exchange rate anticipations and restrictions on imports and investment continued to blur the relationship between interest rates and saving and lending, but at least part of the quasi-money's decline in real terms during 1987-88 was due to negative interest rates on deposits. Private borrowing declined 15 percent, following the 1987 Central Bank directive to commercial banks to reduce outstanding credit to the private sector (para. 1.22). Negative lending interest rates combined with the overvaluation of the currency to maintain the strong bias in favor of capital intensive industries, a bias further strengthened by the investment law which exempts large firms from custom tariffs on imported equipment. With rising unemployment, this bias is becoming less and less justified.

1.33 Financial intermediation remained weak partly due to negative interest rates. The ratio of currency outside banks to domestic liquidity remained high (over 50 percent in 1988), while the ratio of private credit to domestic liquidity remained low (13 percent). A further indication of the weak financial intermediation continued to be the overliquidity of the economy, as the ratio of domestic liquidity to GDP remained high (66 percent in 1988) and commercial banks' reserves with the Central Bank were over 75 percent of their deposits, well above reserve requirements. The weak financial intermediation also reflects other factors, notably the large budget deficit, the crowding-out effect of Government borrowing, the institutional weaknesses of banks in YAR, and most importantly, the lack of repayment discipline due to cultural factors. The latter also explain the unusually high volume of currency outside banks. Attempts to overcome these cultural constraints by the creation of an "Islamic" bank were not successful, partly because of the recent difficulties of "Islamic" finance in one country in the region.

b. The Outlook for 1989

1.34 Preliminary data for 1989 indicate a slower GDP growth (seven percent versus 12 percent during 1987-88) mainly due to lower growth in the oil sector, and smaller current account and budget deficits. However, these data also show an unexpected acceleration in inflation. The projected current account deficit of about US\$225 million ^{1/} reflects: (a) a 13.5 percent reduction in imports, due to more restrictive licensing; (b) a 39 percent increase in oil exports, due to higher oil price and volume; and (c) on the negative side, a 16 percent decline in private transfers from abroad. This decline can only partially be explained by any economic slow-down in

1/ With oil investment repayments (estimated at US\$354 million) in the current account.

neighboring oil exporting countries, since international oil price rose in 1989. Rather, this decline most likely reflects greater capital flight and in-kind transfers. However, despite the projected current account surplus, a large draw-down on reserves (of about US\$170 million, to about US\$230 million, or 1.6 months of imports) is inevitable. This is basically due to large oil investment repayments (about US\$355 million) and principal repayments (about US\$230 million).

1.35 On the basis of preliminary fiscal data, a substantial reduction in the budget deficit (from 14 percent of GDP in 1988 to 7 percent of GDP in 1989) is projected. The fiscal improvement would mainly be due to an estimated US\$220 million increase in oil revenue, and a relatively moderate growth in expenditures, notably capital outlays. Monetary data for the first quarter confirm the fiscal improvement, as they indicate substantially lower Government domestic borrowing. This and the above mentioned decline in net foreign assets combined to keep the money supply practically unchanged. However, inflation for the first half of 1989 is estimated at about 20 percent (on an annual basis), confirming the inflationary expectations already noticed during 1987-88 (para. 1.31). In the absence of exchange and interest rate adjustment, higher inflation means that the real effective exchange rate is appreciating further, and interest rates are becoming even more negative in real terms.

1.36 Without policy reforms, the expected improvement in the external and fiscal accounts in 1989, which is largely due to higher oil extraction and price, import cuts and fiscal restraint, is likely to be short-lived. This is because oil extraction is expected to stabilize soon and to start declining after 1997, while import and budgetary cuts are detrimental to future growth. By contrast, a competitive exchange rate and more realistic interest rates, less restrictive import and investment policies, and a reasonably greater tax effort would improve both the macrofinancial situation in the short-term, and growth prospects in the medium-term.

Conclusion

1.37 At the beginning of the oil era, YAR's economic policies are characterized by major strengths and weaknesses which are summarized below. On the positive side, and despite an increasingly interventionist trend, large segments of the economy continue to operate within the free market. In particular, price setting and controls are limited to some imports (wheat, flour, rice, sugar, cement), a few domestic manufactured goods, and oil products; however, there are no price subsidies. Also, the labor market is characterized by a great flexibility, particularly in the area of wages. Public investment in direct production remains limited. Furthermore, the Government's income redistribution scheme is cost effective and well targeted. These positive features should be preserved and strengthened.

1.38 On the negative side, YAR has rapidly become an overprotected economy, with a cumbersome and often unpredictable system of quantitative restrictions. Largely due to this excessive protection, YAR's exchange rate is significantly overvalued. This encourages consumption, imports and capital flight, to the detriment of savings and domestic production. Excessive protection and the currency's overvaluation combine to lower YAR's competitiveness and to create a strong anti-export bias, which aggravates the country's dependence on transfers from abroad as a source of foreign exchange. Also, the tax effort remains considerably low, which largely

explains the chronic fiscal deficit and the persistent inflationary expectations. In addition, although not as large as the debt of some other developing countries, YAR's external debt has risen rapidly in recent years, and its service has become increasingly heavy. Furthermore, real interest rates are negative, which is detrimental to saving and to the quality of investment. Finally, tax incentives aggravate the bias in favor of capital-intensive investment. In short, the YAR economy is biased in favor of consumption, imports and capital-intensive investment, and biased against savings, exports and labor-intensive investment. The cost of such policies is usually borne by future generations. Indeed, Chapter II shows that if there is not an immediate and lasting change in the present policies, the prospects are bleak.

CHAPTER II: THE MEDIUM-TO-LONG-TERM PROSPECTS

2.01 This chapter examines YAR's prospects up to the year 2000 under alternative scenarios. In all cases, YAR's development is hindered by the following constraints: (a) the structural weaknesses of the economy (notably YAR's late start in development and its negligible non-oil commodity exports); (b) the sharp decline in the traditional receipts of foreign exchange; (c) the relatively short duration of the oil era (in the absence of additional discoveries); and (d) the suboptimal policies of the past several years. Projections show that without significant policy reforms, and despite oil, YAR's prospects are bleak. However, timely reforms would considerably improve the country's prospects.

2.02 Section A explores the reforms-based scenario, which assumes that: (a) recoverable oil reserves are about one billion barrels; and (b) appropriate macroeconomic and sectoral policies, which promote efficient economic diversification, are followed. Section A also analyzes the sensitivity of YAR's prospects to lower oil prices and suboptimal policies. Sections B and C review the policies (macro and sectoral) assumed in the reforms-based scenario. Finally, section D examines how the manufacturing sector can contribute to efficient economic diversification.

A. MACROECONOMIC PROSPECTS: 1990-2000

a) THE REFORMS-BASED SCENARIO

2.03 YAR's prospects depend primarily on the economic policies the Government follows, the volume of transfers from abroad, the flow of official assistance, and oil revenue. The base case scenario assumes appropriate policies, which are spelled out in sections B, C and D. These policies consist mainly of progressive import liberalization, a competitive exchange rate, minimal non-concessional external borrowing, fiscal restraint, a greater tax effort and a more efficient financial intermediation including positive real interest rates. Partly because of better job opportunities in YAR during the oil era, private transfers are assumed to remain constant in real terms. Despite oil exports, YAR still needs official assistance, and it is assumed that the donor community will support YAR's reforms by committing about US\$130 million of concessional loans a year (in 1987 constant prices), i.e., about 80 percent of the average of the past two years.

2.04 The reforms-based scenario assumes recoverable oil reserves of one billion barrels and an extraction rate of 240,000 bpd during 1990-97, declining to 120,000 bpd by 2000. Intensive oil exploration is going on; however, unless more oil is discovered, the above extraction profile would virtually exhaust recoverable oil reserves by the turn of the century. It is also assumed that all extracted crude oil will be exported, except 10,000 bpd to feed the existing refinery. Projected oil prices are those of the Bank's Planning Assumption Committee; in current US dollars, they are assumed to more than double between 1989 and 2000. The Government's share in oil revenue is projected according to the Production Sharing Agreement. Government oil revenue would peak in 1997 at a little less than US\$ one billion in constant 1983 prices (about US\$1.9 billion in current prices), which would not compensate for the drop in private and public transfers from abroad during 1983-88 (\$1.1 billion in 1983 constant prices). Estimated reserves of gas (more than five trillion cubic feet) justify gas substitution for oil products, but they are not large enough to justify exports.

i) Medium-Term Prospects

2.05 Given the above mentioned assumptions, growth prospects would depend on the level of sustainable foreign borrowing. Projections show that YAR can hardly afford to borrow more than US\$50 million a year on non-concessional terms without creating an unsustainable debt burden by the turn of the century. By the year 2000, the debt service ratio and that of debt outstanding to GDP would be 10 percent and 15 percent, respectively. These are low ratios by international standards, and may give the false impression that in the short- and medium-term, YAR could borrow substantially more, without endangering its immediate creditworthiness. Therein lies the big danger. Unless more oil is discovered, the near exhaustion of oil reserves by the year 2000 would mean a precipitous fall in exports, the widening of the current account deficit (which, already, is projected to be about US\$600 million in 2000), and a rapid increase in the debt service ratio. However, larger non-concessional borrowing would result in an even more rapid increase in the debt service ratio after 2000.

2.06 Moderate external borrowing, as outlined above, would mean a moderate growth in imports (about 2.5 percent a year during most of the period, resulting in an elasticity of 0.6 relative to non-oil GDP). Despite this moderate growth, imports would represent more than 20 percent of non-oil GDP on average, and are expected to meet the country's import needs. This moderate growth of imports would help generate an annual current account surplus of about US\$150 million (in current prices) between 1990 and 1997. Such surpluses would allow the building up of foreign exchange reserves, from 1.2 months of imports in 1989 to a peak of eight months of imports in 1997. Given the projected steep decline in oil exports and the widening current account deficit after 1997, building up foreign exchange reserves would help smooth the transition to the post-oil era. However, even with such surpluses, the volume of foreign exchange reserves in 2000 (about US\$1.7 billion) would represent only about three times the current account deficit in the same year.

2.07 The moderate growth of imports is predicated upon rapid progress in import substitution due to an active exchange rate policy. It also assumes restrictive fiscal and credit policies, as well as conservative investment and growth targets. Following its rapid growth during 1987-88 (nearly 10 percent a year), investment would grow moderately (three percent a year), while non-oil GDP growth would hover around four percent a year until 1997. This would require lowering the non-oil ICOR (five year, one year lag) from its relatively high historical level (over 4.5) to an average of 3.8. This would mean a significantly improved investment efficiency, which is expected to result from: a) a more competitive exchange rate and better incentives; b) a higher capacity use due to a more liberal import policy; and c) a better investment selection due to more realistic interest rates.

2.08 Thus, in this scenario, higher efficiency and higher savings are crucial objectives. However, despite the major savings effort required by these projections, the annual growth of private consumption is expected to exceed that of population by about one percentage point. The positive--though low--growth rate of per capita private consumption provides a crude test of the political feasibility of these projections; however, during the oil era, such a limited increase in consumption might prove to be a difficult objective.

2.09 The projected fall in oil exports after 1997 would require more restrictive policies in the outer years, notably slower growth of GDP, investment and imports. As mentioned above, even with these prudent policies, YAR's external position by the year 2000 would not be strong, as the accumulated foreign exchange reserves would grant a respite of only a few years. However, YAR's prospects could be further improved by one or more of the following: a) a faster increase in non-oil commodity exports (projected to grow seven percent a year, but from a very small base); b) the resumption of large scale labor migration to neighboring oil-exporting countries due to higher growth there; and c) major oil or mineral discoveries.

ii) short-term prospects: 1990-1991

2.10 A closer look at the remainder of the Third Five Year Plan (1987-91) shows that YAR's external position will continue to be tight due to: (a) relatively low oil prices; (b) the large share foreign contractors have in oil exports (US\$340 million a year); and (c) the large debt service obligations, notably on previously rescheduled loans. Thus, the policies which are mapped out above, should be implemented without delay, to ensure the sustainability of growth in the 1990s. It is projected to reduce the current account deficit in 1990 (to US\$165 million) and to generate a surplus of about the same amount in 1991. This should be feasible, as gross oil exports are expected to double (from about US\$800 million in 1988 to about US\$1,600 million in 1991).

2.11 This objective is, nevertheless, contingent upon stringent--especially for the beginning of the oil era--trade and domestic policies, aiming at limiting the annual growth of imports to about 2.5 percent in real terms. Despite the projected low growth, imports would represent about 26 percent of GDP, and are expected to satisfy YAR's needs. Scarce foreign exchange should be allocated among these needs, through an exchange rate which reflects the real scarcity of foreign exchange; and not through direct import controls, which, on the contrary, should be considerably relaxed.

2.12 To ensure that domestic growth remains moderate, the Government should cool down the economy, notably by suppressing the budget deficit, which has been the main cause of the economic overheating that has characterized the past several years. Higher oil and non-oil revenue should help lower the ratio of the deficit to GDP to about four percent in 1990 and turn it into a surplus in 1991. In the process, budgetary savings, which have been negative for the past 10 years, would turn positive as early as this year. Despite the availability of savings, capital expenditures are projected to increase only moderately. In this way, excessive pressures on the external account., can be avoided, with debt servicing and the building up of foreign exchange reserves still possible.

2.13 Even with a smaller current account deficit in 1990 and a surplus in 1991, external resource requirements are projected to remain high during 1990-91, mainly due to higher amortization of loans (about US\$225 million a year), and large oil investment repayments (about US\$190 million in 1990). Higher amortization would result in negative--though small--net flows on official loans until 1993. In the absence of commercial borrowing, it would be necessary to draw-down foreign exchange reserves by about US\$50 million in 1990 (to a little less than one month of imports). YAR's external position should somewhat improve in 1991, when oil investment repayments will cease and the volume of oil extraction is expected to increase 19 percent to reach the 240,000 bpd plateau. In 1991, foreign exchange reserves are projected to augment by about US\$30 million (to 1.1 months of imports).

b. SENSITIVITY ANALYSIS

2.14 YAR's prospects are quite sensitive to international oil prices and to domestic economic policies, as shown by the following two scenarios. The first scenario is based on international oil prices that are 25 percent lower than in the base case. It shows that with the same real variables (e.g. volume of oil exports, GDP growth, import elasticity, investment) and foreign exchange reserves of two months of imports, an early deterioration in YAR's external position is likely. In particular, there would be no current account surpluses, but rather an annual deficit of about US\$300 million until 1997 (after which oil extraction would start falling), and about US\$one billion during 1998-2000. Additional borrowing needs would exceed US\$1.5 billion in 2000, and assuming that these needs would be met--a highly unlikely event--the debt service ratio and that of debt outstanding to GDP in that year would reach 49 percent and 42 percent, respectively. The deterioration would accelerate afterwards, with the near exhaustion of oil reserves. Clearly, this scenario is unsustainable. Unless more oil or mineral resources are discovered, a significant and lasting decline in the standard of living would be inevitable.

2.15 The second scenario is based on the same volume and price of oil used in the reforms-based scenario, but it assumes that inappropriate policies will be followed. In particular, imports' elasticity to non-oil GDP would be equal to 1.1 (versus 0.6 in the reforms-based scenario), due to a higher exchange rate and slower progress in import substitution. Investment would grow more slowly and ICOR would be higher, reflecting lower efficiency due to inappropriate incentives (e.g., overvalued currency, negative interest rates, too generous tax exemptions, etc.). The annual growth of the non-oil GDP would average three percent during most of the 1990s and fall to one percent after 1997. As a result, private consumption would grow at about the same pace as population until 1995, and is projected to stagnate afterwards. By comparison, in the reforms-based scenario, the growth rates of non-oil GDP and of private consumption would remain close to four percent a year, even in the outer years.

2.16 Instead of building up foreign exchange reserves for the lean years of declining oil exports, this scenario assumes that foreign exchange reserves would stabilize at about three months of imports. External borrowing needs (in addition to concessional borrowing, assumed to be the same as in the reforms-based case scenario) would average US\$110 million a year until 1997, versus US\$50 million in the reforms-based case scenario. These needs would soar to more than US\$600 million a year after 1997 (nearly US\$800 million in 2000), while they would remain equal to US\$50 million a year in the reforms-based scenario. Assuming these borrowing needs are met by commercial loans--a highly unlikely event in view of the near depletion of oil reserves by 2000--the ratio of debt outstanding to GDP and the debt service ratio in 2000 would be 28 percent and 16 percent, respectively. In addition, the ratio of foreign exchange reserves to the current account deficit would be 95 percent. By comparison, in the reforms-based scenario, the same figures would be 15 percent, 10 percent and 280 percent, respectively. Although a deterioration after 2000 is also implicit in the reforms-based scenario, it would happen much faster and would be much more serious in this scenario. Hence the importance of efficient policies, which are reviewed below.

B. THE MACROECONOMIC FRAMEWORK

2.17 Sustainable growth during the next several years is contingent upon an appropriate strategy, the core of which should be: (a) the use of oil revenue to improve the country's long-term growth prospects; (b) and the diversification of the economy to reduce its excessive dependence on oil, aid and private transfers from abroad; and (c) limited external commercial borrowing. Given the relatively short oil era, it is crucial to take advantage of the good years to prepare for the lean ones of declining oil revenue. This would notably require building up foreign exchange reserves to smooth the transition to the post-oil era. It would also require rapid progress in efficient import substitution and non-oil exports in order to avoid unsustainable external deficits in the post-oil era. Finally, it would necessitate a sustained increase in the presently low tax effort so that tax revenue can compensate for the decline in oil revenue. Although these concerns may seem remote, they must be addressed as soon as possible because, clearly, several years will be needed to improve the country's capacity to substitute domestic production for imports and to strengthen the weak tax system. Progress in achieving these objectives can be made by implementing the following mutually supportive policies.

a) Efficient Use of Hydrocarbon Resources ^{1/}

2.18 It is essential to base economic decision-making on prudent estimates of oil resources, rather than on hopes of further discoveries, and to adopt an extraction profile which avoids a too rapid depletion of oil. Since only a certain proportion of oil revenue should be viewed as income that can be spent on consumption, an adequate proportion of oil revenue should be invested to improve YAR's long term prospects. The amount to be invested should be such that its return compensates for the expected decline in income from oil. The proper proportion of oil revenue to be invested decreases with the life expectancy of oil reserves and the social discount rate. In the case of YAR, assuming that oil reserves last 15 years and that the discount rate is 10 percent, the minimum proportion of oil revenue to be invested is 22 percent.^{2/}

2.19 Investing an appropriate proportion of oil revenue should not affect the adequate financing of operation and maintenance, which have been seriously underfinanced in recent years. Investment should include investment abroad, to build-up foreign exchange reserves. Domestic investment in direct production is better left to private initiative (Yemeni and foreign) ^{3/}. Public investment should concentrate on: (a) developing the country's oil and gas resources; (b) expanding and improving its physical infrastructure (para. 2.44); and (c) developing human resources (paras. 2.40-2.43). Development of the energy sector should reflect the probability that YAR has more gas than oil. Therefore, the economic viability of gas substitution for fuel oil (e.g., in the power and cement plants) should be rapidly investigated and once established, gas substitution should be quickly carried out (para. 2.38).

^{1/} See also paragraph 2.39.

^{2/} For more information, see Annex II and S. El Serafy: The Proper Calculation of Income from Depletable Natural Resources, to be found in Environmental Accounting for Sustainable Development; edited by Ahmad, El Serafy, Lutz. A UNEP-World Bank Symposium, Washington D.C. 1989.

^{3/} The Government has recently requested assistance from the UN Center on TransNational Corporations in promoting foreign investment in YAR, notably in joint-ventures.

b. Diversification of the Non-Oil Economy: Trade Policy and Financial Intermediation

2.20 It is essential to promote the development of the non-oil tradables sector, particularly agriculture, manufacturing and mining. In addition, tourism has the potential to create job and increase foreign exchange earnings. Diversification has always been a priority, given the weight of transfers from abroad in the economy. Now, with the drop in these transfers and with the likelihood that the oil era will be short, diversification has become more important than ever. Diversification requires efficient sectoral policies which are detailed below (Sections B and C). However, as the past mediocre performance of the tradables sector (particularly agriculture) has shown, appropriate sectoral policies alone will not suffice to foster growth--not if macro policies continue to encourage imports and consumption. In that respect, an appropriate trade policy and stronger financial intermediation are essential.

2.21 An overvalued exchange rate is among the most counterproductive of policies. As the recent history of countries which have benefited from windfall income has shown,^{1/} oil revenue increases the likelihood of such overvaluation, which discriminates against domestic production, and encourages imports and capital flight. Although it could not be excluded that market forces, reflecting the improvement in YAR's external position due to oil exports, may push the rial upwards, such a risk appears to be limited; oil revenue is barely expected to compensate for the loss in private transfers from abroad since 1983. A competitive exchange rate--coupled with sustained restrictive fiscal and credit policies--is the best way to foster the efficient development of the tradables sector and to check imports and consumption. In the past, when imports represented over 60 percent of GDP, the overvaluation of the rial may have moderated inflation, at the cost, however, of excessive consumption and imports, stagnating agriculture, and rapidly dwindling reserves of foreign exchange. This policy has become even less defensible since imports declined to less than 30 percent of GDP, and are projected to stabilize around 25 percent of GDP. As mentioned above (para. 1.24), the concern about the inflationary effects of devaluation is largely unjustified, since even before devaluation, prices of imported goods and services already reflect their scarcity. In any case, any inflationary effect of devaluations can be reduced by simultaneous reductions in tariffs and in quantitative restrictions. Different ways to get closer to a competitive exchange rate are reviewed below.

2.22 Since the overvaluation of the currency is ultimately due to the oversupply of rials through large budget deficits, reducing the latter or turning it into a surplus is essential for a competitive exchange rate policy. Simultaneously, import restrictions should be gradually relaxed, and the foreign exchange market, which the Government has nearly suppressed in its efforts to stabilize the rial, should be revived. In particular, money

^{1/} YAR itself experienced a windfall income during much of the 1970s and the early 1980s, in the form of large inflows of private and official transfers from abroad. Inappropriate policies led to a lasting overvaluation of the currency and to excessive consumption and imports.

changers who were closed in early 1987 (para. 1.23), should be allowed to reopen. Also, the monetary authorities may want to auction off foreign exchange to importers. Investing a significant fraction of oil revenue abroad (para. 2.06) would not only help smooth the transition to the post-oil era; it would also facilitate the a depreciation of the rial.

2.23 While smaller budget deficits and/or surpluses would help adjust the exchange rate to more realistic levels, such an adjustment would, in turn, improve the fiscal position. For instance, this, a 35 percent devaluation to offset the appreciation of the real effective exchange rate during 1987-88 would have increased the rial value of the Government oil revenue, customs revenue, grants and external loans by about YR4,000 million in 1988. The same devaluation would have increased expenditures (assumed to have a 28 percent import content, i.e., the ratio of imports to GDP) by YR2,200 million in 1988, which would have reduced Government domestic borrowing by about 34 percent.

2.24 Studies (like the above mentioned one on domestic resource costs and effective protection, which estimates the rial to be overvalued by 20 percent to 50 percent), can help in guiding the monetary authorities towards an appropriate exchange rate. However, since studies tend to take too much time, a pragmatic trial and error approach is a suitable alternative. The budget deficit should be rapidly suppressed, and import restrictions simultaneously relaxed, leading to the gradual depreciation of the currency. This step by step approach does not mean that there is no urgency. On the contrary, the exchange rate needs to be adjusted as soon as possible, at least to offset the 35 percent appreciation of the last two years (para. 1.26).

2.25 While the exchange rate should be the main instrument of trade policy, the import restrictions introduced in 1984 should also be considerably relaxed. Actually, reducing import restrictions is an important means to free the presently hampered demand for foreign exchange, and to bring about a depreciation of the exchange rate. An appropriate exchange rate would also confine tariffs to revenue-earning purposes. However, even for such purposes, excise taxes on imports and on domestic production would still be preferable to high tariffs, as the former would have a larger tax base and would be less distortionary.

2.26 In view of the drop in private transfers from abroad, the relatively short oil era, and YAR's insignificant commodity exports, export-promoting policies are crucial. In particular, the proximity of rich neighboring countries which, potentially, offer good possibilities for exports, should be exploited. While export subsidies do not appear advisable, export promotion policies should include, in addition to a competitive exchange rate, duty drawback schemes, and other appropriate incentives (e.g., income tax exemption, preferential export credits, etc.).

2.27 Economic growth, notably that of the tradables sector, would also require higher savings and a better selection of projects, i.e., more efficient financial intermediation. The latter, in turn, necessitates a political commitment to ensure speedy recovery of debts and market-clearing interest rates. Smaller budget deficits and/or surpluses are expected to bring down inflation, which would result in positive real interest rates. However, developments on this front should be closely monitored to ensure that the levels and structure of interest rates are appropriate, not only vis-à-vis inflation, but also vis-à-vis yields on foreign currency deposits. Smaller

fiscal deficits and/or surpluses are expected to decrease the overliquidity of the economy, which could be alleviated still further by allowing banks--as they were before the early 1980s--to lend abroad. This is consistent with the policy of building up reserves of foreign exchange.

c. Demand Management and Domestic Resource Mobilization Policies

2.28 It is important to prevent a rapid growth of domestic demand during the oil era, in order to curb consumption and imports, to increase savings, and to ensure an appropriate exchange rate. At present, the budget deficit is a major factor of excess demand, but it could be suppressed if domestic resource mobilization is improved and spending is moderated. Given the presently low tax effort, efficient domestic resource mobilization policies could yield an annual growth in non-oil revenue of several percentage points above the growth of non-oil GDP. The yield of import taxes, which are by far the largest source of non-oil revenue, could be increased by simplifying the import tax structure, reducing exemptions, discouraging smuggling, and relaxing quantitative restrictions on imports. Revenue from excise taxes could be increased by enlarging their scope--presently very limited--and by changing them from specific to ad valorem to benefit from the far greater buoyancy of ad valorem taxes relative to price increases. In particular, the presently undertaxed qat ^{1/} and oil products could provide greater revenue. In addition, revenue from taxes on net incomes and profits could be expanded, notably by reducing exemptions and by using presumptive taxation, which relies on proxy indicators of profit in the absence of reliable accounting data.^{2/}

2.29 A potentially important source of non-tax revenue is user charges for services provided by the Government. Higher user charges, especially in education and health, could increase not only revenue but also efficiency and equity. Appropriate user charges promote efficiency by encouraging the private sector provision of services and by reducing the overconsumption of services that results from underpricing. Higher user charges could improve equity by increasing Government revenue, thereby permitting the expansion and improvement of services, particularly to underserved rural areas. Higher charges would also reduce subsidies to the better-off, who benefit more from the subsidies because they generally use the services more than the poor.^{3/}

2.30 Moderation in public spending is needed to curb demand and to reduce the risk of unsustainable budget deficits after the oil era. Following several years of underfinanced recurrent expenditures, their adequate funding is a priority. The public investment program should be continuously reviewed to avoid costly "white elephants". Again, the recurrent cost requirements of new investments, likely to last well beyond the oil era, should be carefully considered. In the oil era context, unjustified growth in recurrent

1/ Qat is a widely consumed, mild stimulant.

2/ More detailed recommendations are provided in YAR - Domestic Resource Mobilization, User Charges and Recurrent Expenditures. June 23, 1987.

3/ Ibid

expenditures might also result from unwarranted wage increases or hiring in the public sector. The temptation to do so should be resisted, as it is bound to create very difficult social, political and economic problems at the end of the oil era. In view of the still large share of defense spending in the budget (para 1.21), a careful review of priorities among defense and development expenditures is in order.

2.31 At present, most of the Government's poverty alleviation efforts aim at increasing the availability of basic services, rather than at securing a minimum income for everyone. These efforts are complemented by a limited program (para. 1.14, 1.31) that provides cash and food to the poor (mainly the disabled, orphans, the elderly, widows and divorced females). Such poverty-focussed actions are more cost-effective than indiscriminate welfare programs (e.g., a general consumer subsidy), which can be detrimental to economic efficiency. Expected budgetary improvement would not allow for expensive welfare programs to be set up, but would help fight poverty within the existing policy framework.

d. Prudent External Debt Management

2.32 Since oil is unlikely to significantly improve YAR's long-term creditworthiness, prudent management of YAR's external debt, together with a greater reliance on domestic resources and on foreign investment, is a priority. Growth targets should be moderate to ensure sustainable external deficits and borrowing. Due to this limited creditworthiness, non-concessional borrowing should not exceed about US\$50 million a year (para. 2.05). However, a possible overestimation of the volume, price and/or duration of oil revenue could easily result in the overestimation of the country's long-term capacity to service its external debt and might lead to overborrowing. Therefore, the country's servicing capacity should be reassessed periodically, to reduce the risk of overborrowing. Following the heavy short-term borrowing of the past few years, such borrowing should be limited in the future.

Conclusion

2.33 Policy changes, like the ones recommended above, are not painless. In particular, given popular expectations, restrictive policies may not be welcome at the beginning of the oil era. However, these policy changes are urgently needed; the longer they are postponed, the more painful they become. Moreover, the rapid correction of the serious macrofinancial imbalances, which resurged over 1987-88, would be an important credibility test of YAR economic management. Due to the relative absence of serious rigidities (e.g., food subsidy, unemployment benefits, high minimum wage) and to the relative recency of excessive protection (which appeared only in 1984), these policy changes should not be too costly. In particular, there are no well established, nor well organized vested interests to challenge the recommended changes. Nor is there any special sequencing problem in implementing these policy changes; actually, many of these changes reinforce each other and should be carried out simultaneously. Increasing the low tax effort, notably through the expansion of the generally less painful excise taxes, should be feasible. So should be the gradual relaxation of import restrictions and the depreciation of the currency. As mentioned above (para. 2.21), the simultaneous reduction in protection would moderate any inflationary effects of devaluation. The Government should concentrate on the real cause of inflation, which is the rapid increase in the money supply through large budget deficits, and avoid,

precisely through fiscal restraint, the real effective appreciation of the currency. However, it would be appropriate to moderate the cost of these policy changes by expanding the Government income redistribution program (which accounted for less than one tenth of two percent of the budget in 1987), while keeping it well-targeted. Raising interest rates may be difficult due to YAR's cultural background, but at least, the Government should reduce inflation (by reducing its budget deficit) so that interest rates become positive. Alternatively, to circumvent the cultural constraints, the monetary authorities could leave the determination of interest rates to market forces and concentrate instead on managing the volume of credit.

C: Sectoral Issues and Priorities

2.34 Within an appropriate macroeconomic framework, sectoral policies should address the many sectoral issue facing YAR. In particular, it is essential to foster the development of the tradables sector in order to expand the domestic production base, diversify the economy, create jobs, and save and/or earn foreign exchange. Equally essential is the efficient exploitation of newly discovered gas and oil. In view of the still unsatisfactory education and health conditions, even by developing countries standards, the development of human resources remains a priority. Also essential in an arid country like YAR is the efficient management of water resources. Finally, YAR's development prospects will remain limited unless the rapid population growth (presently around three percent per year) is checked. Unfortunately, little progress has been made in managing water resources or in curbing population growth since the last CEM ^{1/}, whose recommendations, thus, remain valid. The sectoral priorities are presented below.

(a) Agriculture

2.35 Agriculture policies must tackle the shortage of water and the prevalence of low-yield, traditional farming methods. Reducing the shortage of water will require an in-depth inventory of water resources and a master plan for their future use. The operation and maintenance of existing waterworks should be improved. On the demand side, measures should be taken to improve cost recovery and control groundwater extraction. However, given the traditional water rights and the tribal structure of the YAR society, progress may vary depending on local conditions. The most promising way to rationalize water use is to improve irrigation efficiency. Increasing productivity will require the diffusion of improved varieties, an increase in fertilizer use, and the construction of rural roads and markets. For livestock, the potential for improvement lies in the selection and multiplication of superior local breeds, disease prevention, and the expansion of forage production and by-product use. The Government has played, and should continue to play, a major role in many of these areas, particularly research and extension.

1/ Report No. 5621-YAR Current Position and Prospects, March 17, 1986.

(b) Industry^{1/}

2.36 Industrial policies must address: (i) an inadequate policy and regulatory framework; (ii) the weakness of sectoral institutions; (iii) the unclear policy towards small-and medium-scale industries (SMIs); and (iv) the inefficiency of public enterprises. This requires normalizing industrial licensing, which has been virtually suspended during the last few years; allowing the import of needed inputs and equipment; and revising the incentive system. It is also important to design a cost-effective policy to assist SMIs, notably by providing them with extension and technical assistance. While there are only a handful of industrial public enterprises, their efficiency is low; it is, therefore, important to review their performance and strengthen the Government's oversight of these enterprises. For those which are intrinsically viable, a rehabilitation action plan should be designed and implemented.

(c) Mining

2.37 At present, mining is limited to salt extraction and quarrying (of stones, marble and gypsum), but potentially, the sector can contribute significantly to economic diversification and the development of the tradables sector. Further exploration efforts should be concentrated on potential gold, silver, zinc and other sulphide mineralizations. A legal framework, including incentives, is needed to attract foreign investment in mineral exploration and development. Finally, sectoral institutions need to be strengthened.

(d) Energy

2.38 In the oil and gas subsector, the priorities are: (i) the efficient development of hydrocarbon resources, notably the substitution of gas for oil where feasible, (e.g., in power generation and in the cement industry); since the envisaged second refinery would considerably reduce the potential for gas substitution, its economic justification should be carefully reviewed; (ii) the adoption of an efficient oil extraction profile; (iii) appropriate domestic oil prices to discourage excessive consumption and increase exports; and (iv) the strengthening of the Ministry of Oil and Mineral Resources and the national oil company. In the power subsector, the main priority continues to be the expansion of the distribution system to include major industrial consumers and areas not yet connected to the grid; in this way, the excess generation capacity can be reduced.

(e) Water Supply

2.39 The immediate priority in this subsector is to expand the supply of potable water in Taiz, where water is becoming increasingly scarce. For the medium-to-long term, it is essential, in an arid country like YAR, to rationalize demand (through protection against overexploitation and through the efficient pricing of water). It is also important to plan for an adequate supply of water, which requires the preparation of water supply master plans. The sectoral institutions, in particular the National Water and Sewerage Authority and the newly created High Water Council (HWC), should be strengthened, and a special authority for rural areas should be established. However, in view of the relatively large number of institutions, overall coordination by HWC is essential.

^{1/} See Section D and Annex IV.

(f) Human Resources ^{1/}

2.40 The development of human resources is a good way to compensate for YAR's poor natural resources. Despite the rapid development in human resources over the past two decades, and due to YAR's late start in development, much remains to be done. School enrollment rates are still low (67 percent and 10 percent at the primary and secondary levels respectively, and much less for the female population). Education costs are high and the workforce is largely unskilled including the migrant workers. Population growth is too high (three percent annually), and health indicators are still those of a very poor country (e.g., life expectancy is 46 years and infant mortality is 151 per thousand).

2.41 Therefore, and as mentioned above (para. 2.19), human capital is one of the priority areas for public investment. In addition, Local Development Councils, which have been quite active in education and health, should be encouraged to contribute more to the financing of these sectors, notably through appropriate incentives. Similarly, users should contribute more to the financing of the recurrent expenditures of the social sectors, mainly through higher user charges. Furthermore, the recurrent costs of education, which are too high partly due to the large number of expatriate teachers (more than 80 percent of the total), should be reduced by increasing the supply of Yemeni teachers.

2.42 Given the persistent shortage of scientific and technical skills in the workforce, vocational training should be expanded and improved. The envisaged Vocational Training Agency (para. 2.15, f of Annex III) has the potential to increase the supply of skilled trainees, provided that enough resources are allocated to it, e.g., through a levy that would be neutral vis-à-vis labor intensity. On the demand side, it is important to promote the employment of trainees, notably by taking into account employers' needs when formulating training programs. It is equally important to preserve the labor market's flexibility, particularly in the area of wages. Also, excessive protection, too low interest rates, and too generous tax exemptions on equipment imported by large firms should be avoided since they artificially encourage the use of capital and discourage that of labor.

2.43 In the population, health and nutrition subsectors, the main problems are: (i) the high demographic growth and the lack of a population policy; (ii) the inadequate knowledge of sound health practices among the population; and (iii) the limited access to primary health care. Therefore, and despite the well known cultural constraints, the Government should begin to address the issue of population growth. Raising the population's awareness of family planning practices, sound health, hygiene, and nutrition through cost-effective information, education and communication activities is also important. Finally, improvements in the coverage of primary health care services, with a special focus on maternal and child health, are needed.

(g) Physical Infrastructure

2.44 In the urban subsector, the issues of rapid urbanization, insufficient cost recovery, and lack of maintenance should be addressed by expanding the supply of urban land and services, improving the municipal tax/cost recovery effort, and creating a maintenance department in the

^{1/} See Annex III.

Ministry of Municipalities and Housing with branches in major cities. Since the primary network is approaching completion, the priorities in the roads subsector are to selectively strengthen the pavement and to keep up maintenance abreast of traffic growth. Further expansion of the secondary network should be based on economic criteria. In the ports and civil aviation subsectors, the priorities are the upgrading of maintenance and the training of personnel. Port capacity (notably at Ras Issa) needs to be expanded to reduce transportation and storage costs of exported crude oil and of imported oil products; also, port tariffs need to be revised.

(h) Environment

2.45 The main issues in this subsector are excessive groundwater extraction, deforestation and desertification, and industrial and urban pollution. Therefore, the main priorities are to: (i) improve water resources management, especially groundwater; (ii) control desertification in lowland areas through dune stabilization and promotion of tree planting; (iii) control pollution from municipal and industrial sources, notably oil operations. In addition, sectoral institutions, notably the newly created Environmental Protection Council and the Forestry Department of the MAF, need to be strengthened.

(i) Women in Development

2.46 The welfare of the Yemeni population could be considerably improved by increasing women's role in development. The latter is especially important in agriculture, due to the massive male migration. Women farmers have not been displaced by returning migrant workers, who have tended to take up small-scale commercial and other activities. However, extension services continue to be directed at, and staffed mainly by men, although an effort is being made under several IDA projects to correct this bias. More should be done to include women in outreach and other services. The role of women is also crucial in population, and health and nutrition, where progress depends on expanding the knowledge of sound practices. This requires further efforts to increase the enrollment of females in both formal and informal education.

D. The Diversification Process: Tapping the Manufacturing Sector's Potential^{1/}

2.47 The manufacturing sector has the potential for rapid growth and diversification, as illustrated by its high annual growth rate during 1970-85 (12 percent). However, growth slowed down to five percent per year during 1985-87, due to the shortage of foreign exchange and subsequent investment and import restrictions. Considering that the manufacturing sector imports about 90 percent of its capital goods and 75 percent of its raw materials, these restrictions have had a crippling effect on the sector.

2.48 In addition to this high dependence on imports, manufacturing is also constrained by, inter alia, a shortage of managerial/technical skills, inadequate technology, weak intra- and intersectoral linkages, weak sectoral institutions, and an incentive system which needs improvement. Renewed growth

1/ Based on Annex IV.

in manufacturing requires: a) an open-door policy for foreign investment and technology transfers; b) technical support programs, notably for the production of inputs; and c) improved incentives and regulations. These are briefly examined below.

2.49 Coupled with the high degree of import dependence is the capital-intensive nature of manufacturing in YAR, which is due, in addition to the incentive system, to a shortage of managerial/technical manpower. The shortage of skilled manpower also acts as a major constraint to achieving technological advances in the domestic production of basic inputs and intermediate products. Therefore, the Government should facilitate foreign investment and the transfer of technology; technological links with more advanced countries should also be explored. In addition, the Government should develop a modest technology infrastructure to enhance the quality and diversity of manufactured products. Key ingredients would include facilities for an exchange of information on the sources and uses of relevant technologies; service centers for materials testing, product design and specifications; and technology extension services for the private sector, especially small- and medium-scale industries.

2.50 Due to the unreliable quality and supply of local raw materials, there has been a tendency toward vertical integration: traders manufacture products they trade in, and subsequently establish production units for the inputs they require. This preempts intraindustry linkages and subcontractual arrangements among or between large and small firms. Unlike large firms, small and medium enterprises (SMEs) lack access to technical/support services and training, as the institutional framework to serve their needs is either inadequate or non-existent. Therefore, a program to provide extension services to SMEs, and to promote subcontractual arrangements between them and large enterprises, should be developed.

2.51 Another program should be launched to strengthen intersectoral linkages and to exploit import-substitution opportunities where they exist. A few manufacturing firms are forced into agricultural production, but the potential for the local sourcing of industrial raw materials has not been fully exploited. Good prospects for import substitution exist in food processing and light engineering industries. The program should provide technical services to producers of industrial raw materials in order to assure reliable quality and supplies. It should initially focus on strengthening linkages between agricultural production and food processing industries, and between light engineering firms and the industrial sector as a whole. The integration of this technical assistance program with the proposed technology infrastructure should also be explored.

2.52 Government institutions responsible for industrial development have acquired considerable experience in planning and administration, but they need to be strengthened in the areas of investment programming, project evaluation, policy formulation, public enterprise management, and the design and delivery of public services. To improve the efficiency and performance of public and mixed enterprises, the Government should assist in corporate planning and management; in addition, the Government should establish criteria for screening investments and for setting pricing policies and should carry out a technical/managerial restructuring program for selected enterprises.

2.53 By and large, the Government has refrained from crowding out private investment (except in 1987) or creating an inhospitable environment (except in the areas of investment licensing and foreign exchange allocation). However, the prevailing policy environment and the structure of incentives make it difficult for the private sector to plan, invest and produce in an efficient manner. New investments are at a standstill and existing plant capacities are grossly underutilized due to restrictions on import and industrial licensing. Industrial licensing and registration procedures should, ideally, be abolished, or at least merged and streamlined to discourage rent-seeking behavior and improve the investment climate. Foreign exchange resources should be made available for increasing capacity utilization and for viable new investments. The supply and demand for foreign exchange should be balanced through a flexible exchange rate policy, rather than through administrative procedures which are arbitrary and cumbersome.

2.54 Nominal tariffs in YAR are relatively moderate, but given the low level of domestic value-added in industry, they result in high effective protection. Although a degree of protection may be needed to sustain some infant industries, such protection should be time-bound, and overall protection should be lowered. It is also necessary to replace non-tariff barriers by appropriate tariffs and to reduce interindustry disparities in effective protection. A study needs to be carried out to assess the combined effect of tariffs and taxes on the structure of incentives. The study is likely to recommend measures to: (a) reduce the number of duty rates and tariff subclassifications; (b) consolidate all duties and charges into a single tariff schedule; and (c) establish a band of duty rates by setting a minimum rate of 5 percent and reducing the maximum to a level commensurate with an appropriate level of effective protection, and with the need to discourage smuggling. The study of domestic resource costs and effective protection ^{1/} should provide important inputs to the proposed tariff study.

2.55 Although YAR currently has limited export potential, the export growth seen in the past three years should be encouraged, and an environment to facilitate export growth should be created. To this end, the Government should: (a) clarify the policy for retaining export earnings and ensure its consistent application; (b) implement the duty-drawback scheme and consider its extension to indirect exports; and (c) provide tax and credit incentives to exporters.

2.56 Fiscal incentives for investment (Law No. 18 of 1975) are generous, often discretionary, complex to administer, and discriminate in favor of large, capital intensive enterprises. Guiding principles for the revision of the investment code, which is being considered by the Government, should include the following: a) the code should be clearly stated and readily available; b) it should be simple to apply and administer; c) incentives should be based on explicit, quantitative criteria; and d) exemptions should be time-bound and performance-related; although in principle, these criteria should be neutral among sectors or types of investment, given the need to promote exports, and in view of the existing anti-export bias, special exemptions for exporters would be appropriate.

1/ The Manufacturing Sector of the YAR: Effective Protection and Domestic Resource Costs. Preliminary Report by G. Fane and C. Jones, March 1989.

ANNEX 1: MACROECONOMIC PROJECTIONS
Table 1: REFORMS-BASED SCENARIO

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Current Oil Price (\$/Barrel)	14.1	17.0	17.5	18.6	19.8	21.0	22.3	23.7	25.8	28.1	30.5	33.3	36.2
Current Oil Price (1987=100)	79.7	96.0	98.9	105.1	111.9	118.6	126.0	133.9	145.8	158.8	172.3	188.1	204.5
Remaining Oil Reserves (mil. barrels)	937	868	794	706	618	531	443	356	268	180	104	38	0
National Accounts Real Growth Rates (%)													
GDP	19.7	6.9	4.4	6.4	3.3	3.3	3.3	3.4	3.4	3.4	1.2	1.3	1.3
Oil	1909.6	18.8	6.6	18.5	0.0	0.0	0.0	0.0	0.0	0.0	-12.5	-14.3	-16.7
Non-oil	2.1	5.7	4.0	3.9	4.0	4.0	4.0	4.0	4.1	4.1	3.6	3.6	3.6
Consumption	-3.2	-1.2	3.6	2.8	4.0	4.0	4.0	4.0	4.0	4.0	4.1	4.1	4.1
Private	-8.5	-2.6	3.5	2.4	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9
Investment	7.3	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Exports of GNFS	591.1	13.9	6.7	17.9	0.4	0.4	0.4	0.5	0.5	0.5	-10.4	-11.8	-13.3
Imports of GNFS	-0.2	-15.9	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.2	2.2	2.2
Non-oil ICOR (5 Year)	4.2	3.6	3.6	4.0	4.1	3.7	3.9	3.9	3.8	3.8	3.8	3.8	3.9
Import Elasticity (Non-Oil)	-0.1	-2.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Import Elasticity (Total GDP)	0.0	-2.3	0.5	0.4	0.7	0.7	0.7	0.7	0.7	0.7	1.9	1.7	1.6
Investment as % Non-Oil GDP (constant)	15.6	16.4	15.8	15.5	15.2	15.1	14.9	14.8	14.6	14.5	14.3	14.2	14.1
Imports GNFS as % Non-Oil GDP (current)	39.3	36.4	25.9	25.9	23.9	22.4	22.0	21.7	21.4	21.0	20.7	20.4	20.1
Gross National Savings	232	4868	5722	8578	9046	8942	9087	9236	9787	10382	8866	7797	6461
		(in Millions of Constant 1987 Yemeni Rials)											
Current Account		(in Millions of Current US\$)											
Exports of Goods	853	1168	1291	1628	1735	1847	1967	2096	2285	2492	2393	2262	2082
o/w Oil Exports	803	1117	1230	1561	1662	1763	1872	1990	2166	2359	2227	2066	1850
o/w Contractor's Share	405	496	352	296	315	335	356	379	413	449	536	502	458
Exports of Non-factor Serv.	93	99	114	119	125	139	150	163	175	188	202	217	234
Imports of GNFS	1687	1459	1665	1729	1818	2000	2152	2319	2480	2650	2826	3017	3223
Total Private Transfer Rec'ts	343	287	320	324	333	358	376	396	413	431	450	470	491
Official Grants	91	161	168	168	168	168	168	168	168	168	168	168	168
Other (Net)	-388	-488	-392	-343	-341	-337	-337	-337	-339	-340	-388	-341	-303
Current Account (deficit = -)	-695	-225	-164	167	203	174	171	167	222	288	-2	-240	-551
as % GDP	-11.7	-3.5	-1.9	1.9	2.0	1.5	1.3	1.2	1.5	1.8	0.0	-1.3	-2.9
New Commitments	266	165	185	185	235	235	200	200	201	201	200	200	200
Concessional	266	165	185	185	185	185	150	150	150	150	150	150	150
Non-Concessional	0	0	0	0	50	50	50	50	50	50	50	50	50
Unidentified Non-Concessional	0	0	0	0	0	0	0	0	1	1	0	0	0
Gross International Reserves	400	228	180	210	347	551	889	1336	1822	2361	2598	2576	2230
Gross National Product	5680	6144	8209	8810	9979	11696	12719	13851	14971	16170	17040	18093	19229
Reserves as Months of Imports	2.2	1.3	1.0	1.2	1.9	2.7	4.1	5.8	7.3	8.9	9.0	8.5	7.1
Total DOD/GDP (%)	46.8	45.1	34.9	30.1	25.0	20.8	19.7	18.5	17.5	16.4	15.9	15.2	14.6
Total Debt Service Ratio(%) 1/	20.0	27.5	22.2	18.1	16.3	14.3	10.2	10.0	9.5	9.2	9.0	9.5	10.1

1/ Denominator includes workers' remittances and excludes contractor's share of oil receipts.

ANNEX 1: MACROECONOMIC PROJECTIONS
Table 2: 25% LOWER OIL PRICES SCENARIO

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Current Oil Price (\$/Barrel)	14.1	17.0	13.1	13.9	14.8	15.7	16.7	17.8	19.3	21.0	22.9	24.9	27.2
Current Oil Price (1987=100)	79.7	96.0	74.0	78.5	83.6	88.7	94.4	100.6	109.0	118.6	129.4	140.7	153.7
Remaining Oil Reserves (mil. barrels)	937	868	794	706	618	531	443	356	268	180	104	38	0
National Accounts Real Growth Rates (%)													
GDP	19.7	6.9	4.4	6.4	3.3	3.3	3.3	3.4	3.4	3.4	1.2	1.3	1.3
Oil	1909.6	18.8	6.6	18.5	0.0	0.0	0.0	0.0	0.0	0.0	-12.5	-14.3	-16.7
Non-oil	2.1	5.7	4.0	3.9	4.0	4.0	4.0	4.0	4.1	4.1	3.6	3.6	3.6
Consumption	-3.2	-1.2	3.6	2.8	4.0	4.0	4.0	4.0	4.0	4.0	4.4	4.3	4.3
Private	-8.5	-2.6	3.2	2.1	3.7	3.7	3.7	3.7	3.7	3.7	4.2	4.1	4.0
Investment	7.3	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0
Exports of GNFS	591.1	13.9	6.7	17.9	0.4	0.4	0.4	0.5	0.5	0.5	-11.0	-12.3	-14.0
Imports of GNFS	-0.2	-15.9	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.2	2.2	2.2
Non-oil ICOR (5 Year)	4.2	3.6	3.6	4.0	4.1	3.7	3.9	3.9	3.8	3.8	3.8	3.8	3.9
Import Elasticity (Non-Oil)	-0.1	-2.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Import Elasticity (Total GDP)	0.0	-2.3	0.5	0.4	0.7	0.7	0.7	0.7	0.7	0.7	1.9	1.7	1.6
Investment as % Non-Oil GDP (constant)	15.6	16.4	15.8	15.5	15.2	15.1	14.9	14.8	14.6	14.5	14.3	14.1	13.9
Imports GNFS as % Non-Oil GDP (current)	39.3	36.4	25.9	25.9	23.9	22.4	22.0	21.7	21.4	21.0	20.7	20.4	20.1
		(in Millions of Constant 1987 Yemeni Rials)											
Gross Domestic Savings	-203	5174	2379	4156	4452	4272	4341	4421	4754	5151	4075	2855	1557
Gross National Savings	2704	8119	4922	5982	6335	6253	6276	6258	6450	6701	5276	4227	3115
		(in Millions of Current US\$)											
Current Account													
Exports of Goods	853	1168	982	1233	1316	1402	1497	1601	1739	1896	1820	1711	1575
o/w Oil Exports	803	1117	920	1167	1242	1318	1402	1494	1620	1763	1672	1545	1390
o/w Contractor's Share	143	142	140	219	233	248	264	282	307	334	398	372	338
Exports of Non-factor Serv.	93	99	114	119	125	139	150	163	175	188	202	217	234
Imports of GNFS	1687	1459	1665	1729	1818	2000	2152	2319	2480	2650	2826	3017	3223
Total Private Transfer Rec'ts	343	287	320	324	333	358	376	396	413	431	450	470	491
Official Grants	91	168	168	168	168	168	168	168	168	168	168	168	168
Other (Net)	-126	-135	-180	-290	-311	-334	-364	-398	-435	-479	-562	-584	-623
Current Account (deficit = -)	-433	128	-261	-174	-186	-268	-326	-389	-420	-446	-749	-1035	-1377
as % GDP	-7.3	2.0	-3.1	-1.9	-1.8	-2.3	-2.5	-2.8	-2.8	-2.7	-4.3	-5.7	-7.1
New Commitments	266	165	479	528	672	581	522	518	605	688	1060	1404	1773
Concessional	266	165	185	185	185	185	150	150	150	150	150	150	150
Unidentified Non-concessional	0	0	294	343	487	396	372	368	455	538	910	1254	1623
Gross International Reserves	400	228	128	206	359	390	417	448	480	513	554	582	612
Gross National Product	5941	6498	8422	8863	10008	11699	12692	13791	14875	16032	16866	17850	18909
Reserves as Months of Imports	2.5	1.6	0.8	1.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Total DOD/GDP (%)	46.8	40.3	38.1	34.7	33.4	31.7	31.2	30.1	29.5	28.9	30.9	34.1	38.6
Total Debt Service Ratio(%) 1/	15.9	21.1	23.8	23.2	25.2	26.7	25.3	27.3	28.3	29.3	33.1	38.8	44.3

1/ Denominator includes workers' remittances and excludes contractor's share of oil receipts.

ANNEX I: MACROECONOMIC PROJECTIONS
Table 3: SUBOPTIMAL POLICIES SCENARIO

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Current Oil Price (\$/Barrel)	14.1	17.0	17.5	18.6	19.8	21.0	22.3	23.7	25.8	28.1	30.5	33.3	36.2
Current Oil Price (1987=100)	79.7	96.0	98.9	105.1	111.9	118.6	126.0	133.9	145.8	158.8	172.3	188.1	204.5
Remaining Oil Reserves (mil. barrels)	937	868	794	706	618	531	443	356	268	180	104	38	0
National Accounts Real Growth Rates (%)													
GDP	19.7	6.9	4.4	6.4	3.3	2.5	2.5	2.5	1.6	1.7	-1.2	-1.2	-1.2
Oil	1909.6	18.8	6.6	18.5	0.0	0.0	0.0	0.0	0.0	0.0	-12.5	-14.3	-16.7
Non-oil	2.1	5.7	4.0	3.9	4.0	3.0	3.0	3.0	2.0	2.0	1.0	1.0	1.0
Consumption	-3.2	-1.2	4.1	3.3	4.6	3.4	3.4	3.4	2.1	2.1	1.9	1.9	1.9
Private	-8.5	-2.6	3.9	2.8	4.5	2.9	2.9	2.9	1.2	1.1	0.9	0.8	0.7
Investment	7.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Exports of GNFS	591.1	13.9	6.7	17.9	0.4	0.4	0.4	0.5	0.5	0.5	-11.0	-12.3	-14.0
Imports of GNFS	-0.2	-15.9	4.4	4.3	4.4	3.3	3.3	3.3	2.2	2.2	1.1	1.1	1.1
Non-oil ICOR (5 Year)	4.2	3.6	3.6	4.0	4.1	3.9	4.4	4.5	5.1	5.8	6.9	8.3	10.6
Import Elasticity (Non-Oil)	-0.1	-2.8	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Import Elasticity (Total GDP)	0.0	-2.3	1.0	0.7	1.4	1.3	1.3	1.3	1.3	1.3	-0.9	-0.9	-1.0
Investment as % Non-Oil GDP (constant)	15.6	16.4	15.8	15.5	15.2	14.9	14.8	14.6	14.5	14.5	14.5	14.3	14.2
Imports GNFS as % Non-Oil GDP (current)	39.3	36.4	25.9	26.4	24.9	23.7	23.8	23.9	23.9	24.0	24.0	24.0	24.1
Gross National Savings	232	4868	5456	8118	8269	7911	7717	7484	7826	8194	6338	4961	3359
		(in Millions of Constant 1987 Yemeni Rials)											
Current Account		(in Millions of Current US\$)											
Exports of Goods	853	1168	1291	1628	1735	1847	1967	2096	2285	2492	2375	2232	2035
o/w Oil Exports	803	1117	1230	1561	1662	1763	1872	1990	2166	2359	2227	2066	1850
o/w Contractor's Share	405	496	352	296	315	335	356	379	413	449	536	502	458
Exports of Non-factor Serv.	93	99	114	119	125	139	150	163	175	188	202	217	234
Imports of GNFS	1687	1459	1697	1796	1926	2138	2321	2523	2692	2870	3028	3199	3383
Total Private Transfer Rec'ts	343	287	320	324	333	358	376	396	413	431	450	470	491
Official Grants	91	168	168	168	168	168	168	168	168	168	168	168	168
Other (Net)	-388	-488	-392	-346	-350	-356	-368	-383	-405	-429	-501	-480	-471
Current Account (deficit = -)	-695	-225	-197	97	86	18	-29	-84	-56	-20	-335	-592	-925
as % GDP	-11.7	-3.5	-2.3	1.1	0.8	0.2	-0.2	-0.6	-0.4	-0.1	-2.1	-3.6	-5.5
New Commitments	266	165	353	358	361	284	237	252	233	265	260	390	1025
Concessional	266	165	185	185	185	185	150	150	150	150	150	150	150
Unidentified Non-Concessional	0	0	168	173	176	99	87	102	83	115	110	240	875
Gross International Reserves	400	228	326	461	586	641	760	948	1120	1338	1222	952	988
Gross National Product	5680	6144	8209	8806	9969	11584	12484	13471	14295	15158	15575	16120	16685
Reserves as Months of Imports	2.2	1.3	1.8	2.5	3.0	3.0	3.3	3.8	4.2	4.7	4.0	3.0	3.0
Total DOD/GDP (%)	46.8	45.1	37.0	34.0	29.5	25.0	23.6	22.2	21.0	20.0	19.6	19.9	23.9
Total Debt Service Ratio(%) 1/	20.0	27.5	22.2	18.8	18.7	18.0	14.4	14.2	13.6	13.2	13.5	14.4	15.1

1/ Denominator includes workers' remittances and excludes contractor's share of oil receipts.

ANNEX II: THE CAPITAL CONTENT OF OIL REVENUE 1/

The proceeds from sales of depletable natural resources like oil (net of extraction costs) are available for consumption and for investment. However, the wise use of these proceeds requires that part of them be invested, so that the expected return on investment makes up for the expected decline in oil revenue. This means that the capitalized value of the infinite series of return on investment and of the finite series of oil revenue should be equal. The capital content of oil revenue, i.e., the proportion of oil revenue which should be invested (p) is given by the following formula:

$$p = \frac{1}{(1+r)^{n+1}}$$

where r is the discount rate, and n the life expectancy of oil reserves. It can be seen that p decreases as r and n rise. This means that with a smaller return on new investment, the country needs to invest a larger share of oil revenue to compensate for the future decline of revenue, and vice versa. It also means that a country which exhausts its oil reserves more slowly needs to invest a smaller proportion of its oil revenue, and vice versa. According to this formula, an annual real rate of return of five percent on investment and a life expectancy of oil reserves of 15 years would require that 46 percent of oil revenue be invested. Only 14 percent of oil revenue would need to be invested if the return on investment and the life expectancy of oil reserves are 10 percent and 20 years, respectively.

1/ Based on: Salah El Serafy's: The Proper Calculation of Income from Depletable Natural Resources, to be found in Environmental Accounting for Sustainable Development; edited by Ahmad, El Serafy, Lutz. A UNEP-World Bank Symposium, Washington D.C. 1989.

