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MACROECONOMIC POLICIES FOR POVERTY REDUCTION: THE CASE OF YEMEN

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ECONOMIC POLICIES FOR GROWTH, EMPLOYMENT AND POVERTY REDUCTION IN YEMEN

INSERT MAP OF YEMEN

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ABBREVIATIONS AND ACRONYMS

CACB	-	Cooperative Agricultural Credit Bank
CBS	-	Central Bureau of Statistics
CBY	-	Central Bank of Yemen
CD	-	Certificates of Deposits
CPI	-	Consumer Price Index
CSO	-	Central Statistical Office
DRDI	-	Domestic Resources for Development and Investment
EFARP		Economic, Financial and Administrative Reform Program
EU	-	European Union
FAO	-	Food and Agriculture Organization
FDI	-	Foreign Direct Investment
GDP	-	Gross Domestic Product
GNI	-	Gross National Income
GST	-	General Sales Tax
HDR	-	Human Development Report
HIES	-	Household Income and Expenditures Survey
ILO	-	International Labour Organization
IMF	-	International Monetary Fund
LDCs	-	Least Developed Countries
MDGs	-	Millennium Development Goals
MEGTWG	-	Macroeconomic & Employment Generation Thematic Working Group
NABARD	-	National Bank for Agriculture and Rural Development
NBY	-	National Bank of Yemen
NFD	-	Net Foreign Demand
NGO	-	Non-Governmental Organisation
NPS	-	National Poverty Survey
NSIC	-	National Small Industries Development Corporation
ODA	-	Official Development Assistance
PCFs	-	People's Credit Funds
PRSP	-	Poverty Reduction Strategy Paper
RBI	-	Reserve Bank of India
REER	-	Real Effective Rate
SEFM	-	Strengthening Economic and Financial Management
SFCs	-	State Financial Corporations
SIDBI	-	Small Industries Development Dank of India
SME	-	Small and Micro Enterprise
SURF	-	Sub-Regional Resource Facility for Arab States
TB	-	Treasury Bills
UN	-	United Nations
UNDP	-	United Nations Development Programme
VBARD		Vietnam Bank for Agriculture and Rural Development
VBP	-	Vietnam Bank of the Poor
WDI	-	World Development Indicators
YBRD	-	Yemen Bank for Reconstruction and Development
YCR	-	Yemen Country Report
YR	-	Yemeni Rial

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EXECUTIVE SUMMARY

Conditions of Mass Poverty

The starting point for analyzing the impact of economic policies on poverty in Yemen is the recognition that poverty afflicts, not a minority of the population, but a substantial majority. National policymakers confront 'mass poverty', not deprivation confined to only particular groups, sectors or regions. Hence, social safety nets and social welfare schemes are inadequate redistributive mechanisms to combat poverty. Economic policies take on added importance, as the principal means to accelerate broad-based, employment-intensive economic growth.

Based on data from the 1998 Household Income and Expenditure Survey, about two-thirds of Yemenis were estimated to be poor, i.e., their consumption of food was too low to provide 2200 calories per person per day and their overall expenditures were lower than the equivalent of US$ 1.50 per day (based on PPP conversion). The rate of mass poverty was higher in rural areas (about 70 per cent) compared to urban areas (about 58 per cent). If living below a dollar a day is regarded as extreme poverty, then about 42 per cent of all Yemenis were extremely deprived in 1998. In 2003 about 27 per cent of the population lived below the food poverty line, defined as expenditure necessary to procure the minimum 2200 calories per day. Indicators of human poverty confirm the wide extent of poverty. For example, over half of children under five years of age were stunted according to 1997 statistics and over four fifths of adults were illiterate or failed to complete primary school in 1998.

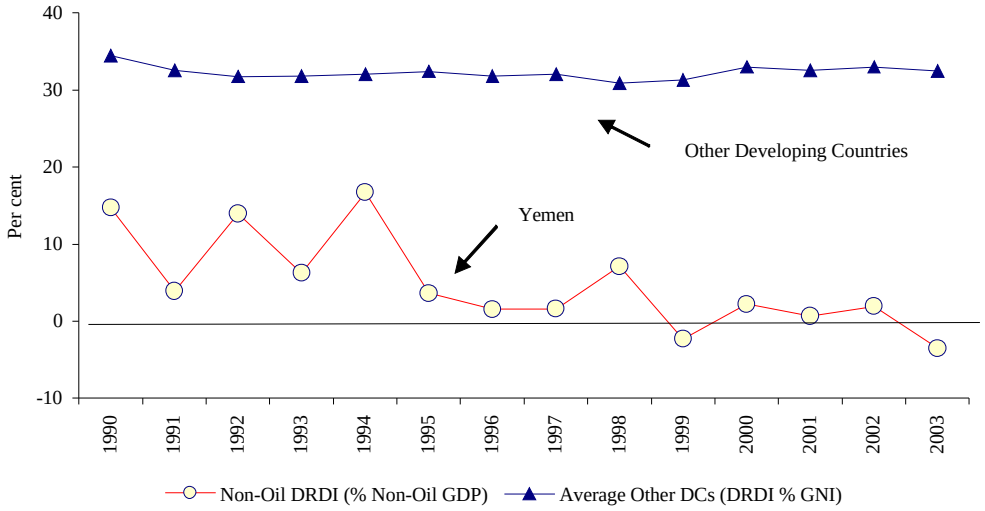
Poverty is not transient in Yemen, but deeply rooted in the economic and social structure of the country. About three quarters of the population lives in rural areas and is heavily dependent on agriculture. But most of agriculture has very low productivity and is oriented to self consumption. High population growth (well over three per cent per year) continually adds more mouths to feed, and eventually more workers in need of jobs. Water tables continue to recede as Yemen broadens the coverage of irrigation in order to amplify agricultural yields. For a while, it looked like Yemen was caught in the inexorable grip of a vicious downward cycle of increasing poverty, continuing rapid growth of population and spreading environmental degradation.

The Impact of Oil on Resource Mobilization

The discovery of oil in the 1980s and its large-scale production in the 1990s provided a critical window of opportunity to break this vicious cycle. The Government began to reap a substantial increase in revenue, with which it could expand investment in vital economic and social infrastructure and enlarge credit channels for private investment. Has Yemen been able to take advantage of this opportunity? Has it been able to mobilize this new windfall of resources for development purposes? A rough estimate of a country's potential to mobilize domestic resources is "Domestic Resources for Development and Investment" (DRDI). It measures gross national income minus private consumption expenditures. Since oil reserves are likely to be depleted over time, the real test for sustaining growth in Yemen is the country's ability to mobilize non-oil resources. In other words, has Yemen been able to convert its transient oil

wealth into productive wealth in the rest of its economy? This can be roughly measured by non-oil DRDI. Unfortunately, non-oil DRDI declined in Yemen after 1994 and has hovered close to zero after 1999 (Figure 1). This compares unfavorably to the general DRDI of other developing countries, which is also depicted in Figure 1.

Figure 1: Domestic Resources Available for Development and Investment (DRDI), 1990-2003



Notes: DRDI for other developing countries is the simple average for 108 non-LDC developing countries
Sources: WDI 2003, World Bank, and CSO, GoY, Statistical Yearbook various issues.

One might conclude that Yemen's oil revenues have been augmenting private consumption at the expense of investment. But even real private consumption per person was in general—though variable—decline during the 1990s, and in 2002 remained below its 1998 level. This is partly explained by a high population growth rate. In order to maintain levels of consumption per person, total consumption has had to grow by about 3.5 per cent per year. Thus, since squeezing further the already-low consumption levels of ordinary Yemenis would aggravate mass poverty; this is not a realistic option. Raising the generally low level of labor productivity, which is due to a lack of capital accumulation, is the only long-term solution.

Opening Up Fiscal Space for Development

The immediate resources for investing in new capital stock are oil revenue, workers' remittances and donor assistance. If oil revenue is included in calculations of resource mobilization, then the measure of DRDI rises from roughly zero to over 20 per cent of gross national income. If workers' remittances are also included, then DRDI (as a ratio to national disposable income, including transfers) rises to over 30 per cent—a percentage more comparable to that of other developing countries (Figure 1). There is a problem, however: these two sources of financing—oil and remittances—are likely not sustainable. Oil reserves are depleting and oil prices can fluctuate; while

remittances are unlikely to grow in the future and, in any case, can take unpredictable forms, such as 'hot money' speculation on short-term domestic financial assets.

At the same time, the Government has to plan for long-term development, based on predictable flows of 'permanent income', namely, income that can be utilized without reducing the net wealth of the country. Official Development Assistance can play a useful role in smoothing out the inevitable fluctuations in oil prices and thereby making the flow of government revenue more predictable. In other words, any variability in oil revenue would be absorbed by aid flows rather than the domestic economy. Such an ODA-based stabilization fund could eliminate the need for Yemen to hold large pools of investible resources in a surplus oil fund and pile up a large stock of foreign exchange reserves.

The opportunity costs of holding such reserves are high since their average rate of return is well below two per cent whereas the private and social rates of return of financing domestic investment would be much higher. The current boon of increased oil revenues needs to be harnessed to finance extensive public investment and build a financial system to adequately finance private investment. This will help accumulate permanent productive wealth for the country, which can compensate, if necessary, for any future decline in oil production.

Such productive wealth will also generate increased and sustainable flows of income, which can provide a level of tax revenue that can eventually replace depleted oil revenue. The Government of Yemen is currently able to mobilize relatively low non-oil revenues. As a percentage of GDP, such revenues are only about nine per cent; as a share of total revenue, they account for only 28 per cent. Oil revenues account for the other 72 per cent of the total—or 23.6 per cent of GDP (Table 1).

Table 1: Government Revenue, 1995, 1999 and 2003 (% of GDP)

Item	1995	1999	2003
Total Revenue	19.2	29.8	32.6
a. Oil Revenue	9.3	19.1	23.6
b. Non-Oil Revenue	9.8	10.7	9.1
i. Tax Revenue	8.0	7.7	7.1
ii. Nontax Revenue	1.9	2.9	1.9

While oil revenues helped enlarge total government revenue from about 19 per cent of GDP in 1995 to close to 33 per cent in 2003, non-oil revenue has remained relatively flat. In fact, tax revenue, which accounts for most of non-oil revenue, fell from 8.0 to 7.1 per cent of GDP during this period. This abysmally low level is a major problem that has serious long-term consequences for development. It needs to be addressed now, before oil revenues are close to exhaustion. An obvious part of the problem is that people enjoying rising incomes in Yemen—as a result of rising inequality of distribution—have not been obliged to pay their fair share of taxes.

Even though the economy has been growing, indirect taxes have fallen during this period. Though already low, taxes on goods and services dropped from 2.0 per cent in 1995 to 1.6 per cent of GDP in 2003. This is why instituting a General Sales Tax (GST), or some such consumption tax, makes sense at this juncture. A 10 per cent

GST could raise as much as five per cent of GDP in new revenue. But the distributional consequences of such a tax, which could be regressive in its impact, need to be assessed. There is a similar need for an excise tax on petroleum, as well as for eliminating many customs exemptions. Also, although controversial, a tax on Qat should be seriously considered. A land tax on large farm holdings, now much more common, and a tax on urban real estate should also be scrutinized. Such taxes would give the tax system a slightly more progressive structure. In addition, efficiency gains in tax administration could boost collection. Altogether, such measures could add revenue equivalent to 5-10 per cent of GDP. Such measures should be part of a coherent Tax Policy Master Plan, which has the long-term objective of substantially raising non-oil revenue, and doing it in an equitable way.

Expenditure-reduction and expenditure-switching policies could also help contain the Government's fiscal deficit, which stood at a negative 5.2 per cent of GDP in 2003 (and is projected to be less than five per cent in 2005). For example, military expenditures accounted for almost one fifth of total expenditures in 2003, a share little changed since 1998. Such expenditures should be brought down from over seven per cent of GDP to under four per cent.

Although explicit subsidies were drastically reduced after 1996, they rose again to almost 14 per cent of total expenditures in 2003—mainly because of energy subsidies. These amount to about five per cent of GDP, and thus are a significant distortion of resource allocation. It would be better to completely phase out these subsidies and earmark the resultant funds for investment in improving agricultural productivity, which would prove to be not only more equitable but also more productive. Other desirable expenditure management measures include refocusing the social welfare fund to make it more effective and lowering payments on government debt through lowering interest rates.

Fortunately, development expenditures have been on the rise, i.e., doubling from about 12 per cent of total expenditures in 1995 to over 25 per cent in 2003 (or almost 10 per cent of GDP). This trend should be reinforced, not only because it will stimulate more growth but also because such growth will generate more public revenue.

If expenditure reduction policies are combined with more aggressive efforts to raise non-oil revenue, a rough balance between expenditures and revenue could be maintained at 20-25 per cent of GDP instead of being allowed to drop well below 20 per cent. And deficits could be held well under 10 per cent of GDP. However, over the medium term, such achievements will depend on scaling up Official Development Assistance to a level significantly higher than the 3.5 per cent of GDP recorded in 2003. ODA will have to play, at least, a smoothing function during the transition to a system of public finance based principally on domestic non-oil revenue.

Financial Sector Development

Since 1995, the Government of Yemen has been carrying out substantial reforms in the financial sector. These have focused on financial liberalization combined with the strengthening of prudential regulations. However, commercial banks have been slow

to respond to these reforms. Most tellingly, they have been reluctant to lend for long-term private investment. Only one quarter of their assets comprise loans to the private sector, and these are mainly for trading activities. Over half of their assets are held in either government securities (27 per cent) or loans to overseas banks (28 per cent). Another 15 per cent are deposits at the Central Bank. As a result, domestic private investment has suffered and growth has been hampered.

Part of the problem is concentration in the banking sector: the top four banks account for about 70 per cent of both deposits and loans. Moreover, loans are concentrated in a small group of companies or networks of companies. These are often the same large companies that own many of the big banks.

Early government financial reforms focused on interest rates, mandating relatively high minimum benchmark deposit rates in order to stimulate savings. However, instead of increasing, the private savings rate declined, namely, from 27 per cent of national disposable income in 1998 to 13 per cent in 2003. Partly as a result, there has been only limited financial deepening in Yemen. For example, the ratio of M2 to GDP declined after 1995 and remained well below 50 per cent. Dollar deposits, which account for half of total deposits in Yemen, aggravate the problem. In order to pay interest on such deposits, banks loan extensively abroad. One of the most troubling statistics, which is related to capital flight, is the banks' low ratio of domestic loans to deposits, which declined from 60 per cent in the early 1990s to 37 per cent by the end of 2001.

Even when banks lend domestically, it is mostly for short-term purposes. Table 2 shows that close to half of commercial bank loans now go to trade. In 2003, the share of medium and long-term loans in total bank loans was a mere four per cent. Also, concentrated in cities, with virtually no branches in many rural areas, banks neglect the agricultural sector. The share of commercial bank credit going to agriculture dropped, in fact, from an already small 2.9 per cent in 2000 to a miniscule 0.6 per cent in 2003 (Table 2). Hence, not only is credit generally unavailable for productive purposes but also it is allocated inequitably.

Table 2: Sectoral Share of Commercial Bank Loans (%)

	Agriculture	Industry	Construction	Trade
1999	0.6	15.1	5.0	43.0
2000	2.9	17.2	4.8	40.9
2001	2.8	16.2	3.8	45.0
2002	1.4	20.7	6.8	48.0
2003	0.6	19.3	8.0	47.7

The current conditions in Yemen's financial sector suggest that Government should play a more pro-active role in encouraging lending that will promote long-term economic growth, employment generation and poverty reduction. Despite liberalization, commercial banks are not playing a healthy intermediation role in mobilizing domestic savings and channeling it to productive private investment. They are also not providing broad-based access to credit, especially in rural areas, where the great majority of low-income households are located.

This implies that the Government will have to provide various incentives in order to induce commercial banks to provide more long-term loans and direct more credit to

poor households. In order to prompt banks to provide long-term loans, the Government will either have to provide some form of insurance, such as loan guarantees; mandate that a certain share of bank assets be held in long-term loans; or rely more on state-owned banks to play such a developmental role. This is particularly important for industrial development, for which long-term financing is sorely lacking. In India, for example, banks are required to provide 40 per cent of their credit to what the Government considers 'priority sectors'.

Mandating loans to priority sectors can also help in directing more credit to agriculture or to industrial or service sectors that are employment intensive. Relying on incentive-based measures instead of mandates could involve specifying differential asset-based reserve requirements, in which banks could hold lower reserves for backing up loans to priority sectors. The Government could also provide support to banks to pool and underwrite small loans in order to reduce risk; or the Central Bank, drawing in part on its large stock of foreign exchange reserves, could open a special discount window for banks that agree to on-lend to priority sectors. However, such sectors should be defined broadly, namely, by their contribution to growth and employment generation as well as poverty reduction.

Monetary and Exchange-Rate Policies

In order to counteract capital flight and promote domestic savings, the Central Bank of Yemen has maintained relatively high benchmark interest rates. Unfortunately, not only have such rates not augmented domestic savings but also they have been a strong deterrent to private investment. Commercial banks have contributed to the problem by maintaining wide spreads between deposit and lending rates of interest, and by holding a significant share of their assets abroad.

The Central Bank has also used high interest rates to maintain a stable exchange rate. Since inflation puts downward pressure on the real exchange rate, the Central Bank has to periodically sell foreign exchange in order to contain depreciation. As a result, the Rial, the domestic currency, has depreciated usually by only 4-5 per cent a year. Since the inflation rate is now about 10 per cent per year, this implies that the Rial is appreciating. However, even if depreciation were more drastic, it could not solve Yemen's current account problems.

The Government's foreign exchange earnings from the oil sector have led to a more expansionary fiscal stance in recent years. Increases in the non-oil budget deficit since 2000 are an indication of this. However, inflation is weakly correlated to increases in the non-oil deficit. Other factors are at work that better explain movements in the price level. Since Yemen's economy operates far below full employment, fiscal expansion does not automatically translate into wage inflation. Also, part of the monetary impact of increased foreign exchange from oil sales is neutralized by expenditures on imports, which leak money out of the economy.

Thus, the symptoms of an overheated economy commonly associated with a so-called "Dutch Disease" are not readily apparent in Yemen. Thus, if larger aid flows were phased in, in tandem with the projected decline in oil revenues, and these flows were used to finance productive investment, especially in the tradable goods sector, inflation and exchange-rate movements would not likely become unmanageable.

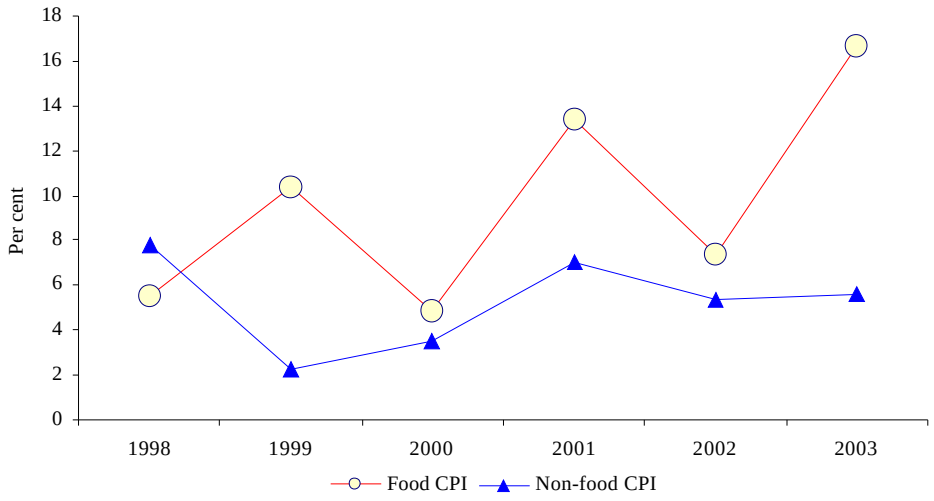
But if deficits are not the main cause of inflation in Yemen, what is? Since 2000, the accumulation of a large stock of foreign reserves has helped fuel inflation despite significant efforts by the government to sterilize their impact. Hence, the main monetary source of inflation has been movements in the balance of payments, not in the money supply per se. The Central Bank now holds about US$ five billion in foreign exchange reserves, equivalent to 14-15 months of imports—a huge stockpile.

Not only does this excessively large stock of reserves increase the domestic money supply, and thereby increase inflation, but also it deprives the economy of investible funds. This implies that if the financial system provided more credit to the private sector for investment purposes, which would stimulate more aggregate supply, inflation would be more likely to decrease than increase.

Supple-side factors, particularly supple-side shocks, have a marked impact on inflation in Yemen. Much of inflation is caused by cost-push rather than demand-pull factors. Adverse conditions in agriculture, such as droughts, can drive up food prices. Oil price fluctuations can also play a major role in domestic price movements. In previous years, hikes in administered prices, such as for diesel or electricity, raised the inflation rate.

Noteworthy is the high degree of volatility in food prices, especially for vegetables and Qat. While changes in non-food prices have been relatively stable in recent years, food prices have fluctuated more dramatically and been on an overall upward trend since the late 1990s (Figure 2). The rising price of food imports, mainly of wheat, has also boosted domestic food prices. Thus, such prices have been one of the main driving forces of inflation in Yemen. This trend definitely hurts the poor since almost two thirds of their expenditures are on food.

Figure 2: Inflation Rates in the Food and Non-Food Components of the CPI, 1998-2003



Source: Table 4.7 in the full report.

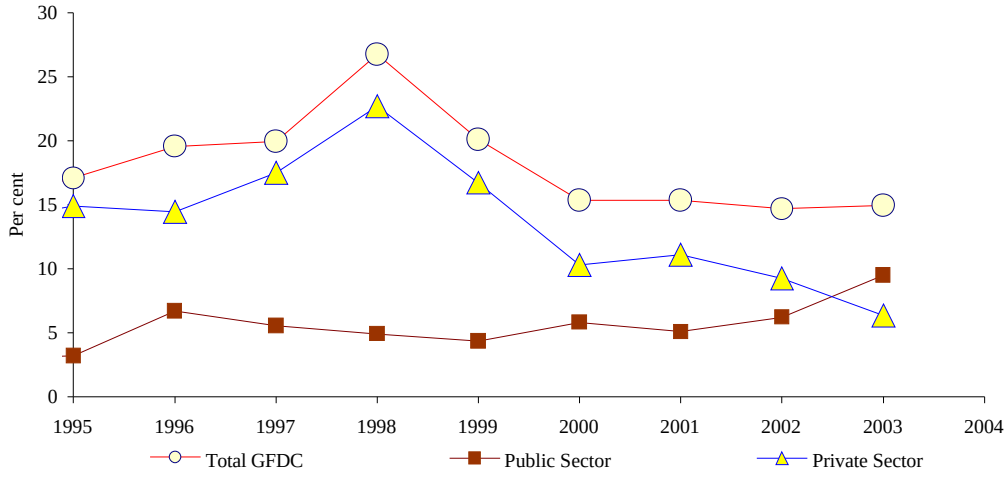
Inflation in Yemen has structural roots. The underlying cause of inflation is tied, not to excessive monetary expansion, but to low levels of labour productivity, particularly

in agriculture. The competitiveness of the tradable goods sector is undoubtedly hampered by an overvalued exchange rate, caused by the lack of adjustment of the exchange rate to inflation. The stumbling block is that although the Central Bank could engineer a much larger real depreciation of the domestic currency—by not selling foreign exchange—this would have to be achieved, in effect, by lowering real wages (holding down nominal wages vis-à-vis the price level). However, lowering subsistence-level wages any further would serve mainly to spread poverty. Consequently, the only viable means to boost the competitiveness of the tradable goods sector is to raise productivity. And this would necessitate substantially increased investment in physical and human capital.

Policies to Promote Savings, Investment and Growth

If national policymakers follow through on their intention to reduce inflation below five per cent, they will have to tighten monetary policy so much that the economy is likely to plunge into a 'stabilization trap'. The ensuing increase in lending rates of interest would choke off private investment (already abysmally low). Private investment has been plummeting since 1998 (Figure 3). In contrast to tight monetary policies, lower interest rates are needed to stimulate greater investment. If concentrated in agriculture, this would help break the food supply bottleneck in Yemen. Monetary policy should become more flexible, namely, geared to growth and employment goals as well as price stability. Public investment will have to lead the way in breaking through the bottleneck. Fortunately, while private investment has dropped, public investment has been on the rise, reaching close to 10 per cent of national disposable income in 2003 (Figure 3).

Figure 3: Private and Public Gross Fixed Capital Formation (as a share of National Disposable Income), 1995-2003



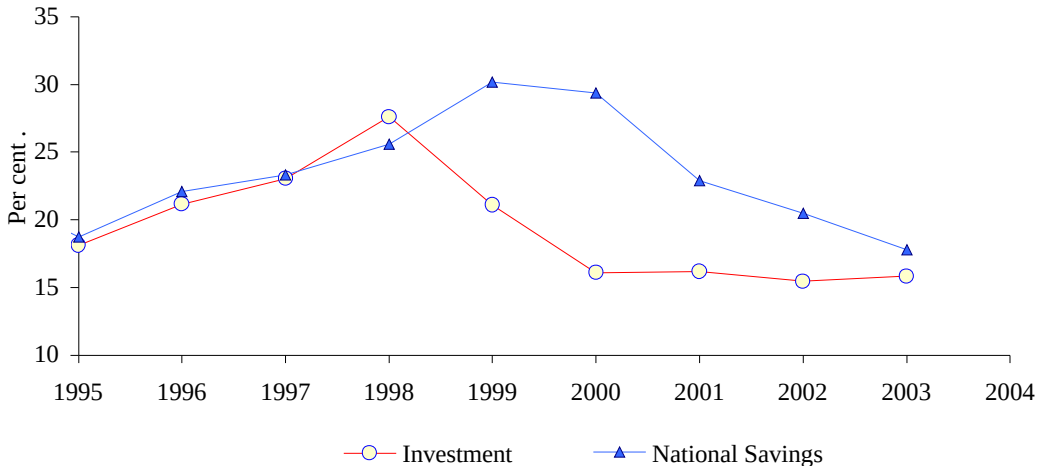
Yemen has had problems both in mobilizing domestic savings and in boosting domestic investment. Both are critical, however, to its development prospects. Although the Government has encouraged banks to maintain high deposit rates of interest, private savings has been in precipitous decline since 1999. In countries with mass poverty, any increases in subsistence-level incomes usually go directly into consumption. But this is also due partly to the lack of investment opportunities. In

fact, the rate of decline of investment since 1999 has outpaced that of savings (Figure 4). Investment has been leading savings downward.

Until very recently, national savings has exceeded investment. As a result, Yemen, a Least Developed Country with mass poverty and badly in need of increased investment, has been exporting its 'excess' savings. This has taken the form of a large build-up of foreign exchange reserves in the Central Bank or the deposits abroad of the excess liquidity of commercial banks. These savings have been used, in effect, to finance investment in other countries.

The Central Bank might be tempted to raise the real rate of interest further in order to stem the flight of capital from commercial banks. Speculation that the currency will depreciate further is part of this dynamic. But raising the rate of interest or depreciating the exchange rate further would only aggravate these contradictions. A better option is to regulate the capital account in order to dampen capital flight. Such regulations should focus on discouraging commercial banks from investing their financial assets abroad.

Figure 4: Savings and Investment as per cent of National Disposable Income, 1995-2003



The Yemeni economy does not lack 'absorptive capacity', namely, the capacity to absorb a large infusion of new resources and channel them effectively to investment without sparking spiraling inflation. There is plenty of underutilized capacity in the economy. Inflation can be combated in the short run through food stabilization programs. But in the long run, the surest means of containing inflation is to markedly scale up investment in public infrastructure, physical capital and human skills.

Such investment will boost labour productivity and, along with it, real incomes. This is the only long-term method to substantially reduce mass poverty. The Central Bank could contribute to this endeavor by redirecting some of its foreign exchange reserves to an investment fund. It could also discourage commercial banks from investing abroad—and, instead, pro-actively encourage them to lend for domestic investment. Lowering interest rates on government securities (such as T-bills and Certificates of Deposit), which propel commercial rates of interest upwards, would also help redirect

banks towards lending for private investment. Ultimately, fiscal, monetary and exchange-rate policies have to be coordinated. Monetary policies, in particular, have to be more accommodating towards expansionary, investment-focused fiscal policies.

The Employment Nexus between Growth and Poverty Reduction

Employment growth in Yemen has been slow because economic growth has been not only modest but also narrowly based. While the oil sector accounts for one third of GDP, it provides little direct employment. Manufacturing, often the main private source of decent employment, is relatively small. Public-sector employment, once able to absorb excess labor, has been declining.

The result: Yemen is caught in an unemployment scissors—wedged between modest economic growth and rapid growth of its labor force. Growth creates few employment opportunities while the number of workers continually multiplies. An additional factor is that female workers are joining the labour force in increasing numbers. Also, because population growth is high, the ratio of dependants to workers is approaching five to one—an unsustainably high level. Under these circumstances, many workers have to resort to low-paying and irregular informal-sector jobs. Hence, the numbers of the 'working poor' are on the rise.

During the 1990s, both labor force participation rates and employment rates stagnated, if not declined (Table 3). Gender differences in these trends were clear: men were losing jobs and dropping out of the labor force while women were joining the labor force and securing new jobs. However, the overall employment-population ratio edged downwards, i.e., from 42 per cent in 1994 to 40.6 per cent in 1999 (when the last Labor Force Survey was conducted). An additional problem is that the jobs that men were losing tended to be better paid than the new jobs that women were gaining. Much of the new female employment was in agriculture or unpaid work in household enterprises.

Table 3: Labor Force Participation and Employment, 1994-1999 (%)

Labor Force Participation Rate	**Population Census 1994**	**Labor Force Survey 1999**
Total	45.8	44.3
Male	74.1	67.8
Female	16.9	20.9
Employment-Population Ratio	**Population Census 1994**	**Labor Force Survey 1999**
Total	42.0	40.6
Male	67.2	61.2
Female	16.2	20.0

Source: Table 5.1 of the full report.

The structure of employment in Yemen is emblematic of its status as a Least Developed Country. In 1999, agriculture accounted for 54 per cent of all employment (Table 4). By contrast, industry accounted for less than five per cent—a very small proportion even for a developing country. Even construction, accounting for 6.6 per cent of the total, contributed more employment than industry. Compared to either

industry or construction, much larger providers of employment were trade and transport (12 per cent and almost 18 per cent respectively).

Because of the lack of dynamism in industry and services, unemployment is relatively high in Yemen. In 1999, the official unemployment rate was 8.4 per cent. A broader definition would boost the percentage to 11.5 per cent. According to the same method, youth unemployment was higher still, at 18.7 per cent in 1999. If current trends hold, general unemployment could rise from 11.5 per cent to over 17 per cent in 2006.

Just to keep unemployment constant, 188,000 paid jobs need to be created every year in Yemen. To achieve this, however, growth would have to be not only more rapid but also more employment-intensive. Since current labor demand accounts for only 117,000 new employees, the extent of excess labor supply is 71,000 workers every year. This is why unemployment is projected to increase.

Table 4: Sectoral Structure of Employment (%)

Sector	Total
Agriculture	54.1
Industry	4.6
Construction	6.6
Trade	12.1
Transport	17.7
Other Services	19.3

Source: Table 5.2 in the full report.

Growth in the private sector is not vibrant enough to generate more demand for paid employment. Most employment in the private sector is self-employment or unpaid work. Micro-enterprises might employ an owner-manager and unpaid household labor, but not much more. Also, for the fraction of paid employees, wages are low.

During 2002-2003 (when the Labor Demand Survey was conducted), micro and small enterprises showed, in fact, net losses in paid employment. Medium-sized enterprises (10-19 workers) and large enterprises (20+ workers) created new jobs; they were also more likely to offer decent wages. If the Yemeni economy can generate more widespread employment at decent wages, the sectors that employ significant numbers of paid employees, namely, manufacturing, trade, and hotels and restaurants, will have to grow more rapidly.

Despite modest economic growth, real wages declined for paid employees in the late 1990s. Part of the explanation was the fall in real wages in the public sector. In 1999, real wages in the public sector had plummeted to one third of the level in the private sector. Another factor was the removal of consumer subsidies. Although nominal wages were increased, the price level rose even faster. By 1998, the real wage stood at only 30 per cent of its 1990 level. As a consequence, many workers have had to work much longer than a 40-hour week. About 30 per cent of workers have been laboring 48 hours or more.

Given these current trends, how can more employment—at ‘poverty-reducing’ wages—be generated in Yemen? A four-pronged strategy could contribute to such an outcome. The first prong involves implementing more growth-oriented economic policies. Earlier parts of this summary detail many of these policies.

The spearhead has to be fiscal policies focused on widespread public investment in essential economic and social infrastructure. Without such investment, the private sector cannot flourish. Also, monetary policies have to accommodate such public investment. This implies lower real rates of interest and a more flexible approach to inflation. In order to boost the competitiveness of the non-oil sector, the Rial should be depreciated further but only in conjunction with some regulation of the capital account in order to contain capital flight and hold down the interest rate.
The second prong of the strategy focuses on diversifying the economy, with pro-active support given to sectors with potential to accelerate growth and employment creation. Targeted credit policies, such as those discussed with regard to financial policies, would play a central role. Economic growth is most likely to be accelerated in Yemen by relying on a diverse set of sources, not one or two. Although a very small sector, manufacturing needs to grow much more robustly since it has strong potential to generate decent-paying employment. Diversification within agriculture is also important. This would involve substituting Qat with high-value added crops that have export potential. Fishing, a sub-sector of agriculture that has already proven its growth potential, should be promoted. And tourism can play a much larger role within the services sector.

The third prong of the strategy involves small-scale interventions that have a poverty-reduction focus. This prong could imply stressing employment-intensive public works, especially in poorer regions of the country. Providing microfinance services could also be an important part of this focus, but not as a stand-alone initiative. Commercial banks need to be induced to provide ample credit to rural areas in general, and to agriculture in particular—not just micro loans for self-employment.

The fourth prong of the strategy involves promotion of a more conducive business environment. Simplifying licensing and fees, reducing cumbersome administrative procedures and regulations and combating corruption are all part of creating such an environment. Micro and small enterprises often bear the brunt of burdensome regulations and practices, and could flourish under more favorable conditions.

The four prongs outlined above are not designed solely to create more employment. Together, they can contribute to an ambitious, feasible and comprehensive growth, employment and poverty reduction strategy for Yemen.

Agricultural Development and Rural Livelihoods

Poverty is most prevalent in Yemen's rural areas. Even though agriculture has become more market-oriented in recent years, agricultural incomes remain low and domestic demand deficient. Most small farmers cannot take advantage of trade openness. The underlying structural problem is low productivity, based on low investments in physical and human capital.

An additional problem is that access to food entitlements has become more inequitable because land has been redistributed in favor of a small number of large landholders. Greater inequality in the distribution of rural income has followed suit.

Some farmers with large holdings have also consolidated their wealth through sharecropping contracts with marginal farmers. Small landholders have had to rely more heavily on seasonal and casual labor on large farms in order to supplement their meager farm incomes. In the process, their livelihoods have become more vulnerable and precarious.

Large landholders have also benefited disproportionately from access to irrigation pumps, which have given them more favorable access to water. They have received subsidies on credit for investment in the pumps and for diesel fuel to run them. As a consequence, they have been able to concentrate their production on more profitable higher value crops, such as Qat, fruits and vegetables. However, heavier reliance on irrigation and greater concentration on water-intensive crops such as Qat have led to a relentless depletion of water resources. By some estimates, Qat consumes about 30 per cent of all irrigation water. Water is wasted partly because water prices cover only a fraction of the costs of extraction. Under current conditions, Yemeni agriculture is ecologically unsustainable.

A central challenge for agricultural development is to find more profitable substitutes for Qat production. The crop is estimated to produce close to 30 per cent of total agricultural value added and employ about one fourth of agricultural labor. It is a profitable crop because it is drought resistant and requires less labor than other crops. It is also estimated to account for the biggest part of household cash expenditures. Thus, its cultivation is currently crucial to sustaining the rural economy.

Off-farm rural activities are sparse in Yemen. The underlying problem is that agriculture is not prosperous enough to generate demand for no farm goods and services. In addition, wage labor is not held in high regard. In rural areas, those without land tend to be socially excluded.

Agriculture remains central to Yemen's overall development. Directly or indirectly, it contributes to the livelihoods of more than two thirds of the population. But its productivity has remained low, particularly labour productivity. Cereals occupy about half of all cultivated land (Table 5), with dominant crops being sorghum and millet. But much of cereal production is for self-consumption and is low value added. Partly because the share of cultivated land devoted to cereal has declined, the availability of cereal per person has decreased since 1985 and remains below nutritionally adequate levels. Meanwhile, cereal imports have risen sharply as a share of the total domestic availability, putting additional pressure on small farmers.

Table 5: The Allocation of Cultivated Land in Yemen, 2004 (% of total land)

Cereals	**50**
of which: 1. sorghum/millet	35
2. Wheat	8
Cash crops	**18**
of which: 1. Qat	11
2. Coffee	3
Fodder	**11**
Fruit	**9**
Vegetables	**7**

Source: Table 6.4 in the full report.

The declines in cereal production have been offset by moderate increases in the volumes of vegetables and Qat, more dramatic increases in fruits and meat and a big increase in fish. Yemen is now self-sufficient in fruits and vegetables. If the water constraint were solved, Yemen has good agricultural potential. Since food prices have been increasing relative to non-food prices, the terms of trade for agriculture might well have improved in recent years. But the benefits have gone mostly to rich farmers.

Large landholders have cornered most of the benefits from Yemen's extensive trade liberalization since the 1990s. They produce the high value crops that are exportable. By contrast, small landholders, who specialize in cereals, have faced stiffer competition from imports. Much of their farming is oriented to subsistence, mainly because of underdeveloped infrastructure for marketing. Post-harvest losses for farmers are significant because of lack of storage and transport.

Higher value crops, such as Qat and fruits, are not labor-intensive. Thus, while these crops have contributed to rising land productivity as farmers have switched to them from cereals, they have had little impact on labor productivity. While labor productivity (value added per rural worker) increased only modestly between 1990 and 1999, land productivity (value added per hectare) increased by over 50 per cent. Increases in irrigation have boosted land productivity, but mainly for the benefit of richer farmers.

The stagnation in labor productivity indicates little improvement in employment opportunities in rural areas. Opportunities for emigration are limited, and much of rural wage labor remains temporary or casual. Small farmers face tighter land constraints since land per capita has markedly decreased. The average size of holding decreased by almost 30 per cent between 1993 and 2000 and the number of small holders increased markedly. Also, partly because of declining availability of land, sharecropping arrangements now cover about 12 per cent of total arable land. Due to these various factors, real incomes for most agricultural households remain low. Until public and private investment increases substantially in rural areas, these trends are unlikely to change. Incomes will remain meager and poverty widespread.

What policies should be implemented in order to promote agricultural development in Yemen? Following are several inter-related recommendations.

Greater investment in a range of public goods, such as storage facilities and transportation networks, should be a central thrust of public policy. The inadequate maintenance of terraces is of particular concern, since erosion of terraces has increased water erosion and lowered land productivity. Of similar importance is investment in building up an extensive rural financial system. The lack of access to credit, especially for agricultural development, is a major bottleneck in rural areas. Small-scale initiatives, such as rotating savings and credit clubs and microfinance, can play a role. But much more needed are established financial institutions that can mobilize substantial savings and allocate it effectively to productive investment.

Providing better extension services, such as on cropping patterns and management of natural resources, will also help increase agricultural productivity. Of special importance are marketing services so that farmers can move into higher value crops, identify the best markets for them and be able to store and transport them. In order to

enable farmers to move into more profitable crops, the Government will have to provide them with some form of income support during the difficult period of transition.

Diversifying the rural economy would help boost incomes. There are weak linkages between agriculture and agro-industrial activities. But the first priority is to stimulate agricultural prosperity. This will provide the foundation for the emergence of a more vibrant non-farm economy. In order to facilitate this transition, the Government can help provide business-oriented advisory services and eliminate bureaucratic barriers to forming micro and small enterprises.

Two critical areas needing government support are access to water and land. The two resources are closely inter-related. Inequitable access to water is integrally related to the unsustainable mining of water resources. Large farmers relying on irrigation pumps are depleting water tables. Some traditional water control systems need to be re-instated in order to provide broader access to water, especially in rain-fed areas and for small farmers. Also, some of the rights over water use in irrigated areas need to be vested in communities so that broader access is ensured. Currently, large landholders control much of the access to irrigation. Along with instituting reforms to provide more equitable access to water, the Government could also undertake investment in water-saving technologies. Removing subsidies to rich farmers and instituting water taxes, such as at the head of a watercourse, would help promote water conservation.

Although controversial, the need for some form of redistributive land reform should be posed for public debate. Access to land has become increasingly unequal, depriving many small farmers of viable means to secure a decent livelihood. Undertaking the registration of land is a first step in clarifying land rights. Related to this is the registration of sharecropping contracts that establish use-rights to land. Once land rights are clarified, then institutional means, such as cooperatives, can be identified that can begin consolidating many small fragmented holdings into larger productive units.

Summary

This report focuses on economic policies that can accelerate economic growth, broaden employment creation and achieve a faster rate of poverty reduction. It focuses on how to mobilize available national resources for development and deploy them for their most productive purposes. Thus, it concentrates on the central development challenge of mobilizing domestic savings and channeling them to investment.

Although a Least Developed Country, Yemen currently enjoys a large windfall of oil revenue. However, current forecasts predict an eventual depletion of this resource. Yemen has to prepare now for this eventuality. This implies setting in place the mechanisms necessary to mobilize substantial non-oil resources, through such channels as tax revenue to underwrite public investment and financial savings to fund private investment. Hence, this report examines extensively issues related to mobilizing domestic resources. It seeks to identify means to ‘open up fiscal space’ for public investment. It also concentrates on financial sector development because of the

critical need to boost low domestic savings rates and reverse the precipitous decline of private investment.

In supporting such a thrust, the report also examines macroeconomic policies that can buttress an investment-led growth strategy. In this regard, it recommends more flexible monetary policies that can specifically lower real rates of interest. High rates are currently a serious impediment to private investment. It also recommends regulation of the capital account in order to stem capital flight and redirect the financial assets of commercial banks towards domestic investment. Measures can then be taken to make the exchange rate more competitive.

The above policies should help accelerate economic growth in Yemen. But in order for growth to spread its benefits broadly, it needs to generate extensive employment at remunerative income levels. Thus, the report explicitly tackles the problems of lack of employment opportunities and low real wages, and offers multi-pronged recommendations on how to address them.

Lastly, the report focuses on agricultural development. Since most of the poverty in Yemen is concentrated in rural areas, agricultural development is crucial to reducing poverty. The report offers a comprehensive set of inter-related policy recommendations that can stimulate agricultural prosperity and dramatically augment rural livelihoods. These initiatives will enhance the likelihood that Yemen's growth will be more equitable and more pro-poor in its impact.

Taken as a whole, the report presents the outline of a consistent set of recommendations for economic policies that will promote Yemen's long-term development and spur progress against mass poverty. The report does not offer poverty reduction policies alone. In addition to providing recommendations on how to directly address poverty, the report concentrates much of its attention on measures to stimulate economic growth and generate broad-based employment.

Introduction

Yemen belongs to the group of Least Developed Countries (LDCs) sharing in common features of such economies such as very low per capita income levels, high degree of vulnerability to external and internal shocks, and prevalence of extreme poverty. Since the mid-1990s the government has embarked on a remarkably rapid and effective macroeconomic stabilization and adjustment program. Prudent fiscal policy and particularly tight monetary policy during a period of rising oil export revenues have reduced large budget deficits and created substantial surpluses in the balance of payments leading to a large build up of foreign exchange reserves. Price inflation has been brought under control. Trade liberalization has moved apace. Quantitative trade restrictions have been effectively dismantled and import tariffs have been simplified and substantially reduced. Full current account and capital account convertibility have been implemented. According to standard indicators, Yemen is now one of the most open economies amongst the developing countries. Long strides have been also made towards price reform. Food subsidies have been removed, and fuel subsidies are being phased out. Real interest (lending) rates have been increased to well over 5 per cent. Since 1995 the real (official) exchange rate has been devalued by close to 100 percent, though in recent years a relatively more stable unified exchange rate has been in place.

However, the achievements in terms of private sector growth, export growth, and poverty reduction have been disappointing. Per capita GDP growth during the past five years has been fluctuating between 0.4% and 1.8% per annum. Private sector investment as a share of national disposable income has declined by over 10 percentage points since 1997. Non-oil exports remain stagnant. Underemployment and unemployment remain high. Along the path, the Central Bank of Yemen has accumulated huge foreign exchange reserves. The continuation of such trends would undoubtedly undermine sustainable growth and poverty reduction, particularly in a country where a large part of the population already lives below the poverty line.

This report on the Macroeconomics of Poverty Reduction in Yemen is part of a much larger UNDP-supported global project that started in 2001, and now has grown to encompass policy-oriented research, advisory services and capacity development in 25 developing countries. Among the Arab States, UNDP has supported similar reports in Morocco, Sudan and Syria.

The objectives were to present national policymakers with practical policy options and alternatives and broaden the national dialogue on such choices. The stumbling block to policy choices was the uniform set of recommendations on economic policies that arose from the conditionalities accompanying balance-of-payments or structural adjustment loans.

At the same time that governments were being subjected to such conditionalities, they were being encouraged—usually by the same lenders—to formulate ‘nationally owned’ Poverty Reduction Strategies. Clearly, imposing conditionalities and promoting ‘national ownership’ have been at loggerheads. Without policy choice,

there is not much space for national ownership of the development agenda. This is why UNDP has mounted a major effort in recent years to provide governments with a broader menu of policy options.

This report on Yemen follows in this broad tradition. Similar to other reports, it has adopted a general approach that focuses on fostering growth with equity. The report also gives high priority to reducing unemployment and underemployment. As UNDP-supported reports in other countries have found, such a public policy focus is critical: growth cannot be translated effectively into poverty reduction without creating broad-based employment.

One of the major policy lessons is that the state will have to play an active role in the economy, but mainly through using public investment and the allocation of credit to stimulate growth and employment and focusing resources, to the extent that is feasible, on the reduction of poverty. Indeed, given the focus on achieving the MDGs, much of the growth in Yemen is likely to originate with public investment, which, if it is designed to raise the productivity of capital and labor, will boost private investment. This is what the report means when it calls for 'investment-led' growth. Many of the other UNDP-supported reports have advocated a similar approach. They have not made the standard neo-liberal assumption that increasing public investment will 'crowd out' private investment. But in order to finance public investment as a leading stimulus of growth, the state needs to mobilize sufficient revenue to finance it. In many developing countries, overall tax revenue remains too low—not too high, as is often assumed.

The Yemen report shares many of the positions taken in other UNDP-supported studies. It calls for more expansionary, public-investment focused macroeconomic policies and an increase in tax revenue in order to finance such a fiscal expansion. It also advocates that public policies focus on employment generation as a strategic objective and that industrial policies should be used to strengthen the sectors in the economy that are potential sources of growth and job creation. Taken together, the report's package of policy recommendations should help set Yemen on a sustainable path of growth, employment and poverty reduction.

To this end, this study aims to prescribe policies that attempt to 'solve' as much of the poverty problem as possible on the economic side of the equation while using social policies in a complementary way to reinforce the impact of economic policies. This case study follows the general analytical framework that has been used in many other studies on Economic Policies and Poverty Reduction supported by the United Nations Development Programme. This chapter introduces the framework so that the reader can understand more clearly the objective of the rest of the report. It thus describes the 'ideal' contents of such a study. However, the Yemen study, like others, covers some of the major areas more than others and focuses on particular issues that it considers to be of critical importance to the country. Some of the key issues and concerns highlighted in the taskforce missions preceding this study are as follows:

- Concerns are expressed about the low levels of government development expenditure, in view of the underdeveloped infrastructure of the country and the additional expenditures required for poverty reduction. The development spending is constrained by the low tax rates, which currently stand at no more

than 7% of the GDP, as compared to tax rates of close to 15% in other low-income countries. Others pointed out that as a share of the non-oil GDP tax rates are much closer to other low-income countries and hence revenue rising potential through higher taxes in Yemen may be much less than the 8% difference that the above comparison indicates. Some were concerned that given the prevalence of poverty in the country, revenue raising potential through higher taxation may be limited and also attention should be paid to the incidence of higher taxes on the poor or those close to the poverty line. The issues of fiscal transparency, as well as the political constraints on fiscal policy were also raised by some donors.

- The importance of monetary policy in the post reform period is also an issue. Concerns are raised, that the financial markets in Yemen are very thin, and that the tight monetary policy by the Central Bank of Yemen has not been conducive to private investment. Others concerns are about the impact of high interest rates on government finances over time. The issue of coordination between fiscal policy and monetary policy was also raised. Some believed that lack of such coordination has led to tight monetary policy to control aggregate demand, which is debilitating to private sector activities. The rapid build up of foreign reserves and stagnant private investment were mentioned as possible symptoms of this phenomenon. There are also concerns that the huge build up of foreign reserves at the Central Bank can hinder proper adjustment to external shocks.
- The speed of the liberalization program and lack of attention to the sequencing of different aspects of economic reform. Neglect of institutional reform and capacity building during a period of rapid economic liberalization is said to have led to lack of commensurate response of private sector investment. Some believed that the speed of economic liberalization has made institutional reform and capacity building more difficult.
- A number of donors were concerned about low absorptive capacity in the economy. In most ministries and national institutions, however, lack of finance was mentioned as the main constraint on private and public investment for export promotion (e.g., modernizing the fisheries industries, investment in infrastructure to induce foreign investment in mining etc.)
- There is a general feeling that poverty reduction will remain illusive, unless attention is paid to policies that can remove the constraints on productivity growth in agriculture, as well as policies for productive employment generation in the economy at large.

Based on this general analytical and methodological framework, the Yemen case study tries to examine two major aspects: 1) how to make macroeconomic policies more pro-poor (the entry point and focus) and 2) how to enhance the impact of these macro-level policies by 'augmenting the entitlements' of the poor (the complementary theme). 'Macroeconomics' is defined broadly to include short-term policies for macroeconomic stabilization, long-term macroeconomic policies to stimulate growth and policies of structural adjustment, which alter the functioning of the market economy and its relationship to the public sector. In examining entitlements, the emphasis is on improving the "supply-side conditions" of the poor, i.e., their access to economic opportunities, such as access to assets, productive inputs, technology and employment, and their abilities to save and invest.

The outcomes of these policies should be reflected in reduced poverty through 1) faster growth, 2) greater equity and 3) the impact of the interaction between the two. This implies directly addressing the practical policy implications of recognizing inequality as a major impediment to poverty reduction. Inequality not only excludes the poor from the benefits of growth and but can also lower growth itself. While not denying the possibility of trade-offs between growth and greater equity, the case study concentrates on identifying complementarities that public policies can promote. Trade-offs undoubtedly exist, especially with regard to the utilization of scarce public resources. Thus, the policies recommended by this case study imply relative losses for some social groups and relative gains for others. The objective is to maximize the gains for the poor while striving to benefit everyone.

The main question is: what are the major policy initiatives that could be undertaken to produce complementarities between growth and redistribution? This would involve not only generating an inequality-reducing pattern of growth but also undertaking a growth-enhancing pattern of redistribution. The related question is how policymakers can minimize the trade-offs existing between current growth-focused policies and redistributive measures.

The governing assumption is that redistributive measures should not be treated as an entirely separate policy sphere but integrated, as much as feasible, with growth-promoting policies. The desired outcome is a pattern of growth that will deliver 'absolute' benefits to both poor and non-poor but provide 'relative' benefits to the poor. Making macroeconomic and adjustment policies more pro-poor will be decisive in achieving this objective. But it will not be sufficient. Redistributive measures that alter the basic functioning of such major markets as the land, capital and labor markets will also be necessary to effectively 'integrate' the poor into the growth process.

Our approach to 'pro-poor growth' strategies stems from UNDP's 2002 Policy Note: "The Role of Economic Policies in Poverty Reduction" (UNDP 2002: www.undp.org/poverty/propoor.htm). This policy note concentrates on how growth is generated and whether this process is equitable. Its focus is on the economic opportunities of the poor, namely, their access to assets, resources and employment that enable them to secure a decent standard of living and thereby significantly widen their options for human development.

The policy note maintains that if countries are to reach the target by 2015 of halving extreme income poverty (the primary poverty goal of the Millennium Declaration), rapid growth is certainly essential. However, if growth is also more equitable—so that the incomes of the poor grow faster than average—countries have a much better chance of reaching the target.

Hence, a strategy of such "equity-based" growth will need to be rapid enough to significantly improve the 'absolute' condition of the poor and equitable enough to improve their 'relative' position—either by achieving greater equity at the start of the growth process (such as through universalizing coverage of education and health services) or by decreasing unacceptably high inequality over time (such as through pushing up wages by generating widespread employment among low-skilled workers).

"Equity-based" growth can be achieved through a variety of strategies. The choice depends in part on each country's initial conditions. In general, if growth is to immediately reduce poverty, it should have a pattern that directs resources disproportionately to the sectors in which the poor work (such as small-scale agriculture), the areas in which they live (such as underdeveloped regions) or the factors of production that they possess (such as unskilled labour or land).

A strategy that posed such an immediate objective would be strongly equity-driven in its early stages and tend to be bottom-up in its impact—directly reaching the poor where they are to be found. Although employment might be generated, the rise of real incomes might be slower than optimal. Nevertheless, the character of whatever growth is achieved would decidedly improve the relative position of poor households.

The longer-term objective of all development, of course, is to move the workforce, poor workers in particular, out of low-productivity sectors, poorly resourced regions and low-skilled employment. In most cases, this would imply moving poor workers out of agriculture and into industry and more modern services. Some growth strategies emphasize this objective in the medium term, and tend to downplay equity until growth accelerates.

This alternative approach assumes that if industry is able to grow rapidly enough and generate employment broadly enough, poverty will be reduced as a result of pulling poor workers into higher-productivity, higher-paid jobs. In the past, import-substitution strategies have succeeded in achieving this effect in some countries. Nowadays, some strategies based on emphasizing the exports of manufactures have been successful. If such strategies are followed, in the short run inequality is not likely to be reduced—and may even rise. If inequality is indeed reduced, it is more likely to be due to initial prosperity in agriculture or an initially equitable distribution of endowments, such as land or human capital.

In order to foster pro-poor growth, our policy recommendations favour expansionary, investment-focused fiscal policies and accommodating monetary policies. The latter do not target very low inflation rates. This approach advocates putting a premium on boosting domestic savings and investment (instead of the orthodox focus on allocative efficiency and price stabilization). It also advocates using public investment as a stimulus to private investment. This implies a more activist policy role for the state and often the need for a larger revenue base, with which it can finance capital expenditures and direct them to poverty-reduction purposes. However, in the case of Yemen, the low efficiency of public investment and the fact that aggregate savings have outweighed aggregate investment in recent years suggest the need to reform the public sector (to use public investment more productively) and restructure financial institutions (to lend more for private investment).

While financial liberalization is often necessary in many countries, it does not always lead to the desired results. Commercial banks are often reluctant to lend for long-term private investment. One sign of this problem is that the spread between their deposit and lending rates of interest is often high. Banks are also often reluctant to lend in rural areas, particularly for agricultural activities. They are rarely interested in lending to poor households. These issues have arisen in many of the country case studies

supported by the United Nations Development Programme. Thus, their recommendations often highlight these considerations when financial systems are being reformed.

The general approach of case studies accepts that greater trade openness might have a positive impact on growth and poverty reduction. However, for this to be the case, it often should be combined with some import substitution policies. If trade liberalization is not complemented with other more pro-active measures (especially poverty-focused interventions), such as the building of rural infrastructure, financing of agricultural development or the provision of adequate credit to small and medium enterprises, it can exacerbate inequality and cause any growth that occurs to bypass the poor, especially the rural poor. To be most effective, liberalization of trade should be designed carefully and go hand-in-hand with a pro-active industrial strategy.

In trying to link growth to poverty reduction, this case study invariably has to address the importance of generating widespread employment. But such employment has to be at decent wages to be poverty reducing. This implies that self-employment and micro-enterprises (and the micro-finance services supporting them) cannot serve as the foundation for a pro-poor employment strategy. Although such micro programmes can help raise incomes, employment that is secure and remunerative cannot be sustained by these interventions alone. The emphasis has to shift to small and medium enterprises, and large enterprises that are both employment-intensive and skill enhancing.

The Major Entry Points

The case study is structured to encompass six major entry points, organized in two clusters. The first cluster is macroeconomic policies, which include:

- Monetary policy
- Fiscal policy
- Exchange rate policies

Standard monetary policy is concerned primarily with maintaining price stability, expressed as a low inflation rate, as the chief basis for stimulating investment and growth.

Under standard policies of macroeconomic stabilization, fiscal policy is concerned primarily with maintaining fiscal balance. This approach assumes that when fiscal balance is not achieved, the financing of the consequent deficit can have a crucial impact on either the interest rate or the inflation rate, or both (depending on whether deficits are financed by debt or money creation). Many countries, fearing a rise of inflation, have maintained excessively restrictive policies of macroeconomic stabilization. Maintaining macro balances is their primary macroeconomic objective. As a result, they have been deprived of resources for financing investment to spur growth.

In contrast, this case study is concerned with how macroeconomic policies can become more expansionary—namely, through reducing poverty through generating

higher rates of growth and employment. Macro balances, such as the current-account and the fiscal balances, are evaluated chiefly as constraints rather than goals of policy.

The impacts of macroeconomic policies work on both the demand and supply sides. On the demand side, the case study investigates how the constraints of macroeconomic balances can be met without depressing demand and therefore investment. On the supply side, it investigates how fiscal policy can augment supply rather than restrict it. The connection with "pro-poor growth" appears on both sides. By limiting damaging impacts on the income of the poor, aggregate demand can be maintained. By actively augmenting the capabilities of the poor, the supply response can be strengthened.

Thus, in examining policies that are complementary to macroeconomic and adjustment policies, the case study goes beyond those focused on containing the fiscal deficit and examines fiscal policies more comprehensively, including both expenditures and taxes. Specifically, it evaluates whether the public budget is allocating resources in a more pro-poor manner and the mobilization of public revenue is carried out in an equitable fashion.

To this end, the main macroeconomic policy question for the case study to answer is: Is there a feasible set of fiscal, monetary and exchange-rate policies that could help induce a rapid rate of poverty reduction while maintaining macro balances within sustainable, manageable limits?

The second major cluster of policies for the case study is adjustment policies:
- Financial liberalization
- Trade liberalization
- Deregulation

Adjustment measures are integral components of standard policy recommendations. However, research on evaluating the poverty impact of these economic reforms still remains in its infancy. The main question for the case study to answer is: what has been the impact of each of these structural policies on poverty and if the impact has been adverse, or substantially less positive than expected, what alternative methods and forms of restructuring can be implemented to foster greater growth and equity?

In attempting to assess the effect of macroeconomic and adjustment policies on poverty, the case study tries to analyze the major structural features of the economy, its initial conditions and the major characteristics of the poor. While the case study advocates that less restrictive macroeconomic policies and more investment-oriented adjustment policies be adopted, it recognizes that the success of these reforms hinge on altering some of the structural features of the economy or the characteristics of the poor.

This study does not rely solely on modeling or simulation exercises but on a rich country-specific narrative of changes in the macroeconomic framework and the environment in which this framework has been implemented. The narrative is geared to national policymakers as the primary audience. The objective of the policy analysis is to delineate the major 'stylized facts' of the economy and its responsiveness to the

macroeconomic framework and generate informed judgments on the alternative policies most appropriate to the country context.

Thus the overriding objective of this research is to offer policymakers a choice of feasible options for more pro-poor and pro-growth economic policies and begin a process of strengthening national capacity to accelerate progress towards the MDGs, particularly the First Goal, which targets poverty reduction. The case study is therefore primarily policy-oriented. Its research is geared to that purpose.

Sectoral Policies

While the specific entry points for this study's analysis are focused on macro-level policies, the conclusions encompass a broader range of complementary policies. These can include other economic policies, other structural reforms, social policies, redistributive measures and poverty-focused initiatives. The complementary policies are significant to the degree that they reinforce the poverty impact of macroeconomic and adjustment policies or help reduce the constraints on such policies. In some cases, they might be necessary as preconditions for the success of the macroeconomic and adjustment policies.

Complementary 'microeconomic' reforms, such as improving the capabilities of the poor and their access to productive assets and resources, are needed to make the macro-level policies successful. In this respect, the entitlements of the poor, such as human capabilities or control of assets, also condition the effects of macroeconomic and adjustment policies. Thus, in elaborating policy recommendations, the case study necessarily touches on a number of other complementary policies:

- Budgetary Re-Allocations: How can the government budget—both on the expenditure and revenue sides—be used to reduce poverty? In particular, what role can access to public resources and assets, especially access to physical infrastructure and economic services, play in reducing poverty? How can the incidence of the system of taxation be made more pro-poor? The case study tries to incorporate these issues of the 'composition' of fiscal policies—namely, how various public resources are allocated—and not just confine itself to examining the aggregate impact on fiscal balances.
- Sectoral or Regional Policies: To what extent can sectoral policies, such as stimulating agriculture, contribute to reducing poverty—such as by lowering inter-sectoral inequality, for example? What role can the re-allocation of resources to poor regions play? How can policies of restructuring, including trade and financial sector policies, be used to support pro-poor growth?
- Redistribution of Assets: What role can the redistribution of assets, such as land and housing, play in reducing poverty and by what feasible mechanisms can these be achieved?
- Employment Generation: What role can labor market policies play in maximizing the conversion of growth into productive and remunerative employment, particularly for the working poor? This is a major issue that the case study for Yemen attempts to address.
- Developing Human Capabilities: How can social policies, such as health, education and nutrition policies, enhance the ability of the poor to access economic opportunities?

The Descriptive Narrative

The case study tries to lay out a basic descriptive narrative of trends in economic variables, inequality and poverty—a narrative that is explicitly geared to evaluating macroeconomic and adjustment policies. The case study examines the institutional arrangements that determine access to assets, resources and employment and tries to identify the trends in domestic and external resources. The nature of the narrative is directly conditioned by the demands of the policy analysis and is not presented as a separate, purely descriptive exercise. The core of the narrative is macro developments and trends in poverty and inequality:

Macro Developments

The intent is to provide a thumbnail sketch of macroeconomic developments and policy initiatives or responses over the last two decades, which is organized around summary macro statistics: growth of GDP per person, inflation, unemployment, saving-investment rates, current account and fiscal balances, public debt, external debt, real interest and exchange rates, and real wages. Where possible, variables such as GDP per person are disaggregated by economic sector and region. Episodes of instability/crises/stabilization are described in addition to long-term trends in income, exports, employment and other key economic factors.

Poverty and Inequality

The intent is also to provide a parallel summary of levels and trends in inequality, income poverty and human poverty. Poverty is measured, in the first instance, in income terms, because of the focus on economic policies. But income poverty measures are also compared and contrasted with estimates of major dimensions of human poverty. The case study seeks to cover the following areas:

- Changes in the incidence and depth of income poverty based on fixed poverty lines (both extreme and overall poverty). Some description of the basis for setting the poverty line and whether it has been held constant in real terms. Comparison of the national estimate to that for the PPP $1 and $2 per day per person measure, where available. Consistency checks based on national income accounts data are also considered important. Especially important are changes in income poverty by economic sector, employment category, region, rural/urban and gender.
- Levels and changes in inequality (size distribution) based on income and/or expenditures (using the Gini coefficient, comparisons of decile or quintile shares, or Theil indices), with a focus on changes in shares at the lower end of the distribution (such as the share of the poorest 20%).
- Differences and changes in other key economic characteristics of the poor, such as location in agricultural sub-sector (producing exports, import substitutes or non-tradables), informal or formal sector, tradable or non-tradable sectors in general; food market position of households as net producer or buyer; and access to public infrastructure, such as roads, transportation, irrigation and electricity.

Markets and Other Institutions

The case study also seeks to offer, to the extent possible, a description of the key markets and other institutional arrangements in production and distribution, which often condition the effect of macroeconomic and adjustment policies on the poor and their entitlements:

- In agriculture and related activities, arrangements for access to land and commons, and the terms of this access.
- Modes of access to credit in rural and urban areas, and for self-employment and informal employment; nature of credit market institutions and the terms of access; the reach of formal/informal credit, including micro-credit programmes and directed/subsidized government credit programmes.
- Modes of access to employment; nature of labor market institutions (minimum wages, collective bargaining, indexation); incidence of unemployment and underemployment; work and income sharing and other informal non-governmental forms of income security; wage differentials and discrimination; job tenure and insecurity.

The Mobilization and Allocation of Resources

A central question for the case study is how domestic and foreign resources can be mobilized and effectively allocated. The focus is on finding ways to loosen the tight fiscal constraints under which many countries like Yemen are forced to operate. We call this expanding 'fiscal space'. Thus, the analysis focuses on both the level and growth of national resources, especially through mobilization of national savings. The study also makes an effort to go beyond the standard kind of poverty analysis, which focuses on spending for the social sectors (or basic social services), and seeks to identify the allocation of resources for economic services, such as for agriculture, industry or services. It also tries to offer a description of the incidence of major forms of taxation and the general prospects for mobilizing additional domestic resources for development. This involves determining whether levels of national savings and tax revenue are adequate, in conjunction with the supply of external resources, to stimulate investment-led growth. In order to identify the sources of growth of a country's economy, the case study also seeks to address the constraints on external resources.

To sum, this study aims to prescribe policies that attempt to 'solve' as much of the poverty problem as possible on the economic side of the equation while using social policies in a complementary way to reinforce the impact of economic policies.

Outline

Accordingly, this study is structured as follows:

Chapter one reviews the poverty situation in Yemen based on two sources; the Household Budget Survey (1998) and the National Poverty Survey (1999). It also provides a retrospective appraisal of the impact of the reform programme on economic growth and poverty reduction after almost a decade since its inception.

Chapter two reviews Yemen's macro-fiscal record, as well as major institutional and macroeconomic strategic documents, highlighting major fiscal trends and policy positions, presents Yemen's fiscal challenge arising from the anticipated future decline in oil revenues and analyses the key fiscal challenges to Yemen's long term development effort that may critically impact on the sustainability and realism of long term MDG based investment planning.

Chapter three discusses the role of the financial sector. The chapter indicates that Yemen's financial sector does not appear to have contributed significantly to the growth of the economy and poverty reduction and presents several policy recommendations to that end.

The implications for inflation, the real exchange rate and growth depends, amongst other things, on the absorptive capacity of the economy, as determined by the tightness of the labour market and the ability of the economy to adopt and assimilate new technologies which enhance the productivity of the domestic factors of production, as well as the pattern of utilization of oil revenues by the government in the first place. These interconnections are also critically mediated and shaped by the monetary and exchange rate regulations of the country. **Chapter four** critically reviews these regulations and reforms in Yemen since the inception of its stabilization and adjustment programme. The analysis of current fiscal, monetary and exchange rate policies in the chapter indicates that these policies are in need of rethinking and reform. The urgency of this arises from the secular decline in the private sector savings and investment, rising unemployment and underemployment of labour and stagnant productivity of labour. These trends, combined with high rates of food price inflation are most likely to have increased the number of the poor and the intensity of income poverty in recent years.

In order to provide widespread remunerative employment, Yemen's economy needs to grow at a much more rapid rate and spread the benefits of growth more broadly among the population. This will necessitate a dramatic scaling-up of both public and private investment. **Chapter five** takes up this issue arguing in particular that financing for such investment will have to come from various current sources: oil revenue, increased tax revenue on non-oil incomes, reduced international reserves, debt relief and from a substantially increased ODA in support of a national development strategy that can reach the MDG targets.

Yemen is a predominantly rural society, with widespread poverty, food insecurity, and inadequate human development. **Chapter six** gives an overview of agriculture and livelihoods in rural Yemen and provides a set of policy proposals designed to ameliorate food insecurity and poverty processes in the countryside. The chapter also analyses demand and supply side constraints to increasing agricultural production and agrarian transformation.

CHAPTER ONE

Generalized Poverty in Yemen and its Macroeconomic Implications

1.1 The Nature of Poverty in Yemen

One of the most important characteristics of poverty in Yemen is that the country suffers from generalized or mass poverty. According to the available estimates based on 1998 Household Income and Expenditure Survey (HIES 98), 41.8 per cent of the population in that year lived under the conditions of extreme poverty, i.e., below what is referred to as the 'lower' poverty line by World Bank (2002).[1] The lower poverty line is equivalent to 78 cents a day when converted at the official exchange rate in 1998, and at the 1985 PPP rate it is just over 1 dollar a day (Table 1.1).

Table 1.1: Headcount Poverty in Yemen in 1998

	Lower poverty line	Upper poverty line
Poverty Line:		
Rials a day	105.53	155.18
$ a day, PPP 1985*	1.03	1.51
$ a day, official exchange rate 1998	0.78	1.14
Head Count Poverty		
National	41.8	66.9
Rural	45.0	69.6
Urban	30.8	57.8

Notes: * The 1998 poverty lines are rebased to 1993 using the consumer price index. The ppp rate is calculated at 1993 GDP ppp rates and normalized by the 1.08 factor to be comparable to the World Bank's definition of $1 a day poverty line at 1985 ppp rates.
Source: World Bank 2002 for poverty lines, and WDI 2004, Wolrld bank for ppp rates.

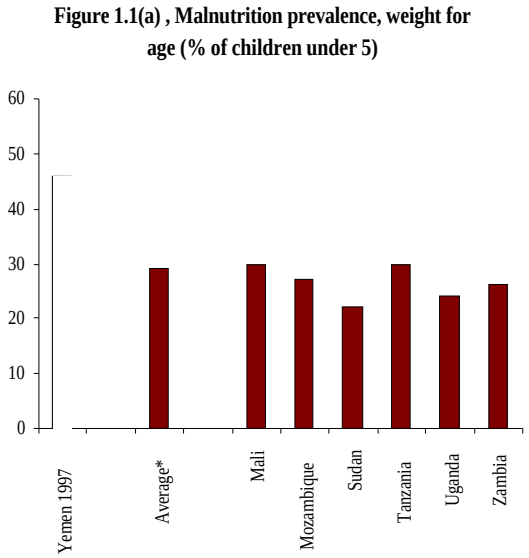
With a more 'normal' definition of the poverty line, namely what the World Bank (2002) refers to as the 'upper' poverty line, headcount poverty reaches 66.9 per cent. The upper poverty line is defined as the value of the basket of goods and services that is actually consumed by the households whose food and energy intake is equal to the minimum requirement of 2200 calories per person per day.[2] At the official exchange rate this poverty line translates into about $1.1 per day, and at the 1985 PPP rate it is

[1] The lower poverty line is defined as the value of the basket of goods and services which is equal to the cost of the food bundle that can afford the minimum energy intake of 2200 calories per person per day, plus a minimum allowance for non-food expenditure which is equal to the average spending on such items by households whose total expenditure is no more than the value of the minimum food requirements.

[2] We have referred to this as the 'normal' definiti on of poverty line, because in countries such as India this forms the basis of defining absolute poverty lines. In the case of India though, the minimum calorie intake in the rural areas is taken as 2400 calories and in the urban areas as 2100 calories pe r person per day. Given that the majority of the population in Yemen lives in the rural areas, the application of Indian norms will lead to even higher headcount poverty measures than reported.

about $1.5 a day (Table 1.1).[3] In other words, in 1998 the majority of the population, 69.6 per cent in rural areas, and 57.8 per cent in urban areas (adding up to 66.9 per cent at the national level), could only afford a consumption level which catered for minimum food requirements plus what is deemed as normal for non-food expenditures at that level of food consumption. Once we add to this the not insignificant share of the population who live marginally above the poverty line and hence live on the edge of poverty and vulnerable to minor economic fluctuations, the phenomenon of mass poverty in Yemen becomes more pronounced.[4]

Figure 1.1: Children malnutrition



Notes: Average refers to simple average for 64 low -income countries as defined by the World Bank . For countries other than Yemen, val ues refer to average for 1995 -2000.
Source: World Bank WDI 2004.

It may be said that income poverty is a one-dimensional measure of poverty, strewn with measurement problems, and what appears as generalized poverty in Yemen is no more than a statistical artefact based on the choice of the poverty line. However, other direct and indirect measures of poverty also highlight the condition of generalized poverty in Yemen. According to the findings of the National Poverty Survey 1999 (NPS 99), more than 58 per cent of the population belong to households who considered themselves as either poor or extremely poor, or if otherwise stated they actually fell within the bottom 4 deciles of income groups. Other non-income indicators of poverty, such as health and educational indicators, which are close

[3] It should be noted that the PPP exchange rates in Table 1. 1 are based on GDP PPP exchange rates and not the consumption exchange rates. This may lead to an under -estimation of poverty as reported in Table 1.1. This is because a relatively large part of essential consumer goods in Yemen, particularly the basic ne cessities such as food and medicine are traded goods, while the domestic component of other GDP expenditures such as investment (mainly construction work) and government consumption is likely to be relatively high.

[4] According to the World Bank (2002) s imulations for example an additional 7 to 24 per cent of the population in 1998 were regarded as vulnerable in the vicinity of the lower poverty line, depending on the size of the economic shock varying respectively between 10 to 30 per cent of per capita consumption. This becomes particularly significant when one considers the high volatility of per capita private consumption in Yemen (see, e.g., Figure 1.3 below).

correlates with income poverty, also highlight the state of mass poverty in Yemen. For example, over 80 per cent of the adult population in 1998 were either illiterate or did not complete primary schooling.

What signifies the condition of generalized poverty here is that the difference between the poorest fraction and the rest of the population is relatively small (about 87 per cent in the bottom 40 per cent of the population as compared to 79 per cent in the top 60 per cent income groups).[5] Other indicators of poverty such as nutritional conditions and health indicators also point to the phenomenon of mass poverty in Yemen. As can be seen from Figure 1.1, for example, child malnutrition in Yemen is more extensive than some of the other least developed countries in sub-Saharan Africa which are characterized (e.g., by UNCTAD 2002) as countries with extreme mass poverty.
Under the conditions of generalized or mass poverty, where the majority of the population are either poor or vulnerable to poverty, anti-poverty policies, apart from assuming added urgency, also take on important new dimensions. Social safety nets and redistributive social welfare schemes, which are the main instruments of anti-poverty policy under more normal conditions of poverty – where the poor constitute a relatively small section of the population, i.e., the ten to twenty per cent in the tail of the income distribution curve – are no longer sufficient. Without sustained economic growth, at a sufficiently high rate and with sufficiently benign distributional consequences, conventional poverty reduction policies aimed at marginalized sections of the population are no longer equal to the task. Furthermore, the condition of generalized poverty poses serious new challenges to policy makers as it can affect the behaviour of economic agents and the working of institutions in responding to policy stimuli at the micro level, as well as severely limiting the range and effectiveness of policies available to the government at the macroeconomic level.

The condition of generalized poverty in Yemen, as in other least developed countries suffering from a similar malaise, is associated with other broader economic conditions and processes which underpin this phenomenon. In such economies the majority of the population live in rural areas where the mainstay of life is extremely low productivity subsistence agriculture and related activities. In the case of Yemen more than 74 per cent of the population live in rural areas. Low levels of human capital and man made physical capital under generalized poverty, forces survival strategies on the poor, and entails accumulation strategies for the rich, based on eating into the natural capital stock and multiplication of numbers of unskilled labour through high reproduction rates. High rates of population growth (currently over 3 per cent a year in Yemen) and fast rates of natural resource depletion are normally associated with generalized poverty. Left to their own natural processes, such economies are often caught in a vicious circle of fast population growth, increasing environmental degradation and natural resource depletion, increasing poverty, and in the limit the destabilization of the social and political order (see, e.g., UNCTAD 2002). In the case of Yemen, the discovery and production of oil in the 1980s, and the considerable increase in oil revenues in the 1990s, provided a short window of opportunity to break out of this vicious circle which afflicted both parts of the country before the unification of 1990.

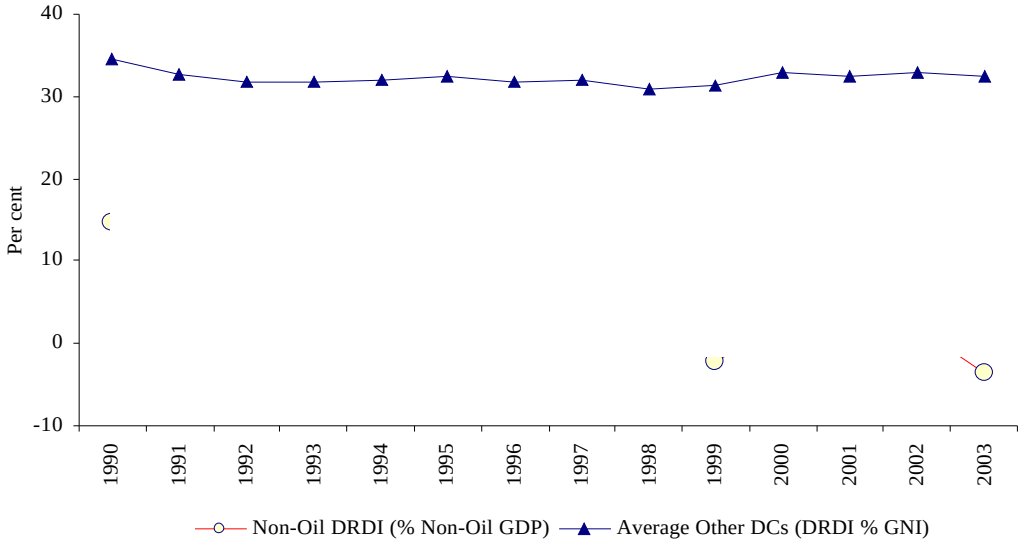
[5] These figures are based on World Bank (2002), Volume 1, Table 7, page 12.

1.2 Domestic Resources Development and Investment under Generalized Poverty

A good starting point for the discussion of the potential contribution of the oil sector under the conditions of generalized poverty in Yemen could be to examine the magnitude and trends in 'domestic resources for development and Investment (DRDI). DRDI is here defined as gross national income minus private consumption expenditure, which is equal to resources available for domestic investment, provision of public services, or investment abroad. In very low-income countries like Yemen where private consumption levels for a large part of the population are at or below subsistence, DRDI can provide a useful indicator of possibilities for resource mobilization consistent with poverty reduction, and the nature of resource constraints over time. It serves also as an indicator of the magnitude and locus of the fiscal base and, transitively, as a basis for calculating available fiscal space (discussed in Chapter 2 on fiscal policy)

In order to examine the nature of resource constraints in the non-oil domestic economy of Yemen, we start with a definition of DRDI which excludes the oil sector (defined here as non-oil GDP minus private consumption). Figure 1.2 shows the trends in non-oil DRDI for Yemen as a share of non-oil GDP since 1990. For comparison, the figure also shows the average value of DRDI for other (non-LDC) developing countries.

Figure 1.2 Domestic Resources Available for Development and Investment (DRDI): 1990-2003



Notes: DRDI for other developing countries is the simple average for 108 non -LDC developing countries.
Sources: WDI 2003, World Bank, and CSO, GoY, Statistical Yearbook various issues.

Given the quality of the national accounts data, some care is needed in interpreting the picture that emerges from Figure 1.2. However, the orders of magnitude involved are large enough for a clear picture to emerge, measurement errors notwithstanding. As the figure shows, in much of the period since the early1990s non-oil GDP in Yemen

has been barely sufficient to cater for private consumption expenditure in the economy. Since the latter half of the 1990s decade, there is clear evidence of a large and widening gap between the non-oil DRDI in Yemen and the average DRDI for other developing countries.[6] The gap currently stands at over 35 per cent of non-oil GDP in Yemen.

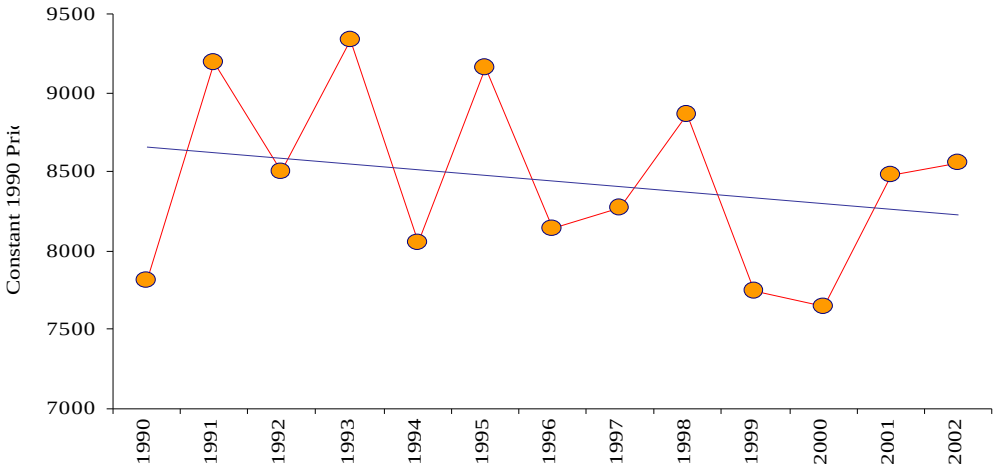
The above picture may convey the impression that the rising oil income since the early 1990s has been fuelling private consumption and hence squeezing non-oil DRDI rates in Yemen. This view however is not entirely correct. As can be seen in Figure 1.3, real per capita private consumption in Yemen since the early 1990s, if anything, appears to have been following a mildly declining trend. In fact, it appears that the peak of per capita private consumption in the post economic reform period was attained in 1998, i.e., the year for which the conditions of generalized poverty were discussed in the previous section. The comparison of per capita household consumption in Yemen with the average for other developing countries in Figure 1.4 highlights the nature of resource constraints in the domestic economy in Yemen in mobilizing DRDI. With per capita private consumption levels of $200 (in 1995 prices) which are barely above 10 per cent of other developing country averages, attempts to raise the domestic non-oil DRDI rate by any appreciable amount, at the current productivity levels in the non-oil economy in Yemen, would have to eat into the meagre per capita private consumption levels and is likely to worsen poverty. This is not of course to deny the possibility or the need to mobilize more resources through the taxation of high consumption groups, particularly in view of the fact that according to National Poverty Survey of 1999 more than 51 per cent of expenditure in that year belonged to the top 20 per cent income groups.[7] However, when this is set against the large gap in the DRDI in the non-oil domestic economy in Yemen, it becomes clear that without substantial improvements in labour productivity, the domestic non-oil economy in incapable of furnishing the required resources without pushing wages and consumption levels well below minimum subsistence levels.

It should be noted though that a constant or even a mildly declining per capita private consumption trend is not inconsistent with relatively high rates of growth of private consumption in a country like Yemen with its high population growth rates. In fact the trend growth rate of final private consumption in Yemen between 1990 and 2002 was just over 3.5 per cent a year. In other words, in order to maintain per capita consumption levels, total private consumption has had to grow by the relatively high rates of 3.5 per cent a year. This is one aspect of the burden of the high population growth rates in Yemen. Other aspects relate to the increasing burden on public services such as health and education which would be at the expense of investment in directly productive and employment enhancing activities on the utilization side of DRDI. Given the high rates of population growth, it is unlikely that per capita private consumption levels could have been maintained without the contribution of the oil sector and other external sources of finance.

[6] The higher DRDI rate in the first half of the 1990s is likely to be due to large government implicit subsidies which led to an undervaluation of private consumption in national accounts.

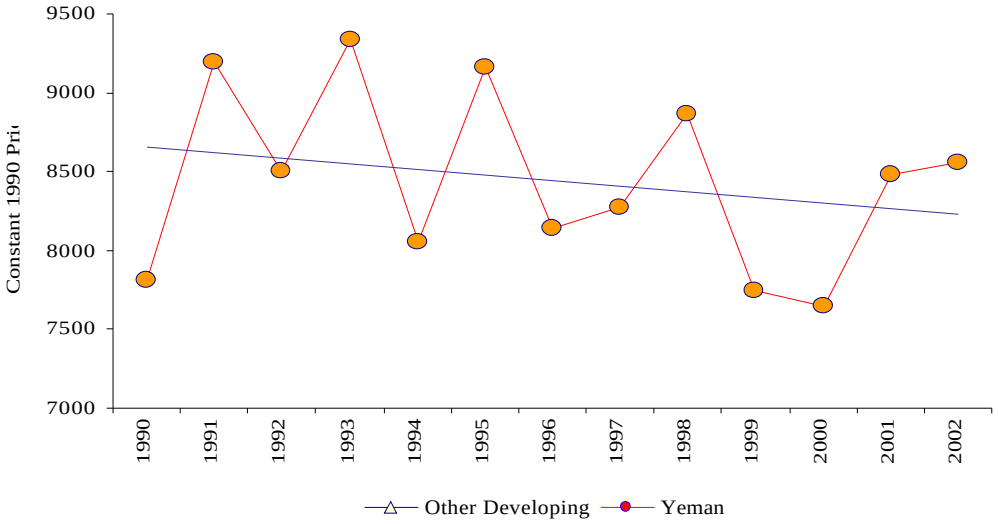
[7] The National Income and Expenditure Survey of 1998 (NIES 98) though shows more equal distribution of expenditure with the top 30 per cent consuming over 54 per cent of total (see, World Bank 2002).

Figure 1.3: Per capita Household Consumption Expenditure in Yemen, 1990-2002



Notes: Other developing countries chart is the simple average for 108 non -LDC developing countries.
Source: WDI 2003, the World Bank.

Figure 1.4: Per capita Household Consumption Expenditure in Yemen and Other Developing Countries, 1990-2002



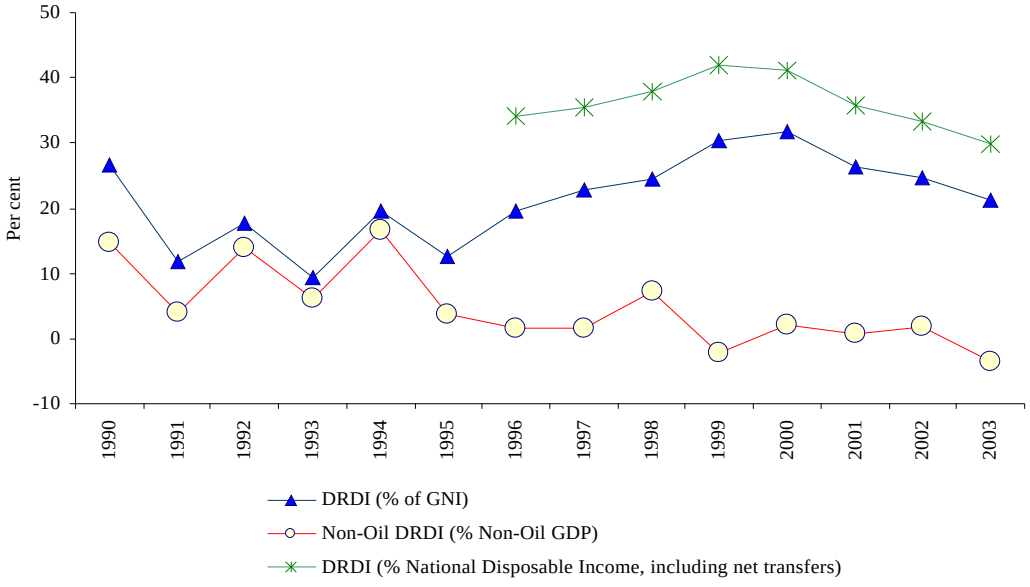
Notes: Other developing countries chart is the simple average for 108 non -LDC developing countries.
Source: WDI 2003, the World Bank.

In addition to the domestic non-oil economy there have been two other important sources of revenue in the Yemeni economy since the early 1990s. One is of course the revenues from the oil sector, and the other is remittance income by migrant workers. We shall consider these in turn. Including the oil revenues in the definition of DRDI, this indicator is now measured as gross national income minus private consumption expenditure. This is plotted as a share of GNI along with non-oil DRDI in Figure 1.5. As the figure shows, since the mid-1990s, in the post reform period, oil income seems to have made a considerable contribution to the DRDI rate. This has been partly due to the large increases in the dollar value of oil exports in that period, as compared to

the first half of the 1990s. But also the economic reforms are likely to have played an important part in enhancing the contribution of the oil sector to DRDI. During the pre-reform period when oil income was by and large valued at the overvalued official exchange rate and partly used for subsidizing the prices of basic consumer goods, the overall DRDI was not substantially above the non-oil DRDI (Figure 1.5). A large part of oil revenue of the government was in this way transferred to the private sector. The end of consumer price subsidies and the unification of the exchange rate following the economic reforms led a substantial increase in domestic currency value of government oil revenues and entailed a large shift of resources from the private sector to the government (partly from the household sector and partly from the private businesses who benefited from access to rents generated by quantitative restrictions). Rather than contesting the access to resources through inflationary finance, as was done in the first half of the 1990s, this allowed government resource mobilisation to automatically increase in this period.

Once one takes into account remittance income from migrant workers the DRDI rate, as a share of national disposable income, in the post economic reform period rises to, or even surpasses, the average levels prevailing in other (non-LDC) developing countries (Figure 1.5). This is a considerable achievement, which has been by and large built on two sources of income that are not derived from the reproducible wealth of the domestic economy. Oil is a depletable resource, and at the current levels of reserves oil exports have already started a declining trend and are project to tail off within the next ten years.

Figure 1.5: Domestic Resources Available for Development and Investment, 1990-2003



Notes: Net Current Transfers is based on the World Bank data
Sources: IFS, IMF March 2005, World Bank WDI 2005, and CSO Statistical Yearbook, various issues.

The net current transfers in the balance of payments, which are believed to be by and large remittances from Yemeni workers abroad, are not a reliable source of revenue

and unlikely to grow in the future.[8] It is therefore important to see how the resources made available for financing investment and public services were used in this period and how effective they have been in raising the productive capacities in the economy and in creating productive employment for the poor. A general answer to this question is already implicitly shown in Figure 1.5, in the shape of the non-oil DRDI which has been meandering flat on its back near zero and moving to negative territory in 2003. However, for a better understanding of the macroeconomic policies for poverty reduction, a more detailed examination of the policies which have guided resource mobilization and resource allocation in the economy in the post economic reform period is necessary, and is undertaken in the remaining chapters of this report.

1.3 Initial Conditions and Economic Reform

After almost a decade since the inception of the economic reform programme, it may be good time for a retrospective appraisal of the impact of the reform programme on economic growth and poverty reduction. Such an appraisal of course needs to be situated within the specific context of Yemen's economic history and institutions. In this respect, the immediate post-unification situation furnishes some of the key elements which need to be taken into account. In the immediate aftermath of the unification in 1990, the country faced the formidable task of unifying two countries with different economic systems, two separate bloated and inefficient administrative systems, two different legal systems, with both parts weighted down by unsustainable debt burdens. Under normal circumstances and in more developed economies, these tasks would have been formidable enough to off-balance any government. But the problems were further compounded by the return of tens of thousands of Yemeni migrant workers after the first Gulf war, two years of severe draught, cessation of foreign aid, and constant political strife culminating in the civil war of 1994. These events hence created a backlog of vital investments which the governments needed to undertake in the immediate post-unification period. Furthermore, by the time of the inception of the economic, financial, and administrative reform programme in 1995, in addition to these fundamental restructuring issues, other important problems relating to financial and economic instability also needed to be tackled.

Additional elements of context specificity that an effective reform programme had to tackle, of course, relate to the condition of generalized poverty which was highlighted in the first section of this chapter. In particular, lack of access to international capital markets to finance the required investments posed a serious constraint which had to be dealt with by resorting to foreign aid or other external sources of finance. This is an important consideration which needs to be taken into account in perceiving the role of oil revenues in the economic reform programme in the context of the Yemeni economy. From the short term stability point of view, given the volatility of oil prices in the international markets, this can entail a high degree of volatility in government expenditure which can increase economic instability and the waste associated with it.

[8] Yemen has always had a substantial number of migrant workers, at some time in the 1980s estimated at over one third of its labour for ce, working mainly in the Gulf countries. Following the Gulf crisis of 1990-91 a large number of Yemeni workers in the Gulf countries returned. It is not clear how much of the current transfers (which fluctuate between 11 to 18 per cent of national dispo sable income) is regular remittance income by Yemeni workers abroad and how much is 'hot money' flowing in to take advantage of high interest rates and relatively stable dollar exchange rate in the country.

One solution for reducing economic instability emanating from oil revenue fluctuation is to set up a large enough oil stabilization fund which can help smooth out the effect of these fluctuations. However, in an economy under generalized poverty, this may be too costly as it is at the expense of undertaking vital investment projects. A more appropriate solution is for the country to have access to a special category of stabilization aid and grants which can be drawn upon to smooth out the effects of short term oil revenue fluctuations. This of course assumes that the maximum value of oil revenues is always below the absorptive capacity of the economy, which may not be true in all years. In exceptional years when due to a sudden increase in oil revenues these sums are more than the planned expenditures, they can be used to reduce foreign debt or increase investment abroad. In this way oil revenue fluctuations are transmitted to aid flows rather than the domestic economy, and the cost of holding large stocks of stabilization funds for a poor economy are avoided.

The condition of generalized poverty also has important implications for the utilization of oil revenues from a long term perspective. It has particularly important implications for the view that permanent income derived from the oil wealth should determine the path of government expenditure (see, e.g., Enders et al, 2002, Barnett and Ossowski, 2002, and Fisher and Easterly, 1990). Permanent income in this context is defined as that part of oil revenues that can be spent without reducing the net wealth of the country. Though uncertainties about the future trajectories of oil prices makes the estimation of the net wealth difficult, a rough rule of thumb suggested in some of the literature is to regard the return from investing the oil revenues in domestic and foreign financial assets as the permanent income from the oil wealth. There are a number of problems with this proposal in the context of countries under generalized poverty such as Yemen. Firstly the domestic financial markets in such economies are very thin, and unless more innovative financial institutions are designed, the current domestic financial markets are incapable of absorbing the funds. For example in the case Yemen, since 2000, surplus oil funds of over 200 billion YRls have been built up and mainly kept as government deposits at the central bank. These sums, together with other foreign exchange reserves that have accumulated in the central bank, currently standing at well over 1000 billion YRls, currently earn a rate of return of well below 2 per cent a year.

Furthermore, in the context of countries with generalized poverty, the permanent income resulting from the oil wealth would itself depend on how oil revenues are deployed in the domestic economy and the type of externalities that such deployment can give rise to. If vital public investments are required to create an enabling environment for private investment, and if such investments are constrained by the lack of access to international capital markets, the utilization of current oil revenues for such a purpose becomes essential, and in view of their positive externalities such investments can be also sustainable in the long run. Consider the example of an initial investment in reforming the administrative structures and building up of the infrastructure in an economy like Yemen, which creates the enabling condition for a considerable amount of private investment, both domestic and foreign, in the subsequent periods. What matters for future budget solvency in this case is not only, or even primarily, the rate of return on these new investments, but rather the total amount of investment and the resulting taxable income that they generate in future periods. These are important considerations to keep in mind when examining the fiscal policy of the government in the post reform period.

CHAPTER TWO

The Fiscal Space

2.1 Introduction

This chapter is divided into four sections. In the second section, we review Yemen's macro-fiscal record, as well as major institutional and macroeconomic strategic documents, highlighting major fiscal trends and policy positions. In the third section we discuss Yemen's fiscal challenge arising from the anticipated future decline in oil revenues. In the final section, we undertake a deeper analysis of the key fiscal challenges to Yemens long term development effort that may critically impact on the sustainability and realism of long term MDG based investment planning.

2.2 The Macro-Fiscal Situation

2.2.1 Overview

The history of Yemen's macro-fiscal development across the 1990s can be divided into three phases: (a) the period from 1990-1993; (b) the 1994 civil war; and (c) 1995-2003 (with the exception of 1998 where oil process collapse had a significant impact on Yemen public finance). Table 2.1 below, presents data spanning over the periods from 1990 onwards (See Annex I for details on data sources and issues in IMF statistics).

The first phase of Yemen's development marked attempts by a new administration to take control of fiscal operations in a country following the unification of the Yemen Arab Republic and People Democratic Republic of Yemen establishing the Republic of Yemen in May 1990[9]. A combination of three factors plunged Yemen into a severe public finance crisis:

- The massive drought in 1990 and 1991, following the first Gulf War, Yemeni workers had to return to their country and international aid dropped as a result of Yemen support to Iraq;
- The high cost of meeting unification commitments.
- Structural weaknesses in the Yemeni economy, such as the low level of productivity, high population growth –averaging 4%- and the low level of domestic investment further undermined Yemen fiscal base.

Between 1990 and 1993, the Revenue / GDP ratio fell from 19.8 percent to 14.9 percent (Table 2.1). This decline conceals significant trends in the revenue structure: while oil revenues decreased from 7.5 percent to 4.2 percent of GDP, tax revenues

[9] IMF (2001) Page 8

increased slightly from 8.2 percent to 8.5 percent. The drop in grants receipts from 1.1 percent to 0.1 percent of GDP also explains the falling share of total revenues to GDP.

Despite this loss of revenues, the Government of Yemen maintained its level of public expenditures, which only declined slightly from 32.3 percent to 29.5 percent of total GDP between 1990 and 1993. Current expenditures in fact rose from 73.1 percent to 88.1 percent of GDP between 1990 and 1993. Though current expenditures and interest obligations remained stable at an average of 25.3 percent and 2.5 percent of GDP respectively, development expenditures plummeted from 8.7 percent to 3.5 percent of GDP. Following the unification of the country, the share of wages in total expenditures increased over the period, representing 28.5 percent in 1990, 33.9 percent in 1991, 34.6 percent in 1992 and 36.3 percent in 1993. Defence spending accounted for 26 percent of total expenditure in 1990, 29.6 percent in 1991, 30.8 percent in 1992 and 28.1 percent in 1993. The pre-eminence of current expenditures had an adverse impact on development expenditure, which fell from 27 percent to 12 percent of total expenditure between 1990 and 1993.

As a result Yemen's fiscal deficit increased from 12.5 to 14.6 percent of GDP over the period. These trends emphasize Government of Yemen's attempt to ease the effects of shocks and structural weaknesses through an accommodating but not counter cyclical strategy based on the preservation of current expenditure levels - despite a decline in total revenues- and a significant cutback in development expenditures.

The outbreak of a civil war in 1994 represents a structural break for Yemen's fiscal stance. Total revenues decreased from 14.9 percent to 12.8 percent of GDP between 1993 and 1994. This fall affected both oil proceeds –which decreased from 14.7 percent to 12.6 percent of GDP between 1993 and 1994- and tax revenues, which declined from 8.5 percent to 6.9 percent in that period.

While total expenditure decreased slightly from 29.5 percent to 29 percent of GDP between 1993 and 1994, the share of current expenditure in total spending continues to increase from 88.1 percent to 91 percent. Civilian administration wages fell from 36.3 percent to 33.4 percent from 1993 to 1994. The share of defence spending sharply increased from 28.1 percent to 33.4 percent of total expenditure; at the expense of development expenditure that collapsed from 12 to 9 percent of total expenditure. The combination of reduced revenues and a constant level of spending resulted in a sharp degradation of budget deficit that reached 16.2 percent of GDP in 1994.

A new phase started in early 1995 as the government of Yemen adopted a macroeconomic and structural adjustment program with the support of the World Bank and the IMF.

The program design recommended a mix of tight monetary policy and contractionary fiscal policy to subdue aggregate demand and curb inflation. The liberalization of most interest rates and the reform of the exchange rate system [10]– adopting a floating regime- complemented fiscal adjustment measures.

[10] IMF (2001). Page 52-55

Table 2.1: Macro-fiscal statistics 1990-2003 (in percent of GDP, except otherwise stated)

Item	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
GDP at market prices (in billions of Yemeni Rials)	122.1	144.8	183.9	227.7	292.3	488.5	702.1	878.9	793.6	1,102.4	1,539.4	1,608.1	1,753.5	2,035.5
1. Total revenues and grants	19.8	23.1	16.1	14.9	12.8	19.5	35.9	31.8	28.5	30.7	39.2	35.3	33.6	33.1
1.1. Total revenue	18.7	22	15.8	14.7	12.6	19.2	35.6	31.3	28.1	29.8	37.9	35.0	32.0	32.6
1.1.1. Oil and gas revenue	7.5	9.4	4.7	4.2	3.7	9.3	25.1	21.4	14.8	19.1	24.4	25.3	22.3	23.6
1.1.1.1. Crude oil exports	4.9	3.7	1.6	1.5	3.1	6.5	14.1	14.7	9.2	12.2	15.7	17.2	15.2	15.5
1.1.1.2. Domestic oil and gas revenues	2.6	5.7	3.1	2.7	0.5	2.9	11	6.6	5.6	6.9	8.8	8.1	7.1	8.0
1.1.2. Non oil revenue	11.2	12.6	11.1	10.5	8.9	9.8	10.5	9.8	13.2	10.7	13.5	9.8	9.7	9.1
1.1.2.1 Tax revenue	8.2	9.2	8.8	8.5	6.9	8	8.4	7.9	9.9	7.7	7.2	7.1	7.5	7.1
1.1.2.2. Non tax revenue	3	3.5	2.3	2	1.9	1.9	2.1	1.9	3.3	2.9	6.3	2.7	2.2	1.9
1.1.3. Grants	1.1	1	0.3	0.1	0.3	0.3	0.3	0.5	0.4	0.9	1.3	0.3	1.6	0.4
2. Total expenditure	32.3	30.1	28.9	29.5	29	25.6	39.8	33.7	35.3	30.9	31.2	32.8	34.8	38.2
2.1 Current expenditure	23.6	26.1	25.5	26	26.4	22.5	33.2	27.1	28.7	25.5	25.8	25.2	27.7	28.6
2.1.1. Civil administration wages	9.2	10.2	10	10.7	9.7	7.3	6.8	6.0	8.1	7.1	6.4	6.9	7.7	7.0
2.1.2. Defense	8.4	8.9	8.9	8.3	9.7	6.7	5.6	5.8	6.6	5.6	5.0	5.7	7.4	7.3
2.1.3. Materials and services	1.9	2	2.4	1.7	1.8	1.5	2.3	2.8	3.2	3.0	2.2	2.5	2.6	2.5
2.2. Interest obligations	2.4	2.9	1.9	2.6	2.9	1.5	3.3	2.3	4.0	4.0	2.3	2.1	2.0	1.9
2.3. Explicit subsidies	0	0	0	0	0	3.4	13	7.5	3.2	2.4	5.7	3.8	3.2	5.2
2.3.1. Petroleum subsidies	0	0	0	0	0	1	5.3	2.8	0.0	2.0	5.7	3.8	3.0	5.0
2.4. Current transfers	1.7	2.2	2.4	2.7	2.3	1.5	1.6	1.5	2.4	2.6	3.0	3.4	4.0	3.5
2.5. Development expenditure	8.7	4	3.4	3.5	2.6	3.1	6.6	6.6	6.6	5.4	5.4	7.5	7.1	9.7
3. Overall fiscal balance	-12.5	-7	-12.8	-14.6	-16.2	-6.1	-3.9	-1.9	-6.8	-0.2	8.0	2.6	-1.2	-5.2

Source: IMF Statistics

Total revenues increased dramatically from 19.5 percent to 33.1 percent of GDP between 1995 and 2003, in large part due to enhanced oil revenues, which increased from 9.3 percent to 23.6 percent of GDP between 1995 and 2003[11]. The collapse of oil prices in 1998 leading to a sizeable decline in oil revenues –from 21.4 percent to 14.8 percent of GDP- and total revenues –from 31.3 percent to 28.1 percent of GDP- emphasizes Yemen's fiscal vulnerability to oil price volatility. Indeed the correlation between oil revenues and total revenues is 0.99. The end of the civil war also led to a recovery in tax collection from 6.9 percent to 8 percent of GDP between 1994 and 1995. However the average tax revenue between 1995 and 2003 reached 7.8 percent, which is lower than the average of 8.7 percent over the period 1990-1993. The impact of tax reforms implemented in 1995 and 1996 thus appears to have been very limited in light of the declining tax revenues. The evolution of the tax structure shows a decline in custom revenues, decreasing from 3.7 percent to 2.1 percent of GDP between 1996 and 2003. Non-tax revenues increased from 1.9 percent to a peak of 6.3 of GDP between 1995 and 2000, they subsequently declined to 1.9 percent of GDP in 2003.

Table 2.2: Evolution of Yemen revenue composition 1994-2003 (in percent of GDP)

Item	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1. Total Revenue	12.5	19.2	35.6	31.3	28.1	29.8	37.9	35.0	32.0	32.6
2. Oil Revenue	3.7	9.3	25.1	21.4	14.8	19.1	24.4	25.3	22.3	23.6
3. Non oil revenue	8.9	9.8	10.5	9.8	13.2	10.7	13.5	9.8	9.7	9.1
3.1. Tax revenue	6.9	8.0	8.4	7.9	9.9	7.7	7.2	7.1	7.5	7.1
3.1.1. Custom duties	2.5	3.4	3.7	2.9	3.0	2.3	1.9	2.1	2.1	2.1
3.1.2. Tax on goods and services	1.5	2.0	2.2	2.4	3.	2.2	2.4	1.7	1.7	1.6
3.1.3. Taxes on income	1.3	1.1	1.2	1.2	1.6	1.5	1.4	2.9	2.0	1.8
3.1.4. Corporate profit tax	1.1	0.9	0.8	0.9	1.7	1.3	1.2	…	1.3	1.3
3.2 Non-tax revenue	1.9	1.9	2.1	1.9	3.3	2.9	6.3	2.7	2.2	1.9

However the dependency of government revenue on oil represents a risk for the macroeconomic stability of Yemen. The low level of non-oil revenues represents a major concern for Yemen public finances. The decline in oil production and the foreseeable depletion of oil resources will need to be addressed through major fiscal reforms in the non-oil sector.

The Economic, Financial and Administrative Reform Program[12] (EFARP) during the initial phases of 1995-1998 was expenditure reducing. The share of current expenditure has progressively declined from 87.9 percent to 82.8 percent of GDP between 1995 and 2003. The relative evolution of different expenditures is as follows:

Civil administration wages slightly declined from 7.3 percent to 7 to percent of GDP between 1995 and 2003. The share of civil administration wages in total expenditures

[11] The reason decline in Oil revenue /GDP ratio from 25.3 percent to 23.6 percent between 2001 and 2003 – which appears counter-intuitive in the context of higher oil prices - is not a decline in production – which has remained stable- but to a faster increase in GDP growth than in oil proceeds.
[12] See 2.1.1

declined from 28.5 percent to 20.4 percent of total expenditure over the same period. Further the Government of Yemen commenced civil service reform in 1998[13], which led to an initial increase in the wage bill -reflected in the rising share of wages from 17.7 percent to 23 percent of total expenditures between 1997 and 1999. High inflation resulted in the containment the share of the wage bill[14].

Changes in the exchange rate regime led to the replacement of implicit subsidies through below market foreign exchange rates with explicit cash subsidies on wheat, flour and petroleum products[15]. After a peak of 13 percent of GDP in 1996 following the introduction of explicit subsidies, these expenditures represented gradually declined to an average 3.8 percent of GDP between 1998 and 2003. While wheat and flour subsidies have been gradually phased out – and entirely eliminated in 1999[16] - petroleum subsidies now represent almost the entire subsidy bill - an electricity subsidy remains.

Defence expenditures decreased to 5 percent of GDP in 2000 but rose to 7.3 percent in 2003 due to regional instability following September 11, 2001 and incidents in Aden Harbor. Development expenditures doubled as percentage of GDP in from 1995 to 1996 –reaching 6.6 percent of GDP, but decreased in 1998 and 1999 after the fall in oil prices. Following the recent rise in oil prices, development expenditures increased from 5.4 percent to 9.7 percent of GDP between 1999 and 2003.

Between 1995 and 2003, changes in oil prices appear to be the major determinants of Yemen Government's ability to balance the budget and finance deficits. The fiscal deficit declined from 6.1 percent to 1.9 percent of GDP between 1995 and 1997. The collapse of oil prices in 1998 resulted in a deterioration of the fiscal deficit, which reached 6.8 percent of GDP. However swelling oil prices have led to a fiscal surplus of 8 percent in 2000, which has subsequently changed to a deficit of 5.2 percent in 2003. Thus the correlation between oil revenues and fiscal deficit has been very robust between 1995 and 2002, Yemen fiscal balance turned negative despite rising oil revenues after 2002 (see Figure 2.1). The recent rise in deficit can be explained by a rise in government expenditures from 34.8 percent to 38.2 percent of GDP between 2002 and 2003, while revenues remained constant over the same period. It is however too early to interpret whether the rise in deficit in the context of increasing oil revenues represents a change in trend for Yemen economy.

Although the rise in petroleum subsidies from 3 percent to 5 percent of GDP between 2002 and 2003 needs to be controlled to maintain fiscal discipline, the increase in development expenditure from 7.1 percent to 9.7 percent of GDP over the same period can address Yemen's lack of infrastructure and limited access to basic services, which can both enhance economic growth and alleviate poverty. Another policy conclusion arising from the analysis of Yemen fiscal stance between 1995 and 2003 is the limited impact of the adjustment program. Oil revenues have had a major impact on total

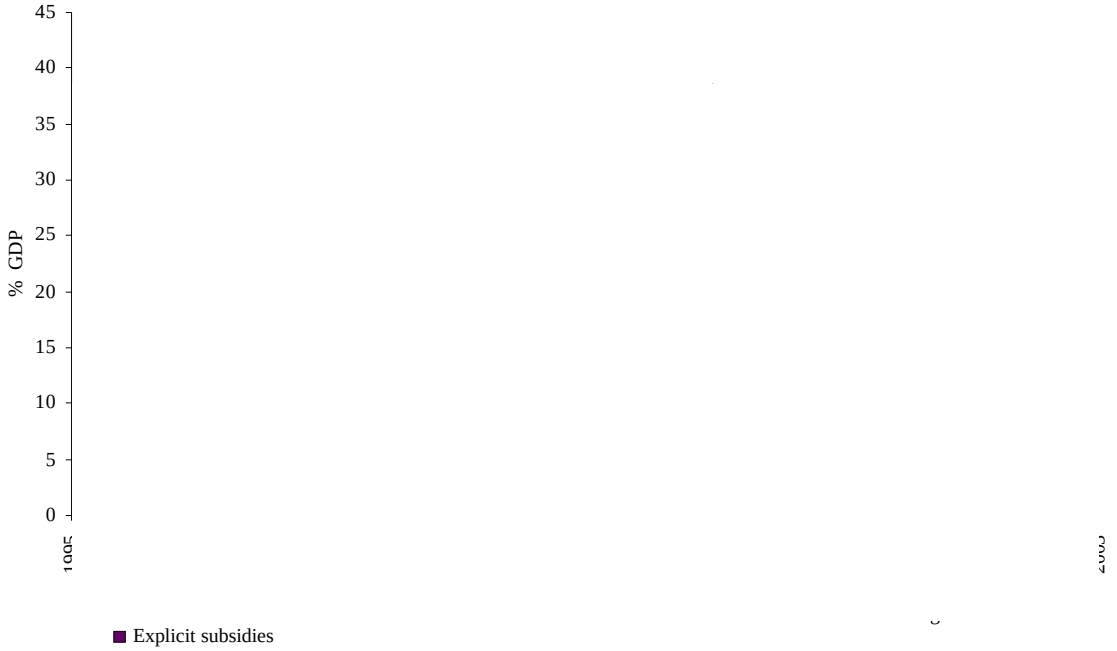
[13] IMF (2001) Page 68-69
[14] IMF (2001) Page 68
[15] IMF (2001) Page 62
[16] IMF (2001) Page 64, Box 1

revenues while tax reforms did not trigger a significant shift of Yemen economy towards the non-oil sector.

2.2.2 The Composition of Government Spending: Significant Trends

Figure 2.1 provides a disaggregated breakdown of various items of government spending. A significant fact revealed by this breakdown is that a major part of total current expenditure on public services by the government is absorbed by military expenditures. Military expenditures have particularly accelerated from the late 1990s, rising from about 55 per cent of the share of current expenditures on civilian services to over 75 per cent in 2003, which should be a cause of concern. In fact, once one excludes military expenditures, the remaining share of government current expenditure on public services, which includes public administration, law enforcement, health, education, and other government services, falls well below 10 per cent of the GDP.

Figure 2.1: Composition of Government Spending (1995-2003)



Sources: IMF, IFS, May 2005, and IMF, 2004.

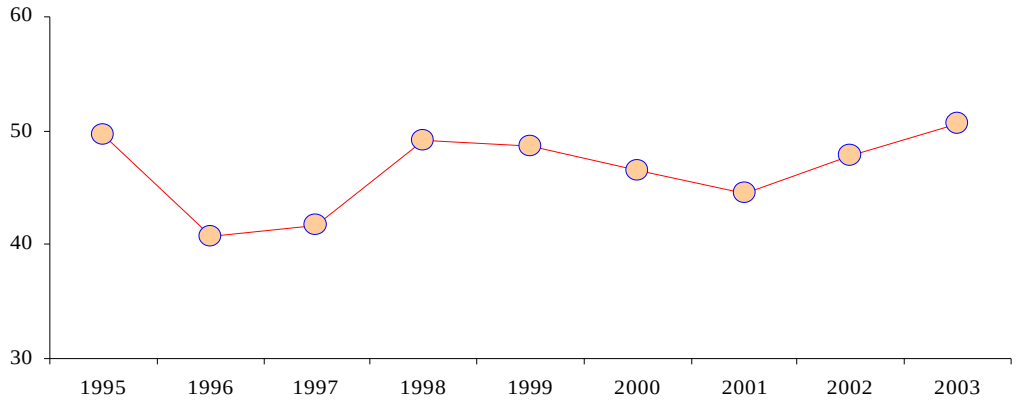
Despite the increase in the share of government investment since 2002, the combined share of investment and current expenditures on non-military service provision, which are the only components of government spending with direct developmental effects, is still below 20 per cent of the GDP. Throughout the post reform period, up to 2002, this share was in fact no more than 15 per cent of the GDP.

Table 2.3: Evolution of Yemen's government shares of revenues and expenditures (in percent)

Item	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1. Total revenues and grants	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
1.1. Total revenue	94.4%	95.2%	98.1%	98.7%	98.4%	98.5%	99.2%	98.3%	98.5%	97.1%	96.7%	99.1%	95.2%	98.8%
1.1.1. Oil and gas revenue	37.9%	40.7%	29.2%	28.2%	28.9%	47.7%	69.9%	67.4%	52.1%	62.3%	62.3%	71.5%	66.4%	71.4%
1.1.2. Non oil revenue	56.6%	54.5%	68.9%	70.5%	69.5%	50.3%	29.2%	30.9%	46.4%	34.8%	34.4%	27.7%	28.8%	27.4%
1.1.2.1 Tax revenue	41.4%	39.8%	54.7%	57.0%	53.9%	41.0%	23.4%	24.9%	34.9%	25.3%	18.4%	20.0%	22.3%	21.6%
2. Total expenditure	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
2.1 Current expenditure	73.1%	86.7%	88.2%	88.1%	91.0%	87.9%	83.4%	80.5%	81.2%	82.5%	82.8%	77.0%	79.6%	74.7%
2.1.1. Civil administration wages	28.5%	33.9%	34.6%	36.3%	33.4%	28.5%	17.1%	17.7%	23.0%	23.0%	20.4%	21.1%	22.1%	18.4%
2.1.2. Defense	26.0%	29.6%	30.8%	28.1%	33.4%	26.2%	14.1%	17.3%	18.7%	18.1%	15.9%	17.3%	21.2%	19.0%
2.2. Interest obligations	7.4%	9.6%	6.6%	8.8%	10.0%	5.9%	8.3%	6.8%	11.3%	12.8%	7.4%	6.5%	5.7%	4.9%
2.3. Explicit subsidies	0.0%	0.0%	0.0%	0.0%	0.0%	13.3%	32.7%	22.1%	9.2%	7.7%	18.4%	11.5%	9.3%	13.7%
2.4. Current transfers	5.3%	7.3%	8.3%	9.2%	7.9%	5.9%	4.0%	4.6%	6.7%	8.3%	9.6%	10.5%	11.4%	9.0%
2.5. Development expenditure	26.9%	13.3%	11.8%	11.9%	9.0%	12.1%	16.6%	19.5%	18.8%	17.5%	17.2%	23.0%	20.4%	25.3%

In a country like Yemen where during the post reform period government revenues on average have been about 35 per cent of the GDP, and where due to the poor capabilities of the private sector the government has to play a critical developmental role, this should be a cause of extreme concern. As shown in Figure 2.2, throughout the post reform period the share of government's 'productive' spending (namely current spending on non-military public services plus fixed investment) has been consistently below 50 per cent of total government spending. This phenomenon is not only due to relatively high levels of military spending. Other sources of government spending also played their role.

Figure 2.2: Government's Productive Budgetary Spending as a Percentage of Total Spending, 1995-2003



Notes: Productive spending is defined as the sum of government expenditure on non -military public services plus fixed investment.

Explicit Subsidies

In the immediate years after the reform program started, explicit subsidies rose rapidly. This was co-terminus with large increases in government revenues as the official exchange rate was devalued and the oil revenues of the government were valued at the free market rate. By 1996 explicit subsidies had risen to 12 per cent of the GDP, but these were rapidly reduced in the next three years as the government removed food subsidies and substantially reduced energy subsidies as well. By 1999 explicit subsidies had fallen to about 2 per cent of the GDP. This constituted a substantial redistribution of income from the private sector to the government. In subsequent years, however, with the increase in international oil prices and government's reluctance to adjust domestic prices on a commensurate basis, particularly with regard to diesel prices, explicit subsidies started an upward trend. By 2003, explicit subsidies had risen to over 5 per cent of the GDP. With further increases in international oil prices in the subsequent years, explicit subsidies are likely to have risen to much higher levels.

One may be tempted to argue that with poor record of the government in converting its revenues into effective public service provision and infra-structural investment, subsidies, which are a form of income transfer from the public sector to the private sector, may lead to a better utilization of these resources once in the hands of the

private sector. There are, however, a number of serious flaws in this argument. One of the main problems emanates from the form that explicit subsidies have taken. Being by and large subsidies on oil derivatives, and particularly on diesel oil, they have resulted in unsustainable farming practices and inefficient use of water in agriculture, as well as other inefficiencies in the economy (e.g., private electricity generation using diesel fuel). Furthermore, with declining oil revenues the payment of such subsidies will become increasingly impractical – from the point of view of the government's long-term budget constraint they are already unsustainable. Hence, the sooner these subsidies are cut the better the economy can cope with the resulting short-term dislocations.

Nevertheless the question of alternative uses of the resulting transfers to the government following the removal of explicit subsidies still remains a valid question. The best use of such funds is to earmark them for investment in the agricultural sector, in improving the efficiency of water use in irrigation and in improving the productivity of rain-fed agriculture. This will have the added benefit of reducing the resistance of the farmers to the proposed removal of diesel subsidies. Such a use of the subsidy funds will also help relax the long term budget constraint of the government, as the resulting productivity improvements in agriculture can help increase future taxes. In other words, in this way the government will be sowing the oil revenues at present and reaping the benefits in the future. Constituting more than five per cent of the GDP, explicit subsidies currently imply a considerable distortion in resource allocation in the economy, and their investment in the agricultural sector is bound to have a significant effect on the sector and the economy at large. This should be a top policy priority for the government in the immediate future.

Current Transfers

Current transfers have been steadily growing in the post-reform period, and during the past few years have reached levels of between around 3 to 4 per cent of the GDP. Among the different items under this category, are transfers to public enterprises, which have been declining in relative terms (from 40 per cent of total in 1995 to 20 per cent in 2003) and currently are no more than 0.5 per cent of the GDP. A growing component of current transfers during the post reform period has been income transfers to the household sector, most prominently through the safety net programs like the social welfare fund which was set up in 1997 to protect the poor adversely affected by the reform program.

The number of beneficiaries of the social welfare fund has increased from 39,000 people in 1997 to 350,000 in 1999 and 650,000 in 2004. The fund provides cash assistance of between Yrls 1000 (for a one member household) to a maximum of Yrls 2000 (for 5 or above household sizes) per family per month. Converting the value of the cash transfers to 1998 prices, a beneficiary can receive a transfer varying between maximum value of Yrls 21 a day (for a 1 member household) and YRls 8 a day (for a 5 member household). When one compares this with the lower poverty line of YRls 105 a day in 1998, the inadequacy of such cash transfers stands out. Despite such paltry individual transfers involved, and the fact that the coverage has neither been comprehensive nor sufficiently well targeted, total disbursements by the social welfare fund have been increasing rapidly, and currently stand at over 1 per cent of the GDP. This highlights the point made in section 1 of this report that in countries

under generalized poverty, conventional welfare transfers become a blunt instrument in dealing with poverty reduction.

The main source of inadequacy of programs such as the social welfare fund in countries suffering from generalized poverty is that rather than being conceived as an integral part of the reform program, such schemes are usually introduced as an after thought or residual element to deal with the consequences of the reform program. For example, consider the alternative situation where the current spending of one per cent of the GDP on social welfare fund was earmarked upfront at the outset of the reform program, and devoted to a national campaign for reducing fertility rates, possibly combined with a national pension scheme as incentive for young poor couples who manage to keep their fertility rates low. The cumulative effect of such a scheme on reducing poverty and improving the growth potential of the economy, if it could have brought down the population growth rates by even one percentage point, would have been enormous. A prominent successful example of such a campaign in the region is provided by Iran, where population growth rates were brought down from 3.5 per cent to below 2 per cent in less than a decade.

This is only one example of what could have been achieved if social policy was conceived as an integral part of the reform package oriented towards long-term goals of development. In countries such as Yemen, with its high population growth rates and the condition of generalized poverty, social welfare funds which are set up as a residual or afterthought to the reform program are likely to constitute a growing burden on the economy without making a big dent on the poverty situation.

Interest Payments

As shown in Figure 2.1 interest obligations of the government rose rapidly during the first few years following the economic reform program, reaching 3.7 per cent of the GDP in 1998 and 1999. This was mainly due to rise in interest payments on domestic loans following the steep interest rate increases introduced as a part of the reform program. In subsequent years, following the rapid reduction in government's indebtedness to the banking system, and the lowering of nominal interest rates by the central bank, domestic interest obligations declined. Nevertheless, by 2003 interest payments on domestic loans still constituted over 1.4 per cent of the GDP.

The increase in interest rates was the centrepiece of the monetary and financial policies in the reform package, with the aim of producing a more efficient allocation of capital by bringing interest charges on bank loans closer to the perceived opportunity cost of capital in the economy. With regard to the central government budget, this was believed to reduce the crowding out effect of government budget deficits on bank credits to the private sector, by curtailing government's access to cheap credit from the banking sector, particularly from the central bank. As far as the latter effect, namely reducing government indebtedness to the banking sector is concerned the policy was very effective. Since the year 2000 the government has utilized its growing oil revenues to build up a hefty credit position at the central bank, and has shifted its portfolio of domestic loans to treasury bills or loans from commercial banks at the market rate of interest. To what extent this has led to the crowding in of bank credits to higher productivity private sector activities, needs to be

examined by a more detailed discussion of the monetary and financial policies in a subsequent Chapter.

2.2.3 Institutional and Macroeconomic Strategic Initiatives: Fiscal Components

The Economic, Financial and Administrative Reform Program (EFARP)

The Economic, Financial and Administrative Reform Program (EFARP) was launched in 1995 to stimulate economic growth in the economy and improve the standard of living of the population[17], with the support of the World Bank and the IMF. This strategy emphasized fiscal and monetary discipline and recognized the need to reduce dependency on the oil sector.

The Government of Yemen paid special heed to four central issues in the design of EFRAP:

- The fiscal dimension and the potential adverse effects on vulnerable groups resulting from reforms;
- Expansion of the role of the private sector in the areas of investment, production and employment;
- Raising productivity;
- Capacity building for implementing the measures and policies of the program.

The impact of EFARP needs to be evaluated on economic stability and sustained economic growth needs to be disentangled from the evolution of the oil sector. The acceleration of GDP growth rates between 1995 and 1997 – which averaged 6.1 percent between 1995 and 2000 compared to 4.1 percent prior to the reform- primarily stems from the oil bonanza rather than the impact of the structural reform, as demonstrated by the sharp reversal of these beneficial trends when oil prices collapsed in 1998. While it appears that the adjustment program managed to reduce the imbalance between total demand and output by expressly reducing consumption expenditures, our analysis of expenditure trends above, showed that the reduction of budget deficit from 16.2 percent to 6.1 percent between 1994 and 1995 is mainly due to increases in oil revenues rather than enhanced tax revenues or expenditure cutbacks. This is reinforced by our analysis in Section 2.4.1 below, which seems to indicate that these successes were more marginal than transformational in nature

Strengthening Economic and Financial Management (SEFM)

Technical assistance provided through the project "Strengthening Economic and Financial Management" (SEFM) supported by UNDP, UNCTAD, IMF and DFID complemented the implementation of the reform program. The first phase of the program aimed at improving Government of Yemen's economic and financial management capacity through the implementation of improvements in tax and customs administration, budget management, bank accounting, prudential supervision and national accounts statistics. The second phase of the program started in 1997 and provided significant additional resources to strengthen and widen the first reforms. After a positive evaluation of the initial two phases, a third stage of the project started

[17] For a detailed exposition of the elements and the sequencing of reforms, see IMF (2001).

in 2002. However the IMF gradually withdrew from this initiative. In the absence of adequate technical assistance from the IMF, the project ended in 2004.

PRSP 2003-2005

The Government of Yemen started the preparation of the PRSP through the Interim-Poverty Reduction Strategy Paper (I-PRSP) and used as a basis for discussions of the Strategic Vision 2025 and the framework of the Second Five Year Plan, which were held at the governorates level during June-October 2000.

The poverty profile presented in the PRSP stresses three major sets of factors leading to poverty in Yemen:

- Decline in income and its association with the nature and extent of economic growth.
- High population growth and the poor development of human resources and infrastructure.
- Weak levels of social protection.

The PRSP targeted reduction of poverty by 13.1% during the period 2003-2005, thus reaching 35.9% in 2005. This objective required 4.7 percent of real GDP growth over the period. The strategy also set a number of sectoral objectives leading to overall poverty reduction.

The PRSP maps out four main pillars for intervention:

- Achieving Economic Growth
- Human Resources Development
- Improving Infrastructure
- Ensuring Social Protection

The interim PRSP progress report underlines that Yemen is broadly off-track both in terms of macroeconomic management and poverty reduction. Growth in the non-oil sector was limited to 4.6 percent – lower than the 5.7 percent target-, inflation rose to 13.6 percent, the balance of payments surplus was limited to $336 million and current expenditures surged by 19.6 percent –compared to 12 percent in 2002.

The PRSP estimated that local resources and external assistance would not suffice to achieve the Millennium Development Goals by 2015. The Government of Yemen has repeatedly expressed its commitment to the MDGs and decided to align its poverty reduction strategy with the goals in a single framework. In August 2004, Yemen initiated an MDG needs assessment to estimate the financial and human resources required to achieve the goals. The results of the needs assessment will represent a major input for the new national poverty reduction strategy that is currently prepared by the Government of Yemen. However, as we discuss in the next two sections, such a plan will need to confront a major fiscal challenge that has deep structural roots in Yemen's political economy

2.3 Yemen's Fiscal Challenge

2.3.1 The IMF Adjustment Package

The recent country report prepared under Article IV of IMF's Articles of Agreement assesses Yemen macroeconomic outlook and presents two scenarios for the medium term economic outlook of the country. Two macroeconomic scenarios are presented for the medium term, until 2009:

1. A non-adjustment scenario that shows the unsustainable nature of Yemen's fiscal stance
2. An adjustment scenario based on a series of fiscal measures aimed at raising tax revenue and strengthening tax administration.

The main underlying assumptions of the macroeconomic forecast are as follows:

- § Oil production declines at an annual rate of 5 percent and reserves are depleted over the next 12 to 14 years
- § Debt-to-GDP ratio needs to be maintained at 50 percent.
- § Grants are limited to about 1 percent of GDP.

IMF analysis concludes "a cumulative adjustment of about 22.5 percent of GDP in the non-oil primary budget deficit is needed by 2016 (when oil is virtually depleted) to bring Yemen closer to a sustainable long-term path"[18]. The main implications of this forecast through to 2009 are presented in Table 2.4 below.

Table 2.4: Key macro-fiscal forecasts 2006-2009 under non adjustment scenario (% of non oil GDP)

Item	2006	2007	2008	2009
Total non-oil revenue	13.8	14.2	14.1	14.5
Tax revenue	10.8	11.3	11.3	11.6
Non-tax revenue	3	2.9	2.8	2.8
Current expenditure	32.3	29.3	28.6	28.2
Development expenditure	10.8	10.3	9.9	9.7
Current surplus[1]	-5.0	-9.1	-11.6	-13.4
Overall deficit (per cent of Total GDP)	-12.0	-16.0	-18.9	-21.9

Source: IMF, 2005

The macroeconomic forecast for Yemen reveals clear unsustainable trends that require policy actions to cope with the foreseeable depletion of oil resources

Table 2.5: Key macro-fiscal forecasts 2006-2009 under adjustment scenario (% of GDP)

Item	2006	2007	2008	2009
Government revenue, excluding grants	26.5	23.9	22.1	21.2
Government expenditure, net lending	34.1	33.1	33.3	33.5
Current surplus	-4.2	-7.3	-9.3	-10.6
Overall deficit	-6.8	-8.4	-10.5	-11.6

Source: IMF, 2005

[18] IMF, 2005." Republi c of Yemen: 2004 Article IV Consultation – Staff report; Public Information Notice on the Executive Board Discussion; and statement by the Executive Director for the Republic of Yemen". Page 9, paragraph 13.

If the package is implemented (the alternative appears to be total fiscal collapse) the macro fiscal projection for 2009 is as follows:

- § Total revenue declines from 30 percent of GDP to 21 percent of GDP between 2005 and 2009 (i.e. loss of 9 percent in total revenue)
- § This decline can be explained by oil revenues fall by 11.5 percent of GDP over the period
- § Non-oil revenues are projected to rise by 3 percent of GDP as a consequence of the IMF recommended adjustment measures.

Box 2.1: IMF recommendations for fiscal reforms in Yemen

In order to raise tax revenues –which represent about 10 percent of non-oil GDP- and move to a post-oil economy within 15 years, the IMF recommends the following reforms for tax policy administration and public expenditure management:

Tax policy and administration

- Introducing a 10 percent General Sales Tax (GST) is supposed to generate between 3 and 5 percent of GDP
- Eliminating custom exemptions and fighting smuggling could potentially increase custom revenue by at least 1 percent
- Applying an excise tax on petroleum – after the elimination of petroleum subsidy - of 5 percent by 2007 could generate 1.5 to 2 percent of GDP in additional revenue
- Strengthening the tax and customs administrations could provide about 0.5 percent to 1 percent of GDP over the long term

Public expenditure management:

- Eliminating petroleum subsidies would save the budget 6 percent of GDP, which could be used to mitigate the adverse effect of the removal on the poor and to finance social spending
- Reducing civil wage bill – currently at more than 7 percent of GDP - to comparable countries could save 1 percent to 2 percent of GDP
- Containing defense spending to 3 or 4 percent of GDP may save 1 percent to 2 percent of GDP.

According to IMF forecast, these reforms could generate about 12-15 percent of GDP.

Source: IMF, 2005

Accordingly, the fiscal deficit will increase from 4.7 percent of GDP to 11.6 percent of GDP between 2005 and 2009 (i.e. 7 percent rise in fiscal). If total revenue falls by 9 percent of GDP, *ceteris paribus*, the fiscal deficit should have logically risen by 9 percent. The reduction in fiscal deficit is secured, in the IMF scenario, by a 2 percent adjustment in total expenditure (declining from 35 percent to 33 percent of GDP).It should be emphasized that despite adjustment, fiscal deficit will reach 11.6 percent of GDP in 2009, which is high compared to international standards.

While the IMF's analysis needs to be modified in some respects, as we indicate below, it supports our major macro-fiscal conclusion Yemen's scope for increasing domestic fiscal space is negligible given the crisis caused by declining oil revenues.

Box 2.2: How to create fiscal space?

A country can mobilize resources in the following ways:

- *By increasing tax and non-tax revenues.* This source of revenue is the most preferable from government's perspective, as it generates no future fiscal liabilities. However, taxation can have a variety of macroeconomic and sectoral effects on the spending and investment decisions of economic agents, which can have implications for equity, efficiency and g rowth.
- *By borrowing from the domestic private sector.* This source of revenue is attractive since it represents a transfer from the domestic private sector to the domestic public sector and so does not directly increase the country's liabilities to the rest of the world. It can also increase the propensity to save to the extent that the borrowing reduces domestic consumption. It is, to this extent, a 'free' transfer. It can, however, crowd out private investment and have distributional implications depending on the precise nature of the borrowing exercise. It can also have inflationary consequences, if domestic absorption increases significantly before public investment generates increased output. Finally, borrowing for government *consumption* has purely negat ive implications for growth as it reduces national saving to the extent that the borrowing is financed out of private saving.
- *By borrowing internationally*. This type of borrowing results in an increase in international debt and creates liabilities for the country. It represents a temporary increase in domestic resources that can be amortized only if the pay-back from the investment of these resources results in an increase in GDP greater than the net present value of the loan. The greater the degree of conc essionality in such borrowing (zero, in the limit when the international transfer is a full grant) the lower the net present value of the debt.

Revenue

Although the IMF rightfully stresses the need for an increase in non-oil revenue, the recommended tax reforms need to be assessed with caution, as none of the expected effects are certain:

- The introduction of a GST tax can produce 1-1.5 percent of GDP in incremental revenue. However the distributional implications of this reform need to be assessed (see Box 2.3 below)
- Creation of an excise tax on petroleum can yield 1.5 percent of GDP in additional revenues. The introduction of this tax must be phased in carefully to avoid political backlash as well as adverse social effects.
- Efficiency savings in tax administration can generate 1 percent of GDP in additional revenue.

The IMF does not offer other potential options for increasing non-oil revenue in Yemen. We recommend the design of a tax policy master plan to explore alternative possibilities for increasing non-oil revenues. The only significant potential for raising a further 1 per cent of GDP potential creation of a tax on qat represents a specific area that would need to be investigated to analyze the scope for creating fiscal space in Yemen. There may be other sources, which would raise incremental revenue, which a macro level analysis of the type undertaken in this report cannot reveal and a tax policy Master Plan would be able to highlight. However given the limited scope for raising non oil revenues in Yemen, the tax policy master plan may only be expected to reverse the 2 per cent expenditure cut recommendation of the IMF.

Box 2.3: VAT reform in developing countries

Important new evidence that revenue neutral VAT is not always distribution neutra l should be considered carefully in deciding whether to go ahead with a VAT or stick with more conservative forms of taxation such as excises and specific commodity sales taxes. While there is no denying the administrative ease and efficiency raising aspec ts of a VAT (particularly for minimizing distortions), there is important theoretical and empirical evidence that indicates that a distortion neutral VAT will not always be welfare or distribution neutral. Stiglitz and Emran (2002) argue that revenue neutr ality, under certain structural conditions common to developing countries, can be achieved only at the cost of some welfare decline in the transition to VAT. Specifically, **the existence of a large informal sector** that escapes the VAT net has significant di stributive and equity implications, which undermine its desirability. This implies:

- that a VAT may create intersectoral and welfare reducing distortions between formal and informal sectors even as the revenue neutral reduction in trade taxes reduces cross border welfare distortions.
- when (as is often the case with real world tax reform recommendations by the IMF) proposed tax reforms are selective and not comprehensive, there is the additional possibility that the intended revenue neutrality of the VAT subs titution may not come about. In such a case there would be a shortfall in aggregate tax collection or the tax burden caused by VAT broadening will be greater than anticipated (i.e. the welfare losses incurred to generate revenue neutrality will be greater than anticipated ex ante)

Expenditure

The IMF suggests the following reforms:

- Elimination of oil subsidies, which should be reinvested for development expenditure and social protection. While this expenditure switching policy is pro-poor in nature, the adoption of appropriate budget ceilings in the sectors benefiting from the elimination is important to ensure that the switching is successful.
- Decline in the civil administration wage bill. While fewer civil servants may be needed, achieving the MDGs will require an effective administration, which does not appear consistent with a decrease in the civil administration wage bill. Further the IMF emphasizes that civil administration is more important than in comparable countries in the region, but it does not provide specific evidence for this judgment.
- Containing defence spending: the reduction of defence spending is desirable but may be difficult as a result of the fragile political environment both in the North of Yemen and in the Middle East. The absence of information regarding defence spending makes it furthermore uneasy to analyze which specific expenditure should be reduced.

Thus the IMF proposals for cutting expenditures are not poverty neutral and, further more, politically difficult to secure with Yemen needs to achieve the MDGs. We therefore propose maintaining current levels of expenditures while undertaking the recommended expenditure switching policies, and using the Tax Policy Master Plan to secure an incremental 2 per cent of GDP revenue increase so as to maintain the fiscal deficit ratio projected in the IMF adjustment package

2.3.2 A Proposed MDG - Based Macroeconomic Framework [19]

Yemen has been selected as one of the eight countries[20] by UN Millennium Project to prepare a MDG-based National Sustainable Development Plan for Poverty Reduction (2006/2010). The central goal of the collaboration under the Millennium Project exercise is to develop a scaled-up MDG-based National Sustainable Development Plan for Poverty Reduction for Yemen for 2006-2010. This includes a medium-term investment framework couched in a 2015 horizon and a clear assessment of MDG external financing gaps. The Government of Yemen required UNDP support to assist the Macroeconomic & Employment Generation Thematic Working Group (MEGTWG) in developing a macro- framework for poverty reduction consistent with the needs assessment approach. This section presents the main elements of the macroeconomic framework developed for this exercise.

This methodology assumes neutral income distribution and low oil prices. The other main assumptions regarding baseline sector shares in GDP and sectoral growth rates needed for MDG1 in the 2006–2015 period are summarized in Table 2.6. The rates of growth chosen for the illustrative scenario are necessarily somewhat higher than historic rates of growth in Yemen, except in agriculture and in oil & gas.

In the case of agriculture a more moderate assumption is made of growth potential because of the current over-exploitation of water resources available for irrigation and the high cost of introducing high-yielding technologies in Yemen's rugged terrain. The negative rates of growth assumed for the oil and gas sector are based on the current decline in production from Yemen's most prolific oilfields, and the fact that promising new oilfields and natural gas reserves have yet to be fully evaluated and to come on stream.[21] The lower rate of output decline assumed for the 2011 – 2015 period reflects the probability that these new assets will by then have started production.

High growth rates in all other sectors will be required to compensate for expected fall in oil production and to accelerate GNP growth to five per cent. The main driver of growth is the rapid expansion of government and other public services (shown as growing at 9 percent annually in real terms), which are the main direct instrument for delivering the other MDGs. The growth scenario assumes that there will be few institutional and human resource obstacles standing in the way of the rapid expansion of output, especially of non-traded goods and services, and that public and private investment expenditure will efficiently lay the bases for output growth. There will thus be a combination of expenditure multiplier and dynamic effects in the domestic economy arising from the stimulus and opportunities created by rising public expenditure. This implies some structural reform on the supply-side of the economy to which further reference is made below.

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[19] This section directly borrows from the macroeconomic framework developed by John Roberts (Overseas Development Institute) in support to Yemen's Macroeconomic and Employment Generation Thematic Working Group.

[20] The other seven countries are: Cambodia, Dominica Republic, Ethiopia, Ghana, Kenya, Senegal and Tajikistan.

[21] The posited 5 percent annual rate of decline in oil output in 2006-2010 is a projection of the official forecast showing a 6 percent annual average rate of decline in the 2000-2007 period.

Table 2.6: Base Case Sector Share and Growth Assumptions

		Shares of	Annual Growth	
Sector		**2005 GDP**	**2006-2010**	**2011-2015**
Agriculture & Fisheries		15,2%	4,7%	4,7%
Oil & Gas		25,5%	-5,0%	-1,0%
Manufactures		5,1%	6,0%	6,0%
Construction		4,1%	6,0%	6,5%
Utilties		0,8%	5,5%	6,0%
Trade, wholesale & retail		12,6%	7,5%	7,5%
Hotels & restaurants		1,7%	5,5%	6,0%
Transport & communications		13,2%	7,0%	7,0%
Financial & business services		8,6%	5,5%	6,0%
Community & social services		1,0%	6,0%	6,0%
Public admin. & public services		11,1%	9,0%	9,0%
Imputed bank service charges		2,4%	5,5%	6,0%

NOTE: The projection is in constant (notionally 2005) prices. [22]

The main results of the Base Case projection built on these assumptions are as follows:

§ GDP rises, as required, by 4.9 percent annually on average over the ten-year outlook period. The cumulative per capita GDP growth of 28 percent over ten years is sufficient to reduce the headcount rate of poverty from an estimated 38 percent in 2005 to the target level of 21 percent in 2015 – which is consistent with Yemen's MDG target for poverty reduction.

§ Non-oil GDP has to expand at an unprecedented average rate of 6.7 percent annually. The agro-industrial, construction and services sectors will have to expand their productive capacity and grow rapidly in real terms under the stimulus of rising public expenditure, thus raising incomes throughout the private sector.

§ Households' consumption rises by 78 percent over the period (40 percent per capita). This makes plausible the intended halving of the rate of income poverty.

§ Public consumption rises by 137 percent, almost twice as fast as private consumption, consistent with the expansion of public development expenditure programs.

§ These poverty reduction benefits from accelerated growth are bought at the cost of increasing the relative size of the non-traded goods-and-services producing sectors in the economy, and of mounting macroeconomic imbalances. The evolution of the main balances between 2006 and 2015 is summarized in Table 2.7.

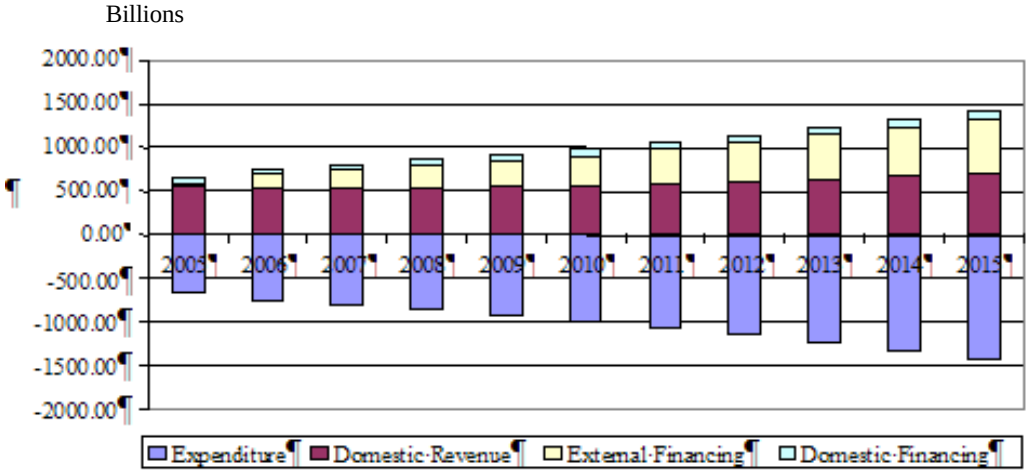
Table 2.7: Macroeconomic Imbalances 5shares of GDP)

		2006	**2010**	**2015**
Domestic Resource Gap		16,0%	26,4%	33,0%
- Investment rate		20,1%	21,7%	23,2%
- Savings rate		4,0%	-4,7%	-9,8%
Current Account Deficit		-10,5%	-20,4%	-28,1%
Fiscal Deficit		-8,4%	-17,3%	-19,4%
Net ODA Requirement		6,1%	12,5%	16,8%

[22] Baseline numbers for 2005, (in 2005 current p rices) were taken from a CSO forecast, made in late 2004.

The broad evolution of the fiscal accounts through the projection period is shown in Figure 2.3 and Table 2.8. Expenditures grow faster than GDP, but in line with the requirements of MDG-related programs, rising from 32 percent of GDP in 2005 to 36 percent in 2010 and 39 percent in 2015. Meanwhile, the growth of domestic revenues is restrained, at least until 2010, by the fall in oil production. The projections assume that non-oil revenues are made more buoyant by new tax and tax administration measures; nevertheless total revenues are projected to decline as a share of GDP from 23 percent in 2005 to 19 percent in 2015.

Figure 2.3: Yemen Fiscal Balance 2005-2015 (constant 2005 prices)



It is to be noted that projected external financing, derived from the previously calculated need for official financing to balance external payments, is insufficient to finance the whole of the fiscal deficit. A domestic borrowing requirement is thus shown throughout the period rising from 2 percent of GDP in 2006 to 3 percent of GDP by 2010 (Table 2.8). This level of domestic financing implies that public debt would increase by 60 percent of the annual increase in GDP. If this is allowed to continue, over time, the ratio of domestic public debt to GDP will rise to an unacceptably high level before reaching equilibrium. Debt interest payments would absorb a rising share of fiscal expenditures.

Measures would be required to reduce the borrowing requirement, probably involving some combination of higher revenue from non-oil taxation and the mobilization of external assistance in excess of what is needed to fill the balance of payments financing gap. Fiscal adjustment measures need not in principle alter the magnitude of domestic savings. In practice, however, they could raise the rate of saving for example by restraining household consumption.

The main relevant differences between this macro-framework and the IMF forecast discussed in Section 3.1 are:

- While IMF assumes a GDP growth of 3 percent per annum, JR's model assumes a higher growth
- It assumes a 9 percent annual growth rate of public administration – faster than GDP growth rate-, which will lead to a higher deficit (of 15.7 percent of GDP) than the IMF. Considering IMF forecast for fiscal deficit (of 11.6 percent of GDP) is already high, the sustainability of the projected fiscal gap needs to be considered with caution.

Table 2.8: Fiscal Aggregates (share of GDP)

		2006	2010	2015
Expenditure		-31,5%	-35,7%	-38,5%
- Consumption		-13,7%	-16,3%	-19,1%
- Transfers		-7,9%	-7,8%	-6,5%
- Investment		-10,0%	-11,5%	-12,8%
Domestic Revenue		23,1%	20,0%	19,1%
- Oil		13,0%	8,9%	6,5%
- Non Oil		10,2%	11,1%	12,6%
External Financing		6,1%	12,5%	16,8%
Domestic Financing		2,3%	3,2%	2,5%

A positive potential effect of the public investment led strategy proposed in this model is the widening of the tax base (according to the model's assumptions). The growth in non-oil revenue from sectors such as transport, trade, construction and manufacturing can provide an additional 1-2 percent of GDP in additional revenue. In order to increase fiscal space, revenue should however grow faster than GDP (in order to affect tax/GDP ratio). Depending on the macroeconomic conclusions of the report, the Tax policy Master Plan should investigate possibilities for widening the tax base, using the sectoral growth projections (or other acceptable growth projections) as a basis for analysis. It should be pointed out, however, that as long as GDP growth in Yemen is not significantly higher than that projected by the Fund for the medium term, there is little prospect of securing a widening of the tax base, irrespective of the sectoral breakdown of such growth.

2.4. Yemen's Development Effort: Ke y Fiscal Challenges

2.4.1 Why is There Limited Fiscal Space in Yemen?

Falling oil revenues cause a double fiscal shock for Yemen, which negates the possibility for securing significantly enhanced fiscal space. This can be established by considering the following scenario:

Assume there was no impending oil crisis (hypothetically through the discovery of unknown reserves) and oil production is to continue at historical levels. Yemen's fiscal deficit is projected at 4.7 percent of GDP for 2005. If oil prices are constant, and oil then *ceteris paribus*, the fiscal deficit should remain at 4.7 percent by 2010. In this scenario implementing the IMF reform recommendations provides an additional 3 percent of revenue (Revenue/GDP), which, as argued above can widen by a maximum additional 2 percent of GDP. Raising the fiscal deficit to finance development expenditure to 11 per cent of GDP (which the IMF affirms is sustainable) thus generates as much as 15-16 per cent of GDP in additional fiscal space

Why is this fiscal space unavailable in the actual medium term?
Yemen's macro-fiscal scenario poses many problems: the sharp decline in oil revenue represents a hyper shock for Yemen's fiscal system since:

- The collapse in oil revenues cannot be matched by any foreseeable countervailing increases in non-oil revenues;
- The scope for cutting public expenditures is limited;

§ This results in a fiscal deficit of at least 12 per cent of GDP, which is too high to allow for further increases without seriously running the risk of a macroeconomic crisis.

If oil revenues are viewed not as current revenue but as resources to be used for investment then it is possible to argue that a sustainable fiscal structure is one in which non oil revenues are equal to or greater than current expenditure, which then allows oil revenues to be used for investment. Were such a situation to obtain in Yemen the implication of declining oil production would be a public investment squeeze. However Yemen's fiscal situation is made more perilous by the fact that historically non-oil revenues have not covered even current expenditures. Table 2.9 below illustrates Yemen's current non-oil deficit:

Table 2.9: Yemen's current (total revenue-current expenditure) total and non oil deficit / surplus as a percentage of GDP 1995-2005

Item	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Total revenue	19.2	35.6	31.3	28.1	29.8	37.9	35.0	32.0	32.6	34.8	26.4
Oil and gas revenue	9.3	25.1	21.4	14.8	19.1	24.4	25.3	22.3	23.6	25.2	17.6
Non oil revenue	9.8	10.5	9.8	13.2	10.7	13.5	9.8	9.7	9.1	9.6	8.8
Current expenditure	22.5	33.2	27.1	28.7	25.5	25.8	25.2	27.7	28.6	29.6	22.3
Current deficit(-) /surplus(+)	-3.3	2.4	4.2	-0.6	4.3	12.1	9.8	4.3	4.1	5.2	4.1
Current non oil deficit (-)	12.7	22.7	17.3	15.5	14.8	12.4	15.5	18.0	19.5	20.0	13.5

Source: IMF Statistics

The comparison between Yemen and Syria – where depletion of oil resources raises a similar challenge – highlights the severity of Yemen's current non deficit position. While Yemen faces a double digit current non oil deficit, Syria's average current non oil deficit between 1994 and 2003 is -0.2 percent of GDP (See Table 2.10 below).

Table 2.10: Syria's current total and non oil deficit / surplus as a percentage of GDP 1994-2002

Item	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total revenue	24.1	25.4	24.6	26.5	25.9	26.5	27.2	32.0	30.2	…
Oil and gas revenue	9.58	9.38	10.7	11.2	10.8	10.8	12.3	18.5	14.1	…
Non oil revenue	14.6	16.1	14.0	15.0	15.1	15.7	14.8	13.5	16.1	15.0
Current expenditure	14.5	14.9	13.0	12.9	14.1	14.2	16.0	16.6	17.2	18.6
Current surplus	9.57	10.5	11.6	13.6	11.8	12.3	11.2	15.4	13.0	…
Current non oil deficit/ surplus	0.1	1.3	1.0	2.1	1.0	1.5	-1.2	-3.1	-1.1	-3.6

Source: Data supplied by Syria's Ministry of Finance

The magnitude of Yemen's historic current non-oil deficit (which averages 16.5 percent of GDP between 1995 and 2005) is a major impediment for sustainable development in Yemen. This structural problem indeed means that foreign aid will have to cover both capital and recurrent expenditures, which will increase aid

dependency and require the adoption of a complex and fragile political compact between Yemen's government and the donor community.

2.4.2 Long-Term Considerations

The above analysis implies that foreign aid will have to play a major role for financing the MDGs in Yemen. This strategy will nevertheless sustainable only if it leads to an increase in the productive base and higher domestic resource mobilization to cover recurrent expenditures. This is a serious challenge for it is unclear where such resources will be found even in 2015. In such a circumstance Yemen may well have to tailor its described MDG attainments to take account of sustainability considerations

Of course, Yemen can establish a very good claim for additional assistance from the international donor community to help it confront and overcome these challenges. It is a least developed country, with a still low per capita income, which is committed to a national strategy of poverty reduction, which has received endorsement by the international donor community. Its per capita aid receipts (US$30 in 2001-2002)[23] have been below those of some other comparably poor countries. Yemen has been selected as beneficiary of stepped-up support for its education sector development under the Fast Track Initiative of the World Bank. Its more recent selection as a Millennium Project support country and the Government's willingness to participate in this exercise also bodes well for future inflows of development assistance.

Official development assistance is well suited to helping the Government to overcome the medium- long- term problem of falling oil revenues.[24] It is provided by donor governments and organizations directly to the Government of Yemen and its agencies, at least in part in the form of general or sectoral budget support, and is thus available to help finance those pro-poor expenditure programs whose continuance and expansion could be endangered by falling domestic revenue receipts. The expenditure of aid on the wages and salaries of local staff, and on local and imported goods and services, has indirect and induced effects on the domestic economy comparable to those of the expenditure of oil revenues. In this way increased ODA inflows will help to sustain the momentum of growth in the domestic economy, thus contributing to the achievement of MDG1.

ODA is either provided in the form of grants – which are non debt-creating – or in the form of concessional loans which only impose a significant debt repayment burden after a prolonged grace period. Assuming economic growth, higher concessional ODA inflows are unlikely seriously to aggravate Yemen's currently controlled debt service burden. [25]

However securing sustainability would require Yemen to be able to finance a significantly higher proportion of its currently aid financed public expenditures through domestic resources in the long term, at the very least, in 2015 This would require an increase in Gross National Saving which could then be mobilized through

[23] OECD DAC Journal (2004): Development Cooperation 2003 Report

[24] And of falling oil sector Gross National Income, most of which takes the form of royalties and the Government's share of oil output.

[25] As measured by the ratio of the present value of debt service to GDP.

domestic borrowing for public investment. Leaving distributional considerations aside, domestic borrowing adds to gross investment and to growth if it does not substitute for resources available for private investment and if the returns from public investment are sufficient to justify borrowing costs[26]. Table 2.11 presents Yemen's gross national savings figure for 200 and 2004 and projects its evolution until 2009.

Table 2.11: Yemen gross national savings 2000-2009 (in percent of GDP)

						Projections				
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Gross national Savings	31.8	26.2	25.8	24.2	23.1	21.6	19.8	17.7	16.7	16.4
Public sector	13.4	10.1	7.5	5.3	5.0	3.5	1.7	0.1	-2.0	-3.1
Private sector	18.4	16.1	18.3	18.9	18.0	18.1	18.2	17.7	18.7	19.5

Source: IMF, 2005

Gross national savings decreased from 31.8 percent to 23.1 percent between 2000 and 2004 and may be halved by 2009. In large part this is due to declining oil production and this constraint appears therefore to affect even the long term potential for creating fiscal space. Taken together with the analysis of DRDI trends in Chapter 1, the impact of declining savings for financing public investment and fostering human development represents a major challenge for enhancing fiscal space to secure the sustainability of ODA financed public investment programs even in the long term.

2.5 Conclusion

The history of Yemen's macro-fiscal development across the 1990s can be divided into three phases: (a) the period from 1990-1993; (b) the 1994 civil war; and (c) 1995-2003 –(with the exception of 1998 where oil process collapse had a significant impact on Yemen public finance) The first phase was marked by the Government of Yemen's attempt to ease the effects of shocks and structural weaknesses through an accommodating but not counter cyclical strategy based on the preservation of current expenditure levels -despite a decline in total revenues- and a significant cutback in development expenditures. The second phase saw the adoption of a program that embodied a mix of tight monetary policy and contractionary fiscal policy to subdue aggregate demand and curb inflation. In fiscal terms this program had limited success principally because the impact of tax reforms on non oil tax GDP ratios was very limited. In the third phase, changes in oil prices appear to be the major determinant of Yemen's ability to mange the budget and limit fiscal deficits

The composition of government spending in Yemen reveals scope for expenditure switching policies to enhance the pro poor content of Yemen's public expenditures, reinforcing the significant rise in the share or development expenditures in total expenditure. We concur with the IMF recommendation to urgently further reduce explicit subsidies on petroleum products, particularly diesel. These funds could be

[26] Note that in poor countries domestic public debt increases can have negative distributional implications, which have to be offset against the benefits of increased domestic resource mobilisation. For details see Roy (1994).

earmarked for investment in the agricultural sector. The second area would be to reform and re-focus the existing social welfare fund. A third area – interest obligations of the government – can be addressed through policies directed at keeping interest payments on sovereign debt low, though this needs to be done with particular attention to complementary monetary and financial polices as discussed in a subsequent Chapter.

However, apart from expenditure switching, prospects for enhancing Yemen's domestic resource envelope in the medium and long term are extremely limited. In the medium term (to 2009) this is the main conclusion of a recent IMF country report, the conclusions of which are in agreement with our analysis, with some modifications. In the long term (10 years), on the basis of a macroeconomic framework developed for the Government of Yemen, we find that even with higher long term growth rates, there continues to be a projected fiscal gap, which is exacerbated by any increases in expenditures on public administration which, however, would be unavoidable if any "scaling up" of development activities in Yemen were to be implemented to achieve the MDGs.

In the medium term Yemen is unable to generate increase fiscal space because of a hyper shock for Yemen's fisc – described in section 4.1 – which implies medium term fiscal deficit levels of at least 12 per cent of GDP, which is too high to be increased further without seriously running the risk of a macroeconomic crisis. In addition the scope for raising non-oil tax revenues is limited. This implies that foreign aid will have to play a major role for financing the MDGs.

However, in the longer term aid financed "scaling up" to achieve the MDGs will only be sustainable if the "scaling up" enhances the size and structure of Yemen's productive base so as to allow for higher domestic resource mobilization to cover the contingent increase in recurrent expenditures and interest on concessional debt. The key variable in this context is gross national saving/GDP ratio. Based on the IMF's projections through to 2009, this ratio is expected to continue to decline through to 2009. Taken together with the analysis of DRDI trends in Chapter 1, this means that the sustainability of ODA financed "scaling up" is doubtful, unless ODA increasingly takes the form of grants to cover recurrent expenditures, or a greater tax effort is made on the part of the government and investment is scaled up in the economy.

CHAPTER THREE

Financial Sector Development, Growth and Poverty Reduction

3.1 Structure of the Financial Sector

The formal financial sector of Yemen is composed of 11 commercial banks, two specialised state owned development banks and four Islamic banks. Among the commercial banks, five are private domestic owned (with two having a foreign share of 22% and 25%), four are fully foreign owned and two are state-owned (one fully and one partially). The largest bank, accounting for more than 20 per cent of commercial bank assets, is the Yemen Bank for Reconstruction and Development in which the government has a majority (51%) share holding. It has 37 branches, mainly in the northern part of the country. The National Bank of Yemen is fully government owned and accounts for about 13% of commercial banks assets. It operates mainly in the south, with 31 branches. Thus, the two state-owned banks hold about one-third of commercial banks assets and their geographical presence still bears the legacy of the past.

The four private foreign owned banks are mainly branches of banks with headquarters in France, Pakistan, Jordan and Iraq. However, the branch of the Iraqi bank has ceased working since the second Gulf war. The branches of these banks are limited to the capital city, Sana'a and three other big cities, Taiz, Alhodaidah and Aden.

The four Islamic Banks came to existence after 1995, and are joint ventures with Islamic foreign banks in Qatar, UAE and Jordan. Most of these banks have branches in the main cities of the country. The largest Islamic Bank is Tadamon, with a paid in capital of YR 2,250 million and it has 13 branches.

The two state-owned specialised banks are the Housing Credit Bank and the Cooperative Agricultural Credit Bank. The Cooperative Agricultural Credit Bank has 34 branches and the Housing Credit Bank has only 2 branches. They have no branches outside Sana'a. There was one other specialised bank – the Industrial Development Bank of Yemen. This bank was burdened by a large portfolio of non-performing loans, and was later liquidated.

Since completing the unification of two financial and banking systems of the north and south in 1994, the banking sector grew significantly. The total assets of commercial banks rose from YR70.7 billion (about 23% of GDP) in 1994 to YR563 billion (about 27% of GDP) in 2003. However, roughly about one quarter of the commercial banks' assets is credit to the private sector. The rest of their investment is in the form of foreign assets (28%), Treasury Bills, repurchase operations and certificate of deposits (27%) and deposit with the central bank (15%). (CBY, Annual Report, (2003), p.44).

There is very limited competition in the banking sector. The bank concentration ratio is very high, and almost 70 per cent of both deposits and loans are with the top four

banks (IMF, 2001, p. 82). Only the Tadamon Islamic Bank is in a position to offer some competition to the two state-owned dominant banks in the retail segment of the market. The foreign banks cater mainly to the corporate sector and operate only in the main cities. The banking system as a whole is weak, as reflected in the very high non-performing loans (about 19% of total) in 2003, low capitalisation (a Cooke ratio of 5.2%) and significant provisioning shortfalls (IMF, 2001, p. 82).[27]

Outside the formal banking sector, there is a large number of moneychangers spread all over the country. Since they are not part of the banking system, their balance sheets are not included in the monetary survey. However, these moneychangers have to register with the Central Bank of Yemen (CBY), although some of them operate outside CBY control especially in small cities. In 1996, the official number of moneychangers was about 290, which declined to 170 since the introduction of the registration requirement.

The large number of Yemenis working in various Gulf states use predominantly moneychangers for their remittance transfers. They are also used by the CBY to buy and sell foreign currencies when it wants to intervene in the foreign exchange market.

Informal financial sector: Like any other developing country, Yemen also has an informal financial sector operated by some moneychangers with significant amounts of capital. They are often engaged in informal deposit taking and lending operations. However, there are no official statistics about their numbers and the size of their businesses. They operate mainly in the countryside and provide shot-term lending to finance consumption. That is, farmers get shot-term credits during the off season and repay the loan after they harvest and sell their crops. A good number of low paid employees also buy their consumption goods through credit arrangements with shop owners who act as money lenders during the month and pay back when they receive salaries. These short-term consumption loans from money lenders usually attract very high interest rates and are estimated to have a premium of up to 15 percentage point above the commercial banks lending rates (IMF, 2001, p. 54).

3.2 Financial Sector Reforms

Yemen embarked on financial sector reforms in 1995. The reforms were aimed at minimising *economic* regulations and strengthening *prudential* regulations. That is, the reforms were not aimed at achieving a complete *laissez-faire* in the financial sector.

In an effort to minimising economic regulations all concessional loan rates were abolished and commercial banks are now allowed to charge their own lending rates. The specialised banks, too, are allowed to charge market-interest rates for their lending. At the same time, the Agricultural Credit Bank is now allowed to take current deposits. However, the CBY retained some controls on deposit rates and established

[27] Cooke ratio is the ratio between a bank's capital and its risk-weighted assets which includes both the on-balance-sheet and specific off-balance-sheet items. Capital, as defined by the Cooke ratio, is broader than equity capital. It includes core capital, supplementary capital (hybrid capital instrument such as perpetual preferred shares) and short-term subordinated debt with an original maturity of at least two years. According to the BIS standard, banks are required to maintain a capital amount equal to at least 8% of their total risk-weighted assets.

minimum benchmark commercial bank savings deposit rates. The benchmark deposit rates were set at high levels with a view to attracting new deposits. Although later the benchmark rates were adjusted downward with the decline of inflation, the real deposit rates remained positive. The interest rate reform may have contributed to the significant rise in the non-government sector deposits with the commercial banks from YR28,255.5 million in 1990 to YR474,351.3 million by the end of 2003 – a nearly 17 fold increase in 12 years. A further sign of banking sector development is the decline in the ratio of currency in circulation to Rial broad money from 60 per cent in 2000 to 51 per cent by the end of 2003.

With a view to improving allocative performance, the reform measures addressed the problem of the concentration of credit to a small number of companies and group of companies and the high prevalence of overdraft facilities. A circular was issued limiting total credit to such entities at 15 per cent (and under certain circumstances at 25 per cent) of a bank's total paid in capital and reserves. In addition, if the CBY determines that the interests of two or more groups of persons (or companies) are so intermingled that they should be regarded as a single entity then their liabilities should be combined into one. Almost 90% of the private sector credits are used for overdraft facilities. To fix these problems, CBY limited the total loan granted to any company that they should not exceed 15 per cent of a bank's total paid-in capital and reserves. The CBY can also change the interest rate on overdrafts if it thinks this is necessary. Overdraft facilities also raise the risks and the CBY introduced a new category of classification of exposures, called special attention, on account of overdrafts.

In order to protect the integrity of the banking sector, the reform measures also addressed the issue of insider lending. The CBY issued a circular that prevents lending to any insider except to the following: (a) a member of the board of directors who is not involved in management, and for an aggregate amount that does not exceed one-half of 1 per cent of the bank's total paid in capital and reserves; (b) a shareholder owning 5 per cent or more of the common stock or voting power, and for an aggregate amount less than 15 per cent of the bank's total paid in capital and reserves, (c) a senior employee for any amount that exceed that person's total annual wage and salary.

Further protective measures were introduced with regard to risk management. During 1996-97, the CBY issued a number of circulars dealing with risk management, loan classification and provisioning, foreign exchange exposure and external auditing. From early 1996, banks were required to report foreign currency positions. By the end of 1997, the minimum capital requirement was doubled to YR 500 million which was then raised to YR 1 billion in 1999. The commercial banks are required to maintain a minimum capital adequacy ratio of 25 per cent of total amounts. Provisioning requirements for classified loans were set as follows: 15 per cent for substandard loans (90 days past due), 45 per cent for doubtful loans (180 days past due) and 100 per cent for bad loans (more than 365 days past due). The CBY also introduced a notification system under which banks are notified whether loan applicants are delinquent to other banks.

As part of prudential regulations, in 1995, the CBY required all commercial banks to have reserves of 10 per cent of time deposits, with a maturity of 9 months or more, and 40 per cent of more liquid assets at CBY. The CBY issued a directory to specify the requirements of documentations and reporting to improve commercial bank

transparency. All commercial banks are required to hire an independent accountant for bank auditing. The new banking law of 1998 contained licensing standards similar to the Basle Core Principles. The law also stipulates severe punishment for those banks which do not fulfil the new requirements.

Thus, prudential regulations were the main theme of financial reform (1997-2001), and aimed to strengthen CBY's supervision of commercial banks. The new central bank law gives the CBY more independence to perform its supervisory role. The specialised banks are also put under the supervision of CBY. The CBY launched an ambitious training program for its staff to enable them to perform as efficient supervisors of commercial banks.

With a view to revitalising the banking sector and improving financial intermediation, the CBY collected all public enterprises' bad debts to the commercial banks. The CBY also moved to tackle the losses of the commercial banks. The commercial banks were called to discuss their losses with the CBY. These discussions resulted in an agreement between the CBY and commercial banks to create reserve funds to meet bad loans. The commercial banks agreed to put a maximum of 8 per cent of total capital in these reserved funds. The total bad loans of the Yemen Bank for Reconstruction and Development (YBRD) were YR11 billion, and that of the National Bank of Yemen (NBY) was YR 7 billion. The bad loans of the Cooperative and Agricultural Credit bank stand at YR 4 billion. The government recapitalised the YBRD and NBY for their bad loans. In order to relieve the commercial banks from the burden of loss making public enterprises, the CBY also asked all public enterprises to move their accounts from commercial banks to the CBY.

The government and CBY have a plan to privatise two state owned commercial banks. National Bank of Yemen is given the priority for privatisation. With the help of IMF and the World Bank, it was recapitalised to be attractive to a new buyer. However, the privatisation process has not commenced yet.

Despite these reform measures, as noted earlier, the financial and banking sector of Yemen remains weak due to poor implementation and enforcement of various legal changes. For example, a World Bank assessment of compliance with the Basle Core Principles methodology revealed that banks were either compliant or largely compliant with only 10 of 24 principles (IMF, 2001, p. 82). Most banks are still undercapitalised and their capital never reached YR 1 billion, as required by the law. The requirement of a loan ratio of 15 per cent of capital and reserves was also not observed. The auditing practices are still inadequate as the work of auditors is compromised, and the reporting of commercial banks to the CBY is not complete or uninterrupted. Insider lending is still widespread. According to the recent World Bank report (World Bank, 2002), most Yemeni banks are owned by a few large business who are not only the main borrowers from their respective banks but also many are directly involved in the operations of these banks. They are also largely responsible for high non-performing loans. The World Bank report summarises the problem of the banking sector in the following words: "Weakness in the legal and judicial framework, lack of proper accounting and auditing standards and disclosure practices, and a scarcity of banking and financial skills remain significant impediments. In particular, there is a pressing need to improve the functioning of commercial courts and the judicial processes for recovery of bank and other debts." (World Bank, (2002), p. 69).

To some extent the financial sector reform measures, especially interest rate liberalisation, may have contributed to the weakness of the sector. High deposit rates aimed at attracting deposits forced the banks raise their lending rates. This reduces scope for profitable investment, and invites risky investors. In the absence of a sound judicial system, the banks can minimise the problem of adverse selection by resorting to a relationship based lending which in this case means insider lending. Ironically, insider lending is the main cause of a high prevalence of non-performing loans with which the banking sector has been saddled.

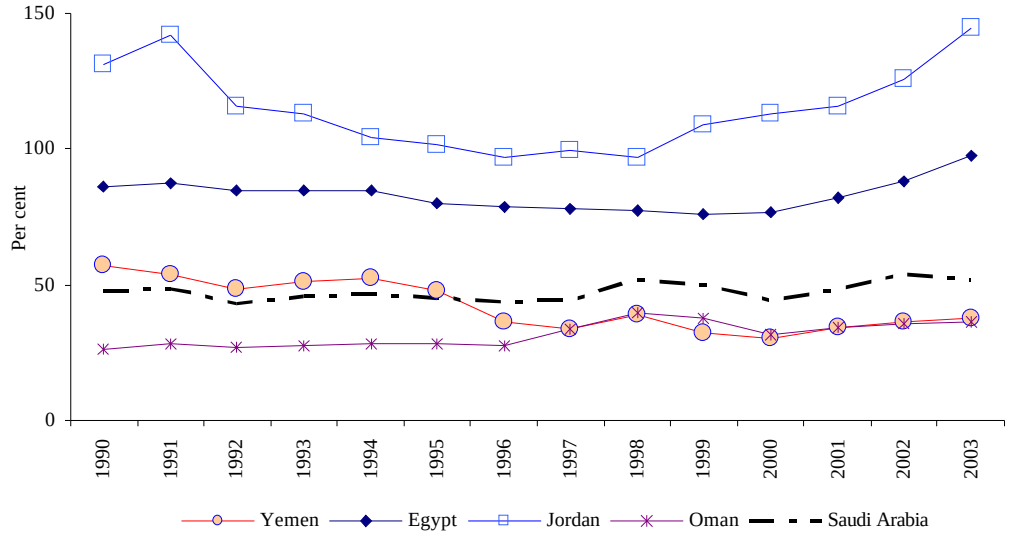
3.3 Financial Intermediation and Poverty Reduction

The central argument for financial sector reform lies in its expected positive effects on savings, financial deepening and efficiency of financial intermediation. Contrary to the expectation, it seems that the high bench-mark deposit rates and real positive interest rates have failed to increase private savings – an experience not uncommon with many other countries. As a matter of fact, the private savings rate (as a proportion of national disposable income) declined by over 10 percentage points between 1998 and 2003, falling from over 27 per cent in 1998 to 13 per cent in 2003. This may be due to the effect of liquidity constraints forcing the people to reduce savings to meet their consumption needs (IMF, 2001, p. 129). The tight monetary policy aimed at controlling inflation at a very low level may have hardened the liquidity constraint. When the market interest rates rise, the interest rates in the informal market where most poor borrow for their consumption smoothing also rise, squeezing their expenditure.

The other expected positive effects of financial sector liberalisation also remain doubtful. For example, the financial sector of Yemen is still very shallow and performs a very insignificant intermediation role. Various indicators of financial deepening, such as M2/GDP, are the lowest in Yemen among Arab countries. Cash is the predominant medium of exchange as reflected by a low ratio of M1 to currency in circulation. There has been no sign of the upward movement in these indicators since the launching of financial reforms. On the contrary, the ratio of M2 to GDP has declined since 1995 (Figure 3.1). In line with a very shallow financial sector, we also observe a very low money multiplier (the ratio of broad money to reserve money). The money multiplier in a comparable Arab country such Jordan is twice the size of that in Yemen (Figure 3.2). However, there has been some increase in the value of money multiplier between 1990 and 2000, indicating a slight improvement in the efficiency of the banking system. Since then the progress seems to have stalled – the ratio between broad and reserve money has remained more or less constant at around 2. The domestic money multiplier (the ratio between Rial money and Rial component of reserves) was only 1.2 in 2003.

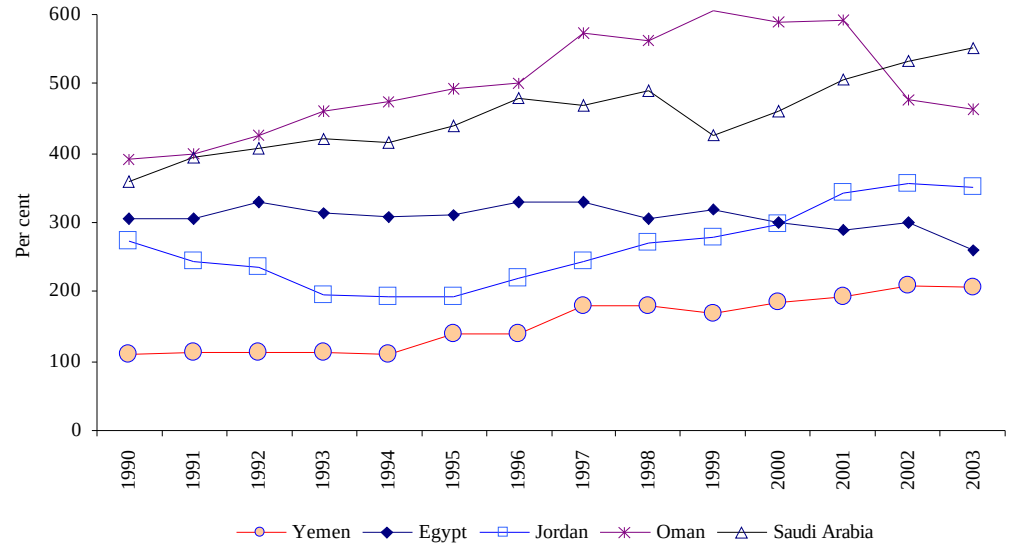
The inadequacy of financial intermediation is also reflected in the low ratio of private sector credit to GDP. As a matter of fact, Yemen has the lowest ratio of private sector credit to GDP among Arab countries (Figure3.3). Yemeni commercial banks find it more profitable to keep their assets in the form of deposits abroad rather than lending to the private sector. In 2003, 28 per cent of their assets were in the form of balance with banks abroad compared to 24 per cent in the form of advances to the private sector.

Figure 3.1: Money Supply (M2) GDP Ratio (%), 1990-2003



Source: IFS, IMF, April 2005.

Figure 3.2: Broad Money / Reserve Money (%), 1990-2003

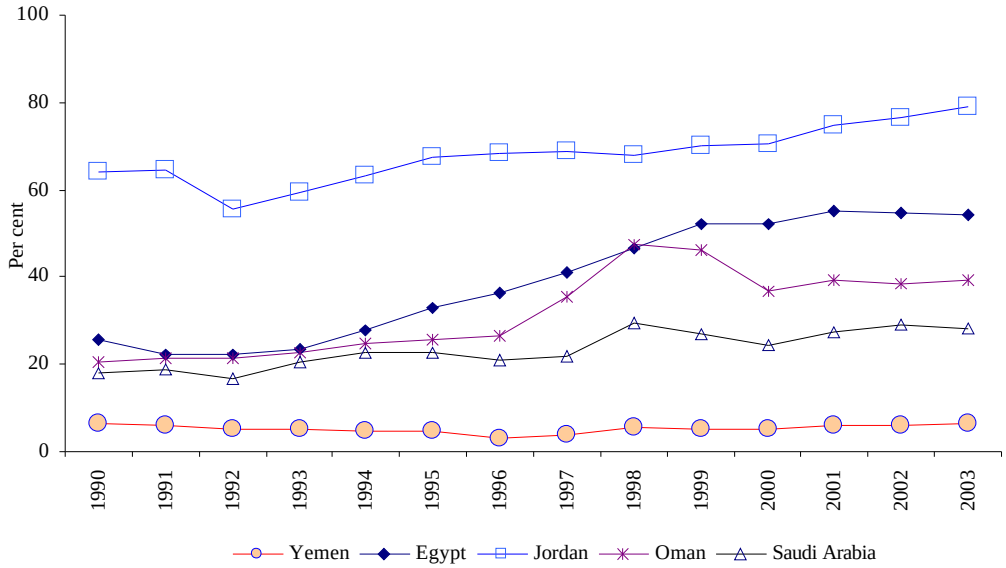


Source: IFS, IMF, April 2005.

This is induced partly by the high proportion of dollar deposits that they receive. In 2003, the proportion of dollar deposits in total deposits stood at 50 per cent (CBY, Annual Report 2003, p. 47)[28]. In the absence of demand for credits in dollar terms for domestic activities, one of the ways the commercial banks can afford to pay interest on dollar deposits is by investing abroad, which means capital flight.

[28] CBY Annual Report, 2003 also puts this figure at 51.2% (p. 6).

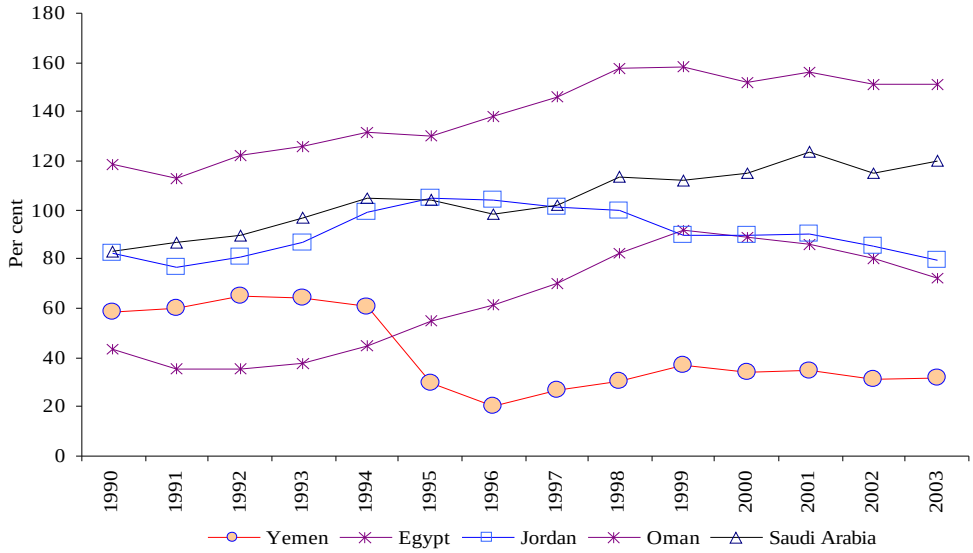
Figure 3.3: Credits to Private Sector a % of GDP, 1990-2003



Source: IFS, IMF, April 2005.

A further sign of inefficiency in financial intermediation is the low ratio of loans to deposits in Yemini Rial which stood at only 31 per cent at the end of 2003, lowest of the comparator Arab countries (Figure 3.4). This ratio has in fact declined from 60% in the early 1990s, and 37% at the end of 2001. However, we should also note that credit to the private sector as a proportion of non-oil GDP has increased from around 5.4 per cent in 1996 to close to 10 per cent in 2003. In real terms, private sector credit grew by around 12 per cent (when deflated by the non-oil GDP deflator) between 1994 and 2003.

Figure 3.4: Claims on Private Sector as % of Deposits, 1990-2003



Source: IFS, IMF, April 2005.

The above macro level indicators are consistent with the findings of a recent (2001) World Bank survey of the private sector. For example, the survey found that 53 per cent of firms (out of 481 respondents) did not have a bank account. It also found that commercial bank credit accounts for less than 3 per cent of both short-term and investment financing as opposed to around 73 per cent in the case of resources from within the firms. The remaining sources of finance are suppliers (around 19 per cent) and family and friends (around 5 per cent). Nearly 34 per cent of total respondents identified lack of access to credit as one of the obstacles for their business. The problem of a lack of access to credit is more acute for micro, small and medium enterprises (MSMEs). In a survey by the ILO (ILO, 2002), MSMEs ranked access to credit 4th among the top ten problems. To what extent the closure of the Yemen Industrial Bank has contributed to the problem of access to institutional credit is difficult to assess.

While above is the situation in the private sector (mainly urban-based activities), the rural sector financing is not very different. One World Bank study (World Bank, 1993) estimated the relative importance of informal sources in rural areas as follows:

- Input suppliers/traders: 27%
- Other farmers: 13%
- Friends and relatives: 60%

The study also noted that loans from the formal sector are less than one per cent of agricultural output, which is very low when compared to similar countries. It is estimated that 80 per cent of farmers do not have any outstanding loans. Interest rates in the informal sector are up to 200 per cent per annum. One of the main sources of informal finance through friends and relative had been remittances from Yemenis working overseas. This source was severely affected after the first Gulf War in 1990, which must have reduced rural financing to distressing levels.

Thus, Yemen's financial sector does not appear to have contributed significantly to the growth of the economy and poverty reduction. At the level of development where Yemen currently stands, the banking sector generally plays a more dominant role in providing long-term finance. Contrary to the experience of most developing countries, the share of medium and long-term loans from commercial banks in Yemen was only 4 per cent at the end of 2003. The Yemeni commercial banks' business is concentrated in short-term lending (about 37% of total loans) and trade financing, and they play a very minor role in industrial development.

The banking sector's role in poverty reduction becomes more suspect when one considers the fact that most commercial banks are city centred and they hardly have any operation in the rural areas where most of the poor (about 80%) live. The neglect of the rural and agricultural sector becomes obvious from the distribution of commercial banks' credits (Table 3.1). As can be seen from Table 3.1, the share of agriculture in commercial bank credit declined from close to 3 per cent in 2000 to around 0.6 per cent in 2003. The share of trade credit has increased by 7 percentage points during the same period. The urban bias of the commercial banks' lending is further evidenced by the rise in credit for the construction sector.

The access to credit in the agricultural sector through the specialised institution (Cooperative Agricultural Credit Bank (CACB) does not seem to have improved

dramatically to offset the decline in commercial bank credit. For example, in 1998 CACB advanced loans of YR3383.6 million.

Table 3.1: Sectoral Share of Commercial Bank Loans (%)

	Agriculture	Industry	Construction	Trade
1999	0.59	15.11	5.02	43.02
2000	2.87	17.16	4.80	40.87
2001	2.84	16.18	3.80	44.97
2002	1.35	20.72	6.82	48.04
2003	0.64	19.28	7.99	47.71

Source: CBY, Annual Report (various issues)
Note: Excludes classified loans and advances which account for around 22 per cent. If classified loans are included in the total, the share of agriculture drops to 1% in 2002 to 0.5% in 2003.

In 2002, the amount remained at YR3428.1 million and increased marginally to YR4429.8 million in 2003. At the same time CACB invested YR6159.6 million in Treasury Bills and bank deposits which it could have potentially advanced out for agricultural activities. One can understand the reluctance of CACB to lend to the private sector, as the Bank is on the verge of bankruptcy. Its bad loans amount to about YR4 billions which the government has refused to buy.

3.4 Conclusions and Policy Recommendations

Thus, one can conclude that the financial sector reforms must encompass much more than just privatisation and prudential regulation, which are important for the revitalisation and soundness of the financial sector. They themselves, however, are not sufficient for rapid and equitable (balanced) growth needed for poverty reduction. The review of the financial sector in this chapter indicates that Yemen's financial sector does not appear to have contributed significantly to the growth of the economy and poverty reduction. At the level of development where Yemen currently stands, the banking sector generally plays a more dominant role in providing long-term finance.

The urban centred nature of the Yemeni banking sector and the concentration of trade financing underscore the need for government intervention in directing credit to socially desirable sectors with maximum potential for poverty reduction. This means directed and concessional credits for rural and agricultural activities and financial assistance to employment-intensive small and medium size enterprises (SMEs). Past problems as exemplified by the poor performance of the recently liquidated Yemen Industrial Bank do not necessarily imply that such operations are doomed to fail and hence must be avoided. Rather, the government should identify the sources of problems, address them and take steps for the proper functioning of specialised credit facilities for priority sectors. Unless this is done, the private sector, especially SMEs, will continue to find access to credit an important impediment.

The government also needs to have regulations requiring commercial banks to diversify their lending and extend their operations to rural areas. In this regard Yemen can draw on the experience of India, where all banks (public and private) are required to lend at least 40 per cent of their net credit to the "priority sector". If banks fail to meet this requirement, they are required to lend money to specific government agencies at a very low interest as a penalty. Studies by Banerjee and Duflo (2004)

found that most banks complied with the regulation and the program contributed significantly to the expansion of the agriculture and small scale industries.

Alternatively, the CBY can consider some *carrot and stick* measures by combining the Indian type system of penalty for failure with incentive based measures such as, asset based reserve requirements, support for pooling and underwriting small loans, utilising the discount window in support of employment generating investments (see Pollin, 1993, 1995, 1998). As Epstein (2002) observed, asset based reserve requirements are an effective tool for creating incentives for banks to invest in socially productive assets.

For example, based on well-researched findings specialized investment funding agencies, the CBY would list a set of employment generating and commercially viable investments, and a lower reserve requirement would apply for the deposits invested in these activities than the deposits invested in speculation or TBs and CDs. The CBY can also take steps to create liquidity and risk sharing institutions for loans to commercially viable small businesses which have promise to generate employment, but do not have adequate access to the credit market. In this regard, the experience of the Islamic Banks with profit and loss sharing deposit taking and lending practices (such as Mudaraba, Musharaka, Muzar'ah and Musaqat) can be utilised by other banks. The CBY can promote this by providing financial and administrative support for asset backed securities which would take loans to small businesses and other employment intensive activities, bundle these investments and sell them as securities on the open market. Finally, the CBY can open a special discount window facility to offer credit, guarantee or discount facilities to institutions that are on-lending to firms and co-operatives engaged in commercially viable employment intensive activities. The CBY can use some of its accumulated foreign exchange surplus for various directed credit programs.

One of the factors that inhibit commercial banks lending activities is the lack of legal certainty and enforceability of contracts. Although there has been some progress in legal reforms, the performance of the commercial court is still wanting. The high interest rates on Treasury Bills (TBs) dictated by the macroeconomic policy stance also act as a disincentive for banks to lend to the private sector. In the face of uncertainty about loan recovery and the adverse selection problem, not only the commercial banks, but also the specialised Agricultural Bank, find it safer and profitable to invest in TBs.

The poor's access to cheaper credit assumes increased significance when one considers the fact that private business is the second major source of income accounting for 34 per cent of their income nationally, which is marginally less than employment's share of 35 per cent (National Poverty Survey 1999). In rural areas, private business is the single most important source of income accounting for 35 per cent of the total as opposed to the 31 per cent share of employment. As is well-known, the poor do not have adequate assets to be used as collaterals and hence they have almost no access to credit from the commercial banks. This limits their chances of expanding their businesses beyond mere subsistence. Therefore, it is essential that specialised micro finance institutions be established to cater to the needs of the poor.

Box 3.1: Financing Agricultural Activities and SMEs – A Tale of Two Countries

Vietnam

Vietnam is one of the fasted growing developing economies in the world, and making impressive advances in poverty reductions. For a population of almost 82 million, poverty was cut in half between 1993 and 2002 – from 58% to 29% of the population. In addition to job creation, the government used financial services for the poor as powerful instrument in poverty alleviation, particularly in the rural areas. Utilising state-owned banks, the government provides loans to poor households to achieve poverty alleviation objectives.

The financial sector reforms in the late 1980s led to the collapse of the traditional credit cooperatives and a loss of faith in the financial system from the general public. This prompted the government to establish in 1993 new People's Credit Funds (PCFs) to mobilise domestic savings, and not-for-profit Vietnam Bank of the Poor (VBP) was established in 1995 with a focus on poverty alleviation. In 1998, the Vietnam Bank for Agriculture and Rural Development (VBARD) was established for directing lending to agricultural and rural sector. VBP and VBARD became the major providers of financial services to low-income people. VBARD utilises three different credit methodologies. First, it provides individual loans to rural farmers and entrepreneurs, with collateral requirement. A land-use certificate is used as collateral. Second, it lends to individuals through joint liability groups. Group lending requires full repayment of all group loans before a new round of loans can be initiated. Loan repayment is the responsibility of all group members. Third, VBARD uses brokerage services of mass organisations, which targets borrowers unable to provide collateral. The loans are channelled through guarantee groups composed of leaders of mass organisations.

VBARD has adopted innovative ways to reach the rural mass for providing loans. In 1998, it initiated a mobile banking program. This program makes use of mobile banking units to extend credits and deposits to rural mass. VBARD vehicles carry loan officers to process loan applications, disburse money, collect repayments and mobilise savings. The schedule is announced in advance and is fixed to match the weekly market days.

In the past, VBARD offered the poor lending rates 30% lower than the market rates. Under the Mobile Banking Program, it began to charge a rate that would recover costs. The recovery rate includes a premium to cover the cost of running vehicles and other operational costs. The interest rate charged for rural borrowers is 12% compared to 8.4% for urban borrowers. The bank minimised the operation cost by using vehicles for multiple purposes, e.g., to transfer cash between branches, to solicit and collect savings from small businesses en route from the markets and to hold long hours on each visit to accommodate more clients.

The loan repayment rate of the borrowers is 97%. It has adopted a number of mechanisms, e.g., small repayment instalments, access to larger repeat loans, simplified loan documents etc. According to the Vietnam Living Standards Survey, in 2002, VBP was the leading micro credit provider to poor households in rural areas with 58% of the market, followed by VBARD with 24%. By 2003, VBARD, VBP and PCFs reached approximately 7 million households, among them 3 million rural households, representing over 90% of the outreach of rural financial services in Vietnam.
The Mobile Banking Program has proved relatively cost effective by providing financial services to 315000 poor households - about 6% of VBARD's clients. Preliminary data show that, on average each mobile bank has disbursed 1921 loans, collected 1387 payments and transported cash on 75 occasions to 16 local points monthly. The program has also mobilised 1983 savings accounts every month. On average, each vehicle has recorded a profit of about $1000, a month after allowing for the cost of funds, gasoline, depreciation and staff.

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India

Like Vietnam, the reforms of the financial sector in India recognised the existence of market failure and hence did not involve a total abandoning of the state's role in providing financial services for the rural and small scale sectors. Among the state run initiatives, the prominent ones are: Small Industries Development Dank of India (SIDBI), State Financial Corporations (SFCs), National Small Industries Development Corporation (NSIC) and National Bank for Agriculture and Rural Development (NABARD).

The SIDBI was established on April 2, 1990. It is the principal financin g institution for the promotion, financing and development of industry in small scale sector and to coordinate the functions of institutions engaged in the promotion and financing or developing industry in the small scale sector.
SFCs were set up to finan ce small and medium scale units. SFCs operate in various states as Regional Development Banks. They provide financial assistance to industrial units by way of term loans, direct subscription to equity, guarantees etc. SFCs get into memorandum of understand ing with the public sector banks to participate in joint lending in which both term loan and working capital is provided jointly.

NSIC was set up to finance the working capital of well managed small scale industries; finance for export development to exp ort oriented units for meeting their emergent needs; to assist SSIs to procure industrial equipments etc.
NABARD was established on 12 July 1982, to act as the apex organisation concerning policy, planning, operations in the field of credit for agricultur e and other economic activities in rural areas in India.

Steps taken by Reserve Bank of India to improve credit flow to Small Scale Industries
The Government raised the investment limit for SSIs from Rs 600 thousand to Rs 30 million and for samller units from Rs 500 thousand to Rs 2.5 million. The Reserve Bank of India (RBI) has issued instructions that out of the funds available to SSI sector, 40% be given to units with investments in plant and machinery upto Rs 500 thousand; 20% for units with investme nt between Rs 500 thousand and Rs 2.5 million and remaining 40% for other units.
Credit to SSIs is monitored periodically by RBI, Department of Small Scale Industries & Agricultural Rural Industries, National Advisory Committee of SIDBI, State Level Banke rs Committee and District Level Coordination Committees of the Bank.

Sources: http://www.ifciltd.com/; http://www.nabard.org

Box 3.2: Directed Credit Schemes and Financial Sector Liberalization – Some Findings from Ecuador

The evaluation of directed credit programs is a complex task. First, the distortions and inefficiencies caused by directed credit programs must be compared with the imperfections in the capital market. Secondly, government intervention in promoting the supply of long-term resources often has multiple objectives like the redressing of regional disparities or income inequalities. One recent study of Ecuador finds that directed credit programs accounted for approximately 50% of the total credit in the economy in 1984 and thus substantially compensated the inability of the financial system to generate funds for investment. This explained why total credit in the economy rose during the 1970s and early 1980s, and peaked (reaching 23% of GDP) in 1983 despite financial repression.

Beginning in 1984, Ecuador eliminated or scaled down directed credit programs and removed administrative controls on interest rate as part of financial sector liberalization programs. The study finds that since then the supply of credit declined drastically with the contraction of government provided loanable funds and reached as low as 9% of GDP in 1990.

The firm level debt structure data show that together with the decline in total credit, the share of long term loan fell from 12% in the early 1980s to 8% in 1992. The growth rate of real long term credit was negative for most years. The firm level data also show that the percentage of directed credit was much higher for longer term maturities prior to liberalization reforms. This percentage declined from 59.3% in 1985 to 35.9% in 1990. The percentage of directed short-term credit declined from 31.1% in 1985 to 3.3% in 1992. The decline in the access to long-term credit had negatively affected firms' performance, especially in terms of productivity. In particular, the lack of access to long-term credit adversely affected firms' ability to acquire improved technology.

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CHAPTER FOUR

Macroeconomic Policy, Inflation and Pro-Poor Growth: The Interlinkages between Fiscal, Monetary and Exchange Rate Policies

4.1 Introduction

In underdeveloped economies with very shallow financial markets, there are close interconnections between fiscal, monetary and exchange rate policies. Yemen being an oil economy, where the major part of export earnings falls into the hands of the government, further strengthens these interconnections. For example, the immediate and most pronounced effect of exchange rate devaluations is the increase in the domestic currency value of oil export revenues of the government, and the ultimate effect of such devaluations critically depends on the fiscal stance of the government. Similarly, the spending of oil revenues by the government in the domestic economy, in addition to its direct effects, also has important monetary implications, even when the overall budget is balanced. The implications for inflation, the real exchange rate and growth depends, amongst other things, on the absorptive capacity of the economy, as determined by the tightness of the labour market and the ability of the economy to adopt and assimilate new technologies which enhance the productivity of the domestic factors of production, as well as the pattern of utilization of oil revenues by the government in the first place. These interconnections are also critically mediated and shaped by the monetary and exchange rate regulations of the country. This chapter therefore begins with a review of the monetary and exchange rate regulations and reforms in Yemen since the inception of its stabilization and adjustment programme.

4.2 Monetary Policy in Yemen: Reforms and Regulations

Historically, Yemen did not have an independent monetary policy. The money supply responded to fiscal needs and developments in balance of payments due to a fixed exchange rate regime. The "fiscal dominance" became more prominent immediately after the unification of the North and the South. In the absence of non-bank financing sources, large budget deficits arising from the unification costs led to a rapid expansion in monetary base. The correlation between the fiscal deficit (as percent of GDP) and broad money during 1990-1994 was found to be 0.85 (IMF, 2001, p. 111).

As part of the IMF/World Bank adjustment program, Yemen's fiscal balance has improved markedly since 1995. This was also aided by the increase in oil revenue. Fiscal deficit declined from over 16 per cent of GDP in 1994 to less than 2 per cent in 1997. This eased pressure on monetary policy considerably. A new law was introduced in 2000 giving the central bank more independence to perform its supervisory and prudential regulation role. The law also allows the central bank to resist the open-ended financing of fiscal deficit. The unification of the exchange rate

and its floating should have also brought some flexibility to the conduct of monetary policy.

In order to develop sources of non-inflationary financing of fiscal deficits, a market for Treasury Bills (TBs) was introduced in 1995, and the central bank subsequently closed its term deposit facility for banks and pension funds to channel resources to the TB market. As the fiscal balance improved, the issuance of TBs slowed down in 1999, and the outstanding balance of the nominal value of the TBs (of 91 days, 182 days and 364 days) at the end of 1999 amounted to YR119.8 billion. The authorities, however, started to convert large amounts of outstanding overdrafts on account of past public sector debts to the banking system into TBs. Most of these were used to meet additional bills required by banks for their own liquidity management through repurchase operations introduced in November 1999. The outstanding balance of TBs at the end of 2003 was YR185.2 billion. Although the central bank offers clearing and settlement facilities, secondary trading of TBs has not yet developed.

Due to the inadequacy of TBs in original and re-purchase operations, as well as due to the non-issuance of TBs, the CBY started issuance of certificates of deposit (CD). This was necessary to absorb surplus liquidity due to a record increase in foreign exchange reserves of the CBY to the tune of USD3568.7 million, an amount sufficient to cover 15 months of imports. By the end of 2001, issued CD amounted to about YR 40.1 billion, 75 per cent of which was acquired by banks, and 24 per cent by retirement funds (CBY, Annual Report, 2001, p. 34). This amount increased to YR47.0 billion at the end of 2002. The CBY pays interest on these CDs the minimum benchmark rate of interest plus one percentage point. The CDs are heavy burden on the resources of CBY which paid a total of YR5.0 billion interest in 2002.

The central bank also took measures to streamline statutory reserves as an instrument of monetary policy. For example, in 1995 the central bank unified the reserve requirement at a rate of 25 per cent without any interest for all Rial deposits which was lowered subsequently in stages. Since December 1997, the statutory reserve requirement has remained at 10 per cent. A rate of interest of 5 per cent on reserve Rial deposits was introduced in December 1996, which was raised the following year to the level of the benchmark deposit rate. The reserve requirement on foreign currency (dollar) deposits was lowered from 25 per cent to 15 per cent in December 1997, and later to 10 per cent in July 2000. However, it was raised again to 15 per cent in February 2003. The interest rate paid on reserves for dollar deposits is 1.5 per cent at the end of each month on the least balance during that month. The differential treatment of dollar deposits (both in terms of statutory reserves and interest on dollar deposits) is aimed at stemming the increasing dollarisation trend of the economy and making the Rial deposits more attractive. It should be noted here that this measure succeeded in reducing the rate of growth of dollar deposits from 23 per cent in 2002 to 20 per cent in 2003, and the share of dollar deposits in the total from 51 per cent to 50 per cent.

One of the factors that limit the monetary authority's ability to influence economic activity is the dollarisation of the economy. Although the proportion of dollar deposits has declined, it still remains high at 50 per cent of total deposits. Holding of a foreign currency by domestic residents indicates the lack of financial depth, and as noted earlier, a high proportion of dollar deposits also has implications for capital flights. Additionally, dollarisation means a loss of seignorage for the government.

As mentioned in the discussion on financial sector reforms in the previous chapter, the central bank maintains control over the deposit rates and uses the benchmark interest rates for deposits at the commercial banks as one of the main instruments of monetary policy. The interest rates paid on certificates of deposit are linked to the benchmark rates. The central bank charges the commercial banks and public corporations interest rates on credits provided to them according to the loan interest rates prevailing in the market. It charges the government two percentage points higher than the average interest rates on deposits with the banks.

In 1995, the central bank determined benchmark interest rates for various deposits as follows: three months - 20%, six months - 21%, nine months - 21.5%, one year and more - 22%, and saving deposits - 20%. In 1996, the rates were raised to 25% (on 3-months), 26% (on 6-months), 26.5% (on 9-months), 27% (on 1 year or more) and 25% (on savings deposits). In May 1997, the minimum saving deposits rate was lowered to 14 per cent and other rates were freed, provided they did not fall below the benchmark rate. The lowest benchmark rate that the central bank fixed was 10 per cent in February 1998, but it was raised to 15 per cent in October 1998. It was further raised to 20 per cent in June 1999. The benchmark rate on savings deposits was lowered to 13 per cent in 2000 and it has remained at that level since then. The central bank uses the TB rates to fix the minimum rate for savings deposits.

Table 4.1 shows that the central bank has not changed the benchmark interest rates for the purpose of monetary policy since 2000. Although commercial banks have been free to set interest rates on term deposits since 1997, they chose to have them at the central bank-set minimum rate for savings deposits. However, the commercial banks maintained a widespread between the deposit and lending rates, reflecting the lack of competition from within the banking sector and the non-existence of a non-bank financial system.

Table 4.1: Interest Rates of Commercial Banks

End of Period	Interest on Loans	Interest on Deposit				
		3 months	6 months	9 months	12 months	Savings
1997	15-21	11	11	11	11	11
1998	14-20	15	15	15	15	15
1999	22-28	18	18	18	18	18
2000	15-20	13	13	13	13	13
2001	15-20	13	13	13	13	13
2002	15-20	13	13	13	13	13
2003	15-21	13	13	13	13	13

Source: CBY Annual Report 2003, Appendix Table 6, p. 80.

4.3 Exchange Rate Regime and Reforms in Yemen

Other aspects of the reform programme, with significant implications for the conduct of monetary policy, were related to the foreign exchange regime. In 1990, at the time of unification, Yemen had a dual exchange rate regime – the official and the parallel exchange rates. The official regime was comprised of multiple rates. A rate of USD1 = YR 4.5 was applied to government external transactions and covered crude oil and petroleum products, official receipts and payment and external debt service payments. A lower rate of USD1 = YR 12 was applied when allocating foreign exchange to the private sector for importing foodstuffs (wheat, flour and rice) and for special purposes

such as officially approved medical treatment or study abroad. All other external transactions used the parallel market rate of USD1 = YR 13. The parallel market was operated by unregulated moneychangers. On January 1, 1993, legislation was introduced concerning licensing, capital, and reporting requirements of moneychangers. Commercial banks operated in the foreign exchange market only as agents of the central bank and were permitted to buy and sell foreign exchange only for the accounts of their customers with the central bank. A long list of restrictions was applied for opening foreign currency accounts by both residents and non-residents regarding the sources and uses of funds.

Yemen faced a serious external shock in the aftermath of the first Gulf war as thousands of Yemenis working in the Gulf states were sent back home. With the sudden fall in remittance income, it became very difficult for the central bank to defend the exchange rate which was depreciating in the parallel market rapidly. The central bank tried to arrest the depreciation of the parallel rate by introducing several measures but failed, and by January 1995, the parallel USD rate rose to YR 160. The central bank was forced to devalue the official rate from YR 12 to YR 50. The sharp rise in inflation and the attempt to defend the official rate resulted in a steep real appreciation of Yemeni Rial. The real effective rate (REER) appreciated from around 100 in 1991 to 650 by early 1995 which compounded the balance of payments crisis.

Thus, Yemen finally moved to unify and float the exchange rate on July 1, 1996. With the floating of the exchange rate, the USD rate rose to YR 120. In December 1996, Yemen accepted the obligations under the IMF's Article VIII, Section 2, 3 and 4, and since then has maintained an exchange rate system free of restrictions on both current and capital account transactions. The central bank was empowered to conduct exchange rate policy, and aimed at maintaining an independently floating exchange rate regime by limiting its interventions in the foreign exchange market to smooth volatility.

The stability of the exchange rate is seen as the mark of success of the government's economic policies. Hence there is reluctance within the public official to allow larger depreciation of Rial. The central bank uses interest rates, moral suasion and regular auctioning of foreign exchange to stabilise the Rial exchange rate, and it has largely been successful in containing the rate of depreciation at 4 to 5 per cent a year since 2001. Between 2002 and 2003, the Yemeni Rial depreciated by only about 4.5 per cent from an average of YR179.6 per USD to YR183.5 per USD. In order to keep depreciation within a narrow range, however, the central bank sold USD520 million to banks and moneychangers in 2002 and USD628 million in 2003. This poses serious questions about the coherence of the fiscal, monetary, and exchange rates policies in Yemen.

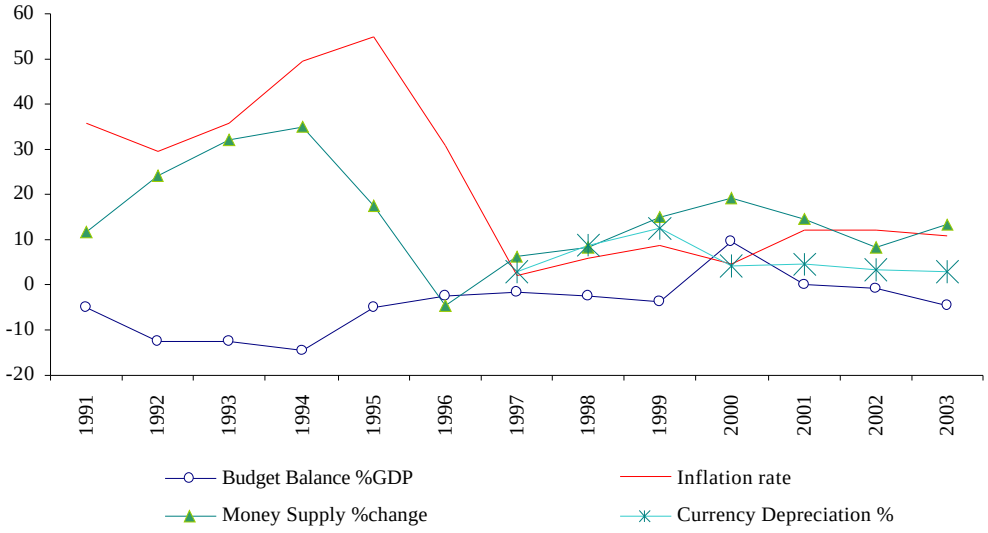
4.4 Monetary, Fiscal and Exchange Rate Policies and the Inflationary Process in Yemen.

The financing of rising fiscal deficits through borrowing from the central bank immediately following the unification saw the inflation rate accelerate from around 33 per cent in 1990 to around 71 per cent in 1994. After a relatively short period following the inception of the reform programme, large balance of payments and

budget deficits were reduced drastically and inflation was tamed. The improvement in the fiscal position and the tighter monetary policy since 1995 contributed positively to the rapid decline of the inflation rate to 2.2 per cent in 1997. The rescheduling of Yemen's foreign debt, the resumption of foreign aid, and rising oil revenues played their part, but the government's fiscal and monetary policies were instrumental in macroeconomic stabilization. Large increases in domestic currency value of government oil revenues following the removal of implicit subsidies and the sharp devaluation of the official exchange rate early during the reform program, combined with restrained expenditure policies, helped government reduce its large budget deficits. For example between 1994 and 1997 general government consumption expenditure fell by almost 20% in real terms, and it did not regain its former level before 1999. In addition, during the same period there was a sharp reduction in the value of explicit price subsidies which further reduced government spending (between 1996 and 1999 explicit price subsidies fell from over 12 per cent of the GDP to about 2 per cent).

Increases in interest rates, and the government's commitment to finance its deficits through issuing of treasury bills, further restrained government spending, both by increasing government's domestic interest obligations (which rose to almost 3 per cent of the GDP in 1999), and by encouraging the government to increasingly use its oil revenues to reduce its debt to the banking sector. The restrained fiscal policy of the government, combined with the credit crunch following interest rate hikes, also has led to a fast reduction of the balance of payments deficits, turning to large surpluses in later years and a rapid build up of foreign exchange reserves at the central bank. This has helped the central bank in supporting a relatively stable exchange rate, which under a liberalized trade regime, has been instrumental in taming the inflation rate (see, Figure 4.1).

Figure 4.1, Budget Balance, Money Supply Growth, Currency Depreciation and Inflation, 1990-2003



Source: IMF, IFS, April 2005

The inflation experience in Yemen during 1990-95, and particularly in the stabilization period of 1995-99 where large consumer subsidies were removed and the

official exchange rate was unified, shows that the Yemeni economy is not prone to high inflationary spirals of the Latin American type. The reason for this is the underdeveloped structures of the Yemeni economy and the lack of market power of different economic agents, particularly the wage earners and the agricultural producers. Under these conditions it may be plausible to assume that growth and employment creation rather than inflation should be the main preoccupation of macroeconomic policy making for poverty reduction. However, the inflation rate has had moderate increases since the year 2000 and now stands at around 10 per cent, and the central bank aims to bring inflation down to a single digit level, preferably less than 5 per cent by the end of the Second Five Year Plan (i.e. in 2005). For this reason it is necessary to make a more careful study of the inflationary process in Yemen since 2000. For a better understand of the inflationary process in Yemen in this period, it would be helpful to disentangle the inflationary forces which emanate from the demand side, e.g., from monetary and fiscal expansion, from those initiated from the supply side.

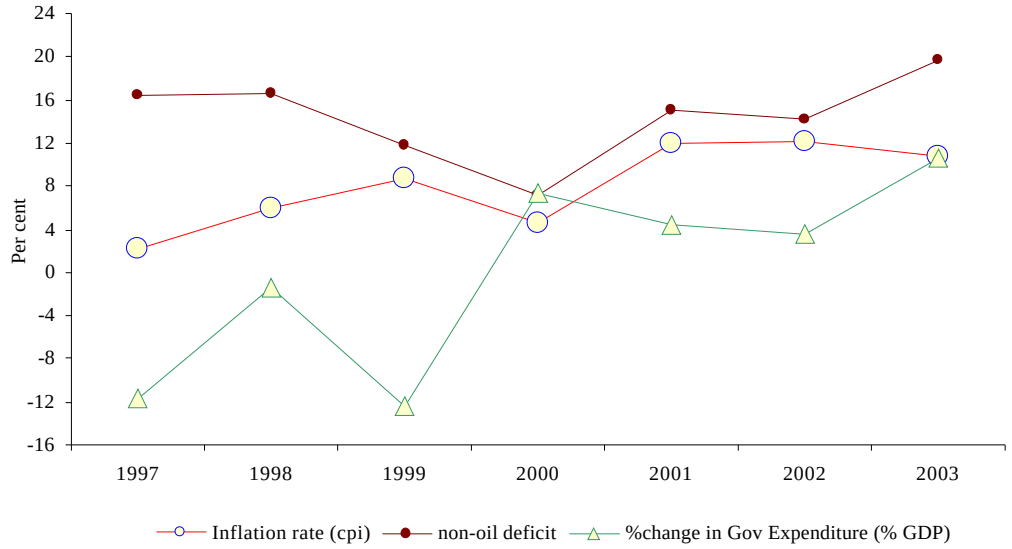
4.4.1 The Inflationary Impact of Fiscal Policy

Since Yemen is an oil economy, where a major share of government revenues takes the form of foreign exchange revenues from oil exports, the fiscal stance of the government can play a key role in demand expansion. However, unlike other economies where overall budget deficit is the concern, in the case of an oil economy like Yemen in addition the government's foreign exchange earnings from the oil sector also give rise to the same expansionary results as the overall budget deficit. The non-oil budget deficit, which is here defined as the budget deficit plus the foreign exchange component of the oil revenues of the government, provides a measure of net injection of funds by the government into the domestic economy.[29] The trends in non-oil budget deficits (as % of the GDP), inflation rate, and growth of government expenditure (as % of GDP) for the 1997-2000 period are shown in Figure 4.2.

The increase in the inflation rate since 2000 appears to be associated with the much more expansionary fiscal stance by the government as depicted by both the growth of government expenditure and the increase in non-oil budget deficits since that date. For example during 1997-99 the rate of change in government expenditure (as a share of GDP) was on average about minus 8 per cent a year, which increased to on average over 6 per cent annual growth during 2000-2003. Only in 2000-2001 period, non-oil deficits increased by the staggering figure of over 110 per cent. This type of jerky behaviour in government's fiscal policy is a reflection of the liquidity constraints imposed on the government by the adjustment programme which broke loose as soon as oil revenues started to increase in 2000. This is clearly inefficient and destabilizing. As we shall argue below, a closer coordination between fiscal and monetary policies, and more accommodating financing from international aid agencies to allow long term fiscal planning and the smoothing of the effect of oil revenue fluctuations, are necessary to prevent such outcomes.

[29] The non-oil budget deficit as defined here is different from the broader concept of non-oil deficits which also included the domestic oil revenues of the government. This latter concept is more relevant for considering the long-term sustainability of budget deficits, while the definition used here is the relevant one for considering the expansionary impact of non-oil budget deficits.

Figure 4.2, Non-oil Budget Deficits, Growth of Government Expenditure and Inflation, 1997-2003

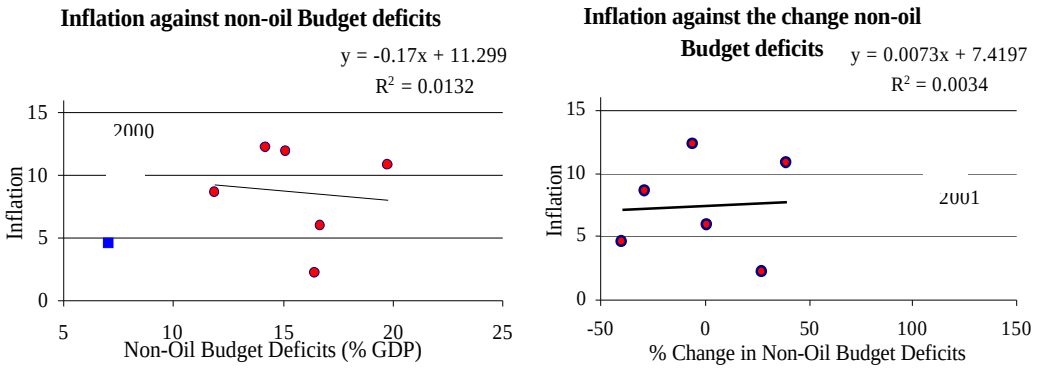


Notes: Non-oil deficit is budget deficit minus foreign exchange componen t of government
Source: IFS, IMF, April 2005 and IMF 2004.

The question that arises, however, is why such massive increases in non-oil budget deficits and government expenditures have not been more inflationary. For example, the relationship between the level as well as the rate of change in non-oil budget deficits and the rate of inflation is very weak. The correlation coefficient between the two variables is 0.25 for the level relationship, and 0.39 for the relationship between the change in non-oil deficits and inflation, but in neither case significantly different from zero. In fact, once one omits the extreme outlier years of 2001 in the change relationship, and 2000 in the levels relationship, the correlation between the two variables, in both cases falls to zero (see, Figure 4.3). In other words it seems that the inflation is independent of non-oil budget deficits for a wide range of variations in the level and change in the latter. There are a number of explanations for the apparent lack of correlation between such large variations in levels of, and increases in, the injection of external funds and inflation in Yemen.

The first and foremost reason, obviously, is that the foreign exchange revenues of the government from the oil sector which fuel much of such injections, at the same time provide valuable foreign exchange which can be used for a simultaneous expansion of aggregate supply through imports. Such leakages through imports at the same time help to sterilize the potential monetary impact of the non-oil budget deficits. Given that Yemen is a highly open economy, with a large part of the domestic supplies of manufactures, raw materials, and even food being imported, the availability of foreign exchange plays an important part in diffusing inflationary pressures in the domestic economy. This of course at the same time raises the issue of imported inflation and the significance of the exchange rate in the inflationary process in Yemen, to which we shall return below.

Figure 4.3: Relationship between Inflation and Non-Oil Budget Deficits



Source: IMF, IFS, April 2005

The second important reason has been the very lax labour market in Yemen, with high and increasing levels of unemployment and high rates of growth of labour force of close to 4 per cent a year. The Second Labour Force Survey of 1999 found an overall unemployment rate of 11.5 per cent. According to the estimates by the General Directorate of Human Development Planning (Ministry of Planning), the national unemployment rate in 1999 was 14.7 per cent, and is predicted to rise beyond 2004. About one-third of the unemployed are long-term and have not been employed for more than 12 months. According to the World Bank (2002), the estimated underemployment rate in 2002 was 25.1 per cent. Almost all sectors of the economy have unemployed workers, the highest being in construction (20%) followed by transport (9.6%), industry (8.8%), trade (8.4%) and agriculture (6.6%) (ILO, 2004, p.24, see also chapter 5 of this report).

In an economy near full employment, small changes in net injection of funds via the non-oil budget deficits would inevitably lead to wage increases and generate high inflationary pressures by increasing the demand for non-traded goods with an inelastic supply. This is the essence of what in the literature is sometimes referred to as the Dutch Disease phenomenon, with the accompanying shift of resources from the traded to non-traded sectors highlighted. However, under the conditions of the Yemeni economy, the lax state of the labour market has allowed the accommodation of large net injection of funds via the government budget without overheating the domestic labour market.

There are of course always shortages of specific skills, and specific bottlenecks in the economy, which can lead to inflationary pressures, particularly in the face of sudden increases in non-oil budget deficits. Such sudden and extreme increases in non-oil budget deficits, as for example happened in the case of Yemen in 2001, should be avoided. However, mild bouts of inflation of this type themselves play an important role in signalling the need for the shift of resources to the bottleneck areas, and hence are important preconditions of economic growth in underdeveloped economies. This signifies the fact that if inflation becomes the overriding objective of government policy in a developing country, economic growth can be stalled as, amongst other things, the flexibility and effectiveness of the price system in reallocation of resources between sectors and activities will be blunted.

This also has important implications for the proposed large inflow of funds under the MDG project proposals. As long as such inflows are supported by regular and firmly committed long-term flow of foreign grants, and they are phased in along with the declining oil revenues in a manner that prevents extreme fluctuations, Yemeni economy can easily accommodate the new investments. In addition, if such investments also contribute to improving the productive capacities of the economy, and removing specific bottlenecks, such as the shortages of skilled labour through proper training and educational programmes, they can be doubly beneficial by reducing inflationary pressures arising from supply bottlenecks over time. As we have noted in the previous chapters, however, this does not seem to have been the case in relation to the utilization of oil revenues in the case of the government in the past. To reap these beneficial advantages of external sources of finance, there is need for additional complementary policy changes to which we shall turn below.

The determination of the rate of inflation, however, is more complex than can be read from the fiscal stance of the government in a straightforward manner. For example, as shown in Figure 4.2, during 1997-99, rapidly declining non-oil budget deficits and the rapid decline in the share of government expenditure in GDP, coincided with accelerating inflation. Other determinants such as the monetary and exchange rate policies of the central bank, and supply side effects also need to be taken into account.

4.4.2 The Monetary Causes of Inflation

To what extent is the recent rise in inflation in Yemen a monetary phenomenon? This is an important question in view of the fact that under the current foreign exchange regime the country can be subject to large swings in capital flows and transfers which, added to changes in oil revenues and the non-oil budget deficits of the government, can render the task of monetary management in Yemen rather difficult. Particularly in view of the extremely shallow financial markets in Yemen the central bank may not be able to cope with such monetary shocks.

The rise in the inflation rate in 1998 and 1999 coincided with the rise in money supply resulting from large government borrowing from the central bank in those years. This can give the impression that inflation in Yemen is a monetary phenomenon, driven by government budget deficits. The supply of money rose sharply in 1998 and 1999. It was partly due to the government's borrowing from the central bank to the tune of 3 per cent of GDP when oil revenues shrank dramatically. However, this was reversed in 2000 when crude oil prices rose, but nevertheless the money supply showed its sharpest increase in that year. Since 2000, the accumulation of foreign assets has been the main contributory factor for changes in money supply (Figures 4.4 and 4.5). This shows the double vulnerability of Yemen to oil price fluctuations. In the event that large oil price fluctuations are transmitted to the domestic economy via increased government expenditure, in addition to their first round fiscal impact they can also have a second round expansionary impact through the monetary and credit mechanism. Despite the fact the a considerable part of increased oil revenues since 2000 have taken the form of accumulated net government deposits in the central bank (to the tune of 200 bn YRls), the accumulation of foreign reserves in the central bank have by far surpassed these sums, leading to fast increases in the money supply.

Figure 4.4: Money Supply and its Components (million YRls)

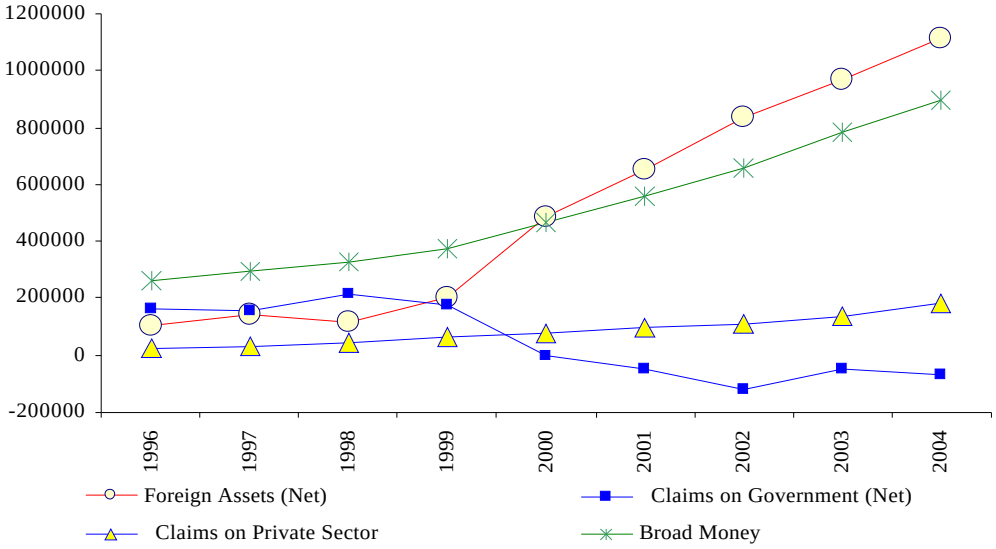
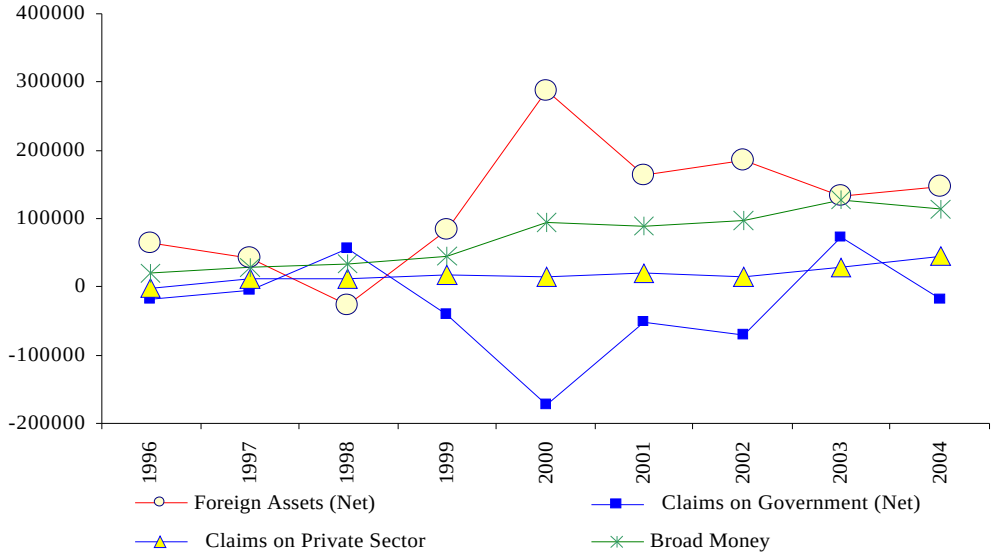


Figure 4.5: Change in Money Supply and its Components (million YRls)



Therefore, to the extent that inflation is a monetary phenomenon, its source lies in the developments of the balance of payments, at least in recent times. The close association between money supply and net foreign assets shows that the central bank's attempt to sterilise the impact of foreign exchange reserves on money supply through the buying and selling of certificates of deposit has not been fully successful. The central bank's holding of foreign assets stood at YR923.5 billion (about USD5 billion). This represents about 14-15 months of imports – nearly 5 times what is generally regarded as safe. Not only does this level of foreign asset accumulation can

have inflationary consequences, but also opportunity costs – a dollar held as reserve is essentially a dollar of foregone investment.[30]

However, for a number of reasons, the transmission mechanisms between money supply growth and the expansion of aggregate demand and inflation in the Yemeni economy may not function as expected. One reason is that the demand for money does not seem to be stable. The evidence suggests a volatile and declining velocity of money, with the implication that increases in money supply will not necessarily lead to a proportionate rise in the price level. The velocity of money (GDP/M1) declined from 7.8 in 1994 to 6 in 2003. When non-oil GDP is considered, the velocity of money decreased from 7.3 in 1994 to 4.1 in 2003. A similar declining trend is also observable for M2 velocity. Additionally, both M1 and M2 velocities (in terms of total as well as non-oil GDP) displayed significant volatility in their year to year growth (for example, the standard deviation of M1 velocity growth is 29 during 1994-2003). Thus, the strict quantity theory prediction based on a constant velocity of money linking money supply growth to inflation does not appear to hold in the case of Yemen.

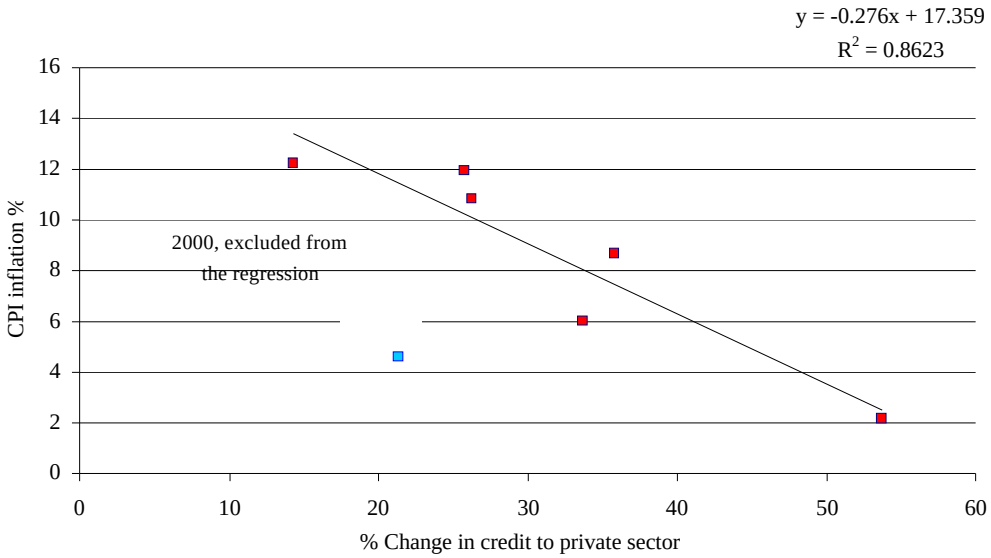
Secondly, having fixed the deposit rates at a high level, the central bank has effectively blunted the possible transmission mechanisms between monetary expansion and aggregate demand via interest rate changes. Thirdly, as noted in the previous chapter, much of the credit afforded by the banking sector to the non-financial private sector is short term credit and predominantly used for trading activities rather than investment. Under these circumstances the direction of causation can be from inflation to demand for money, with an accommodating money supply process. The excess liquidity in the banking system, increasingly finding its way into deposits in central bank and overseas banks, makes this direction of causation more credible.

The view that inflation in recent years in Yemen may not have been caused by the expansion of the money supply is further supported by the relationship between the growth of credits extended to private sector by commercial banks and the rate of inflation, shown in Figure 4.6. As the figure shows there seems to be a robust and negative relationship between the rate of growth of credit extended to the private sector and the rate of inflation. This relationship is more consistent with inflation emanating from supply shocks rather than from the expansionary impact of monetary policy. For example, adverse shocks in the agricultural sector can lead to inflation and at the same time reduce the supply of credit as a result of higher perceived credit risks by the banks. Similarly, adverse supply shocks emanating from oil price fluctuations, under the current foreign exchange regime in Yemen can result in capital flight and exchange rate depreciation leading the building up of inflationary pressures by increasing import prices. Increased uncertainty in this case can again lead to the banks curtailing the growth of credit extended to the private sector. In both these examples, the banks may prefer to invest their excess liquidity in central bank CDs, treasury bills, or deposits abroad, which is more or less in line with what has been happening

[30] According to Baker and Walentin (2001), the estimated opportunity cost of increased holding of foreign exchange reserves for developing countries ranges between 1 and 2 per cent of GDP. The opportunity cost depends on the rate of returns on investment in physical and human development, which is found to be higher in developing countries.

in Yemen in recent years. The role of supply side factors in the inflationary process in Yemen hence needs closer attention, which is discussed next.

Figure 4.6: Relationship between Inflation and Growth of Bank Credits to the Private Sector, 1997-2003



Notes: Including year 2000 in the regression reduces R2 to .49, but the relationship remains significant.
Source: Based on data from IFS, IMF, April 2005.

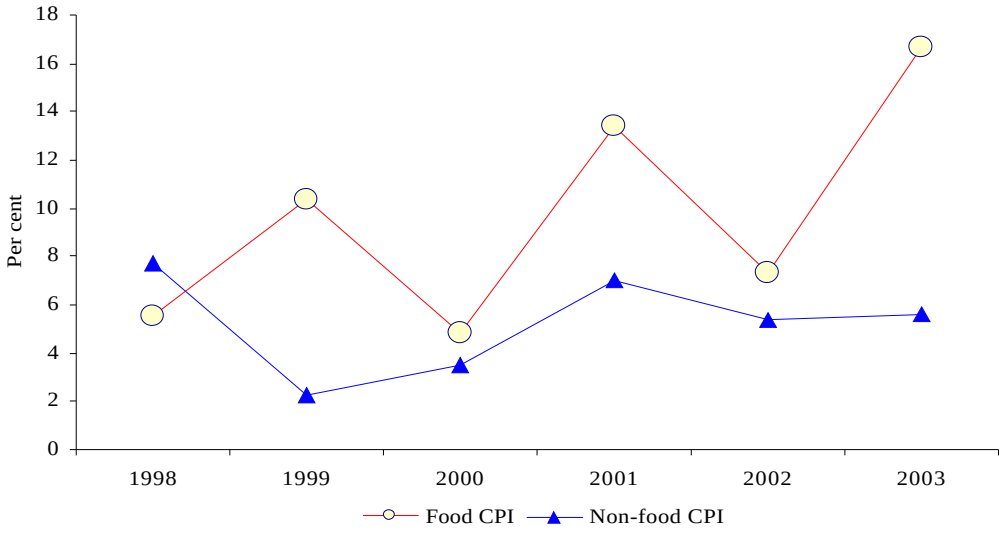
4.4.3 The Supply Side Factors

Inflation in Yemen is also caused by supply side factors, which may not related to money supply growth. Notable among these factors is the upward adjustment of administered prices. For example, according to the estimates of the IMF (2001, p. 114), the CPI inflation would have been much lower than 33 per cent in 1996 had the diesel price not been raised by 100 per cent, the wheat and flour prices by 150 per cent and the electricity tariff by 161 per cent, in order to repair the budget. The IMF report notes that administrative price increases contributed to inflation, and inflation excluding administered price increases was about 7-15 per cent lower than overall CPI (IMF, 2001, p. 114). It also notes, "Other important factors driving inflation were fluctuations in the prices of vegetables and Qat. Both products exhibit strong seasonality, with prices affected by rain/drought and seasonal demand (around holidays for Qat) and on trend these prices have been rising faster than the overall index." (IMF, (2001) p.116). According to the IMF estimates, CPI inflation has always been lower by 10-25 per cent at least when both products are excluded from the measure (IMF, 2001, p. 116).

Hence, because of the importance of food items (vegetables and wheat/flour) and Qat, which are largely dependent on the weather conditions, a large element of inflation in Yemen can be supply determined or of cost-push type. This is clearly shown in Figure 4.7, which depicts the movements of food and non-food components of CPI. The figure highlights a number of important facts. Firstly, inflation in the non-food component of CPI since 2000 has been relatively stable and more or less in line with the rate of depreciation of the currency, thus confirming the argument made earlier

that due to the lax labour market conditions in Yemen inflation has not been predominantly due to wage increases resulting from the expansion of demand. The second observation relates to the high degree of volatility of food prices. The third and perhaps most important observation is that food price inflation appears to be accelerating over time. Since food is the dominant component of CPI in Yemen, rising food prices appears to have been the main driving force of inflation in Yemen in recent years.

Figure 4.7: Inflation Rates in the Food and Non-Food Components of CPI, 1998-2003



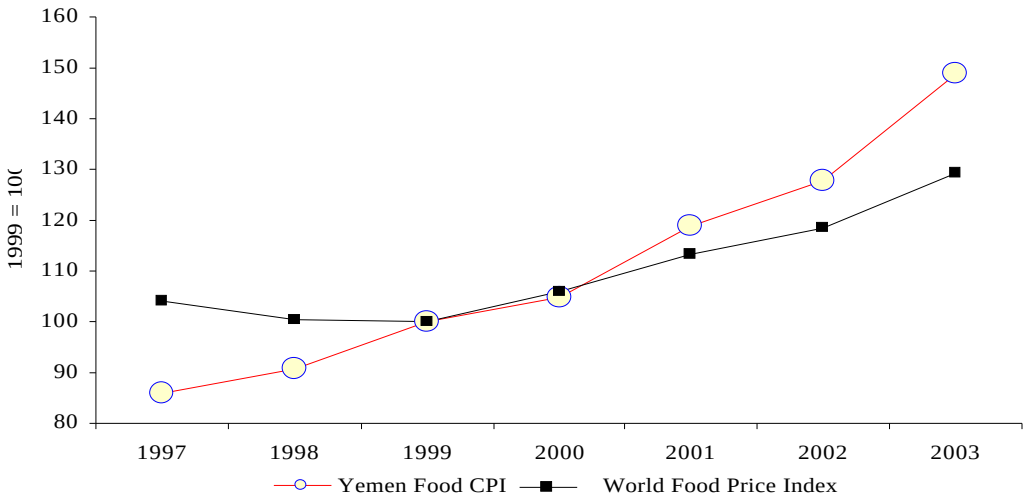
Notes: Both Indices exclude Qat and Tobacco. Qat and Tobaco price index increased by 90 per cent during 2000-2003, showing the highest increase in all CPI components.
Source: CSO, electronic file.

Both the upward trend in food price inflation and its volatility may appear paradoxical because since the end of food subsidies in 1999 and in view of the apparently liberalized trade regime and the availability of foreign exchange in the subsequent period, one would expect the long term trends in food prices to be closely linked to international food prices rather than the vicissitudes of domestic food production. The relationship between domestic food price index and the world food price index (converted to Yemeni rials) is shown in Figure 4.8. As expected, during the 1997-1999 period domestic food prices increased much faster than international prices, as this was a period during which food price subsidies were being removed in Yemen. The 1999-2000 period witnessed a remarkably close affinity in the co-movement between the two indices. However, since 2000 food prices in Yemen have been growing faster than international prices measured in the same currency. To the extent that the international food price index is the appropriate index for Yemeni food imports, and in view of the fact that in this period the country did not face foreign exchange constraints, the growing wedge between the two price indices could be due to the monopoly practices of the wholesale food import merchants.[31] The prevalence

[31] It should be noted that a major component of food imports in Yemen is wheat imports, and world wheat prices increased very rapidly indeed during the 2000-2002 period. Hence the above argument may have to be qualified pending on the construction of a more representative international food price index for Yemen.

of smuggling in Yemen under a supposedly liberalized trade regime, lends further support to this hypothesis. The government needs to pay particular attention to this phenomenon by trying to create a more competitive foreign trade environment, and failing to achieve this, it may set up agricultural commodity buffer stocks to stabilize agricultural prices, which can be useful both for encouraging investment in agriculture as well as reducing the adverse effects of food price volatility on the poor.

Figure 4.8: The World and Yemeni Food Price Indices Compared, 1997-2003 (in YRls)



Notes: Both indices are Yemeni rials.
Sources: IFS, IMF, April 2005 for exchabge rate and the World Index, and IMF, 2004 for Yemen CPI.

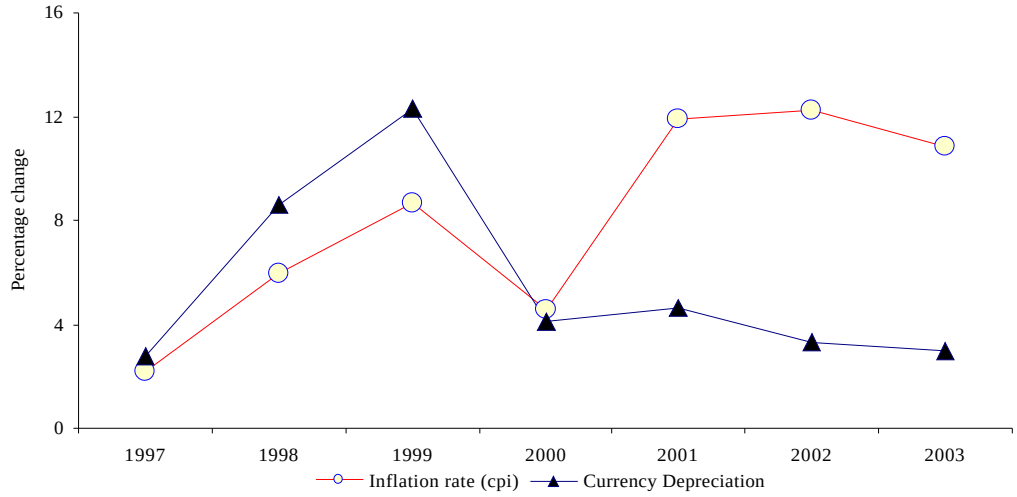
The international food price index in Figure 4.8 is a composite index which reflects the variations in both the international food prices in dollar terms and the depreciation of the Yemeni rial. Considering that imports are over 35 per cent of the GDP in Yemen, the inflationary impact of currency depreciations can be important. Under the current exchange rate regime in Yemen supply shocks emanating from oil price fluctuations in the international markets, and expectations regarding the future sustainability of oil exports can exert important influences on the exchange rate, thus creating another potential supply side inflationary pressure point in the economy. The relationship between currency depreciation and inflation is shown in Figure 4.9. Two distinct sub-periods can be distinguished regarding the relationship between currency depreciation and inflation.

During the first sub-period, namely 1977-2000, there is a close association between currency depreciation and inflation. In this period the central bank's interventions in the currency market were limited.[32] Following the negative oil price shocks of 1998-99, the rate of depreciation of Yemeni rial increased sharply. With the rapid increase in oil prices from the last quarter of 1999, the rate of depreciation of the rial declined to 4 per cent in 2000. Such sharp fluctuations in the rate of depreciation of the rial

[32] The increase in benchmark interest rates from 11 per cent in 1997 to 1 8 per cent in 1999 may have been an attempt by the central bank to reign in exchange rate depreciations. This policy, however, had a dramatic and negative effect on private investment without reducing the pressure on the exchange rate and inflation. It was not before the oil price increases of late 1999 and 2000 that exchange rate depreciation was moderated.

indicates the vulnerability of an oil economy like Yemen to oil price shocks under a free floating exchange rate regime. As discussed above, price inflation during the 1997-99 period was mainly driven by the removal of subsidies and the severe drought in 1999.

Figure 4.9: The Relationship between Currency Depreciation and Inflation, 1997-2003



The sharp decline in international food prices in this period helped to dampen inflationary pressures.[33] With the end of the drought in 2000, and the slowdown in the rate of depreciation of the rial, inflation rate fell to the low value of about 4 per cent in 2000.

During the second sub-period, namely since 2000, some dramatic changes appear to have taken place in the rate of currency depreciation and its relationship with inflation. The central bank has managed to keep the rate of currency depreciation at around 4 to 5 per cent a year, while inflation has hovered at around 10 per cent a year, thus leading to a real appreciation of the exchange rate. This may convey the impression that the economy in this period has been suffering from the so called Dutch Disease as an inevitable outcome of the increase in non-oil budget deficits of the government. This is not however an entirely satisfactory answer supported by the existing evidence. As noted before this explanation does not tally with the rising unemployment and underemployment of labour in this period (see also chapter 5). Though data on private sector wages are not available, the trends in public sector real wages and salaries and investment trends shown in Figure 4.10 also do not appear to support the booming sector economy syndrome.[34] Furthermore, the revaluation of the real exchange rate in this period was also connected to the heavy interventions by the

[33] Between 1996 and 2000 the international food price index (denominated in dollars) fell by about 28 per cent). Average prices of wheat and sugar, the main food import items in Yemen, fell by 42% and 32% respectively in the international market during the same period.

[34] There is plenty of other evidence against the Dutch Disease hypothesis. For example, the rate of increase in the GDP deflator in the construction sector, which has a high domestic wage component, was only 14 per cent between 2000 and 2003. Similarly, the increase in the price index of 'services for maintenance and repairs' component of CPI increased by no more than 12 per cent over the same period. These compare with much higher price increases for the traded goods sectors.

central bank in the currency markets, with substantial foreign exchange reserve losses, and not the result of free interplay of market forces. The explanation for the divergent paths of inflation and currency depreciation in this period is more nuanced than the Dutch Disease story would have it.

Figure 4.10: Real Exchange Rate, Real Wages, and Investment Rate, 1999-2003

Notes: Real Exchange rate is the currency rate deflated by C PI. Increase means appreciation. Real wages refer to average wage and salary rates of public sector employees.
Source: IFS, IMF, April 2005, and CSO.

As noted above, the main source of price inflation in the economy since 2000 has been accelerating inflation in food prices. This was partly due to the increases in international food prices and declining production of the main staple crops, namely cereals, in the domestic economy. The average price of wheat, the main component of food imports in Yemen, increased by over 30 per cent between 2000 and 2003 in major international markets. Given that about 80 per cent of cereals consumption in Yemen is imported, this was bound to dominate domestic price inflation. The price of imported wheat in main cities such as Sana and Aden increased by over 40 per cent over the same period. With the end of food price subsidies, domestic food prices have become closely linked to the international prices and the rial's exchange rate movements. Of course the domestic supply constraints resulting from low investment in the agricultural sector and the continued sensitivity of the sector to the climatic conditions have been other important factors in the inflationary process. Production of cereals declined by close to 50 per cent between 2000 and 2003, despite the rising food price inflation – a reminder that supply constraints in the Yemeni agriculture are more structural than can be remedied by mere relative price changes (Chapter 6 Agriculture).

Under these circumstances, the apparent overvaluation of the currency vis a vis the potentially exportable goods cannot be easily remedied by a devaluation of the nominal exchange rate. Large depreciations of the nominal exchange rate, in a situation of rising international food prices, would have become intolerable under the conditions of generalized poverty prevailing in Yemen. The root of this problem is the extremely low levels of labour productivity in both the food producing sectors and the potentially exportable sectors of the economy. As a consequence, at even low wages bordering on poverty wages, tradable goods sectors remain uncompetitive because of

the low productivity of labour – of course with the exception of natural resource based export enclaves such as oil. In other words, under the current conditions of extremely low labour productivity in Yemen and rising food prices in the international markets, there may not exist a real exchange rate which can maintain the competitiveness of non-oil traded goods sectors without pushing real wages way below poverty wages and intensifying mass poverty. As can be seen from Figure 4.11, the trends in non-oil value added per working age population in Yemen do not seem to indicate that in terms of productivity growth the economy is moving in the right direction.

Figure 4.11: Non-Oil GDP per Working Age Population, 1998-2003, (constant 2000 US$)

Notes: Non-oil GDP measures the sum of agriculture, manufacturing and services only. Working age only Working age population is population aged 15 to 65
Source: WDI, World Bank 2005, and IFS, IMF April 2005.

This seems to have posed a dilemma to the policy makers in Yemen since 2000 in trying to avoid a gradual overvaluation of the currency while keeping inflation at bay. The half hearted solution adopted by the central bank appears to have been to keep the rate of the depreciation of rial at moderate levels of about 4 to 5 per cent a year. This is a costly policy. It does not serve the cause of low inflation well, nor does it address the issue of the gradual overvaluation of the exchange rate. In addition to these two costs, namely poverty enhancing food price inflation and the gradual overvaluation of the currency, this policy has been also costly in losing the country valuable foreign exchange reserves. As noted above, only during the 2002-2003 period the central bank sold over USD1.1 billion to banks and money changers in trying to support the exchange rate. This latter cost is of course more related to the inappropriate exchange rate regime in place to which we shall return below. There are a number of more efficient and sensible solutions to this policy dilemma in the short to medium term, though the long term solution is certainly to lift investment and productivity growth in the economy.

One solution in the short run is for the government to use part of its oil wind-falls to build up buffer stocks of food and essential items through imports in order to stabilise prices. Food subsidies of this type, which should be kept to a narrow range of food grains mainly consumed by the workers, can free the central bank in pursuing a more flexible exchange rate management without being concerned about the inflationary effects of devaluations on the poor. Another solution would be to introduce the food

subsidies in the form of food stamps which can shield the poor from price increases. The food stamp solution is administratively more cumbersome, but it has the advantage on the price stabilization solution in that it prevents domestic relative prices from diverge from international prices. On the other hand the food stamp solution does not solve the problem of price instability facing the domestic producers, which can be particularly very damaging to investment in the agricultural sector. These short to medium term measures, however, cannot be relied upon as long term solutions to the dual problem of poverty wages and lack of competitiveness. In the long run the only lasting solution is capital accumulation and improved productivity of labour.

4.4.4 Macroeconomic Pol icy, Savings, Investment and Pro -Poor Growth

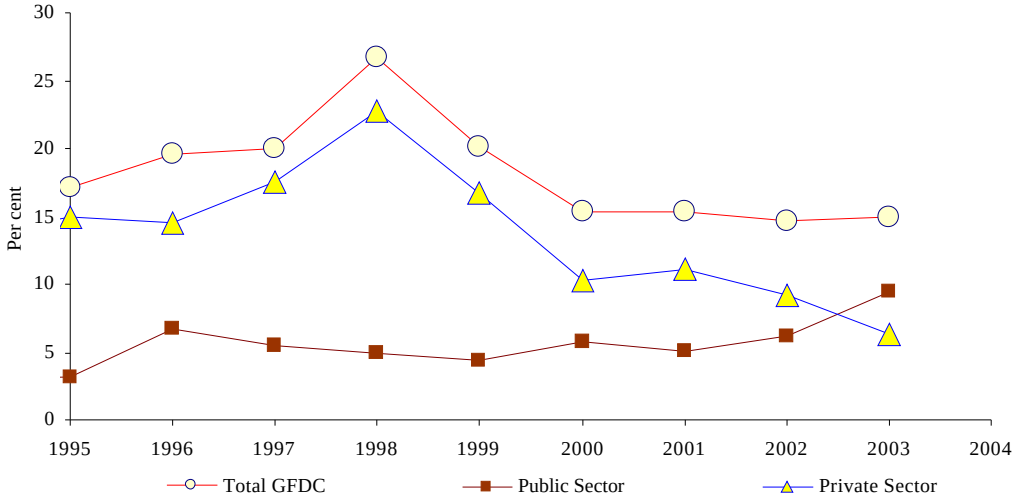
The recognition of the role of supply side factors in the inflationary process has important implications for the use of monetary policy to stabilise the price level, with significant implications for the issue of poverty. Under these circumstances the sole focus on monetary policy for price stability through demand management will result in a larger decline in investment and employment and hence will worsen poverty. This is reflected in the very high lending interest rates in Yemen. The lending rates in Yemen are higher than most Arab countries even when inflation rates are taken into account. This certainly has adversely affected businesses. There is, thus, no wonder that private investment plummeted from its peak of over 22 per cent of the gross disposable income in 1998 to below 7 per cent in 2000 following a 7 percentage point rise in lending rate during 1998-1999 period (Figure 4.12). What is of particular cause of concern is that private investment rates have continued their downward trend, and excluding investment by foreign oil companies the decline is much sharper than shown in Figure 4.12.

The higher interest rates are the result of tighter monetary policy as part of the adjustment package which, amongst other things, aimed at reducing inflation. While inflation certainly needed to be brought down, insistence to reduce it to less than the current moderate levels for non-food inflation, however, is damaging for the real sectors of the economy, causing a stabilisation trap. Though food inflation which is harmful to the poor certainly needs to be brought down, monetary policy aimed at containing demand is not the appropriate policy for that purpose. To the contrary, as argued in the previous section, greater investment aimed at breaking the food supply bottleneck is the way forward in the long run. The World Bank (2002, p 37) also reports that one of the factors that contributed to the sluggish growth of the manufacturing sector during the period 1995-2000 has been the tight growth of money and credit associated with the stabilisation program.

The employment impact of the stabilisation program has important implications for poverty reduction. The National Poverty Survey (CSO, 1999) shows that employment is a major source of the poor's income accounting for 35 per cent of the total nationally (see, Table 4.2). The figure is 47 per cent in the urban and 31 per cent in the rural areas. For the middle class employment generates nearly 30 per cent of their income as opposed to only 22 per cent for the rich nationally. For the middle class in the rural areas, the share of employment income is 43 per cent. Therefore, the stabilisation program should balance between the objectives of price and output stabilisation from the point of view of poverty reduction. As noted earlier, attempts to attain price stability by a high interest rate policy has adversely affected private

investment. As a result, those who lost jobs during the phase of stabilisation may have joined the ranks of the long-term unemployed as the real sector of the economy stagnated. This may have pushed up structural poverty associated with long-term unemployment.

Figure 4.12: Private and Public Gross Fixed Capital Formation as a share of National Disposable Income, 1995-2003



Notes: Private investment includes foreign oil company investment.
Sources: Based on IFS, IMF, April 2005, and IMF 2004.

Monetary policy designed to handle aggregate or overall inflation is not the best way of dealing with problems of inflation of specific items that hurts poor. One may argue that if the overall inflation falls due to tighter monetary policy even when prices of some items in the CPI rise, people should be better off. They can save on the items experiencing a falling price, which can be spent on items whose prices rise. However, the net effect of this depends on the relative shares of these items in the total expenditure and their price elasticity.

Table 4.2: Sources of Income of the Poor, the Middle Class and the Rich (%)

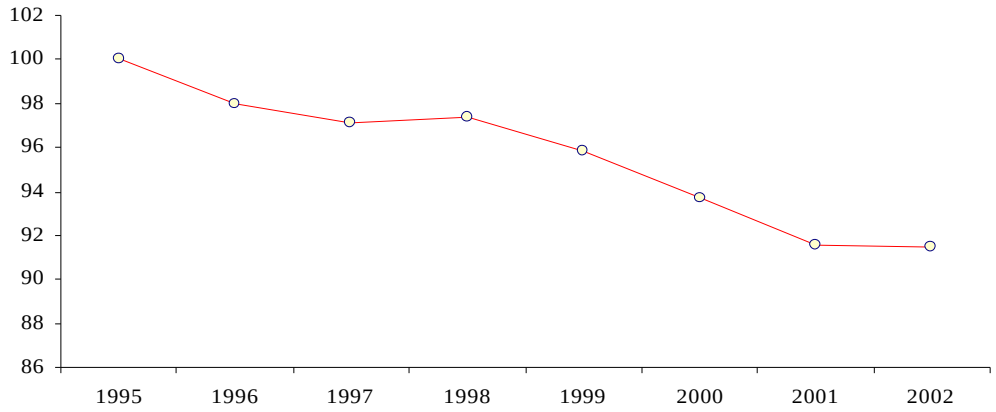
	URBAN				RURAL				NATIONAL			
		Middle				Middle				Middle		
Income source of the household	Poor	Class	Rich	Total	Poor	Class	Rich	Total	Poor	Class	Rich	Total
EMPLOYMENT	47	43	32	37	31	23	13	21	35	29	22	27
PRIVATE BUSSINESS	32	33	42	38	35	39	43	40	34	37	43	39
INTERESTS OF BANK DEPOSITS	0	2	2	2	0	0	0	0	0	1	1	1
REMITTANCES	13	10	10	11	11	10	14	11	11	10	12	11
OTHER SOURCES	8	14	16	15	24	28	30	28	20	23	23	23
TOTAL	100	100	100	100	100	100	100	100	100	100	100	100

Notes: Poor = bottom 40%, Middle Class = middle 40%, Rich = top 20%
Source: National Poverty Survey, CSO 1999

When the poor are spending nearly 64 per cent of their budget on food (with a low price elasticity), certainly they are likely to be net losers even when prices of other items fall. It appears therefore that since 1998, the last year for which poverty estimates are available, the poor have been negatively affected in two ways; first due to rising food prices and secondly as a result of the decline in investment and

employment opportunities. This is also consistent with the available estimates which suggest that the headcount measure of extreme poverty, defined as those with inadequate food, increased from 17 to 27 per cent between 2001 and 2004 (A-Shami 2004). Another indicator is the trend in calorie intake per adult population, shown in Figure 4.13, which combined with the likely deterioration in income distribution over this period, suggests increasing numbers of the poor (and most probably the headcount poverty rate) and intensity of income poverty since 1998.

Figure 4.13: Calorie Intake per Adult Population (15+ age group, 1995=100)



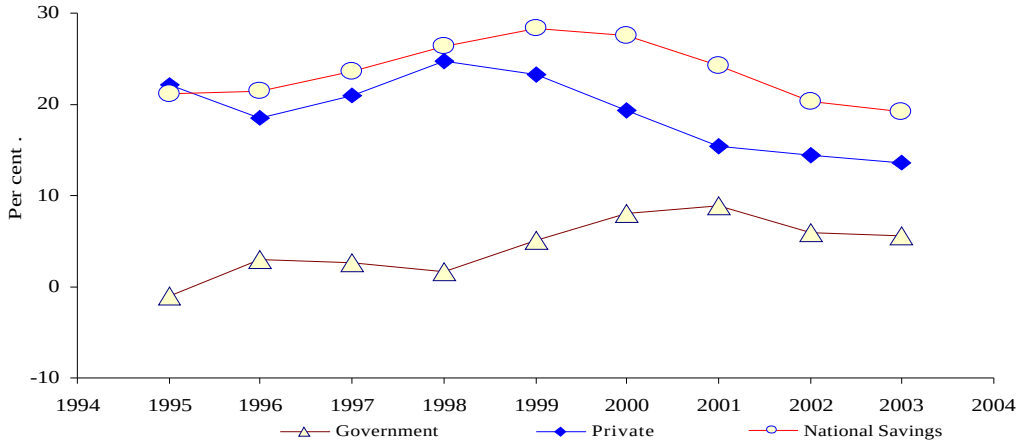
Sources: FAOSTAT, FAO 2005, and WDI, World Bank 2005.

Another mechanism through which high interest rates were meant to stimulate the economy was through generating higher savings rates. Theoretically, the effect of higher interest rates on savings is ambiguous, as the income effect of higher interest income can be neutralized by its substitution effect, though in countries with generalized poverty the income effect is likely to be dominant. There is also little empirical evidence which indicates a positive relationship between interest rates and savings. In the case of Yemen too, clearly the high benchmark savings interest rate – a key monetary policy instrument – has failed to encourage the households to save more. As shown in Figure 4.14, though there has been a greater savings effort by the government since 1995, private savings have witnessed a precipitous decline since 1999. Due care must be taken when interpreting the private savings rates shown in Figure 4.14, as private savings are measured as the residual between government savings and total national savings, with the latter itself measured as a residual in national accounts. The overall trends however are unmistakable. The decline in the savings rate when the economy is growing moderately highlights the dominance of current income and liquidity constraint in consumption decisions, not uncommon in countries suffering from mass or generalized poverty. That is, any increase in current income goes to consumption and debt repayments. This results in a higher marginal propensity to consume and makes consumption expenditure pro-cyclical. As a result, the effects of any exogenous shock on employment and poverty are exacerbated in the absence of active demand management policies.

The decline in the savings rates, however, has not been the cause of declining investment in Yemen. The rate of decline in domestic investment has by far outpaced the fall in national savings rates since 1999. As shown in Figure 4.15, the precipitous decline in the rate of investment since 1999 has resulted in rapid build up of net

national savings surpluses. As noted earlier, this has partly taken the form of a huge build up of foreign exchange reserves in the central bank, and increasingly the form of investments by commercial banks abroad.

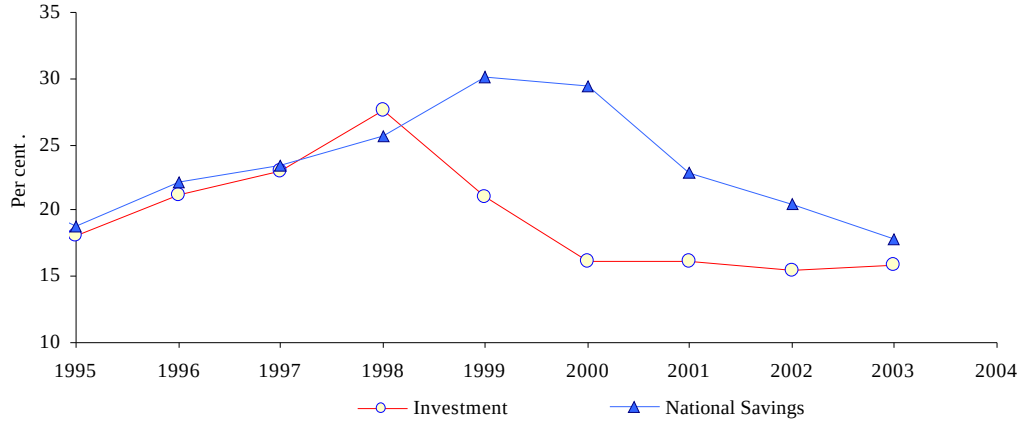
Figure 4.14: Government, Private, and National Savings as per cent of National Disposable Income, 1995-2003



Notes: National disposable income includes curent transfers (mainly remittance income) from abroad. The data are two-year moving averages.
Sources: Based on IMF, IFS April 2005 and IMF 2004.

Net foreign assets of the commercial banks in 2002-03 stood at around 8 per cent of the GDP. Figure 4.15 provides a part of the answer to the question posed in Chapter 1 regarding the utilization of the domestic resources available for development and investment (DRDI) during the post economic reform period. Since 1998, a large part of the DRDI has been used to finance investments in other countries. It is rather curious that a country where unemployment is rising, underemployment of labour is prevalent, and the number of the poor is increasing, has been financing capital accumulation in other countries.

Figure 4.15: Savings and Investment as per cent of National Disposable Income, 1995-2003



To sum up, though the stabilisation program has been successful in bringing down inflation, particularly in non-food items, it seems that lower inflation has not yielded dividends of higher savings and investment to propel the economy into a phase of rapid growth. As a result, the unemployment rate is projected to increase from 11.5% in 1999 to about 17 % in 2006. More than 29 % among the young (15 to 24 years old) are found to be unemployed (ILO, 2004, p. 34, see also the next chapter). High interest rates or cost of finance has ranked quite high among the factors that inhibit the private sector and employment creation. Thus, insistence on reducing non-food inflation further will be counter productive. Under these circumstances monetary policy should support well-coordinated specialised credit programs to enhance investment in productivity and employment enhancing growth that would have a significant impact on poverty reduction. Given that the main component of inflation in CPI is food price inflation, partly resulting from domestic supply constraints, this type of investment enhancing credit expansion, if well directed, can help reduce inflationary pressures in the economy.

However, under the current foreign exchange regime, the central bank may feel constrained in lowering the interest rates and facilitating expansion of credit to private investors for fear of capital flights and exchange rate instability. This assessment may have been reinforced by the reality of net capital flows – there have been net outflows of capital from Yemen, the bulk of which, as noted above, was due to commercial banks overseas investment since 2000. Therefore, capital account opening seems to have removed the flexibility of the monetary authority to pursue an independent monetary policy that a flexible exchange rate regime supposed to provide. At the same time, capital account opening has failed to serve its role in attracting portfolio investment in large quantities, despite Yemen having higher interest rates among Arab countries.

Under these circumstances policy advisors may be tempted to advocate further increases in interest rates in order to stem the tide of capital flight and reduce the pressure on the exchange rate. For a number of reasons, however, this type of policy will be damaging and is unlikely to be effective in reducing the pressures on the exchange rate and turn the tide of capital flights. As discussed above, the experience of Yemen indicates that such interest rate increases are likely to have a more vigorous effect in reducing investment, and business activity in general, than attracting portfolio investment from abroad. Furthermore under the current projections about the exhaustion of oil reserves, adverse expectations regarding the sustainability of the exchange rate at its current levels are too strong to be neutralized by moderate interest rate increases. In a country like Yemen, where high interest rates are sustained not on the basis of return on investment in real assets, but rather on the basis of lending to the government or buying central bank CDs or investing abroad, this type of policy in the face of declining oil revenues will not be credible. The central bank has so far wisely resisted further interest rate hikes, but as noted above its attempts to restrain exchange rate devaluations under the current foreign exchange regime has been at the expense of rapidly losing valuable foreign exchange reserves to speculators. Under these circumstances the appropriate option is to impose restrictions on capital account convertibility and particularly restrict commercial banks from investing abroad. This is an important requirement for improving the effectiveness of fiscal and monetary policies in bringing about high investment and growth in the domestic economy, and at the same time reducing cost push inflationary pressures in the economy.

4.5 Policy Recommendations

The overall diagnosis of the above analysis of current fiscal, monetary and exchange rate policies is that these policies are in need of rethinking and reform. The urgency of this arises from the secular decline in the private sector savings and investment, rising unemployment and underemployment of labour and stagnant productivity of labour. These trends, combined with high rates of food price inflation are most likely to have increased the number of the poor and the intensity of income poverty in recent years.

The fact that private investment rates have plummeted from close to 23 per cent of national disposable income in 1998 to less than 7 per cent in 2003, indicates that low investment rates in the Yemeni economy are not due to some intrinsic attributes of the economy, such as lack of absorptive capacity, but they rather have more to do with the inadequacies of economic policies adopted, in which macroeconomic policies have played an important part. In fact one of the important findings of this chapter is that, due to the fast rates of growth of the labour force and the availability of foreign exchange, the capacity of the economy to absorb large amounts of new investment without causing runaway inflation, is quite high.

The high interest rate policy of the central bank has failed to stimulate savings and has contributed to the dramatic decline in private investment. Yemen has the highest lending rates in the Arab region. The commercial banks, despite experiencing a healthy growth in deposits, have found it more preferable to invest in riskless TBs and CDs, which offer high returns (linked to high benchmark deposit rates), and investing abroad, rather than lend for economic activities.

The rapid decline in investment since 1999 has by far outpaced the decline in savings, thus giving rise to large balance of payment surpluses, and a large build up of foreign exchange reserves at the central bank, currently standing in excess of 14 to 15 months of the import bill. It is rather curious that a country where unemployment is rising, underemployment of labour is prevalent, and the number of the poor is increasing, has been financing capital accumulation in other countries.

The adoption of a high interest rate policy as an anti-inflationary policy in a country where the main source of inflationary pressure has been food price inflation, partly due to domestic supply constraints and partly due to international food price inflation, is misguided. To the extent that inflation in Yemen is caused by cost-push factors, food price stabilisation measures in the short-run, and investment in capital and skill formation in the medium and long run will significantly reduce inflationary pressures. Thus, a high interest rate policy is likely to exacerbate the inflation problems in the long run, even though in the short run it may dampen inflation by reducing investment and also demand for funds for speculation in real estate and hoarding

With the end of food price subsidies, domestic food prices have become closely tied to international prices, particularly in food grains for which Yemen relies close to 80 per cent on imports. This has posed a dilemma in its conduct of exchange rate policy for the central bank. With declining domestic supplies of cereals, and price increases in the international markets since 2000, exchange rate devaluations would put excessive pressure on food prices which will exacerbate poverty. And to the extent that wages in the potentially exportable activities are close to their efficiency wage limit (indeed close to 40 per cent of employed workers in Yemen receive below

poverty wages) this will not solve the problem of the apparent overvaluation of the exchange rate.

The half hearted solution adopted by the central bank since 2000 appears to have been to keep the rate of the depreciation of rial at moderate levels of about 4 to 5 per cent a year. This is a costly policy, which does not serve the cause of low inflation well, nor does it address the issue of the gradual overvaluation of the exchange rate. In addition to these two costs, namely poverty enhancing food price inflation and the gradual overvaluation of the currency, this policy has been also costly in terms of loss of valuable foreign exchange reserves to speculators and money changers. Only during the 2002-2003 period the central bank sold over USD1.1 billion to banks and money changers in trying to support the exchange rate.

To resolve this dilemma a two pronged approach needs to be adopted. In the short run the government needs to adopt one of the food price stabilization programmes proposed in this chapter, in order to temporarily de-link food price inflation from international prices. This will free the central bank to adopt a more flexible approach to exchange rate management to prevent overvaluation of the exchange rate, without fear of exacerbating poverty enhancing food price inflation. The long run solution, however, is to adopt measures to increase investment in physical and human capital, enhance productive capacities and raises the productivity of labour in the economy, and particularly in the agricultural sector. For this purpose the central bank should use its foreign exchange reserves to set up specialized investment funding agencies to help increase private sector investment in productive activities. The boost in private investment and employment, and improved productivity would also help reduce income poverty.

However, under the current foreign exchange regime, the central bank may feel constrained in lowering the interest rates and facilitating expansion of credit to private investors for fear of capital flights and exchange rate instability. This assessment may have been reinforced by the reality of net capital flows – there have been net outflows of capital from Yemen, the bulk of which has been due to commercial banks overseas investment since 2000. Therefore, capital account opening seems to have removed the flexibility of the monetary authority to pursue an independent monetary policy that a flexible exchange rate regime supposed to provide. At the same time, capital account opening has failed to serve its role in attracting portfolio investment in large quantities, despite Yemen having higher interest rates than all other Arab countries.

Under the current projections about the exhaustion of oil reserves, adverse expectations regarding the sustainability of the exchange rate at its current levels are too strong to be neutralized by high interest rates. Furthermore, under the current conditions of the Yemeni economy, where high interest rates are sustained not on the basis of return on investment in real assets in the domestic economy, but rather on the basis of lending to the government or buying central bank CDs or investing abroad, a high interest rate policy in the face of declining oil revenues will not be credible. Under these circumstances the appropriate option is to impose restrictions on capital account convertibility and particularly restrict commercial banks from investing abroad. This is an important requirement for improving the effectiveness of fiscal and monetary policies in bringing about high investment and growth in the domestic economy, and at the same time reducing cost push inflationary pressures in the economy.

The restrictive monetary policy of the post economic reform period has also affected the conduct of fiscal policy by the government, by giving it a highly proc-cyclical and destabilizing character. In an oil economy like Yemen, particularly given its shallow financial markets, coordination between fiscal and monetary policies is of utmost importance, both for economic stability and for growth. The success of a non-inflationary, investment led strategy of growth proposed here critically depends on such coordination. This requires a stable and long term perspective in government's fiscal stance, based on the long term stipulations of the five year plans, which is not dominated by the fluctuations in oil revenues. Such a stable fiscal stance is only possible by a more accommodating monetary policy which does not exacerbate the liquidity constraints facing the government when the oil prices are low. The monetary authorities in Yemen have done the opposite. This also requires a more accommodating and long term perspective on the part of the international donor agencies. Most important of all, a pre-requisite for success is the implementation of the fiscal reforms discussed in chapter 2, and a greater saving and investment effort by the government.

CHAPTER FIVE

Strengthening the Employment Nexus between Growth and Poverty Reduction

5.1 Introduction

The rate of economic growth has been moderate in Yemen, i.e., about five per cent per year, between 1995 and 2003 (Roberts 2004). But the rate of growth of income person has been much lower, namely, 1.5 per cent, because of the rapid growth of population in the country. Much of this growth has been powered by the increase in oil production, which has risen to account for about one third of GDP. While oil production has contributed to increasing exports and public revenue, it has not stimulated broad-based growth throughout the Yemeni economy.

One result of such narrowly based growth is the lack of employment creation. Yemen is caught in a scissors—between slow economic growth and continuing rapid growth of its population, especially its labour force. As new workers enter the labour force, they find few opportunities for remunerative employment. Either they remain unemployed or they end up displacing older workers out of employment. If formal-sector jobs, either public or private, are not available, then they opt for low-paying and irregular informal-sector employment. Compounding the problem is a rising participation rate of female workers, who have been joining the labour force, in most cases, because they have had to counteract declines in real household income.

The employment problems that Yemen faces are similar to those in many other countries in the Middle East and North Africa. The countries of this region will have to create 80 million more jobs by 2020 just to absorb new entrants into the labour force. If they want to reduce unemployment, which averages about 15 per cent in the region, they will have to create a total of 100 million more jobs—a doubling of the current level of employment (World Bank 2003, p. 1).

While the public sector has accounted for much of formal-sector employment in this region in the past, it can no longer provide enough decent-paying jobs to a rapidly growing labour force. The private sector needs to provide substantially more employment. But the public sector has to continue playing a central role by financing public investment to provide essential social and economic services, without which the private sector would languish. The public sector can also help by inducing the banking sector to provide more loans to stimulate productive private investment.

While Yemen is similar in many ways to other countries in the region, it also has distinct problems, stemming from its low level of development. Yemen is a Least Developed Country, with a very low level of income per person and human development. It remains heavily dependent on agriculture, and on oil. Its economy is undiversified and under-developed. One barometer of this under-development is the small size of its manufacturing sector. Confronted with such initial conditions, Yemen must find new sources of growth and diversify its economy, not only within

manufacturing but also within agriculture and services. Only as growth accelerates and output expands in sectors with higher labour productivity will the economy be able, ultimately, to generate widespread employment at decent wages.

5.2 Trends in the Labour Force

Yemen's rapid rate of population growth is exerting tremendous pressure on the labour market to create jobs. At about 3.5 per cent growth per year, this rate is one of the highest in the world. Between 1990 and 2000 alone, Yemen's population expanded by fifty per cent—namely, from 12.8 million to 18.4 million. As a result, the age group 15 years of age or younger accounts for almost half of the population. The median age is projected to increase to only 16.6 years by 2020 so the Yemeni population will remain disproportionately young for a long time.

By 2000 the ratio of dependants to workers was approaching five to one—an unsustainably high level. This intensifies the need for each person of working age to secure decent-paying employment. Moreover, as increasing numbers of the young reach working age, many more jobs are needed each year to employ them. However, the growth of employment lags well behind the growth of the labour force. Consequently, underemployment and poverty remain persistently high. And open unemployment is rising: workers holding out for decent wages cannot find employment.

Slackening demand for Yemeni workers in other countries in the region has compounded the employment problem. Slow economic growth in these countries—especially in construction—is part of the explanation. Increased competition with nationals as well as cheaper foreign workers, such as from South Asia, is another part. Nevertheless, the number of Yemenis working abroad remains high. One estimate is that they represent about one quarter of the total Yemeni labour force (working both at home and abroad). In 1998, for example, they were estimated to number over one million workers. Their remittances, although falling since the early 1990s, are estimated to still add up to almost one fifth of GDP. Thus, their earnings are essential to the livelihoods of many Yemeni households—as well as improving the country's current-account balance. Yet, the fact that these workers have to work abroad is an additional testament to the slow growth of employment within the country.

Although the Yemeni economy grew by five per cent per annum between 1995 and 2003, labour force participation rates and employment have stagnated. When labour force participation is defined for the 1999 Labour Force Survey in the same way that it is defined for the 1994 Population Census, the rate of participation declines from 45.8 per cent to 44.3 per cent (Table 1). This is explained by the decline in the participation rate of men of working age from 74.1 per cent to 67.8 per cent. Conversely, the participation rate of women rose from almost 17 per cent to almost 21 per cent. But this rate is explained mostly by women's increased participation in rural areas. In urban areas, their participation rate is still only 10.4 per cent.

These statistics suggest that the average annual growth rate of the labour force is 3.8 per cent. But the growth rate for women is 5.3 per cent while that for men is 3.3 per cent. Some men have been dropping out of the labour force while many women have

been joining it. The trends for employment mirror those for labour force participation. Between 1994 and 1999, the ratio of the employed to the working age population edged down from 42 per cent to 40.6 per cent (Table 5.1). Since Population Censuses tend to under-estimate employment, the drop during these years was probably sharper.

Table 5.1: Labour Force Participation, 1994-1999 (%)

Labour Force Participation Rate	**Population Census 1994**	**Labour Force Survey 1999**
Total	45.8	44.3
Male	74.1	67.8
Female	16.9	20.9
Employment-Population Ratio	**Population Census 1994**	**Labour Force Survey 1999**
Total	42.0	40.6
Male	67.2	61.2
Female	16.2	20.0

Sources: Mehran 2004c, based on the 1994 Population Census and 1999 Labour Force Survey

The employment-population ratio for men dropped from 67.2 per cent to 61.2 per cent while that for women rose from 16.2 per cent to 20.0 per cent. While the economy was growing, this growth was not being translated into decent-paying employment, and certainly not for male workers. Women were finding jobs, but primarily in order to offset the loss of income due to male unemployment or underemployment. The jobs that women secured were low paying or completely unpaid; and much of their employment remained in agriculture.

The only age group among men for which the employment-population ratio rose between 1994 and 1999 was that between 15 and 19 years of age (Mehran 2001). The decline in this ratio was particularly severe among workers 45 years of age and older. This decline was worse for workers 55-59 years of age and worse still for workers 60-64 years of age. As job creation stagnated, older workers found themselves at a distinct disadvantage in the labour market. Among women, the employment-population increased most dramatically among the age group that was 25-49 years of age, and particularly among women 35-49 years of age. Among demographic groupings of women 50 years of age or older, the ratio stagnated or declined.

Between 1994 and 1999, the percentage of the employed earning wages or salaries stayed about the same, at about 41.5 per cent of the total (Mehran 2004c). However, the percentage of workers in self-employment declined from about 39 per cent to about 33 per cent while the percentage of workers in unpaid activities rose from about 19 per cent to about 25 per cent. The rise of unpaid work highlights the underlying stagnation of employment generation. Employment ‘opportunities’ have been expanding mainly in small family enterprises, most of which have been in agriculture.

5.3 The Structure of Employment

The structure of employment in Yemen illustrates why the country is having difficulty in generating widespread employment that pays decent wages. Agriculture accounted for about 54 per cent of all employment in 1999 (Table 5.2). Industry is particularly weak: it accounted for less than five per cent of employment in 1999—a woefully low

percentage. Accounting for 6.6 per cent, construction provided more employment than industry.

Even more important was trade, which provided over 12 per cent of employment. More important still was transport, accounting for almost 18 per cent. The remainder of jobs was provided by services (other than trade and transport). So the Yemeni economy exhibits some degree of diversification but its industrial sector is remarkably small, reflecting the inability of the economy to raise productivity and real wages. During 2001-2003, labour productivity has basically stagnated in manufacturing. While value added per worker was 210,000 Rials in 2001, for example, it remained the same in 2002 and had increased to only 220,000 Rials in 2003.

Table 5.2: Sectoral Structure of Employment (%)

Sector	Total	Male	Female
Agriculture	54.1	43.1	87.8
Industry	4.6	5.1	2.8
Construction	6.6	8.7	0.2
Trade	12.1	15.5	1.4
Transport	17.7	21.2	7.0
Other Services	19.3	23.1	7.7

Source: Labour Force Survey 1999.

As in many other countries in the Middle East and North Africa, men hold the great majority of jobs, i.e., about three quarters. Also, half of the male workers have paid employment. In contrast, only about 14 per cent of female workers have paid employment.

Still, about 43 per cent of male workers are employed in agriculture whereas only about five per cent are employed in industry (Table 2). However, almost 88 per cent of female workers are in agriculture. And of all female workers, over 62 per cent are in unpaid work. In contrast, only a little over 13 per cent of male workers are in unpaid work. So there are stark gender imbalances in employment in Yemen. However, women are joining the labour force in growing numbers. This trend adds another powerful factor that necessitates an acceleration in employment creation—in addition to the rapid increase of young workers and the large continuing stock of workers already unemployed or underemployed.

Part of the explanation for these gender trends in employment is the lack of dynamism in both industry and services in Yemen. The share of the employed in public administration dropped from over 13 per cent in 1994 to a little under 10 per cent in 1999 (Mehran 2004c). This decline affected mostly male workers. The slow growth of private-sector services could not compensate for the loss of public-sector services. Overall, the share of employment in services dwindled from 36.5 per cent to 34.8 per cent. Since the share of employment in industry stayed virtually the same, at about 11.2 per cent, agriculture had to take up the slack, boosting its share from 52.2 per cent to 54.1 per cent. It is in this sector that female workers increased their employment.

5.4 Trends in Unemployment

As an indicator, unemployment gives limited information on the labour market. It is particularly limited for gauging the effect of growth on poor workers, who usually cannot afford to be unemployed for long. It also does not reveal how many workers have simply dropped out of the labour force, because of discouragement or involvement in the informal sector. It does, however, provide useful information on the extent to which an economy can provide employment that is appropriate for more skilled or educated workers, i.e., those who can usually afford to wait for a job that is commensurate with their abilities.

Despite a decline in the employment-population ratio between 1994 and 1999, open unemployment remained at about 8.4 per cent. This signifies that many workers were simply dropping out of the formal sector, and thus were not showing up on the employment rolls. While male unemployment stood at 9.7 per cent in 1999, female unemployment stood much lower, at 4.2 per cent.

If statistics incorporate a broader definition of unemployment (including people who are available for work but are not seeking it), then the unemployment rate rises to 11.5 per cent in 1999, with male unemployment rising to 12.5 per cent and female to 8.2 per cent. While giving a broader view of the state of unemployment in 1999, these statistics are not comparable to those from the 1994 census. Moreover, they might be misleading in the sense that in highlighting the problem of unemployment, they tend to downplay the importance of underemployment—the condition in which most poor workers in Yemen find themselves.

Despite the stability in the overall unemployment rate, the youth unemployment rate (for workers 15-24 years of age) declined significantly, i.e., from 17.9 per cent in 1994 to 12.7 per cent in 1999. This is indeed a hopeful sign. This statistic is consistent with the rise in the percentage of the employed who are educated (have a secondary school education or above), from 10.6 per cent in 1994 to 15.7 per cent in 1999. Younger workers who are securing jobs tend to be more educated than older workers.

If the broader definition of unemployment is used, then the youth unemployment rate rises to 18.7 per cent. At the same time, the unemployment rate among educated youth remains high, at about 23 per cent. Also, when a somewhat different definition of unemployment is used, the percentage of youth who are inactive (neither in the labour force nor in school) is about one third. But this is due mainly to ‘inactivity’ among young women, many of whom are engaged in unrecorded household work. The ‘inactivity’ rate among young women in 1999 was over 60 per cent. Hence, despite improvements in employment outcomes, such as the drop in youth unemployment, overall employment generation in Yemen remains lack-lustre.

Projections based on data from the 1999 Labour Force Survey on the growth rate of employment vis-à-vis that of the labour force suggest that while the unemployment rate was 11.5 per cent in 1999 (according to a broad definition of unemployment), it could rise to 17.1 per cent in 2006. Civilian employment could reach about 4.402 million workers while the labour force could reach 5.310 million (Mehran 2004a)—a shortfall of 908,000 jobs. At the same time, while youth unemployment was 18.7 per

cent in 1999, under these projections it could balloon to an incredibly high 34 per cent.

If the labour force continues to grow at 3.8 per cent a year (higher than the growth rate of the population), then paid jobs need to be created for an additional 188,000 workers every year—just to keep unemployment constant (Mehran 2004a based on statistics from the Ministry of Planning). This could be decomposed into 121,000 jobs for men (if the male labour force is growing at 3.3 per cent) and 67,000 jobs for women (if the female labour force is growing at 5.3 per cent).

If, in addition, the unemployment rate were to be reduced by one percentage point each year between 2004 and 2006, then 22,000 more jobs would need to be created each year. Added to the 188,000 jobs needed every year (to keep unemployment constant), this would total 210,000 new jobs every year. Such a scale of job creation is beyond the current capacity of the Yemeni economy to produce. Growth would have to be not only more rapid but also more employment-intensive.

5.5 The Demand for Labour

Based on 2002-2003 trends, labour demand is currently increasing by about 117,000 paid jobs per year. This is an annual growth rate of 2.8 per cent. This rate implies that there will be an excess supply of labour seeking paid employment of 71,000 every year (Mehran 2004a). Since the public sector has had to act, for some time, as 'the employer of last resort', it has only modest capacity to create new jobs. Public administration has been, in fact, in relative decline. Hence, the private sector has to become dynamic enough to generate an additional 71,000 jobs every year, just to keep unemployment in check.

The Labour Demand Survey of 2002-2003 gives us an initial picture of the private sector's capacity to create jobs. The survey is, in fact, limited in scope: it covers private-sector establishments, which account for only about 18 per cent of total civilian employment. Government employment accounts roughly for another 20 per cent. Agriculture accounts for 50 per cent. The residual percentage (about 10 per cent) is mostly self-employment or casual employment in non-agricultural activities.

Moreover, much of the employment in private-sector establishments is self-employment or unpaid work. Paid employment accounts for only 37 per cent of the total. Also, private-sector establishments account, as a whole, for a modest share of total employment. But the fact remains that the capacity of the Yemeni economy to generate much more poverty-reducing employment hinges on the growth of paid employment in private-sector establishments.

Unfortunately, the birth rate of such establishments is low: only about four per cent of all establishments are new each year (Mehran 2004a). And these establishments are invariably micro enterprises, providing employment mostly for owner-managers and secondarily for unpaid members of the manager's household. There are only 2.5 paid employees for every 100 new establishments. Despite the widespread donor romanticism about micro enterprises, they obviously do not offer, by themselves, a viable solution to unemployment, or underemployment for that matter.

During the period of coverage of the Labour Demand Survey (April 2002 – May 2003), the establishment sector created 19,379 paid jobs. Only about half of these jobs could be considered new since the other half were replacement jobs. At the same time, 37,272 paid jobs were eliminated. Hence, there was a net decline of 17,893 paid jobs, representing a 5.7 per cent decline, during this year.

The largest losses of paid jobs, in absolute numbers, were in trade (-12,836), manufacturing (-1,907) and hotels and restaurants (-513) (Table 5.3). Manufacturing and trade are the largest sources of paid employment: the former accounts for over 96,000 paid jobs while the latter provides almost 70,000. Trade experienced the largest percentage loss in paid employment, i.e., -18.5 per cent. If paid employment is to expand, then these three sectors—but especially manufacturing and trade—have to flourish.

Net gains in paid employment occurred only in education (+448), farming (+256) and mining (+129). Farming had the largest percentage increase, namely, 4.4 per cent. Both mining and education provide significant numbers of paid jobs. But farming does not.

Table 5.3: Gains and Losses in Paid Jobs by Economic Sector

Sector	Paid Employees	Net Change of Jobs	Percentage Change
Farming	5,786	+256	4.4
Mining	10,348	+129	1.2
Manufacturing	96,385	-1,907	-2.0
Trade	69,359	-12,863	-18.5
Hotels/Restaurants	25,786	-513	-2.0
Transport	7,767	-110	-1.4
Education	9,637	+448	4.6
Health	11,119	-110	-1.0
Personal Services	9,192	-201	-2.2

Source: Mehran 2004a based on the *Labour Demand Survey 2002-2003* (CSO and LMIS).
Note: Only sectors with more than 5,000 paid employees are included in this table.

If the data on employment trends from the Labour Demand Survey are accurate, then the widespread preconception that micro enterprises (defined as employing 1-4 workers) and small enterprises (5-9 workers) are the primary engine of job creation in Yemen is false. Both micro and small enterprises recorded net job losses during the survey period whereas both medium-sized enterprises (10-19 workers) and large enterprises (20+ workers) recorded net job gains (Table 4).

Micro enterprises do account for a substantial number of paid employees, namely, over 88,000 but they experienced the largest net job losses of -17,379 (Table 5.4). At the other pole, large enterprises account for the biggest number of paid employees, namely, almost 108,000, and scored the biggest net job gains, i.e., 2,832. Paid employment plummeted by almost 20 per cent in micro enterprises and in small enterprises by 2.5 per cent. By contrast, in medium-sized enterprises, employment rose by over four per cent.

Such data, limited and superficial though they are, suggest that medium-sized and large enterprises are likely to have the most potential to generate paid employment. Not noted by these data is the likelihood that these enterprises also provide decent-

paying employment. Micro and small enterprises are much more likely to provide low, 'poverty-reproducing' wages. As one indication, about two-thirds of educated employees (with a university degree or specialized vocational training) are employed by large firms. Their wages are 20 per cent above the average for all educated employees. In small and medium enterprises, educated workers receive wages that are two-thirds of the average while in micro-enterprises they receive wages that are 56 per cent of the average.

Table 5.4: Gains and Losses in Paid Jobs by Establishment Size

Size of Firm	Paid Employees	Net Change	Percentage Change
1-4 workers	88,384	-17,379	-19.7
5-9 workers	38,913	-981	-2.5
10-19 workers	22,813	927	4.1
20+ workers	107,798	2,832	2.6
Total	257,908	-14,601	-5.7

Source: Mehran 2004a based on the *Labour Demand Survey 2002-2003* (CSO and LMIS).

5.5.1 Micro and Small Enterprises

Although various surveys in Yemen have investigated micro, small and medium-sized enterprises (MSMEs), their results are difficult to compare because they utilize different definitions of the size of establishment. These surveys invariably estimate that micro and small enterprises employ most labour. But most of this employment is self-employment (i.e., owner-workers). Within micro-enterprises employing 1-4 workers, 61 per cent of them employ only one worker and another 20 per cent employ only two. Moreover, within small enterprises employing 5-9 workers, 44 per cent of the jobs are in firms with 5 workers and another 25 per cent are in firms with 6 workers. If micro and small firms are lumped together, those employing only one worker account for 59 per cent of all jobs and those employing only two workers account for another 19 per cent. So, firms in Yemen are very small on average.

While micro, small and medium-sized enterprises account for much of the employment in Yemen, their aggregate contribution to GDP is small. One estimate ascribes about seven per cent of GDP to Micro, Small and Medium Enterprises (MSMEs) (ILO 2004 based on the MSE Baseline Survey). Since the contribution of MSMEs is far lower than their contribution to employment, their level of labour productivity is pitifully small. Most of the workers in such firms are uneducated and unskilled. Hence, while more vibrant growth among micro, small and medium-sized enterprises might help to reduce poverty, its overall effect is not likely to be pronounced since incomes in such enterprises tend to be low.

The exception is likely to be medium-sized firms, which public policy often neglects. Government policies are often biased towards large enterprises while poverty reduction strategies often focus their attention on micro and small enterprises. In order to correct these biases, the Government should develop a more comprehensive economic strategy that can integrate the contributions of micro, small, medium-sized and large enterprises.

The Government of Yemen can do more to create a conductive business environment that can allow micro and small enterprises to flourish. But if its medium-term

objective is to generate widespread employment at poverty-reducing wages, then it must also find ways to encourage growth among medium-sized and large enterprises. In manufacturing, medium-sized enterprises tend to be concentrated among sub sectors such as paper and printing, and machines and equipment. Large firms are concentrated in sub sectors such as chemicals and plastics, and oil refining. While medium-sized firms account for seven per cent of total manufacturing employment, large firms account for 36 per cent (ILO 2004, pp. 38-39).

Some of the main problems confronting micro, small and medium-sized enterprises—as revealed by surveys—are stagnation of their product markets, lack of reliable electricity and other economic services, and lack of financial resources (ILO 2004, pp. 47-49). Stagnation is due to lack of economic growth. The government can contribute to generating more growth by reducing excessive regulations and making business taxes more equitable, but it can play a more direct, pro-active role in providing the public investment to expand access to economic and social services, such as electricity, water, health and education. It can also help in expanding access of businesses to financial services or providing training facilities for developing management skills and supplying technical advice for starting up businesses.

5.5.2 Expected Jobs Gains

In addition to determining the scale of net job losses or gains for the period 2002-2003, the Labour Demand Survey also inquired about prospects for losses or gains over 2004-2006. Since the results reflect the expectations of establishments, they are obviously less reliable than their reports on past results. Nonetheless, the results are interesting.

While the establishments report an aggregate net job loss of 5.7 per cent during 2002-2003, they project a net gain of 5.4 per cent for 2004-2006. The biggest absolute gains are expected in trade (+18,307) and manufacturing (+9,289). Together, these two sectors account for about 62 per cent of the total projected increase. The biggest percentage increases are in health (+12.4 per cent), personal services (+12.0 per cent) and education (+8.2 per cent). These three sectors account for about one quarter of the total projected absolute increase in paid employment. The hotel and restaurant sector and the mining sector projected growth at only a 1-2 per cent rate.

Micro enterprises are the most optimistic about projected increases in paid employment: they project an increase in net labour demand of 7.3 per cent (about 21,000 jobs). But the most optimistic are medium-sized enterprises, which project a net job increase of almost 10 per cent (about 7,500 jobs). Large enterprises project a bigger absolute increase in jobs (about 9,400) but a much smaller percentage increase, i.e., less than three per cent.

In total, establishments project a net increase of 44,468 jobs over the three years of 2004-2006. This translates into 14,800 new jobs a year. Even if these optimistic projections are confirmed, the net yearly increase in labour demand of 14,800 would still be much lower than the net yearly increase of 71,000 that is needed. Unless more dynamic sources of growth and employment generation are identified and then actively promoted, unemployment is sure to rise, as is underemployment.

5.6 Trends in Hours and Wages

One indication of the low-paid nature of much of the employment in Yemen is that many workers have to labour in excess of forty hours a week in order to obtain subsistence-level incomes. This is particularly true for male workers. The average for employed males in their primary jobs is 40 hours a week but over one third of them have to work 48 hours or more.[35] Over 15 per cent of women also have to work 48 hours or more. Thus, almost 30 per cent of all workers labour 48 hours or more.

Another reflection of the same problem of low-paid jobs is that many workers cannot secure enough hours of work per week. About 40 per cent of all the employed labour less than 35 hours a week, with 8.5 per cent of them labouring less than 15 hours. While men tend to work excessive hours, women tend to have problems securing enough hours of work. Almost 55 per cent of female workers labour less than 35 hours a week, with almost 12 per cent of them labouring less than 15 hours.

A major reason for this pattern is that women are concentrated in sectors, such as services and agriculture, which provide irregular employment. Fifty-five per cent of women in paid employment are in services, where their average weekly hours are 31. Another 36 per cent are in agriculture, where their average weekly hours are 32. By contrast, men are more concentrated in industry and trade, where average hours tend to be high: 45 in industry and 50 in trade.

This bimodal distribution of hours of work, reflecting to some degree gender differences, implies that jobs offering a reasonable number of hours are scarce. Only about 28 per cent of all employed workers have jobs providing between 35 and 47 hours of work per week. Growth in micro and small enterprises is not likely, by itself, to resolve this problem. Employment in such enterprises is often self, casual or unpaid employment, not regular paid employment. Over the long term, the expansion of paid employment in medium-sized and large enterprises is more likely to 'regularize' hours of work, i.e., stabilize them within a reasonable range that can provide decent levels of income.

Despite economic growth, real wages declined in the late 1990s. Part of the reason was the removal of subsidies on energy, transport and food, which raised prices and the overall cost of living for workers. Nominal wages were increased in the 1990s in both the public and private sectors, but these increases were far outstripped by price increases. While the nominal minimum wage rate had risen, for example, to about US$ 40 per month in 1998, the real value of this wage was only 30 per cent of its 1990 level (ILO 2004).

One measure of the working poor is that about 13 per cent of paid employees in Yemen in 1999 earned wages that were lower than the Food Poverty Line (as defined by the Family Budget Survey). About 39 per cent of paid employees earned wages that were lower than the overall Poverty Line. Assuming that the methodology for

[35] There is under-reporting of secondary employment in the 1999 Labour Force Survey. Were the hours worked in jobs other than the primary one included, these averages would likely be significantly higher.

establishing these poverty lines is sound, such a measure of working poverty would be more useful than unemployment. Employment outcomes should be judged, for example, by whether they decrease the percentage of workers who earn wages lower than the overall poverty line.

Among paid employees, there are significant wage differentials by sector. The differential in average wages between the public sector and the private sector has widened, for example. Whereas public-sector wages used to be comparable to private-sector (and mixed-sector) wages, now they have fallen to about one third of the private-sector level.

Part of the differential in total weekly wages is due to differences in the number of hours worked. Monthly average earnings in agriculture are low, for example, because not only hours per week are below average (39 hours) but also (and more importantly) hourly earnings are very low (65 Rls per hour) (Table 5). In services, hourly earnings are near average (73 Rls per hour) but hours worked per week (37 hours) are the lowest of any sector. In trade, however, hourly earnings are low (66 Rls per hour) but monthly earnings are boosted by above-average hours worked per week (50 hours).

Table 5.5: Hours and Earnings by Sector

Economic Sector	Number of Paid Employees	Average Weekly Hours	Average Monthly Earnings (Rls)	Average Hourly Earnings (Rls)
Total	1,507,500	40	13,000	76
Agriculture	310,000	39	10,800	65
Industry	105,900	45	13,700	71
Construction	214,000	41	18,600	106
Trade	151,000	50	14,100	66
Transport	52,200	41	16,600	95
Other Services	764,600	37	11,500	73

Source: Mehran 2001 based on the 1999 Labour Force Survey.

On an hourly basis, average earnings for all sectors are 76 Rls (Table 5.5). Earnings in the construction sector are the highest, at 106 Rls per hour. Earnings in transport are also relatively high, at 95 Rls per hour. By contrast, earnings are lowest in agriculture (65 Rls per hour) and trade (66 Rls per hour). Earnings in industry and services are closer to the average.

In most sectors, women who are paid employees have average hourly earnings that are higher than those for men. This is the case, for example, in industry, construction, trade and services. The one sector in which women's hourly earnings (64 Rls per hour) are lower than men's is agriculture. The major problem is that in all sectors women are a minority of paid employees. In addition, even when they are able to secure paid employment, they work far fewer hours than men in all sectors. While on an hourly basis, the earnings of women (76 Rls) are slightly higher than those of men (75 Rls); on a monthly basis, women earn only 10,400 Rls compared to the 13,299 Rials for men. This is due to fewer work hours.

Wage inequality is a problem in Yemen. But it is not due necessarily to inequality in educational attainment. The highest-paid five per cent of employees earn 50,000 Rials per month. The lowest-paid five per cent earn 5,000 Rials. Thus, the ratio of earnings of the top five per cent to the bottom five per cent is 10 to 1. Workers with higher

education are more concentrated among those who earn 50,000 Rials or more and illiterate workers are more concentrated among those who earn less than 5,000.

But the relationship between education and earnings is not monotonic. In the earnings range of 10,000 to 20,000 Rials per month, for example, workers with higher education are heavily concentrated. About half of government employees are concentrated in this earnings range. Also, among paid employees with earnings in the range of 20,000 to 50,000 Rials, illiterate workers are more concentrated than normal while workers with higher education are only slightly more concentrated than normal.

5.7 Policy Recommendations

In order to provide widespread remunerative employment, Yemen's economy needs to grow at a much more rapid rate and spread the benefits of growth more broadly among the population. This will necessitate a dramatic scaling-up of both public and private investment. Financing for such investment will have to come from various sources: oil revenue, increased tax revenue on non-oil incomes, reduced international reserves, debt relief and substantially increased ODA in support of a national development strategy that can reach the MDG targets.

Gross investment remains relatively low. In 2002 it was 17 per cent of GDP (World Bank 2004). This is partly explained by a lack of stimulus from public investment. But it is also explained by a poorly functioning financial system, which lacks the ability to mobilize domestic savings and channel it into productive private investment. Net national savings was less than 15 per cent of gross national income in 2002 and domestic credit to the private sector was only about six per cent of GDP (World Bank 2004).

The Government of Yemen can pursue a four-part strategy to begin generating more rapid, employment-intensive growth. First, it needs to implement more growth-oriented economic policies. Other chapters of this report have detailed recommendations for fiscal, monetary and exchange-rate policies.

While the Government enjoys the boon of increased oil revenues, it should re-orient fiscal policies in order to concertedly channel these revenues into financing widespread public investment in basic economic and social infrastructure. Such investment will not only advance human development (such as for greater health and education) but it will also give a boost to economic activity (through provision of basic infrastructure such as electricity, gas, water and roads).

Monetary policies also need to be overhauled in order to target employment creation as well as maintain moderate rates of inflation (such as 10-15 per cent per year) (see Chapter 4). This will imply more pro-active sectoral credit policies, especially for those sectors with not only growth potential but also employment potential. Such sectors can be found across the spectrum of agricultural, manufacturing and service activities. In order to maintain the international competitiveness of non-oil exports, the Government should also move to depreciate the exchange rate further. Such a measure should be combined, however, with restrictions on capital mobility, particularly within the context of more expansionary fiscal and monetary policies.

The second prong of the Government's employment creation strategy should be policies geared to diversifying the economy and supporting sectors with growth and employment potential. Targeted credit policies (such as differential reserve requirements for banks) could be considered part of this prong but other policies, such as the allocation of public investment to priority sectors, could also be utilized.

Boosting manufacturing is a crucial component of such initiatives since it has superior potential to create productive and decent-paying employment, relying principally on the growth of medium-sized and large enterprises. But diversification is needed in agriculture as well. This could involve the substitution of qat with other agricultural commodities, such as coffee, fruits and vegetables, which have strong export potential. Fishing is a recent example of an agricultural sub sector with proven growth potential. Boosting tourism within the services sector is also an obvious priority, as is exploiting Yemen's potential in providing port facilities for shipping.

The third prong of Yemen's employment creation strategy involves more small-scale interventions that have a greater poverty reduction focus. This could involve the focusing of public resources on small-scale, labour-intensive public works, such as for rural roads, wells or irrigation works, which can be directed to poorer regions of the country. Such initiatives could also include micro-credit, which should become, in fact, an integral component of the regular financial services of banks, particularly in rural areas. But commercial banks will have to be given incentives to expand coverage of their financial services to poorer regions or social groups; profit-seeking will not motivate them to do so.

The fourth prong of Yemen's strategy involves the promotion of a more conducive business environment. Simplifying licensing, fees and taxes are part of this effort. Reducing cumbersome administrative procedures, official harassment and corruption is another important part. Micro and small enterprises often bear the brunt of such practices so reforms in this area will serve to impart a stimulus to economic growth 'from below', among the self-employed, micro-entrepreneurs and small enterprises that are struggling to expand and grow. Enabling small enterprises, which are often deprived of resources and public support, to grow rapidly into medium-sized firms—with a potential to provide decent-paying jobs—is a key component of this effort.

A comprehensive growth, employment and poverty reduction strategy for Yemen needs to implement all four of the prongs described above. These recommendations are not designed for a poverty reduction strategy alone. They are geared, first and foremost, to generating more rapid growth and employment, and leveraging this momentum into focused public efforts to reduce poverty. All four prongs are needed for a more ambitious MDG-based national development strategy that strives to reach the 2015 targets. At the heart of such a strategy are recommendations to promote broad-based employment generation that is centred in growth sectors that have the potential to pay poverty-reducing—not poverty-reproducing—incomes.

CHAPTER SIX

Agriculture and Livelihoods in Rural Yemen

6.1 Introduction

Yemen is a predominantly rural society, with widespread poverty, food insecurity, and inadequate human development. These trends are illustrated in Table 6.1, which shows that real per capita gross domestic product (GDP) is currently very low. In this light, it is not surprising that some 48 per cent of the population is food insecure. In part, this is because of disappointing macroeconomic performance. Thus, in the decade following Yemen's unification in 1990 constant per capita GDP grew in real terms by only 28 per cent. It should also be noted however that that growth in per capita GDP that has taken place is quite erratic, and is in any event distorted by revenues accruing within the oil sector.

Table 6.1: Poverty and human development in rural Yemen

	1991	***1995***	***2000***	***2001***
Constant per capita GDP, US$	246	279	316	316
Average annual rate of growth of per capita GDP	-9.7	8.6	1.5	0.0
	2002			
Rural population, % of total	75			
Rural population below poverty line, %	45*			
Food insecurity, %	48**			
Inequality	5.6*			
Female literacy rate, %	28.5			
Male literacy rate, %	69.5			
Female life expectancy	60.9			
Male life expectancy	58.7			
Under 5 infant mortality rate	113**			

Notes: Inequality is the ratio of the per capita consumption of the richest 20 % of the population to the per capita consumption of the poorest 20 % of the population; (*) is f or 1998; (**) is for 2003.
Source: World Bank 2004; Food and Agriculture Organization (FAO) 2004.

The impact of low incomes is felt particularly in rural Yemen, where, as Table 6.1 demonstrates, 75 per cent of the population lives, and where, as a consequence, 45 per cent of the population lives below a US$1 a day poverty line, when expressed in purchasing power parity prices (see, Chapter 1). By way of contrast, extreme poverty, defined as those with inadequate food, increased from 17 to 27 per cent between 2001 and 2004 (A-Shami 2004). Clearly, poverty in Yemen is predominantly a rural phenomenon. Moreover, given the sectoral distribution of the population, food insecurity is also a predominantly rural phenomenon. Food insecurity and poverty processes may also be deepening; a poverty assessment of Yemen in the 1990s found that the number of households living in poverty increased from 9 per cent in 1992 to 27 per cent in 1999 (Lofgren and Richards 2003), and this, in light of the data in Table 6.1, suggests a dramatic increase in the number of households living in poverty.

In addition, recent research into food insecurity indicates that it too is getting worse (FAO 2004).

Widespread rural poverty and food insecurity is in turn reinforced by pervasive inequality; Table 6.1 shows that according to the World Bank in 1998 the ratio of the per capita consumption of the richest 20 per cent of Yemeni society was 5.6 times that of the per capita consumption of the poorest 20 per cent of Yemeni society. Persistent poverty and inequality are reflected in human development indicators, which show, in particular, poor levels of literacy and inadequate child health outcomes. This poor human development performance may in fact be even worse in rural Yemen. For example, according to a recent estimate, only 49 per cent of Yemeni farmers are literate (Yemen Country Report (YCR) 2005: 16). The data in Table 6.1 also demonstrate the gendered character of social inequality in Yemen, and thus the fact that there are income and non-income dimensions to inequality in Yemen.

This chapter provides an overview of agriculture and livelihoods in rural Yemen, in order to develop a set of policy proposals designed to ameliorate food insecurity and poverty processes in the countryside. To achieve this objective, the paper begins by reviewing the dynamics of agricultural change in the Yemeni economy. In order to understand the forces underpinning these dynamics, the paper next investigates the character of the demand for the products of Yemeni agriculture. It is argued that domestic demand is an important driver of agrarian transformation, but that there is an inequitable distribution of food entitlements in Yemen in general, and rural Yemen in particular. This analysis is followed by an investigation of the supply side of agricultural production. The analysis that is offered suggests the need to decompose the examination of two particular aspects of agricultural production in rural Yemen: access to land; and access to and control over water. Cumulatively, supply-side analysis demonstrates that changes in the technical coefficients of production during the 1990s have occurred in Yemen, but that these changes were not uniform across rural Yemeni farms. Rather, they could be differentiated, particularly on the basis of relative wealth, which in rural Yemen in the first instance is predicated upon the size of landholding. It is demonstrated that the basis of this differentiation was a redistribution of land in favour of a smaller number of large landholders during the 1990s. Moreover, as redistribution proceeded, government intervention served to concentrate access to water amongst those farm households with relatively larger holdings of land, allowing them to expand their production of higher value crops, which as such contributed to rising income inequality in rural Yemen. In addition, the redistribution of land increased the reliance of small landholders on seasonal and casual wage labour, hired to relatively larger landholders, as part of their livelihood strategy.

The review of the demand and supply dynamics in Yemeni agriculture offered in this Paper highlights the need for a review of the policy framework, in order to introduce a series of measures designed to facilitate a process of agricultural-led development in Yemen. Eight areas of policy development are in particular identified. However, the ability to undertake this review depends critically on the policy environment surrounding economic decision making, and, in particular, the political economy of state and civil society relations. Although outside the main purview of this paper, these issues are briefly noted in conclusion of the Paper.

6.2 Agriculture in Yemen

6.2.1 The Role of Agriculture in the Economy

Approximately 1.5 million households earn their livelihoods in Yemen's rural economy. Of these, 79 per cent have farming or livestock as their principal livelihood activity (FAO 2005a). As a predominantly rural society, Yemeni culture, politics and, most importantly, livelihoods reflect the pivotal role of the agricultural sector. The role of the agricultural sector in the Yemeni economy is demonstrated in Table 6.2, which shows that agriculture generated some 15 per cent of total value added in 2003. Although the share of agriculture in total value added declined over the decade between 1993 and 2003, much of this decline was attributable to the increasing proportion of value added generated by mineral extraction, and thus despite the decline of agriculture in total value added the rural economy continues to be one of the most important components of non-oil value added in Yemen. This importance is reflected in the average annual rate of growth of agricultural value added, which between 1990 and 2002 was an impressive 5.6 per cent per annum (World Bank 2004). Indeed, between 1991 and 2000 agriculture contributed 19.3 per cent of the growth in GDP per annum (World Bank 2002a: 7). Overall, in 2004 agricultural value added per agricultural household was US$1260 (YCR 2005: 14).

Table 6.2: Agriculture in the Yemeni economy

	1993	***2003***
Agricultural value added (% of GDP)	21.4	15
Rate of growth of agricultural value added (%)	4.4	5.9*
Economically active in agriculture (% of total economically active) (**)	60.1	50.4
of which: women (%) (**)	39.9	42.9[36]
men (%) (**)	60.1	57.1

Notes: (*) is 2001; (**) are for 1990 and 2000, respectively.
Source: World Bank World Development Indicators 2004; FAO 2005a.

The importance of agriculture is further reflected in employment, where the sector continues to employ more than half the economically active population, although there has also been, as demonstrated in Table 6.2, a slight shift in the gender composition of the economically active agricultural population between 1993 and 2003, with the sector becoming—somewhat—more 'feminized' over the decade. As a consequence, agriculture provides some part of a livelihood to more than two-thirds of the Yemeni population (FAO 2005a: 2).

Agriculture in rural Yemen is undertaken on some 1.08 million hectares of arable land, in four distinct agro-ecological zones. These zones are described in Table 6.3. The Highland zone which surrounds Sana'a is the principle farming area in the country, with intensive and extensive mixed rain-fed cultivation being undertaken on terraces and in streambeds, called *wadis* that only flow during the rainy period. Agriculture in the Highlands is dominated by cereal and legume cropping, with *qat*,[37]

36. According to a different source, 60 per cent of the agricultural labour force is women (YCR 2005: 16).
37. *Qat* is a mild narcotic-like substance that is chewed daily by most Yemeni adults. It is discussed in more detail below.

coffee, fruit and olives being cropped on terraces, together with vines. However, high levels of investment in terraces are needed for agriculture to work, in order to sustain careful levelling and catchments systems. Despite this, though, yields can be unreliable because of erratic rainfall.

Table 6.3: The spatial distribution of farming in Yemen

	% of cultivated area	*% of farms*
The Highlands	44	61
The Eastern Plateau	26	19
The *Tihâma*	26	10
The Coast	4	10

Source: FAO 2005a.

The *Tihâma* is also an important farming area. Nested within a rain-fed water management system, aquifers fed from the highland *wadis* allow intensive agricultural activity in what is, in essence, largely a coastal plain along the Red Sea. *Qat*, grain, fruit and vegetables are cropped, although yields of grain, which is largely rain-fed, can, at times, be modest. The cropping pattern has historically been adapted to water availability, which has in the past been more limited, and which in turn has often led to speculative planting after flooding or unusual rain run-off. In the past 15 years however capital-intensive mechanized lift-pump irrigated agriculture has been widely introduced in spate irrigated land along the *wadis* of the *Tihâma*, which has, as will be discussed below, brought greater stability to the outcomes of production decisions; the *Tihâma* is now the most productive agriculture area in Yemen. However, as will be seen, this benefit has been bought at a substantial cost, in terms of sustainable water management.

The Eastern Plateau, within the *Hadhramaut*, is also an important farming area, where a number of valleys provide arable land that is largely rain-fed and which produces principally grain. Yields can however be variable, and are in any event low by technical or comparative standards (Barrès 2001). The eastern two-thirds of southern Yemen are all but uninhabitable.

As is clear from this description, land and water shape the process of agricultural production in rural Yemen. In terms of the latter, Yemen is water-poor. Average annual rainfall is 500 to 800 mm in the Highlands and 50 to 100 mm in the *Tihâma* (World Bank 2002a: 18). Overall, the per capita share of recoverable water resources is 137 m^3, compared to a water poverty line of 1000 m^3 (World Bank 2002a: 18). Further, access to water has, because of its impact on productivity and wealth, historically shaped forms of land tenure in rural Yemen, and thus access to land. Crudely, in the Highlands and in the *Tihâma* greater relative land fertility encouraged the accrual of land amongst a group of larger landholders, and the establishment of sharecropping. Mundy (1995) suggests that in this region half the population lives, at least in part, under a set of landlord-tenant relations that could be termed 'peasant'.[38] By way of contrast, in the Eastern Plateau and elsewhere aridity shaped the agricultural system, with a preponderance of smallholder agriculture that possesses some characteristics of a typically 'peasant' society, most notably the partial

38. In Arabic, *ra'aya*.

integration of rural producers into market relationships (Ellis 1993: 13). There is however some residual sharecropping.

6.2.2. Aggregate Supply: Crop Area, Volumes and Shares

Table 6.4 describes the total area allocated to the main crops cultivated in rural Yemen. As is clear in Table 6.4, cereals comprise half the cropped area, *qat* and fodder both comprise 11 per cent of the cropped area, and fruit and vegetables comprise 16 per cent of the total cropped area. In addition to crop production, livestock and fishing provide importance sources of incomes in rural livelihood portfolios. Some 91 per cent of all households involved in agriculture hold some kind of livestock, whether it is cattle, sheep, goats, camels or chickens. Between 2000 and 2003 the average rate of growth of the volume of livestock products—mostly red and white meat, milk and eggs—was some 5 per cent per annum (FAO 2005a), making it amongst the most dynamic sub-sectors of the rural economy.

Table 6.4: The allocation of cultivated land in Yemen, 2004

Total area, %	100
Cereals, %	50
of which: sorghum/millet	35
Wheat	8
Cash crops, %	18
of which: qat	11
Coffee	3
Fodder, %	11
Fruit, %	9
Vegetables, %	7
Pulses, %	5

Source: FAO 2005a

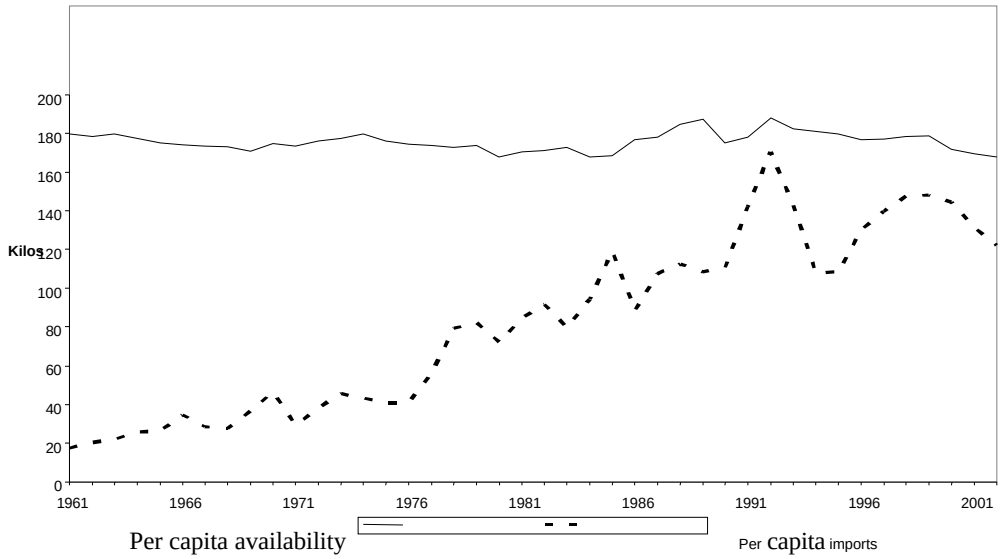
In order to better evaluate trends in food production and food security, Figures 6.1, 6.2 and 6.3 are presented. Together, the figures indicate that important structural shifts are underway in the agricultural sector (World Bank 1999). Figure 6.1 illustrates per capita cereals availability and per capita cereals imports between 1961 and 2002.[39] Given the importance of cereals in diets, Figure 1 provides important evidence about the state of food security in Yemen.

Figure 6.1 demonstrates that the trend in per capita cereal availability in Yemen has been static for more than 40 years. Moreover, in that per capita cereal availability in 2001 was 159 kilos per person, per capita cereal availability is well below that needed to sustain sufficient nutritional levels (YCR 2005: 14). At the same time Figure 6.1 demonstrates that since 1985 there has been a trend decline in per capita cereal availability. This is explained by the fact that between 1985 and 2003 cereal production overall declined by an average rate of 2.4 per cent per annum (YCR 2005: 15). This decline was dominated by drops in sorghum production of 3.5 per cent per year and maize, with a drop of 2.3 per cent per year. Wheat, on the other hand, has

39. The data for before 1990 are for both the former North and the former South Yemen, and have been derived from the data made available by the Food and Agriculture Organization. This appears to be the only consistent agricultural data set for the entirety of Yemen between 1961 and 2002.

grown by 0.9 per cent per annum since 1988 (YCR 2005: 15), and this is significant because the bulk of cereal consumption is now wheat, which accounts for 72 per cent of total consumption.

Figure 6.1: Cereal Supply



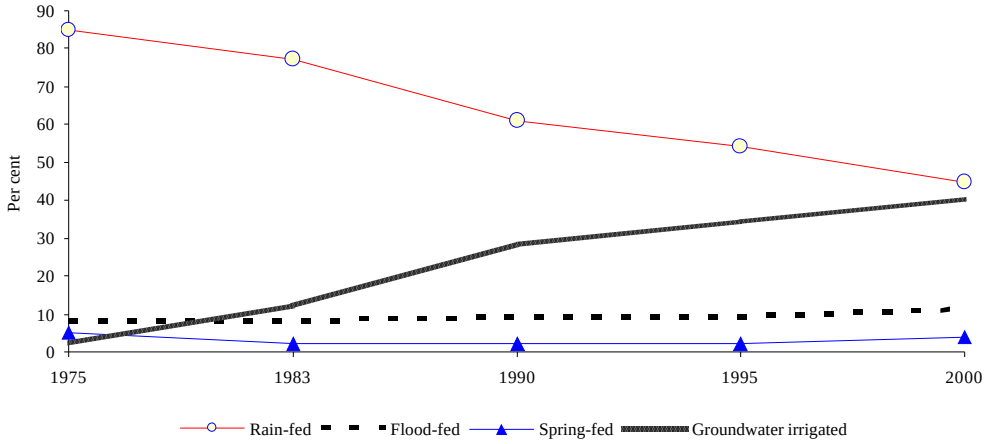
Source: FAO 2005b.

However, it is important to note that per capita cereal availability would not offer an indication of the food security status of households if they sustained their nutrition from a diverse portfolio of foods. This possibility is supported by rural expenditure patterns, which indicate that cereal expenditure currently comprises only 36.4 per cent of total food expenditure (Central Statistical Organization (CSO) 1999). Therefore, it is necessary to evaluate trends in aggregate agricultural production. This will be done in Figures 6.2 and 6.3.

However, one final point can be made regarding Figure 6.1. Over the forty year period depicted in the figure the share of cereal imports in per capita cereal availability has steadily risen. This was particularly the case during the 1980s, when domestic cereal production fell as internal and external household remittances, in particular from labour migration, generated the cash incomes that were required to purchase lower-cost imported grain, which was subsidized by the government, on food markets. This suggests that there may have been some significant shifts in the pattern of rural production over the period. This possibility will be explored in Figures 6.2, 6.3 and 6.4 shortly. Of greater significance here however is the role of imports in sustaining access to cereals, which indicates the extent to which international trade is a critical component of food security strategy in Yemen. Currently, of course, oil balances cushion the macroeconomic impact of cereals imports on the balance of payments and the exchange rate. Figure 6.2 shows trends in the cropped area for cereals, vegetables, and fruit between 1994 and 2003, and for *qat* between 1997 and 2002. The trends in all data series are indexed, and 1997 is set equal to 100. Figure 6.2 should be considered in light of Table 6.4, which showed that cereals remained the most important component of Yemen's cropped area in 2004, and that *qat* was the second most important component. In this context, Figure 6.2 illustrates a remarkably

dramatic decline in the area allocated to cereals, and a corresponding increase in the area allocated to fruit, vegetables and *qat*. The increase in the area allocated to *qat* would be particularly strong, given Table 6.4. The figure also suggests that 1996 may be a point of influence in the data series.

Figure 6.2: Area under Cultivation, 1994-2003



Source: FAO 2005b; CSO various issues.

Figure 6.3 shows trends in the volume of production for cereals, vegetables, and fruit, as well as fish and meat, between 1994 and 2003, and for *qat* between 1997 and 2002. The trends are indexed, with 1997 being set equal to 100. As expected, Figure 6.3 shows the decline in the volume of cereals production over the period. Although, as noted, part of this decline is attributable to imports, part of it is also attributable to the reduced availability of fertilizers and pesticides following the introduction of a structural adjustment programme in the 1990s, as well as the drought between 2001 and 2003.[40] It is also interesting to note that cereals production started to decline in 1998; from the mid-1990s onwards food subsidies were reduced, as part of the adjustment programme, and they ceased entirely in 1999. Figure 6.3 also shows moderate increases in the volume of production of vegetables and *qat*, significant increases in the volume of production of fruit and meat, and a dramatic rise in the volume of fish production.

Figure 6.3 thus reinforces the findings of Figures 6.1 and 6.2. Indeed, it is widely acknowledged (World Bank 2002a) that Yemen now has self-sufficiency in the production of higher-value food products such as fruit and vegetables. Clearly, the rural economy of Yemen is capable of supplying a diverse portfolio of foods, although whether this supply is adequate relative to nutritional requirements remains to be seen. Therefore, in order to establish whether food production in rural Yemen is sufficient to meet the needs of the Yemeni population, it is necessary to evaluate access to nutrition. This can be done, somewhat simplistically, by examining caloric intake per day. The caloric intake benchmark that is used to indicate food security is

40. This decline is illustrated in Figure 8 above.

2100 calories per day. Between 1993 and 1997 per capita consumption per day in Yemen was around 2050 calories (Lofgren and Richards 2003)[41].

Figure 6.3: Agriculture, Fish and Meat Production

Source: FAO 2005b; CSO various issues.

In 2001 that figure had declined to 2022 (FAO 2005a: 4). This, along with per capita cereal availability displayed in Figure 6.1, shows that the caloric intake benchmark is still not being fulfilled on a per capita basis in Yemen. This suggests two possible, interrelated, points. The first point is that there is significant variation in individual access to food. In other words, some Yemenis obtain substantially more than 2100 calories per day, while many Yemenis obtain much less than 2100 calories per day. The second point is that the distribution of access to food may be a key reason why many Yemenis have questionable food security status. In other words, it can be suggested that there is an inequitable distribution of food entitlements in Yemen. This suggestion is reinforced by survey data, which suggests that 22 per cent of rural Yemenis fail to have an evening meal at least once a week (CSO 1999).

Figure 6.4 displays the distribution of the shares of the total value of cereals, vegetables, fruit and *qat* between 1997 and 2002. Figure 6.4 contains some interesting observations about trends in Yemeni agriculture. The first, curious point, is that despite the decline in the area and volume of cereals production illustrated in Figures 6.1, 6.2 and 6.3, the share of total agricultural output attributable to cereals remained relatively static over the 5 year period. This suggests that falling volumes may have been offset by rising prices, which in part were a function of rising wheat prices in world markets at the end of the 1990s and which were also in part a function of the termination of food subsidies, both of which were in turn were transmitted into local wheat markets.[42] Rising prices did not however facilitate a supply response in wheat. Second, despite the rising area and volume attributable to vegetables illustrated in Figures 6.2 and 6.3 the share of total agricultural output accounted for by vegetables has remained relatively static. This suggests that increasing volumes have been offset by falling prices. Third, despite the rising area and moderately increasing volume attributable to *qat* illustrated in Figures 6.2 and 6.3 the share of total agricultural

41. It is worth noting, though, that Al -Ghory (2004) suggests that per capita calorie intake in Yemen in the late 1990s was only 1700 per day.
42. This is demonstrated in Figure 6 below.

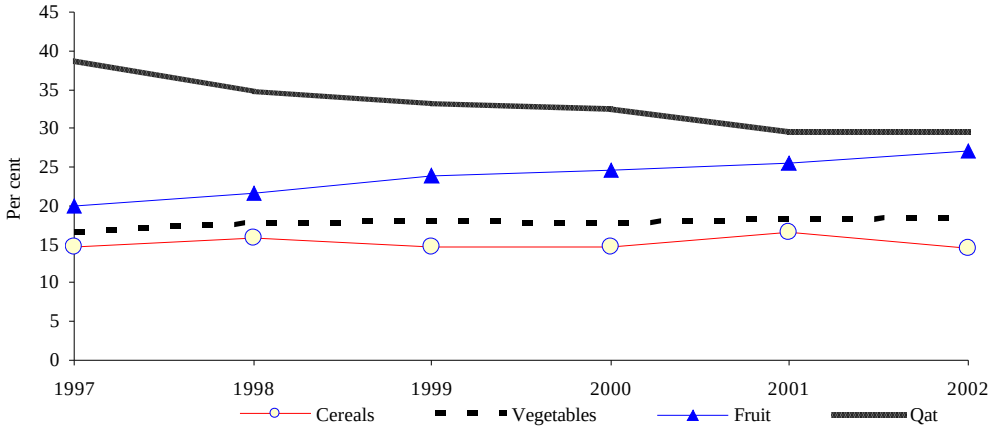
output accounted for by *qat* has, contrary to popular perception, apparently fallen. Again, this suggests that increasing volumes have been more than offset by falling prices. Finally, Figure 6.4 suggests that fruit is the only important agricultural output where rising area and volumes have been accompanied by an increasing share in total agricultural output. Thus, aggregate citrus production increased 20 per cent per year between 1991 and 2003, while banana production has grown by 5 per cent per year over the same period (YCR 2005: 15).

It is worth spending a moment to discuss some of the characteristics of *qat*, because of its importance in Yemeni culture and agricultural production. By some estimates, *qat* produced 28.7 per cent of agricultural value added in 2001, employed 24 per cent of the agricultural labour force, produced a tenth of total household income, and consumes 30 per cent of all irrigation water (World Bank 2002a: 18; YCR 2005: 16). There are both supply and demand factors that explain the growth of *qat* production in the 1990s. On the demand side, *qat* was, in the 1990s, possibly the biggest component of household cash expenditure (Al-Ghory 2004: Table 4.31), and thus an expansion of on-farm production of *qat* allowed scarce household cash to be reallocated towards other commodities. At the same time, *qat*, as a cash crop, generates cash income that allows producing households that are increasingly integrated into product markets to purchase commodities that are not produced on the farm itself. On the supply side, *qat* is lucrative. Granted, most *qat* production is intensive in the use of purchased inputs, particularly water, fertilizer and pesticide.[43] However, it appears to have both a lower labour demand than alternative crops and is, moreover, drought resistant. Coupled to this, *qat* offers greater output stability—and thus potential income stability—because *qat* yields are less variable than that of fruit (Mundy 1995). In this light, it is not surprising that crop budget data from field surveys suggest that *qat* is far more profitable than competing crops, even when the opportunity cost of the family labour used in *qat* production is taken into account (Al-Ghory 2004: Table 4.30a). In part, this may be because of ongoing trade restrictions on *qat*, which facilitates the sustenance of inefficient marketing systems that result, in some areas, in more than half of the final retail price to going to the farmer (Al-Ghory 2004: Table 4.25).

Indeed, as a consequence of these factors *qat* income in some areas approximates the income generated from external remittances, meaning that as remittance incomes fell in the early 1990s an expansion of the cropped area devoted to *qat* became a rational response to the need to sustain incomes. This in turn helps explain why in many areas *qat* replaced grain. In short, *qat* is, within the context of the economic environment within which they operate, the most logical crop choice for many farmers, demonstrating, *inter alia*, the rationality of rural Yemeni production decisions and moreover the responsiveness of farmers to market signals. Indeed, *qat*, as the most important cash crop for the domestic market, plays an important role in sustaining demand in the rural economy.

43. Some strains of *qat*, and, in particular, some that are farmed in the Highlands, are less water-intensive.

Figure 6.4: Distribution of Shares of total Value of Agricultural Crops



Source: CSO various issues.

Two last, interrelated, non-economic points should be made about *qat*, and these have to do with its impact on rural society. The first point is that *qat* is a 'male' crop, being associated with male labour and male-controlled incomes (Mundy 1995). The expansion of *qat* production in the 1990s reinforced this social relationship, as less lucrative crops became increasingly associated with female labour, reinforcing gender-differentiated access to cash flows. The second, related, point is that the relatively higher farm profits generated by *qat* to an extent protected households from being exposed to the full impact of the rural restructuring observed in Yemen in the 1990s, which has been discussed above in relation to Figures 6.2, 6.3 and 6.4, and which will be discussed below in relation to land, water and labour.

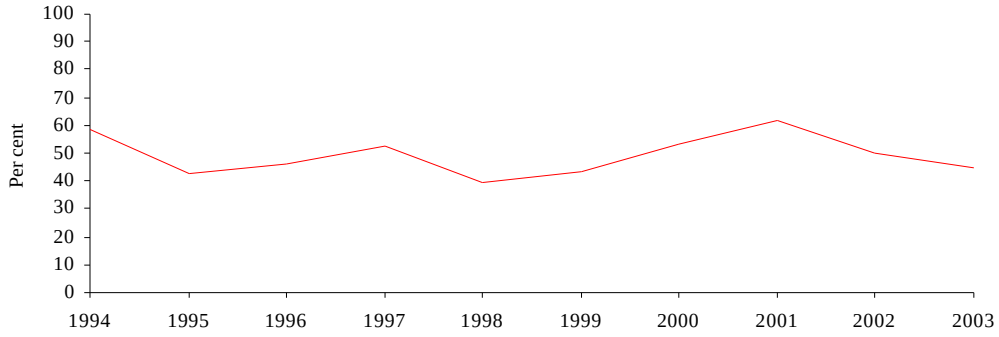
6.2.3 Aggregate Demand: External and Internal Drivers of Change?

Figures 6.2, 6.3 and 6.4 indicate that important shifts are underway in Yemeni agriculture. These shifts may reflect the emergence of trends on the demand side, which therefore needs to be examined in more detail. An important issue in evaluating trends in aggregate demand in rural Yemen is the extent to which Yemeni agriculture is 'market driven', in the sense that rural producers respond actively to market signals. This in turn has two components: the external market; and the internal market. Both are examined in turn.

Before reviewing trends in external demand for Yemen's agricultural products, however, it is worth indicating in the late 1990s, as part of a structural adjustment programme, Yemen underwent extensive external trade liberalization, which lifted import restrictions that had produced protected domestic prices (World Bank 2002a). Trade liberalization has, of course, expanded the use of food markets, and more generally expanded the use of market signals in Yemeni agriculture. Nonetheless, it is apparent that trade liberalization has favoured bigger farmers, in the sense of those farmers holding larger quantities of land and producing higher value crops (YCR 2005). By way of contrast, smallholders have seen a rise in food imports, which has undercut their production, with the exception of *qat*, for which import restrictions remain. Thus, trade liberalization has not been distributionally neutral in rural Yemen.

Figure 6.5 presents data on the share of food exports in total non-oil exports, and shows a basically static trend in the share of food exports in total non-oil exports. This Figure would be declining if fish exports, which are particularly dynamic, were removed from it. The static share of food exports can be attributed to three principal causes. The first cause is the fact that 76 per cent of the agricultural holdings have, as their primary purpose of production, self-consumption of their farm output. Only 24 per cent of farm holdings are principally engaged in production for rural product markets. This is not to say that Yemeni farmers are not integrated into markets, or that they do not respond to market signals; the case of *qat* noted above and the impact of trade liberalization show the fallacy of this perspective. Rather, it is to say that a significant share of Yemeni agriculture remains subsistence-oriented. The second cause is underdeveloped market infrastructure, which results both in significant post-harvest losses and an underdevelopment of exports, in that poor harvesting techniques, poor storage facilities, and poor transport infrastructure all result in a lack of adequate quality-control mechanisms (FAO 2005a). Underdeveloped market infrastructure also acts as a barrier to entry in trading activities, which reinforces the economic position of those that are already engaged in the distributive trades. The third reason, which is related to the second, is that regional export markets are extremely competitive, and in that competitive environment poor quality exports fail to improve market shares.

Figure 6.5: Food Exports as a Share of Non-oil Exports

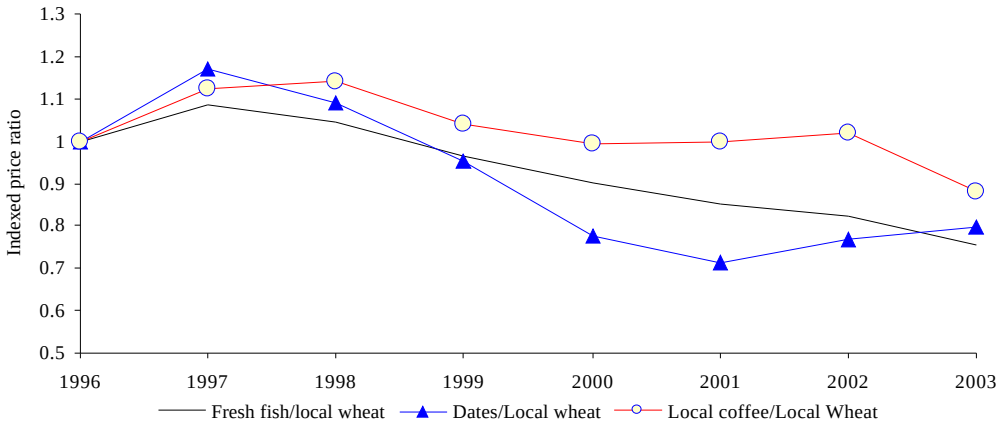


Source: FAO 2005b; CSO various issues.

In that external demand was not driving the process of structural transformation in the rural economy that can be witnessed in the 1990s, it is possible that internal demand has changed. However, it is not clear whether this is the case. For a start, as noted above, only 24 per cent of farm households are principally engaged in production for rural product markets and, of these, only 4 per cent produce exclusively for the market. Thus, market-oriented production is still not the norm in rural Yemen, despite a long-standing history of integration into market relations in Yemen. Secondly, there has been an intra-sectoral relative price shift that is illustrated in Figure 6.6, where the rate of growth of dates, fish and coffee prices are expressed as a ratio of the rate of growth of the price of wheat. The data is only for Sana'a, but results from other cities around the country generate similar results. The result is quite dramatic: a secular decline in the relative price ratio starting in 1997, indicating that wheat, a food staple, is becoming more expensive relative to higher value agricultural products such as dates, fish and coffee, which would be expected to be produced for sale on the market.

As noted, food subsidies began to be dismantled in the latter part of the 1990s, terminating in 1999, and this is illustrated by the rising relative price of wheat in 1998. Also, increased international wheat prices at the end of the 1990s will have had a major impact on this trend, and this is in particular demonstrated in the latter half of Figure 6. It should however be noted that since 2000 food prices in Yemen have been growing faster than international prices when measured in the same currency, indicating that domestic factors are now driving food price increases. The ongoing increase in the relative price of wheat since then could be due to the monopoly practices of wholesale food import merchants, who have seen, if anything, their economic position strengthened since the start of the adjustment programme in the 1990s. Cumulatively, rising international prices, the elimination of food subsidies, and the continuing power of food importers has probably made the increased cost of essential food purchases a particular burden on the poor, and in so doing has contributed to a reduction in food security in rural Yemen.

Figure 6.6: Relative Agricultural Prices in Sana'a



Source: CSO various issues.

What is of interest to note, however, from the standpoint of the process of structural transformation in the rural economy is that if these shifts in relative prices are indicative they have not brought about the expected supply response: there has been, as illustrated in Figure 6.2 and 6.3 no corresponding increase in cereals production and no corresponding decrease in fruit production.[44] Part of the reason that shifting relative prices has not apparently brought about a reallocation of resources is because of the role of farm production for self-utilization in rural Yemeni livelihood portfolios. However, a second reason why shifting relative prices of agricultural products has not brought about a reallocation of resources may be because of shifts in the intersectoral terms of trade against agriculture during the course of the 1990s, particularly as a result of the successive devaluations that have resulted in a rapid increase in the price of imported goods (World Bank 1999). Whether there has been a shift in the terms of trade against agriculture is, however, contentious. A widely cited European Union study (World Bank 1999) offered unambiguous evidence that a shift in the intersectoral terms of trade has occurred, which suggested that a form of 'urban bias' may have emerged in Yemen, which will have reinforced the tendency amongst

44. It is admitted that a possible explanation for this is that the categories used in Figures 2 and 3 do not correspond to the categories used in Figure 6, and thus Figure 6 has no bearing on Figures 2 and 3.

rural Yemeni farmers to produce for their own use and not for the market. This will, it is argued, have combined with asymmetrical information between farmers and traders and poor market infrastructure to restrict the degree of integration of markets in rural Yemen, and in so doing further reinforced the subsistence production orientation of Yemeni farmers.

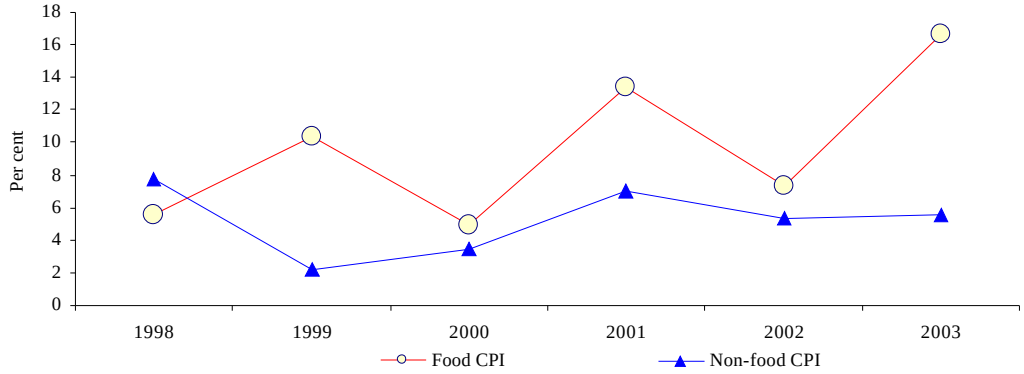
However, some observers question whether there has in fact been a shift in the inter-sectoral terms of trade. Figure 6.7 shows movements of the food and non-food components of the consumer price index, which could be used as a crude approximation of the relative purchasing power of the agricultural and the non-agricultural sectors of the economy. Figure 6.7 shows that since 2000 the non-food component of the consumer price index has been relatively stable. It also shows the high degree of volatility of food prices, which indicates that weather-related supply shocks emanating from agriculture may play an important part in food price inflation. Finally, and most importantly, the Figure shows that food price inflation appears to be accelerating over time. Rising food prices relative to stable non-food prices thus appear not only to be the main force underpinning inflation in Yemen in recent years, but also to suggest that there may have been a shift in the inter-sectoral terms of trade, to the benefit of the rural economy.

However, despite the evidence of Figures 6.5 and 6.6, there are still good reasons to believe that internal demand has driven structural transformation in Yemeni agriculture (World Bank 1999). The rural Yemeni economy is now, in the wake of internal and external remittance flows in the 1980s, heavily monetized. Cropping decisions therefore now reflect the need to produce for subsistence and the need to generate maximum profit per unit of land for marketed crops.

Indeed, the widespread extent of food insecurity reinforces the need of farmers to maximize cash profits per unit of land from marketed crops so that they can enter food markets from a stronger position. This, together with the status of the crop in Yemeni culture, explains the increase in *qat* production, in that, as already noted, *qat* generates the highest profit per unit of land (Al-Ghory 2004). The rapid rise of fruit and vegetable production is also based upon its relative profitability per unit of land, which can, in some circumstances, approach that of *qat.* Thus, the orientation of cropping patterns of marketed crops towards profit per unit of land, in the context of declines in internal and external remittances, food insecurity, and the need for cash in the rural economy, clearly suggests supply-responsiveness on the part of Yemeni farmers.

In this light, the lack of a response to the increase in the relative price of wheat displayed in Figure 6.6 is not indicative of a lack of internal demand; rather, it is indicative of a lack of market integration, which is, in turn, a function of incomplete markets predicated upon asymmetrical information, underdeveloped marketing systems, barriers to entry that reinforce monopoly rents in the distributive services sector, and poor infrastructure. Policies to support these institutional deficiencies in the Yemeni rural economy might foster a supply response.

Figure 6.7: Inflation Rates in the Food and Non-Food Components of CPI



Notes: Both Indices exclude Qat and Tobacco. Qat and Tobacco price index increased by 90 per cent during 2000-2003, showing the highest increase in all CPI components. Source: CSO, electronic file.

A caveat to this argument is however in order. Rural Yemeni production of relatively higher value crops like *qat*, fruits and vegetables may be demand-driven; but the state of food security in Yemen suggests that the market for higher value crops may be segmented by income, with poorer, more food insecure households being far less likely to be able to purchase higher value crops than richer food secure households. Indeed, decomposing household expenditure demonstrates that relatively richer households in both rural Yemen and Yemen as a whole are likely to spend a larger proportion of their income on *qat* and on meat than relatively poorer households (CSO 1999). Thus, as previously suggested, there is an inequitable distribution of food entitlements in Yemen.

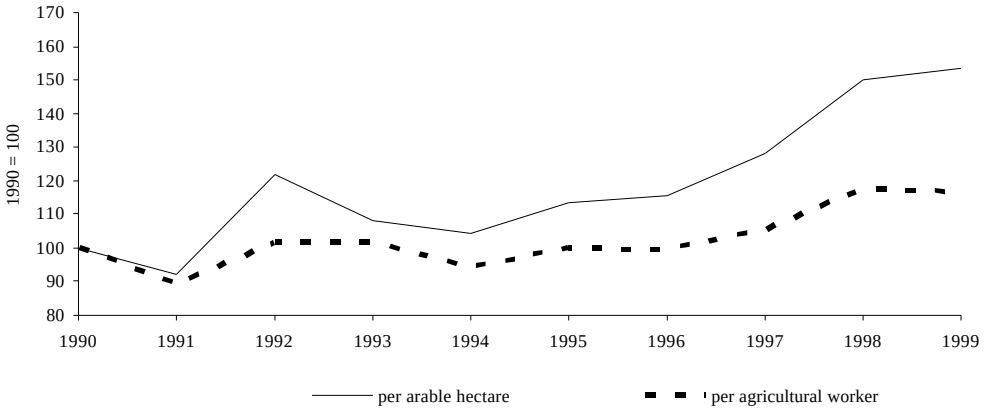
In any event, if the preceding argument is correct, it is clear that farm decision-making in response to domestic demand is a function of the productive capabilities of farms. Therefore, it is necessary to decompose the changes on the supply side of the rural economy that were explored above. This is done in the following section.

6.2.4 Decomposing Supply: The Productivity Record

A starting point in decomposing supply side changes in rural Yemen is a consideration of the overall productivity record of Yemeni agriculture. Figure 6.8 provides evidence on real value added generated in agriculture per hectare and per agricultural worker. The data includes fish and meat production, which, as have been seen, have been quite dynamic. Unfortunately, the series only runs between 1990 and 1999, when, as already noted, agricultural growth was solid, but the series is nonetheless clear enough to allow two trends to be established.

The first trend demonstrated in Figure 6.8 is that there was only a moderate increase in constant value added per rural worker between 1990 and 1999. Granted, cereals, which are more labour-intensive, had yield increases of 1.5 per cent per annum between 1985 and 2003 (YCR 2005: 15). However, the variability of cereal yields, when decomposed by crop, has already been noted, and it is well demonstrated that yields for several crops, including wheat, are low when compared to their technical potential and when compared to other, similar, economies, in part (Barrès 2001).

Figure 6.8: Constant Agricultural value-added (1995 US$)



Source: World Bank 2004.

Important sources of rural growth in value terms have been, as has already been noted, fruit, meat and fish production. However, these three rural outputs are not labour-intensive. Yields below technical potential, in the case of cereals, and a lack of labour-absorption, in the case of fruit, *qat*, meat and fish production, in light of the fact that the current fertility rate per woman is 6.2 (YCR 2005), would suggest that the rate of growth of the rural population is outpacing the capacity of the rural economy to provide employment opportunities for an expanding population, suggesting that, in turn, there may be significant un- and under-employment in rural Yemen. This suggestion is reinforced by household surveys, which suggest that 16 per cent of rural household heads are economically inactive or unemployed and that 37 per cent of rural household heads are engaged in only temporary, seasonal or casual work (CSO 1999). Granted, it is the case that internal and external migration had the effect of increasing rural wages, reducing the rural male labour force, and encouraging the feminization of agriculture, but the opportunities for migration have been dramatically curtailed in the last 15 years. Clearly, there are significant problems of labour absorption in the rural Yemeni economy, and these are reflected in rural productivity.

The second trend indicated in Figure 6.8 is the significant increase in productivity per hectare over the period from 1990 to 1999. This increase is a clear reflection of changes in the composition of the crop mix illustrated in Figures 6.2, 6.3 and 6.4. It also suggests, however, that, in addition to changes in the crop mix, and in light of both the rather limited improvement in labour productivity and the limited capacity to expand the arable frontier, given water constraints, there may have been increases in higher-yielding non-labour farm inputs, and thus a relative intensification of agricultural production during the 1990s. In order to assess this, Table 6.5 is presented, which illustrates some of the dimensions of non-labour agricultural inputs in Yemen between 1985 and 2000.

Table 6.5 shows that over 15 years there was a marked decline in arable land per capita, a marked increase in the proportion of irrigated land, and at best a minimal change in the use of fertilizer and farm machinery.

Table 6.5: Non-labour agricultural inputs in Yemen

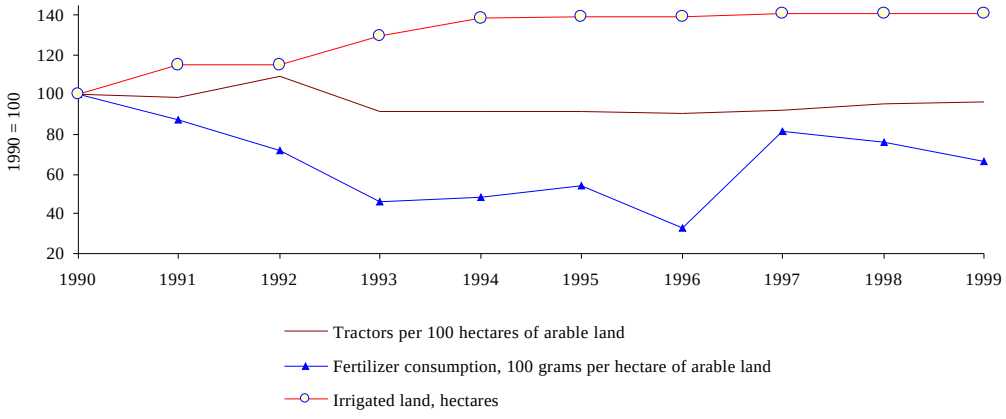
	1985	1990	1995	2000
Arable land per person, hectares	0.14	0.13	0.11	0.09
Irrigated land, % of cropland	21	21	28	30
Fertilizer consumption, metric tons	18700	22459	13100	18800
Number of farm tractors	5600	5937	5800	n/a

Note: n/a is not available
Source: World Bank 2004

The tightening of the land constraint indicated in Table 6.5, which reflects the increase in the rural population, may be partially responsible for the increase in rural productivity per unit of land, as farm households that work the land that they hold would have to do so more intensively. However, it is likely that a more significant factor in the increase in rural productivity per unit of land is the increase in irrigated area, in that the correlation between regular, well-timed and adequate quantities of water and farm productivity improvements are well-established—water is, in the formulation of James Boyce (1987), the leading input in fostering increased agrarian productivity. This suggestion is reinforced by Figure 6.9, which displays an index of agricultural input growth between 1990 and 1999. The figure shows that tractor use per hundred hectares of arable land was broadly static, that fertilizer use per hectare of arable land broadly declined over the period, but that the amount of land irrigated grew, most particularly between 1990 and 1994. Thus, during the 1990s more water became available for Yemeni agriculture, the crop mix changed in favour of more water-intensive higher value crops such as fruit and certain strains of *qat* as farm households sought to maximize profits per unit of land from marketable crops, and this resulted in a marked increase in productivity per unit of land.

The analysis of demand responsiveness and decision making, aggregate supply and agrarian productivity together suggest that three strategic issues are of central importance in understanding agricultural production and performance in Yemen: the conditions under which the limited land that is available is acquired and used; the conditions under which labour is allocated to household, farm and non-farm activities and the conditions under which water is acquired and used. These are examined next.

Figure 6.9: Agricultural Input Growth



Source: World Bank 2004.

6.2.5 Decomposing Supply: Land and Labour

The key unit of rural production in Yemen is the farm household, within which labour resources are allocated for household production, farm work, and off-farm work, in conjunction with asset stocks and available working capital. In making these allocations, rural Yemeni households adhere to a gender-differentiated division of labour within all three activities. Thus, women have always worked in farming, but with a gender division of labour.

As late as the early 1970s agricultural production in Yemen used age-old tools including the hoe, scratch ploughs, limited draft power, and household labour, with certain tasks, such as harvesting and threshing being done entirely by hand, thus rendering labour the most important farm input (Mundy 1995). Household production was, as previously noted, principally for subsistence. Drought-resistant grains were the predominant crop, providing food, fibre, fuel and fodder, while limited quantities of cash crops were grown for highly localized markets.

As has already been stressed, however, in the late 1980s and through the 1990s agriculture began a process of modernization: modern machinery and equipment began to be introduced on some farms, particularly in the form of lift-pump irrigation and tractors; these contributed to a shift, depending upon the crop, towards less labour intensive technical coefficients of production on some farms. The use of chemical fertilizers and pesticides also expanded on some farms, depending upon the crop, which also contributed towards less labour intensive technical coefficients of production on some farms. Currently, there are 2.5 permanent agricultural workers per hectare in Yemen (YCR 2005: 16). During peak periods this labour force may be supplemented by the short-term hire of wage labour, which is now more widespread than it was in the 1970s, and which is supplied by underemployed farm households or rural non-farm households. Thus, a key difference between relatively poorer rural households and relatively richer rural households is that the latter are more likely to rely upon seasonal or casual employment as part of their livelihood portfolio, or be inactive in non-household production, relative to the former (CSO 1999). Therefore, there has emerged, amongst those farms that have shifted towards less family-labour intensive technical coefficients of production, more complex divisions of labour than the sequential labour demand that typified Yemeni agriculture up to the late 1970s (Mundy 1995). Finally, farmers became, to a larger degree than is generally recognized, further integrated into markets, particular with regard to the production of *qat*.

The average size of operational holding in Yemen in 2002 was 1.36 hectares. However, the average holding size decreased by 28.5 per cent between 1993 and 2000 (Al-Ghory 2004). Therefore, in order to explore trends in the distribution of land over the 1990s, Table 6.6 presents data on the distribution of landholding and the distribution of landholding area between 1991 and 2001. Landholding is defined as land that is owned or accessed through a non-ownership tenure arrangement such as sharecropping or rental. It should be stressed that many farms in rural Yemen combine ownership and non-ownership tenure arrangements. Table 6.6 clearly demonstrates that between 1991 and 2001 the number of very small holders of land, defined as those holding less than 0.5 hectares, increased significantly, at the expense

of all other classes of land size. However, the distribution of the holding area controlled by those landholders altered in more complex ways, with landholders holding less than 2 hectares or more than 20 hectares seeing their area of holding increasing, while those holding between 2 and 20 hectares saw their holding decreasing. In order to clarify this complexity, the final column in Table 6.6 presents the elasticity of landholding area with respect to number of landholders. Given the nature of the calculation, the sign of the value is less important than its absolute value. In this light, the findings are quite dramatic. Amongst those households holding less than 5 hectares, there have been small changes in the elasticity of landholding area with respect to number of landholders.

However, amongst those holdings of 20 or more hectares, while the number of landholders declined, the landholding area increased, and quite dramatically. The data therefore demonstrates a redistribution of land from small and mid-sized farms towards larger landholders. In other words, landholding per farm is becoming more unequal. This apparent tendency towards the rural differentiation of access to landholding is reinforced by data on land ownership, because this displays even greater differentiation than that offered by data on landholdings. Thus, according to data from the Friedrich Ebert Stiftung (2002), households that owned less than 2 hectares of land owned 20 per cent of all owned land, households that owned between 2 and 5 hectares of land owned 24 per cent of all owned land, and households that owned 5 hectares or more own 56 per cent of all owned land. The evidence of inequality between the distribution of landholdings and land ownership suggests that for some households a reallocation of land is taking place amongst farm households. If so, they are using, to perhaps a greater extent than is commonly acknowledged, a land market, whether it be for purchase or for some kind of lease. In this light, it can be noted that operational holdings are fragmented into, on average, 3.6 parcels per farm, and that fragmentation can facilitate processes of redistribution of landholdings and land ownership as access to assets becomes more stratified.

Table 6.6: Distribution of landholding and landholding area, 1991-2001

	1991		2001		Change, 1991-2001		
Land size class (hectares)	*Holders (% of total)*	*Holding area (% of total)*	*Holders (% of total)*	*Holding area (% of total)*	*Holders (% of total)*	*Holding area (% of total)*	*Elasticity of area with respect to holding*
Less than 0.5	37	4.3	56.7	7.6	19.7	3.3	0.2
0.5 to less than 2	34.7	15.8	28	19.8	-6.7	4	-0.6
2 to less than 5	16.9	23.5	10	21.1	-6.9	-2.4	0.3
5 to less than 20	10.6	42	4.6	29.1	-6	-12.9	2.2
20 or more	0.9	14.4	0.7	22.5	-0.2	8.1	-40.5

Source: Arab Organization for Agricultural Development 2005; Ghimire, 2001.

This apparent inequality in access to landholdings is intimately connected with rural poverty and food insecurity in Yemen. In large part, this is because the holding of land in rural Yemen is a good indicator of the wealth status of a household (FAO 2004: 33). Thus, as in demonstrated in Table 6.7, there is a positive correlation between size of landholding and food security, a finding that is particularly strong for what will be described momentarily as 'private' land (FAO 2004: 34-5). Clearly,

larger plots of land make rural households less vulnerable.[45] Cumulatively, the evidence suggests that the terms and conditions governing land tenure arrangements appear to be a significant issue in rural Yemen, an issue that is but reinforced by the fragility of the land based and the associated declines in soil fertility that have been estimated.

Table 6.7: Land availability and food insecurity

Size of land utilized	*Percentage of food insecure households*
Landless	23.0
< 1000 m^2	22.4
< 4000 m^2	20.8
< 10000 m^2	18.2
>= 1000 m^2	16.1

Source: Food and Agriculture Organization 2004, Table 3.6

Land in Yemen may be privately owned (*mulk*); it may be owned by the state; or it may be endowed trust land, called *wakf*. In the northern governorates of the Highlands and the *Tihâma*, private land accounts for 85 per cent of all land, state land accounts for 2 to 3 per cent of all land, and trust land accounts for 12 to 13 per cent of all land. Yemeni property rights are culturally constructed by individuals, who work together in households to establish or contribute towards a claim on private, trust or collective property, whether by ownership or be lease, under an ethos that is egalitarian yet competitive. Households that are capable of making a claim to land, and as a consequence a claim to water, form the boundaries of a rural community, while those who are unable to make a claim to land fall outside the boundaries of a rural community (Mundy 1995). For this reason, then, while farmers will do their utmost to avoid losing claims to land, if they do indeed lose that claim they become more likely to exit farming altogether because they become removed from the rural community.

The dominant form of land tenure in Yemen is now, following the return of collectivized land in the former South Yemen to its former owners in the wake of unification, owner operated holdings, accounting for some 75 per cent of the total arable area. However, titles to privately-owned land are commonly not written, there has been no cadastre, and thus legal titles are enforced through social institutions

45. It may be the case that in rural Yemen food insecurity and poverty appear to 'identify different aspects of household needs and deprivation' (FAO 2004: 27). The basis for this claim is the finding that there appears to be a negative correlation between poverty and food insecurity in the country as a whole. In part, this is because of a shift in employment: non-agricultural households tend to be more food insecure. Associated with this is the finding that in the rural economy more food insecure households appear to have smaller landholdings, to rely more heavily on leased and what will be defined momentarily as *wakf* land, and own smaller numbers of livestock and poultry. However, the suggestion that smaller farms that rely more heavily on leasing land under less secure tenurial conditions might be pushed into, in particular, non-farm diversification and might, as a consequence, witness diminished food security, is incorrect. Less food insecure rural households tend to have a principal job outside farming *per se*, suggesting that a more accurate way of describing the processes underpinning rural food insecurity would be that smaller farms that rely more heavily on leasing land under less secure tenurial conditions may, as a consequence, migrate to urban areas. If they do so, it would appear that they are more likely to be food insecure than those in a similar structural position that remain in the rural areas, retain their plots of land, but which, as a principal livelihood strategy, diversify into non-farm activities (FAO 2004: 108-109).

operating within the Islamic legal framework, *fiqh*. There is, however, a registry of state-owned land, while *waqf* trust land is administered through a government Ministry. In the Highlands and in the *Tihâma*, access to rain-fed or irrigated land meant that its fertility was relatively higher than in other parts of the country, which in turn encouraged the accumulation of private land amongst relatively bigger landholders. By way of contrast, in upper Yemen the aridity of the climate shaped the agricultural system, with smallholder owner-operated agriculture being the norm.

As opposed to ownership, there is also widespread land rental in rural Yemen. The principal reasons for land rental are the fragmentation of holdings, and the resulting diseconomies of scale that result, and migration, which can generate labour shortages on some farms (Al-Ghory 2004). Flat-rate cash-based land rental remains comparatively rare in rural Yemen (Mundy 1995). As a consequence, sharecropping accounts for around 12 per cent of the total arable area.[46] The terms of sharecropping contracts are complex, in that many mid-sized and larger farms use sharecropping contracts to expand their cultivable area and reduce the diseconomies of fragmentation, and the terms and conditions of sharecropping contracts differ between those who have relatively larger landholdings and those who have relatively smaller landholdings. There are also differences in contracts depending on whether the land is rain-fed or irrigated, which in turn means that there are pronounced regional differences in sharecropping contracts.

Sharecropping is particularly found in irrigated areas, and thus is widespread in the *Tihâma*, and is also not uncommon in the Highlands. It is however also found in upper Yemen, where land that was restored to former owners in the early 1990s led to a return of a residual degree of sharecropping.

For those who have relatively larger landholdings, sharecropping contracts are predicated on the proposition that the sharecropper has some capital, which is used as a down payment, is used to improve the land, or is used to bear working capital costs. The implication of this requirement means that sharecroppers are highly unlikely to be small owner-operators; rather, the sharecropper is more likely to already be a mid-size or large owner-operator (Mundy 1995: 68). The resource-bias implicit in this type of contract is reinforced by the fact that contracts are commonly long-term. In the rain-fed areas of the Highlands the tenant retains 50 per cent of the yield of the land net of the costs of production plus any fodder crops and crop residues that remain.

By way of contrast, in the *Tihâma*, where, as already noted, sharecropping remains the most widespread, if the sharecropper does not have capital a contract may still be obtained. However, the terms of these contracts can be quite onerous. When the landlord provides water the share accruing to the tenant is 33 per cent of the yield of the land net of *zakat*, a religious tithe on annual production. If the landlord obtains the water from a third party, the third party gets between 33 and 50 per cent of the yield net of *zakat*. With non-water production costs often being borne by the sharecropper, this means that the sharecropper will commonly retain only a fifth of the return on irrigated land (Mundy 1995: 69).

46. Anthropological evidence and field observations strongly suggest that this may be an understatement.

As the preceding makes clear, a land market in rural Yemen is active, especially with regard to sharecropping leases because farmers will do the most they can to avoid selling their principal non-labour asset, their land. However, despite extensive land transactions state intervention in land markets has not been common since unification. This includes the regulatory framework, which is by and large absent. As a consequence, as with privately owned land formal mechanisms to enforce claims on leased land are lacking, although leasing, gifting and the inheritance of land are regulated through *fiqh*.

The land market has played an important role in the ongoing process of agrarian transformation that commenced in the 1990s, and most particularly the changing distribution of land, for two reasons interconnected reasons. The first reason is that with the increase in the need for farm-generated cash incomes that arose with the fall in internal and external remittances in the early 1990s households recommenced cultivating land that they had leased out. They were able to do this because the terms and conditions of sharecropping contracts allowed land owners to reclaim cultivation rights from sharecroppers working their land. This had the effect of altering the distribution of landholdings. Secondly, with the expansion of mechanization in the 1990s, and particularly lift-pump irrigation, those farmers that were able to alter their technical coefficients of production and increase the water-intensity of their production sought to expand their use of sharecropping in order to irrigate a larger catchment area, and thus obtain scale economies from their investment in mechanization.

The reason that they did this was because water rights follow land rights in Yemen, and thus increased access to water rights required increased access to land, a situation that could be satisfied by relatively wealthier rural households entering into sharecropping contracts with mid-sized and small owner-operators to expand their arable area (Mundy 1995). In this way, land markets facilitated a changing distribution of land, and in particular size of landholdings, as those with capital took advantage of resource-biased technology to alter cropping patterns in favour of higher value crops such as *qat*, fruit and vegetables, and increase their rate of income accumulation. Thus, there is a clear difference in the cropping pattern of rural households when arrayed by the relative wealth of the household (CSO 1999). Relatively richer rural households are more than twice as likely to grow *qat*, coffee, fruit, and vegetables when compared to relatively poorer households, who are more likely to grow sorghum, maize, and clover.

In this light, changing access to land in the 1990s can be thought to have an impact on rural food security, poverty and inequality processes. It has been demonstrated that small leaseholders, farms in low rainfall areas, and farms with small numbers of livestock are more likely to be food insecure (FAO 2005a). Differential technical coefficients of production and differential cropping patterns suggest that the relative rate of growth of rural income may differ in important ways between those who are relatively rich and those who are relatively poor, to the benefit of the former, and with the implication that rural inequality would be increasing.

Finally, small landholders have a greater propensity to rely upon seasonal and casual labour as a component of their livelihood portfolio, and the irregularity of this employment, along with the high proportion of households that are economically inactive in non-household production, suggests that changes in land distribution have

contributed to rural poverty in Yemen. In this light, the three key characteristics of Yemeni agriculture that need to evaluated from a policy perspective are the preponderance of small landholdings, the possible disincentives arising out of sharecropping for those who lack capital, and the irregularity of rural employment for those that rely upon it as a key component of their livelihood portfolio. These factors are, of course, interrelated, in that they may restrict productivity increases amongst small landholders, and in so doing contribute to food insecurity and poverty processes. Moreover, the obverse of these factors can help to partially explain the increase in constant value added per unit of land—a redistribution of land in favour of a smaller number of large landholders, the ability for those who have capital to increase their access to land through the use of sharecropping, and the availability of labour to hire as and when needed on relatively larger landholdings. However, this is not the complete explanation, for it does not include a principle reason for the shift in the technical coefficients of production amongst relatively larger landholders, and thus the increase in value added on their land. That reason, of course, is the provision of water, which is explored in the next section.

6.2.6 Decomposing Supply: Water

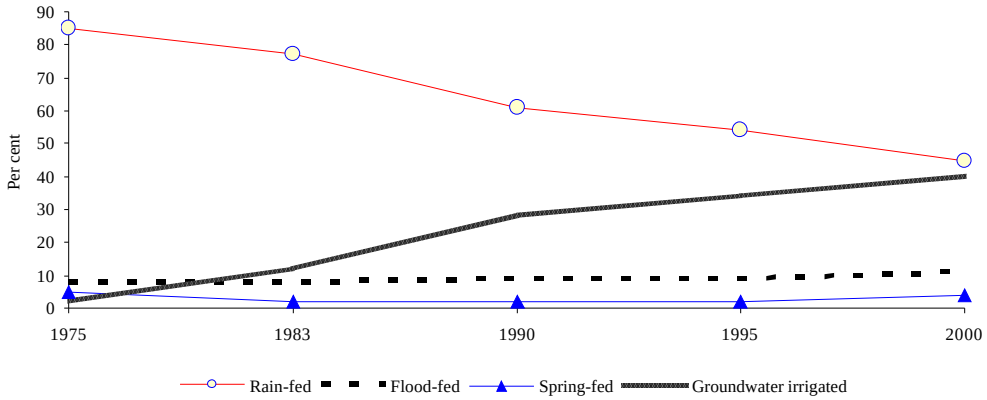
Water is the most binding constraint in the rural Yemeni economy. As already noted, average annual rainfall is, at best, very low, and the per capita share of water resources in Yemen is considerably below the water poverty line estimated by the World Bank (2002a). Moreover, water is an overwhelmingly rural issue in Yemen, in that 90 per cent of the water used in the Yemeni economy is used in the rural sector (World Bank 1999).

Figure 10 displays trends in farm water between 1975 and 2000. As in clear in the Figure, over the period there has been a trend decline in the importance of the rain-fed water supply since the mid-1970s. Nonetheless, however, the largest source of water to agricultural land is directly rain-fed. Moreover, a significant proportion of agricultural land relies on flooding, which is, of course, indirectly rain-fed. Thus, rain is the principal source of water for around 56 per cent of Yemeni farmers. Moreover, reliance upon the rains is correlated with poverty and food insecurity, in that small landholders in the rain-fed areas of the Highlands in particular face wide variability in rainfall and thus frequent climatic shocks, in the form of drought. It is for this reason that the history of Yemeni agriculture has been predicated upon the uses of terraces, land levelling, and indigenous water harvesting systems (Varisco 1991). Nonetheless, despite the importance of the rain-fed agricultural sub-sector, it has, in general, been neglected by government. In particular, the government's policy of importing grain for distribution at heavily subsidised prices undercut grain production in the rain-fed areas and thus contributed to the degradation of terraces, deforestation and a lack of attention to sustaining traditional water harvesting systems. The result is that long-standing systems of water management, including terracing and water harvesting, have eroded, which have had negative effects on land cultivation and rural productivity, particularly in the Highlands.[47]

47. The water regime in a given watershed has historically been a balance between the control of land and water in the upper catchment area and the resulting flow of water in the major *wadi* systems descending to the productive coastal plain (Varisco 1991). The use of terraces arrayed in clusters facilitated a gravity-flow sequence that irrigated the system as a whole through a common set of

Figure 6.10 demonstrates that groundwater irrigation is now approaching 40 per cent rural water supply. This comprises, in total, 32 per cent of the farmed area and, most importantly, produces two thirds of agricultural output by value. Figure 6.9 also demonstrates the rapid increase in the use of groundwater irrigation; the area irrigated by lift-pump wells increased from 37000 hectares in 1970 to 368000 in 1996 (Lofgren and Richards 2003: 21). The increase in lift-pump irrigation also contributed to the monetization of the economy, in that pump irrigation, when it is not owned by the farmer, must be paid in cash, which in turn requires access to cash. In either instance, the introduction of mechanized lift-pump irrigation is clearly resource-biased.

Figure 6.10: Trends in Farm Water Supply, 1975-2000



Source: Al-Ghory 2004.

The expansion of the irrigated area was strongly supported by the government policy regime, particularly in the 1990s when oil revenues came on-stream. Five mechanisms in particular were used to facilitate the expansion of the groundwater irrigated area. The first mechanism was that rural borrowers received interest rate subsidies on investments in irrigation wells. However, the terms and conditions governing access to credit to finance the purchase of mechanical lift-pumps required resources that could act as collateral, which favoured those who already had a source of capital.

In other words, groundwater irrigation subsides directed through the credit system displayed a resource-bias in favour of relatively wealthier rural households. As a consequence, the benefits of government groundwater irrigation subsidies were directed towards rural shaikhs, large landowners, and business and military leaders. In addition to providing what were in effect subsidized prices for pumps the diesel fuel necessary to operate the water pumps was priced at around US$0.02 per litre until 1995, which was between one-seventh and one-tenth of the international price of diesel fuel (Ward 2000). Electricity was also subsidized for those farmers that used electric pumps (World Bank 2002a: 18). Thus, the second government mechanism that encouraged the introduction of lift-pumps was that those who obtained lift-pumps could operate them at low cost. The third mechanism that encouraged the adoption of lift-pumps was government trade controls in water-intensive high valued added sub-

channels that carried the excess flow. The erosion of terraces thus results not only in direct loss of the terrace but also threatens irrigated land in the upper and middle reaches of major coastal *wadis*.

sectors such as fruit, vegetables and *qat*. Border controls magnified the profitability of introducing lift-pumps to foster alterations in the crop mix, which also had the effect of enhancing the income-earning prospects of those that could purchase mechanical lift-pumps (Ward 2000). The fourth mechanism that encouraged the introduction of lift-pumps was the absence of any government regulation on the development or extraction of groundwater, which served to fail to penalize unsustainable water 'mining'. Finally, public investment in surface or spate irrigation, in the context of a lack of an adequate access and regulatory framework and the rapid expansion of irrigated higher value crops, has served to further encourage water mining.

The impact of these interventions was a water pricing scheme in which water prices only covered between one-fifth and one-third the cost of extraction (Lofgren and Richards 2003). The result was considerable water waste, in a country where, as has already been stressed, per capita water resources are far below the water poverty line. Thus, in two-thirds of cases losses from the well to the field exceeded 30 per cent (World Bank 2002a: 19). As a consequence, water tables have fallen, often dramatically (Liechtenthaeler and Turton 1999). Thus, at the present rate of consumption it is estimated that groundwater in Sana'a will be depleted in 10 years and the fresh water in the country will be depleted in this century. In addition, there is widespread pollution and salinization.

As a consequence of these interventions water withdrawal now far exceeds the annual groundwater recharge that takes place. This suggests, in turn, that the growth of Yemeni agriculture is, in its current form, ecologically unsustainable, which has, in turn, the potential to have a deleterious impact on rural welfare. The water management system, whether it be in allowing the degradation of terraces or in allowing the overuse of groundwater irrigation, was clearly inefficient, and generated returns that were well below potential. Moreover, the distribution of water is inequitable. In 1999 only 4 per cent of the poorest 10 per cent of the rural population had access to land that was by and large irrigated, compared to 20 per cent of the richest 10 per cent of the rural population (World Bank 2002b: 59). It is clearly evident in some areas that a number of powerful individuals are controlling and capturing the bulk of available water resources, using modern drilling and pumping equipment. Indeed, the resource bias that was evident in the allocation of subsidized lift-pump credit may have contributed to the reallocation of land through the land market towards those farm households with relatively larger landholdings. As already noted, in rural Yemen water rights follow the control of land. Therefore, if a farmer wants to gain maximum benefit from the provision of irrigation subsidies, it would be logical for them to seek to control more land. In this way, access to credit, access to water and the land market would interlock.

6.2.7 Conclusion: The Agrarian Constraint in Yemen

Reviewing the evidence presented in this section as a whole, a reasonably coherent picture of a distorted pattern of rural transformation in Yemen emerges, which has implications for food security, inequality and poverty processes. The following points are clear. First, that domestic demand is an important driver of agrarian transformation, but that there is an inequitable distribution of food entitlements in Yemen in general and rural Yemen in particular. Second, changes in the technical

coefficients of production during the 1990s were not uniform across rural Yemeni farms, but could be differentiated, particularly on the basis of relative wealth, which in rural Yemen in the first instance is predicated upon the size of landholding. Third, the basis of this differentiation was a redistribution of land in favour of a smaller number of large landholders during the 1990s. This redistribution was facilitated in part by the ability of those who had capital to increase their access to land through the use of long term sharecropping contracts. Fourth, as redistribution proceeded, government intervention in the provision of mechanical lift-pump irrigation served to concentrate access to water amongst those farm households with relatively larger holdings of land. Fifth, expansion of the control of land and water amongst those with relatively larger holdings of land allowed an expansion of production amongst more remunerative higher value crops such as *qat*, fruit and vegetables. Sixth, the expansion of higher value added production amongst relatively larger landholdings contributed to rising income inequality in rural Yemen. Seventh, the redistribution of land through the land market increased the availability of labour to hire as and when needed on relatively larger landholdings. Eighth, the redistribution of land through the land market served to increase the reliance of small landholders on seasonal and casual wage labour as part of their livelihood strategy. Finally, however, this reliance served to enmesh many rural households within deepening cycles of vulnerability to poverty processes.

The expansion of *qat* in the 1990s in many ways encapsulates these processes. As noted, *qat* is the most logical crop for farmers to grow, and particularly resource-rich farmers, because of its relative profitability per unit of land. However, the technical coefficients of production for most *qat* is water-intensive, which, in circumstances where the private costs of water usage do not equal the social costs of water usage, encourages unsustainable water resource management techniques amongst those seeking to accumulate resources. Thus, for *qat*, factors of production may be efficiently allocated at the private level, but they are clearly inefficiently allocated at the social level. A central rural development challenge facing Yemen is therefore to find a crop which is superior in terms of its relative profitability per unit of land, which is predicated upon sustainable water resource management techniques, and which can be widely adopted amongst relatively poorer farm households.

This however is not the only rural development dilemma. There has been a lack of public investment in physical infrastructure, which has facilitated the degradation of terraces and increased post-harvest losses. There is a need to encourage rural diversification, particularly in off-farm activities, but this in turn requires needs skills and social investment by the government, particularly with regard to access to schools and medical facilities. Finally and perhaps most intractably given the extent of rural poverty and the redistribution of land towards relatively well-endowed landholding households, wage labouring in rural Yemen has a very low status. As Mundy (1995) stresses, land secures brotherhood in rural Yemen, while landlessness socially excludes those without land from the community. This means that underemployed farmers and those that are economically inactive in non-household productive work are less likely to seek to use wage labour as a means of supplementing their income. This culturally constructed agrarian constraint serves to reduce the scope of non-farm rural policy possibilities in Yemen.

6.3 Agrarian Constraints and Pro-Poor Policy Considerations

The purpose of economic policy interventions is to alter the environment that consumers and producers face and in so doing enable them to increase their welfare. In the context of rural Yemen, this objective has three clear implications: the need to improve food security; the need to reduce inequality; and the need to reduce poverty. This suggests, in turn, that economic policy interventions in rural Yemen should be pro-poor, if this is clearly defined as an increase in the rate of growth of per capita income within the bottom 40 per cent of the income distribution that exceeds the rate of growth of per capita income within the top 60 per cent of the income distribution.

A first step, then, in seeking to evaluate pro-poor policy possibilities is to consider whether an agriculture-led development strategy can best meet this policy objective. According to the World Bank (1999, 2002a), the answer is affirmative. However, if such a strategy were to be pursued, several issues that have been developed above would have to be addressed.

The first issue is that 'yields are below technical potential and actual farmer's yield in comparable countries' (World Bank 2002a: 17). According to the Bank, a key reason for this is that Yemen does not have a revealed comparative advantage in many traditional farm products (World Bank 2002a: 65). This suggests that international trade should, as it has in the past, remain a cornerstone of food security strategy. However, this is not the same as saying that there should be wholehearted trade liberalization in support of this aspect of food security strategy. As has already been discussed, trade liberalization during the 1990s favoured resource-rich landholding farmers, producing higher value crops, as smallholders witnessed imports continuing to undercut many of their production decisions, with the exception, of course, of *qat*. This suggests, then, that there is a need to encourage on-farm diversification amongst relatively poorer small landholder farms, in both rain-fed and groundwater irrigated regions of Yemen. Such diversification could be market-led, or could be facilitated by the provision of a range of public goods directed towards the poor and near poor. However, market-led diversification in Yemen so far has reinforced food insecurity, inequality and poverty processes. Moreover, there is a profound lack of resources at the disposal of relatively poorer small landholder farms that in many ways prevents market-led diversification. Therefore, there is a core need for redistributive public support, in the form of financial transfers, to facilitate a pro-poor pattern of public goods provision. Indeed, given the pattern of growth in the rural economy in the 1990s it would appear that redistributive public support is a necessary if not sufficient condition of a sustainable agriculture-led pro-poor growth-oriented development strategy.

However, government spending on agriculture has been very low, both in relative and absolute terms. It constitutes only about 2.8 per cent of government budgetary spending in 2002; the figure was only 1.6 per cent the previous year (A-Shami 2004: Table GS-1). The government clearly needs to change its spending on the agricultural sector, and to, in particular, recognize the enabling role government is capable of playing in facilitating increased agricultural productivity and rural incomes. In this light, it is possible to identify 8 specific policy issues that need to be addressed. It should be noted that some of these are being addressed in the government's second National Plan, the Aden Agenda, and the National Water Strategy (FAO 2005a).

Specifically, there is a need to support off-farm diversification, by those relatively poorer small landholder farms that may be able to consider entry into new livelihood security strategies;

1. the marketing and extension services needed to encourage a shift to a more higher value sustainable resource management system within the rural economy in general;
2. the infrastructure necessary to facilitate the encouragement of more sustainable resource management systems within the rural economy in general;
3. the financial resources needed to undertake shifts to a more sustainable resource management system amongst relatively poorer small landholder farms;
4. in particular, capacity building in democratic decentralized governance that addresses the current core issue of the asymmetrical access of relatively poorer small landholder farms and off-farm micro enterprises to local government institutions;
5. in particular, the transitional costs of shifts in the cropping pattern amongst relatively poorer small landholder farms towards higher value output that may take several seasons to produce a return;
6. in particular, reforms to the water management system, directed towards benefiting relatively poorer small landholder farms, through redistributive water-access reform;
7. in particular, reforms to the land tenure system, directed towards benefiting relatively poorer small landholder farms, through redistributive land and tenancy reform.

This list makes clear the critical role of government support in facilitating renewed growth in Yemeni agriculture. Each of these will be examined in turn, in ascending order of importance.

I. Off-farm diversification

Currently, there are very weak linkages between agricultural activity and agro-industrial activity in rural Yemen. There has therefore been extensive discussion on ways of encouraging the establishment of micro- and small-scale enterprises in agro-processing, as well as in small-scale mercantile and manufacturing activity, as a possible avenue out of poverty (World Bank 1999; FAO 2005a; YCR 2005). Currently, those micro enterprises that do exist have been on the basis of individual initiative or the initiative of families. However, those enterprises are the exception to the norm, in large part because, as noted, a fundamental constraint on the ability to facilitate micro enterprise development is the low social status accorded to non-land based economic activity in the countryside, and thus the lack of an entrepreneurial culture in rural Yemen. In this light it is foolish to place excessive demands upon the possible employment-creating potential of micro enterprise and, unlike some micro enterprise proponents; it should not be thought that the route out of poverty for rural Yemen is the creation of a class of rural entrepreneurs. Micro enterprise is not a development panacea in rural Yemen. Nonetheless, for some rural households that are

prepared to fundamentally reconfigure their livelihood strategy, this may be an option, and they should be able to draw upon public support.

The most important factor that could encourage off-farm diversification would be sustained growth in agricultural productivity, which could create positive preconditions for relatively poorer rural households to sustain further income growth by diversifying. The elimination of barriers to business establishment, and indeed positive incentives to the establishment of businesses, would, in these circumstances, facilitate the creation of micro enterprises. This would not however be sufficient. There would also be a need to create business-oriented technical advisory services that could facilitate the development of micro enterprises. In addition, as will be further discussed below, the absence of accessible credit for prospective entrepreneurs also constrains business start-ups. Finally, a lack of market information with regards to consumer requirements in prospective destination markets also constrains business start-ups. Thus, there is a need to introduce a policy framework that looks at the range of issues that limits the capacity of rural households to create off-farm micro enterprises, and which acts to support off-farm diversification by those households that may seek to do so.

II. Marketing and extension services

Relatively poorer landholding households in Yemen need better extension services, to provide advice on cropping patterns, resource allocation, and resource management, as well as marketing services that can assist farmers in locating niche markets for higher value, more resource efficient, products, improve packaging, storage, and transport, as well as providing timely information on prices and markets. Post harvest losses can be used to illustrate one dimension of the issues at stake. Currently, post harvest losses stand at 20 per cent for cereals, 38 per cent for bananas, 45 per cent for tomatoes and 60 per cent for papaya (World Bank 2002a: 17). This serves to substantially reduce the market-orientation of production, the relative profitability of crops, and thus rural incomes. Currently, government spending on marketing and extension services is inadequate (A-Shami 2004). Public support, principally through the construction of storage facilities and the improvement of transport networks to allow crops to reach wider markets than is current the case, could create public goods that could be pro-poor if the social implications of providing provision to these facilities and networks to relatively poorer rural landholding households were included in the calculation of the economic rate of return and if differential price schemes could be introduced that would benefit the relatively less well off to a greater degree than the relatively well off. This is because, as will be discussed below, there is clear growth potential for certain higher value market-oriented crops in rural Yemen. These services would in particular allow the faster identification and exploitation of markets for niche products both within and outside Yemen. It could be suggested that this might be an important route by which rural producers could increase their incomes. However, this would have to be appropriately supported through the provision of public goods that were specifically designed to disproportionately benefit the less well off, would be pro-poor.

III. Enhanced infrastructure provision

The issue of storage facilities and transport networks makes clear the fact that there is a range of infrastructural investments in pro-poor public goods that the Yemeni government should undertake if it wants to foster the income-generating capabilities of relatively poorer rural households. In addition, given the human development indicators displayed in Table 6.1 it goes without saying that there is a need to undertake major investment in social infrastructure to improve rural Yemen's lamentable state of human development. The Yemeni government, it should be noted, is well aware of this set of issues, and, along with major donors, is actively engaged in trying to develop infrastructural capacity to enhance rural development. The issue here, however, is the need to design and implement such capacity in such a way that disproportionately enhances the livelihood possibilities of the poor and near poor in rural Yemen.

One specific infrastructural issue should however be prioritized. A major issue in physical infrastructure has been the inadequate maintenance of terraces in the Highlands during the 1990s, which has led to a decline in the quality of the natural resource base, increased water erosion, and reduced productivity. In rural Yemen, terraces are public goods *par excellence*, and there is the need to undertake substantial investment in renewing terraces and land levelling so that the dryland terraces and seasonal flood irrigation practices can be modernized in a sustainable manner. One important by-product of this work would be the provision of additional employment opportunities for those that were relatively poor, although, as has been mentioned, there are social constraints on labour market participation. One important element in the renewal of terraces would be the need for substantive democratic decentralisation, in a manner that will be discussed below, so that resource renewal at the community level can be configured to address the needs of those that are vulnerable to food insecurity and poverty processes.

IV. Rural finance

Improved access to rural financial institutions is a necessary precondition of possible agrarian productivity increases, to be discussed below, and off-farm diversification, which has already been introduced. Currently, there is a dearth of rural credit in Yemen. Thus, in 2003 only 2230 farmers got formal credit from the Agricultural and Cooperative Credit Bank. Currently, available agricultural credit stands at US$30 per hectare, which is very low compared to other countries in the region. Moreover, the formal rural credit system has been, to a large extent, 'captured' by the rural landholding elite, as was demonstrated in the provision of credit to larger landholders for the purchase of mechanized lift-pump irrigation in the 1990s. Despite this capture, however, the evidence indicates that relatively poorer households borrow more frequently, and are more likely to be in debt, than relatively richer households (CSO 1999). However, the sources of the debt of the relatively poorer are more likely to be informal.

Four issues are of note with regard to the need to improve the rural financial system. The first is the overwhelming use of debt in rural Yemen for consumption (CSO 1999). This is true of both relatively richer and relatively poorer rural households. The second is the need to establish an appropriate institutional framework, which would of

necessity factor in the current prevalence of consumption-based borrowing. Here, valuable lessons can be learnt from small-scale experiences in the use of microfinance in Yemen, which have demonstrated some of the same advantages in the countryside that have been well documented in other contexts. Indeed, some financial organizations could be community based, with rotating savings and credit clubs amongst smaller landholding farmers and petty entrepreneurs developing funds to invest in improved land and water management, facilitate the purchase of processing and packaging equipment, or cultivation or harvesting equipment, all of which could be owned communally, as well as providing loans for consumption shortfalls. However, learning the lessons of other experiences in microfinance are important, in that it is necessary to ensure that a greatly expanded system was not captured by the elite, but rather delivered tangible financial resources to the poor. This then was the third issue of note. However, the establishment of a large-scale rural financial system that adopted some of the best practices of microfinance would require substantial public resources. It is well established that many microfinance institutions, in order to be able to effectively operate, must be heavily subsidized. This subsidy is paid by governments and by donors because of pro-poor public good character of the subsidy. The issue of the extent of the subsidy necessary to expand pro-poor access to finance is one for Yemeni policy makers to decide. This does not however detract from the fourth issue, however, which is that there is a need to increase dramatically the amount of credit that is available through the rural financial system. Some have suggested the need to increase credit to US$50 million in rural Yemen (YCR 2005); whether this is an appropriate amount is, in many ways, a side issue to the key one of establishing a rural financial system that extends deep into the countryside and reaches into the livelihoods of the poor and the near-poor. Clearly, there is a need for and expansion of public support towards a strengthened rural financial system that is designed to reach the vulnerable in Yemen.

V. Decentralized democratic governance

There is now a broad consensus among multilateral agencies, bilateral donors and national governments that community-driven development, which is defined as giving control of decisions and resources to community groups and local governments, can promote local empowerment, participatory governance, demand-responsiveness, administrative autonomy, greater downward accountability, and enhanced local capacity. To that end, donors and governments have sought to strengthen and finance accountable and inclusive community-based organizations as well as attempting to forge functional links between community-based organizations and formal institutions. Community-based organizations have been prioritized because donors and government believe that they can complement the activities of the market and the state by assisting in the building of infrastructure, improving access to education, organizing the delivery of microfinance, managing natural resources, and permitting the scaling up of pro-poor programmes. In so doing, community-based organizations can improve the efficiency and effectiveness of rural development policies and enhance sustainability.

However, while decentralized governance can appear to be attractive, it is not the development solution that many of its proponents make it out to be. The reason is straightforward: decision-making processes and public resources can be captured by elites and interest groups at the local level even more readily than at the national level.

Moreover, inequalities and power relations in a community can infiltrate community-based organizations and affect how they work. These possibilities are all the more apparent in rural Yemen, where patron-client relations remain very strong, particularly in the Highlands and in the Tihâma. If, therefore, decentralized governance is to be introduced as an important means of facilitating relatively poorer small landholding farmers and petty entrepreneurs to be able to construct a platform from which their public goods needs are to be defined, developed, and prioritized for public support, there is a vital need to build extensive capacity on the part of the relatively poorer small landholding farmers and petty entrepreneurs to be able to express their voice in local institutional settings. In other words, decentralized governance must build capacity in democratic mechanisms of accountability. This policy agenda is, in many ways, a fundamental precondition of avoiding a technocratic policy package that fails to meet the aspirations of the relatively poorer small landholding farmers and petty entrepreneurs. It does, however, require substantive, and extensive, public support.

VI. Shifts in the cropping pattern and the costs of transition

The World Bank has done extensive analytical work on the potentialities of Yemeni agriculture, and much of it is remarkably optimistic given the state of water poverty in the country. In general, recent World Bank analysis (YCR 2005: 18) suggests that rain-fed cereals could grow at 12 per cent per annum if the quality of indigenous seeds were improved and if better crop husbandry practices were introduced. It suggests the need for public support towards publicly provided agricultural extension services, because of their inherent character as a pro-poor public good. The Bank also suggests that fruit and vegetable production could grow at 16 per cent per annum if, again, extension services were improved and if water management techniques were enhanced in a sustainable fashion. Finally, the Bank has also suggested that the growth of livestock could also be increased if husbandry practices became better, if attention was paid to the need to encourage cross breeding, and if the management of range lands was made more effective.

The argument that Yemeni agriculture has good growth potential has been further reinforced by earlier World Bank (1999: Annex I) estimates of the domestic resource costs for a range of crops. These estimates suggest that cotton, dates, papaya, oranges, coffee, grapes, and tomatoes are highly efficient in their use of resources, while qat, onions, sesame, sorghum, millet, alfalfa and potatoes are relatively efficient uses of resources. The Bank has also presented a regionally disaggregated analysis of the domestic resource cost of specific crops.

Clearly, there appears to be a technical potential for agriculture to grow. Indeed, it has been suggested that Yemen could quadruple its agricultural output in between 5 to 10 years (A-Shami 2004). In so doing, there is clearly a need, as was already mentioned, for better extension services, to provide advice on cropping patterns, resource allocation, and resource management, as well as marketing services that can assist farmers in locating niche markets for higher value, more resource efficient products. When directed towards the poor, the equity-enhancing public good character of such services is clear. However, policymakers seeking to frame pro-poor policy interventions face two additional challenges beyond the development of more effective extension and marketing services. The first is to ensure that the benefits of

changes in the policy regime are not captured by rural elites, as happened, quite clearly, during the 1990s, with regard to water. The second is to ensure that policies are put in place that encourage farmers with lower levels of assets to switch to higher value, more resource efficient crops. Here, a key issue is the costs of the transition between old and new cropping patterns. Poorer rural households, living under the compulsion of food insecurity, are not in a position to switch crops to higher value output when such a switch threatens their livelihood security. This is especially the case for perennial crops, the return from which can take several seasons to come on-stream, and during which time the household must sustain its consumption. Therefore, there is a need to put in place a system of income support to farmers that are actively engaged in switching to higher value more resource efficient crops. This support, it can be suggested, should be financed by a hypothecated tax on oil revenues. Moreover, this support must be constructed in such a way that it is not captured by rural elites.

A similar argument can be made with regard to qat. Ethiopian qat is cheaper, and in any event the government is publicly committed to seeking to reduce the role of qat in Yemeni culture and society (World Bank 1999). However, even if one such strategy in doing this was to liberalize the import of qat, in an effort to force farmers to alter their cropping patterns, there would still be the need for transitional period that would allow farmers the space to alter their cropping patterns without undergoing the type of income shock that would occur if international trade in qat were liberalized overnight.

VII. Sustainable water management and redistributive water-access reform

Yemen's water sources are now being mined in a totally unsustainable fashion. Clearly, policy must be introduced to deal with the water crisis, and indeed, multilateral agencies, bilateral donors and the government have all prioritized the resolution of the water crisis, on the basis of bringing the price of groundwater closer to its economic cost, establishing decentralized water management associations, and encouraging the re-establishment of traditional water conservation mechanisms in rain-fed areas, as a policy priority. However, cost recovery, decentralisation and the renewal of long-standing systems of water management are only capable of slowing the rate of resource depletion, and thus will be unlikely to solve the water crisis.
The reason for this is because of the lack of equitable access to water resources in rural Yemen. As is clear, in some areas of Yemen a number of powerful landholding individuals have been able to capture the bulk of available resources that have been directed towards investment in 'modern' drilling and pumping equipment, controlling the benefits of these investments and directing them towards their own personal enrichment. It is this fundamental inequity that policy must address.

In this light, a policy of renewed support for traditional water control systems has the potential to increase agricultural production and boost the incomes of small farmers, particularly in the rain-fed areas of the Highlands, if policy is constructed in such a way as to prioritize access to those who have inadequate water supplies. Here, the decentralized democratic governance reforms discussed above could facilitate the adoption of an appropriate policy choice. Such a choice would however require substantial public investment in water saving technologies that cut production costs, the introduction of drought resistant higher value crops such as fruit trees, and investment in renewing terraces and land levelling so that dry rain-fed terraces and

seasonal flood irrigation practices can be resurrected. It would, in addition, require the provision of income support, which has already been discussed, to small landholders engaged in undertaking a transition to higher value, more sustainable crops in the medium term. Nonetheless, the introduction of such a policy regime cannot but be seen as a public good, in that it will facilitate growth amongst rural small landholders.

There is, moreover, an argument that there is a need for redistributive water-access reform in the lift-pump irrigated areas so that those who currently control a disproportionate share of water resources lose some of their monopolistic privileges. The precise mechanism of this reform are, as yet, unclear, but it could be suggested that a policy regime that removed the tendency towards the enclosure of water rights and which instead reiterated the principal that the control of rights over water were vested in communities would be one that could facilitate a more equitable and efficient use of Yemen's scarce water resources. Once again, decentralized democratic governance reforms should be able to assist in the reiteration of the rights of communities to water. Mechanisms would however have to be put in place that encouraged water conservation in the irrigated areas. Water taxes at the head of the watercourse, as a means of recovering some of the subsidies that were paid to the rural elite and encouraging the more efficient use of water in the irrigated areas, might be one way of promoting water conservation. So too might a switch in cropping patterns, as facilitated by an improved extension service. In any event, such a package of measures would only serve as a precondition of the establishment of a more sustainable irrigation management system in rural Yemen.

VIII. Land tenure and redistributive land reform

There are a number of issues that arise in relation to land access and tenure in rural Yemen that need to be addressed within the context of a set of pro-poor policy interventions. Some might argue that the reorganisation of land holdings is a prerequisite for the introduction of technologies that will conserve soil and water resources in the long run, and that, in such a reorganization, larger landholdings are to be encouraged, in order to accrue efficiency gains in scale and scope. That argument is not supported here. The agrarian transformation that has been underway in rural Yemen since the early 1990s has indeed led to a reorganization of holdings over time, as has been demonstrated, and this reorganization can be held, in part, to be responsible for the rise in food insecurity, in inequality, and in poverty in rural Yemen. It is apparent that in rural Yemen land tenure arguments that privilege economic efficiency over social equity are not capable of fostering sustainable human development. Therefore, another approach to land tenure issues is necessary.

Four issues stand out, from a policy perspective. The first is that a prerequisite of any rural land tenure reform is the need to undertake a cadastre in rural Yemen. The government is committed to this necessary, but not sufficient attempt, to formalize the land registration process. The second is that with a successful cadastre, given trends in the distribution of land in rural Yemen discussed above, it is necessary to begin a serious debate amongst policymakers and civil society about whether there is a prima facie case for redistributive land reform in Yemen. The costs and benefits of such a proposal need to be seriously assessed, in financial and social terms. Currently, land reform is back on the policy agenda of the multilateral agencies and bilateral donors, but the land reform that is on the agenda takes the form of a 'market-led' process.

Evidence on the utility of this kind of reform in meeting the needs of the poor has not been strong (Borras 2004). Indeed, there is evidence that indicates that market-led reform can facilitate a market-led redistribution of land in favour of rural landed elites, an outcome that would not be a desirable one in Yemen. At the same time, evidence on the utility of redistributive reform in meeting the aspirations of the poor remains strong. The issue of land reform in rural Yemen is a powerful, emotive issue, cutting across cultural, social, political and economic interests; but it is one that should be investigated as a policy option to strengthen pro-poor growth and human development in Yemen.

The third issue is that even in the absence of a debate about the efficacy of a redistributive land reform it is apparent that farmers continue to hold onto their fragmented holdings without any rationalisation or consolidation taking place. Policies to encourage a pro-poor consolidation of fragmented holdings, in the sense that the overall share of landholdings held by the smallest 60 per cent of landholders increases relative to that held by the largest 40 per cent of landholders, should be encouraged by the Yemeni government. Of course, a successful cadastre is a precondition of land consolidation policies. As part of this process, government plans to implement the redistribution of 50000 hectares of land should proceed, although it must be stated that the quality of this land will be poor.

Finally, and again, even if pro-poor redistributive reform is not put on the agenda in Yemen, tenancy reform can be undertaken. It goes without saying that a successful cadastre is a necessary precondition of tenancy reform. The argument in support of tenancy reform is that although many sharecroppers are large landholders, for those sharecroppers without access to assets the security of their position can be tenuous. A process of formally registering sharecropper contracts and establishing the security of tenure of those with formally registered contracts would give a powerful boost to pro-poor growth in rural Yemen. There is international evidence—principally, Operation Barga in West Bengal, India—that demonstrates the impact that tenancy reform can have on the poor, on agricultural growth, and on human development.

IX. What potential for pro-poor growth?

As this policy framework makes clear, there is potential for pro-poor rural growth in Yemen. In this framework, more effective resource management, whether it is through land reform, improved water management systems, or infrastructural investment, is a precondition of rural pro-poor growth. So too is the establishment of a rural financial system directed at the poor. However, the most direct and immediate policy intervention in the rural economy is in the cropping pattern—the direct source of income, from market-oriented production, for many farmers. Here, regional differences in rural Yemen can be detected. Any poverty reduction in Highlands will come about through an intensification of production or, more likely, crop diversification towards higher value output. The ability of smallholder farmers to manage this diversification will however require, as already stressed, income support during the transitional period. It should be noted, however, that some analysts have suggested that while the scope for agricultural growth in the Highlands is high, the area has only a moderate poverty-reduction potential, and, for many farmers, exiting from agriculture altogether can contribute to widespread poverty reduction in this region (Dixon and Gulliver with Gibbon 2001). This analysis is, however, predicated

upon an analysis that does not take into account the range of pro-poor policy interventions proposed here. By way of contrast, according to the same authors there is significant scope for agricultural growth and poverty reduction in the Tihâma through intensification coupled with crop diversification towards new varieties of crops and new crops, along with terrace restoration. Again, this analysis may understate the potential of the Tihâma because it does not take into account the range of pro-poor policy interventions that are proposed here. In any event, it remains the case that the ability of smallholder farmers to manage this diversification will require income support during the transitional period. Thus, any pro-poor policy possibilities within the rural economy cannot, on their own, be left to markets; there is a need for significant public intervention in the provision of public goods, and public support in favour of that intervention.

6.4. Conclusion: The Political Economy of Rural Relations and Policy Reform

This Paper has offered an analysis of Yemeni agriculture, focusing upon the implications of the agrarian changes in the 1990s on the current state of food security, inequality and poverty in rural Yemen and beyond. Putting the pieces of the argument together, a reasonably coherent picture of rural development in Yemen emerges. In particular, the following points are clear. The first point is that domestic demand is an important 'engine' of agrarian change, but there appears to be an inequitable distribution of food entitlements in Yemen in general, and rural Yemen in particular. The second point is that changes in the technical coefficients of production during the 1990s were not uniform across Yemeni farms, but could be differentiated, particularly on the basis of relative wealth, which in the first instance is predicated upon the size of landholding. The third point is that the basis of this differentiation was a redistribution of land in favour of a smaller number of large landholders during the 1990s. This redistribution was facilitated in part by the ability of those who had capital to increase their access to land through the use of long term sharecropping contracts. The fourth point is that as redistribution took place government intervention in the provision of mechanical lift-pump irrigation, through financial and trade-based incentives, served to concentrate control of access to water amongst those farm households with relatively larger holdings of land. The fifth point is that expansion of the control of land and water amongst those with relatively larger holdings of land facilitated an expansion of production amongst relatively higher value market-oriented crops such as qat, fruit and vegetables. The sixth point is that the expansion of higher value production amongst relatively larger landholdings contributed to rising income inequality in rural Yemen. The seventh point is that the redistribution of land increased the availability of labour to hire as and when needed on relatively larger landholdings that were witnessing relatively faster income increases. The eighth point is that the redistribution of land served to increase the reliance of small landholders on seasonal and casual wage labour as part of their livelihood strategy. The ninth and final point is that this reliance on small landholdings and seasonal wage labour served to enmesh many rural households within deepening cycles of vulnerability to poverty processes.

As a consequence of this analysis, the policy options that emerge to foster pro-poor agrarian growth in rural Yemen appear reasonably clear. These policy options are

predicated upon a need for redistributive public support, in the form of financial transfers, to facilitate a pro-poor pattern of public goods provision. Simply put, government must substantially increase its public spending on the rural economy. This public support cannot be viewed as a supplement to a growth-oriented economic strategy; rather, the evidence of this paper suggests that redistributive public support is a necessary condition of an agriculture-led pro-poor growth-oriented development strategy. In particular, there is a need, in ascending order of importance, to support:

- off-farm diversification, by those relatively poorer small landholder farms that may be able to consider entry into new livelihood security strategies;
- the marketing and extension services needed to encourage a shift to a more higher value sustainable resource management system within the rural economy in general;
- the infrastructure necessary to facilitate the encouragement of more sustainable resource management systems within the rural economy in general;
- the financial resources needed to undertake shifts to a more sustainable resource management system amongst relatively poorer small landholder farms;
- in particular, capacity building in democratic decentralized governance that addresses the current core issue of the asymmetrical access of relatively poorer small landholder farms and off-farm micro enterprises to local government institutions;
- in particular the transitional costs of shifts in the cropping pattern amongst relatively poorer small landholder farms towards higher value output that may take several seasons to produce a return;
- in particular, reforms to the water management system, directed towards benefiting relatively poorer small landholder farms, through redistributive water reform;
- in particular, reforms to the land tenure system, directed towards benefiting relatively poorer small landholder farms, through redistributive land and tenancy reform.

This public support, some of which is already being developed by the government, albeit in a more piecemeal fashion than is suggested here, cannot be seen as an isolated list of suggestions, but rather as an interrelated set of policies that both have strong complementarities and which have strong forward and backward linkages, and which therefore serve as a precondition of an agriculture-led pro-poor growth strategy in Yemen.

However, although it has not been discussed in this Paper it is recognized that there is a political economy environment within which policy-making takes place, in Yemen as elsewhere, and this environment acts as a strong constraint on the ability to introduce this policy package. In the key agricultural areas of the Highlands and the Tihâma ‘traditional’ power structures remain strong. In Yemen prior to the agrarian transformation of the 1990s the shaikh stood for the community, both before and outside the government (Mundy 1995). During the 1990s, this changed, as the government actively sought to draw the shaikhs into a set of economic engagements

that were predicated upon the possibility of individual and household advancement rather than the advancement of a tribal community. In particular, the effective 'enclosure' of what had been common irrigation water eroded political relationships at the community level and led to conflict between those who owned pumps upstream and those that relied upon common water. This in particular served to weaken the role of the community in favour of the private. At the same time, in Yemeni culture the community is defined by those who are landholders and labouring has a comparatively low social status. Yet government policy in the 1990s, in promoting the economic interests of the shaikhs, has facilitated the emergence of big landlords in the Highland and the Tihâma. In so doing, government has created a constituency with a vested interest in supporting the activities of the government, rather than the community. The shaikhs thus no longer stand outside and before the government, but rather in the 1990s have come to stand alongside the government. This set of political and social arrangements have the potential to be a powerful constraint on the development of a pro-poor policy regime in Yemen. It is only by addressing this set of political and social arrangements and resolving the inherent contradictions in economic policy that such a set of political and social arrangements engender that a different, sustainable agriculture-led pro-poor development strategy in rural Yemen, can be successfully introduced.

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ANNEX I:

Data sources and issues in IMF statistics

The data used in this chapter uses the latest available information, which comes from three publications from the IMF:

- For the period 1990-1996: IMF (2001). Republic of Yemen: Selected issues- April 2001
- For 1997: IMF (2003). Republic of Yemen: Statistical Appendix- December 2, 2003
- For the period 1998-2003 IMF (2005) Republic of Yemen: Statistical Appendix- February 28, 2005

However we found a series of errors and some discrepancies in the statistics used by the IMF. The first table presents the latest data available from IMF Statistics. The second table presents UNDP calculations based on this data.

Table 2A.1: Republic of Yemen: Summary of central government Finance 1997-2001 (in millions of Yemeni Rials)

Item	1997	1998	1999	2000	2001
1. Total Revenue	274,659	222,620	328,394	583,715	563,401
2. Oil Revenue	188,415	117,772	210,598	376,033	406,167
3. Non oil revenue	86,243	104,848	117,796	207,682	157,234
3.1. Tax revenue	69,570	78,852	85,419	110,990	113,700
3.1.1. Custom duties	25,814	24,121	25,703	29,843	33,789
3.1.2. Tax on goods and services	21,226	24,974	24,419	36,944	27,918
3.1.3. Taxes on income	10,685	13,093	16,389	22,246	46,864
3.1.4. Corporate profit tax	8,318	13,156	14,498	18,444	…
3.2 Non tax revenue	16,673	25,996	32,377	96,692	43,534
GDP at market prices	878,884	793,586	1,102,426	1,539,386	1,608,065

Source IMF Statistical Appendixes 2003 and 2005

Table 2A.2: Republic of Yemen: Summary of central government Finance 1997-2001 9in percentage of GDP)

Item	1997	1998	1999	2000	2001
1. Total Revenue	31.3%	28.1%	29.8%	37.9%	35.0%
2. Oil Revenue	21.4%	14.8%	19.1%	24.4%	25.3%
3. Non oil revenue	9.8%	13.2%	10.7%	13.5%	9.8%
3.1. Tax revenue	7.9%	9.9%	7.7%	7.2%	7.1%
3.1.1. Custom duties	2.9%	3.0%	2.3%	1.9%	2.1%
3.1.2. Tax on goods and services	2.4%	3.1%	2.2%	2.4%	1.7%
3.1.3. Taxes on income	1.2%	1.6%	1.5%	1.4%	2.9%
3.1.4. Corporate profit tax	0.9%	1.7%	1.3%	1.2%	…
3.2 Non tax revenue	1.9%	3.3%	2.9%	6.3%	2.7%

Source: UNDP

The figures presented in the second table, which draw on the same original figures, differ from the calculations presented in the IMF Statistical appendixes i.e. the

revenue-GDP ratios presented in these appendices are different from those we have calculated. It would be highly unlikely that the ratios presented in the IMF appendices have not been calculated from the data in Table 1. If this is the case then we assume that the revenue GDP ratios presented by the IMF are wrong because they have been miscalculated
The details are as follows:

- For 1997 (data from IMF Statistical Appendix 2003), the figures presented for government revenues as percent of GDP in tables 18 and 19 do not correspond. It appears that the figures reported in table 19 for 1997 have not been calculated correctly. For instance table 19 calculates total revenue as 32.2 percent of GDP, while the correct figure presented in table 18 is 31.3 percent of GDP. A comparison of the figures presented in table 18 and 19 reveals that all the percentages presented in the latter have been miscalculated. There is however no inconsistency on the expenditure side.
- For 1998 (data from IMF Statistical Appendix 2005), the figures presented for government revenues as percent of GDP in tables 18 and 19 are both erroneous. In 1998 IMF calculations report total revenues of 26 percent of GDP and non oil revenue of 12.2 percent GDP, while UNDP calculations –based on the same original data- demonstrate that the actual figures are 28.1 percent and 13.2 percent of GDP. The comparison of UNDP and IMF figures actually show that all the percentage figures for Yemen revenue in 1998 have not been calculated accurately in table 18 and 19 of IMF Statistical Appendix 2005. The figures presented for Yemen's expenditure are correct.
- For 1999 and 2001 (data from IMF Statistical Appendix 2005), Yemen's revenues figures as percent of GDP presented in tables 18 and 19 do not match. The figures reported in table 19 for 1999 are incorrect. In 1999 oil revenue represents 19.1 percent of GDP (table 18 and UNDP calculations), not 19.8 percent of GDP as stated in table 19. In 2001 table 19 calculates tax revenue of 7.7 percent of GDP, while the correct figure (presented in table 18 and UNDP table above) is 7.1 percent of GDP. The analysis of the calculations presented in table 19 shows that all revenue figures as percentage of GDP are inaccurate for 1999 and 2001.
- For 2000, a different problem arises in the composition of Yemen's revenue. Indeed, while total revenue is 37.9 percent of GDP in both Yemen Statistical Appendix 2003 and 2005, crude oil exports and non tax revenue reach respectively 19.2 percent and 2.8 percent of GDP according to IMF Statistical 2003, they attain respectively 15.7 percent and 6.3 percent of GDP in IMF Statistical Appendix 2005. The other categories remain unchanged. The figure of 6.3 percent of GDP reported for non tax revenue in IMF Statistical Appendix 2005 represents an outlier compared to Yemen's average non tax revenue, which averaged 2.3 percent of GDP between 1994 and 2003 (if 2000 is eliminated). It is however difficult to determine which figures are correct. On the basis of using the latest information available, we selected the figures presented in IMF Statistical Appendix 2005.

ANNEX II:

On Absorptive Capacity*

The concept of absorptive capacity, as defined in the development literature, refers to the organizational and human skill capacities for undertaking new investment projects. Absorptive capacity in this literature is either characterized as a strict limit to the possible rate of growth of investment (see, e.g., Chenery and Strout 1966, Marris 1970), or referred to as a limit beyond which extra investment would involve an increasing incremental capital-output ratio (see Adler 1965, Kalecki 1966, Eckaus 1972). These limits, which are taken to operate both in the short run and in the long run, are supposed to arise from a shortage of managerial and administrative capacities and lack of skills in the LDCs.

The justification for postulating a long-run ceiling on the rate of growth of investment in an economy with unemployed and underemployed labour is based on the fact that the rate of acquisition of these skills is dependent upon the learning processes inherent in the very act of investment itself. Few of the above-mentioned sources, however, attempt to analyse the full implications of this 'learning by doing' hypothesis or examine the conditions under which it could result in the kind of investment limitations postulated. In this appendix we shall attempt a further elaboration of this concept by synthesizing the insights provided by the different strands of thought in the above-mentioned literature.

The dynamic relationship between the rate of increase of an economy's absorptive capacity and the growth of investment, which arises from the learning process involved in the act of investment, could be represented in the form of an 'absorptive capacity function' shown in Figure A1.1. The curve AA' in the figure characterizes what may be regarded as the plausible shape of such a function for a typical developing economy. In this figure the horizontal axis measures the rate of growth of gross investment I, and the vertical axis refers to the rate of change of the index of absorptive capacity S which incorporates the rate of expansion of technical and organizational skills necessary for capital accumulation.

These technical and organizational skills refer to the ability of the society to conceive, implement and effectively run the new investment projects. The index of absorptive capacity in this sense is representative of what Veblen (1932) has referred to as the 'common stock of knowledge' of the society. Individual learning processes are conditioned by, and derive their effectiveness in increasing the productive potential of the society from the existing common stock of knowledge of society as a collective body. The same applies to government's educational and technical training efforts. The capacity of educational planning by the government depends on the existing stock of knowledge, and the effectiveness of such education in enhancing the productive potential of the economy, or adding to the existing stock of knowledge of the society, also depends on its congruence with the latter. For example, the educational institutions of an underdeveloped economy, which may emulate similar institutions in the advanced economies, or may play solely the function of rationing scarce jobs in

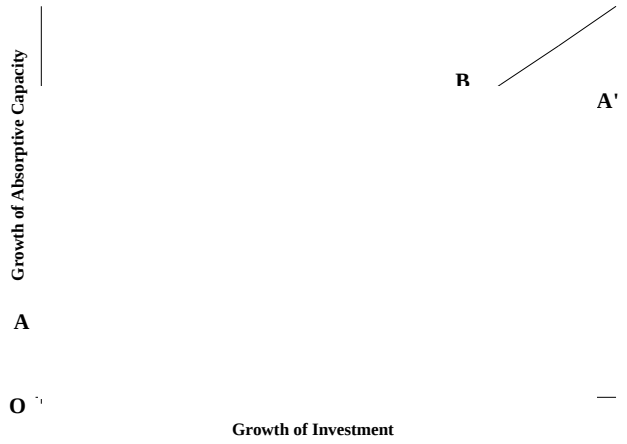
* This appendix draws on Karshenas (1990, pp.13 -18).

the public sector of the economy, do not necessarily enhance the productive potential of the society.

This brings into focus the significance of the practice of investment in the diffusion and assimilation of technological and organizational kills. The significance of investment in this regard is not only confined to the learning processes involved in each individual act of investment, but it also plays a broader social and macroeconomic function by signalling the direction in which the acquisition of new skills, necessary for enhancing the productive potential of the economy, should go. Formal education, if planned appropriately, could play an important complementary role in raising the stock of knowledge in the society as a whole, but it cannot substitute for the learning processes which arise out of the practice of investment and production. The shape of the absorptive capacity function, which is meant to incorporate this latter category of learning processes, depends on the existing social and economic institutions of the country, and assumes as given the complementary skills which formal education could contribute to the common stock of knowledge of the society.

At a zero rate of growth of gross investment, the rate of change of the organizational and technical capabilities of the economy is at a minimum positive rate of OA. The positive value of the intercept of the function captures the effect of the learning processes which take place, partly due to the improved sills of those individuals and organizations who are already involved in undertaking investment activities at the current level, and partly due to the creation of new skills which takes place independently of the investment activity itself. The slope of the absorptive capacity function is positive, which characterizes the fact that a higher rate of growth of investment activity implies a higher rate of growth of skill formation. The sign of the second derivative of the function can be plausibly argued to be negative – due to the fact that a higher rate of growth of investment implies a higher ratio of newly acquired skills, and hence less experienced, in the existing stock of such skills.

Figure A1.1: Absorptive Capacity Function



For an economy with a large number of unemployed and underemployed labourers, whose absorptive capacity function is characterized by the function AA', the point of intersection of this function with the 45 degree line (i.e., point B) determines the rate of growth of investment consistent with the growth of capacity to invest in the domestic economy. This could be regarded as the long-term absorptive capacity of an economy whose absorptive capacity function, as determined by the sum total of its social and economic institutions, is characterized by the curve AA'.

If the rate of growth of investment in to the left of point B, then the economy would tend to be characterized by a growing degree of slack in technical and organizational skills over time. This situation is characteristic of an LDC facing a foreign exchange or a savings constraint. External resources could be used in such an economy to raise the rate of growth to the absorptive capacity limit (i.e., point B). This is the classic argument put forward in the development literature in support of foreign aid. If the rate of growth of gross investment falls to the right of the point B, then the economy would be encountering a growing shortage of specific skills which cannot be procured from within the domestic economy.

This representation of the concept of absorptive capacity could be used to highlight the two main definitions of absorptive capacity limit referred to above. On the one hand, those economists who consider it as an upper bound to the rate of growth of investment in the long run, should have strong reasons to believe that imports of skills cannot be relied upon to step up the rate of growth of investment on a permanent basis beyond the point B in Figure A1.1. Kalecki (1966) puts forward two reasons for this. First, though it is possible (and in many cases necessary) to import some of the highly specialized services of foreign technicians, this is not politically feasible for a large number of intermediate skills. The political implications are grave, especially in large immature economies where a major part of the indigenous labour force is underemployed. Secondly, at such a high rate of growth the increment of imports of capital and intermediate goods for each additional unit of income is expected to be very high. Even in an oil economy it is therefore unlikely that the rate of growth of foreign exchange revenues could keep up with the mounting foreign exchange bill resulting from a large-scale inflow of foreign skilled workers. Since in the discussion of absorptive capacity the question of foreign exchange constraint is assumed away, it is the first of these two reasons which should figure most prominently in postulating an upper bound on the long-term growth of investment. On the other hand, one can characterize point B as a long-term absorptive capacity limit in the sense that growth of gross investment exceeding that limit would involve decreasing returns. This could be due to a permanent over-stretching of the supplies of domestic skills and increasing use of foreign skills which are normally much more costly than their domestic substitutes.

According to the first interpretation, therefore, point B in figure A1.1 sets a ceiling to the rate of growth of gross investment in a labour abundant economy in the long run. Given the value of the capital-output ratio, it also determines a unique maximal growth path for such an economy. If for reasons related to the existence of other types of short-run bottlenecks in the economy there is a cyclical decline in the rate of investment, the new maximal path of incomes would be permanently below the previous path. According to the second interpretation of absorptive capacity limit, while in principle such temporary disruptions to the growth of output could be compensated for, it would involve an unnecessarily high cost due to the rising capital-output ratio, and could exert undue pressures on the level of consumption in an underdeveloped economy in the short-run.

The concept of absorptive capacity is basically meant to characterize the limit to the rate of growth of investment set by all the domestic factors of production which either cannot be imported or face rapidly rising import supply prices. In this sense, one can also include factors such as power, transport and general infrastructures. It should be

noted, however, that the significance of the human skill bottleneck depends on the fact that its rate of growth is closely geared to the very process of development itself and, past a certain limit, cannot be appreciably expanded by additional investment, while the latter category of bottlenecks can be expanded in the long run without a limit by diverting the necessary investment towards them. The emergence of such bottlenecks in a modern economy could be mainly due to lack of foresight and policy mistakes, or unforeseen external shocks. We shall therefore refer to this latter concept of absorptive capacity as conjectural or short term.

Such short-term bottlenecks – which on a moderate scale are in fact inevitable in a growing economy due to lack of perfect information on the part of the planners and the private decision-making units – could also appear due to disproportionalities in the supply and demand for specific skills. To the extent that they act as signals for directing the resources into desirable channels, and as inducements for the private institutions to invest in such activities, they could even be regarded as beneficial (see Hirschman1958, Hirschman and Lindblom 1962). If an attempt is made, however, to increase the rate of investment appreciably in a short span of time though rapid inflow of external resources, these bottlenecks would tend to lose their signalling function and turn into barriers to growth. An overheated economy would develop, characterized by abnormally high capital-output ratios, high inflation and the simultaneous appearance of several of the above bottlenecks – in the sense that the alleviation of one bottleneck would in a circular manner depend upon the removal of another bottleneck and son on. In a moderately overheated economy the rise in the capital-output ratio is due to the delays which arise from infrastructural bottlenecks and the lengthening of the period of construction of the capital stock due to the shortages in technical and organizational skills. Beyond a certain point, however, extra investment even produce negative returns due to the disruption of raw material supplies to existing production units, speculation and undesirable redistribution of income from industrialists and producers in general and towards the middlemen and speculators. This situation, which for example characterized some of the Middle Eastern oil economies after the 1974 oil price boom, could be attributed to policy mistakes by the government rather than arising from the lack of information or adequate regulatory mechanisms in the economists' sense of these terms. The Yemeni economy over the past decade has never even remotely approaches such limits.

ANNEX III:

Methodological Notes on the Comparison of HIES 98 and NPS 99.

In this report we have attempted to combine the information in the Household Income and Expenditure Survey (HIES) 1998 and the National Poverty Survey (NPS) 1999 to examine the poverty situation in Yemen. Both surveys were conducted by the Central Statistical Organization, Ministry of Planning and Development, Republic of Yemen. The HIES 98 has been the main source of data for poverty measurement and analysis. The reason is that NPS 99, despite its much larger sample size and more detailed questionnaire, does not take into account the seasonality element in household expenditure. If the interest is in measuring absolute poverty in relation to a particular poverty line – a measure which is sensitive to the accuracy of measurement of consumption levels – the exclusion of seasonal elements in the NPS 99 data can lead to serious errors. Hence the preference for the use of the HIES 98 for poverty analysis by both the Government of Yemen (GoY) and the World Bank (see, e.g., GoY 2002 and World Bank 2002).

Nevertheless, given the much larger sample size of NPS 99, which implies a substantial reduction in sampling error, particularly with regard to disaggregated regional poverty profiles, and the richness of its questionnaire, this practice has meant a considerable loss of valuable information contained in NPS 99. In this appendix we have tried to utilize the information in NPS 99 to examine the poverty situation in Yemen, by attempting a mapping between the poor as measured in the NIES 98 survey and the low income strata in NPS 99.

On the basis of the HIES 98 data, and the regional poverty lines defined by the government of Yemen, it is estimated that about 41.8 per cent of the population fall below the poverty line (World Bank 2002).[48] It may be therefore plausible to assume that the bottom 40 per cent of expenditure groups in NPS 99 should represent the poor fairly accurately. This, however, is only true under certain assumptions which need to be spelled out explicitly. First, it assumes that the seasonal element of consumption expenditure does not substantially alter the consumption ranking of the individuals between the two surveys, at least relative to the poverty line.[49] It also assumes that there has not occurred a substantial change in the status of the poor between the two surveys, which is plausible given the closeness of the timing of the two surveys.

A more problematic issue relates to the variations in poverty lines across regions, which implies that the 41.8 per cent headcount poverty estimated on the basis of the HIES 98, does not necessarily refer to the bottom 41.8 per cent consumption groups ranked in nominal terms. The coefficient of variation of the regional poverty lines

[48] Throughout this appendix NIES 98 poverty estimates refer to poverty as estimated with reference to what the World Bank (2000) refers to as the lower poverty line, as distinct from the food poverty line and the upper poverty line.

[49] It should be noted that despite the large differences in income distribution between the two surveys, as for example indicated by the gini coefficient of consumption expenditure, the average per capita consumption of the 4th decile of NPS 99 is remarkably close to the same figure for NIES 98, about 3000 rials per month as compared to 2896 rials respectively.

used for the measurement of poverty in Yemen is about 7 per cent for the urban areas and 8 per cent for the rural areas (based on, World Bank 2002, page 10). Hence, a person that may be counted as poor, say in Sana city, may have a higher average consumption in nominal terms as compared to a person who is just above the poverty line but lives in a less expensive region. To get round this problem it would be necessary to make a mapping between the two surveys on a region by region basis. However, given the possibly large sampling errors in regional estimates arising from the small size of the HIES 98, it is not clear whether such extra effort would improve the accuracy of the estimates. The possible gains in accuracy resulting from accounting for regional variations in poverty lines may be more than neutralized by the potentially large sampling errors in regional poverty estimates based on the NIES 98 survey.

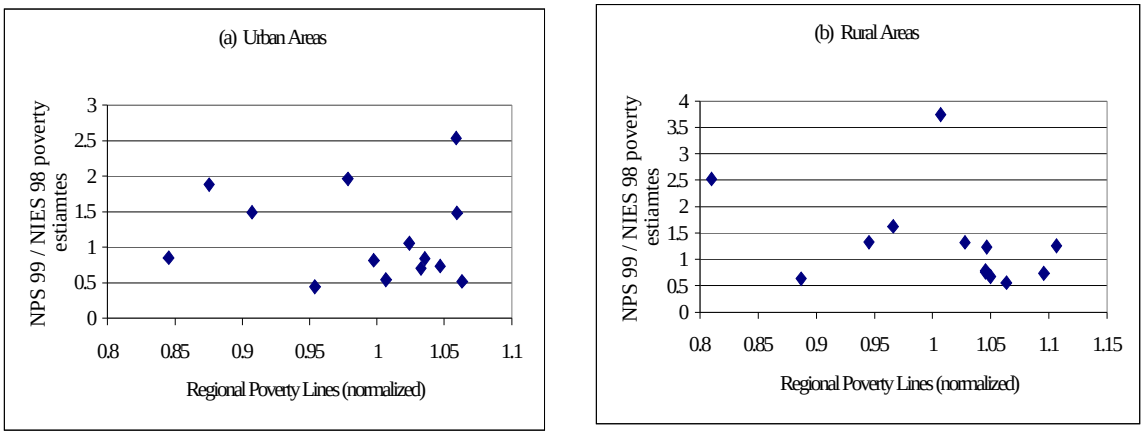
With these caveats in mind, one may proceed to investigate the profile of the bottom 40 per cent consumption groups in the NPS 99 survey as a plausible characterization of the conditions of the poor in Yemen. As the last point in the above paragraph indicates, this procedure can imply the exclusion of some of the households that are marginally below the poverty line in areas where the cost of living is above average, such as the Sana city, and the inclusion of some cases in relatively lower cost areas that are marginally above the line. However, given the large population of the poor, this should not significantly alter the average characteristics of the poor as measured by the bottom 40 per cent in the NPS 99 survey at the national level. In fact, it is our contention that given the small sample size of the NIES 98 survey, sampling error poses much more serious problems at a disaggregated regional level, than the neglect of the variations in regional poverty lines involved in the method adopted here. This is in fact a testable proposition which can be verified on the basis of the data.

To verify this proposition we have estimated regional headcount poverty levels on the basis of NPS 99 by selecting the bottom 40 per cent of the population on the basis of their consumption levels and by counting the number of the poor in each region in this sub-population. If the main source of error in this procedure as compared to existing poverty measures based on NIES 98 is the neglect of the variations in the regional poverty lines, then we should be able to observe a close and negative relationship between the NPS/NIES ratio of regional poverty estimates and the regional poverty lines. In other words, the NPS 99 headcount measures, as estimated here, should underestimate poverty in regions with relatively higher poverty lines. On the other hand, if the main difference between the two estimates is the sampling errors resulting from small regional sample sizes in NIES 98, we should observe wide variations in the regional headcount NPS/NIES ratios without any discernable trends *vis a vis* the regional poverty lines.[50] The results of this exercise are reported in Figure A.1, panels (a) and (b) for the urban and rural areas respectively. As can be seen, there are wide variations in regional poverty estimates between the two surveys, without any discernible relationship between such variations and the regional poverty lines. Given that the sample size of the NPS 99 is almost four times higher than the NIES 98

[50] There are of course other non-sampling sources of discrepancy between the two surveys, e.g. those resulting from definitional differences in the two surveys, differences in recall periods, and the neglect of the seasonal element in the NPS 99 survey. However, there is no reason why such non-sampling sources of discrepancy between the two surveys should lead to such large region specific variations in poverty measurement.

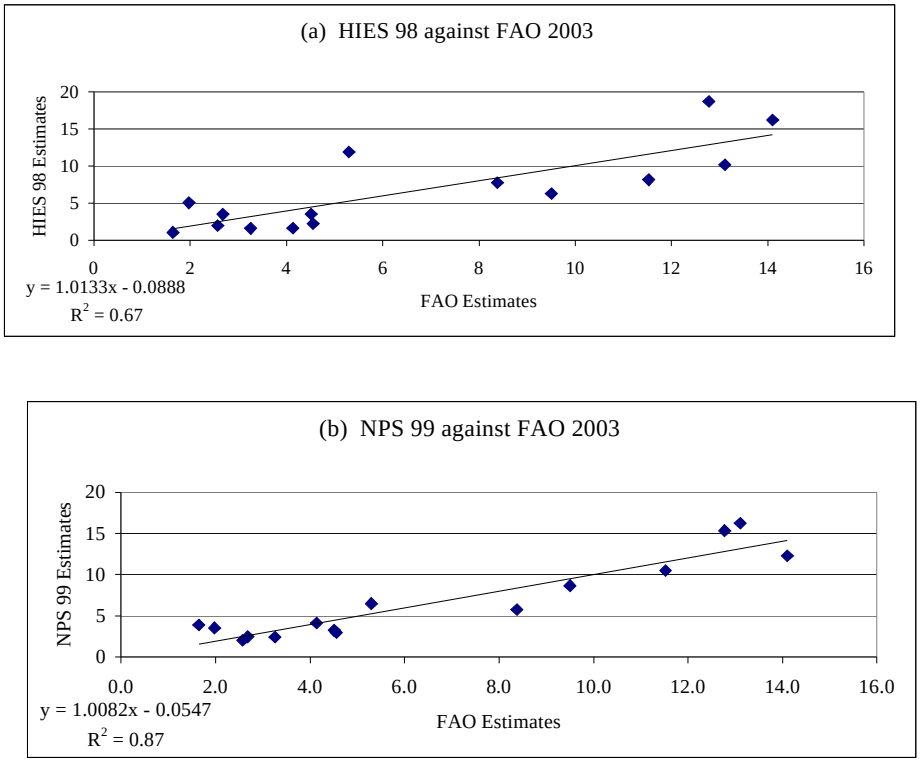
survey, it may be plausible to assume that such variations can be more due to sampling errors in NIES 98.

Figure A.1: Regional Poverty Estimates (NPS 99 / NIES 98), against Regional Poverty Lines



Notes: Regional poverty lines are normalized by setting their mean equal to 1.
Sources: World Bank (2002) for NIES 98 measures, and our calculations for NPS 99 as described in the text.

Figure A.2: Regional Poverty Estimates, HIES 98 and NPS 99 Against FAO 2003 Estimates



Notes: FAO Estimates are based on the proportion of food vulnerable people living in each region.
Sources: HIES 98 headcount poverty estimates based on World Bank 2002, NPS 99 estimates as discussed in the text. FAO Estimates are based on FAO 2004, Table 5.2.

To further substantiate this proposition we have compared the regional poverty estimates from the two surveys with the FAO estimates of the regional distribution of the population which was vulnerable to food insecurity in 2003. The FAO estimates are based on a large sample size of more than 116000 households (as compared to about 50000 in NPS 99, about 13000 NIES 98). AS can be seen from Figure A.2, the NPS 99 regional estimates, based on the bottom 40 per cent income groups, appear to have a much better fit to the FAO results, as compared to the NIES 98 regional poverty estimates. It appears that, at least at the regional level, the NPS 99 survey provides a more representative sample than the NIES 98 survey. This also lends further support to the idea of using the characteristics of the 40 per cent bottom consumption groups in NPS 99 for profiling the conditions of the poor at a disaggregated level.

This of course does not mean that the NIES 98 survey is incompatible with the NPS 99 survey at a more aggregate level. In fact, as shown in Table 1, once we set the aggregate poverty in the NPS 99 41.8 per cent, the same as the HIES 98 measure, the aggregate poverty measures for the rural and urban areas become very close.

Table 1, Poverty Indicators in Yemen, HIES 98 and NPS 99 Compared

	Total	Rural	Urban	Sample Size
Pover Line (YR, per capita, per month)	3210	3215	3195	..
Headcount Poverty , HIES 98	41.8	45.0	30.8	13641
Headcount Poverty , NPS 99	41.8*	45.2	32.0	54000

Notes: * Total for NPS 99 is set equal to NIES measure, but the rural and urban components are measured freely.

The conditions of the poor, and particularly the dynamics of poverty, are not of course independent of the conditions of the non-poor, e.g., their location, income levels, savings potential and investment behaviour, etc. The use of the NPS 99 survey, with its relatively large sample size, allows a comparison of the conditions of the poor in conjunction with the characteristics of different strata of non-poor, without unduly reducing the precision of the indicators. In the attached tables we have referred to the bottom 40 per cent of consumption groups in NPS 99 as the poor. In addition we have distinguish two additional strata of non-poor, namely the second 40 per cent of income groups – referred to as the middle income groups – and the top 20 per cent deciles referred to as the rich.

Tables of Profiles of the Poor, Middle Income and the Rich in Yemen in 1999

Table A.1 Prevalence of Poverty in Rural and Urban Areas

Area	Poor	Middle Income	Rich	Total
Urban	0.307	0.404	0.289	1
Rural	0.433	0.398	0.168	1
Total	0.400	0.400	0.200	1

Source: Estimates based on NPS 1999

Table A.2 Distribution of the Poor between Rural and Urban Areas

Area	Poor	Middle Income	Rich	Total
Urban	0.200	0.264	0.377	0.261
Rural	0.800	0.736	0.623	0.739
Total	1	1	1	1

Source: Estimates based on NPS 1999

Table A.3 Joint Density of Residence and Consupmtion Group

Area	Poor	Middle Income	Rich	Total
Urban	0.080	0.105	0.075	0.261
Rural	0.320	0.295	0.125	0.739
Total	0.400	0.400	0.200	1

Source: Estimates based on NPS 1999

Table A.4 Per capita Expenditure Relative to the National Average

Area	Poor	Middle Income	Rich	Total
Urban	0.352	0.898	2.733	1.261
Rural	0.327	0.877	2.472	0.908
Total	0.332	0.883	2.570	1

Source: Estimates based on NPS 1999

Table A.5: Population Classified by Expenditure Level (Totals)

Governorate	URBAN				RURAL				NATIONAL			
	Poor	Middle Class	Rich	Total	Poor	Middle Class	Rich	Total	Poor	Middle Class	Rich	Total
IBB	70699	117179	85385	273263	745707	650121	218973	1614801	816406	767300	304358	1888064
ABYAN	31666	36057	15441	83164	131829	127232	57575	316636	163495	163289	73016	399800
SANA'A CITY	215400	513576	631870	1360846	.	.	.	.	215400	513576	631870	1360846
BAIDAH	35383	39937	18719	94039	222290	173302	66509	462101	257673	213238	85228	556139
TAIZ	132948	219722	124053	476723	887182	586376	199225	1672783	1020130	806098	323278	2149506
JAWF	14668	24628	20950	60246	206543	134293	91928	432764	221211	158922	112878	493010
HAJJAH	42013	55076	40848	137937	534013	462188	253219	1249420	576026	517265	294067	1387357
HODEIDAH	395834	296196	70915	762945	683045	439336	107282	1229663	1078879	735532	178197	1992608
HADRAMOUT	169248	109250	33127	311625	317120	178932	46757	542809	486368	288182	79884	854434
DHAMAR	29909	64686	36408	131003	353148	453498	167326	973972	383057	518184	203733	1104975
SHABWAH	25673	23465	10619	59757	167808	200237	85665	453710	193481	223702	96284	513467
SA'ADA	22480	33578	16915	72973	175287	226770	97752	499809	197767	260347	114667	572782
SANA'A GOV.	3940	11350	8345	23635	427608	517111	265830	1210549	431548	528461	274175	1234184
ADEN	136537	194188	137066	467791	.	.	.	.	136537	194188	137066	467791
LAHJ	12926	10348	3468	26742	221640	250500	110300	582440	234566	260848	113768	609182
MA'AREB	4823	10707	12248	27778	49283	81909	75060	206252	54107	92616	87308	234030
MAHWEET	8534	15575	7884	31993	152787	179162	63028	394977	161322	194737	70912	426970
MAHRAH	6520	8026	7458	22005	11722	19448	10736	41906	18242	27475	18194	63911
AMRAN	32921	53088	31866	117875	253765	342650	165807	762223	286687	395739	197673	880098
DALEH	12441	15875	11838	40153	79654	149409	104024	333087	92094	165284	115862	373241
Total	**1404563**	**1852508**	**1325422**	**4582493**	**5620431**	**5172475**	**2186996**	**12979902**	**7024994**	**7024983**	**3512418**	**17562395**

NOTE: Population ranked at the national level according to p.c. expenditure

Table A.6: Population Classified by Expenditure Level (Totals)

Governorate	URBAN					RURAL					NATIONAL			
	Poor	Middle Class	Rich	Total		Poor	Middle Class	Rich	Total		Poor	Middle Class	Rich	Total
IBB	0.26	0.43	0.31	1.00		0.46	0.40	0.14	1		0.43	0.41	0.16	1.00
ABYAN	0.38	0.43	0.19	1.00		0.42	0.40	0.18	1		0.41	0.41	0.18	1.00
SANA'A CITY	0.16	0.38	0.46	1.00							0.16	0.38	0.46	1.00
BAIDAH	0.38	0.42	0.20	1.00		0.48	0.38	0.14	1		0.46	0.38	0.15	1.00
TAIZ	0.28	0.46	0.26	1.00		0.53	0.35	0.12	1		0.47	0.38	0.15	1.00
JAWF	0.24	0.41	0.35	1.00		0.48	0.31	0.21	1		0.45	0.32	0.23	1.00
HAJJAH	0.30	0.40	0.30	1.00		0.43	0.37	0.20	1		0.42	0.37	0.21	1.00
HODEIDAH	0.52	0.39	0.09	1.00		0.56	0.36	0.09	1		0.54	0.37	0.09	1.00
HADRAMOUT	0.54	0.35	0.11	1.00		0.58	0.33	0.09	1		0.57	0.34	0.09	1.00
DHAMAR	0.23	0.49	0.28	1.00		0.36	0.47	0.17	1		0.35	0.47	0.18	1.00
SHABWAH	0.43	0.39	0.18	1.00		0.37	0.44	0.19	1		0.38	0.44	0.19	1.00
SA'ADA	0.31	0.46	0.23	1.00		0.35	0.45	0.20	1		0.35	0.45	0.20	1.00
SANA'A GOV.	0.17	0.48	0.35	1.00		0.35	0.43	0.22	1		0.35	0.43	0.22	1.00
ADEN	0.29	0.42	0.29	1.00							0.29	0.42	0.29	1.00
LAHJ	0.48	0.39	0.13	1.00		0.38	0.43	0.19	1		0.39	0.43	0.19	1.00
MA'AREB	0.17	0.39	0.44	1.00		0.24	0.40	0.36	1		0.23	0.40	0.37	1.00
MAHWEET	0.27	0.49	0.25	1.00		0.39	0.45	0.16	1		0.38	0.46	0.17	1.00
MAHRAH	0.30	0.36	0.34	1.00		0.28	0.46	0.26	1		0.29	0.43	0.28	1.00
AMRAN	0.28	0.45	0.27	1.00		0.33	0.45	0.22	1		0.33	0.45	0.22	1.00
DALEH	0.31	0.40	0.29	1.00		0.24	0.45	0.31	1		0.25	0.44	0.31	1.00
Total	**0.31**	**0.40**	**0.29**	**1.00**		**0.43**	**0.40**	**0.17**	**12979902**		**0.40**	**0.40**	**0.20**	**1.00**

NOTE: Population ranked at the national level according to p.c. expenditure

Table A.7: Population Classified by Expenditure Level (Percentage shares)

Governorate	URBAN					RURAL					NATIONAL			
	Poor	Middle Class	Rich	Total		Poor	Middle Class	Rich	Total		Poor	Middle Class	Rich	Total
IBB	5.0	6.3	6.4	6.0		13.3	12.6	10.0	12.4		11.6	10.9	8.7	10.8
ABYAN	2.3	1.9	1.2	1.8		2.3	2.5	2.6	2.4		2.3	2.3	2.1	2.3
SANA'A CITY	15.3	27.7	47.7	29.7		.	.	.	.		3.1	7.3	18.0	7.7
BAIDAH	2.5	2.2	1.4	2.1		4.0	3.4	3.0	3.6		3.7	3.0	2.4	3.2
TAIZ	9.5	11.9	9.4	10.4		15.8	11.3	9.1	12.9		14.5	11.5	9.2	12.2
JAWF	1.0	1.3	1.6	1.3		3.7	2.6	4.2	3.3		3.1	2.3	3.2	2.8
HAJJAH	3.0	3.0	3.1	3.0		9.5	8.9	11.6	9.6		8.2	7.4	8.4	7.9
HODEIDAH	28.2	16.0	5.4	16.6		12.2	8.5	4.9	9.5		15.4	10.5	5.1	11.3
HADRAMOUT	12.0	5.9	2.5	6.8		5.6	3.5	2.1	4.2		6.9	4.1	2.3	4.9
DHAMAR	2.1	3.5	2.7	2.9		6.3	8.8	7.7	7.5		5.5	7.4	5.8	6.3
SHABWAH	1.8	1.3	0.8	1.3		3.0	3.9	3.9	3.5		2.8	3.2	2.7	2.9
SA'ADA	1.6	1.8	1.3	1.6		3.1	4.4	4.5	3.9		2.8	3.7	3.3	3.3
SANA'A GOV.	0.3	0.6	0.6	0.5		7.6	10.0	12.2	9.3		6.1	7.5	7.8	7.0
ADEN	9.7	10.5	10.3	10.2		.	.	.	.		1.9	2.8	3.9	2.7
LAHJ	0.9	0.6	0.3	0.6		3.9	4.8	5.0	4.5		3.3	3.7	3.2	3.5
MA'AREB	0.3	0.6	0.9	0.6		0.9	1.6	3.4	1.6		0.8	1.3	2.5	1.3
MAHWEET	0.6	0.8	0.6	0.7		2.7	3.5	2.9	3.0		2.3	2.8	2.0	2.4
MAHRAH	0.5	0.4	0.6	0.5		0.2	0.4	0.5	0.3		0.3	0.4	0.5	0.4
AMRAN	2.3	2.9	2.4	2.6		4.5	6.6	7.6	5.9		4.1	5.6	5.6	5.0
DALEH	0.9	0.9	0.9	0.9		1.4	2.9	4.8	2.6		1.3	2.4	3.3	2.1
Total	**100.0**	**100.0**	**100.0**	**100.0**		**100.0**	**100.0**	**100.0**	**100.0**		**100.0**	**100.0**	**100.0**	**100.0**

NOTE: Population ranked at the national level according to p.c. expenditure

Table A.8: Is the household doing better than last year?

	URBAN					RURAL					NATIONAL			
	Poor	Middle Class	Rich	Total		Poor	Middle Class	Rich	Total		Poor	Middle Class	Rich	Total
BETTER	5.5	13.5	24.8	14.3		5.4	9.9	20.3	9.7		5.4	10.9	22.0	10.9
SAME	35.8	41.0	40.1	39.1		39.9	48.9	47.9	44.8		39.1	46.8	44.9	43.4
WORSE	56.8	43.5	33.5	44.7		52.4	38.8	29.5	43.1		53.3	40.0	31.0	43.5
NOT STATED	1.9	2.0	1.7	1.9		2.3	2.4	2.3	2.3		2.2	2.3	2.1	2.2
Total	**100.0**	**100.0**	**100.0**	**100.0**		**100.0**	**100.0**	**100.0**	**100.0**		**100.0**	**100.0**	**100.0**	**100.0**

NOTE: Population ranked at the national level according to p.c. expenditure

Table A.9: What do you consider to be the status of the household?

	URBAN					RURAL					NATIONAL			
	Poor	Middle Class	Rich	Total		Poor	Middle Class	Rich	Total		Poor	Middle Class	Rich	Total
GOOD	3.9	10.0	24.9	12.5		3.3	7.3	18.5	7.5		3.4	8.0	20.9	8.8
AVERAGE	39.2	61.2	63.5	55.1		32.2	51.2	55.0	43.6		33.6	53.8	58.2	46.6
POOR	40.9	23.9	8.9	24.8		46.7	33.6	21.4	37.2		45.5	31.0	16.6	33.9
VERY POOR	15.0	3.5	1.6	6.5		16.2	6.2	3.4	10.0		15.9	5.5	2.7	9.1
NOT STATED	0.9	1.4	1.1	1.2		1.7	1.7	1.7	1.7		1.5	1.6	1.5	1.6
Total	**100.0**	**100.0**	**100.0**	**100.0**		**100.0**	**100.0**	**100.0**	**100.0**		**100.0**	**100.0**	**100.0**	**100.0**

NOTE: Population ranked at the national level according to p.c. expenditure

Table A.10: Household Characteristics of Population Classified by Expenditure Level

	URBAN					RURAL					NATIONAL			
Characteristic of Household	**Poor**	**Middle Class**	**Rich**	**Total**		**Poor**	**Middle Class**	**Rich**	**Total**		**Poor**	**Middle Class**	**Rich**	**Total**
HH total members	10.0	9.2	8.4	9.2		9.5	9.2	8.4	9.2		9.6	9.2	8.4	9.2
HH total members (15+ years)	5.3	5.0	4.9	5.1		4.5	4.5	4.4	4.5		4.6	4.6	4.6	4.6
HH males members (15+ years)	2.6	2.5	2.4	2.5		2.1	2.2	2.1	2.2		2.2	2.3	2.2	2.3
HH females members (15+ years)	2.7	2.5	2.4	2.5		2.3	2.3	2.3	2.3		2.4	2.4	2.3	2.4
Enrollment- total (6-15 years)	2.5	2.4	2.0	2.3		1.6	1.7	1.5	1.6		1.8	1.8	1.7	1.8
Enrollment- total (16-18 years)	0.5	0.5	0.5	0.5		0.2	0.3	0.2	0.2		0.3	0.3	0.3	0.3
Employment- total (15+ years)	1.6	1.7	1.8	1.7		2.0	2.4	2.4	2.2		1.9	2.2	2.2	2.1
Unemployment- total (15+ years)	0.4	0.3	0.2	0.3		0.2	0.1	0.1	0.2		0.2	0.2	0.1	0.2
Dependency rate (#<15 / #15+)	1.19	1.09	0.92	1.07		1.49	1.31	1.09	1.35		1.43	1.25	1.02	1.28
LFPR	0.38	0.42	0.43	0.41		0.53	0.57	0.59	0.56		0.50	0.53	0.53	0.52
LFPR Males	0.71	0.74	0.75	0.74		0.76	0.80	0.82	0.79		0.75	0.78	0.80	0.77
LFPR Females	0.10	0.12	0.13	0.11		0.32	0.38	0.39	0.36		0.28	0.31	0.29	0.29
Unemployment rate	0.15	0.11	0.07	0.11		0.08	0.05	0.04	0.06		0.09	0.07	0.05	0.07
Unemployment rate Males	0.16	0.11	0.07	0.11		0.09	0.06	0.04	0.07		0.11	0.07	0.06	0.08
Unemployment rate Females	0.14	0.11	0.08	0.11		0.03	0.02	0.02	0.02		0.04	0.03	0.03	0.03
Illiteracy rate	0.44	0.35	0.28	0.36		0.69	0.64	0.60	0.66		0.64	0.57	0.48	0.58
Illiteracy rate Males	0.30	0.20	0.14	0.21		0.51	0.43	0.37	0.45		0.47	0.37	0.28	0.39
Illiteracy rate Females	0.60	0.52	0.43	0.52		0.87	0.86	0.83	0.86		0.82	0.77	0.68	0.77

NOTES:

Total population ranked according to level of expenditure. Mean numbers are for total population

Estimated labor force participation and illiteracy rates are for population in households with at least one member of 15 years or more.

Estimated unemployment rates are for population in households with at least one economically active member of 15 years or more

Table A.11: Characteristics of Head of Household for Population Ranked According to Per Capita Expenditure (% of population living in households classified according to characteristics of the household head

	URBAN					RURAL					NATIONAL			
Characteristic of household head	**Poor**	**Middle Class**	**Rich**	**Total**		**Poor**	**Middle Class**	**Rich**	**Total**		**Poor**	**Middle Class**	**Rich**	**Total**
SEX														
Male	90.1	92.4	93.5	92.0		90.1	92.1	92.2	91.3		90.1	92.2	92.7	91.5
Female	9.9	7.6	6.5	8.0		9.9	7.9	7.8	8.7		9.9	7.8	7.3	8.5
AGE														
<26	3.5	3.9	5.2	4.2		4.6	5.7	8.0	5.6		4.3	5.2	7.0	5.2
26-64	85.4	85.2	86.0	85.5		82.1	80.6	77.5	80.7		82.8	81.8	80.7	82.0
65+	11.1	10.9	8.7	10.3		13.3	13.7	14.5	13.7		12.8	13.0	12.3	12.8
EDUCATION														
Illiterate	59.4	47.5	38.4	49.5		75.2	68.3	61.5	70.3		72.2	63.5	54.5	65.5
r&w	25.2	30.5	34.4	29.6		19.0	22.9	27.8	22.0		20.2	24.7	29.8	23.7
elementary	7.9	10.0	12.3	9.8		2.7	4.0	4.8	3.6		3.7	5.4	7.1	5.0
< secondary	7.0	10.8	12.9	10.0		2.7	4.3	5.2	3.7		3.5	5.8	7.5	5.2
secondary	0.2	0.4	0.5	0.3		0.1	0.1	0.2	0.1		0.1	0.2	0.3	0.2
higher	0.3	0.8	1.6	0.8		0.3	0.3	0.4	0.3		0.3	0.4	0.8	0.4
SECTOR OF EMPLOYMENT														
Inactive	24.7	18.1	16.0	19.5		16.9	13.9	12.2	14.9		18.5	15.0	13.7	16.1
Unemployed	3.7	2.8	1.7	2.8		2.0	1.0	0.5	1.3		2.3	1.5	1.0	1.7
Govt.	20.5	31.3	39.6	30.4		8.0	11.6	14.3	10.5		10.5	16.8	23.9	15.7
Private	50.3	46.7	41.1	46.2		71.7	72.3	71.9	72.0		67.5	65.6	60.3	65.3
Cooperative	0.2	0.5	0.9	0.5		0.6	0.4	0.2	0.5		0.5	0.5	0.5	0.5
Other	0.6	0.7	0.6	0.6		0.7	0.7	0.7	0.7		0.7	0.7	0.7	0.7
	100.0	100.0	100.0	100.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0	100.0	100.0

Table A.11 Continued: Characteristics of Head of Household for Population Ranked According to Per Capita Expenditure (% of population living in households classified according to characteristics of the household head

EMPLOYMENT STATUS													
Inactive	24.7	18.1	16.0	19.5		16.9	13.9	12.2	14.9		18.5	15.0	13.7	16.1
Unemployed	3.7	2.8	1.7	2.8		2.0	1.0	0.5	1.3		2.3	1.5	1.0	1.7
Wage-employee	44.0	47.7	51.9	47.8		34.8	28.8	25.7	30.9		36.6	33.8	35.6	35.3
Self-employed	25.6	28.2	21.7	25.5		42.6	50.4	51.6	47.2		39.2	44.5	40.3	41.6
Employer	1.7	3.1	8.4	4.2		2.5	4.7	8.7	4.4		2.4	4.3	8.6	4.4
Unpaid family worker or other	0.4	0.1	0.3	0.2		1.1	1.1	1.3	1.1		0.9	0.9	0.9	0.9
TYPE OF EMPLOYMENT														
Inactive	24.7	18.1	16.0	19.5		16.9	13.9	12.2	14.9		18.5	15.0	13.7	16.1
Unemployed	3.7	2.8	1.7	2.8		2.0	1.0	0.5	1.3		2.3	1.5	1.0	1.7
Permanent	58.7	71.4	76.4	68.9		39.0	49.3	60.0	46.6		42.9	55.1	66.2	52.4
Temporary	2.8	2.2	1.6	2.2		5.5	3.9	3.2	4.5		5.0	3.5	2.6	3.9
Seasonal	2.5	1.9	1.5	2.0		25.2	24.2	18.9	23.7		20.6	18.3	12.3	18.0
Casual/other	7.5	3.7	2.8	4.6		11.4	7.7	5.2	8.9		10.6	6.7	4.3	7.8
OCCUPATION														
Inactive or unemployed who never worked	28.4	20.8	17.7	22.2		18.9	14.9	12.8	16.3		20.8	16.5	14.6	17.8
Legislat. Sen. Off.	1.1	4.8	10.9	5.4		0.5	0.9	2.0	0.9		0.6	1.9	5.4	2.1
Professionals	3.3	6.2	9.3	6.2		1.6	2.5	3.0	2.2		1.9	3.4	5.4	3.2
Tech. Prof. Asst.	6.2	10.4	16.3	10.8		2.2	3.7	5.0	3.2		3.0	5.4	9.2	5.2
Clerks	3.0	4.4	5.0	4.1		0.5	0.8	0.8	0.7		1.0	1.7	2.4	1.6
Service and Sales Men	15.9	18.3	16.4	17.0		8.1	8.3	8.1	8.2		9.6	10.9	11.3	10.5
Agriculture and Fishing Work	5.1	4.9	4.4	4.8		39.4	45.4	49.9	43.6		32.5	34.8	32.7	33.5
Craft & Related Work	13.4	12.7	9.7	12.0		9.3	7.4	5.8	7.9		10.1	8.8	7.3	9.0
Plant & Machinery Operations.	7.5	8.6	5.5	7.4		3.9	5.0	4.5	4.5		4.6	6.0	4.9	5.2
Elementary Occupations	16.0	8.9	4.8	9.9		15.6	11.1	8.2	12.5		15.7	10.5	6.9	11.9
TOTAL	100.0	100.0	100.0	100.0		100.0	100.0	100.0	100.0		100.0	100.0	100.0	100.0

NOTE: Estimates for total population ranked according to level of expenditure

Table A.12: Characteristics of Population Classified by Expenditure Level

	URBAN					RURAL					NATIONAL			
Immunization rates of alive children under 5 in HH	**Poor**	**Middle Class**	**Rich**	**Total**		**Poor**	**Middle Class**	**Rich**	**Total**		**Poor**	**Middle Class**	**Rich**	**Total**
BCG - males	0.85	0.89	0.89	0.88		0.55	0.56	0.65	0.57		0.60	0.65	0.73	0.64
BCG - females	0.84	0.88	0.91	0.87		0.52	0.54	0.62	0.54		0.58	0.62	0.72	0.62
Polio 3 shots - males	0.78	0.82	0.83	0.81		0.47	0.51	0.55	0.50		0.53	0.59	0.65	0.57
Polio 3 shots - females	0.78	0.81	0.83	0.81		0.46	0.48	0.54	0.48		0.52	0.56	0.64	0.56
DPT 3 shots - males	0.74	0.81	0.80	0.78		0.42	0.44	0.49	0.44		0.48	0.53	0.60	0.52
DPT 3 shots - females	0.76	0.80	0.81	0.79		0.41	0.41	0.48	0.42		0.47	0.50	0.60	0.51
Measles - males	0.71	0.78	0.76	0.75		0.44	0.47	0.52	0.46		0.49	0.55	0.60	0.53
Measles - females	0.72	0.75	0.79	0.75		0.43	0.45	0.49	0.45		0.48	0.52	0.60	0.52

NOTE: Population ranked according to level of expenditure. Estimated proportions are for population in households with alive children under 5 only.

Table A.13: Housing Conditions of Population Classified by Expenditure Level

	URBAN					RURAL					NATIONAL			
Housing conditions	**Poor**	**Middle Class**	**Rich**	**Total**		**Poor**	**Middle Class**	**Rich**	**Total**		**Poor**	**Middle Class**	**Rich**	**Total**
Number of persons per room	4.3	3.1	2.2	3.2		4.3	3.6	2.8	3.8		4.3	3.4	2.5	3.6
Number of persons per bedroom	5.1	3.9	3.3	4.1		5.3	4.5	3.7	4.7		5.2	4.3	3.6	4.5
Dwelling humid	0.51	0.47	0.40	0.46		0.44	0.42	0.39	0.43		0.45	0.44	0.39	0.43
Dwelling chilly	0.54	0.57	0.60	0.57		0.67	0.69	0.70	0.69		0.64	0.66	0.67	0.65
Dwelling hot in summer	0.72	0.62	0.54	0.63		0.61	0.56	0.53	0.58		0.64	0.57	0.54	0.59
Dwelling with deficient ventilation	0.37	0.32	0.26	0.32		0.37	0.34	0.33	0.35		0.37	0.33	0.31	0.34

NOTE: Estimates for total population ranked according to level of expenditure

Table A.14: Access to Social Services of Population Classified by Expenditure Level (proportions)

	URBAN					RURAL					NATIONAL			
Social service	**Poor**	**Middle Class**	**Rich**	**Total**		**Poor**	**Middle Class**	**Rich**	**Total**		**Poor**	**Middle Class**	**Rich**	**Total**
Basic education	0.87	0.92	0.95	0.91		0.76	0.79	0.81	0.78		0.78	0.82	0.86	0.81
Secondary education	0.73	0.84	0.87	0.82		0.35	0.36	0.41	0.37		0.43	0.49	0.58	0.48
Higher education	0.59	0.60	0.59	0.59		0.10	0.11	0.13	0.11		0.20	0.24	0.31	0.24
Hospital	0.52	0.64	0.70	0.62		0.07	0.07	0.11	0.08		0.16	0.22	0.33	0.22
Private clinic/doctor	0.74	0.81	0.86	0.80		0.17	0.18	0.23	0.18		0.28	0.34	0.47	0.34
Primary healthcare	0.61	0.68	0.72	0.67		0.23	0.24	0.26	0.24		0.30	0.36	0.44	0.35
Maternity child health center	0.57	0.62	0.61	0.60		0.06	0.07	0.10	0.07		0.16	0.21	0.29	0.21
Pharmacy	0.83	0.90	0.92	0.88		0.21	0.21	0.27	0.22		0.33	0.39	0.52	0.39

NOTE: Estimates for total population ranked according to level of expenditure

Table A.15: Proportion of population holding land for different purposes

	URBAN					RURAL					NATIONAL			
Holding and purpose of land of household	**Poor**	**Middle Class**	**Rich**	**Total**		**Poor**	**Middle Class**	**Rich**	**Total**		**Poor**	**Middle Class**	**Rich**	**Total**
AGRILAND	0.08	0.12	0.16	0.12		0.60	0.72	0.80	0.68		0.49	0.56	0.56	0.53
FARMING	0.07	0.11	0.15	0.11		0.57	0.70	0.77	0.66		0.47	0.55	0.54	0.51
LIVSTOCK	0.02	0.02	0.03	0.02		0.20	0.27	0.31	0.25		0.17	0.20	0.20	0.19
WOODCOAL	0.00	0.01	0.01	0.01		0.08	0.12	0.13	0.10		0.07	0.09	0.09	0.08
DESERTD	0.01	0.02	0.02	0.02		0.03	0.04	0.06	0.04		0.03	0.04	0.05	0.03
OTHLAND	0.00	0.00	0.00	0.00		0.00	0.00	0.01	0.00		0.00	0.00	0.00	0.00

NOTE: Estimates for total population ranked according to level of expenditure

Table A.16: Proportion of Population Living in Household Growing Main Crops

	URBAN				RURAL				NATIONAL			
Crop grown by household	Poor	Middle Class	Rich	Total	Poor	Middle Class	Rich	Total	Poor	Middle Class	Rich	Total
TREES	0.01	0.02	0.02	0.02	0.09	0.12	0.14	0.11	0.07	0.09	0.09	0.08
COFFEE	0.00	0.00	0.01	0.01	0.02	0.05	0.07	0.04	0.02	0.04	0.05	0.03
FRUIT	0.01	0.02	0.04	0.02	0.03	0.07	0.14	0.06	0.02	0.06	0.10	0.05
QAT	0.01	0.04	0.07	0.04	0.17	0.30	0.44	0.27	0.14	0.23	0.30	0.21
CORN	0.04	0.07	0.10	0.07	0.43	0.52	0.54	0.49	0.35	0.40	0.37	0.38
WHEAT	0.01	0.03	0.06	0.03	0.07	0.13	0.18	0.11	0.06	0.10	0.13	0.09
SORGHUM	0.02	0.02	0.03	0.02	0.19	0.20	0.21	0.20	0.16	0.15	0.14	0.15
BARLEY	0.01	0.03	0.04	0.03	0.08	0.14	0.20	0.12	0.06	0.11	0.14	0.10
SESAME	0.00	0.01	0.01	0.01	0.02	0.03	0.04	0.03	0.02	0.02	0.03	0.02
BEANS	0.00	0.01	0.02	0.01	0.05	0.08	0.11	0.07	0.04	0.06	0.08	0.06
VEGGIES	0.01	0.01	0.03	0.02	0.03	0.07	0.11	0.06	0.03	0.05	0.08	0.05
CLOVER	0.02	0.03	0.05	0.04	0.15	0.22	0.28	0.20	0.12	0.17	0.19	0.16
COTTON	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
OTHCROP	0.01	0.01	0.02	0.02	0.09	0.10	0.10	0.10	0.08	0.08	0.07	0.07

NOTE: Estimates for total population ranked according to level of expenditure

Table A.17: Proportion of Population Living in Households Selling Animal Products

	URBAN					RURAL					NATIONAL			
Product sold	Poor	Middle Class	Rich	Total		Poor	Middle Class	Rich	Total		Poor	Middle Class	Rich	Total
MILK	0.002	0.001	0.001	0.002		0.004	0.003	0.003	0.004		0.004	0.003	0.002	0.003
GHEE	0.001	0.002	0.002	0.001		0.010	0.016	0.014	0.013		0.008	0.012	0.009	0.010
MEAT	0.001	0.001	0.002	0.001		0.008	0.007	0.009	0.008		0.007	0.005	0.006	0.006
EGGS	0.001	0.001	0.001	0.001		0.003	0.004	0.004	0.004		0.003	0.003	0.003	0.003
LEATHER	0.000	0.000	0.000	0.000		0.001	0.001	0.002	0.001		0.001	0.001	0.002	0.001
WOOL	0.000	0.000	0.000	0.000		0.001	0.001	0.002	0.002		0.001	0.001	0.001	0.001
HONEY	0.001	0.001	0.000	0.001		0.004	0.006	0.007	0.005		0.003	0.004	0.004	0.004
OTHPROD	0.000	0.000	0.000	0.000		0.000	0.000	0.001	0.000		0.000	0.000	0.001	0.000

NOTE: Estimates for total population ranked according to level of expenditure

Table A.18: Pattern of Expenditure (means p.c. - YR/month)

	URBAN				RURAL				NATIONAL			
	Poor	Middle Class	Rich	Total	Poor	Middle Class	Rich	Total	Poor	Middle Class	Rich	Total
CEREALS AND THEIR PRODUCTS	365	804	1672	920	662	1599	3602	1531	603	1389	2874	1371
PRESERVED AND DRIED LEGUMES	27	78	165	87	8	36	125	39	12	47	140	52
FRESH AND PRESERVED VEGETABLES	169	329	607	360	101	220	474	211	114	249	524	250
FRESH AND PRESERVED FRUITS	49	141	402	188	39	124	322	120	41	128	352	138
MEAT	97	329	941	435	80	269	1157	337	83	285	1075	362
FISH	78	103	161	112	31	50	89	48	40	64	116	65
DAIRY AND EGG	74	193	522	252	133	242	524	243	121	229	524	245
OIL AND FAT	62	150	335	176	98	262	566	242	91	232	479	225
SUGAR AND ITS PRODUCTS	59	141	469	211	91	304	832	301	85	261	695	277
SPICES AND OTHER FOOD STUFF	38	78	328	138	18	45	104	43	22	54	188	68
TEA AND COFFEE	35	70	137	79	55	129	267	120	51	114	218	110
MINERAL WATER AND BEVERAGES	12	30	113	48	1	8	32	9	3	14	62	19
TOBACCO AND QAT	174	581	1723	787	152	551	1627	560	156	559	1663	619
QAT	108	419	1407	610	103	431	1392	451	104	428	1398	492
PERSONAL SERVICES	1	3	33	11	0	0	5	1	0	1	16	4
DOMESTIC INSECTICIDES AND DETERGENTS	39	69	131	77	31	55	114	55	33	59	120	61
DWELLING EXPENSES	109	295	1059	459	20	50	482	110	38	115	700	201
DWELLING RENT OR LODGING EXPENSES IN HOTEL	45	168	444	210	2	4	8	4	10	47	173	57
ESTIMATED RENT	226	505	1429	687	91	242	682	251	118	311	964	365
EXPENDITURE ON FUEL AND LIGHTING MATERIALS	118	195	337	213	56	93	160	88	68	120	227	121
CLOTHES AND READY MADE CLOTHES	19	73	349	136	17	60	191	64	17	64	251	82
SHOES	7	22	86	36	9	23	53	22	9	23	65	26
PERSONAL COSMETICS AND THINGS	22	58	430	155	9	25	167	42	11	34	266	71
FURNITURE AND DOMESTIC ITEMS	2	12	157	51	1	6	43	10	1	8	86	21
LEISURE DURABLE GOODS	2	8	43	16	0	3	10	3	1	4	22	6
DURABLE EQUIPMENT AND GOODS	4	24	93	38	1	3	15	4	2	8	44	13
TRANSPORTATION AND COMMUNICATION	45	157	904	338	32	95	495	135	35	111	649	188
HEALTH CARE AND SERVICES	77	184	815	333	81	214	822	259	80	206	819	278
DURABLE MEANS OF TRANSPORTATION	0	6	177	54	1	7	91	19	1	7	124	28
EDUCATION, CULTURE AND SPORT	37	70	232	107	22	35	51	32	25	44	119	52
TRANSFERS AND OTHER EXPENSES	18	101	710	251	20	82	343	99	20	87	481	139
TOTAL	2115	5394	16411	7576	1966	5267	14846	5452	1996	5300	15436	6006

NOTE: Estimates for total population ranked according to level of expenditure

Table A.19: Pattern of Expenditure (shares in total p.c. household expenditure)

	URBAN				RURAL				NATIONAL			
Household expenditure	Poor	Middle Class	Rich	Total	Poor	Middle Class	Rich	Total	Poor	Middle Class	Rich	Total
CEREALS AND THEIR PRODUCTS	0.17	0.15	0.10	0.12	0.34	0.30	0.24	0.28	0.30	0.26	0.19	0.23
PRESERVED AND DRIED LEGUMES	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
FRESH AND PRESERVED VEGETABLES	0.08	0.06	0.04	0.05	0.05	0.04	0.03	0.04	0.06	0.05	0.03	0.04
FRESH AND PRESERVED FRUITS	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
MEAT	0.05	0.06	0.06	0.06	0.04	0.05	0.08	0.06	0.04	0.05	0.07	0.06
FISH	0.04	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01
DAIRY AND EGG	0.03	0.04	0.03	0.03	0.07	0.05	0.04	0.04	0.06	0.04	0.03	0.04
OIL AND FAT	0.03	0.03	0.02	0.02	0.05	0.05	0.04	0.04	0.05	0.04	0.03	0.04
SUGAR AND ITS PRODUCTS	0.03	0.03	0.03	0.03	0.05	0.06	0.06	0.06	0.04	0.05	0.05	0.05
SPICES AND OTHER FOOD STUFF	0.02	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
TEA AND COFFEE	0.02	0.01	0.01	0.01	0.03	0.02	0.02	0.02	0.03	0.02	0.01	0.02
MINERAL WATER AND BEVERAGES	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOBACCO AND QAT	0.08	0.11	0.11	0.10	0.08	0.10	0.11	0.10	0.08	0.11	0.11	0.10
QAT	0.05	0.08	0.09	0.08	0.05	0.08	0.09	0.08	0.05	0.08	0.09	0.08
PERSONAL SERVICES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DOMESTIC INSECTICIDES AND DETERGENTS	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01
DWELLING EXPENSES	0.05	0.05	0.06	0.06	0.01	0.01	0.03	0.02	0.02	0.02	0.05	0.03
DWELLING RENT OR LODGING EXPENSES IN HOTEL	0.02	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
ESTIMATED RENT	0.11	0.09	0.09	0.09	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06
EXPENDITURE ON FUEL AND LIGHTING MATERIALS	0.06	0.04	0.02	0.03	0.03	0.02	0.01	0.02	0.03	0.02	0.01	0.02
CLOTHES AND READY MADE CLOTHES	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01
SHOES	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PERSONAL COSMETICS AND THINGS	0.01	0.01	0.03	0.02	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.01
FURNITURE AND DOMESTIC ITEMS	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
LEISURE DURABLE GOODS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DURABLE EQUIPMENT AND GOODS	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSPORTATION AND COMMUNICATION	0.02	0.03	0.06	0.04	0.02	0.02	0.03	0.02	0.02	0.02	0.04	0.03
HEALTH CARE AND SERVICES	0.04	0.03	0.05	0.04	0.04	0.04	0.06	0.05	0.04	0.04	0.05	0.05
DURABLE MEANS OF TRANSPORTATION	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00
EDUCATION, CULTURE AND SPORT	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01
TRANSFERS AND OTHER EXPENSES	0.01	0.02	0.04	0.03	0.01	0.02	0.02	0.02	0.01	0.02	0.03	0.02
TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

NOTE: Estimates for total population ranked according to level of expenditure

Table A.20: Pattern of Expenditure (shares in total p.c. household expenditure)

	URBAN				RURAL				NATIONAL			
Household expenditure	**Poor**	**Middle Class**	**Rich**	**Total**	**Poor**	**Middle Class**	**Rich**	**Total**	**Poor**	**Middle Class**	**Rich**	**Total**
FOOD EXPENDITURE	0.50	0.45	0.36	0.40	0.67	0.62	0.55	0.60	0.63	0.58	0.47	0.53
NON-FOOD EXPENDITURE	0.50	0.55	0.64	0.60	0.33	0.38	0.45	0.40	0.37	0.42	0.53	0.47
TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

NOTE: Estimates for total population ranked according to level of expenditure

Table A.21: Level of Food and Non-food Expenditure (Percentage of population)

		URBAN				RURAL				NATIONAL			
		Poor	**Middle Class**	**Rich**	**Total**	**Poor**	**Middle Class**	**Rich**	**Total**	**Poor**	**Middle Class**	**Rich**	**Total**
FOOD EXPENDITURE DURING REFERENCE WEEK	Above Average	8	16	20	14	6	12	19	10	6	13	20	11
	Average	74	71	68	72	68	71	68	69	69	71	68	70
	Below Average	16	13	12	14	22	12	7	16	20	12	9	15
	Not Stated	1	1	0	1	5	5	5	5	4	4	3	4
NON-FOOD EXPENDITURE DURING REFERENCEWEEK	Above Average	19	27	38	27	10	16	22	14	12	19	28	17
	Average	71	66	57	66	72	70	66	71	72	69	63	69
	Below Average	8	6	5	6	13	8	7	10	12	8	6	9
	Not Stated	1	1	0	1	5	5	5	5	4	4	3	4
Total		**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

NOTE: Estimates for total population ranked according to level of expenditure

Table A.22: Sources of Income (mean p.c. household income - YR/month)

	URBAN				RURAL				NATIONAL			
Income source of the household	**Poor**	**Middle Class**	**Rich**	**Total**	**Poor**	**Middle Class**	**Rich**	**Total**	**Poor**	**Middle Class**	**Rich**	**Total**
EMPLOYMENT(TOTAL)	**925**	**1522**	**3110**	**1798**	**483**	**603**	**824**	**588**	**571**	**845**	**1686**	**904**
REGULAR - PRIMARY	616	1155	2358	1338	217	332	523	314	297	549	1215	581
REGULAR - SECONDARY	19	53	139	68	21	32	63	32	21	38	92	42
IRREGULAR	274	235	197	236	240	224	206	228	247	227	202	230
OTHER	15	79	417	157	4	15	32	13	7	32	177	51
PRIVATE BUSSINESS - NET INCOME (TOTAL)	**631**	**1171**	**4124**	**1860**	**535**	**1030**	**2661**	**1091**	**554**	**1067**	**3213**	**1291**
AGRICULTURAL ESTABLISHMENT	70	151	307	171	339	720	1948	762	285	570	1329	608
INDUSTRIAL ESTABLISHMENT, BUILDING AND CONSTRUCTION BUSINESS	74	112	810	302	37	41	99	49	44	60	368	115
SERVICE ESTABLISHMENT	68	142	300	165	15	27	34	23	25	57	134	60
COMMERCIAL ESTABLISHMENT	271	555	2482	1025	95	150	467	180	130	257	1228	400
OWNERSHIP OF TRANSPORTATION MEANS	148	212	225	196	50	92	113	78	70	124	155	109
PROPERTY (TOTAL)	**58**	**222**	**994**	**395**	**11**	**28**	**107**	**34**	**21**	**79**	**441**	**128**
INTERESTS OF BANK DEPOSITS AND INTEREST OF TREASURY BONDS AND DEBENTURE	3	85	164	83	4	9	29	10	4	29	80	29
RENTS OF BUILDINGS	48	128	798	298	2	11	32	11	12	42	321	86
RENTING NON-AGRICULTURAL LANDS	2	3	15	6	1	3	4	2	1	3	8	3
REAL STATE RENTING AND RENTS OF OTHER ASSETS	5	6	16	9	4	6	42	11	4	6	32	10
REMITTANCES (TOTAL)	**262**	**355**	**1014**	**517**	**163**	**256**	**837**	**314**	**183**	**282**	**904**	**367**
PENSION AND INSURANCE COPMPENSATIONS	68	82	132	92	15	20	30	20	26	36	68	38
AL ZAKAT DUTY	25	20	13	19	11	8	9	9	13	11	10	12
DOMESTIC CASH/IN KIND TRANSFERS FROM MEMBERS OUTSIDE THE HH	69	91	242	128	62	80	103	76	63	83	155	90
EXTERNAL CASH/IN KIND TRANSFERS FROM MEMBERS OUTSIDE THE HH	68	132	604	249	60	133	562	174	62	133	578	193
SOCIAL SECURITY FUND TRANSFERS	10	15	4	10	6	9	10	8	7	11	8	9
TRANSFERS FROM LOCAL OR EXTERNAL ORGANIZATIONS	21	16	20	19	9	6	123	27	11	8	84	25
OTHER SOURCES (TOTAL)	**106**	**260**	**630**	**320**	**356**	**710**	**1707**	**725**	**306**	**592**	**1300**	**619**
INHERITANCE	3	10	55	21	1	4	23	6	1	5	35	10
CASH INCOME FROM DOWRIES	3	13	40	18	5	12	26	11	4	12	31	13
HOUSEHOLD PRODUCTS AND OF FOOD AND OTHER FOOD GIFTS	72	149	401	199	332	666	1600	679	280	530	1148	553
OTHER SOURCES	28	87	134	83	19	29	58	30	21	45	87	44
TOTAL	**1981**	**3530**	**9872**	**4889**	**1549**	**2626**	**6135**	**2751**	**1635**	**2865**	**7545**	**3309**

NOTE: Estimates for total population ranked according to level of expenditure

Table A.23: Sources of Income (% household income - YR/month)

	URBAN				RURAL				NATIONAL			
Income source of the household	Poor	Middle Class	Rich	Total	Poor	Middle Class	Rich	Total	Poor	Middle Class	Rich	Total
EMPLOYMENT(TOTAL)	47	43	32	37	31	23	13	21	35	29	22	27
REGULAR - PRIMARY	31	33	24	27	14	13	9	11	18	19	16	18
REGULAR - SECONDARY	1	2	1	1	1	1	1	1	1	1	1	1
IRREGULAR	14	7	2	5	15	9	3	8	15	8	3	7
OTHER	1	2	4	3	0	1	1	0	0	1	2	2
PRIVATE BUSSINESS - NET INCOME (TOTAL)	32	33	42	38	35	39	43	40	34	37	43	39
AGRICULTURAL ESTABLISHMENT	4	4	3	4	22	27	32	28	17	20	18	18
INDUSTRIAL ESTABLISHMENT, BUILDING AND CONSTRUCTION BUSINESS	4	3	8	6	2	2	2	2	3	2	5	3
SERVICE ESTABLISHMENT	3	4	3	3	1	1	1	1	2	2	2	2
COMMERCIAL ESTABLISHMENT	14	16	25	21	6	6	8	7	8	9	16	12
OWNERSHIP OF TRANSPORTATION MEANS	7	6	2	4	3	4	2	3	4	4	2	3
PROPERTY (TOTAL)	3	6	10	8	1	1	2	1	1	3	6	4
INTERESTS OF BANK DEPOSITS AND INTEREST OF TREASURY BONDS AND DEBENTURE	0	2	2	2	0	0	0	0	0	1	1	1
RENTS OF BUILDINGS	2	4	8	6	0	0	1	0	1	1	4	3
RENTING NON-AGRICULTURAL LANDS	0	0	0	0	0	0	0	0	0	0	0	0
REAL STATE RENTING AND RENTS OF OTHER ASSETS	0	0	0	0	0	0	1	0	0	0	0	0
REMITTANCES (TOTAL)	13	10	10	11	11	10	14	11	11	10	12	11
PENSION AND INSURANCE COPMPENSATIONS	3	2	1	2	1	1	0	1	2	1	1	1
AL ZAKAT DUTY	1	1	0	0	1	0	0	0	1	0	0	0
DOMESTIC CASH/IN KIND TRANSFERS FROM MEMBERS OUTSIDE THE HH	3	3	2	3	4	3	2	3	4	3	2	3
EXTERNAL CASH/IN KIND TRANSFERS FROM MEMBERS OUTSIDE THE HH	3	4	6	5	4	5	9	6	4	5	8	6
SOCIAL SECURITY FUND TRANSFERS	1	0	0	0	0	0	0	0	0	0	0	0
TRANSFERS FROM LOCAL OR EXTERNAL ‘ORGANIZATIONS	1	0	0	0	1	0	2	1	1	0	1	1
OTHER SOURCES (TOTAL)	5	7	6	7	23	27	28	26	19	21	17	19
INHERITANCE	0	0	1	0	0	0	0	0	0	0	0	0
CASH INCOME FROM DOWRIES	0	0	0	0	0	0	0	0	0	0	0	0
HOUSEHOLD PRODUCTS AND OF FOOD AND OTHER FOOD GIFTS	4	4	4	4	21	25	26	25	17	18	15	17
OTHER SOURCES	1	2	1	2	1	1	1	1	1	2	1	1
TOTAL	100	100	100	100	100	100	100	100	100	100	100	100

Table A.24: Sources of Income (shares in total monthly p.c. household income)

	URBAN				RURAL				NATIONAL			
Income source of the household	**Poor**	**Middle Class**	**Rich**	**Total**	**Poor**	**Middle Class**	**Rich**	**Total**	**Poor**	**Middle Class**	**Rich**	**Total**
EMPLOYMENT(TOTAL)	**0.47**	**0.43**	**0.32**	**0.37**	**0.31**	**0.23**	**0.13**	**0.21**	**0.35**	**0.29**	**0.22**	**0.27**
REGULAR - PRIMARY	0.31	0.33	0.24	0.27	0.14	0.13	0.09	0.11	0.18	0.19	0.16	0.18
REGULAR - SECONDARY	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
IRREGULAR	0.14	0.07	0.02	0.05	0.15	0.09	0.03	0.08	0.15	0.08	0.03	0.07
OTHER	0.01	0.02	0.04	0.03	0.00	0.01	0.01	0.00	0.00	0.01	0.02	0.02
PRIVATE BUSSINESS - NET INCOME (TOTAL)	**0.32**	**0.33**	**0.42**	**0.38**	**0.35**	**0.39**	**0.43**	**0.40**	**0.34**	**0.37**	**0.43**	**0.39**
AGRICULTURAL ESTABLISHMENT	0.04	0.04	0.03	0.04	0.22	0.27	0.32	0.28	0.17	0.20	0.18	0.18
INDUSTRIAL ESTABLISHMENT, BUILDING AND CONSTRUCTION BUSINESS	0.04	0.03	0.08	0.06	0.02	0.02	0.02	0.02	0.03	0.02	0.05	0.03
SERVICE ESTABLISHMENT	0.03	0.04	0.03	0.03	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
COMMERCIAL ESTABLISHMENT	0.14	0.16	0.25	0.21	0.06	0.06	0.08	0.07	0.08	0.09	0.16	0.12
OWNERSHIP OF TRANSPORTATION MEANS	0.07	0.06	0.02	0.04	0.03	0.04	0.02	0.03	0.04	0.04	0.02	0.03
PROPERTY (TOTAL)	**0.03**	**0.06**	**0.10**	**0.08**	**0.01**	**0.01**	**0.02**	**0.01**	**0.01**	**0.03**	**0.06**	**0.04**
INTERESTS OF BANK DEPOSITS AND INTEREST OF TREASURY BONDS AND DEBENTURE	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
RENTS OF BUILDINGS	0.02	0.04	0.08	0.06	0.00	0.00	0.01	0.00	0.01	0.01	0.04	0.03
RENTING NON-AGRICULTURAL LANDS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
REAL STATE RENTING AND RENTS OF OTHER ASSETS	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
REMITTANCES (TOTAL)	**0.13**	**0.10**	**0.10**	**0.11**	**0.11**	**0.10**	**0.14**	**0.11**	**0.11**	**0.10**	**0.12**	**0.11**
PENSION AND INSURANCE COPMPENSATIONS	0.03	0.02	0.01	0.02	0.01	0.01	0.00	0.01	0.02	0.01	0.01	0.01
AL ZAKAT DUTY	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
DOMESTIC CASH/IN KIND TRANSFERS FROM MEMBERS OUTSIDE THE HH	0.03	0.03	0.02	0.03	0.04	0.03	0.02	0.03	0.04	0.03	0.02	0.03
EXTERNAL CASH/IN KIND TRANSFERS FROM MEMBERS OUTSIDE THE HH	0.03	0.04	0.06	0.05	0.04	0.05	0.09	0.06	0.04	0.05	0.08	0.06
SOCIAL SECURITY FUND TRANSFERS	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSFERS FROM LOCAL OR EXTERNAL ORGANIZATIONS	0.01	0.00	0.00	0.00	0.01	0.00	0.02	0.01	0.01	0.00	0.01	0.01
OTHER SOURCES (TOTAL)	**0.05**	**0.07**	**0.06**	**0.07**	**0.23**	**0.27**	**0.28**	**0.26**	**0.19**	**0.21**	**0.17**	**0.19**
INHERITANCE	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CASH INCOME FROM DOWRIES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HOUSEHOLD PRODUCTS AND OF FOOD AND OTHER FOOD GIFTS	0.04	0.04	0.04	0.04	0.21	0.25	0.26	0.25	0.17	0.18	0.15	0.17
OTHER SOURCES	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01
TOTAL	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**

NOTE: Estimates for total population ranked according to level of expenditure

Table A.25: Proportion of Population Living in Households Owning Durable Goods

	URBAN				RURAL				NATIONAL			
Durable good owned	**Poor**	**Middle Class**	**Rich**	**Total**	**Poor**	**Middle Class**	**Rich**	**Total**	**Poor**	**Middle Class**	**Rich**	**Total**
PRIVATE CAR	0.06	0.15	0.35	0.18	0.06	0.12	0.23	0.11	0.06	0.13	0.27	0.13
TAXI/TRUCK	0.07	0.11	0.13	0.10	0.05	0.09	0.15	0.08	0.05	0.09	0.14	0.09
MOTORCYCLE/BICYCLE	0.08	0.08	0.10	0.09	0.04	0.04	0.06	0.04	0.05	0.05	0.07	0.05
GAS OR ELECTRIC STOVE	0.69	0.84	0.87	0.80	0.33	0.46	0.56	0.42	0.40	0.56	0.68	0.52
GAS OR WOOD BAKING OVEN	0.62	0.70	0.74	0.69	0.82	0.87	0.88	0.85	0.78	0.82	0.83	0.81
RADIO/ CASSETTE	0.56	0.73	0.84	0.71	0.41	0.57	0.67	0.52	0.44	0.61	0.74	0.57
SOLAR HEATER	0.01	0.01	0.02	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
TELE. /MOBILE	0.17	0.35	0.54	0.35	0.01	0.02	0.05	0.02	0.04	0.10	0.23	0.11
GAS SEWING M/C WOOD	0.24	0.33	0.40	0.32	0.09	0.14	0.20	0.13	0.12	0.19	0.27	0.18
ELECTRIC GENERATOR	0.02	0.03	0.07	0.04	0.03	0.04	0.09	0.05	0.03	0.04	0.08	0.04
CLOCK	0.47	0.64	0.73	0.61	0.15	0.23	0.33	0.21	0.22	0.34	0.48	0.32
RADIO REFRIGATOR	0.42	0.62	0.75	0.59	0.06	0.08	0.13	0.08	0.13	0.22	0.36	0.21
ELECTRIC WASHING M/C	0.31	0.55	0.71	0.52	0.03	0.05	0.11	0.05	0.08	0.18	0.34	0.17
VACUM CLEANER	0.06	0.19	0.41	0.22	0.01	0.01	0.04	0.02	0.02	0.06	0.18	0.07
COLOURED T.V.	0.42	0.62	0.75	0.60	0.08	0.11	0.18	0.11	0.14	0.24	0.40	0.24
BLACK A WHITE T.V.	0.30	0.31	0.29	0.30	0.07	0.12	0.16	0.10	0.11	0.17	0.21	0.15
ELECTRIC FAN	0.42	0.38	0.33	0.38	0.06	0.06	0.06	0.06	0.13	0.14	0.17	0.14
AIR CONDITIONER	0.05	0.11	0.13	0.10	0.01	0.01	0.01	0.01	0.02	0.03	0.06	0.03
VIDEO	0.05	0.10	0.24	0.13	0.01	0.01	0.02	0.01	0.01	0.03	0.10	0.04
ELECTRIC WATER HEATER	0.08	0.23	0.46	0.25	0.01	0.02	0.05	0.02	0.02	0.07	0.20	0.08
PRIVATE/JOINT SATELLITE DISH	0.08	0.19	0.36	0.21	0.01	0.01	0.03	0.02	0.02	0.06	0.16	0.07
ENOUGH BLANKETS	0.15	0.13	0.09	0.12	0.24	0.25	0.27	0.25	0.22	0.22	0.20	0.21
ENOUGH BED LINERS	0.15	0.13	0.09	0.12	0.21	0.23	0.25	0.22	0.19	0.20	0.19	0.20
ENOUGH KITCHEN QUIPMENT	0.13	0.12	0.07	0.11	0.19	0.20	0.21	0.20	0.18	0.18	0.16	0.17

NOTE: Estimates for total population ranked according to level of expenditure

Table A.26: Indebtedness of Population Classified by Level of Expenditure

		URBAN				RURAL				NATIONAL			
		Poor	**Middle Class**	**Rich**	**Total**	**Poor**	**Middle Class**	**Rich**	**Total**	**Poor**	**Middle Class**	**Rich**	**Total**
IS THE HH IN DEBT?	No	33.0	35.4	41.6	36.5	26.7	30.8	37.6	30.2	28.0	32.0	39.1	31.8
	Yes	67.0	64.6	58.4	63.5	73.3	69.2	62.4	69.8	72.0	68.0	60.9	68.2
WHAT IS THE SIZE OF THE DEBT?	No debt or n.s.	42.8	44.8	48.7	45.3	40.3	42.9	48.0	42.6	40.8	43.4	48.2	43.3
	Average (Moderate)	24.9	23.8	20.5	23.2	32.4	30.5	26.0	30.6	30.9	28.7	23.9	28.6
	Big	32.3	31.4	30.8	31.5	27.3	26.6	26.0	26.8	28.3	27.9	27.8	28.1
WAS THE HH FREQUENTY BORROWING MONEY?(DURING THE PAST FIVE YEARS)	No	55.3	58.7	65.1	59.5	51.3	55.9	60.1	54.6	52.1	56.6	62.0	55.9
	Yes	44.7	41.3	34.9	40.5	48.7	44.1	39.9	45.4	47.9	43.4	38.0	44.1
HAS THE HH BORROWED ANY MONEY? (DURING THE LAST MONTH)	No	46.8	51.9	58.9	52.4	41.6	45.7	49.9	44.6	42.6	47.3	53.3	46.6
	Yes	53.2	48.1	41.1	47.6	58.4	54.3	50.1	55.4	57.4	52.7	46.7	53.4
Total		**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

NOTE: Population ranked at the national level according to p.c. expenditure

Table A.27: Use of Borrowed Money of Population Classified by Level of Expenditure (Percentage of population)

		URBAN				RURAL				NATIONAL			
		Poor	**Middle Class**	**Rich**	**Total**	**Poor**	**Middle Class**	**Rich**	**Total**	**Poor**	**Middle Class**	**Rich**	**Total**
WAS THE HH FREQUENTY BORROWING MONEY DURING THE PAST FIVE YEARS?	**HAS THE HH BORROWED ANY MONEY DURING THE LAST MONTH?**												
		THE BORROWED MONEY USED FOR LIVING EXPENSES											
No	**Yes**	94.1	85.0	74.5	84.8	94.3	89.7	81.6	90.2	94.3	88.6	79.2	88.9
Yes	**No**	0.1	0.1	0.5	0.2	0.6	0.5	0.0	0.4	0.5	0.4	0.2	0.4
Yes	**Yes**	95.5	88.0	83.3	89.6	96.7	93.9	90.2	94.7	96.5	92.5	87.9	93.6
		THE BORROWED MONEY USED FOR ESTABLISHING OR EXPANDING A PROJECT											
No	**Yes**	19.1	17.2	12.9	16.6	8.4	10.1	8.7	9.1	10.4	11.8	10.1	10.9
Yes	**No**	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.2	0.2	0.2	0.0	0.1
Yes	**Yes**	27.3	25.0	18.0	24.3	9.4	10.6	10.1	10.0	12.7	14.1	12.7	13.2
		THE BORROWED MONEY USED FOR OTHER PURPOSE											
No	**Yes**	2.0	3.3	8.4	4.4	1.4	3.2	6.1	3.0	1.5	3.2	6.9	3.3
Yes	**No**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yes	**Yes**	2.4	4.3	6.5	4.1	1.0	2.7	3.4	2.0	1.3	3.1	4.4	2.5

NOTE: Population ranked at the national level according to p.c. expenditure

Table A.28: Use of Remittances of Population Classified by Level of Expenditure (Percentage of population)

		URBAN				RURAL				NATIONAL			
Remittances used for:		**Poor**	**Middle Class**	**Rich**	**Total**	**Poor**	**Middle Class**	**Rich**	**Total**	**Poor**	**Middle Class**	**Rich**	**Total**
LIVING EXPENSES	NO REMITTANCES	94.5	93.5	91.4	93.3	94.5	92.2	88.3	92.8	94.5	92.5	89.5	92.9
	YES	5.2	6.3	8.0	6.4	5.5	7.7	11.4	7.1	5.4	7.3	10.1	6.9
	NO	0.3	0.2	0.6	0.3	0.1	0.1	0.4	0.1	0.1	0.1	0.4	0.2
EDUCATION OF HH BOYS OR GIRLS	NO REMITTANCES	94.5	93.5	91.4	93.3	94.5	92.2	88.3	92.8	94.5	92.5	89.5	92.9
	YES	1.9	2.0	3.3	2.3	1.3	2.2	3.2	1.9	1.4	2.2	3.3	2.0
	NO	3.6	4.6	5.2	4.4	4.2	5.6	8.5	5.3	4.1	5.3	7.2	5.1
ESTABLISHING OR EXPANDING A PROJECT	NO REMITTANCES	94.5	93.5	91.4	93.3	94.5	92.2	88.3	92.8	94.5	92.5	89.5	92.9
	YES	0.0	0.1	0.1	0.1	0.1	0.1	0.6	0.2	0.1	0.1	0.4	0.1
	NO	5.5	6.4	8.5	6.6	5.4	7.7	11.2	7.1	5.4	7.3	10.1	7.0
Table Total		**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

NOTE: Population ranked at the national level according to p.c. expenditure

Table A.29: Proportion of population that spent a night last week without food for supper

		Poor	**Middle Class**	**Rich**	**Total**
HAS YOUR HH SPENT A NIGHT DURING THE LAST WEEK WITHOUT HAVING FOOD FOR SUPPER?	URBAN	0.343	0.166	0.074	0.193
	RURAL	0.307	0.165	0.106	0.216
	TOTAL	0.314	0.165	0.094	0.210

NOTE: Population ranked at the national level according to p.c. expenditure

Table A.30: Immunization Rates among Under-five Children Classified by Expenditure Level

		Poor	Middle Class	Rich	Total
Males					
BCG – males	**URBAN**	0.83	0.89	0.87	0.86
	RURAL	0.54	0.56	0.60	0.56
	Total	0.59	0.64	0.69	0.62
Polio 3 shots - males	**URBAN**	0.74	0.81	0.82	0.79
	RURAL	0.48	0.51	0.52	0.49
	Total	0.52	0.58	0.62	0.56
DPT 3 shots - males	**URBAN**	0.72	0.79	0.80	0.77
	RURAL	0.42	0.45	0.47	0.44
	Total	0.47	0.53	0.58	0.51
Measles - males	**URBAN**	0.68	0.74	0.73	0.72
	RURAL	0.42	0.47	0.50	0.45
	Total	0.47	0.53	0.58	0.51
Females					
BCG - females	**URBAN**	0.84	0.87	0.90	0.87
	RURAL	0.51	0.55	0.60	0.54
	Total	0.56	0.63	0.71	0.61
Polio 3 shots - females	**URBAN**	0.77	0.80	0.84	0.80
	RURAL	0.45	0.49	0.54	0.48
	Total	0.50	0.57	0.65	0.55
DPT 3 shots - females	**URBAN**	0.75	0.79	0.82	0.78
	RURAL	0.40	0.42	0.47	0.42
	Total	0.46	0.51	0.60	0.50
Measles - females	**URBAN**	0.71	0.75	0.80	0.75
	RURAL	0.42	0.45	0.49	0.44
	Total	0.46	0.53	0.60	0.51

NOTE: Ranking according to expenditure is for total population. Rates estimated for under-5 population with expansion factors for the relevant subpopulation only.

Table A.31: Characteristics of Population 15+ Classified by Expenditure Level

		Poor	Middle Class	Rich	Total
Labour force participation rate	URBAN	0.36	0.39	0.41	0.38
	RURAL	0.50	0.55	0.57	0.53
	Total	0.47	0.50	0.51	0.49
Unemployment rate	URBAN	0.16	0.11	0.08	0.12
	RURAL	0.08	0.05	0.04	0.06
	Total	0.10	0.07	0.06	0.08
Illiteracy rate	URBAN	0.42	0.34	0.28	0.35
	RURAL	0.69	0.65	0.62	0.67
	Total	0.63	0.56	0.49	0.58

NOTE: Ranking according to expenditure is for total population. Rates estimated for 15+ population with expansion factors for that subpopulation only.

Table A.32: Characteristics of Population of 15 Years and Above Classified by Expenditure Level

		Poor	Middle Class	Rich	Total
Labor force participation rate	URBAN	0.69	0.73	0.74	0.72
	RURAL	0.75	0.79	0.83	0.78
	Total	0.74	0.77	0.79	0.76
Unemployment rate	URBAN	0.17	0.12	0.09	0.13
	RURAL	0.09	0.06	0.05	0.07
	Total	0.11	0.08	0.06	0.09
Illiteracy rate	URBAN	0.29	0.19	0.13	0.21
	RURAL	0.50	0.43	0.37	0.45
	Total	0.45	0.36	0.28	0.38

NOTE: Ranking according to expenditure is for total population. Rates estimated for 15+ male population with expansion factors for that subpopulation only.

Table A.33: Characteristics of Female Population of 15 Years and Above Classified by Expenditure Level

		Poor	Middle Class	Rich	Total
Labor force participation rate	URBAN	0.11	0.13	0.14	0.12
	RURAL	0.32	0.37	0.39	0.35
	Total	0.28	0.30	0.29	0.29
Unemployment rate	URBAN	0.16	0.12	0.10	0.12
	RURAL	0.03	0.02	0.02	0.03
	Total	0.05	0.04	0.04	0.04
Illiteracy rate	URBAN	0.55	0.47	0.40	0.48
	RURAL	0.85	0.84	0.82	0.84
	Total	0.78	0.73	0.65	0.74

NOTE: Ranking according to expenditure is for total population. Rat es estimated for 15+ female population with expansion factors for that subpopulation only.