Poverty Reduction and Post-HIPC Economic Performance in Tanzania

Policy Coherence or Incompatibility?

Dissertation submitted to the University of Manchester for the degree of MSc in Economics and Management of Rural Development by Earnán Ó Cléirigh in October 2002.

The following is a dissertation submitted to the University of Manchester for the degree of MSc in the Faculty of Social Sciences and Law. Neither this work nor any part of it has been submitted in support of an application for another degree or qualification of this or any other university or other institution of learning.

THE UNIVERSITY OF MANCHESTER

ABSTRACT OF THESIS/DISSERTATION submitted by Earnán Ó Cléirigh

For the degree of MSc and entitled ***Poverty Reduction and Post-HIPC Economic Performance in Tanzania – Policy Coherence or Incompatibility?***

Month and year of submission October 2002

Access to debt relief for developing countries under the Highly Indebted Poor Countries (HIPC) initiative of the International Monetary Fund and World Bank is conditional on the preparation and implementation by the recipient country of a poverty reduction strategy. The objective of this conditionality is to ensure that budgetary resources made available by reduced debt service obligations are used to implement strategies that will effectively reduce levels of poverty. The poverty reduction package is contained in a Poverty Reduction Strategy Paper (PRSP) prepared by the recipient country. The PRSP is envisaged to be a comprehensive framework that ensures coherence and balance between macroeconomic policy and structural and social priorities. This dissertation examines the case of Tanzania to determine whether the Government's poverty reduction targets as expressed in the National Poverty Eradication Strategy (NPES) and the PRSP are compatible with the vision of economic development reflected in the economic projections for the next two decades prepared as part of Tanzania's application for debt relief under the HIPC initiative. The dissertation examines Tanzania's predicted economic growth in the light of the current debates on 'pro-poor' growth and on the relationship between economic growth and poverty reduction. It finds that both the current conditions in the Tanzanian economy and the nature and pattern of the predicted growth indicate that the impact on poverty will be considerably less than that required to achieve the stipulated poverty reduction targets. The dissertation also concludes that the pattern of growth will probably increase inequality over time and reduce the proportional impact on poverty. The dissertation also examines the feasibility of the economic projections being realised in light of the existing trends and conditions in the Tanzanian economy. It finds that the projections are unrealistic in terms of past economic performance and not supported by such fundamentals as investment rates, quality of human and physical capital, factor and produce market efficiency and the impact of external factors. The dissertation looks at measurements of change in poverty during the 1990s as reported in Household Budget Surveys from 1991/2 and 2000/1. It finds that the measurement methodologies may mask changes in poverty and possibly overestimate income growth over the period, but also concludes that the rate of reduction in poverty is well below that required to achieve Government targets, that inequality is increasing and that the poverty reducing impact of growth has been overestimated in the HIPC and PRSP documents. The dissertation concludes that orthodox macroeconomic policies of fiscal austerity, market liberalisation and restricted policy intervention continue to dominate social and poverty concerns.

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1 Introduction

1.1 Background and Purpose

Despite uninterrupted internal peace and stability since independence in 1961, Tanzania is currently one of the poorest countries in the world. Significant gains in both economic and social development indicators achieved in the early post-independence era were reversed in the late 1970s and early 1980s by a combination of external shocks and inflexible economic management. The impact of this economic decline on the poor was reinforced by the further economic contraction brought about by the stabilisation programmes of the late 1980s and early 1990s and the associated significant reductions in public expenditure on social services and infrastructure. (Ó Cléirigh, 2002) Although per capita economic growth returned to positive territory in the 1990s with annual per capita income rising from $190 in 1990 to $240 in 2000 (World Bank, 2001a), there is little evidence of corresponding improvements in the lives of the poor. The 2002 Human Development Report ranks Tanzania 151st out of 173 countries covered, having lost 5 places since 1990 (UNDP, 2002), while the Government estimates that the percentage of households living below the national basic needs poverty line has increased from 48% in 1991 to over 50% in 2000. (United Republic of Tanzania, 2000).

Parallel to its economic decline and external inviability Tanzania's reliance on external financing grew. By 1999 nominal external debt stood at $6.4 bn with a Net Present Value of $4.6 bn equivalent to nearly 400% of Tanzania's total annual exports. Debt servicing in the 1990s was impossible with the Government meeting on average about 35% of its obligations while relying on debt relief and rescheduling to cover the balance. Even this partial level of debt servicing required over 20% of total Government revenue reducing the budgets available for discretionary

public expenditure. By 1998 Government debt service payments were equal to over 80% of total expenditure in the health and education sectors. (IDA & IMF, 2000)

In view of its high levels of poverty and the unsustainability of its debt burden, Tanzania was deemed eligible for multilateral debt relief under the enhanced Highly Indebted Poor Countries (HIPC) initiative. In April 2000 the IMF and World Bank approved a HIPC debt relief package for Tanzania involving co-ordinated debt relief by multilateral and bilateral creditors that would reduce the net present value (NPV) of Tanzania's external debt, measured in 1999, initially from an estimated $4.7bn to $2.6 bn and eventually, after full implementation, to $1.7 bn. External debt would thus have been reduced to a level equal to 150% of annual exports, the level considered by the International Financial Institutions (IFIs) to be sustainable. The debt relief is realised by reductions over the period to 2018 in the Government's external debt service obligations which should fall to under 10% of Government expenditure. (IDA & IMF, 2000)

The HIPC initiative is however not merely a mechanism by which Tanzania's debt burden is cut to levels that can be supported by the economy and reasonably expected aid flows. It is also intended to be an instrument to ensure that the Tanzanian Government pursues economic, social and budgetary policies that will contribute significantly to poverty reduction. Access to full HIPC relief is therefore not only conditional on satisfactory performance under the PRGF supported macroeconomic programme and structural reforms, but also on the preparation and implementation of a multisectoral poverty reduction programme adequately financed by budgetary provisions contained in a medium term expenditure framework. (IDA & IMF, 2000)

This can be seen as an attempt to construct a country policy framework that includes macroeconomic, structural and social policies and ensures coherence between them. While the

acceptance that poverty reduction is no longer seen as merely an output of macroeconomic policy but as a policy priority in its own right and the inclusion of poverty related conditionalities in IFI instruments might be seen as a move away from neo-liberalism, it would appear that the primacy of overall economic growth as the major determinant of, and indicator for, development, and hence poverty reduction, remains largely unchallenged. The HIPC decision point document cites low per capita growth rates, which it blames on historical macroeconomic mismanagement and the slow pace of structural reform, as the main cause of poverty and provides firm projections for economic growth over the programme period at a stage when the Poverty Reduction Strategy Paper (PRSP), intended to define Government policy, had not yet been formulated.

To a certain extent the IFIs can therefore be seen to have set the economic parameters within which Tanzania's poverty reduction policies can be formulated. This may restrict the policy and strategy options chosen by the government. For example, one might assume that a poverty reduction policy package would seek to promote growth in sectors in which the poor are economically active, such as agriculture, and in general to structure economic growth in order to reduce inequality and hence improve the growth elasticity of poverty. However the HIPC projections have already established agriculture as the slowest growing sector of the economy. The danger is that such projections will turn into a *de facto* target of the poverty reduction programme contained in the PRSP and hence, to some extent, an indicator of progress towards poverty reduction irrespective of real impact on the depth and extent of poverty.

There are a number of reasons why the IFIs, in the preparation of the HIPC programme for Tanzania, have produced a forward economic analysis that to a significant extent pre-empts the national policy debate on poverty reduction which the programme itself demands.

While the HIPC initiative is seen as forwarding a poverty reduction agenda, it should not be forgotten that its major objective is to achieve a level of demonstrable debt sustainability in the face of the growing perception that excessive debt burdens contribute significantly to the intractability of poverty in developing countries. Given that debt sustainability has been defined, by the IFIs, as a certain debt to exports ratio, currently 150%, rapid growth of export values is a key to achieving such sustainability. It is perhaps not surprising, therefore, that HIPC projections for Tanzania see economic growth being led by such modern and responsive sectors as mining and tourism. The fact that rapid growth in these sectors can be seen as achieving sustainability and justifying a continued upward trend in borrowing after HIPC is perhaps more important than the increase in inequality and weak linkages to poverty reduction that such differential growth is likely to produce.

The IFIs maintain the position that the main cause of poverty is low rates of overall economic growth and that the most effective means of achieving poverty reduction is through attaining the highest possible growth rate in per capita GDP. The rationale is that, even if the poor do not benefit significantly from increased economic activity, either directly or through market linkages, if the economy expands more resources are available through taxation, or other transfer mechanisms, for funding pro-poor social and infrastructural expenditure by the government. The logic of this approach, which seems to be reflected in the HIPC documents, would be to envisage economic growth led by more responsive and rapidly growing sectors, rather than necessarily those where the poor would be directly involved, as a means of achieving the most rapid growth possible in per capita GDP.

In a post stabilisation/structural adjustment economy such as Tanzania's the IFIs see the market as the only legitimate and efficient arbiter of investment decisions and hence that the rate and pattern of economic growth will be decided by market forces. In the capital-scarce environment of Tanzania private investment will be directed towards easily managed and high return projects, which are unlikely to be in directly poverty-related areas such as smallholder agriculture. The arbiters of completion of HIPC conditionalities, including the formulation of the poverty reduction programme, are of course the IFIs, who are unlikely to welcome government policy initiatives seeking to modify a market-determined structure of economic growth. It is not surprising, therefore, that HIPC projections of economic performance do not go beyond what might be expected, even if somewhat optimistically, from purely market-led development.

The implication of this analysis of the HIPC and PRSP processes is that the projected economic performance is not the output expected from an internal economic policy package designed specifically to achieve a specified reduction in poverty but rather the result of an already existing, and perhaps externally determined, economic policy framework. The purpose of the PRSP would not, therefore, appear to be to outline policies aimed at achieving Tanzania's poverty reduction targets but instead to provide a plausible argument as to how those targets will be achieved by a predetermined economic trajectory with which no *a priori* analytical or policy connection exists.

The purpose of this dissertation is to explore the relationship between the economic performance projections contained in the HIPC and PRSP processes and the achievement of Tanzanian poverty reduction targets.

1.2 Object and Method

The Government's poverty reduction targets were established in The Tanzania Development Vision 2025 (United Republic of Tanzania, 1999) and the National Poverty Eradication Strategy (NPES) (Vice President's Office, 1998) and involve halving the number of people living in poverty by 2010 and eradicating poverty by 2025. These targets are maintained in the PRSP. In the process of preparation of the PRSP the Government used the 1991 Household Budget Survey (HBS) and the 1993 Human Resources Development Survey (HRDS) to establish baseline information on poverty (National Bureau of Statistics, 2000). This work, apart from characterising and measuring the extent and depth of poverty in Tanzania also provided estimates of the average income elasticity of poverty and the inequality elasticity of poverty which have been used to show that economic growth of the order envisaged in the HIPC documents would produce significant progress towards the Government's poverty reduction targets.

The objective of this dissertation is twofold. Firstly it will seek to offer a reasoned judgement as to whether the economic projections contained in the HIPC documents are likely to be achieved given the current trends in the Tanzanian economy and the policy instruments envisaged in the PRSP. This will be done by examining Government of Tanzania and World Bank information to establish investment and growth trends on a sectoral basis. These trends will be compared with the economic performance scenario envisaged in the HIPC and PRSP documents. Where discontinuities between the two exist the PRSP policy package will be examined for policy instruments which can explain the expected change in trends.

Secondly the dissertation will try to establish whether the achievement of the HIPC projections is likely to constitute significant progress towards the Governments poverty reduction targets as

defined in the Development Vision 2025 and the National Poverty Eradication Strategy. This will be done principally by examining the validity of the linkage between overall economic growth and poverty reduction in two ways. Firstly the Household Budget Surveys from 1991/2 and 2000/1 will be used to compare changes in income and poverty over the 1990s in order to test the poverty elasticities on which estimates of the impact of projected per capita GDP growth on poverty reduction are based. Secondly the influence of factors such as inequality, investment in human and physical capital and the sectoral pattern of growth on the relationship between overall economic growth and poverty reduction will be examined in order to assess the poverty reducing effectiveness of the package of growth projections and policy initiatives contained in Tanzania's HIPC and PRSP processes.

1.3 Structure

Chapter 2 will provide a background for the HIPC and PRSP processes in Tanzania. It will briefly chart the emergence of the HIPC debt relief programme, outline the reasons behind its linkage to poverty reduction policies and describe the mechanisms through which the linkages are effected. The section will also include a brief history of poverty analysis and policy in Tanzania and describe the processes through which the National Poverty Eradication Strategy and the Poverty Reduction Strategy Paper were formulated. It will conclude with a section looking at current thinking on the relationship between overall economic growth and poverty reduction and on the factors which influence this relationship.

Chapter 3 will compare the sectoral growth and investment trends in the Tanzanian economy with the levels and patterns of economic growth envisaged in the HIPC and PRSP documents. The feasibility of achieving the envisaged economic performance will be judged by assessing its compatibility with ongoing trends or by the existence of specific policy instruments in the PRSP or other policy packages aimed at producing changes in the trends.

Chapter 4 will examine the results from the Household Budget Surveys of 1991/2 and 2000/1 and assess the different methodologies used to set poverty lines, estimate poverty ratios and determine the changes in household incomes over the period between the surveys. The results of the surveys will be used to validate the poverty elasticities on which the HIPC/PRSP poverty impacts are predicated and to assess the impact of the pattern of economic growth envisaged by HIPC and PRSP on poverty reduction.

Chapter 5 will present conclusions on the likelihood of the HIPC projections being achieved and on the extent to which this would represent significant progress towards Tanzanian poverty reduction targets.

2 Poverty Reduction, PRSPs and Pro-Poor Growth

2.1 The emergence of poverty reduction in Tanzania

The adoption of stabilisation and structural adjustment programmes by the Government of Tanzania in the mid 1980s led to significant changes in Government policy with regard to management of the economy and the allocation of resources in public service provision. The role of the Government as a central actor in, and director of, economic development was abolished in favour of a free market model where the allocation of resources would be determined by market signals. Fiscal policy became subject to deficit reduction targets and public expenditure fell drastically effectively constraining the implementation of social sector policy priorities. Such a radical change in the reality of socio-economic policy implementation meant that Government policy was out of step with the fundamental national development policy framework outlined in the Arusha Declaration of 1967, that had been the principal guideline for sectoral development policies. (Mallya, 2002)

In order to resolve this policy conflict and to provide an overall development vision and policy framework compatible with the new economic programme the Government in 1995 started the process of producing an overall policy document, which culminated in 1999 with the publication by the Planning Commission of the Tanzania Development Vision 2025. For the Government this document was intended to demonstrate that, despite the deterioration in living standards and development indicators over more than a decade, that prospects for medium and long-term social and economic development were good. The document committed the Government to maintaining strict monetary and fiscal control and to the further liberalisation of domestic and external financial, goods and services markets. It put forward a vision of vigorous market-led

economic growth based on macroeconomic stability and on rising productivity, brought about by fiscally responsible investment in human capital and physical infrastructure. The document envisages overall rates of economic growth being maintained at rates of between 8% and 10% per annum, inflation consistently below 5% and growth in the manufacturing sector such that its contribution to GDP will rise from 8.4% to 20% by 2010. As a result of these levels of growth, absolute food and basic needs poverty is to have been eradicated by 2025 and Tanzania to have become a middle-income country, its per capita GDP having risen from US$570 ppp to over US$3,000 ppp. (United Republic of Tanzania, 1999 & Planning Commission, 2000)

The National Poverty Eradication Strategy (NPES) was published in 1998 by the Vice President's Office. The NPES contained largely the same overall targets as the Development Vision 2025 and provided some more detailed targets at sectoral level in health, education and water supply. For the elimination of poverty, in addition to its eradication by 2025, it set an interim target of a 50% reduction in the levels of absolute poverty by 2010. (Vice President's Office, 1998)

2.2 HIPC and the PRSP

Poverty as a central theme of development and an issue in development assistance has gained a growing importance through out the 1990s. In the latter part of the decade discussion of development aid effectiveness in achieving better progress towards poverty reduction have changed their focus from questions of how aid is targeted to how it is delivered. Wood (2000) feels that this concentration on aid delivery has come about due to a number of factors. Poor results of stabilisation and adjustment programmes in terms of economic growth and poverty reduction has led to the conclusion that macroeconomic policies must be coherent with structural reform and social policies. The growing realisation that programmes based on 'conditionality' tend to be ineffective and that national Governments and people need to be involved in policy

and decision-making. Pressure to ensure that the reduction of external debt service burdens liberates resources for tackling poverty has led to the linking of public expenditure planning to debt relief initiatives. The poor co-ordination between, and multiplicity of, development aid interventions has resulted in overloading developing country Government capacity and has limited the impact of aid investments because of duplication and incompatible approaches.

The discussion of aid delivery modalities has resulted in a broad consensus among donors and IFIs that the delivery of aid should be through co-ordinated mechanisms in support of policies and strategies that are formulated in in-country processes led by the respective Governments and involving broad participation from civil society. Typically this would mean that support for individual projects would be replaced by joint donor-Government funding of agreed policies and strategies at sectoral level or centrally through the Government. This programme approach has led to the emergence of medium term public expenditure planning and review processes such as Medium Term Expenditure Frameworks and Public Expenditure Reviews that involve Government and donors and, to some extent, civil society.

It is in this context that the IMF and World Bank made the preparation of a Poverty Reduction Strategy Paper (PRSP) a requirement for access to HIPC debt relief and further concessional borrowing. The PRSP is intended to provide the link between macroeconomic policy, structural reform and social policy priorities. Its formulation is the responsibility of the Government and should involve civil society and it should provide the strategic development priorities towards which donors will target their aid. Wood (2000) feels that the formulation of PRSPs has fallen short of its intended purpose in a number of significant areas. Given that the preparation and implementation of PRSPs is a requirement for accessing HIPC relief and further credit the pressure to produce them quickly has resulted in a poor quality process and product. Although

some mechanisms for the co-ordination of aid delivery have improved, the processes of the IFIs have remained largely unchanged and unresponsive to national processes and events. Existing macroeconomic policies have been transferred largely intact into PRSPs indicating that coherence with social or poverty reduction priorities is likely to be limited to fiscal policy.

The Tanzanian PRSP was prepared in interim form in 1999 and enabled Tanzania to receive interim HIPC relief after the HIPC Decision Point document (IDA & IMF, 2000) was accepted by the IMF and World Bank boards in April 2000. The final PRSP was completed in October 2000 and a review of its implementation the following year (United Republic of Tanzania, 2000) was again accepted by the boards of the IFIs and allowed Tanzania to access full HIPC relief from November 2001. The long-term poverty reduction targets outlined in the NPES and the Development Vision 2025 documents are re-affirmed in the PRSP although its focus is shorter term and thus its more specific sectoral targets are generally for a five-year timeframe. The HIPC Decision Point and HIPC Completion Point (IDA & IMF, 2001) documents, however, contain economic projections for the period up to 2020. These and the contents of the PRSP will be discussed in Chapter 3.

2.3 Measurement of Poverty

Poverty has long been recognised as a phenomenon of considerably more complexity than one that can be defined or measured in terms of household income, expenditure or consumption. The use of the household as the basic unit of measurement ignores inequalities within the home based on gender or age and may well lead to an underestimation of deprivation. Income provides only a partial picture of standard of living. It is obviously directly influenced by local factors such as prices and market conditions while access to reasonable standards of health and education and ownership of productive resources may be more important in terms of poverty and livelihood

security. The Human Poverty Index used by the UNDP makes no attempt to directly measure income and, instead, assesses poverty by considering even more immediate factors such as longevity, literacy, child nutrition and access to public services. (UNDP, 1997)

Both the NPES and the PRSP contain targets related to non-income aspects of poverty and development. However, in general terms, the Government will measure its success, and will largely be judged, by its performance with regard to the headcount ratio of income poverty. By committing itself to reduce poverty by 50% by 2010 the Government intends to reduce by half the number of people living below defined poverty lines. Two poverty lines are used by the Government, a food poverty line and a, higher, basic needs poverty line. Both are defined in money terms and are based on household consumption needs. (Vice President's Office, 1998 & United Republic of Tanzania, 2000)

In 2000 the Government undertook a study to establish baseline data on poverty in Tanzania against which progress on NPES and PRSP targets could be measured. This study set the two poverty lines and used data collected in the Household Budget Survey (HBS) of 1991/2 to estimate headcount ratios for food poverty and basic needs poverty. The surveys collected information on actual household expenditure and consumption. Consumption of home produced, or non-purchased, goods were valued at local market prices and added to the value of purchased consumption items in order to give a monetary value for total household consumption expenditure. The household's position relative to the poverty lines was then determined by household size and the level of consumption expenditure. (National Bureau of Statistics, 2000)

A second Household Budget Survey (HBS) was initiated in 2000 in order to provide updated information on poverty and also to allow an estimation of progress on poverty reduction in the

period between the two surveys. The survey was concluded in 2001 and after data analysis the final report was published in September 2002. (National Bureau of Statistics, 2002)

During the process of analysing the data from the 2000/1 HBS it was decided to abandon the poverty baseline information produced in 2000 from the 1991/2 HBS data. A new methodology for estimating the poverty lines was developed and the procedures for adjusting household expenditure for price changes over time were altered. This methodology was applied to the data from both the 1991/2 and the 2000/1 surveys and the results were presented in the 2000/1 HBS final report. The 2000/1 HBS final report, therefore, contains household expenditure estimates and poverty headcount ratios from both the survey carried out in 1991/2 and the one carried out in 2000/1. This procedure is intended to ensure that there is compatibility between the information produced from the two sets of survey data, but it should be noted that poverty estimates produced from the 1991/2 survey data by the "Developing a Poverty Baseline in Tanzania" study in 2000 differ significantly from those produced by the analysis of the same data in the final report of the 2000/1 HBS. The respective methodologies will be considered in more detail in Chapter 4.

2.4 Pro-poor Growth

Achieving a high level of overall economic growth is an explicit target of the Government's poverty reduction strategy and is obviously considered a key towards achieving significant reductions in the numbers of those living in poverty. The assumption that economic growth necessarily results in reductions in poverty measures is not a universally held one. The sectoral distribution of overall growth as well as other factors influencing poor peoples capacity to participate in, and benefit from, increased economic activity are commonly thought to affect the relationship between overall growth and poverty reduction.

The inter-relationship between economic growth and human development has been a source of controversy and debate since the establishment of modernising development philosophies as the basis for economic policy in developing countries over 50 years ago. Up to the 1980s this debate centered on the role of government as an interventionist manager of the economy promoting modernisation and growth while ensuring poverty reduction and rising living standards through redistributive mechanisms. The economic crises in most developing economies in the late 1970s and early 1980s, the rise of the neo-liberal orthodoxy and the implementation of stabilisation and structural adjustment programmes throughout the developing world effectively removed the state as a major economic actor and established the market as the largely autonomous determinant of development. The debate was no longer over whether economic growth or human development constituted the more important social target, deserving policy and resource priority, economic growth had become a pre-condition for human development and the primary vehicle for its achievement.

Economic growth has become accepted as a pre-condition for poverty reduction. Debate on the links between poverty reduction and economic growth tend to focus on:

- whether and to what extent economic growth contributes directly to growth in the incomes of the poor
- whether and to what extent the impact of economic growth on the incomes of the poor is affected by structural characteristics of the economy and government policy.

The 1990 World Development Report (World Bank, 1990) states that sustainable progress on poverty can be achieved through a dual strategy consisting of economic growth that efficiently utilises labour, as the most abundant resource, and the investment in human capital through

social spending programmes which directly improves peoples well-being and increases their capacity to participate in, and benefit from, economic growth.

The 1997 Human Development Report (UNDP,1997) sees a less direct relationship between growth and poverty reduction. While reaffirming that in the vast majority of cases economic growth is associated with poverty reduction, the report finds that the linkage between growth and poverty can only explain about 50% of the measured changes in poverty. It cites initial rates of income inequality as critical to the poverty impact of growth and points out that for a given rate of growth countries with lower inequality will achieve greater rises in the income of the poor. It quotes studies showing that the GDP growth elasticity of income poverty for a society with a Gini coefficient of 0.25 would be about –3.0 while that for a society with a Gini coefficient of 0.50 would be only –1.

Ravallion and Datt (2001) used data from household budget surveys between 1960 and 1994 to study why economic growth had differing impacts on consumption poverty in 15 Indian states. Their study showed that initial levels of inequality affect the poverty elasticity of growth. They postulate that inequalities in income distribution reflect inequality in access to, or ownership of, assets. The asset poor are unable to exploit growth promoting investment opportunities due to their lack or resources or collateral to access credit and, thus, benefit less from growth. The initial inequality also reduces the overall rate of economic growth.

Initial disparities between the levels of urban and rural incomes were also found to reduce the growth elasticity of poverty. A high wage differential between farm and non-farm labour would make non-farm economic growth less pro-poor and would also reduce labour absorption into the non-farm sector for a given level of growth.

The study found that non-farm growth is poverty reducing but that the extent to which it reduces poverty is determined by the initial conditions pertaining in the economy. Its poverty elasticity is greater when farm incomes and literacy are high and the urban-rural disparity, infant mortality and landlessness are low. The rate of literacy was found to be the most influential factor. Interestingly the study found that growth in farm yields was uniformly poverty reducing and had a constant poverty elasticity across the states sampled irrespective of the initial conditions pertaining. Thus, where initial conditions in terms of human capital and inequality are poor, the sectoral composition of growth, i.e. farm or non-farm, becomes critical for the poor. (Ravallion and Datt, 2001)

An implication from the findings of this study could be that it would be more effective to invest in human capital development and reducing urban-rural inequality before promoting non-farm growth. The study found that the initial level of non-farm economic activity is not significant for poverty elasticity, but inequality and poor human capital are. Conversely increasing growth in the non-farm sector without addressing issues of inequality and poor human capital will increase disparities and hence reduce the poverty elasticity of the growth achieved.

Analytical work carried out by Dagdeviren, van der Hoeven and Weeks (2002) seems to support this conclusion. By constructing an analytical framework to judge the relative effectiveness of growth and distribution for poverty reduction they show that the opportunity cost (measured in terms of consumption foregone, i.e. the increase in the savings rate) of achieving a given level of poverty reduction through economic growth that is redistributionary in nature, i.e. the benefits are shared equally among the population, is significantly less than the opportunity cost of the same level of poverty reduction achieved through distribution neutral growth. They also show

that this 'saving' in opportunity cost increases as per capita incomes increase and that in most cases the 'saving' is likely to outweigh the administrative costs of redistribution. On this basis they argue that poverty reduction through growth that is redistributionary in nature is likely to be more economically efficient than poverty reduction through distribution neutral growth. The framework also confirms that greater initial equality produces faster and more sustainable growth.

Various studies of empirical country data on overall economic growth and on the income share of different population cohorts have been undertaken in recent years. Dollar and Kraay (2001) examine historical and cross-country data from 137 countries on per capita income (per capita GDP) and on the average income of the poorest quintile of the population and attempt to show a long run relationship between income of the poor and overall income. Their analysis shows that the growth elasticity of the incomes of the poor is almost exactly unity and that more than 80% of the variations in the incomes of the poor are explained by changes in overall per capita income. Thus, for Dollar and Kraay, overall income growth is the most important determinant of growth in the income of the poor and other factors such as human capital, institutional strength and agricultural productivity are shown to have little significance. (Dollar & Kraay, 2001)

Gallup, Radelet and Warren (1999) conducted similar research and also found that the average GDP growth elasticity of the income of the poor was unity, although the initial level of income and the levels of expenditure on health and education affected growth in the income of the poor.

These findings contradicted the Kuznets hypothesis. Proposed by Kuznets in 1955 and supported by empirical studies by Ahluwalia in 1977, this hypothesis predicted that at the early stages of a country's development inequality rises with average income as labour moves from

the agricultural to the non-agricultural sector. This trend stabilises and eventually reverses as the developing economy grows. The relationship between growth and inequality would be represented by an inverted U-shaped curve. (World Bank, 2002a) The work by Dollar and Kraay and by Gallup et. al. showed instead a steady upward trend in the incomes of the poor for all stages of economic growth.

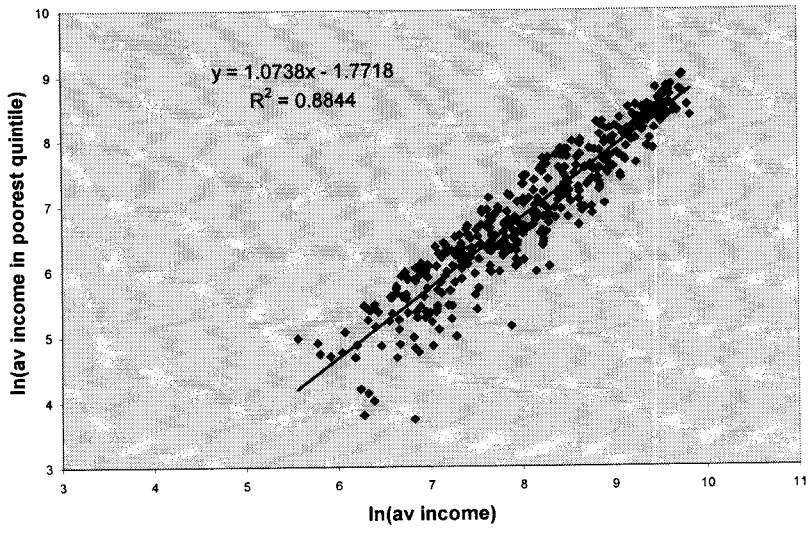
A similar study by Timmer (1997), however, reached somewhat different conclusions. Timmer examined the relationship between overall economic growth and the growth in average income of each population quintile. Although using basically the same data set as Gallup et. al. he found that the growth elasticity of the average income of the poorest quintile, at 0.8, was significantly below unity. He also found that an initial income gap between rich and poor had a significant negative effect on the poverty reducing impact of growth and that where large income gaps existed the growth-inequality relationship obeyed the early part of the Kuznets curve.

For Dollar and Kraay (2001) the fact that the income of the poor can be shown to grow at the same rate as overall income shows that overall economic growth is good for the poor. As Dagdeviren et. al. (2002) point out Dollar and Kraay's assertion that economic growth is good for the poor simply because it can be shown to be distribution neutral is somewhat arbitrary. While in this scenario it might be argued that the poor benefit proportionately from economic growth just as much as the rich, it can also be argued that precisely because they benefit in proportion to their poverty they benefit less. There is little doubt that the incomes of the poor will generally rise as overall incomes rise. Why an elasticity of one should be seen as particularly favourable to the poor is unclear.

There are some other aspects of the Dollar and Kraay analysis that leave its findings open to question. The analysis suffers from fundamental weaknesses with regard to the implicit definition of the poor and the masking of significant trends by the agglomeration of data.

Dollar and Kraay define the poor as the poorest quintile of any country's population (as long as income data is available for that country) irrespective of the level of income of that quintile. The poor as defined are therefore a relative phenomenon and, in the data set, have average per capita incomes of between US$42 and US$8,260 per annum. Clearly in richer countries, even using relative measures of poverty, the numbers living in poverty will be less than 20% of the population, while in many poorer countries the proportion of the population living in absolute poverty is greater than 20%. The analysis is obviously influenced by the inclusion of some non-poor income data from the richer countries and by the exclusion of some poor income data from the poorer countries. The effect of this data imbalance casts doubt on the accuracy with which the results can be said to reflect on shifts in the income of the poor.

Figure 2.1 Average Income and Income of Poorest Quintile
Straight Line Regression



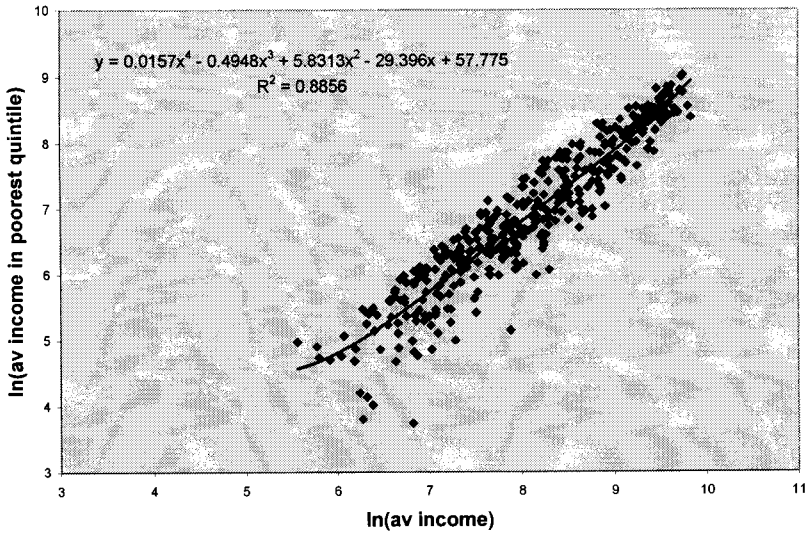
(Dollar & Kraay, 2001)

The size of the sample and the number of observations are cited as reasons for the validity of the results. However it is intuitively difficult to accept that an analysis that predicates that the relationship between economic growth and income distribution is essentially the same for economies as structurally different as those of Sweden and Burkina Faso could have any predictive value. It is also worth noting that of the 418 observations used by Dollar and Kraay only 74 refer to countries whose poorest quintiles have average per capita annual incomes of less than US$365 ppp (US$1.00 ppp per day being a commonly used international poverty reference point). The size of the sample is likely therefore to mean that the trends evident in the richer countries will dominate the sample.

Figure 2.1 shows the relationship between the logarithm of the income of the poorest quintile and the logarithm of overall income using the data from Dollar and Kraay. The straight-line regression shows a slope not significantly different from unity indicating that the incomes of the poor increase equi-proportionally with overall income. However it can be seen that the data points cluster closer to the line at higher income levels and that there are a higher density of data points at the higher income levels.

The use of a straight-line regression imposes a single elasticity on the sample and allows the denser data at the higher average income levels to dominate the sample. If the data set is divided into low, medium and high income groups of countries, differentiated by the average incomes of the poorest population quintile, separate regressions for each group produce quite different results. Another way of demonstrating this is shown in Figure 2.2 which shows the same Dollar and Kraay data points but uses a fourth order polynomial trend line.

Figure 2.2 Average Income and Income of Poorest Quintile Polynomial Trend Line



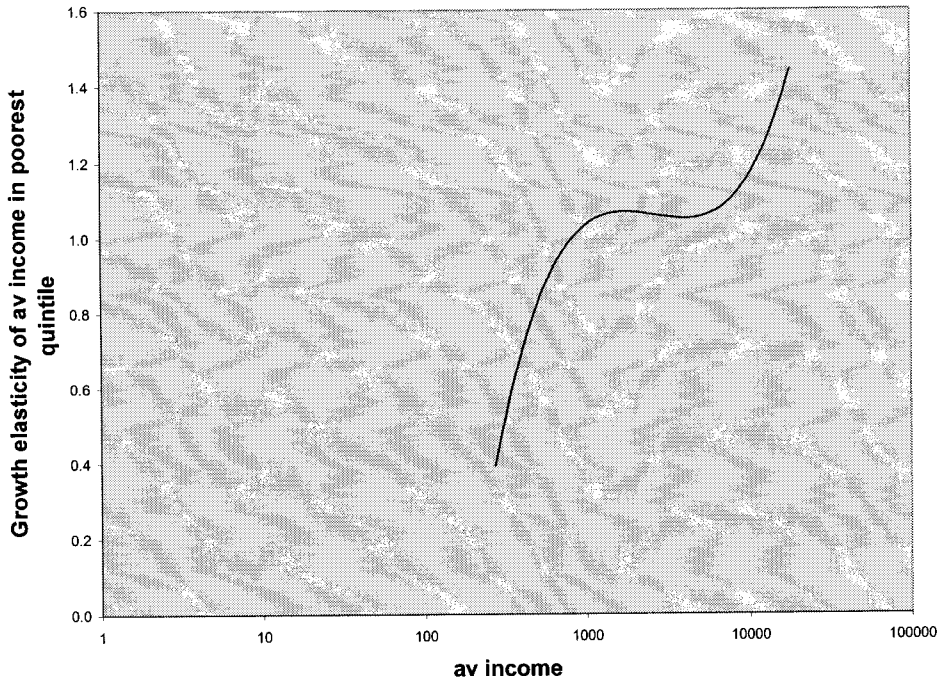
This provides a slightly better match than the straight line in Figure 2.1 but more importantly shows a significantly different slope for different parts of the sample. The slope of the line represents the overall income elasticity of the income of the poorest quintile. The slope is clearly lower at the lower income end of the sample and higher at the higher income end.

By differentiating the polynomial equation of the trend line we can obtain an expression for its slope, and hence, the average income elasticity of the income of the poorest quintile. We can then use this to plot elasticity against average income.

Figure 2.3 therefore shows the variation in growth elasticity of the income of the poorest quintile with the level of average income. Although we should be careful in drawing firm conclusions given that the data at the lower average income levels, as mentioned above are relatively scarce and scattered, it would appear that this figure shows three distinct regions. In the first for average annual income levels below approximately US$700 ppp the growth elasticity of the income of the poorest quintile is less than unity and rising. In the second for average annual

incomes between approximately US$700 ppp and US$6,000 ppp elasticity is stable at approximately unity. In the third region where average annual incomes are above approximately US$ 6,000 ppp the elasticity is greater than unity and rising.

Figure 2.3 Average Income vs Elasticity of Income of Poorest Quintile



This behaviour of the growth elasticity of the income of the poorest quintile would appear to be compatible with the Kuznets hypothesis as it implies the expected initial growth of inequality, associated with an elasticity of less than one, for lower levels of average income followed falling inequality, associated with an elasticity greater than unity, at higher levels of average income.

Dollar and Kraay's case that overall income growth is the single most important determinant of growth in the income of the poor and that other factors, such as human capital, institutional strength and agricultural productivity, have little significance does not seem to be proven. If such other factors were to be influential on the poverty reducing effect of economic growth it would be reasonable to expect that countries with higher incomes would be better off in terms of

these factors and would consequently have higher growth elasticities of the income of the poor. The data used by Dollar and Kraay may in fact be compatible with such an analysis.

White (2001), in considering how growth can be pro-poor in the context of a globalised economy, argues that other structural characteristics of poorer economies have a significant effect on the involvement of the poor in economic growth and hence its impact on poverty. He argues that investments in human capital improve international competitiveness and he shows data demonstrating a close relationship between improving social indicators and increasing openness of the economy. He also points to the necessity of measures to improve the openness and efficiency of internal factor and product markets as a means of ensuring participation of the poor in economic growth. The damaging effects of volatility in trade and in financial flows will require regulation of capital flows and policies promoting diversification.

The conclusion that can be drawn from the debate on pro-poor growth seem to be that the impact of overall economic growth on poverty reduction can only be said to be unequivocally positive in the sense that the incomes of the poor are likely to rise if overall incomes rise. For the increase in income of the poor to be sufficient to achieve Tanzania's poverty reduction targets its rate of growth will have to be greater than that of overall income. Senauer (2002) estimates that without specifically pro-poor growth strategies the number of food poor at a global level will fall by only a quarter by 2025 if current World Bank economic growth predictions turn out to be correct. If growth turns out to be half the predicted rate the number of food poor will grow by over a third.

The conditions necessary for achieving high growth elasticities of poverty would appear to be:

- strong growth in the agriculture sector which has a high and constant poverty elasticity;

- increased agricultural productivity to reduce the disparity between urban and rural areas and between farm and non-farm incomes;
- improved equality in access to and ownership of productive assets, particularly land;
- investment in human capital, particularly in improving levels of basic education and literacy;
- improvement in internal market openness, efficiency and stability through investment in infrastructure and appropriate regulatory and incentive frameworks;

3 Are HIPC and PRSP Growth Projections Achievable?

3.1 Economic Projections from HIPC and PRSP

The HIPC Decision Point (DP) document (IDA & IMF, 2000) envisaged that the Tanzanian economy would grow by 5.5% per annum in the period 2000 to 2002 and at an average annual rate thereafter of 6%. These overall growth rates were based upon the assumption that the agricultural sector would grow at 6% annually, the manufacturing sector at 7% and mining at 20%.

Exports were projected to grow even faster than the economy in general, increasing as a proportion of GDP from 13.6% in 1999 to 18% by 2009. This growth in exports, equivalent to 9% annually, would be led by non-traditional exports such as tourism and mining while the growth in traditional exports, largely agricultural, would grow at a rate somewhat lower than that of GDP.

As Danielson and Mjema (2001) point out, these projected rates of growth represent a significant departure from recent trends and, if they are to be achieved, would require that the volume of non-traditional exports increase by more than 20% annually for the next decade. The HIPC DP document justifies these ambitious targets on the basis that further economic liberalisation and public sector reform will provide the impetus for the acceleration in overall growth, agriculture will benefit from improved infrastructure and transportation and non-agricultural output will be boosted by increased investment in mining and privatised parastatal enterprises.

The HIPC Completion Point (CP) document (IDA & IMF, 2001) is somewhat less ambitious and contains economic projections that have been revised downwards. While the economy is still expected to grow at an average of 6% annually between 2001 and 2020, agriculture is projected to grow at 5.5% annually, manufacturing at 6.5% and mining at a modest 8.7%. The projections for export growth have been reduced significantly with exports expected to rise slightly from the current 14% of GDP to achieve and maintain a stable level of 15% by 2006, representing an annual average growth rate of 6.6%.

The Poverty Reduction Strategy Paper (PRSP) (United Republic of Tanzania, 2000) is a medium-term strategic planning document and as such does not contain long-term projections of the type presented by the HIPC documents. Its shorter-term economic forecasts are, however, in line with the pattern of growth envisaged in the HIPC CP document. GDP growth is expected to reach 6% by 2003 while agriculture is seen as achieving rates of at least 5% in the same period. While no specific figures are given for them, the growth rates of the industrial and service sectors are expected to exceed that of agriculture. The PRSP recognises the ambitious nature of these targets but, similarly to the HIPC documents, feels that the stable macroeconomic environment and ongoing structural reforms will allow them to be achieved.

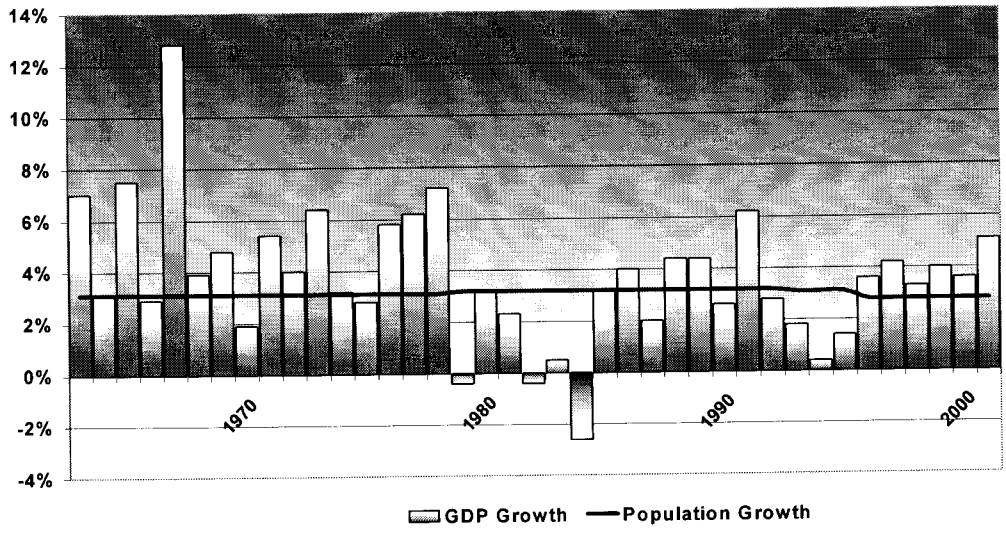
In order to reach an assessment of the likelihood of these economic forecasts being realised it would be useful to compare them to current trends in the Tanzanian economy and examine the arguments on which the projections are based.

3.2 Overall Economic Performance

In 2000 Tanzanian GDP is reported to have grown by just over 5%. Given this level of growth the expectation of achieving 6% annual growth might not seem over ambitious. However, the

5% growth achieved in 2000 represents a 10 year high while repeated rates of 6% have not been seen since the mid 1970s. More importantly the HIPC scenario envisages a sustained rate of 6% growth annually from 2001 to 2020. This means in practice that over a period of 20 years Tanzania should maintain an annual average growth rate of 6%. Such long-term sustained growth has never been seen in Tanzania and an average annual growth rate of 6% was only achieved in the immediate post-independence period from 1962 to 1967.

Figure 3.1 GDP and Population Growth 1962 - 2000



(Data from The World Bank, 2001a, 2002a & 2002b)

As Figure 3.1 shows the Tanzanian economy has rarely achieved the desired rates of growth and the occasions on which they have been achieved are usually followed and preceded by periods of significantly lower growth. If the rate of population growth is taken into account it can be seen that it is rare for per capita GDP growth to remain in positive territory for more than five years never mind maintain a high positive value for two decades.

The average annual growth of the Tanzanian economy has been 3.8% over the period since independence and 3.0% over the last ten years. While the achievement of HIPC targets can be

characterised as requiring a rise of one percentage point in the current annual GDP growth rate it might be more realistically seen as requiring the doubling of the average annual GDP growth rate.

If we consider that the proper measure of economic expansion is the per capita growth rate, and that GDP growth rates below the population growth rates in fact represent economic contraction, then the HIPC targets look somewhat more ambitious. As Tanzania's population has grown by an average of 3.1% annually in the period since independence and by an average of 2.8% over the last decade, average annual per capita GDP growth has been 0.68% since independence and 0.2% over the last decade. Assuming that the population does not grow by more than the current 2.8% rate an average per capita GDP growth rate of 3.1% over the next twenty years would be required to meet HIPC projections. This represents nearly a fivefold increase in the average rates of growth achieved since independence and a fifteenfold increase over those achieved in the last decade.

Both the HIPC and the PRSP documents are by nature summary documents and provide little basis for the contention that the 'ambitious' economic targets contained in them are achievable. The arguments and analysis supporting the HIPC growth scenario are largely contained in the country study "Tanzania at the Turn of the Century: From Reforms to Sustained Growth and Poverty Reduction", published jointly by the World Bank and the Government of Tanzania, and in the "Background Papers and Statistics" on which the study is based. (The World Bank & Government of the United Republic of Tanzania, 2001 & The World Bank 2002b)

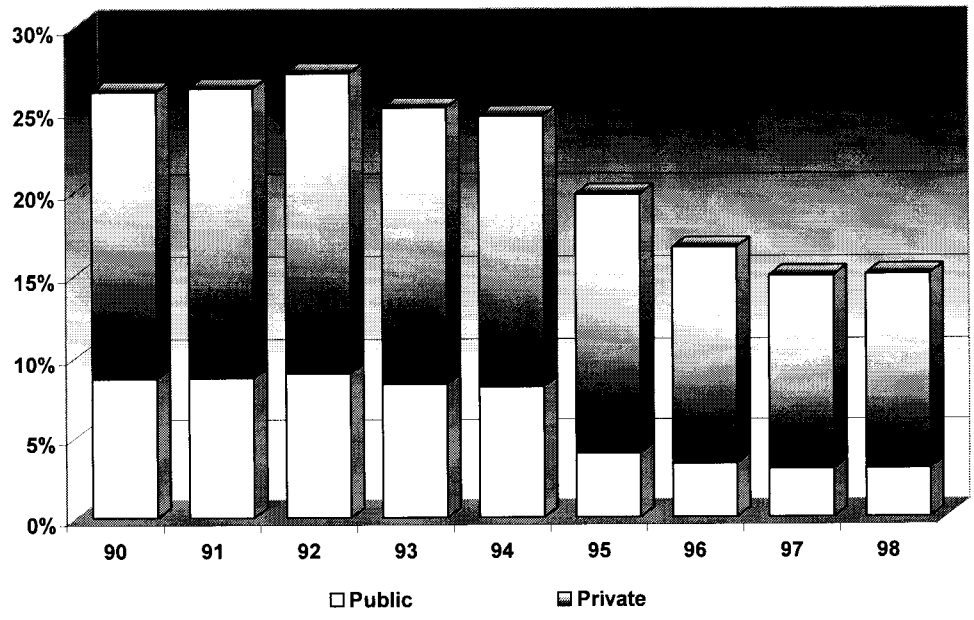
Low rates of productivity and returns to investment are cited as major reasons for the economic deterioration between the late 1970s and the early1990s. A collapse of productivity was caused

by inappropriate investment decisions. In the pursuit of import substituting industrial growth exchequer funds and foreign aid were used for increasing productive capacity at a time when the utilisation of existing capacity was already falling due to growing scarcity of foreign exchange for essential imported inputs and of budgetary resources for maintaining existing capacity and essential infrastructure. As a result long-term returns to investment fell from over 20% in the mid 1970s to a low of 4% in 1982 before recovering somewhat to 15% in the late 1990s.

An increase in investment productivity is seen as critical for increased growth. The increase in productivity witnessed in the latter part of the last decade is seen as a positive result of economic policy changes and as grounds for expecting higher economic growth rates. However, reductions in public investment resulting from fiscal compresssion may well be responsible for this apparent increase in productivity. While, undoubtedly, unproductive public investment in inefficient and under-utilised capacity has been reduced by this process, this does not imply an underlying improving trend in productivity due to more efficient processes or changes in production technologies. Increases in output due to this apparent rise in productivity should not be expected and will only occur if investment levels can be raised again without productivity losses.

Figure 3.2 shows public and private investment as a proportion of GDP between 1990 and 1998. Overall investment as a proportion of GDP has fallen significantly from 26% to 15%. The public sector share of investment has fallen significantly as would be expected in the context of fiscal and structural reform policies. However, although the private sector share of total investment has increased, the level of private investment, as a proportion of GDP, has accompanied the downward trend in public investment, falling from 18% to 12% in the period.

Figure 3.2 Investment as Proportion of GDP 1990 - 1998



(Data from The World Bank, 2001a, 2002a & 2002b)

The sources differ somewhat with regard to the investment rate necessary to achieve the desired target of a sustained 6% GDP growth rate. The country study estimates that an investment rate of 25% will be required while the HIPC CP projections show investment rising to 20% of GDP. There is agreement, however, that investment needs to rise significantly. Although the rate of investment rose from 15% in 1998 to 17.7% in 2000, the overall trend may still be downwards as these increases may be due to a peak in government investment to repair infrastructural damage caused by El Nino and one-off investments in mining.

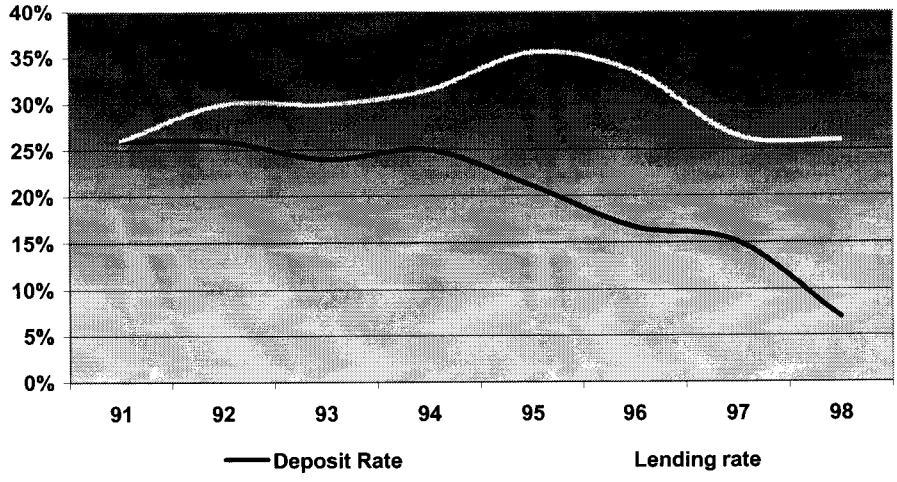
The downward trend in investment has arisen as a consequence of the failure of the private sector to fill the gap left by the government's divesture from productive and commercial activity. This failure can only be partially explained as an unwillingness of private investors to take over inherently unprofitable enterprises as this would not explain why private investment as a proportion of GDP has fallen. It would seem more likely that the 'crowding in' effect of public expenditure has been more significant than the 'crowding out'. In other words reductions in

public expenditure and investment, rather than encouraging private investment by providing more resources and opportunities, have in fact produced a corresponding reduction in private investment. The potential impact can be seen by considering the rates of central government investment, which having been at levels of approximately 4.5% of GDP in the mid 1980s had fallen to around 0.5% of GDP by 1998. The negative effect of falling public investment on economically important infrastructure by raising costs and reducing returns is likely to act as a disincentive to private investment.

Poor information and uncertainty arising from external factors, such as climate and political stability, poorly functioning internal markets and influential but unpredictable external markets affect investment in a number of ways. Investors tend to invest in safer short term projects such as treasury bills, commercial and trading activities and single season crops rather than in areas such as export crops or products whose returns are in the longer term. Commercial lenders tend to minimise their risk from poor information, uncertainty and structural constraints by resorting to treasury bills and limiting their lending to trusted high value borrowers more involved in trade than in production. Thus increased uncertainty leads to higher time preference rates shortens horizons and raises the costs of investment. This can be seen in the large differential that has emerged between deposit and lending rates and the dramatic fall in the ratio of lending to saving as liberalisation of the financial markets has been implemented.

As Figure 3.3 shows lending rates have declined much more slowly than deposit rates as inflation has fallen so that by 1998 nominal lending rates were 370% of nominal deposit rates. In the same period the lending-to-deposit ratio has fallen from 154% to 34% indicating that structural constraints to investment appear more critical than availability of finance for credit. (The World Bank, 2002b & Addison & Rahman, 2001)

Figure 3.3 Nominal Interest Rates 1991 - 1998



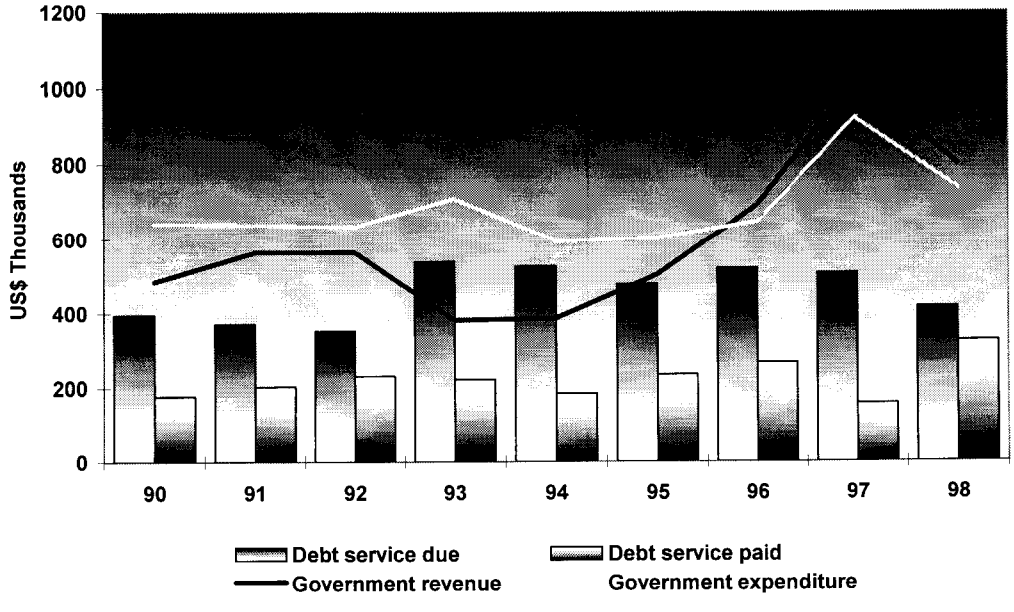
(Data from The World Bank, 2001a, 2002a & 2002b)

Improvements in human capital and economic infrastructure are seen as essential to improving productivity, raising returns to investment and hence increasing rates of investment and economic growth. HIPC debt relief is intended to allow the provision of additional funding to priority sectors including health, education and roads. It is also envisaged that growth in output and improvements in the taxation system will increase government revenue allowing increased expenditure. Also as economic output increases new borrowing will be contracted by the government on the basis that its ability to service debt increases in line with GDP and export growth. The PRSP contains the medium term strategic targets for the priority sectors to be achieved through the use of the resources made available as a result of the HIPC initiative.

Some caution is required with regard to the additional resources likely to be available to the government budget after HIPC implementation (Ranis & Stewart 2001). Firstly the debt relief itself is not completely additional. This is because the reduction in debt service obligations

resulting from HIPC and associated bilateral debt relief initiatives cannot be portrayed as additional cash resources because the obligations could not have been met by Tanzania and, as Figure 3.4 shows, debt service payments have historically fallen far short of the amounts due. This is not surprising as in the mid 1990s external debt service payments due by Tanzania were more than 100% of government revenue, 75% of government expenditure and over 60% of exports. (The World Bank, 2002b). In other words as the debt service payments were not being made in full, and would not have been made in full, their cancellation will not result in their full value being available to the exchequer. While bilateral debt rescheduling and relief since 1998 coupled with HIPC and consequent further bilateral relief will reduce annual debt service obligations from over US$400m in 1998 to US$100m in 2002 the consequent additional resource availability, given the previous debt service performance, is unlikely to reach 50% of the nominal reduction.

Figure 3.4 Debt Service and Government Revenues and Expenditures 1990 - 1998



(Data from The World Bank, 2002b & IDA & IMF, 2000)

As Ranis and Stewart (2001) point out additionality is also compromised by possible reductions in external development assistance. HIPC projections envisage that external grant aid will grow by 1% annually to 2020. The trend in development assistance flows to Africa is, however, downwards having fallen from US$32 per capita in 1990 to US$19 per capita in 1998.

The government revenue projections in the HIPC documents are optimistic in that, contrary to the current stagnant or downward trend, they envisage that revenue as a proportion of GDP will grow from 11.2% in 2001 to 14% in 2010. Given that economic growth is to be led by manufacturing, mining and the non-agriculture sector and that special incentives, including tax concessions and low tariff regimes, will be available to encourage investment in these areas such an increase in revenue seems unlikely as it would imply a greater tax burden for the slower growing sectors of the economy. As GDP is projected to grow at 6% annually the growth in revenue is very significant. For example if revenue in 2010 had reached only 12% of GDP the shortfall on the projections for that year would be in the region of US$410m, which is approximately equal to the entire government expenditure in the health and education sectors in 2000.

As Danielsson and Mjema (2001) point out HIPC relief is designed to provide a temporary reduction in external debt, and hence the costs of debt servicing, to allow resources to be directed towards economic expansion. As the economy grows it is expected that external borrowing will again increase. The HIPC scenario for Tanzania is consistent with this conceptualisation. Loan financing inflows are expected to grow from current levels of approximately US$400m per annum to US$940 m in 2020. These loans are envisaged as being at concessional rates and will result in the NPV of external debt rising from the post full delivery of HIPC value of US$1.4bn in 2001 to US$3.1bn in 2010 and US$6.1bn in 2020. While this level of indebtedness may be

sustainable if growth, revenue and aid flow projections are met, if they are not Tanzania risks rebuilding its unsustainable debt and once again having to divert resources from essential human and physical capital investment.

Serieux and Samy (2001) in a study of 53 low and lower-middle income countries showed a strong co-relation between their economic growth and the economic growth rate of OECD countries. This issue is also discussed in the country study background documents (The World Bank, 2002b) which also quantifies the effect of the relationship between economic growth in Tanzania and economic growth in its OECD trading partners. A change of 1 percentage point in OECD trading partner growth is associated with a change in the same direction of between 1.2 and 1.37 percentage points in Tanzanian economic growth. The likely impact of an economic slowdown in the industrialised countries has been recognised to some extent in the HIPC Completion Point document (IDA & IMF, 2001) and is the reason given for the reduction in growth projections relative to those in the Decision Point document (IDA & IMF, 2000) particularly in the case of exports. There seems little doubt, however, assuming that the growth interrelationship mentioned above holds and is of the order of magnitude estimated, that the negative impact on Tanzanian growth allowed for in the HIPC document is underestimated.

3.3 Growth enhancing policies in the PRSP

To the extent that the HIPC projections for economic performance seem optimistic in relation to current trends in the Tanzanian economy we would expect that the PRSP would contain growth enhancing policies that might be seen as intending to bridge the gap between current and projected performance. From the preceding section we can identify certain factors which could be critical constraints to the achievement of the economic growth targets presented in the HIPC documents. These are:

- Low rates of investment caused by uncertainty due structural characteristics of the Tanzanian economy and the volatility of export markets and international prices.
- Low productivity and returns to investment due to historically falling investment in human and physical capital.
- Lower than expected resource availability due to underachievement of revenue targets and stagnant or falling development assistance.
- Reduced rates of economic growth in Tanzania's industrialised trading partners reduces export potential and overall growth.

The PRSP aims to raise levels of investment to 17% of GDP by "initiatives focussing on bolstering private investment in the cultivation of traditional and new crops, small and medium size enterprises, and informal sector activities." (United Republic of Tanzania, 2000: p.15) In practice, however, government actions will involve mostly extension and training activities for farmers and small traders and further deregulation of markets. Reorganising the Tanzania Investment Centre, reforming the Commercial Court and implementing the Land Act may over time serve to reduce levels of uncertainty. However, there are no measures that can be seen to clearly address market failures, particularly in agriculture, and to reduce the perceived risk of investors and producers that would promote the longer term perspective necessary for increased investment.

The bulk of the PRSP, and the targets outlined in it, deal with issues of human and physical capital which will contribute to any increase in productivity. The PRSP sets targets in access to education and level of educational achievement as well as targets in nutrition, health, including on HIV/AIDS, and rural water supply and roads infrastructure. Progress in these areas, however, and the impact on productivity and economic growth will depend on the level of resources

invested in them. In this context the PRSP clearly states that spending in these areas will increase but will still be subject fiscal constraints imposed by macroeconomic considerations and to the cash budgeting system. Public expenditure on health and education has risen significantly from 3.2% of GDP in 1997 to 4.7% in 2001 and is projected to rise further to 5.8% in 2002. These rises however will only bring spending on health and education back to the levels they experienced in the mid-1980s where their GDP share was in the region of 5.5%. (UNDP, 1990 & 2000 & IDA & IMF 2001)

Another important point is that the growing importance of 'programme' funding in development assistance has meant that increasingly a larger proportion of external assistance is delivered through the government budget. The implication therefore is that external funding, that was spent directly in health and education by donors, is now reflected in the Government budget. Thus, to some extent, the increases in public expenditure may in fact be the inclusion of already existing, but not counted, resources and may not imply and actual increase in investment in the sector.

Measures to improve government revenue levels are limited to improving the efficiency of the taxation administration. Without more specific measures to broaden the tax base the revenue projections seem unconvincing. The government will seek to improve co-operation with donors and secure growing levels of development assistance through the involvement of donors in the Medium Term Expenditure Framework and Public Expenditure processes and through the preparation of a Tanzania Assistance Strategy aimed at co-ordinating development assistance delivery. Also importantly for maintaining levels of development assistance the government has outlined measures for combating corruption in the public sector.

The PRSP offers nothing on the issue of exogenous shocks or external influences on economic growth. This is consistent with the line contained in the country study documents which maintains that market forces and price mechanisms react more efficiently to external shocks than any government intervention. On this basis government policy should be to ignore shocks and ensure that exchange rates and prices can adjust freely. This approach, again, offers little to reduce risk and uncertainty which continue important constraints to growth.

4 Poverty Measurement and Trends in Poverty

4.1 A Poverty Baseline from the 1991/2 Household Budget Survey

In 2000 the Government of Tanzania published the report 'Developing a Poverty Baseline in Tanzania' which detailed the status of poverty in the country in the early 1990s. (National Bureau of Statistics, 2000) The objective of the report was to establish baseline information on the level of poverty that would serve as a reference point against which progress towards the goals of halving absolute poverty by 2010 and of eradicating it by 2025, outlined in the National Poverty Eradication Strategy (NPES), would be measured. (Vice President's Office, 1998).

The study used data collected in the Household Budget Survey (HBS) of 1991/2 and the Human Resources Development Survey (HRDS) of 1993 to calculate poverty lines and poverty headcount ratios. The two surveys covered the same enumeration areas and used approximately the same sample size. However, while the HBS was carried out over a 12 month period and used a written record of transactions maintained by household members, the HRDS covered only a period of 8 months and was based on the monthly recall of transactions by respondents. Given that incomes and expenditure are known to vary significantly during the year and that recorded data is probably more reliable than recalled data, the HBS data and results, based on its 12 month survey duration and its written diary methodology, were considered to be more reliable.

Two poverty lines were calculated, a food poverty line, providing a money value of the consumption expenditure necessary to obtain basic nutrition, and a somewhat higher basic needs poverty line providing an estimate of consumption expenditure necessary to meet nutritional and other basic needs. The food poverty line calculation was based on a food basket described as "a low cost realistic minimum diet" defined by Wagao. The food poverty line value was

established by applying prices from the 1994 Base Price Survey to this food basket (National Bureau of Statistics,2000: p 73.)

The basic needs poverty line was estimated by calculating the proportion of total non-food consumption expenditure used by the poorest 25% of households from the HBS data and scaling the food poverty line proportionally upwards to allow for this percentage of non-food expenditure.

The study calculated overall poverty lines for mainland Tanzania and specific poverty lines for the capital city, Dar es Salaam, other urban areas and rural areas. These were used to produce two measures of poverty:

- the headcount ratio, which estimates the percentage of people living in households with levels of expenditure below the poverty line;
- the poverty gap, which measures, the average extent by which the expenditure of households below the poverty line falls short of the poverty line, as a percentage of their total expenditure.

Household expenditure data from the HBS was divided by household size, calculated in adult equivalents, to give per capita expenditure and then adjusted to December 1994 prices using the Consumer Price Index in order to calculate the poverty measures.

The expenditure data from the HBS was also used to calculate measures of the inequality of distribution of expenditure among the populations of the different geographical areas mentioned

above. The two measures used were the Gini coefficient and the ratio of average expenditure between the richest and poorest quintiles of the population.

The principal findings of the poverty baseline study of the 1991/2 HBS data with regard to income poverty and inequality are show in Table 4.1. It is estimated that 26.6% of the population is living below the food poverty line and 48.4% below the basic needs poverty line. Poverty is most widespread and deepest in rural areas where 57% of the population have expenditures that fall below the basic needs poverty line by on average 21% of their income.

Table 4.1 Expenditure, poverty and inequality in Tanzania 1991/2 (1994 prices) from 'Developing a Poverty Baseline in Tanzania'

	Dar es Salaam	Other Urban	Rural	Mainland Tanzania
Mean monthly (28 days) per capita expenditure (TSh)	31,578	19,840	10,651	13,388
Food Poverty Line, monthly, per capita (TSh)	5,711	5,940	5,075	5,113
Food Poverty Line as % of mean expenditure	18.1%	29.9%	47.6%	36.1%
Headcount ratio as per Food Poverty Line	1.7%	19.6%	31.8%	26.6%
Poverty gap as per Food Poverty Line	0.2%	5.4%	9.5%	7.8%
Basic Needs Poverty Line, monthly, per capita (TSh)	8,325	8,659	7,398	7,453
Basic needs Poverty Line as % of mean expenditure	26.4%	43.6%	69.5%	52.6%
Headcount Ratio as per Basic Needs Poverty Line	5.6%	41.1%	57.0%	48.4%
Poverty Gap as per Basic Needs Poverty Line	1.2%	13.1%	20.9%	17.5%
Gini Coefficient	0.35	0.47	0.41	0.46
Richest/poorest quintile expenditure ratio	5.65	9.64	7.46	9.35

(Data from National Bureau of Statistics, 2000)

4.2 The 2000/1 Household Budget Survey

A further Household Budget Survey was carried out over 12 months in 2000 and 2001. The HBS 2000/1 used a considerably larger sample size than the HBS 1991/2, collecting data from over 22,000 households as compared to approximately 5,000 households covered by the earlier survey. The final report also used a significantly different methodology, from that used on the HBS 1991/2 data in the 2000 'Developing a Poverty Baseline in Tanzania' study, for calculating poverty lines and deflating household expenditure over time. As this meant that the findings of the 2000/1 HBS would not be comparable with the results from the earlier analysis of the 1991/2 HBS data, the final report of the 2000/1 study also re-analyses the 1991/2 data using the later methodology so as to produce results than can be compared with those of the 2000/1 survey. This has resulted in a significant downward shift in the baseline estimates of the level and extent of Tanzanian poverty in the early 1990s.

In order to calculate a food poverty line the 2000/1 HBS report constructs a food basket containing all items reported by the survey as having been consumed by the poorest 50% of the population. This basket contains in excess of 100 items, whose individual contribution to the basket is weighted by the median monthly per capita consumption reported for it in the survey. The quantities are adjusted to provide a daily food requirement of 2,200 calories and priced using the median unit price for each item. The basic needs poverty line was calculated by dividing the food poverty line by the observed percentage share of expenditure used to purchase food by the poorest 25% of households in the survey.

In order to adjust poverty lines and consumption expenditure for prices the HBS 2000/1 report uses the Fisher Ideal Index[1]. This index allows for the effect of changes in consumption patterns, the substitution of the consumption of one good for that of another, to be taken into account in adjusting for price differences between different times and places. Instead of using the Consumer Price Index the report uses price and quantity data from the surveys themselves to calculate a Fisher Index to measure price differences between the 1991/2 and 2000/1 HBSs. Separate indices are also calculated for the Dar es Salaam, other urban and rural sections of each survey relative to the overall national population.

The Fisher Index was not used to adjust the poverty lines between the two surveys. Instead the price and consumption data from each survey was used to independently calculate the two poverty lines for each survey date.

Table 4.2 shows the principal conclusions that the HBS 2000/1 Final Report draws from its analysis of the HBS 1991/2 data and compares them with the results from the 2000 analysis by the 'Developing a Poverty Baseline in Tanzania' study. As a result of the changes in methodology the estimates of the numbers in poverty and of the extent of poverty have been reduced by between 20% and 30%.

[1] The Fisher Ideal Index of the temporally or spatially separated prices of a given basket of goods is equal to the square root of the product of the Laspeyres Index and the Paasche Index and, as such, makes better allowance than the more commonly used Laspeyres Index for the substitution of consumption of one good by the consumption of another. (Deaton & Tarozzi, 2000)

Table 4.2 Expenditure, poverty and inequality in Tanzania 1991/2 (1991/2 prices) from 2000/1 HBS Final Report (Figures from the 2000 study, 'Developing a Poverty Baseline in Tanzania', are included in brackets)

	Dar es Salaam	Other Urban	Rural	Mainland Tanzania
Mean monthly (28 days) per capita expenditure (TSh)	5,982	5,114	3,077	3,489
Food Poverty Line, monthly, per capita (TSh)	3,031	2,387	1,958	2,083
Food Poverty Line as % of mean expenditure	50.7% (18.1%)	46.7% (29.9%)	63.6% (47.6%)	59.7% (36.1%)
Headcount ratio as per Food Poverty Line	13.6% (1.7%)	15% (19.6%)	23.1% (31.8%)	21.6% (26.6%)
Poverty gap as per Food Poverty Line	3.2% (0.2%)	3.5% (5.4%)	6.5% (9.5%)	5.9% (7.8%)
Basic Needs Poverty Line, monthly, per capita (TSh)	3,045	2,419	2,116	2,777
Basic Needs Poverty Line as % of mean expenditure	50.9% (26.4%)	47.3% (43.6%)	68.8% (69.5%)	79.6% (52.6%)
Headcount Ratio as per Basic Needs Poverty Line	28.1% (5.6%)	28.7% (41.1%)	40.8% (57.0%)	38.6% (48.4%)
Poverty Gap as per Basic Needs Poverty Line	7.5% (1.2%)	8.1% (13.1%)	12.7% (20.9%)	11.8% (17.5%)
Gini Coefficient	0.30 (0.35)	0.36 (0.47)	0.33 (0.41)	0.35 (0.46)
Richest/poorest quintile expenditure ratio	5.6 (5.65)	6.4 (9.64)	5.8 (7.46)	6.1 (9.35)

(Data fromNational Bureau of Statistics, 2000 & 2002)

Table 4.3 shows the results of the analysis of both the 1991/2 HBS data and the 2000/1 HBS data as presented in the the 2000/1 HBS Final Report. The figures show an increase in household expenditure and reductions in income poverty in the period between the two surveys. The report indicates a fall in the headcount ratio of food poverty from 21.6% to 18.7% and of basic needs poverty from 38.6% to 35.7%. The depth of poverty as measured by the poverty gap has also declined. The decline in poverty is not large enough to be statistically significant and the results

indicate that, although the proportion of population that is poor has fallen, the absolute numbers have risen. The number of people living below the food poverty line has risen over the period from 5.3m to nearly 6.0m while the numbers under the basic needs poverty line have risen from 9.5m to 11.4m.

Table 4.3 Expenditure, poverty and inequality in Tanzania 1991/2 and 2000/1 (2000/1 prices) from the 2000/1 HBS Final Report

		Dar es Salaam	Other Urban	Rural	Mainland Tanzania
Mean monthly (28 days) per capita expenditure (TSh)	2000/1	21,949	14,377	8,538	10,120
	1991/2	14,896	12,733	7,661	8,686
Food Poverty Line, monthly, per capita (TSh)		6,719	5,607	5,107	5,295
Headcount ratio as per Food Poverty Line	2000/1	7.5%	13.2%	20.4%	18.7%
	1991/2	13.6%	15%	23.1%	21.6%
Poverty gap as per Food Poverty Line	2000/1	1.5%	3.5%	5.1%	4.6%
	1991/2	3.2%	3.5%	6.5%	5.9%
Basic Needs Poverty Line, monthly, per capita (TSh)		8,313	6,386	6,348	7,253
Headcount Ratio as per Basic Needs Poverty Line	2000/1	17.6%	25.8%	38.7%	35.7%
	1991/2	28.1%	28.7%	40.8%	38.6%
Poverty Gap as per Basic Needs Poverty Line	2000/1	4.1%	7.7%	11.5%	10.5%
	1991/2	7.5%	8.1%	12.7%	11.8%
Gini Coefficient	2000/1	0.36	0.36	0.33	0.35
	1991/2	0.30	0.36	0.33	0.35
Richest/poorest quintile expenditure ratio	2000/1	7.2	6.6	5.9	6.4
	1991/2	5.6	6.4	5.8	6.1

(Data from National Bureau of Statistics, 2002)

Mean expenditure has risen by 17% since the 1991/2 study implying increases in real income. The greatest increase was in Dar es Salaam and the smallest in rural areas. Mean per capita expenditure in Dar es Salaam has risen from 200% of rural mean per capita expenditure to more than 250%.

The mean proportion of total expenditure used for food consumption has dropped from 71.2% to 65.2% while the amounts of purchased food have risen from 50% to 60% of total food consumed. Expenditure on health and education has more than doubled from 1.7% of the total to 4.2%. Despite the recognition that increases in expenditure, due to new cost recovery mechanisms, particularly in health, education and water supply, do not imply an increase in benefits or services received, the report points to the changes in the pattern of expenditure as evidence of real increases in income and expenditure.

Inequality has increased over the period. As mentioned above, the gap in mean household expenditure between Dar es Salaam and rural areas has increased. Inequality has increased most in Dar es Salaam and is virtually unchanged in rural areas. Both the Gini coefficient and the richest/poorest quintile expenditure ratio have deteriorated with the biggest changes registered in Dar es Salaam.

4.3 Changes in the poverty baseline

While the changes in the poverty estimates resulting from the new analysis of the 1991/2 HBS data are striking, their importance for poverty reduction targets should not be overestimated. The NPES and Vision 2025 targets are expressed in terms of percentage reductions of poverty and as such will be unaffected. As the methodologies have been, and presumably will be, used on the different data sets available, the trends in poverty should in general be scaled to the new baseline and largely unchanged. This is not to say, however, that the changes in the poverty baseline are entirely un-problematic. (Vice President's Office, 1998 & United Republic of Tanzania, 1999)

The comparability of levels of poverty in Tanzania with other countries in the region, and with other regions, will be significantly affected by the changes in the poverty line. The overall 2000/1 HBS Final Report poverty line for mainland Tanzania, at TSh7,253 per capita (monthly), corresponds to approximately US$0.65 per day at purchasing power parity[2], while many countries, and Tanzania's own NPES, refer to US$1.00 per day at purchasing power parity as a standard poverty line.

The credibility of poverty analysis and measurement is inevitably called into question by the wide divergence between the results of the two analyses of the 1991/2 data. Irrespective of the technical justifications, the finding by the 2000/1 HBS Final Report analysis that rural poverty was overestimated by nearly 50% questions the ability of any study to accurately reflect reality without being open to significant manipulation of results.

There are two major questions regarding the results from the 2000/1 HBS Final Report analysis of the 1991/2 data. Firstly given that the basic data from the 1991/2 survey was unchanged how can the estimates of inequality, given by the Gini Coefficient and the richest/poorest quintile expenditure ratio, have changed so significantly (as seen in Table 4.2) as a result of the change in methodology? While the use of different price indices may have altered the overall values of consumption, the basic shape of the expenditure distribution, although perhaps somewhat altered by better geographical differentiation of prices, should not have changed sufficiently to produce such a dramatic drop in inequality.

Secondly, a connected point, is the relationship between the ratio of the poverty lines to mean expenditure and the poverty headcount ratios. As Table 4.2 shows the poverty lines calculated in

[2] US$ purchasing power parity calculation based on WDR 2000/2001 (World Bank, 2001a)

the 2000/1 HBS Final Report analysis are a significantly higher in relation to mean expenditure than those in previous 'Developing a Poverty Baseline in Tanzania' analysis. The food poverty line rose from 36.1% to 59.7% of mean expenditure while the basic needs poverty line rose from 52.6% to 79.6%. Rises of the poverty line relative to mean expenditure in a given expenditure distribution would naturally lead to corresponding increases in the headcount ratios, however the opposite is the case here where the headcount ratios drop by approximately 20%. Again the question here is what has caused the apparent change in the distribution?

4.4 The Fisher Ideal Index and changes in consumption patterns.

The 2000/1 HBS Report opts to use the Fisher Ideal Index (FII) in preference to the Consumer Price Index (CPI) as it allows for the effect of changes in consumption patterns on the prices faced by households. The CPI, as a Laspeyres Index, measures the changes in prices, between a base time and a later time, of a constant consumption basket defined at the base time. In other words it measures the change in cost of the base-time consumption. A Paasche Index, contrary to the Laspeyres Index, measures the change in prices, between a base time and a later time, of a constant consumption basket defined at the later time. In other words it measures the change in cost of current consumption. The FII is the geometric mean of the Laspeyres and Paasche indices, i.e. the square root of their product, and thus gives more equal weight to both the base-time and the current consumption baskets. (Deaton & Tarozzi, 2000)

The rationale for the use of the FII is given in the HBS report as follows:

"The value of any price index will depend on the goods included in it. Consumption patterns vary between different areas, and over time, so a particular consumption basket cannot represent average consumption patterns everywhere. This is the limitation to any price index which is anchored to a single reference consumption basket – such as a Laspeyre's index.

Different consumption patterns will tend to reflect differences in prices, as households substitute a more expensive good with a cheaper one. For example, if the relative price of one staple carbohydrate increases over time, households may shift to another one. A price index that failed to reflect this would overestimate the prices faced by households at the later time because it would fail to reflect the change in consumption patterns. A similar argument applies to variation in consumption patterns in different geographical areas." (National Bureau of Statistics, 2002: p 103)

While the argument for the use of FIIs for variation of consumption patterns across geographical areas seems obvious, the justification for using them for intertemporal comparisons of consumption expenditure in the measurement of poverty is less clear.

It is reasonable to assume that changes in poverty will produce changes in consumption patterns, as is implicit in the above quotation. A household experiencing a reduction in real income may well choose to substitute one food item for a cheaper alternative, for example sorghum instead of maize, or for one whose price has not risen so steeply. The effect of using the FII to adjust this household's income thus implies that, because the household can no longer afford to buy a particular item, it does not face, or has not faced, the full increase in the price of that item. Consequently where a reduction of real income has resulted in changes in consumption favouring less costly items the household's current level of expenditure will be overvalued compared to prior expenditure where consumption favoured more costly items.

From another perspective consider the example of two households commanding the same resources and having the same consumption pattern. Over a period of time their real income diminishes as the prices of their consumption goods rise relative to their resources. Although

their resources, i.e. income, and price environment are the same, the effect of price rises and hence the change in their real expenditure and income will be adjudged to differ according to their consumption choices. In other words where an increase in prices forces a change in consumption the increase in poverty will be reduced, or underestimated. Effectively no value is placed on the consumption preferences of the household.

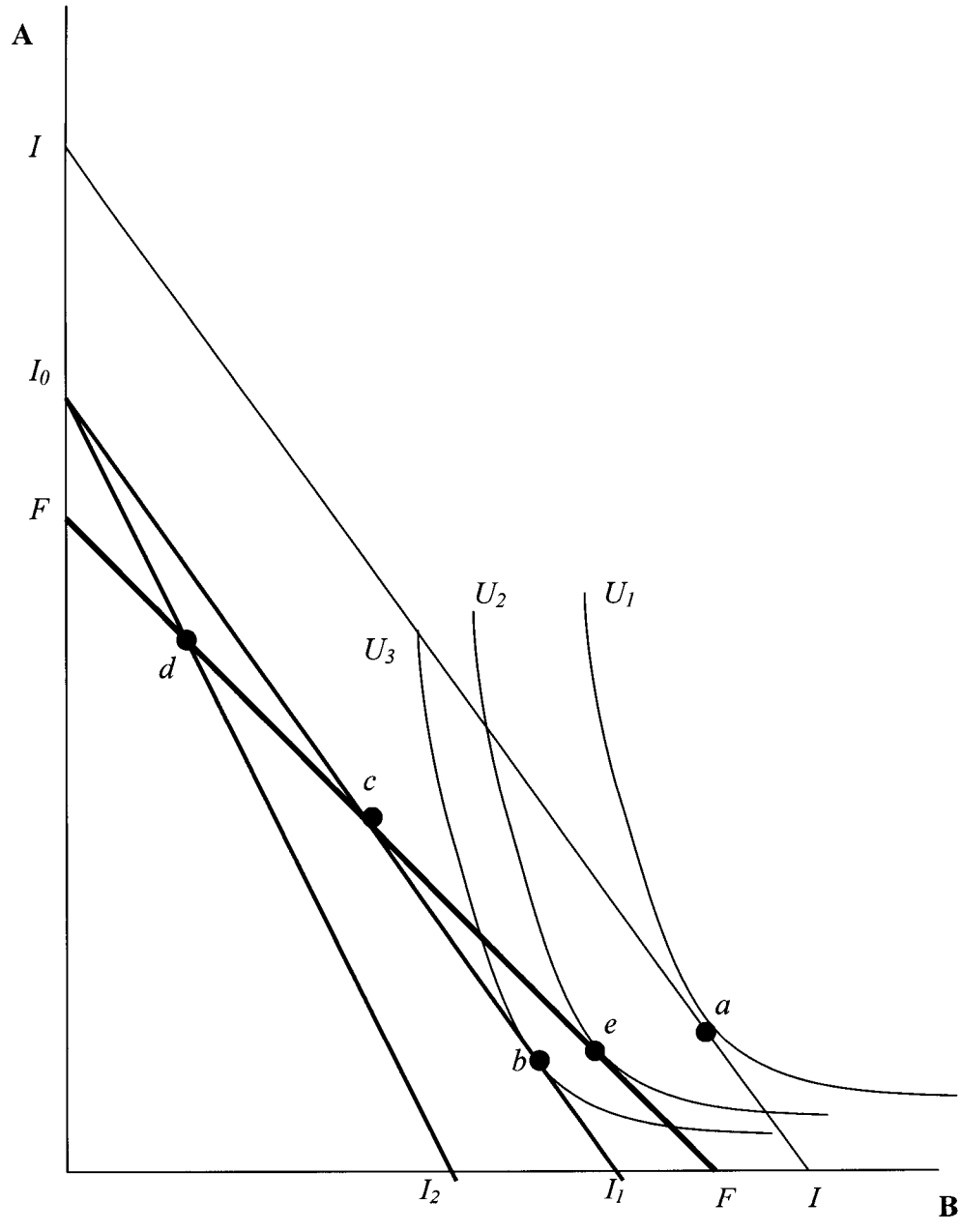
When the price of a commodity rises relative to the price of another, a consumer of both commodities will adjust the amounts of each commodity purchased. The changes in the amounts purchased are generally felt to be due to two effects. Firstly the consumer's preference for one commodity over the other alters as the relative prices change, this leads to changes in the amounts purchased that are due purely to the price change. This is the substitution effect. Secondly as the price of one commodity has risen while money or income available to purchase the commodities has not, there is a relative reduction in the budget available for purchasing the commodities. This will also alter the amounts of each commodity purchased. This is the income effect. In general, when attempting to quantify the overall reduction in benefits to the consumer caused by a price rise, only the income effect should be considered since the substitution effect is a free expression of preference and does not affect consumer benefit or utility.

The FII is an index that seeks to allow for and exclude the substitution effect of a relative price change when adjusting income or expenditure for the effects of price change. However the conditions under which households living close to the poverty line exist cannot be assumed to allow the free expression of preference that is necessary for substitution effects to be relevant. Where substitution effects do not exist the use of the FII will underestimate the effect of relative price change.

Let us consider a household living near the food poverty line that consumes two commodities, one of which (*B*), although more expensive, is, for reasons of taste, custom or convenience, strongly preferred over the other (*A*). (Examples of these pairs of commodities could be maize and cassava or maize and sorghum.) In Figure 4.1 the line *F-F* represents the various consumption combinations of the two commodities that meet the minimum calorific requirement of the household. The line I_0-I_0 is the budget line representing the level of household income at given prices for the two commodities. While available income is sufficiently high for the budget line not to intersect the line *F-F* the amounts of the two commodities consumed will be defined by the point of tangency (*a*) between the budget line and the indifference curve U_1. If income is such that the point of tangency is below the *F-F* line, as in the case of budget line I_0-I_1 then the minimum food constraint becomes critical and the amounts consumed will be defined, not by the point of tangency (*b*), but by the point of intersection (*c*) between the budget line and the *F-F* line.

In the event of a change in the relative prices of the two commodities the existence of a substitution effect depends on the tangency condition. It is measured between the points of tangency of the original and the rotated budget lines with the indifference curve. Where these points fall below the *F-F* line, as in the case shown in the diagram where the relative price rise of commodity *A* is represented by the rotation of budget line I_0-I_1 to I_0-I_2,there will be no substitution effect and the change in the consumption shares of each commodity, between points *c* and *d*, will be due solely to the income effect. In these conditions a Laspeyres Index will accurately reflect the effects on income and expenditure of relative price changes.

Figure 4.1 Consumption shares constrained by a minimum food requirement.



Poverty lines are usually set somewhere between the cheapest possible food basket and the most desirable food basket meeting the minimum calorie requirement (Wagao cited in National Bureau of Statistics, 2000). On the diagram the intercept of the *F-F* line with the vertical axis can be seen as representing the cheapest possible food basket while the point of tangency (*e*) between the *F-F* line and the indifference curve U_2 corresponds to the most desirable basket. The poverty line will, hence, fall somewhere along the *F-F* line between these two points. For

households below, on or close to the poverty line, therefore, the effect of changes over time in the relative prices of commodities on expenditure and income, will be more accurately reflected by a Laspeyres Index than by the FII.

4.5 Poverty lines and changes in consumption

A similar argument can be made with regard to the manner in which the poverty lines are conceived in the 2000/1 HBS Final Report. Both the basic needs poverty line and the food poverty line are established as absolute measures. They are intended to indicate the minimum levels of expenditure and income necessary for a basic standard of living. They are not relative measures dependent on changes in the levels of income and expenditure of the population or any segment of it. However, the report uses the consumption patterns of the poorest 50% of the population from the1991/2 HBS and the 2000/1 HBS to establish two different food baskets and hence two different poverty lines. This implies that if consumption patterns have changed as a result of changes in poverty, the poverty lines will change accordingly.

Consumption patterns will change with levels of poverty since a household's ability to exercise consumption preference is related to its level of income. It seems likely, therefore, that a food poverty line will correspond to a specific consumption basket resulting from a partial ability to express consumption preference[3]. The variation of a household's consumption from a poverty line consumption basket would therefore be a function of its distance above or below the poverty line.

[3] Corresponding to a point on the $F - F$ line in Figure .4.1

Thus a poverty line set using the observed consumption patterns of the poorest 50% of households will inevitably be influenced by the proportion and degree of poverty among those households. The poverty line, and the headcount ratio and the poverty gap that are based on it, therefore, become, to some extent, relative measures. They become relative to poverty itself and will tend to reduce the significance of change in poverty. If poverty lines are to be considered reference points for absolute measures of poverty, and if progress in poverty reduction is to be measured against a fixed baseline, specific fixed food baskets are likely to provide a more appropriate basis for setting poverty lines than food baskets continuously updated for changes in consumption patterns.

4.6 The use of purchase prices and expenditure adjustment for price change

Another aspect of the HBS methodology may have led to an under-estimation of the real price rises faced by the rural poor and hence an undervaluing of their historical income and expenditure levels. This would exaggerate any increase in real income measured over the period between the 1991/2 and 2000/1 surveys. The price information that the surveys collect for valuing both purchased and household produced consumption items as expenditure are the purchase prices faced by the households. The indices used for adjusting expenditure aggregates between the surveys are based on these purchase prices. A more correct estimate of the changes in prices faced by the household for purchasing consumption items would be given by indices that were based on relative prices, i.e. the ratio between prices for produce sold or wage rates on the income side and the purchase prices for items bought on the expenditure side.

Consider two scenarios presented in the table below where household income, the product of production volume and producer price, is used to finance consumption expenditure, which is the product of consumption volume and consumer price. Both consumer and producer prices have changed over the period between the base time and the current time.

	Base Time	Current Time
Consumer Price	10	30
Consumption Expenditure	50	150
Consumption Volume	5	5
Income	50	150
Producer Price	5	10
Production Volume	10	15
Consumer Price/Producer Price Ratio	2	3

Consumer prices have risen by a factor of 3. Deflating consumption expenditure purely on this basis leads to the conclusion that an expenditure of 150 in the current period is equivalent in real terms with the expenditure of 50 at the base time, both expenditures corresponding to a consumption volume of 5 units. If we complete the scenarios by considering producer prices we can see that, because producer prices have only risen by a factor of 2, 15 units of production are currently required, to generate the income necessary for a consumption expenditure of 150 to acquire the 5 units of consumption. In the base scenario only 10 units of production were required to produce the same result.

By comparing the complete current and base scenarios we can see that they are not equal, the base scenario is clearly 'better-off' in that it achieves the desired level of consumption with a lower level of production, or a lower level of household resource use. When deflating the consumption expenditure from the base time to the current period we need to take account of the lower production requirement in the base scenario. The value of this production, or resource use, can be seen as the amount by which the base scenario is 'better-off' than the current and, consequently, is the additional amount by which the consumption expenditure needs to be deflated above the deflation arising from consumption price changes.

The value of the difference in production of 5 units, at base time producer prices, is 25. This value, which can be considered as being available for consumption, is then be deflated to the current period according the change in consumer prices giving a current value of 75. Adding this to the deflated consumption expenditure value of 150, we arrive at a value of 225 which is the adjusted value of the base period consumption expenditure that takes into account both the current period consumption and producer prices.

	Base Time	Current Time
Consumer Price	P_{c0}	P_{c1}
Consumption Expenditure	E_0	E_1
Consumption Volume	Q_{c0}	Q_{c1}
Producer Price	P_{p0}	P_{p1}
Production Volume	Q_{p0}	Q_{p1}

Using the symbols in the above table, the difference in the production volumes between the base and current scenarios is given by:

$$Q_{p1} - Q_{p0} = Q_{c1} \cdot P_{c1}/P_{p1} - Q_{c0} \cdot P_{c0}/P_{p0}$$

Since $Q_{c0} = Q_{c1}$

$$Q_{p1} - Q_{p0} = Q_{c0} \cdot (P_{c1}/P_{p1} - P_{c0}/P_{p0})$$

The adjusted expenditure (E_{adj}) as described above, is the sum of base period expenditure and the value of the difference in production volumes adjusted by the difference in consumer prices, which is given by:

$$E_{adj} = [E_0 + Q_{c0} \cdot (P_{c1}/P_{p1} - P_{c0}/P_{p0}) \cdot P_{p0}] \cdot P_{c1}/P_{c0}$$

$$E_{adj} = [E_0 + Q_{c0} \cdot P_{p0} \cdot P_{c1}/P_{p1} - Q_{c0} \cdot P_{c0}] \cdot P_{c1}/P_{c0}$$

$$E_{adj} = Q_{c0} \cdot P_{p0} \cdot (P_{c1}/P_{p1}) \cdot (P_{c1}/P_{c0})$$

$$E_{adj} = (E_0/P_{c0}) \cdot P_{p0} \cdot (P_{c1}/P_{p1}) \cdot (P_{c1}/P_{c0})$$

$$E_{adj} = E_0 \cdot (P_{c1}/P_{c0}) \cdot (P_{c1}/P_{p1})/(P_{c0}/P_{p0})$$

Thus the correctly adjusted expenditure can be given by deflating the base period consumer expenditure by both the increase in consumer prices and the increase in the ratio of the consumer price to the producer price ratio.

If it could be reasonably assumed that purchase and selling prices had risen at similar rates the use of purchase price based indices would not significantly distort the outcome. However the period between the two surveys has seen falling investment in transport and communication infrastructure, the failure of the private sector to replace parastatal foodcrop marketing bodies and massive drops in financing for agricultural marketing and investment, all of which could be expected to increase market inefficiency in the rural economy. Producer prices are likely to have fallen relative to prices of purchased food and other consumption items as rising costs of storage, transport and marketing together with lack of competition increase margins. (The World Bank, 2002b)

4.7 Income growth and changes in expenditure patterns

The 2000/1 HBS Final Report (National Bureau of Statistics, 2002) shows that households' non-food expenditure has increased as a proportion of total expenditure since the 1991/2 HBS. On the basis that the proportion of expenditure on food would be expected to fall with rising incomes, this change is cited as further evidence that both income and expenditure have increased. The report also cites the increasing proportion of food purchased for consumption compared to the amount of food produced by the household for direct consumption as an indication of increasing income.

These arguments carry some weight as long as the non-food consumption of expenditure is discretionary. Where households face non-food consumption requirements that are unavoidable

and involve cash payments, which in turn require sales of food to finance them, the result may be contrary to the expected one and falling proportional expenditure on food may be associated with falling overall expenditure. The HBS report itself recognises the likely rise in non-discretionary non-food expenditure associated with the increasing use of cost recovery mechanisms in health and education. However these are likely to be compounded by higher costs of many essential consumer items, such as clothing, footwear and processed foods, faced particularly by rural households relative to the value of their produce.

In the case of a poor rural household that produces food crops both for sale and for direct consumption we can consider that the household's expenditure (E_t) consists of a food component (E_f) and a non-food component (E_{nf}), and is equal to its total income (I_t), which is made up of income from the sale of foodcrops (I_f) and income from other sources (I_{nf}) (wage-labour, sale of non-farm produce and transfers). This can be expressed as:

$$E_t = E_f + E_{nf} = I_t = I_f + I_{nf}$$

$$E_f + E_{nf} = I_f + I_{nf}$$

Where Q_{fp} and P_{fp} are the volume of food purchased and the purchase price of food respectively and Q_{fs} and P_{fs} the volume of farm produced food sold and the sale price respectively this can be written as:

$$E_{nf} + Q_{fp} \cdot P_{fp} = I_{nf} + Q_{fs} \cdot P_{fs}$$

$$\text{a)} \quad Q_{fp} = (I_{nf} + Q_{fs} \cdot P_{fs} - E_{nf}) / P_{fp}$$

The total amount of food consumed by the household (Q_{ft}) is the sum of the amount of food purchased (Q_{fp}) and the amount of household-produced food consumed directly (Q_{fc}).

$$Q_{ft} = Q_{fp} + Q_{fc}$$

Therefore from a)

$$Q_{ft} = Q_{fc} + (I_{nf} + Q_{fs} \cdot P_{fs} - E_{nf}) / P_{fp}$$

and

$$b) \quad Q_{ft} = [(I_{nf} - E_{nf})/P_{fp}] + [Q_{fs} \cdot P_{fs}/P_{fp}] + Q_{fc}$$

The total foodcrop production of the household (Q_{fpr}) is equal to the sum of the quantity of food sold (Q_{fs}) and the quantity of food produced and consumed directly (Q_{fc}).

$$Q_{fpr} = Q_{fs} + Q_{fc}$$

and

$$Q_{fc} = Q_{fpr} - Q_{fs}$$

substituting into b) we get

$$Q_{ft} = [(I_{nf} - E_{nf})/P_{fp}] + [Q_{fs} \cdot (P_{fs}/P_{fp} - 1)] + Q_{fpr}$$

$$c) \quad Q_{ft} = Q_{fpr} - [(E_{nf} - I_{nf})/P_{fp}] - [Q_{fs} \cdot (1 - P_{fs}/P_{fp})]$$

We can say that the quantity of food sold (Q_{fs}) is determined by the sum of the value spent on food purchases and the value required, in excess of non-foodcrop income, to make the required non-food expenditure, i.e.

$$Q_{fs} = Q_{fp} \cdot P_{fp}/P_{fs} + (E_{nf} - I_{nf})/P_{fs}$$

Substituting into c) we get:

$$d) \quad Q_{ft} = Q_{fpr} - [(E_{nf} - I_{nf})/P_{fs}] - [Q_{fp} \cdot (1 - P_{fp}/P_{fs})]$$

Equation d) shows that the food availability for the household (Q_{ft}) can be said to be determined by the three parts of the expression. The first is the total food produced (Q_{fpr}). The second is the amount of food required to be sold to cover the excess of non-food expenditure over non-food income. (If non-food income is greater than non-food expenditure this constitutes an increase in food availability.) The third element represents the reduction in food purchasing power as a result of having to purchase food with income generated from selling food.[4]

[4] Cashflow requirements may oblige households to sell food that they could keep for consumption. They may sell food at harvest time to finance immediate expenditure requirements in the expectation of earning non-foodcrop income later in the year to finance food purchases. Also as on-farm storage of food is limited by lack of storage infrastructure and chemicals, without which food cannot be stored for consumption during the year, households may have to

Let us consider what happens if non-food expenditure rises by δE_{nf} while prices, income and foodcrop production are unchanged, ie the non-discretionary non-food requirement rises. The increase in non-food expenditure can only be met either by reducing purchases of food (Q_{fp}) or by increasing sales of food (Q_{fs}) or by a combination of both. All will involve a drop in food availability.

From equation c) we can see that if there is no increase in the quantity of food sold (Q_{fs}) and the increase in non-food expenditure is financed by a reduction in food purchases (Q_{fp}), the reduction in food availability will be $\delta E_{nf}/P_{fp}$. Clearly under these conditions, total expenditure, food and non-food, remains unchanged as the decrease in expenditure on food, $(\delta E_{nf}/P_{fp})\cdot P_{fp,}$ is equal to the increase in non-food expenditure, δE_{nf}. However, expenditure on food, as a proportion of total expenditure, drops.

From equation d) we can see that, if the increase in non-food expenditure is financed by increased sales of food (Q_{fs}), i.e. less household produced food is retained for direct consumption and the amount of food purchased (Q_{fp}) is unchanged, there will be a greater reduction in total food availability equal to $\delta E_{nf}/P_{fs}$.[5] As less household produced food is retained for consumption, the proportion of food purchased, as a proportion of total food consumed, increases. As the reduction in the value of food expenditure, $\delta E_{nf}\cdot P_{fp}/P_{fs}$, is greater than the increase in non-food expenditure, the increase in non-food expenditure will, in this case result in an overall decrease in consumption expenditure.

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sell the bulk of their production shortly after harvest and therefore will have to purchase food in the market before the next harvest.

If the income growth scenario proposed by the HBS were to hold, then increased non-food consumption expenditure would be funded by increased non-food income or by the sale of increased farm production. From equations c) and d) we can see that the potential consumption increase would be maximised if any reduction in the $(E_{nf} - I_{nf})$ term, arising from a relative rise in income, were used to reduce sales of household produced food rather than increase purchases. This would lead to an increase in the amount of household produced food retained for consumption as a proportion of the total.

If farm production (Q_{fpr}) increases consumption would be maximised by reducing purchases of food (Q_{fp}) to free up resources for increased non-food expenditure rather than increasing sales. This would lead to a reduction in the amount of purchased food as a proportion of total food consumed.

It would seem likely, therefore, that, in a situation of scarcity where food and non-food consumption requirements are competing for scarce resources, a household wishing to maximise consumption would seek to minimise both its sale and purchase of food. This seems intuitively obvious as selling food that will have to be replaced in the future with purchased food inevitably involves losses due to the difference between selling and purchase prices.

The decrease in consumption of household produced food, in relation to purchased food, seen in the HBS is contrary to this expectation and may point to greater pressure on household resources due to increases in the non-food expenditure requirement rather than increases in overall income and expenditure. It may even, as indicated above, be associated with a drop in overall expenditure.

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[5] As the sale price of food, P_{fs}, faced by the household will inevitably be lower than the price,

4.8 Poverty elasticities

The 2000/1 HBS Final Report indicates a change in average household income corresponding to the measured 17% increase in consumption expenditure in the period since the 1991/2 survey. It also reports that the Gini coefficient has deteriorated by one percentage point from 34% to 35% over the same period while the food poverty headcount ratio has dropped from 21.6% to 18.7% and the basic needs poverty headcount ratio from 38.6% to 35.7%.

The 'Developing a Poverty Baseline in Tanzania' study establishes poverty elasticities for both changes in average income and the Gini coefficient. Table 4.4 shows these elasticities and compares the changes in the poverty headcount ratios that would be expected given the rise in both income and inequality with the measured changes in the ratios.

Table 4.4 Expected and measured changes in poverty headcount ratios.

	Food poverty	Basic needs poverty
Poverty elasticity of income	-1.46	-0.69
Change in income %	17%	17%
Expected impact on headcount ratio	-25%	-12%
Poverty elasticity of inequality (G)	2.34	0.65
Change in inequality (G) %	3%	3%
Expected impact on headcount ratio	7%	2%
Total expected impact on headcount ratio	-18%	-10%
Reported change in headcount ratio	-13.4%	-7.5%

(National Bureau of Statistics, 2000 and 2002)

P_{fp}, at which it purchases food $\delta E_{nf}/P_{fs} > \delta E_{nf}/P_{fp}$.

From Table 4.4 we can see that the measured improvements in both the food poverty and basic needs poverty headcount ratios are lower than would have been expected from the predicted elasticities. This may be because the real elasticities are different from the predicted ones or that the measured increase in household income is exaggerated, or indeed a combination of both.

While it is difficult to draw a definitive conclusion much of the discussion in the earlier sections of this chapter indicate that the increase in average household expenditure, and hence income, measured over the period between the two surveys may have been overestimated due to the way in which the historical expenditure aggregate has been adjusted for price change. A further point is that if we assume that the increases in income have occurred then the elasticities are clearly lower than those envisaged in the 'Developing a Poverty Baseline in Tanzania' study. This would be unexpected since the relatively lower headcount ratios presented in the 2000/1 HBS Final Report analysis of the 1991/2 data, indicating a smaller population below the poverty line, combined with the lower Gini coefficient also found by the later analysis, indicating a poor population living close to the poverty line, should imply that income growth elasticities would be higher than those envisaged in the 'Developing a Poverty Baseline in Tanzania' study.

4.9 Some concluding remarks

The objective of this chapter was to examine the changes in income and poverty over the period between the 1991/2 and 2000/1 Household Budget Surveys in order to asses the validity of the average income elasticity of poverty derived by the 'Developing a Poverty Baseline in Tanzania' study, which is used to estimate the poverty reducing impact of the overall growth in the Tanzanian economy envisaged in PRSP and HIPC projections. Taking the results of the 2000/1 HBS Final Report at face value the poverty elasticities seem to be over estimated by about one third.

This finding is however weakened by a number of factors. Firstly the report finds that although average household income has risen by 17% the decrease in poverty since 1991/2 is so small as to be statistically insignificant. Any elasticities derived therefrom must be questionable but would appear to be lower than those envisaged in the baseline study.

Secondly and more importantly the methodology used in the data analysis may have overestimated the increase in average household income over time. The use of changes in purchase prices for adjusting 1991/2 average household expenditure to 2000/1 values, without considering changes in the ratio of purchase prices to prices obtained by households for produce or labour sold, means that the impact of worsening market conditions, that are particularly likely to have occurred in the rural economy, on household expenditure and income are neglected. This will result in an undervaluing of the earlier average household income and hence an overestimation of any increase in income over time.

The increase in the proportion of food purchased for consumption as a proportion of overall consumption is used by the 2000/1 HBS Final Report as a strong indicator that an increase in average household income has occurred. Such an increase, however, is in fact compatible with unchanged or reduced income in the context where increases in non-food money expenditure are not discretionary, such as where prices of essential consumer items rise and cost recovery mechanisms are introduced for basic services such as health, water and education.

With a statistically insignificant change in poverty levels and a somewhat doubtful change in average household incomes it is difficult to draw conclusions about the two. The overall increase in inequality is, however, clear as is, perhaps more significantly, the growing disparity between urban and rural areas. The increasing inequality and the urban rural disparity, as we

have seen from Chapter 2, will negatively influence the poverty reducing impact of overall growth and increases in average income.

5 Conclusion

The HIPC (Highly Indebted Poor Country debt relief initiative) completion point and decision point documents and the Poverty Reduction Strategy Paper (PRSP) contain medium and long-term projections for the performance of the Tanzanian economy. The PRSP and the National Poverty Eradication Strategy set and maintain Government targets for the halving of poverty headcount ratios by 2010 and the eradication of poverty by 2025. In drawing conclusions from the analysis of the previous chapters we wish to establish, firstly, whether the achievement of the economic performance predicted by the HIPC and PRSP documents will represent significant progress towards the fulfilment of the Government's poverty reduction targets and, secondly, we seek to reach an opinion on whether or not the predicted economic performance is likely to be achieved. In this way we can arrive at an assessment of the feasibility of achieving the desired poverty reduction targets within the timeframe set for them.

With regard to the first question on the effectiveness of the predicted economic performance in reducing poverty we can draw conclusions from the progress on growth and poverty reduction as demonstrated by the 1991/2 and 2000/1 Household Budget Surveys (HBSs) considered in Chapter 4 and from the analysis of the nature of 'pro-poor growth' in Chapter 2. From the Household Budget Surveys it is clear that progress on poverty reduction over time is insufficient to approximate the targets set. If the trend of the last decade continues the proportion of the population living below the poverty line will only reduce by less than a quarter by 2010 as compared to the target of cutting poverty by half. Although this gives an idea of the ambitious nature of the poverty reduction targets, it should be remembered that it is a judgement related to performance over the 1990s rather than to the predictions for the next two decades.

Although inferences regarding poverty elasticities need to be taken with some care the HBSs do seem to indicate that the elasticities are lower than expected and therefore that the impact of overall economic growth on poverty reduction will be less than anticipated. Also, there is an evident rise in inequality and in urban-rural disparity that will counter the poverty impact of overall growth.

The pattern and sectoral structure of growth that is envisaged does not seem to be pro-poor. For a country like Tanzania where initial conditions in terms of human capital, physical infrastructure and market access are poor, high rates of growth in agriculture are essential to ensure that the poor benefit from economic growth. Although agriculture is expected to grow, overall growth will be led by manufacturing and non-traditional sectors. Current conditions in Tanzania mean that the benefits for the poor from this pattern of growth will be limited. For non-agriculture growth to benefit the poor high levels of human capital and low levels of inequality and urban-rural disparity are required. While the PRSP envisages significant increases in expenditure in health and education, they are increases from a very low base and are dependent on an optimistic evaluation of availability of future budgetary resources. In any case there will be a significant time lag before benefits are seen. We have seen from the HBSs that inequality and urban-rural disparity are increasing and the predicted accelerated growth in non-traditional sectors is likely to reinforce this trend. There is little evidence in the PRSP of priority for improving internal market efficiency in ways that would increase the ability of the poor to participate in and benefit from economic growth.

In summary, the impact on poverty, if the Tanzanian economy performs in line with the HIPC and PRSP projections, has been overestimated given the present conditions in terms of human and physical capital, inequality and market efficiency. Further, since the nature and structure of

the projected economic growth may well increase inequality while the investments envisaged in human capital and market efficiency are uncertain and probably inadequate, it is likely that both the growth elasticity of poverty and the proportional benefits to the poor will decrease.

With regard to the second question on whether or not the predicted economic performance is likely to be realised, we have compared the projections with current and past performance of the Tanzanian economy and considered the likely impact of some determinants of economic growth on future performance. In comparison with current and past economic performance the projections are clearly ambitious. While current GDP growth rate is on an upward trend, at a 10-year high and only one percentage point below the target rate for overall growth, the projections require that the target rate of 6% growth per annum be maintained as an average for the next two decades. This would be entirely unprecedented and seems unrealistic in historical terms but also because of real current issues.

Tanzanian economic growth is susceptible to the economic performance of its trading partners among the developed countries. Although some allowance for slowing economic performance globally was included in the HIPC completion point document in late 2001, the continuing drop in developed country growth rates will have a contractionary effect on growth in Tanzania. As the average growth rate required in the HIPC and PRSP scenario is high, underperformance for a relatively short period of time will quickly put the targets out of reach.

Although the need for diversified production is expressed in the PRSP the historical exposure of the Tanzanian economy to external shocks is likely to continue because of the inevitable export orientation of production and because of the policy decision to allow adjustment to shocks to be entirely through market p rice mechanisms. The lack of protection mechanisms will probably

mean that any serious shock, and there are likely to be some significant ones in any twenty year period, will have a disproportionate effect on production capacity and output. The uncertainty of such a risk prone environment will also be a disincentive to investment.

The level of investment in the economy is too low for the growth rates envisaged. Reductions in Government investment seems to have had a knock-on effect on private investment as deteriorating human and physical capital have reduced returns to investment and inefficient markets, particularly in the rural economy, have led to increased perceived risk by investors. Short-term trade-related investment is dominating the financial sector.

Internal factor and produce markets, particularly in the rural sector are inefficient. Price transmission to producers is poor, and monopsonic and monopolistic behaviour in input supply and produce markets are common. Financial intermediation is weak as market information is poor and financial institutions apply large risk premiums.

The PRSP contains policy initiatives aimed at increasing investment by reducing uncertainty through land reform and reform of the commercial court system. Increased public expenditure in human and physical capital is expected to increase productivity. However, market failure and volatility will continue to discourage investment while resources for public expenditure is uncertain and dependent on achieving the projected high growth rates.

We conclude, therefore, that the HIPC and PRSP economic projections are over optimistic in terms of economic growth and are not supported either by the historical trends in the Tanzanian economy or by the conditions currently pertaining.

The prospects for achieving a 50% reduction in poverty by 2010 and its eradication by 2025 are remote. The policy package and economic projections associated with the HIPC initiative and the PRSP process are not designed in a manner to optimise the poverty reduction impact of economic growth. Further the projections for the performance of the Tanzanian economy are over optimistic and disproportionate in relation to the conditions pertaining in the economy.

It should be said that the Tanzanian Government's poverty reduction targets are very ambitious, particularly considering the experience of the last forty years and also the experience of Sub Saharan Africa in general. However, the HIPC and PRSP processes, rather than representing a new coherence between macroeconomic policy and social and structural policy priorities, show a continuation of the pre-eminent position of the macroeconomic orthodoxy of fiscal austerity, market liberalisation and restricted policy intervention. If the policy package were designed to achieve significant pro-poor impact it would be reasonable to expect that it include specific instruments to improve productivity and returns to investment in agriculture, that it improve internal market efficiency through incentives and regulation, that it provide historically significant and non-conditional increases in public investment in human and physical capital and that it establish adequate social safety nets and shock protection mechanisms. Lacking these elements poverty reduction targets are likely to remain long-term aspirations for the foreseeable future.

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