The determinants of poverty:
A theoretical analysis
by
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INTRODUCTION

This paper presents the results of crude estimates of the extent of poverty within the four race groups which make up the population of South Africa, and estimates the extent of poverty among African households in the metropolitan areas. Explanations are sought in the third section of the paper, and the fourth raises questions about the relationship between economic growth, income distribution and poverty. In the last section attention is drawn to the relationship between the growth path of the economy, inequality and poverty.

Three approaches to measuring poverty have been proposed in the literature. The first measures poverty in terms of an absolute standard of living. Having specified the poverty-line income, the extent of poverty is measured as either the proportion of the population falling below the poverty-line (Sen's "head-count" ratio), or the aggregate shortfall of income of all the poor from the specified poverty-line (Sen's "poverty-gap").

The second approach to measuring poverty embraces the behaviouristic concept of relative deprivation. This approach embodies both the objective "conditions of deprivation", and subjective "feelings" of deprivation. Deprivation from favourable "objective" attributes such as income, employment, etc, will create "feelings" of deprivation, and Townsend emphasises the need to consider both the "conditions" and "feelings" as elements of relative deprivation. This paper does not consider the important issue of relative deprivation and its changing levels, but instead is simply confined to measuring and explaining poverty in terms of the "head-count".

The third approach measures poverty in terms of inequality in the distribution of income, looking at the relative size of the differences between the incomes of the lowest percentiles of the population and incomes of the higher strata. Sen, however, argues that inequality and poverty are better treated as separate, but related issues, since "neither concept subsumes the other".
Inequality and poverty are treated as separate issues in this paper, but recourse is made to inferring the trend of poverty from estimates of trends in average incomes and their distribution. Table 1 illustrates the most likely relationship between income distribution scenarios and absolute poverty.

<table>
<thead>
<tr>
<th>Income Distribution</th>
<th>Average Real Incomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant</td>
</tr>
<tr>
<td>Improving</td>
<td>+</td>
</tr>
<tr>
<td>Worsening</td>
<td>-</td>
</tr>
<tr>
<td>Unchanged</td>
<td>0</td>
</tr>
</tbody>
</table>

+ Indicates a reduction in poverty.
- Indicates an increase in poverty.
? Indicates that no prediction is possible.

From the table it can be seen that predictions about the trends in poverty can usually be from trends in the absolute level and distribution of incomes, for only where the distribution of incomes is worsening together with rising average incomes, or where the distribution is improving with falling average incomes, are predictions about the trend in poverty impossible.

2 THE EXTENT OF POVERTY

In order to measure the extent of absolute poverty in South Africa we require appropriate poverty-line incomes for each race group, and data on the distribution of household or family incomes for each race group. The latter data is shown in Table 2. The distributions of family incomes of Table 2 for Whites, Coloureds and Asians were obtained from the 1970 Population Census and were extrapolated to the 1975 level of assuming for each race respectively that the rate of
Table 2. Cumulative Percentage Distributions of Family and Household Annual Incomes and Indexes of Income Inequality for South Africa 1975

<table>
<thead>
<tr>
<th>Less than Rand</th>
<th>White families</th>
<th>Coloured families</th>
<th>Asian families</th>
<th>African households</th>
<th>National Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>1,7</td>
<td>25,0</td>
<td>12,0</td>
<td>31,3</td>
<td>23,6</td>
</tr>
<tr>
<td>1 000</td>
<td>3,3</td>
<td>50,0</td>
<td>24,0</td>
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<td>44,2</td>
</tr>
<tr>
<td>1 500</td>
<td>4,1</td>
<td>54,3</td>
<td>34,8</td>
<td>74,3</td>
<td>55,7</td>
</tr>
<tr>
<td>2 000</td>
<td>5,8</td>
<td>63,9</td>
<td>48,7</td>
<td>84,2</td>
<td>63,9</td>
</tr>
<tr>
<td>2 500</td>
<td>8,2</td>
<td>71,8</td>
<td>59,9</td>
<td>90,6</td>
<td>69,6</td>
</tr>
<tr>
<td>3 000</td>
<td>10,6</td>
<td>77,7</td>
<td>69,2</td>
<td>94,6</td>
<td>73,6</td>
</tr>
<tr>
<td>3 500</td>
<td>13,1</td>
<td>82,0</td>
<td>75,7</td>
<td>96,2</td>
<td>75,8</td>
</tr>
<tr>
<td>4 000</td>
<td>15,6</td>
<td>85,7</td>
<td>80,6</td>
<td>97,8</td>
<td>77,9</td>
</tr>
<tr>
<td>4 500</td>
<td>18,6</td>
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<td>84,4</td>
<td>98,4</td>
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</tr>
<tr>
<td>5 000</td>
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<tr>
<td>5 500</td>
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<td>82,1</td>
</tr>
<tr>
<td>6 000</td>
<td>30,3</td>
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<td>91,8</td>
<td>99,2</td>
<td>83,3</td>
</tr>
<tr>
<td>8 000</td>
<td>49,8</td>
<td>97,6</td>
<td>95,7</td>
<td>99,6</td>
<td>88,2</td>
</tr>
<tr>
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<td>66,6</td>
<td>98,7</td>
<td>97,4</td>
<td>99,7</td>
<td>92,2</td>
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<tr>
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<td>77,4</td>
<td>99,2</td>
<td>98,3</td>
<td>99,8</td>
<td>94,7</td>
</tr>
</tbody>
</table>

Mean Income (Rand) | 11 082 | 2 150 | 3 164 | 1 152 | 3 503 |
Population          | 1 019 657 | 410 161 | 137 738 | 3 012 073 | 4 579 629 |

growth of incomes and the population was the same in each of the 1970 income classes. The result of this estimate is to yield a per capita income for each group which is consistent with estimated 1975 per capita incomes, and a distribution of incomes consistent with the 1970 Census. Obtaining a distribution of incomes for Africans required many more assumptions. Comprehensive Bureau of Market Research survey data is available for the metropolitan areas, which in 1975 covered 47.5 per cent of African incomes. Smaller towns in White areas and White rural areas were the most inadequately covered, both in terms of the number of surveys and the size of the samples, since only four towns and two rural districts are covered, and they cannot be claimed to be representative. These areas, however, account for less than 25 per cent of the African population and incomes. The relatively small weights which these areas carry in total personal income can to some extent offset the concern which might be felt over using data which is so limited in its coverage. Data exists for four Black States over the years 1975-1979, covering an estimated 45 per cent of the population of all the Black States, and in addition, an estimate of the distribution of incomes can be made for the segments of the metropolitan areas which overlap the Black States. If these estimates are added, the proportion of the population of the Black States, covered by Bureau of Market Research surveys rises to 54 per cent. The coverage of African incomes is therefore far from comprehensive, but it would be difficult to argue that the coverage of this income data is so wanting that a reasonable estimate of the distribution of African incomes cannot be made. The actual Bureau of Market Research studies for the period 1975-1979 were weighted and adjusted in an attempt to fill the missing spaces. The final resulting distribution is consistent with per capita incomes estimated from other sources, but must be regarded with some caution. The estimated regional distributions for the African population are shown in Table 3.

Ideally a separate poverty-line income should be applied to families of each size, or families of differing sizes should be standardised into adult equivalent units. In theory the Census income data for
### Table 3: Cumulative Percentage Distribution of African Multiple Household Incomes, 1975

<table>
<thead>
<tr>
<th>Less than (Rand)</th>
<th>Black States (1)</th>
<th>Rural Africans in White regions</th>
<th>Towns in White regions</th>
<th>Non-metropolitan regions</th>
<th>Metropolitan regions (2)</th>
<th>Total African Households</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>40,0</td>
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<td>6,1</td>
<td>'38,0</td>
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<td>31,3</td>
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<tr>
<td>1000</td>
<td>69,6</td>
<td>82,6</td>
<td>24,0</td>
<td>68,1</td>
<td>16,8</td>
<td>58,1</td>
</tr>
<tr>
<td>1500</td>
<td>83,8</td>
<td>94,9</td>
<td>49,2</td>
<td>82,9</td>
<td>38,3</td>
<td>74,3</td>
</tr>
<tr>
<td>2000</td>
<td>90,8</td>
<td>97,2</td>
<td>70,8</td>
<td>90,3</td>
<td>58,9</td>
<td>84,2</td>
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<td>2500</td>
<td>94,7</td>
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<td>90,6</td>
</tr>
<tr>
<td>3000</td>
<td>97,5</td>
<td>99,6</td>
<td>90,0</td>
<td>97,2</td>
<td>83,7</td>
<td>94,6</td>
</tr>
<tr>
<td>3500</td>
<td>98,0</td>
<td>99,9</td>
<td>93,8</td>
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<tr>
<td>4000</td>
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<td>6000</td>
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<td>99,5</td>
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<td>99,2</td>
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<tr>
<td>8000</td>
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<td>100,0</td>
<td>100,0</td>
<td>100,0</td>
<td>99,8</td>
</tr>
</tbody>
</table>

**Mean Income**
- Black States: R925
- Rural Africans in White regions: R670
- Towns in White regions: R1709
- Non-metropolitan regions: R1031
- Metropolitan regions: R2017

**Population of Households**
- Black States: 1602112
- Rural Africans in White regions: 578987
- Towns in White regions: 252070
- Non-metropolitan regions: 2433169
- Metropolitan regions: 578904

**Notes:**
1. Excluding the overlapping segments of the metropolitan regions.
2. Including the overlapping segment of the metropolitan regions in the Black States.
3. Rounded to 100,0, although a small number of households have incomes above R12 000.

Whites, Coloureds and Asians could be standardised into adult equivalent incomes, although this is rendered impossible by the way the data is tabulated in the Census reports. The African household survey data of the Bureau of Market Research cannot be converted into adult equivalent units.

Poverty income estimates can be obtained from the Bureau of Market Research's estimates of the "minimum living levels" for African, Coloured and Asian households. An estimate, although crude, of a poverty-line income for White families can be obtained by Department of Community Development income scales for access to sub-economic housing.

In 1975 the minimum living level of African households of the average size in Durban was approximately R1 134 per annum, or R206 per capita. If this is taken to represent the national poverty line for African households in metropolitan areas, then the estimated distribution shows that approximately 30 per cent of African households in the metropolitan regions fall below this level.

Differences in expenditure patterns and regional variations in the retail prices of goods are taken into account in the Bureau of Market Research's estimates of the minimum living level. As a consequence, the minimum living level for households with six to seven members in rural areas in 1975 was lower, at approximately R880 per annum. Coincidentally, the minimum living level for five to six member households in the Black States for 1975 was also approximately R880 per annum.

According to the distributions of Table 3, approximately 62 per cent of the African households in Black States (excluding the overlapping segments of the metropolitan regions) and approximately 74 per cent of African households in the White rural areas would have been in poverty in 1975. The data on the Black States includes incomes in urban areas (outside the metropolitan regions), and if these incomes were excluded, the incidence of poverty in the remaining rural areas of the Black States would be increased.
Remittances to the Black States by migrants account for approximately 35 per cent of the income of the Black States, after excluding commuter incomes earned in the metropolitan regions. At present, therefore, the migrant labour system is a major source of income for the rural areas of the Black States, and without it the extent of poverty would be far greater. Paradoxically however, the migrant labour system has been shown to have contributed historically to causing the low incomes of the Black States. It is very clear that any reduction in the rate of labour migration would have disastrous consequences in the short term for households in the rural areas of the Black States, unless alternative sources of income were created at the same time.

These estimates of poverty are very crude since they do not take into account differences in household sizes within the regions, and they measure poverty solely in terms of the "head-count" ratio. Nevertheless, they do highlight the vast extent of poverty among Africans in the economy, and the very high incidence of poverty in the rural areas.

The average African household incomes shown in Table 3 also give an indication of the very marked income inequality which exists between urban and rural areas, and when these household averages are expressed in per capita terms, the inequalities become even more noticeable, since the per capita incomes of African households in the metropolitan regions were 2.2 times as great as per capita household incomes in the Black States, and 3.7 times the per capita incomes of the African households in the White rural areas.

The poverty income levels estimated for White, Coloured and Asian families for 1975 were respectively R1 460, R1 100 and R1 060. In terms of these incomes approximately 4 per cent of White families, and over 24 per cent of Asian families and over 50 per cent of Coloured families were in poverty. The estimates for Coloureds and Asians may however, overstate the extent of poverty since they are based on urban poverty-line incomes, which are probably higher than poverty-line incomes in rural areas, and since poverty has been measured in terms of
family income, rather than in terms of the incomes of multiple member households. On average, household incomes are likely to be higher than family incomes, and an unstandardised household distribution of incomes would therefore, be likely to show less poverty than the family income distribution. Nevertheless, despite the crude method of estimation, these results show clearly that the Coloured and Asian groups also face considerable poverty.

The first Carnegie Commission estimated for 1928/29 that 17.5 per cent of White families with children at school were very poor, in the sense that they were supported largely by charities, or subsisted in dire poverty on farms. In addition to this number should be added families which were urbanised, but whose wage-incomes did not bring them above the poverty-line, and poor pensioners. The proportion of the total White population in poverty in 1928/29 must therefore have been considerably in excess of the Carnegie estimate. The success of the White controlled state, and the forces of economic growth which have been guided by its far-from-invisible hand, are clearly shown by the negligibly small proportion of White families which were "poor" in 1975. The income distributions presented here have excluded single member households for all the race groups. Elderly, single member households in the White population are likely to show a relatively high incidence of poverty, but are not included in the 4 per cent of households which were estimated to be in poverty.

3 THEORETICAL EXPLANATIONS OF POVERTY

Most of the economic literature devoted specifically to poverty is concentrated on poverty of the sort found in the developed economies, which is often associated with easily distinguishable minority groups. The analysis of the causes of the global poverty is to be found in the literature on economic development.

In this brief review I intend restricting the discussion to the immediate causes of poverty, and the paper will not discuss what Rowntree
described as "the ultimate causes of poverty. To attempt this would be to raise the whole social question". 16

An early explanation of poverty was proposed by Rowntree after his 1899 survey of poverty in York. He found that the immediate causes of poverty were: death of chief wage-earner; incapacity of chief wage-earner through accident; illness or old age; unemployment; chronically irregular work; low pay and largeness of family. 17 Indeed the only additional factors which could be added to this broad set of categories is poverty caused by the dissolution of the family and the resulting absence of one parent, and inadequate savings or transfer payments to old people.

Rowntree drew attention to the cycles of "want and comparative plenty" through which individuals pass in a lifetime, and postulated five distinguishable periods, shown in Figure 1 below. Individuals could be

Figure 1 - Rowntree's Life Cycle of Poverty

in want in childhood, as part of a large family; in adolescence and early manhood earning a living with few outgoings he would enjoy a period of plenty; when married with children outgoings would increase; this period would be followed by one of plenty as the children grow up and earn their own livings; but after retirement income would drop abruptly and the elderly couple would suffer want. Rowntree postulated that the population in primary poverty would be continually circulating, and represented merely that section who happened to be in one of these periods at the time the inquiry was made. The extent of poverty would then depend on the mean family income and the magnitude of swings around the mean, and particular minority groups would not be prone to continuing poverty.

Jackson's analysis of poverty in terms of stocks and flows, suggests the opposite. His analysis shows that certain groups may easily fall into poverty, and when circles of poverty, and cultures of poverty are established, they are difficult to break. Stocks, for Jackson, are resources which through given external services affect other stocks, which in turn provide services and so on through time. Jackson provides the example of an individual who has little education, with the result that he has an unskilled job and a low income. Poor housing and health follow, affecting his capacity for work, further lowering his earning capacity. This process will be likely to affect his family, children's educational levels, etc, and this can set in motion a dynamic self reinforcing circular process. Jackson's dynamic stock-flow model is illustrated in Figure 2.

Johnson adds the point that periodic increases in unemployment caused by the business cycle can contribute to permanent increases in poverty of this type since old people will lose their jobs and not regain employment at their previous wages and youths cannot gain entry to the labour market, and as a consequence, may never gain access to non-poverty level occupations.

Critical factors at work in both the dynamic stock-flow model of Jackson
Figure 2 - Jackson's Dynamic Stock-Flow Model of Poverty


and the life cycle model of Rowntree are the ownership of human and non-human capital. Wealth, or non-human capital is a major source of the incomes of the higher deciles of income recipients, and can provide an important cushion against any possible cyclical and life cycle fluctuations in earnings. The ownership of private wealth, which is mainly the result of savings from high incomes and inheritance, is far more concentrated than income, and as a result is not a resource which groups in poverty have available to them.

The distribution of earnings and employment are critical factors in determining both the distribution of incomes and the incidence of
poverty. Neoclassical economists focus on the consequences of competition in the labour market and explain the low wages of certain groups in terms of low productivity, a lack of human capital (i.e., education and training), and a taste for discrimination against employing certain groups. The alternative to the neoclassical explanation consists of a less unified group of theories known as segmented labour market theories.

Theories of labour market segmentation differ from neoclassical theory in that they place emphasis on competition for jobs rather than competition for wages, on the reasons why workers do not compete rather than the consequences of their competing, on group rather than individual interests and behaviour, and on the institutional framework within which market forces operate. There are three relevant aspects: 'job competition', 'internal labour markets' and 'crowding'.

According to the job competition theory, workers are not paid wages based on such economic characteristics as education and ability. The wage is linked to the job, and custom and views of fairness are relevant to its determination. Informal training is more important than formal education in providing relevant skills. To reduce training costs, employers use observable characteristics such as formal education and race as screening devices to order the job queue and to select people for on-the-job training. The distribution of job opportunities determines the distribution of earnings, while screening characteristics determine the order of access. Groups of equal productive potential may achieve different actual productivity and pay if the one group is assigned to jobs which are lower in the hierarchy of skill and pay. Discrimination in the job queue is an important explanation of the low incomes of certain groups.

Swinton takes the notion of job competition further by attempting to explain why racial preference has been shown in the job queue. Discrimination is seen to arise out of the collective attempt by workers in the dominant group to increase their collective income. The separate group identities which exist independently of economic discrimination
in some societies help to produce 'we' and 'they' thinking and the solidarity necessary for collective racial discrimination in the labour market. The dominant group of workers (here assumed to be White) ensure that they receive preference in the queue for the prized jobs. They achieve this through a variety of industrial actions which impose a cost on employers unless, either formally or informally, they agree to co-operate. The employer has a profit incentive to co-operate if the cost of retaliation by White workers exceeds the cost imposed by discrimination. Discrimination will break down if and when there is a change in the relative economic power of the two groups of workers.

An internal labour market can be the means by which job competition is regulated. An internal labour market, as opposed to the external labour market of conventional theory, is said to exist where the pricing and allocation of services is governed by a set of administrative rules and procedures. The internal market - normally within an enterprise - is linked to the external market only at limited points of entry and exit. Wage structure is administratively determined, with greater emphasis on internal relationships, governed by such factors as custom and job evaluation, than on external relationships. Workers have employment continuity and security, rewards for seniority, preference in promotion, and protection from external competition. For management, promotional ladders and seniority rules reduce labour turnover and provide information on employee performance, thus cutting the cost of training. The internal labour market may indeed be seen as the employers' institutional response to the problem of securing and retaining the benefits of specific training. On the other hand, there is a strong element of custom and practice, and this may become formalised through collective bargaining.

The institutional framework of the internal labour market can be used by prejudiced workers to keep out certain groups; the same result may occur through the employer's use, as a screening device in recruitment, of race or employee contacts.

The term 'crowding' was used by Edgeworth in examining sexual inequality
in pay for equal work. He explained the failure of employers to substitute female labour for dearer male labour by the restriction of competition: men were better organised than women and exercised pressure on employers to their own advantage. The pressure of male trade unions was largely responsible for the crowding of women into a comparatively few occupations. These pressures included outright exclusion, the prevention of training, and an insistence on equal pay in cases where women were less efficient workers than men.

The theory of crowding can also be applied to racial wage discrimination. White workers have the power to monopolise the high-skill, and possibly certain other occupations, so crowding Black workers into the remaining low-skill occupations and depressing wages in them. A by-product of this process is that the transfer earnings of the few Black workers who find employment in the reserved occupations may be low. Provided that there is no competition among employers for these Black workers, an employer needs to pay them no more than their transfer price from occupations dominated by Blacks. This can give rise to racial wage discrimination within an occupation.

Both the human capital model and the segmented labour market models place education and training towards the centre of factors determining the distribution of earnings, but job-competition theory predicts that an increase in education need not raise the earnings of groups which suffer discrimination in the job queue.

Segmented labour market models predict that unskilled and workers in lower level routine occupations will exhibit the highest marginal disabsorption rates in recessions, and workers with low educational levels and limited experience will find the most difficulty in obtaining employment in time of recession. The burdens of cyclical unemployment are not evenly distributed over the labour force. Labourers experience more unemployment than skilled manual workers, and the latter have higher rates of unemployment than White-collar workers. Young people exhibit higher rates of unemployment than older workers, due in the main to the difficulty of entering the labour market during
a slump. The incidence is also unevenly distributed over racial groups. Black workers in America have been shown to have higher than average cyclical levels of unemployment, due in part to their age distribution and in part to their occupational distribution.

In the last decade, recessions have failed to dampen inflation rates, imposing an additional burden on the families which have experienced cyclical unemployment. Cyclical unemployment in developed countries is reflected by higher than average rates of open unemployment. In developing countries, decreases in the rate of growth of employment associated with the business cycle may not be fully reflected in increases in rates of open unemployment, as some proportion of workers who have been laid off, may be absorbed into informal sector activities, or traditional sector agriculture, ie, they may move to occupations in which they are underemployed.

Many explanations have been advanced for the global poverty which exists in the rural areas of developing countries. Galbraith, for example, lists the following: "natural" poverty, lack of resource endowment, nature of government and the economic system, shortages of capital, inadequate government (Myrdal's "soft state"), intrinsic ethnic tendencies, climate, the legacy of colonial rule, and unfavourable terms of trade. The skill and ability stripping effects of labour migration, concentrations in the ownership of land, high growth rates of population, urban-biases in the process of growth, and relations of economic dependence should all be added to this list.

These diverse theories can be combined in an eclectic way to provide an explanation of the racial incidence of poverty in South Africa. Average family incomes of Whites are high relative to Coloureds and Asians, due to the concentration of private wealth in White ownership, and due to the operation of the labour market, which has secured high rates of remuneration, and consistently high rates of employment for Whites, and the State has intervened through its own employment policy to set the transfer earnings for White employment in the private sector. Therefore, the trough of White family incomes, even in recessions, will lie well above the White poverty line.
Urbanised Coloured, Asian and African households have average incomes far closer to the poverty line and higher dependency ratios than White families and, as a consequence, the business cycle will have an immediate effect on their average poverty. Both wage and occupational discrimination, and educational levels lower than Whites, have operated to depress the incomes and rates of employment of these groups. These factors have also restricted savings and lowered the return which can be obtained on any small sums which might have been saved, which could be used to cushion the household from poverty in old age and recessions. Within the African and Coloured populations of the urban and peri-urban areas groups best described as the "working poor" derive a living from low-paid, low productivity, informal sector occupations. While open unemployment may be associated with some poverty in the White population, poverty within the Black population can occur concurrently with employment in low-paid occupations.

Extended families will cushion their members from unexpected fluctuations in income, and will tend to spread the incidence of poverty more evenly throughout the community. As income levels of younger members rise through upward job mobility, the extended family system may collapse for young earners no longer need its support; and this collapse will increase the degree of inequality in the distribution of incomes under such circumstances. The proportion of the population in poverty may be reduced by income growth, but the depth of poverty of certain groups, such as aged relatives and single parents, may be increased.

Life cycle poverty of the sort envisaged by Rowntree, and circularly reinforcing poverty of the form described in Jackson's dynamic stock-flow model will probably both exist in the Black urban communities.

Poverty for Africans in rural areas is widespread, as was shown in Section 2, and in the homelands is linked to the many factors which have resulted in their historical underdevelopment. It is perpetuated by factors such as capital shortages, migrant labour, a lack of a market in land and property rights, inadequate infrastructure,
and barriers to the marketing of agricultural output, inadequate investment in human capital through education and health, a widespread shortfall of basic needs, such as clean water and sanitation, and high rates of population growth.

Economic growth, which raises average incomes and creates modern-sector employment, holds out some hope for the escape from life-cycle poverty and from global poverty, and the next section examines the relationship between growth, income distribution and poverty.

4 INCOME DISTRIBUTION, ECONOMIC GROWTH AND POVERTY

The seminal contribution to this field is the work of Kuznets, who made inter-country studies of the size-distribution of income of eight communist and twenty non-communist countries at different levels of development. He also studied time series data on the size-distribution of income for seven developed economies.32

Kuznets’ analysis led him to outline a "stage theory" of the behaviour of income distribution. Income inequalities will increase in the early stages of industrialization, but narrow at a later period as the economy matures. He argued that:

"One might thus assume a long swing in the inequality characterizing the secular income structure: widening in the early phases of economic growth, when the transition from the pre-industrial civilization was most rapid; becoming stabilized for a while; and then narrowing in the later phases".33

Kuznets attributed the widening inequality in the early phases of industrial growth to a change in the structure of the economy, and to a "swarming" of population caused by a rapid decline in death rates and the maintenance, or an increase, in the birth rate. The hypothesis draws out the distributional implications of the labour surplus models of development. He assumed that in pre-industrial economies, there was
less differentiation between the work performed by the mass of the people, than in industrial economies. Inequality does exist but the poverty of the masses is shared more or less evenly. As industrialisation takes place, a wider diversity of industries and occupations comes into being, producing increasing inequality. The urbanised population grows, adding weight to the sector which is likely to exhibit the greatest inequality in the earliest stages of growth. Shortages of skilled labour and entrepreneurial ability cause premium incomes to be earned in the new industries. The income from the wealth which accumulates among this group, adds an additional force which generates inequality. Groups with skills may be able to prevent entry to their ranks, through the use of their political and economic bargaining power, and protect their relatively high incomes for long periods of time. The increased growth rate of the population may also be unfavourable to the economic position of the lower-income groups, since their numbers may increase at a faster rate than the supply of jobs, adding to the level of unemployment and under-employment. New methods of cultivation and new urban markets increase the variation in incomes from farming operations and the emergence of commercial farming operations can increase the extent of inequality within the agricultural sector, where commercial and subsistence farming come to exist side by side. Kuznets does not state when this process of widening inequality will end, but suggests that it will be followed by a period of relatively constant levels of inequality, which will be reduced only when the economy has reached a relatively high level of maturity.

At the stage at which income inequalities begin to narrow, the process of structural change is almost complete, and the modern sector now produces the predominant share of total output. Population growth rates have decreased, the pool of surplus labour has disappeared, per capita incomes have risen in agriculture and the rate of internal migration has decreased. The premium wages paid to skilled labour have been eroded by increased supplies of skills, super-normal profits have been reduced in industry and the rate of accumulation has decreased. Institutional changes which will have contributed to a
narrowing of inequality will also have taken place in the form of progressive income taxation, the introduction of welfare schemes, the spread of state-financed education, and an increase in the political power of the less privileged groups.

Kuznets is careful to stress that the process of a narrowing of income inequality that he had observed in the developed nations need not occur in developing nations, since the political and social systems of developing countries may not initiate the governmental or political practices needed to bolster the positions of the lower economic classes, and because they may not have attained the growth rate needed to transform the structure of their economies, and absorb their pool of surplus labour.

The Kuznets thesis, now widely referred to as the inverted U hypothesis, has been widely accepted by economists, and has been used in explaining the patterns of income inequality observed in several subsequent studies. In recent years, Paukert, Ahluwalia, and Chenery and Syrquin have assembled cross-sectional data for over fifty countries and their results have confirmed the patterns. 34

The inverted U hypothesis has also been used by Adelman and Morris to simulate the typical path of an underdeveloped country undergoing change, and they predict that income inequality will increase, causing the absolute incomes of the poorest groups to fall in the course of economic growth. 35 Unfortunately the Adelman and Morris prediction confused the notion of widening inequality with falling incomes, since inequality can widen even though the incomes of the lowest groups are rising, as is shown in Table 1. The reality for each country is, of course, an empirical issue. The scenarios of Table 1 show, however, that poverty will diminish with rising incomes only when the level of inequality remains unchanged or decreases, and this will occur according to the inverted U only when relatively high levels of income have been obtained.

Several writers have expressed dissatisfaction with aspects of Kuznets'
theoretical model, but the most severe problems lie in the poor statistical fits which are obtained when the inverted U is tested empirically, and in the narrow definition of income used in these studies.

Many economists have questioned aspects of the theory underlying the Kuznets hypothesis. One writer observes that income inequality may not increase as a result of urbanisation for although urban incomes are more unequally distributed than rural incomes in developing economies, the migrant is most likely to obtain an unskilled job at a low wage. The effects of urbanisation cannot therefore be predicted from a comparison of the pre-existing urban and rural distributions. Lee notes that the Kuznets theory does not provide criteria for identifying the stage of the development-distribution process that any given country is in at any point in time. He draws attention to the failure to establish a direct correspondence between a given level of per capita income and a given level of inequality, or to prove that even if such a relationship exists, it is valid for all developing countries. Lee is critical therefore of Kuznets' hypothesis since it provides neither a positive theory which can be used to predict the pattern of income distribution in the process of development, nor a set of normative criteria to evaluate the efficiency and equity of a given distribution of income. Ahluwalia has also stressed that it is important to distinguish between the secular relationship generated by long-term changes in economic structure that concerned Kuznets, and short-term forces which at times can operate independently of the long-term phenomenon and generate higher inequality as a consequence of faster growth. Emphasis has also been placed on the problem of urban bias in developing countries by writers such as Lipton and Elliot, and their analyses show that urban bias is a powerful factor operating to prevent the gains from growth spreading into rural areas and narrowing the inequalities between urban and rural areas. This adds a further factor to the variables which Kuznets suggested might prevent a narrowing of inequality with growth. Radical proponents of dual labour market theory argue that labour market segmentation can prevent the gains from economic growth reaching certain groups, such as Negroes in the United
States, and minority group poverty can thus prevail even in the stage of narrowing inequality.

The statistical fit of the data, in empirical tests of the inverted U hypothesis, is unsatisfactory. Chenery and Syrquin's results show that non-linear regressions of the per capita gross national product of 66 countries (in 1964 United States dollars) on the share of the highest 20 per cent of income receiving units, explained less than 30 per cent of the variation among the income shares. Regressions of per capita gross national product for the same countries on the share of the lowest 40 per cent of income receiving units explained less than 15 per cent of the variation. However, the t statistics were significant. The inclusion of factors such as education (as measured by school enrollment), dualism (measured by the share of primary exports), and the extent of the agricultural sector (measured by the share of primary production), resulted in an improvement in the regression results, although even then the regression explained only 24 per cent of the variation in the shares of the lowest 40 per cent. Although a trend is present among this cross-section data, it is extremely weak, and can hardly be used as the basis for predicting the growth path of any individual developing economy.

More statistical evidence on the inverted U is contained in Redistribution with Growth, where use is made of cross-section data relating to the shares of the lowest 40 per cent, the middle 40 per cent, and the top 20 per cent of households in 66 countries; time series data relating the share of the lowest 40 per cent of households in 14 countries; and case-studies of six developing countries. Although the fit of this cross-sectional data is poor, it does support the U curve. The time series data, however, yields a picture which is contradictory, for of the nine higher income countries which might have been expected to become more equal, seven showed the opposite tendency. The incomes of the countries on which the case studies were based were all below $300 per capita per annum. The cross-section results predict rising inequality at this income level, whereas these case studies of income distribution in Cuba, Tanzania, Sri Lanka, Korea, Taiwan and India over
the decade or two preceding 1970 showed that the distribution had become more equal in five of the six countries, with three of these countries (Cuba, Sri Lanka and Tanzania) applying deliberate redistribu- tional policies. The results for a sixth country, India, were quite inconclusive.

The data which has been used to test the Kuznets hypothesis does not take account of the redistributive effects of government. If this data were available for developing countries, the increases in inequality which occur in the early stages of development might well be increased as urban biases in the provision of government expenditures begin to appear. At the same time, surpluses might be appropriated away from rural areas. In the last stages of development, government activities begin to have an equalising effect on the distribution of income and growth in social welfare transfer payments has been the direct result of attempts to eliminate poverty. Thus the inverted U pattern shown by cross-section data could well be made more pronounced by consideration of post-redistribution incomes, but the statistical fit of the U-line could also be worsened.

The period of widening inequality in the Kuznets model corresponds to the process envisaged in the Lewis-Fei-and-Ranis labour-surplus development models. A labour surplus exists in the traditional sector and growth of the modern sector is initially able to proceed without raising wages. During this period, inequalities between capitalists and workers widen, but rising profits are channelled into new investment and increased levels of employment in the modern sector. As long as employment growth in the modern sector is faster than the growth of the labour supplies in the traditional sector, a position will be reached at which labour becomes scarce, and a narrowing of inequalities will occur in the manner envisaged by Kuznets and Lewis. Once the labour surplus has been eliminated the bargaining power of labour will be increased, political changes will come about, and in this period labour will be in a position to press for social and political reforms. These pressures will reinforce the tendency for inequalities to narrow as a result of a shortage of labour, and poverty will gradually be eliminated.
In the debate about growth and change in South Africa, the orthodox liberal view gives a perspective which is very similar to the Kuznets-type development path, since they view growth as eventually leading to full employment, a more egalitarian income distribution with the elimination of poverty, and social and political change.

There is however, the possibility that growth in the capitalist mode requires and generates poverty in the traditional sector. This is what Nattrass has called the development-underdevelopment path, and is associated with writers in the Marxist tradition. Rapid growth of the capitalist sector is possible because the surplus of the traditional sector can be appropriated for investment in the capitalist sector, by a combination of economic and political methods. The result is that the growth paths of the two sectors alter, with capital accumulation increasing in the developing sector, and declining in the other. In this model, the surplus labour is not absorbed by economic growth, and political power may be used continually, augmenting market forces, to undermine labour's bargaining power. The use of increasingly capital intensive methods of production may also dampen the ability of the economy to absorb surplus labour. As the process continues, standards of living fall in the traditional sector and its inhabitants become more dependent on the modern sector. Modern sector wage rates may also fall, and the gains from growth will accrue almost exclusively to the capitalist class. Continued growth may eventually cause a shortage of labour, and a move to the development-development path, but the underdevelopment school predicts eventual stagnation of both sectors. The Marxist revisionist writers see the South African economy developing along this growth path, and do not foresee continued growth resulting in redistribution or political change.

Nattrass makes the important point in her analysis that there is nothing inevitable about either of the growth paths as an economy on a growth path which is eliminating its labour surplus can easily move to the underdevelopment path should the rate of accumulation decrease; labour saving technological changes take place on a sufficient scale; population growth rates increase; or if the social and political changes needed to accommodate the rising power of workers do not occur.
The evidence for South Africa is fragmentary, but it does allow some conclusions to be drawn for the post-war period about the relationship between growth and income inequality.

In per capita terms between 1946/47 and 1980 White incomes grew at a real compound rate of 2 per cent per annum, while Coloured, Asian and African incomes grew by 2,6; 2,3 and 1,5 per cent per annum respectively. The real rates of growth of the incomes of all groups was positive, which would indicate that if the distribution of income had not worsened the extent of absolute poverty would have decreased. The evidence on the distribution of incomes is not however, sufficiently complete to allow uncontestable conclusions to be drawn. While the objective conditions of deprivation for Africans may have on average diminished, the income disparity ratio between Whites and Africans was widened over the period from 10,6 in 1946/47 to 12,9 in 1980. If the relatively improved White living standards have been observed by the African group, feelings of relative deprivation may have intensified.

Surveys of White incomes were undertaken by Central Statistical Services in the metropolitan areas in the years 1955, 1966 and 1975, and the results show that over the whole period between 1955 and 1975 there does appear to have been an increase in the inequality of the distribution of White family incomes in the major metropolitan areas. Surveys of White family incomes are unfortunately not available for the towns and the rural areas.

Real White family incomes in the metropolitan urban areas rose at a real rate of 2,6 per cent per annum, from R6 404 in 1955 to R10 752 in 1975, thereby growing at a rate faster than the national average. Notwithstanding the slight increase in inequality, the increase in the level of average incomes undoubtedly reduced the extent of White urban poverty in the period up to 1975.

Studies undertaken by the Bureau of Market Research over time are available for estimating the trend of Coloured household income inequality in the Cape Peninsula and Port Elizabeth, and Bureau of
Market Research data can be used to estimate the trend of Asian household inequality in Durban. These surveys cover the largest urbanised concentration of Coloured and Asian households. The results should be interpreted with care for it is possible that there have been changes in the composition of the Bureau of Market Research's samples in particular regions over time, which will make a time series contrast suspect.

The Bureau of Market Research data yields Gini-Coefficients which show that income inequality among Coloured households in the Cape Peninsula did not change significantly between 1964 and 1975. In Port Elizabeth there was no significant change in the Gini-Coefficient over the period from 1965 to 1975, notwithstanding a large reduction in the Gini-Coefficient between 1965 and 1970. The growth rate of real per capita incomes over the period 1964 to 1980 in Cape Town was 3.9 per cent per annum, which was higher than the 3.5 per cent real national growth rate of Coloured incomes over the period between 1960 and 1980. The growth rate of Coloured real per capita incomes in Port Elizabeth was less than 2.0 per cent per annum over the period 1965 to 1975, falling short of the national average real per capita growth rate of 4.4 per cent per annum between 1960 and 1975. On the basis of this data, it would appear that the Coloured household inequality remained relatively unchanged between the 1960's and 1975, and that poverty was reduced, but it is impossible to make any firm conclusions about the rate of growth or per capita Coloured incomes in the metropolitan areas relative to other areas of the economy.

The level of inequality, as shown by the Gini-Coefficient, did not increase significantly amongst Asian households in Durban during the period of rapid growth between 1965 and 1970, although a significant reduction in the Gini-Coefficient occurred between 1970 and 1975. Between 1965 and 1975, Asian real per capita incomes in Durban grew at the rapid compound rate of 9 per cent per annum outstripping the national growth rate of real Asian per capita incomes (for the period 1960 - 1975) of 4 per cent per annum.
During the period between the 1960's and 1975 very marked upward occupational mobility occurred for Asians in Durban, as they moved into skilled, supervisory, and clerical jobs which had been vacated by White workers, as a professional Asian class emerged, and as Asian traders made economic progress. During this time high rates of employment were attained for the Asian group in Durban, the economic participation rate of Asian women increased, and average levels of education rose. All these factors acting together undoubtedly explain both the high real rates of growth of Asian per capita incomes, and the simultaneous narrowing of Asian household income inequality. These changes are an almost ideal example of the effects of economic growth on income distribution in the last phases of the process envisaged by Kuznets, and this process undoubtedly reduced poverty among Asian households.

The proportion of the African population living in households in the metropolitan areas increased from 14 per cent of the total domestic population in 1950 to 22 per cent of the total domestic population in 1980. Between 1960 and 1980 average real per capita African incomes grew by 2.4 per cent per annum. The growth rates of the real per capita African incomes in each of the metropolitan areas was higher than this national rate in the period between the 1960s and 1980, ranging from 4.1 per cent per annum for Pretoria household members, to a low level of 2.7 per cent per annum for Johannesburg. The real per capita incomes of African household members in Durban and the Witwatersrand grew at 3.5 per cent and 3.4 per cent respectively over the same period. Since both the proportion of African household in the metropolitan regions and the rate of growth of their income have risen faster than the national average, the per capita differentials between African households in the metropolitan areas and in other areas of the economy will consequently have widened since the 1960s, and the share of the metropolitan areas in total African incomes will definitely have risen. Estimated indexes of income inequality show significant increases in Pretoria, Durban and Johannesburg between the first and last surveys, although there is no clear-cut trend running through the indexes of inequality for these areas for the surveys in the inter-
mediate years. The Gini-Coefficient also rises for the East and West Rand Surveys between 1961 and 1980, but the increase is not statistically significant. The increased weight of the metropolitan areas in total African incomes and the increased levels of inequality between the 1960s and 1980 in Durban, Johannesburg and Pretoria points to the probability of a widening of inequality through time in the economy-wide distribution of African household incomes, but the complete absence of time-series data for the rural areas prevents any firm conclusion from emerging. Clearcut conclusions about trends in poverty do not however, emerge from these statistics.

Over the period 1960 - 1980 African real wages in modern sector employment (excluding domestic service) grew at an annual compound rate of 4.2 per cent, which exceeded the growth rate of real wages of the other groups which were 1.9; 2.5 and 3.1 per cent for Whites, Coloureds and Asians respectively. The growth rate of African employment was however, only 2.6 per cent per annum, and this was exceeded by the growth rate of the African population of 2.9 per cent per annum over this period. Consequently unemployment and underemployment of Africans will have increased. The economy does not appear to have reached the stage at which economic growth will begin to narrow income inequalities and eliminate poverty for the whole African population.

5 FUTURE TRENDS IN POVERTY

The enormous cleavages which have been illustrated in this paper, exist as a result of the nature of the historical growth path of the economy, which has benefitted White and Black people to vastly different extents and in different ways. A point has, however, been reached in its labour markets at which the skills of the White labour force are more than fully utilized, and economic growth has necessitated the upward job and wage mobility of Black workers. This process of "trickle-up" has already benefitted the incomes of the average Black households in the metropolitan areas, although at the same time it also appears to have increased inequality within the distribution of incomes of African
households in these regions. There is evidence too of a tendency towards a widening of the gap between the average incomes of African households in the metropolitan regions and in the rural areas.

Growth within the present system for the next decade will result in further increases in African employment, and the average wage-gap between Whites and Africans may continue to narrow. Certainly, the growing African membership of trade unions will contribute pressures towards narrowing the racial wage-gap. Whether African per capita incomes will increase and poverty will diminish, however, depends on the relationship between the rate of growth of employment, real wages, and the rate of growth of the African population.

Even if high rates of growth of African employment are achieved, however, it is likely that considerable unemployment will still exist during the next decade, and this will depress the levels of average per capita African incomes and perpetuate widespread poverty.

At present however, it does not seem likely that the Western World as a whole will experience high rates of economic growth during the coming decade, and this will slow the rate at which the South African economy can grow. The failure to effect fundamental political reforms which have legitimacy in the eyes of all South Africans could also hamper economic growth, if the resulting political uncertainty causes the rate of investment to slow down. The growth rate of employment could also be lowered by labour-saving biases in technical progress, or by further mechanisation brought about as a response to increases in the relative cost of labour.

The gains from economic growth are becoming more unequally divided within the African population and this process is also likely to continue. Due to their preferential access to the modern sector labour market, African households which are settled in the metropolitan areas are likely to experience the greatest gains from rising levels of employment and higher relative wage rates. There is evidence to show that Africans in rural areas are experiencing increased difficulties
in obtaining employment contracts in the metropolitan regions. The level of real per capita African incomes in the Black States and rural areas could easily start to decline if population densities increase there, and earnings from the migrant labour system are reduced as a result of the growing unemployment.

For the future therefore, the writer sees a distribution of incomes in which the present enormous racial cleavages will continue to exist, with the incomes of the White group dominating the upper deciles, although there will be a greater number of Blacks in both the higher and the middle ranges.

Continuously high rates of economic growth can transform South Africa's income distribution into something like that of other industrial societies, but the time required for this to occur would be considerable. At present however, the prospects of the economy growing sufficiently rapidly for "trickle-down" to occur to all members of the population do not appear auspicious. The brief review of the Nattrass model showed that certain growth paths work to produce virtuous circles, whereas others can produce vicious circles. High growth rates require high rates of investment in order to sustain them, and in a climate of buoyant growth there is little difficulty in generating the necessary levels of investment. On the other hand, poverty circles are hard to break in a stagnating economy as foreign investment is not attracted, and domestic surpluses become difficult to generate. The buoyant era of the 1960s may have produced a virtuous circle in South Africa which was moving it closer to a solution of some aspects of its poverty problem. In the 1970s the level of employment grew slowly, as a result of the world recession and internal political unrest. Has the world recession of the 1970s and early 1980s, coupled with waning foreign and local confidence in the political stability of Southern Africa acted to produce a vicious circle of poverty and growing unemployment from which there will be no foreseeable escape for an increasing portion of the African population?

The first Carnegie Commission found that the major causes of White poverty
at the time were a failure to adjust to changed economic conditions, and inadequate investment in human capital. It found:

"The system of education was inadequate, both in quantity and in quality, to bring about a process of adjustment and thus to prevent the older white population from falling behind. In the early days education was mainly religious, and for the rest only suited to the simple needs of a subsistence husbandry. It remained so till long after the new commercial system had obtained the lead, and thus did not keep pace with the demands of the times".52

The results were substantial poverty among groups of Whites in rural areas, the "trek" farmers of the Cape North-West, pioneer-type farmers in the Transvaal "bushveld", bywoners, woodcutters of the Knysna region, and poor independent farmers. In the towns too, poverty existed among

"(a) those that have moved to the smaller country towns and developed into 'village paupers'; (b) those that have gone to the bigger (more industrialized) cities and have to earn a living as unskilled or insufficiently trained workers; (c) most of the people who try their luck on alluvial diggings; (d) persons for whom employment has been found on settlements or as manual labourers on the railways, and the like".53

Several decades of sustained economic growth, coupled with a vigorous effort by the White controlled state to create White employment at "civilized-wages" successfully broke the economic circles causing White poverty. Economic growth since the 1950s has also been shown here to have had an effect on the level of poverty among urbanised Asian and Coloured households, and the scenario of this section shows that the insiders among the African population are likely to be drawn above the poverty line by economic growth.

However, the scenario outline here has pessimistic implications for Africans living in rural areas and peri-urban areas, for it appears that economic growth, within the present institutional framework in South Africa, may well worsen their poverty.
FOOTNOTES

4. Redistributions which reduce inequality in the distribution of income are assumed to occur to the lowest percentiles, i.e., to the group in poverty. This is not however, inevitable.
6. Discussed in detail in McGrath, ibid., pp305-312.
13. Estimated for Coloured families from Cape Town household data for an average size family of 5,18 members, and for
Asian families from Durban household data for an average size family of 5.02. Source as in note 9 above. The White family poverty line income data was obtained from Report on the Activities of the Department of Community Development for the year 1978/1979, RP 28/80, deflated to the 1975 level.

14. In adult equivalent terms the conclusion might not hold if the additional members of households are mainly poor parents or children employed on a part-time basis.


17. ibid., pp119-120.

18. ibid., pp131-137.

19. ibid., p137.


21. For discussion of these see P Townsend, Poverty in the United Kingdom, Penguin, 1979, pp65-71.


25. L C Thurow, Generating Inequality, Macmillan, 1975, Chs. 4-5.


42. For example Browning finds that the incomes of families in the lowest quintile of the American distribution are substantially underestimated by the money income distribution and the Census Bureau's definition of money income has become increasingly unreliable in post-war years as the basis for measuring inequality, because the relative importance of transfer payments has increased. E K Browning, "The Trend Toward Equality in the Distribution of Net Income", Southern Economic Journal, Vol 43, 1976, pp912-923.

44. Estimated from data in McGrath, op cit., p156.

45. ibid., p156.

46. The Gini-coefficient for White family income inequality in these areas rose from 0.25 to 0.28, between 1955 and 1975. ibid., p333.

47. ibid., p333.


49. ibid., p336.

50. ibid., pp338-341.

51. ibid., pp158-160.

52. Carnegie, op cit., pvi, viii.

53. ibid., pvi, vii.