



CHAPTER 3

THEORIES OF INEQUALITY AND MODELS OF MIGRATION BEHAVIOUR

The process of industrialisation engenders increasing income inequality as the labour force shifts from low-income agriculture to the high-income sectors.

Kuznets, S., 1955

3.1 INTRODUCTION

This chapter reviews inequality theories and migration models to set the scene within which to analyse rural inequality and migration behaviour. It is presented in seven sections, starting with the current international experiences about inequality and social and economic phenomena. Section 3.2 discusses the neo-classical patterns and theories of inequality and puts into perspective the Kuznets debate on the inverted-U curve. Section 3.3 develops the conceptual framework indicating the links between asset inequality and migration. The effect of remittances on rural economies and income inequality is also presented. Different models have been adapted and have provided the basis for the model used in this study. The most important models relating to migration are discussed in section 3.5. The shortcomings of the models, which have necessitated modifications in analysing the determinants and impact of rural – out migration, are explicitly pointed out in this section. Section 3.6 assimilates all the factors mentioned and looks at the positive or optimistic side of migration and how best to proceed in the South African context. Section 3.7 gives a short summary of the chapter.

3.2 Patterns and theories of inequality

Worldwide, policy-makers are interested in equality and equity issues for different reasons, including but not limited to, fairness and social justice, reduction of poverty, sustainability of development and social cohesion. The issue of who benefits from economic growth has always been important (Gillis et al., 1996). Even in Victorian England, rising inequalities in income and wealth and persistent poverty among the

lower classes were widely perceived and discussed. Themes considered by social philosophers such as Karl Marx, novelists like Charles Dickens and classical economists, such as David Ricardo and Kaldor included equity issues (Ferreira, 1999).

Labour–surplus model and Kuznets hypothesised

“Inverted-U”

W. Arthur Lewis (1954) and Simon Kuznets (1955) developed a modern version of the two-sector labour–surplus model. Kuznets (1955) was one of the first development economists to introduce inequality in a model. In his 1955 presidential address to the American Economic Association, Simon Kuznets suggested that the relationship between per capita gross national product (GNP) and inequality in the distribution of income may take the form of an inverted–U (illustrated in Figure 3.1). The highlight of Kuznets’ contribution was the observation that, if inequality between low-productivity sectors was more substantial than within each sector, then inequality would first rise, as people move across sectors, and then fall. Most of them will find themselves in the new sector; or the economy will reach a point where factor movement was equalising returns across sectors.

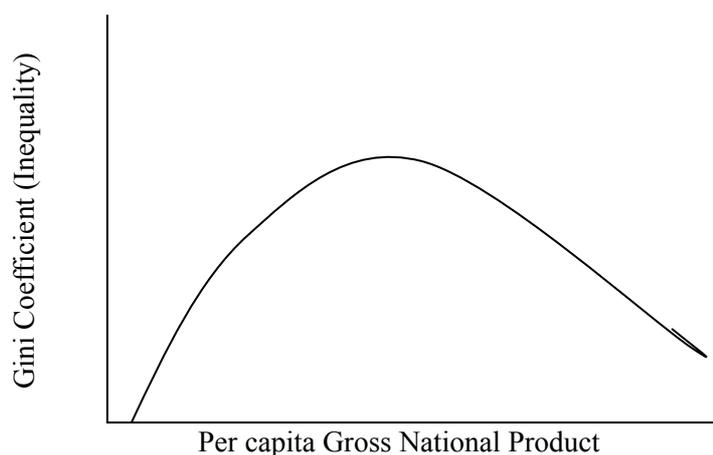


Figure 3.1: Kuznets Inverted Curve

Source: Todaro, M.P., 1997 p.161. Economic Development



The graph implies that as per capita income rises, inequality initially rises, reaches a maximum at an intermediate level of income and then declines as income levels characteristic of an industrial country are reached (see Figure 3.1).

The importance of the movement or flow of people, mainly from rural to urban centres, is labour transfer or migration from locations where their social marginal product (MP) is assumed to be zero to places where their marginal product is positive and rapidly growing as a result of capital accumulation and technological progress.

According to the Wikipedia, the free encyclopedia, Kuznets Curve can be further interpreted as follows: The transition from an agrarian sector to urban industrialization, in which there is growth in income inequality as income in agriculture is relatively low compared to income earned in the city. With this opening up of inequality, we also see that the level of income people earn in rural areas is similar to one another, whereas we see wide range of income level in the industrialized city, which further opens up inequality.

The scenario played out above is quite similar to what is going on in the former homelands of South Africa, including Lebowa, on which this study is based. However, the level of income rural people AErn in Limpopo is not at all similar as anticipated by the Kuznets interpretation above. Within the same rural area there are those with little or no income at all (especially those with no access to local wages and no remittances), while there are those with relatively high income levels (mainly from local wages and or remittances).

The decline in Kuznets Curve is associated with:

- a rise in mass education, which may open up opportunity for all and reduce the gap in income inequality.
- Government putting up social policy for provision of transfers, welfare, retirement pension, health care, in an effort to redistribute income throughout different levels of income earning groups. In South Africa such transfers include pensions, child



support grants, unemployment grants as a the amount and extent of coverage of transfer payments keep changing.

Following the publication of Kuznets's address in the *American Economic Review* (1955, 45:1-28), considerable research has been devoted to what has become known as the Kuznets's hypothesis, which postulated that, "income inequality increases during the early stages of economic development and after reaching a turning point declines".

The problem with Kuznets's theory lies in its empirical validation. While analysis of some cross-sectional data confirms the "Inverted-U" curve hypothesis, many others studies dispute it. A cross-country study of 60 countries by Ahluwalia (1976) supports Kuznets's hypothesis. The evidence shows a distinct inverse U-shaped pattern between the level of development, proxied by GNP per capita and inequality. However earlier on Adelman and Morris, (1973) found the poor in many countries worse off, in absolute and relative terms, as development occurred. No evidence could be found that the benefits of economic growth automatically trickle down to the very poor.

Evidence from more studies over the last three decades seems to find no credible support for Kuznets hypothesis. Anand and Kanbur (1993) tested and rejected Kuznets's hypothesis using data that is consistent across countries. They also scrutinised and disputed Ahluwalia's findings due to inconsistencies in the data used. Ahluwalia's data set consists of income distributions for 60 developing and developed countries whose distributions are not comparable with respect to income concepts, population unit and survey coverage. Bruno, Ravallion and Squire (1996), using data from 63 surveys from 44 countries over a time period 1981 to 1992, found no evidence of a systematic worsening of inequality in the transitional economies as their GDP declined. They observed no simple relationship between growth and inequality. They concluded that the "stylised fact" that distribution must get worse with economic growth in poor countries before it gets better turns out not to be a fact at all. Other researchers of Kuznets's hypothesis include Ravallion and Chen, 1996, Ravallion, 2000, Birdsall, 2000 and De Janvry and Sadoulet, 1996. They all indicate that a country's level of real GDP per capita (or growth rate) has little or no influence



on inequality or the distribution indicators of a country; also that Kuznets' assumption that inequality would enhance growth is not true.

It follows, therefore, that the high rates of inequality of income and assets can persist despite increasing growth, as has been the case among some upper middle-income countries (in Latin America, Asia and Africa) with a relatively high per capita GDP. Surely, if Kuznets's hypothesis were true, inequality in countries, such as South Africa, would already have started to decline.

3.3 THE BASIS FOR A LINK BETWEEN ASSET INEQUALITY AND MIGRATION

The ultimate cause of unequal distribution of personal income in most countries with high inequality rate is the unequal and highly concentrated patterns of asset ownership in those countries, especially in the continents of Asia, Latin America and Africa (House, 1991; McKinley, 1993). In the case of South Africa for example, the principal reasons why 10% of the population receives over 40% of the total national income (HDR-SA, 2000) is because 10% of the population owns and controls well over 60% of the productive resources, especially physical capital and land, as well as human capital in the form of better education. According to Todaro, (1997), correcting factor prices is not sufficient to substantially reduce income inequalities, where physical asset ownership and education are highly concentrated.

In some countries of Asia and Africa, characterised by high levels of asset inequality, coupled with low levels of education, capital market imperfections and credit constraints prevent the rural poor from undertaking profitable indivisible investments (Deininger & Olinto, 2000). [The reasoning underlying this approach is that households and/or individuals are assumed to be able to engage in specific productive economic enterprises for livelihood] One of the important prerequisite of credit market activity and its sustainability is continued commitment of the borrowers to repay at agreed intervals the assigned amount under all circumstances. In order to ensure an adequate incentive structure on the part of the borrowers, lenders demand collateral to secure their money lent out, leading to the emergence of equilibrium credit rationing.



Baltensperger (1978) defined Equilibrium credit rationing as ‘*whenever some borrower’s demand for credit is turned down although the borrower is willing to pay all the price and non-price elements of the loan contract.*’ According to Baltensperger (1978) there are two types of credit rationing:

- Type I rationing occurs when there is a partial or complete rationing of all the borrowers within a given group.
- Type II rationing concerns the rationing that occurs within a group that is homogeneous from the lender standpoint, so that some borrowers of the group obtain the loan they demand while others are rationed. This seems to be the case with the rural households that we interviewed. Even though there are banks in 12 of the 24 villages in the survey, most households find it difficult to obtain credit from the banks due to lack of collateral

Stiglitz and Weiss (1981) observed that there are no equilibrium interest rates, at which demand equals supply (of capital) in the loan market, even when the market is competitive. They define credit rationing as a phenomenon where either: (i) Among seemingly similar loan applicants some do not obtain credit at any interest rate; or (ii) Some identifiable potential borrowers do not obtain credit even though they would with greater supply of capital at the lender level. Thus, according to them credit rationing is an equilibrium phenomenon

As a consequence of equilibrium credit rationing, only entrepreneurs with sufficiently high levels of personal wealth are able to finance their projects. The initial asset distribution determines the households and/or individuals that are able to borrow. Those left out in this way are forced to find alternative means of livelihood and migration, in search of opportunities elsewhere, is one of the alternatives. The above notwithstanding, borrowing still take place among the rural poor, not from formal credit markets, but from family, friends and neighbours, who do not require them to put down collateral or pay interest rate.

There is evidence to shown that the initial distribution of wealth not only perpetuates inequality but affects growth and leads to intergenerational persistence of poverty and



encourages migration. This is more likely to happen through indivisible investment in human capital (Birdsall & Londono, 1997). In most poor countries of Latin America, Asia and Africa, the amount of education children receive is greater the higher the income and education of their parents. At the same time, it is reasonable and rational to assume that children's educational achievement is a good predictor of their future position in the ranking of lifetime income and status (Birdsall, 2000); thus, intergenerational social mobility is relatively limited. In cases where education has to be financed by accessing capital markets, it has been shown that among individuals with equal ability, those with higher assets and wealth may be able to become more educated while the poor ones will not, thus condemning the children of the poor to limited education and low future income and a self-perpetuating poverty trap. In the presence of financial market imperfections, regions, countries and even provinces with different asset distribution patterns (and initial asset levels) will follow different growth paths. This may explain the high rate of migration for education, as households that can afford to pay send their children to town schools that have better facilities than schools in the rural areas. Birdsall & Londono, 1997, showed that inequality of education limits access to financial markets by the poor as they become entangled in a vicious circle, for example; initial inequality of education generates inequality of income, and in a vicious circle inequality of income induces a new round of unequal education. Likewise, initial inequality of assets sets the tone for policy and for the evolution of institutions (rules, social norms, and the role of the state) that can lock in inequality. This is the scenario in most of the rural areas of the former homeland districts of South Africa, including Limpopo.

It is difficult to measure equality of opportunity, likewise, it is difficult to distinguish between "constructive" inequality (Okun, 1975), which is believed to provide incentive for individual effort for hard work, innovation and productive risk-taking from "destructive" inequality, which is mainly due to the absence of a level playing field and unfair practices. The latter reflects inefficiencies in the market that inhibit growth. For example, weak, inefficient or incomplete capital markets, such as those found in the rural areas, critically contribute to the growth-reducing effect of inequality. If creditworthy borrowers cannot borrow because they are too poor, with limited information and without collateral to put down, then the resulting liquidity constraints they face will limit their ability to invest. Similarly, lack of direct credit



programmes, exorbitant loan interest rates and poor insurance markets may trap the poor in inefficient informal systems of risk sharing, such as, low interest saving clubs (stockvells, and burial clubs are common in rural and even urban areas in South Africa). Likewise, macro-economic conditions, social policies (e.g. education policy) and economic policies (e.g. relating to markets) affect the extent of “destructive” inequality (Behrman, Birdsall & Szekely, 1999).

Inequality of assets is also an impediment to growth in developing countries. Deininger and Olinto (2000) provide estimates showing that initial land ownership inequality is associated with low growth. They further argue that inequality of land ownership is linked to rural poverty, which in turn limits human capital accumulation and thus growth. Carter (2000) shows how the concentration of land ownership and associated assets is linked, over long subsequent periods, to concentration of income, even in countries where the economic importance of agriculture has diminished. South Africa is erroneously considered to belong to this category; because the economic importance of agriculture is still quite high due to its contribution to rural employment and livelihood for the poor, but also because agriculture value addition industries in South Africa still contributes substantially to the GDP. Moreover, a sizeable proportion of the African rural population still subsist on agriculture. The implication is that, over time the inequality of assets, such as land, affects, the evolution of all types of political and social institutions that end up limiting growth and development.

The poor depend heavily on overall resource consolidation and accumulation (Deininger & Squire, 1995), therefore, any mechanisms that offer potential to increase the asset endowment of the poor, such as the land reform programme in South Africa will invaluablely raise their income. Theoretically, the land reform programme is expected to have solved all the ills regarding land, but realistically this has not happened due to bureaucratic and logistical problems. Even where land has exchanged hands to black communities there has been numerous problems related to delivery of necessary services, such as, financial support, skills training and mentorship and access to markets. On a general stand point, redistributive programmes have to take care not to undermine the functioning of markets, to reduce incentives for investment and increase social tension and polarisation. Well-designed



measures sponsored by either government or multilateral institutions or partnerships between public and private sector should allow countries, provinces or regions to redistribute assets to increase equity among its people, improve productive efficiency and enhance aggregate growth; this may also affect the economy's growth trajectory as well.

Inequality, be it of income or assets, also causes social instability and social stratification. There are incentive-effects associated with ownership of factors of production, as exemplified by literature on sharecropping (Deininger & Squire, 1995; Deininger, 2000). Inequality can create barriers that affect the cost of social interaction and economic exchange through, for example ethnic, homogenous and social capital. Inequality can be directly associated with violence and crime, which induce insecurity of property rights on investment incentives. These forces may act as 'push factors' for rural-urban migration, as seemingly the case in South Africa where asset distribution is highly skewed. De Janvry and Sadoulet (2000) report that poverty has declined in Latin America over the past three decades, but due to the high level of inequality in land ownership and associated assets, migration is still the main escape route for the rural poor to urban areas.

According to Todaro and Smith (2003), the most important type of migration from the stand- point of long-run development is rural-urban migration. However, a great deal of rural-rural, urban-urban and even urban-rural migration also takes place. This study focuses on rural to urban and rural to rural migration and what it implies to African rural households and rural economies.

3.4 REVIEW OF SELECTED MIGRATION THEORIES AND MODELS

Theoretical explanations which do not have empirical evidence to substantiate them are referred to as 'Theories', while explanations accompanied by research and empirical proof, presented in a unique structured format that can be used under different economic and social environment are referred to as Models.



3.4.1 Theories

3.4.1.1 Ravenstein's laws of migration

As early as 1885, Ernst George Ravenstein presented to the Royal Statistical Society “Laws of migration” in an attempt to show regularities in the scale and direction of migration and to explain migration movements in relation to opportunities and constraints (Migration studies of the Open University, 1982). This is the first example, available from the literature, of a systematic record of general laws of human behaviour. Theoretical explanations of migration go as far back as the 1880s when Ravenstein proposed eleven ‘laws’ of migration (Oberai & Singh 1983). The ‘laws’ were listed in his article, published in the *Statistical Journal* 1885 and 1889. According to Ravenstein (1885 and 1889), migrants move from areas of low opportunity to those areas with high opportunity. The choice, according to him, is regulated by distance, with migrants from the rural areas often showing a tendency to move to the nearby towns first and then towards large cities. A list of Ravenstein’s laws of migration is presented in Box 3.1.

Box 3.1: Ravenstein's laws of migration

1. The majority of migrants go only a short distance.
2. Migration proceeds step by step.
3. Migrants going long distances generally go by preference to one of the great centres of commerce or industry.
4. Each current of migration produces a compensating counter-current.
5. The natives of towns are less migratory than those of rural areas.
6. Females are more migratory than males within the country of their birth (See comments on the text) but males more frequently venture beyond.
7. Most migrants are adults: families rarely migrate out of their county of birth.
8. Large towns grow more by migration than by natural increase.
9. Migration increases in volume as industries and commerce develop and transport improves.
10. The major direction of migration is from the agricultural areas to the centres of industry and commerce.
11. The major causes of migration are economic.

Source: *Migration Studies of the Open University, 1982. Derived by Grigg (1977) from Ravenstein 1876, 1885 and 1889.*



In many ways, Ravenstein is to migration studies as what Simon Kuznets is to the modern economics of inequality and growth. As with Kuznets, there is a considerable debate concerning Ravenstein's work. His basic laws have since been discussed, systematised and expanded on by researchers the world over (Lee, 1966; Oberai & Manmohan-Singh, 1983). Although still referred to as "laws", these statements are better regarded as generalisations (Migration studies of the Open University, 1982) based on the empirical information and analysis of the time.

Laws or no laws, the importance of the economic motive in the decision to migrate, the negative influence of distance and the role of step-migration suggested by Ravenstein are some of the important features, which have yet to be invalidated.

3.4.1.2 The "push-pull" model

Another model concerned with the cause of migration between two points is the '*push-pull*' model, which attempts to explain migration in terms of the relative attractiveness of different locations. In 1938, Herberle argued that a series of forces encouraged an individual to leave one place and attracted him to another (reference). Later, Bogue (1969) summarised these forces into 'push' and 'pull' factors respectively. The 'push' forces include decline or exhaustion of national resources and the prices paid for it; loss of employment; oppressive treatment on religious, ethnic or political grounds; alienation from a community; lack of opportunities for personal development or the effects of natural disasters. Amongst the 'pull' factors are better opportunities for employment and/or education; income increases; better living conditions; dependency due to either migration at marriage or the movement of dependants with a relative and the lure of new or different cultural, intellectual or recreational activities (Bogue 1969).

Push-pull forces can be regarded as falling into two broad categories: (1) those relating to change in the environment, and (2) those relating to changes in the motives of the individuals. This calls for analysis on two levels: the macro, concerned with society in the aggregate, and the micro, concerned with the individual. Additional problems with the push and pull model are firstly that it is often difficult to differentiate between the forces, i.e. to establish where the 'push' ends and the 'pull'



begins. Secondly, it tends to create a ‘snap-shot’ view of migration – that is, as a once-only phenomenon, rather than as a process. Nevertheless, the push and pull forces cannot be ignored, but should be considered as part of the migration process rather than an end to it. Migration from the rural areas of Limpopo responds to similar push pull forces as noted above. However judging from the responses on the reasons for migration the majority of migrants moved away from home to find a job. Other reasons included seeking for job opportunities; staying with a family member who has a job in the city and sometimes work and education were combined.

3.4.1.3 Sjaastad’s human investment theory

In 1962, Sjaastad presented a human investment theory of migration, which treats the decision to migrate as an investment (Sjaastad, 1962). The returns are divided into money and non-money components. Non-money returns include changes in “psychological benefits” as a result of locational preferences. Similarly, costs include both money and non-money costs, such as costs of transport; of disposal of movable and immovable property necessitated by a shift in residence; of wages foregone while in transit and of retraining for a new job, if necessary. There are psychological costs too: of leaving familiar surroundings; in many cases, of giving up one’s language and culture, of adopting new dietary habits and social customs and of growing out of one’s ethos altogether.

Although Sjaastad takes into account money as well as non-money costs and benefits, in calculating net returns to migration he includes only money costs and non-psychoic benefits. He assumes that in deciding to move, migrants tend to maximise their net real lifespan incomes. They also have, at least, a rough idea of what their lifespan income streams would be in the present place of residence as well as in the destination area and of the costs involved in migration. This assumption does not hold true most of the time otherwise we would have fewer unemployed migrants, some of whom stay long periods of time without finding a job.



3.4.1.4 Lee's "pluses and minuses" theory

Building on Ravenstein's law of migration, Lee developed a "general scheme into which a variety of spatial movements can be placed" (Lee, 1966). He divides forces exerting influence on migrant perception into "pluses" and "minuses". Pluses pull individuals towards them and minuses tend to drive them away. There are "zeros" also, in which the competing forces are, more or less, evenly balanced. In their own way, these forces, associated with the area of origin and the area of destination, are governed by personal factors "which affect individual thresholds and facilitate or retard migration" (Lee, 1966). However, Lee does not manage to distinguish between factors affecting the characteristics of migrants and those affecting the volume and the stream of migration. Lee's model implies a complete appreciation of both the economic and personal conditions underlying the migration process.

3.4.1.4 Relative Deprivation

The concept of relative deprivation as formulated by WG Runciman in 1966, is said to occur where individuals or groups subjectively perceive themselves as unfairly disadvantaged over others perceived as having similar attributes and deserving similar rewards (their reference group). It is in contrast with absolute deprivation, where biological health is impaired or where relative levels of wealth are compared based on objective differences. Relative deprivation is more likely when the differences between two groups narrows so that comparison can be easily made than where there is institutionalised differences, such as the caste-like differences. The discontent arising from relative deprivation has been used to explain radical politics (whether of left or right), religious fundamentalism, the rise of social movements, migration, industrial disputes and different types of crimes and deviations.

From the 1980s, this concept was widely used in criminology, particularly by the so called left realists. According to Young, (1999), the attraction of the relative deprivation concept, as an explanatory variable in the post war period, is because of the rise of crime in the majority of industrial societies despite the increase in living standards.



Other authors who have contributed to the relative deprivation discussion include Stark (1984), Stark and Yitzhaki (1988), Stark and Taylor (1989, 1991), whose empirical findings led them to conclude that among other things, relative deprivation contributes positively in migration decisions.

Mehlum's () came up with a relative deprivation hypothesis, which states that, an improvement in an agent's (potential migrants in a rural village) relative income also improves his welfare. Mehlum showed that the relative deprivation effect represents a positive externality between migrants and that their decision to migrate, are strategic complements. Therefore, the migration will partly be a result of cumulative causation and dual migration equilibria may result. The presence of cumulative causation has implications for the effect of policy measures affecting migration.

3.4.2 Economic models of migration

3.4.2.1 The Lewis model or Lewis-Fei-Ranis (L-F-R) model of development

Lewis (1954) formulated the best-known theoretical work on development, primarily concerned with economic development in a dual economy, involving the capitalist and non-capitalist sectors of the economy. Later, with Ranis and Fei (1961), Lewis extended this model; the combined structure is known as the L-F-R Model. It considers migration as an equilibrium mechanism, which, through transfer of labour from labour-surplus sectors to labour-deficit sectors, brings about equality between the two sectors. The model is based on the concept of a dual economy in which Lewis seeks to explain economic development under what he terms situations of unlimited labour supply. An expanding high productivity modern capitalist sector (urban), with industries and growth of output and employment, draws labour from the traditional, overpopulated, non-capitalist rural subsistence sector, which is characterised by low or marginal productivity of labour. The model implies zero or marginal product of rural labour which stems from the fact that, given excess supply of labour, some labour could be withdrawn from the rural sector and not make any difference to agricultural output. Thus, at a constant urban wage, the supply curve of



labour is considered to be perfectly elastic, meaning that, the supply of labour at the capitalist wage from the traditional rural sector is unlimited.

The simplicity of Lewis's model has been found to be inadequate by several researchers (Dasgupta cited in Oberai & Singh 1983; Toure & Fadayomi, 1992; Saith, 1998; Taylor, 2001; to analyse the causes and consequences of migration, especially in developing countries. First, migration is not induced by unemployment and underemployment in the rural areas, although employment is an important factor in the decision to migrate. Secondly, the zero marginal productivity of labour in the rural areas, especially in the agricultural sector, has not been confirmed empirically. That is, no one, not even the poor, would willingly spend his last hour of work when s/he knows that it will produce or earn nothing. Thirdly, present day migration into urban and peri-urban centres persists in the face of inadequate urban resources and unemployment. At the same time, a number of studies in rural areas (Dasgupta cited in Oberai & Singh 1983]; Saith, 1998; Kirsten et al., 2002) show the significant negative effects of migration on agriculture. The available evidence from the cited studies shows that, under given conditions of production, the allocation of labour tends to be optimal and any withdrawal of labour leads to a fall in output, unless yield- increasing technologies are simultaneously introduced. If the zero or marginal productivity of labour hypothesis was true the absence of migrants from the agricultural sector should not affect agricultural production negatively.

Another questionable assumption made by Lewis (1954) is that all the profits are reinvested, causing the capital stock to increase. A larger capital stock would cause the total product curve of the modern sector to rise, which in turn would induce a rise in the marginal product demand curve for labour, thus shifting the demand curve. This implies a rate of growth of the modern sector that is big enough to draw away the unemployed from the subsistence sector. In most countries (South Africa included), this has not happened as the rate of growth of the modern sector has been too slow to permit such development.



Box 3.2 Todaro's criticisms of Lewis's model

- i) The model implicitly assumes that the rate of labour transfer and employment creation in the modern sector is proportional to the rate of modern capital accumulations. In cases where profits are reinvested in labour-saving capital equipment rather than just duplicating the existing capital, the assumption cannot be true.
- ii) The assumptions about surplus labour existing in rural areas, while there is full employment in the urban areas is certainly not true. Todaro (1986) points to the fact that most research in recent years indicates the opposite to be true. By and large, development economists today seem to agree that the assumptions of urban surplus labour is empirically more valid than the opposite Lewis assumption of general rural surplus labour. The third world today is faced with increasing rural-urban migration despite rising levels of urban unemployment.
- iii) The third questionable assumption of the model is that of a competitive modern sector labour market that guarantees the existence of real urban wages up to the point where the supply of rural surplus labour is exhausted. The fact is that, in most developing countries, wages rise over time due to institutional factors such as civil service wage scales, trade union lobbying, multinational corporations living practices and other similar factors.

Source: Todaro (1987, pp. 69-71)

Despite its popularity for modelling purposes, this wage-driven, neo-classical analysis of rural out-migration has largely been disputed. The most important reason is the continuation of migration despite high and increasing urban unemployment. For this reason Todaro, and later Harris and Todaro, came up with the expected income model of migration in the presence of labour market imperfections.

However, researchers in developing countries have noted that high urban unemployment rates mean that migrants have to include in their decision to migrate an assessment of their chances of getting an urban job. A model that takes this explicitly into account is the one provided by Todaro.

3.4.2.2 The Harris-Todaro model

The economic motive of migration is best articulated in the Harris - Todaro model (H-T M) (Todaro, 1997, Todaro & Smith, 2003), which postulates that migration, responds to urban - rural differences in expected incomes rather than actual earnings. Normally, people move from their places of origin for higher incomes and better jobs; the H-T M has set the basis for analysing the migration decision systematically.



The assumption in the H-T M is that migration is primarily an economic phenomenon. Migrants are assumed to consider the various labour market opportunities available to them in the rural and urban sectors and choose the one that maximises their expected gains from migration (Todaro & Smith, 2003). However, Todaro admits that H-T M and other migration economic models were developed in the context of the industrial economies (Todaro, 1997) and therefore assume the existence of full or near full employment; but the overwhelming evidence of the 1960s and 1970s in many developing nations, indicate massive migration of their rural populations into urban areas despite chronic and rising levels of urban unemployment and under employment. In such a situation, a typical migrant can not expect to secure a high paying urban job immediately. As Todaro (1997), Lappé (1998), and Todaro & Smith (2003), put it, most of the poor uneducated, unskilled migrants will either seek casual and part-time employment as vendors, hawkers, repair persons in the urban traditional or informal sector or become totally unemployed and languish in slums and shanty towns.

In a labour market with high rates of unemployment, only a few migrants with considerable human capital in a form of secondary, technical college and university education have better opportunities; many of these will find formal sector jobs relatively quickly (Todaro, 1997; Todaro & Smith, 2003). The H-T M also implies that migrants with urban contacts may have better information about the job market before they embark on the expensive venture of travelling to town. Consequently, in deciding to migrate, the individual must balance the probabilities and risks of being unemployed or underemployed for a considerable period of time against the positive urban-rural real income differential.

Todaro (1969), and later Harris and Todaro (1970), developed a model that attempts to explain the phenomenon of rising rural-urban migration in the context of rising urban unemployment. The Harris–Todaro model of rural–urban migration is premised on the urban–rural wage differential as the motivating force behind migration. The model is an important formulation of the role of economic incentive in the migration decision (Gillis et al. 1996). The model assumes that migration depends primarily on

$$M_t = f(W_u - W_r), \quad (3.1)$$



a comparison of wages in the rural and urban labour markets.

The model for rural–urban migration is specified as follows:

Where M_t is a number of rural to urban migrants in time t

f is a response function

W_u is the urban wage

W_r is the rural wage

The expected urban wage is the actual wage times the probability of finding a job, or

$$W^*u = pW_u \quad (3.2)$$

Where W^*u is the expected urban wage and p is the probability of finding a job, p can be defined as:

$$p = \frac{E_u}{E_u + U_u}$$

Where E_u is the urban employment and U_u is the urban unemployment.

All members of the urban workforce are assumed to have equal chances of obtaining the jobs that are available, so W^*u becomes simply the urban wage times the urban employment rate. At any time period, migration depends on three factors,

The rural urban-wage gap

The urban employment rate

The responsiveness of potential migrants to resulting opportunities

$$M_t = h(pW_u - W_r) \quad (3.3)$$

M_t is the migration in period t and h is the response rate of potential migrants.

As long as W^*u exceeds W_r , rural-urban migration will continue. It will only stop when migration has forced down the urban wage or forced up urban unemployment



sufficiently that $W^*u = W_r$. If W_r becomes greater than W^*u "reverse migration" will occur.

The Harris-Todaro model postulates that migration proceeds in response to differences in expected rather than actual earnings, by the hope of finding a better job within a given time period. According to Harris and Todaro (1970) the model can be described as a two-sector internal trade model taking unemployment into account. The two sectors are the urban sectors, which specialise in the production of manufactured goods, (part of which is exported in exchange for agricultural goods) and the rural sector, which uses all available labour to produce agricultural goods, some of which are exported to the urban sector.

The decision of the migrant to migrate is taken even though he/she knows that high unemployment exists in urban areas. According to the model, this is still "rational" as long as expected benefits exceed expected costs. The expected benefits take into consideration not just the probability of being able to secure a job, but also the other benefits associated with securing a job, such as being able to send money back home for investment into petty rural businesses thus generating employment there as well. However, it may be that the private costs exceed the costs of society because the unemployed migrant requires social services and adds to urban congestion. In this regard, government policy can be introduced to reduce the divergence between social and private costs. Consequently, the Harris-Todaro model justifies state intervention situations where the rate of migration is not considered 'socially optimal' (Collier & Rampell, 1977).

An additional criticism of the Harris and Todaro Model by Peck (1981) is that migration is not necessarily a reaction to expected income differential. He adds that if the means of production are enough to provide for subsistence, then migration may not increase when urban and peri-urban wages are a result of economic and political forces appropriating the means of production and forcing people to migrate because they are unable to earn a subsistence wage.

Moreover, studies have shown that the job situation presents a series of imbalances. According to Toure and Fadayomi (1992), the urban job market, though oversupplied,



lacks skilled workers while teeming with masses of unskilled labours. At the same time, the rural job market, which offers more jobs for unskilled workers, is sometimes short of labour.

Despite its contribution to understanding determinants and impact of rural out-migration, the H-T M model makes a number of restrictive assumptions and expected income differentials usually fall short of explaining most of the difference in migration between regions that shape migrants' decisions and also their potential impact on rural economies. As Williamson (1988) rightly put it, the most critical restriction of Todaro models is the omission of influences, besides income.

It has therefore become necessary to consider factors other than economic incentives in order to understand fully the migration decision by both the individual migrant and the migration household. According to Kim (1979), the factors that contribute to the migration decision may range from potential earnings and opportunities, socio-economic background (e.g., age, education, marital status, occupation and family-life cycle), physical and social constraints (e.g., asset ownership, social ties and status, resource accessibility and home village / region / province) to economic factors in the area of origin (e.g., wage and unemployment rates and infrastructure).

Recent literature shows that decisions to migrate can occur in the absence of a significant wage gap (Stark, 1984; Stark and Yitzhaki, 1988). The work of Stark (1991) emphasises the collective nature of migration decision and the mutual interdependence of household members. Decision to migrate might be motivated by a concern to minimise the risk that attaches to agricultural income variability. The household may engage in pooling strategies that diversify risk; for example human capital investment in the children and geographical location of household's migrants. On the migrants' side, remittances made in cash and in kind to the rural household are seen as an integral part of the household's migration decision.

Policy makers and planners of development programmes are becoming increasingly concerned about the way migration-source communities and local economies are affected by migration. The "new economics of labour migration (NELM) literature, based on Asia and Latin American experiences has proved to provide a better model



for analysis of determinants and impacts of migration as a household decision rather than an individual decision (Stark 1991, Taylor et al., 1996). A closer look at the rural side is leading to conceptual and technical revisions with broad implications. Labour utilisation in agricultural production and its role in various forms of organisation of the rural economy is becoming a focus of analysis. The NELM model highlights other, equally important factors other than economic motivation that have to be incorporated into a model to analyse migration determinants, decisions and impacts.

3.4.2.3 The Harris-Todaro model and the informal sector

Garrison (1982) shows that the Todaro mechanism is important but that including the probability of finding a job and higher earnings in the informal sector can make improvements. In the Harris-Todaro model, the migrant is assumed to go through a waiting period before he or she finds formal employment in the urban or industrial sector. In the meantime, he or she finds “something to do” in the informal sector, which is usually characterised by a large number of small-scale production and service activities that are owned by family or individual, labour intensive and based on the use of simple technologies. According to Todaro (1987), informal sector workers are less productive and their wages are lower due to their lower education and skills level.

The informal sector in many countries has grown without helping to solve the structural problem of unemployment (Toure & Fadayami, 1992). Even though the informal sector provides income and employment to many migrants, labour absorption is limited. The existence of the informal sector employment lowers the urban unemployment rate somewhat, thus raising the probability of finding urban wage employment (thus shortening the waiting period), but by so doing results in an increase in the migration rate to the urban areas.

Harris-Todaro model, thus addresses unemployment and earnings as economic causes of migration. But subsidiary economic reasons for migration other than employment and earnings are also important. Landlessness caused by acquisition of the land of poor farmers by wealthier ones and urban dwellers and by the need for cash on the part of rural people to meet other needs is another important factor.



These shortcomings and limitations make it necessary to modify these analytical frameworks to make them adequate for studying the cause and effect of migration, especially rural–urban migration. People move away from their places of origin for reasons other than for higher immediate or expected incomes.

3.4.2.4 New Economics of Labour Migration (NELM) Model: A household perspective

NELM is a relatively new migration model compared to those discussed earlier; it is thus, necessary to explain its conceptual framework. The focus of the most recent wave of literature on migration determinants and impacts on sending and receiving areas (both internal and international) has become known as the new economics of labour migration (NELM). Researchers and authors who have written extensively about NELM include: De Brauw et al., 2001; Taylor, 2001; Stark & Bloom, 1985; Singh et al., 1986; and Stark, 1991, just to mention a few. The NELM hypothesises that rural households facing imperfect market environments decide whether or not to participate in migration as part of a set of interwoven economic choices (Taylor et al., 1996). This does not mean that the migrants themselves (especially working migrants) have no say in the matter or that they are being forced. On the contrary, they participate fully in the household decision and some of them, who are heads of households, may take a lead in such discussions and decisions.

Under normal circumstances individual migrants do not sever ties with their source households, which they still belong to. Since the source households participate in the migration decision, they may pay migration cost and support the migrants until they become established at their destination. When a household decides to send out a migrant, it makes simultaneous decisions about both its short-term and long-term production possibilities. Specifically, the household decides on its present labour and other input allocations, which affect its short-term production, and on its investment in household resources and savings management strategy, which affects its long-term production. Family members who remain behind (often, parents, partners and siblings) may reorganise both their consumption and production activities in response to the migrants' departure.



On the other end of the arrangement, migrants usually share their earnings with their households of origin through remittances. Continuing interactions between migrants and the rural households suggest that a household model would be more appropriate than an individual level model of migration decisions. The neo-classical models, such as Todaro's, do not consider the likely impacts of migration and remittances on rural economies. Equally important with NELM is the contention that people act collectively not only to minimise risks but also to loosen constraints created by a variety of market failures, including missing or incomplete capital insurance and labour markets.

Migrants frequently play the role of financial intermediaries for the source migration-households (Taylor, 2001). For example, a household wishing to expand its agricultural enterprise to a commercial level may be lacking access to credit and income insurance; by placing a member of the household in a town labour market, the household gains access to liquidity (through remittances) and income insurance. Mutual altruism reinforces an implicit contract for mutual support between migrant and household. This concept has been well researched by Liu and Reilly (1999) in the case of China, but it is widely known and even expected in the African extended family system. Equally, inheritance motives are an incentive to remit (i.e. non-remitting migrants may stand a chance of losing their inheritance (Lucas, 1987). Migrants' aversion to risk encourages them to honour their responsibility to continual receiving support and ensure future support from the household should they experience an adverse income shock, such as unemployment or some other misfortune in the future.

3.4.2.5 NELM on remittances their multiplier effects

According to NELM there are four broad issues that can be highlighted about the impact of migration and remittances in migrant-sending areas that have emerged from a number of studies utilising NELM techniques (Rozelle et al., 1999; Liu & Reilly, 1999; Taylor & Fletcher, 2000; de Brauw et al., 2001):

- (i) First, migrant remittances create income and employment multipliers in migrant sending villages, towns or communities. The size and magnitude of these multipliers can be large; for example, a \$100 increase in remittances



from USA led to a \$178 increase in total income in a migration –sending village in Mexico (Aldelman et al., 1988). The additional income is created by expenditure from remittance-receiving households, which generate demand for locally produced goods and services, thus boosting the incomes of others in the villages. However, both the magnitude of the remittance-multipliers and the distribution of income gains across household groups and production sectors are sensitive to rural economic structures (Taylor 2000). The distribution of the gains from multipliers depends, firstly, on whether multiplier spending is on goods and services made with high or low skilled wage components. Secondly, it will depend on whether migrants come from the poorer income levels and thirdly, spending by poorer groups may be more equalising in its multiplier effects because it is on more labour intensive commodities or services than spending by richer groups.

- (ii) Second, in general the more closely integrated migrant-sending villages and towns are with the outside markets, the smaller the village or town income multipliers resulting from migrant remittances. Through trade, the impact of remittances on local economies are transferred to other parts of the country, and studies focusing on individual migrant-sending communities and those focusing on migrant sending households, miss many if not most of the migration’s impacts. It is likely that a large part of the benefits from migration become concentrated in regional urban centers of migration sending villages or regions, even if the remittances themselves do not go there initially.
- (iii) Thirdly, the multiplier effects of remittances upon income in migrant –sending areas appear to depend, critically, on the supply of response of local production activities. They are smaller when agricultural supply response is inelastic. This highlights the importance of policies to remove technological constraints on production, promote investment, and develop markets as a means to make remittances more productive in migrant-sending economies. Integrated agricultural and food value chains that incorporate value addition, agribusiness and non- agricultural small and medium enterprises performed in the migration sending areas would be the best way of tap into remittance-multiplier effects.



- (iv) Lastly, migration may compete with local production for scarce resources, especially family labour resources, at least in the short run, warranting a re-organisation of work schedules and tasks. The effects of migration on rural poverty and inequality depend critically on how remittances and the losses and gains of human resources through out-migration are distributed across poor and rich villages and household; on production constraints facing different household groups and on expenditure linkages with the rural economy.

Another fundamental departure by the NELM from the past migration research is the explicit recognition of the interrelationship between determinants and impact of migration. For example, if lack of liquidity or credit to invest in a new technology (such as facilities for irrigation) is a determinant of migration, then migrant remittance should provide liquidity and stimulate technological change. If it is a case of lack of enough land to cultivate, as is the case in most instances in South Africa, then remittances should be used as down payment to enable the migrant-households to obtain government land reform subsidy to purchase more land. In the NELM model, market imperfections result in household-specific shadow prices that transmit remittance impacts to the production side of the household farm economy.

3.5 CAN MIGRATION PROVIDE A WINDOW OF OPPORTUNITY?

The optimistic view that rural out-migration can lead to agricultural expansion has wide support (Oberai & Singh, 1983) and is an inherent part of a dualistic model of development, such as the one prevailing in South Africa. Migration between any two areas (especially rural and urban areas) involves the flow of human resources, income and capital and information. In this dual model, rural out-migration is assumed to have two main effects. First, a declining labour/land ratio providing a new environment conducive to changing rural production techniques (Ranis and Fei, 1961). The reduced supply of family labour encourages the farmers left behind to adopt one or more compensatory measures to maintain the level of production and family income. This includes, but is not limited to, a shifting towards less labour-intensive crops, adoption of labour-saving capital equipment, greater work participation by the remaining family members and some reliance on hired labour. If the marginal product of the migrants' labour prior to migration and the capital



migrants take with them are small, the loss of population to migration raises the average incomes of those left behind (Taylor, 2001).

Second, the reduced supply of labour is also likely to push up agricultural wages (Nicholls, 1964) and stimulate the adoption of labour-saving technologies (Kim, 1973). Technological change will also be stimulated due to the out-migrants repatriation of savings to the rural areas in the form of remittances or capital equipment (Stark, 1976). Some studies have attributed such a change to the dynamism of visiting and/or returning migrants who bring with them money, knowledge and experiences of alternative technologies and techniques, which are rarely available in remote rural areas. This is particularly true in South Africa of migrants that work or may have worked as farm labourers or farm foremen on commercial farms. Similarly, such migrants may introduce cash crops and establish market outlets for goods produced in their rural areas. By collaborating with neighbouring commercial farmers or the farms they work for, they may create marketing networks to external markets for their produce, thereby promoting commercialisation of agriculture.

In essence, migrant households can potentially improve and increase agricultural production and income from agriculture since they can access capital assets and skills. However for that to happen, migrant households require more land (bigger sizes and of better quality). Migrants in South Africa have a strong interest in acquiring land (Cross et al. 1998) to subsidise earnings from wages and small businesses. In a study in KwaZulu Natal (Cross et al. 1998), migrant households that had land and had succeeded to enter small-scale farming at a semi-commercial level, were found to have higher average incomes than households without migrants.

There is shortage of land in tribal authority areas, which have, since colonial times, accommodated families removed from white-owned farms. Overcrowding and a lack of income in these areas are some of the main causes of out-migration from these areas. In Limpopo, which was home for three homelands (Venda, Lebowa and Gazankulu), overcrowding on arable lands and the level of landlessness is quite substantial (Baber, 1996). Over 47 per cent of the study sample from Limpopo, on which this study is based, were landless or nearly so.



Micro studies of former Bantustans in other parts of South Africa (Nattrass & May, 1986; Sperber, 1993; Gandar & Bromberger, 1984 cited in Baber, 1996) make it clear that the average farm size that rural households have is less than 2 hectare. The reward from the effort in agriculture on a farm that size is too small to sustain a family (Dushmanitch & Nieuwoudt, 1994). Therefore, households have to obtain income from multiple sources, including migration, most of which are often irregular and the amounts earned are quite small. The current small size of the farm in for rural households in South Africa partly explains the low adoption of technologies that are not scale neutral, such as dams, irrigation and associated inputs (Dushmanitch & Nieuwoudt, 1994). Even though the poor people may still adopt the use of the best crop varieties and chemicals, their production is still restricted by the size of their farming plots.

The implications of this scenario to the land reform programme (LRP) in South Africa are that a mechanism is required to deliver land to those who need it and who can work it, including migrant-households, who receive capital resources out of the proceeds of migration. Inequality of land, materials and opportunity are sensitive issues in South Africa. It is essential that policy actions that are likely to alter land and related productive assets are based on concrete information; for example, allocating land to those who cannot work it fully may lead to a decrease in agricultural production and agricultural income with a consequent increase in rural inequality. Only migrants who can be proved to have serious interest in agriculture (for example, those who have invested in agriculture oriented capital resource, such as implements, livestock, irrigation equipment and knowledge etc) should be eligible for more arable land. On the other hand, other possible rural non-farm investments of migration remittances have to be carefully explored. Ensuring remunerative and safe employment in manufacturing and rural services should be a pursued policy goal and viewed as complementary to other rural development policies in the effort to reduce poverty and inequality in the countryside. Apart from considering various means of improving the understanding of the causes and effects of migration, as well as designing programmes to reduce the costs of migration, policy makers need to ask more fundamental questions about the best approaches towards reducing poverty and inequality in the rural setting. Migration needs to be understood from a livelihoods



perspective and policies need to be designed from a multidisciplinary and multi-sectoral approach.

3.6 SUMMARY

The reviewed literature on economic theories and models presented in this chapter has illustrated the interrelationship between inequality, migration and rural incomes of the migration sending areas. Most of the economic theories and models focus on economic incentives as the driving force to migrate but the relative deprivation hypothesis and the new economics of labour migration model show the complexity of the migration decision-making process that is better analysed as a household than as an individual decision. Whereas the earlier models of migration laid the foundation for analysis, their shortcomings have to be recognised and taken into consideration to make the analysis of migration decision and process more intuitive.



CHAPTER 4

CONCEPTUAL FRAMEWORK

4.1 INTRODUCTION

The relationships between rural inequality, migration and remittances are as complex as the multiple reasons underpinning the multidirectional movement of people in South Africa. The economic theory and empirical research, discussed in Chapter 3, have shown that the foundation of rural out-migration is the existence of a wage differential between rural (agricultural) and urban wages. People from different backgrounds, rich and poor, migrate for different reasons but the majority migrate for economic reasons. They migrate in search of jobs, income and better economic and social opportunities. Even migration determinants, such as age, education and contacts, reflect that wage and productivity differences exist. In South Africa, recent studies (Cross et al., 1997; Cross et al., 1999 and Bekker, 2003) have established that rural, poor people are leaving the more remote rural areas for a range of destinations, including the commercial and ‘other’ sector. The “other sector” seemingly comprises settlements which fall under neither the commercial nor the traditional, institutional sectors. These studies have identified that in addition to income and jobs, superior infrastructure, including better and bigger plots of land, improved housing, water and electricity supply, better sanitation, transport, schools and health facilities, induce migration from rural areas (Bekker, 2003). This [directly] acknowledges that a lack of access to goods and services induces migration. The reaction to lack of access and rural asset inequality is not homogeneous among the people affected by it because it is complicated by other factors.

This chapter provides the conceptual framework of the study by setting the scene for the analysis of the relationships between households’ decisions regarding migration, the distribution of land and other assets and the effect of remittances on rural inequality. It considers the evidence from the literature that shows that there is a relationship between inequality of rural asset ownership and migration. Migration from rural areas encompasses the movement of skilled, semi-skilled and unskilled migrants, contract workers, farm workers and other migrants. The patterns of



migration movement crisscrossing the country in a complex web are also investigated and incorporated. The chapter is presented in four sections. Section 4.2 presents the operational definitions of the different terminologies used in the study. Section 4.3 presents the relationship between migration and socio-economic factors that contribute to rural out-migration and the impact and consequence of migration. A summary of the chapter is presented in section 4.4.

4.2 KEY DEFINITIONS

4.2.1 Inequality

A debate is raging as to whether a definition of inequality should take into account ethical concepts, such as the desirability of a particular system of reward, or whether it should be regarded simply as differences in income (World Bank Poverty Network Website, 2002). The Concise Oxford Dictionary of Current English, Ninth Edition, (1995) defines inequality as lack of equality in any respect or a condition of being unequal; lack of equality, as of opportunity, treatment or status, social or economic disparity. According to Gills *et al.* (1996), equality does not exist in reality, it is neither possible nor desirable¹⁴ but the concept provides an objective standard against which to judge any actual distribution. Equality is a measure of the relative welfare of different groups of people.

Inequality is defined by May¹⁵, et al. (1998) in terms of being the opposite of "equality", a state of social organisation, which enables or gives equal access to resources and opportunities to all members. Equality simply means that everyone gets the same income (or owns the same wealth).

¹⁴ *Inequality is said to be justified by interpersonal differences in ability, effort, training / skills and willingness to take risk. Equality of income and wealth is good but there has to be extra reward for hard work, education, saving and ability to achieve economic growth*

¹⁵ *Poverty and Inequality in South Africa is a Report to the Executive Deputy President and the Inter-Ministerial Committee for Poverty and Inequality (May, 1998) It was a ground breaking study on poverty in South Africa post apartheid.*



However, the Food and Agriculture Organization of the United Nations (FAO) (2001) definition is that inequality is the distribution pattern of income, assets, consumption or other welfare indicators or attributes of a population.

Inequality can refer to distribution, within a household, a community, a village and a society, with several scarce resources, goods and services, including but not limited to health and education facilities, nutrition, housing and other infrastructure, income, job opportunities and productive resources (land and other assets). Rural inequality is the main concern of this study; it is conceptualised as the distribution pattern of income, land and associated assets among cultivating households in African rural communities of South Africa, in this case the communities in question are those residing in arid and semi-arid areas of Limpopo's former homeland of Lebowa. In this study, inequality is measured using the Gini coefficients and Lorenz curves method. Using panel data, total, per capita and adult equivalent measures of the four main categories of assets, were computed. The assets studied included: land, livestock, other farm assets, non-farm assets and financial assets for the sample population.

Inequality is often studied as part of broader analyses covering other concepts, such as, poverty, growth and welfare. Such studies have been conducted by Ravallion, 2000; Bruno, Ravallion and Squire, 1996; De Janvry and Sadoulet 1996, among others.

The available literature shows that there is a very close link between inequality and poverty¹⁶; for example the more unequal the income distribution, the larger the percentage of the population living in income-poverty (Bruno, Ravallion & Squire, 1996).

¹⁶ *Poverty is not discussed or analysed in this study, but its close link to inequality is acknowledged and reflected upon where necessary.*



4.2.2 Household assets and income

4.2.2.1 Household land ownership

Permission to Occupy' (PTOs) may be issued for residential sites, arable plots, shops, community buildings and other property-related uses. Traditionally, once land has been allocated to a family it can be passed on from father to sons as inheritance as long as they continue to use it.

Under the current land and tenure reform system, communities are able to arrange for more secure tenure to enable them to increase investment and efficiency of land use. Outside the homeland areas, cropland is privately owned and operated by private owners, mainly white commercial farmers,

4.2.2.2 Household income

The concept of household income in this study is much broader than farm incomes or operating surpluses. It consists of the total value of crops and dairy output produced for the year, plus income from the sale of labour (salaries and wages), plus rent from hiring out of machinery (such as animal-drawn implements) and rent from lodgers, plus remittances and pensions received by all the members of the household over the year, minus costs.

4.2.3 Migration

In today's dynamic world, very few people are born, live and die in the same location. Spatial changes are associated with key events in one's life cycle, including but not limited to studying or training for employment, starting one's first job, getting married, changing jobs, retiring or just visiting. However, not all these forms of movement can be regarded as migration; different types of migration are listed in Table 4.1



Table 4. 1: Types of migration

Migration	moves which involve a permanent or semi-permanent change of residence
In-migrant	a migrant who crosses a migration-defining boundary in the process of changing residence and entering another residence
Out-migrant	a migrant who crosses a migration-defining boundary while departing from a residence to reside in another area within the same territory
Immigrant	Incoming international migrant
Emigrant	Outgoing international migrant
Step migration	migration comprising a series of movements to the final destination e.g. rural to small town, small town to city, city to metropolis (not always on a continuum of destination, size or always from rural to urban)
Chain migration	a process whereby an initial group makes a first move from an area of origin, to be followed by others from that area to the destination
Return migration	the movements of migrants back to their area of origin; the return move may occur over a period from a few months to a few years and the decision may or may not have been intended at the time of the of the original move

Source: Patterns and processes of internal migration, The Open University (1982, p.10)

A much-quoted definition of migration is “a permanent or semi-permanent change of residence” (Lee, 1969). This definition introduces the time period during which migration takes place and space. However, it places no restrictions on the distance of the movement or the voluntary or involuntary nature of the act. Therefore, in addition to time and distance, migration boundaries have to be defined. The boundaries may be administrative in nature (city, parish, village, region district or province) in the case of internal migration, that is migration within a country, or it may be based on politico-geographical divides in the case of international migration. The migration studies of the Open University (1982) define migration simply as a process, which concerns people moving spatially at various times of their lives for varying motives.

Whiteside (1985), in trying to define a migrant worker in the South African context, says: “In South Africa the de facto definition of a migrant was very much broader. In effect, all Black persons who did not have residential rights in white areas but who were employed there on contracts were migrants. This included persons from South Africa’s national states (i.e., former homelands) as well as foreigners.” This definition captures past mentality but the scenario of black South Africans moving out of their rural places of origin in search of work is still very much the same.



4.2.3.1 Rural out-migration

Rural out-migration, which is the focus of this study, is migration from rural areas to other rural areas or to urban or peri-urban areas in South Africa or beyond. However, for purposes of this study, a rural area is a village in Limpopo and migration outside South Africa is not considered.

4.3 FRAMEWORK FOR ANALYSING THE MIGRATION DECISION AND ITS IMPACT

The important determinants of aggregate migration flows from rural to other areas, mainly to urban centres, are estimated by the macro-migration models by Todaro (1969), Harris and Todaro (1970) and more recent adaptations such as Cole and Sanders (1985) and Todaro and Smith (2003); these are discussed in Chapter 3. The key finding of these models is that if urban-rural income differentials are high enough, people will migrate even if their chances of actually gaining urban (formal sector) employment in the short term are quite low. Equations (3.1), (3.2) and (3.3) presented in section 3.5.2.2 in Chapter 3 summarise the theoretical individual response to wage differences.

However, normally migrants come from and belong to households who jointly make migration decisions in the same way as they decide on production, consumption and other important matters. The importance of the household's involvement in migration decisions has been extensively researched by Lucas (1997), Stark and Levhari (1982), Rosenzweig (1985 and 1988) and Rozelle, Taylor and De Brauw (1999). This phenomenon is particularly noticeable in rural African households, who, under most circumstances, adhere to and respect the extended family norms.

The framework presented in Figure 4.1 provides an operational scheme of variables that are analysed in this study. The framework, which has benefited from several well-known migration models, illustrates the cause-effect relationship between the various variables of the study. The model recognises the importance of the economic motive in the decision to migrate as specified by the Harris-Todaro-Model (H-T-M).

PART I: FACTORS OR DETERMINANTS OF

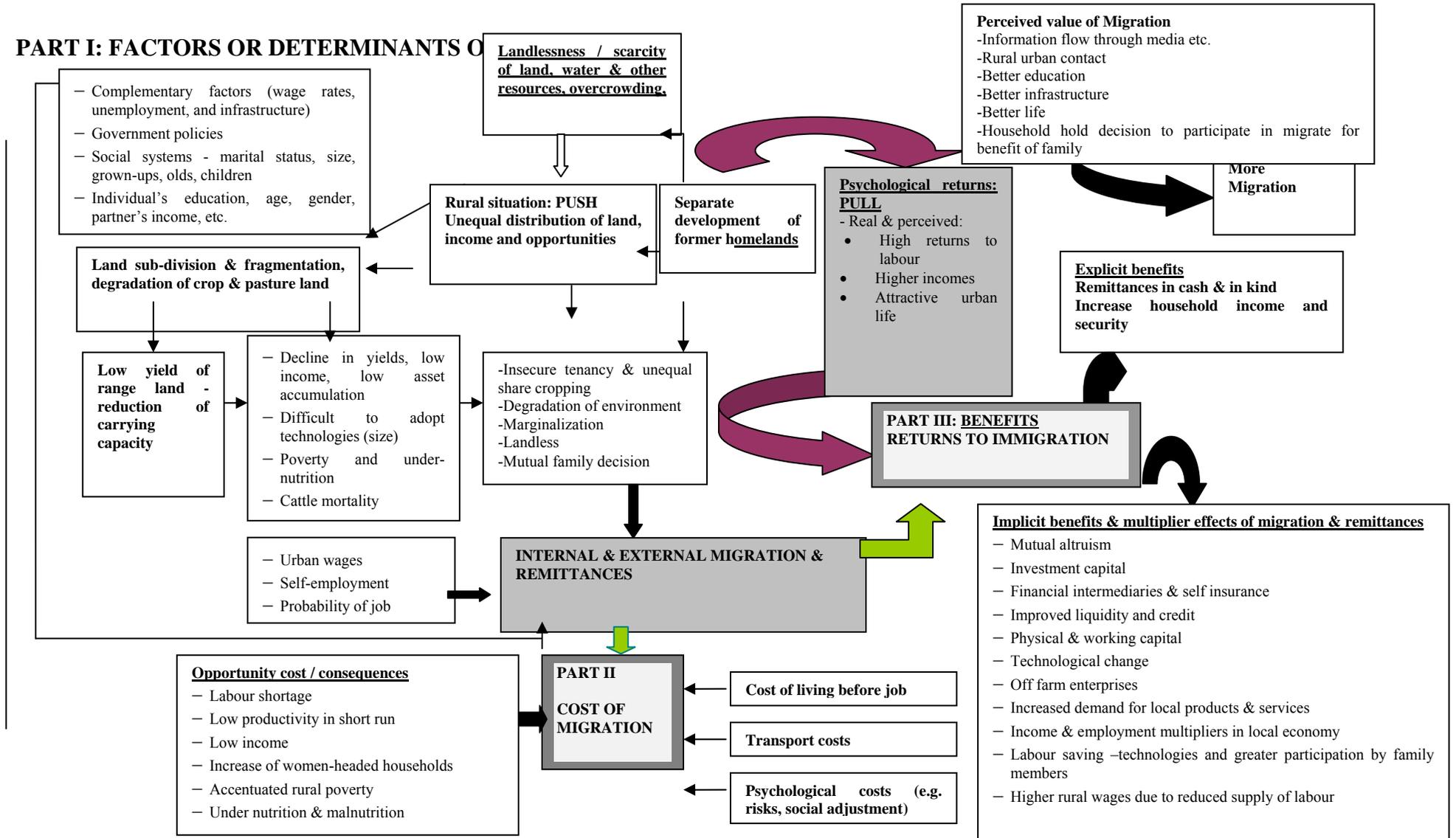


Figure 4. 1: Framework Analysing Migration Decision, Impact and Consequences

It takes into account the two-way relationship between migration and population distribution on one hand and economic variables on the other.

The point of departure in the modified model used for this study is that it also considers other factors beyond those emphasized by the models that mainly focus on the income differential as the sole determinant of the decision to migrate. The framework also illustrates the implicit positive perspective of migration in the form of possible multiplier effects that benefit the local economies where migrants come from, as rightly envisaged in the NELM model. While the family supports the migrant members of the family they in turn, help to improve the family by the cash and kind remittances migrants send home, which improve the liquidity and credit worthiness of the family and are used as investment capital. Remittances are not only a source of physical and working capital but they are also used as a means for technological change. On a broader community level, migration removes surplus labour, leading to higher rural wages, higher incomes, and employment multiplier effect in the local economy.

4.4 FACTORS OR DETERMINANTS OF MIGRATION

In Figure 4.1, Part I of the model illustrates the interaction of the push and pull factors that contribute to the decision to migrate and the results of migration. Details of the pull and push factors are explained in detail in section 3.5.1.2.

This model shows how economic and government policy factors (e.g. wage rate, unemployment and infrastructure) are reinforced by individual-level factors, household-level (human and capital) factors and community-level factors are combined to yield an estimable three-level model of the determinants of migration.

Considering the insights of the individual, household and community in which migrants are located, the determinants of the migration model in the following form are estimated:

$$\text{Prob} (MGRDMY) = f (X_i, H_i, C_i) \dots \dots \dots (4.1),$$



where $MGRDMY$ is an abbreviation for the dummy variable of presence of migrants (=1) no migrants =0; X_i is a vector of individual characteristics and H_i is a vector of household characteristics and C_i is a vector of community characteristics. Equation 4.1 is elaborated upon in section 4.4.2.

- **Individual-level motivations and variables**

The individual migration model of Todaro has generally supported the hypothesis of income disparity-induced migration. The important individual characteristics hinge on human capital, especially formal education; others include age, marital status, employment status, partner's income, and gender. The Todaro model suggests that migration at younger ages increases the time period for expected income calculations, while higher levels of education increase the probability of obtaining formal sector employment in the destination. Married individuals are expected to have lower migration rates because of the elevated costs associated with relocating whole families, although married women are more likely to accompany their husbands if the latter move for economic reasons (Mincer 1978). Gender has been shown to influence migration differently across regions of the world; however, its analysis would require an in-depth study beyond the scope of this study.

- **Household –level motivations and variables:**

In Mincer's household level approach to migration, 'net family gain rather than net personal gain motivates migration' The relationship of household-level variables on the migration decision are analysed by considering both human and capital variables (including total household size, members of household of working age (15-65 years), older people over 65 years, dependence ratio (total number of children under the age of 15 relative to the total number of adults in the household), total males and females, education level of the household head, and different types of assets owned by household or household wealth). Issues pertaining to unequal distribution of rural household assets are analysed in more detail than the human factors.

- **Community –level approach and variables**

Community-level approach is less well specified theoretically than either the individual or household migration approaches; but some research has been done on



the impact of local or regional macroeconomic conditions on migration patterns in developing countries. In some cases, geographically defined variables are used as proxies for individual or household-level data where the latter are not available. The data requirements for successfully incorporating community level information into a migration model are quite high, as information has to be collected on a range of macro variables anticipated to potentially influence the migration decision. Moreover, it is extremely difficult to interpret the magnitude or statistical significance of estimated coefficients on location dummies (used for residential variables, as it is not generally known which place specific characteristics are driving the results. For these reasons, it is preferable to measure the macro-local factors hypothesized to be associated with migration and include them as separate variables in the analysis rather than include the ‘community’ as a variable in the computation.

The relevant community-level variables that may influence or be influenced by migration start with the fact that most of the areas were former homelands, which inevitably implies overcrowding in those locations and small landholdings for households and agricultural activities; location in terms of region and sub-region where migrants come from; public service provision (schools, health centre, post office, telephone access; social capital; development projects ; the level of remoteness (accessibility and distance from nearest town and markets), local livelihood-supporting economic conditions and activity. All these characteristics, individual, household and community are discussed in details in Chapter 6, and analysed further in Chapter 7.

4.4.1 Part II: The cost of migration

The cost of migration is an important migration-determining factor. In 1962, Sjaastad presented a human investment theory of migration, which treats the decision to migrate as an investment (Sjaastad, 1962). The returns are divided into money and non-money components. Non-money returns include changes in “psychological benefits” as a result of locational preferences. The psychological costs are associated with leaving familiar surroundings, in many cases of giving up one’s language and



culture, adopting new dietary habits and social customs and growing out of one's ethos.

Similarly, costs include both money and non-money costs. Money costs include all out-of-pocket expenses incurred in the process of moving, such as transport costs and additional food and lodging costs caused by migration (Tahmoures, 1984). Non-money costs involve opportunity costs of wages forgone while in transit, searching for work or retraining for a new job, if necessary. The distance of migration tends to increase forgone earnings, given the original area and the destination area levels of unemployment.

When a new job opportunity arises, households with members that have established, strong migration networks are the first to know and may be the first to take advantage of the opportunity, if they can afford the cost of claiming that opportunity. Migrant siblings tend to follow one another, the following migrants taking advantage of housing and employment contacts that the previous sibling(s) have made.

Members from poorer households may get the information later or may not have transport money immediately. Literature (Bilsborrow et al., 1997 and Bilsborrow, 1998) shows that as the migration stream settles some of the initial obstacles to movement, such as high transportation costs, tend to lessen or disappear. For instance, when the first migrants to an area provide passage money for family members left behind, as was the case with nineteenth-century Irish emigration to America, the result is chain migration (Balán, 1962). This 'beaten path' process often leads to a self-perpetuating flow of migration. This is particularly noteworthy when considering the importance of 'information flow' for potential migration.

Land reform economists have looked at the cost of migration from a macroeconomic level and shown how expensive migration is relative to settling people on the land. For example, Rosset (2001), using the Brazilian example, shows that estimates of the cost of creating a migrant's job in the commercial sector of Brazil ranges from 2 to 20 times more than the cost of establishing an unemployed head of a household on farm land, through agrarian reform. This provides a powerful argument that land reform, geared towards creating a small farm economy, is good not only for local economic development but also good for more effective social policy. It is better than allowing



the status quo to keep driving the poor out of rural areas in search of unavailable jobs in the cities.

4.4.1.1 Opportunity cost

Apart from the opportunity costs of wages forgone while in transit, the opportunity cost of migration can be explained in terms of labour shortages for farming and other rural activities, low productivity, low income, increase of women-headed households, accentuated rural poverty and even under-nutrition and malnutrition. When the loss of labour to migration creates labour shortages, it can negatively impact on production, and consequently, on non-migration incomes in migrant-sending areas. Moreover, there may be social costs that are beyond market wage level; for example, there may be social costs associated with moving away from family and friends, the familiar or preferred surroundings and the compensation one would expect in return to bearing extra risks.,

4.4.2 Returns to migration

Part III of the model assesses the positive impacts of migration from the point of view of the household and the local economy. The details of this aspect of the analysis are adequately discussed in Chapter 3. It is sufficient to mention here that migration remittances compensate implicitly and explicitly for the loss of labour by adding to the income of the migrant-sending households, generating “income multipliers” in the migrant-sending economies, providing migrant-sending households with investment capital and increasing the demand for goods and services offered by others in the migrant-sending areas.

It is necessary to adopt a unitary (or common preference) approach to household resource allocation; that is, the exogeneity and aggregation of preferences across family members, income pooling and a strict comparative advantage approach to labour allocation decisions while at the same time allowing for self-interested factors. In an arrangement where family members sacrifice their own income-earning potential, it is assumed that they will be compensated by sharing rules (altruism), which allow them to benefit from the overall higher household earnings. This is



especially true for women members of the family who, in spite of their individual interest to migrate, may not be able to move away from home due to family responsibilities. The migration model constructed here considers individual and household characteristics.

The dependent variable (*MGRDMY*) of the migration function at any period t is the rate at which rural people move away to urban areas, commercial farms or other areas in the informal sector. The independent variables are wage or income levels in both rural (agricultural) and urban, peri-urban or commercial farms sectors (Y_{rt} and Y_{ut} , where $Y_{rt} < Y_{ut}$). In the case of the rural sector, such wage or income may be obtained in the form of farm income (Y_f), self-employment income (Y_s) and/or other income (Y_o), such as off-farm wages and pension. Thus, Y_{rt} may comprise farm income alone or a combination of the different forms of incomes, thus, Y_{rt} represents the total sum of all rural household income sources. The other independent variables are the unemployment rate (U_{ut}), an array of individual characteristics (X_i), such as age, sex and education, and an array of household human characteristics (H_{rt}), including age and education of household head, number of people of working age, household size and dependence ratio. Household capital factors (K_{rt}) include land-holding, livestock, farm assets, assets used inside the house and financial assets made up of salaries, wages, pensions and other transfer payments. The subscripts r and u refer to agricultural or rural and urban, peri-urban or commercial farm areas, respectively. Lastly, we have an array of community characteristics (C_{rt}), including accessibility (infrastructure), status of resources (landholding, water, grazing land, vegetation). Community characteristics would indicate what communities have in terms of natural resources, the environment surroundings them and how they can transform it into meaningful economic activities to secure their livelihood.

$$MGRDMY = f(Y_{ft}, Y_{rt}, Y_{ut}, U_{ut}, X_i, H_{rt}, K_{rt}, C_{rt}) \quad (4.2)$$



Thus, an individual, i , in a household, j , and community h , considers information at individual, household and community levels (Adam, 1993). The simplest form of such a model is:

$$MGRDMY_{ijh} = \beta_0 + \beta_1 X_{ij} + \beta_2 X_j \quad (4.3)$$

where $MGRDMY_{ijh}$ = the probability of migration of the i^{th} individual in the j^{th} household and h^{th} community.

X_{ij} = individual-level variables

X_j = household-level variables

β_0 , β_1 and β_2 are parameters to be estimated

The algebraic form used in migration functions is generally linear or logarithmic in variables¹⁷ because the expected wage hypothesis assumes multiplicative interactions between wage rates and employment that are easily specified logarithmically.

Other authors have specified the migration function differently depending on the nature of their studies. For example, when studying educated migrants, Levy and Waycki (1974) and Bowles (1970) specify that migration depends on the wage differential, distance, unemployment rate and education. Meanwhile, Beals et al. (1967) conducted a similar study and specifies that the migration function depends on distance, income (without remittances), population size, education and the degree of urbanisation.

Migration experts such as Adams (1993) and Findley (1987) acknowledge the problems inherent with studies carried out to identify the economic determinants of migration. The use of aggregate data, which tend to mask and even obscure individual

¹⁷ *Linear in the variable means that the marginal effect of each variable does not depend on the level at which the marginal effect is calculated. If an equation is linear in an independent variable, it means that the marginal effect of that variable on the dependent variable does not depend on the level of the independent variable at which the marginal change occurs.*



aspects of the migration decision-making process, is one of such problems. Their studies have tried to relate migration to a host of individual and household variables, such as education, employment and land, but without information on income or earnings in either the areas of origin or destination or both, the studies cannot be used to test the economic rationale behind migration decisions. This study takes into consideration these factors.

4.4.3 Measuring and decomposing inequality

The detailed measurements of inequality by regions, sub-regions and households are presented in Chapter 7. The Gini coefficient procedure is used to measure and decompose inequality for this investigation because it conforms to a set of five key properties or axioms, which are considered necessary to measure inequality.

4.4.3.1 The axioms

(a) The Pigou-Dalton Transfer Principle: (Dalton, 1920, Pigou, 1912)

This axiom requires the inequality measure to rise (or at least not fall) in response to a mean-preserving spread: an income transfer from a poorer person to a richer person should register as a rise (or at least not as a fall) in inequality and an income transfer from a richer to a poorer person should register as a fall (or at least not as an increase) in inequality (Atkinson, 1970, 1983; Cowell, 1985; Sen, 1973). Consider the vector \mathbf{y}' which is a transformation of the vector \mathbf{y} obtained by a transfer δ from y_j to y_i , where $y_i > y_j$, and $y_i + \delta > y_j - \delta$, then the transfer principle is satisfied if $I(\mathbf{y}') \geq I(\mathbf{y})$. Most measures in the literature, including the Generalized Entropy class, the Atkinson class and the Gini coefficient, satisfy this principle, with the main exception of the logarithmic variance and the variance of logarithms (Cowell, 1995).

(b) Income Scale Independence

This axiom requires the inequality measure to be invariant to uniform proportional changes: if each individual's income changes by the same proportion (as happens, say



when changing currency unit) then inequality should not change. Thus, for any scalar $\lambda > 0$, $I(\mathbf{y}) = I(\lambda \mathbf{y})$. Again, most standard measures pass this test except the variance since $\text{var } \lambda \mathbf{y} = \lambda^2 \text{var}(\mathbf{y})$. A stronger version of this axiom may also be applied to uniform absolute changes in income and combinations of the form $\lambda_1 \mathbf{y} + \lambda_2 \mathbf{1}$ (Cowell, 1999).

(c) *Principle of Population*

The population principle requires inequality measures to be invariant to replications of the population: merging two identical distributions should not alter inequality. For any scalar $\lambda > 0$, $I(\mathbf{y}) = I(\mathbf{y}[\lambda])$, where $\mathbf{y}[\lambda]$ is a sequence (or link) of the vector \mathbf{y} , λ times (Dalton, 1920).

(d) *Anonymity*

This axiom – sometimes also referred to as ‘Symmetry’ - requires that the inequality measure be independent of any characteristic of individuals other than their income (or the welfare indicator whose distribution is being measured). Hence for any permutation \mathbf{y}' of \mathbf{y} , $I(\mathbf{y}) = I(\mathbf{y}')$.

(e) *Decomposability*

This requires overall inequality to be related consistently to constituent parts of the distribution, such as population sub-groups. For example, if inequality rises in each sub-group of the population, overall inequality should also increase. Some measures, such as the Generalized Entropy class of measures, are easily decomposed into intuitively appealingly components of within-group inequality and between-group inequality: $I_{\text{total}} = I_{\text{within}} + I_{\text{between}}$. Other measures, such as the Atkinson set of inequality measures, can be decomposed but the two components of within- and between-group inequality do not sum to total inequality. The Gini coefficient is only decomposable if the partitions are non-overlapping, that is the sub-groups of the population do not overlap in the vector of incomes.



4.4.3.2 Some negative characteristics of the the Gini coefficient

The Gini coefficient measure has a number of well known weaknesses as a measure of income inequality. According to the World Bank Poverty Network reports (2000), Gini coefficient is usually used because it satisfies all the five axioms or principles that inequality measures have to meet. However, the Gini coefficient will fail the decomposability axiom if the sub-vectors of income overlap.

Graphically, it is possible for two different Lorenz curves to intersect. This implies that significantly different distributions may yield identical Gini ratios. Also the Gini Ratio is insensitive to small percentage change which may represent large income shifts to the lower income classes (Sen, 1973, 31-34)

The Mathematical derivation of the Gini coefficient is presented in Appendix .3.5.

4.5 SUMMARY

The chapter has constructed and specified a model for determinants of migration to establish whether rural inequality is one of the determinants that contribute to the migration decision and to decompose inequality according to the sources of income to isolate inequality-increasing and inequality-decreasing sources of income. The model acknowledges various existing models that are relevant to the migration