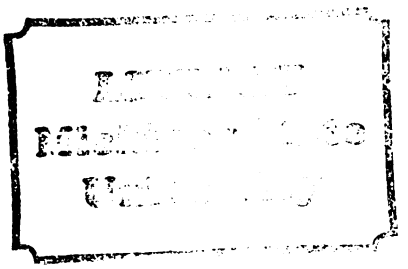

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SOCIAL CHANGE AND OCCUPATIONAL MOBILITY IN URBAN ZAMBIA

By

Pempelani Oliver Mufune

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ABSTRACT

SOCIAL CHANGE AND OCCUPATIONAL MOBILITY IN URBAN ZAMBIA

By

Pempelani Oliver Mufune

This thesis deals with the effect of rapid social change as represented by a new political order and dependent industrialization (and their associated effects on societal institutions) on intragenerational and intergenerational occupational mobility. Mobility is conceived of as movement of individuals between and through levels of a society's social stratification. The literature on social mobility is dominated by two schools. These are the status attainment and opportunity schools. We have summarized the main ideas from the two schools. The difference between the two schools stem from their different focus. The opportunity school's researchers focus is on rates of mobility while the focus of researchers in status attainment is on distribution of individuals among positions. We argue that the two schools also converge in important respects, such that it is possible to derive a dynamic model which links opportunity structures to individual attributes in the attainment of positions.

In the second chapter, we deal with socio-historical background of the Zambian situation and the specification of

age cohort categories, investigating the link between occupational demands and educational production as related to political, urbanization and dependent industrialization processes. The cohorts are derived such that they reflect changes in occupational demands and labour market structures.

In the third chapter, we state our problem of investigation. After addressing debates on processes of democratization and crystallization of opportunity in the third world, we face the underlying question of how the changing character of societal institutions affect patterns of occupational mobility. We break up this question into three hypotheses which we believe to be testable through cohort analysis. The credential inflation hypothesis predicts that as the amount of education in society increases, it will lead to increases in education needed on the part of those aspiring to fill certain occupations. The second hypothesis predicts that the influence of fathers in the occupational and educational achievements will be much stronger in the younger generation as patterns of social stratification consolidate. The third hypothesis predicts that occupational mobility will be greatest in the older population because these entered the labor market when it was changing from agricultural to industrial based occupations. To test these hypotheses, we utilized data collected in Zambia (1973) by Professor David Wiley. We focused our attention on the random sample of 884 males. Path models were utilized to test structural equations as specified in the

Statistical Package for Social Sciences. We also used Zero-order correlations and cross tabulation. We constructed a prestige scale, to use in the path model, based on Lay's (1973) "Zambian Scale" and Treiman's (1977) "International Standard Occupation Prestige Scale."

The last chapter deals with results, analysis and discussion. Based on the data we have, we have been able to show that the younger cohort manifests more education for specific occupations than do the older cohorts. In other words, our data tend to support the credential inflation hypothesis. We have mixed, hence quite inconclusive, results in regard to the second hypothesis. We found that in some cases, there was more transfer of advantage from father to son in the younger than in the older generations. This was not necessarily so in some cases for transfer of advantage was much more apparent in the middle cohort. Similarly, we have mixed results with regard to intragenerational mobility. In some cases, education proved to be a more effective instrument for gaining high prestige occupations among the younger than in the older generations, while in other cases, education was more effective in the middle cohort as a means to gaining privileged positions. We explained these mixed results in reference to effects of career stages and also historical background. We cannot clearly segregate the effects of career stages from that of historical period because of the nature of our data. This is a problem flowing from use of cohort analysis.

Zero-order correlations reveal that educational and occupational achievements are becoming more associated over time. We conclude that occupational achievements are being affected not only by educational, nor for that matter occupational demands, but also changes in the economy and polity. Politics may be affecting occupational mobility in such a way as to produce no clear pattern of mobility. Whether there is democratization or crystallization of opportunity may be a political question depending on political circumstances.

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CHAPTER I

Introduction

This thesis is focused on aspects of social mobility in the rapid social change of Urban Zambia. We shall broadly consider structural and individual factors which affect the social economic positions of individuals.

Social mobility refers to the movement of individuals from one level to another within a society's system of social stratification. Conversely, social stratification can be conceptualized as a 'system of restricting access to positions of varying advantage' (Noble, 1974). Social mobility indicates the degree to which positions of advantage accrue to people at lower levels and conversely the ability of those at the top to maintain their positions.

Sorokin's Social Mobility (1927) was the first classic on the topic. According to Wesolowski, et al (1979) Sorokin generated much discussion on the causes, processes and results of social mobility. Not until the 1950s were other works comparable to Sorokin's written. To this effect the writings of Rogoff (1953), Glass (1954), Carlson (1958), Lipset and Bendix (1959), Svalatoga (1959) and Miller (1960) are important. These built on Sorokin's research tradition but did not necessarily lead to new directions. Wesolowski, et al (1979) argue that by the late 1960's there was need to ground social mobility research in class/stratification theory.

From this point of divergence developed two paradigms currently dominating mobility research. These are the 'status attainment school'

and the 'opportunity school.' The status attainment model was fully expressed in Blau and Duncan's The American Occupational Structure (1967). The aim of this group of researchers was to investigate determinants of individuals' social status, i.e. what accounts for the distribution of individuals among positions -- a micro perspective. The opportunity model was fully expressed by Boudon in a book entitled, Education, Opportunity and Social Inequality (1974). This group of researcher's aim is to answer the question -- what accounts for the rate of mobility in society -- a macro perspective.

Literature Review

The status attainment school

Apart from Blau and Duncan other well known researchers in this school include Hauser (1969), Featherman (1974), Treiman (1977), and Sewell (1975). Apart from Sewell who had worked in this area before, the work of most others can be said to be building upon Blau and Duncan's original work.

Theoretical background of status attainment literature

Burawoy (1977) and Coser (1975), among others have alluded to the atheoretical nature of status attainment literature, an assertion which Horan (1978), Qvortrup (1979), Crowder (1974) believe is a misconception. These have strived to go beyond mere critiques of status attainment research to demonstrate that the criticized aspects have their roots, to use Horan's phrase, in their 'theoretically laden nature' -- i.e. in the functionalism of Davis and Moore (1945) and Parsons (1949, 1953).

The paper by Davis and Moore (1945) was one of the most articulate among functionalist writings on social stratification. Over the years it

has elicited a great deal of discussion, and this presentation of it is quite simplified.

For Davis and Moore each society has social stratification. Every society has ranked social positions differentiated with rewards and status in terms of their functional importance. These rewards are given for estimations of the contributions to society by role occupants. The positions can be described as having 'unequal functional importance' (Buckley 1963). How are the differentially ranked social positions assigned? Davis and Moore (1945) assume the existence in society of an unequal supply of talent. The eufunctioning of the system requires that the most qualified members of society fill positions with higher requirements of skill and knowledge. The theory assumes higher prestige positions require higher levels of skill and knowledge. Thus the occupants of different positions are given unequal rewards so as to motivate them. The operative principle is, 'from each according to his ability and to each according to his contribution' (Tausky 1963). For Davis and Moore (1945) stratification is the system of unequal rewards attached to different social positions in a society. The system is functional in that positions are deemed more important if they contribute more to society's adaptability and survival. Accordingly these positions are more highly rewarded. Differences in stratification between different societies, Davis and Moore maintain, stem from the mode of filling the important positions and their definition. Talcott Parsons (1940, 1953) is largely consonant with Davis and Moore's (1945) account of stratification. Stratification is universal and necessary; however, he lays emphasis on a 'common value system.' He views stratification then as the 'ranking of individuals in a social system in

accordance with the standards of a common value system' (Gouldner 1970). He places this in his scheme of pattern variables emphasizing differences in the openness and modernity of different societies.

Researchers in status attainment have been said to be in the functionalist tradition by Horan (1978), Quortrup (1979) and Crowder (1974). Thus, they have been said to distinguish between open and closed societies with the former characterized by universalist, specific and affective neutral roles. They have been said to work in a specific value system of liberalism, individualism and private property (Horan 1978, p. 538, Quortrup 1979, p. 275, Crowder 1974, p. 39). This leads status attainment research, the argument goes, to place emphasis on individual and also an insistence on equality of opportunity rather than of conditions.

The opponents of status attainment research may have overstated their case. Social mobility must face two different questions: what accounts for the rate of mobility and what accounts for the distribution of individuals among positions. It so happens that status attainment researchers are preoccupied with individual rather than with structure because they concern themselves with the latter question. Measures of individual behavior and belief do not necessarily presuppose a functionalist position. Individual researchers may be close to or may share some common assumptions with functionalist stratification theory but this does not mean that all status attainment research is grounded in functionalism.

The model

Status attainment researchers focus on a set of intervening variables in order to explain the transition from status origin to destination.

Thus, 'a person starts life and spends the early part of it in a family, acquires education, translates this education into an occupation which in turn gives him an income and status.' These life cycles occur in more or less temporal order in which factors at each prior stage influence those at the next (Crowder 1974, Duncan 1969). As Haller and Portes (1973) show, the Blau and Duncan model of status attainment aims at reconceptualizing classic questions of mobility by use of a more analytic model. They want to gauge how far the social fate of individuals depends on the status they inherit and how far later career achievements depend on earlier ones. Thus the model employs objective status variables to investigate the process whereby status is transmitted.

The opportunity school

On the basis of the various criticisms of the status attainment researchers and their neglect to account for the rate of mobility, a separate school has developed which Sorenson (1976) has labelled the 'opportunity school.'

Researchers here aim at determining the degree to which patterns and amounts of social mobility depend on the larger social structures and social change in society (Wesolowski et al 1979). Their concern is with mechanisms of social processes lying behind observed causal processes for occupational attainment (Sorensen 1976).

The stratification theory of the opportunity school is more eclectic. Boudon (1974) himself approvingly quotes Dahrendorf to the effect that, present social stratification theory is an 'Oedus land,' i.e. a desert, because, although there is a mass of writings, there exist no satisfactory stratification theory concerning industrial society; however, Boudon

himself seems to share, 'an elective affinity to certain non-dogmatic neo-marxian literature' (Alker 1976).

The opportunity school model

Researchers in the opportunity school assume there exists in society unequal status as 'created' (processed) by the family through socialization and unequal access to educational opportunity (IEO). It is also assumed that inequalities in social opportunity (ISO) exist alongside meritocratic principles and values which serve legitimation purposes. The issue then is how far do achievement patterns conform to the meritocratic principle and how far do children replicate their parents' social status.

In the opportunity model, endogenous and exogenous mechanisms responsible for inequality are distinguished. Endogenous mechanisms are reflected in choices related to individual desires and decisions emanating from the processes of socialization and selection which are internalized by individuals. For example, one chooses to enter school provided he or she is qualified. Exogenous mechanisms do not present much choice to the individual. They refer to actions limited or fixed by political, technological and/or organizational forces. For example, a job does not exist just because an individual wants to fill it. These researchers utilize endogenous mechansims producing IEO, transmitting it into ISO, so as to explain the direction and amount of mobility over time in the context of existing exogenous mechanisms.

The two schools

The stressed differences between researchers in the status-attainment and in the opportunity school tradition have mainly been ideological. As

Rogoff (1976) notes, the two schools have common ground and converge in important respects:

i. They both describe mobility in a temporal framework focusing on calendar time and/or life cycle. Thus, in both the concern is with tracing successive cohort status.

ii. A major idea behind both is Noble's (1974) conception of stratification, in part, as 'the restriction of access to positions of varying advantage.' This leads them to look at mechanisms of restriction versus mechanisms of freedom affecting individuals. For those in the opportunity school, this is expressed as meritocracy versus domination, for the others as ascription versus achievement.

iii. Both are concerned with initial role allocation. The main consideration rests with the family and school which are considered as determinant of the period around adolescence which in turn sets the stage on which positions are gained or lost.

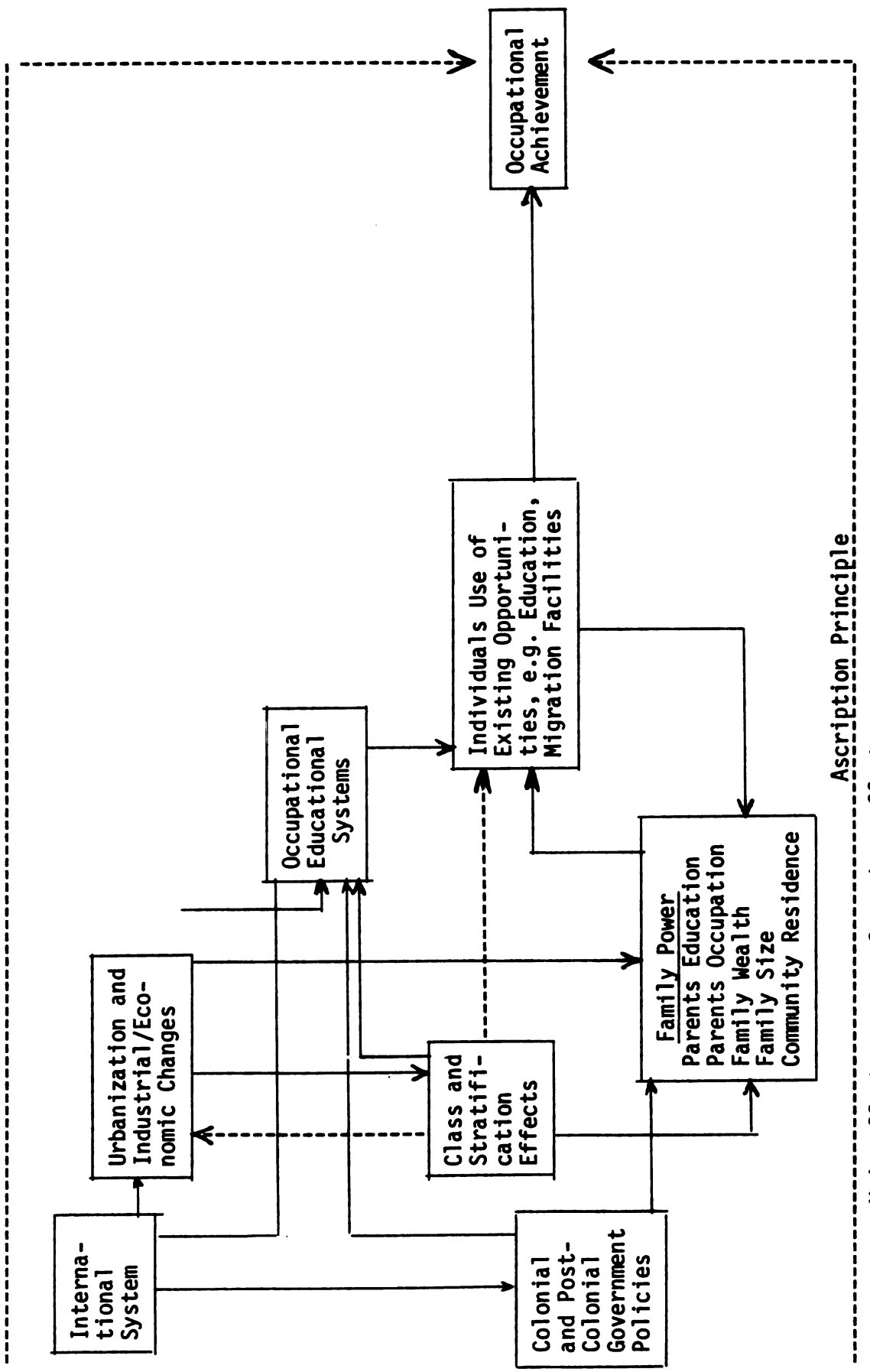
iv. The differences between status attainment and opportunity school researchers surface regarding solutions to problems related to blocked mobility, i.e. at the level of resource distribution.

When the task defined is to analyze social change and mobility, then both schools have much to offer, for they are not mutually exclusive. It is possible to derive a causal model from both schools which is helpful in explaining the social mobility of individuals in a rapidly changing social situation. Moreover the two schools are based on an unsound conception of the division between micro and macro sociology arising from

the argument in theory as to what is the nature of the relationship between individual and society: that is asking as to whether one or the other has dominant effects, i.e. is society primary while personality is derivative or vice versa? Our approach here is similar to Berger and Luckmann (1967) where society is conceived of as both an objective and subjective reality, where the relationship between individual and objective reality is like an 'ongoing balancing act' and therefore in a situation of dynamic if not dialectical interaction.

FIGURE A

An Emerging Causal Model



Explaining the model

The central focus of the model is on capacity of individuals to use existing structures and opportunities in 'gaining and losing' social economic position. The basic question is -- does the changing character of societal structures imply an increase or decrease in individuals experience of mobility? An individual's position is largely conditioned by his capacity (socially inherited and acquired) to react to changing levels of urbanization (alterations in rural - urban ratios); industrialization (economic changes adding to formal industrial employment) and their complex interaction with class structures which affect and are affected by occupational, educational and family systems.

We assume societies differ in their stress on the principles of merit and ascription. Meritocracy relates to equality of opportunity rather than of conditions (i.e. of wealth and power). Ideally, for instance, in a system of unequal conditions an education system can exist in which the talented are selected and promoted on the basis of their performance and other universalistic criteria. The ascription principle implies no use of universalistic criteria. In practice the distinction between the two principles is much more complex. Universalistic criteria like education can themselves imply ascription. Thus positions are gained on the basis of school certificates which are taken to be indicators of skill and knowledge on the job, but this may not necessarily be the case. In Africa education becomes justification for privilege legitimized on the basis of "need for development." For simplicity's sake we see meritocracy as more apparent in a situation where one's position depends

on achievements in the educational and occupational systems regardless of family background. Conversely ascription is more apparent where one's family exerts more influence in gaining position. However, we keep in mind that every system is a mixture of meritocracy and ascription.

Economic change and urbanization

By urbanization we mean increases in the proportion of people living in urban areas, and this can be a consequence both of migration and of internal growth in towns themselves. By economic change, we mean changes in the organization, production and technological levels of industry. This can entail a movement from a domestic economy to small scale manufacture to larger scale industry. This can imply need for an expanded labor supply and market. Thus, ideally towns are suitable for industry. This led Balan et al (1973) to say 'there is no known case of large scale industrial change with no concomitant urbanization.' However, the two can occur separately.

Using mining as an example of a town forming factor in Africa, Lisowski (1978) reviewed literature pertaining to the relationship between industrialization and urbanization. He found that mines in themselves do not make cities but have been vital in their coming up in some tropical African countries. Over 10% of towns in tropical Africa owe their origins to mining. The share of mining towns of over 10,000 people are -- for Zambia 56%, Zimbabwe 50%, Liberia 25%, Sierra-Leone 25%, and Zaire 14% (Lisowski 1978). Mining gave impetus to urbanization but the relationship between the two has been limited. Thus where mining demand for labor does not grow fast, stagnates or drops, it is observed that urbanization then outpaces industry. For this to happen, original rural

societies have to be greatly altered. Lisowski (1978) argues that in situations where rural societies are intact is has been observed that lessened mining industrial activity leads to less urbanization. Thus, some mining settlements of 10,000 people before 1950 declined. This was the case with Kilomines in Zaire, Aboso in Ghana, Bindura and Sinoia in Zimbabwe. Bibian, in Ghana, has similarly experienced a drop from 13,000 people in 1967 to 9,700 in 1970. In tropical Africa then mining industrial developments seem to have a close relation to urbanization which seems to be influenced by regionally, specific historical circumstances. This is especially so for Zambia which mining has made the most urbanized nation in black Africa.

Urbanization, economic change and occupational structure

Industry and town seem to be consequential for the occupational system. Wilbert Moore (1969) conceptualizes this in terms of increased division of labor, noting an increase in the size of economic organizations allowing for more specialization. He also notes technological changes creating entirely new occupations and novel services and products creating hitherto non-existent occupations (Faunce and Form 1969). Industrial change implies changes within the economy such as an increase in percentage of labor in industry relative to agriculture. It also implies a shift in the concentration of labor from primary to secondary to tertiary sectors of the economy. An increase in the use of machines in the labor process may in some sectors create skilled as distinct from unskilled and semi-skilled labor but sometimes breaks up skills (e.g. craft) into semi-skilled jobs. The relationship between skilled labor and mechanization then seems to be very complex depending on circumstances,

technology, etc. (Marx 1977). There have been investigations of some of the above statements in the Third World. Farooq (1973) investigated changes in the labor force with changes in industrial levels for west and east Pakistan in the decade 1951 - 1961. He found that although agriculture still predominated there was a tendency for its decrease especially in the west where the rate of industrial change was higher. The west had 4.5% per annum growth of nonfarm employment and a 6% increase in the proportion of nonagriculture labor force. There were also changes towards rising industrial skills and productivity with increased industrial activity. Joseph Ramos (1970) found that for Latin-America the quality of the labor force changed with increased industrial activity. There was an increase in the average number of years of schooling for workers. Hazel Moir (1977) did a time series study relating labor force structure urbanization and development. She found that for Third World, the ratio of urbanization and the percentage share of the labor force in nonagriculture neither affects nor is affected by increase of industrial activity. In Africa most studies on changes in the labor force in economic development have focused on stabilization -- i.e., whether there has been a commitment to wage labor employment by the people. This commitment to wage labor is important for mobility because it is only such a labor force which can collectively and individually seek mobility opportunities, improvement in skills and education. For Zambia, Mitchell (1961), Heissler (1974) and Baldwin (1966) have argued labor stabilization has occurred with increased industrial activity.

Urbanization, economic change and the education system

There seems to be a close reciprocal relation between industry and education. With industrial activity increase, education is no longer for socializing individuals in traditional philosophy, religion, classics or law but stress is laid on natural science, medicine, etc. (Kerr, et al 1969). With the movement from small scale to large scale industry there seems to be a dialectical pull towards both specialization and generalization. Specialization is needed to develop professionals, technicians, and managers. On the other hand, in a rapidly changing situation there is an increase in knowledge making for difficulties in specialization. Individuals perceive 'benefits' of education and thus demand its increase. Industry stimulates demand for education and skill, on the other hand, industries have educational subsystems like apprenticeships. Thus there is a reciprocal relation.

The above seem to be the case for Africa. The whole social economic system is closely related to the distribution and provision of opportunity and education. Soja (1968) and Gould (1970) looking at Kenya and Uganda found that location of schools were greatly affected by spread effects such as the distribution of population and backwash effects such as economic development. In many rural areas the population is dispersed, hence politically weak, making it difficult to establish schools and so educational opportunities are denied. In urban areas the higher population density makes it easier to establish cheaper day, as against boarding schools. In Ghana the distribution of schools was said by Hunter to reflect differences in wealth (quoted in Gould 1970). Clignet (1966) holds the same position for Ivory Coast and so does Forster (1968)

for Senegal. Most studies then suggest that urban areas in Africa have more opportunities because they are richer, have greater awareness of educational benefits and, above all, are relatively politically strong. The provision of education to them is a way of appeasing real or potential political opposition. This seems to constitute and determine the demand and supply of education. As Bowles (1978) notes this can have unintended consequences of producing 'credential inflation' i.e. a contradiction where school system produces more graduates than there are jobs in capitalist mode leading to escalated qualification for jobs in turn leading to frustrated expectations and demand for access to next educational level and so on.

Economic change, class and family

The family is not impervious to changes in modes of work, life expectancies, migration, loss of functions to schools, factories, etc. associated with urbanization and economic change. For developed countries researchers say parental authority has been weakened whereas strong-kinship relations only remain in the nuclear family -- a specialized unit of emotional gratification (Parker et al). Lloyd (1967) argues that in Africa there are growing differences in socialization of children between classes. Specifically citing Nigeria, he says elites know how to manipulate the educational system. They employ tutors to teach their children and through their influence put their children in higher or better schools. Elite child socialization places emphasis on the realization of potential abilities and thus is more tolerant of aggressive behavior in play. Non-elites emphasize cooperation. Radical theorists such as Batzel (1958)

and Domhoff (1970) have argued that the family reproduces existing patterns of inequalities in society by influencing individual aspirations, ambition and provision of the means for translating ambitions into opportunities without challenging opportunity structures themselves.

In summary we can say that a review of research pertaining to investigated relationships between urbanization, economic changes, family, class, occupation and educational systems leads to/or reveals conceptions embodied in our model (Figure A). The relationships are complex and conjectural but embody a conception tying together structures of society, structures of reward and opportunity, and individuals and family units. Basic to our model (Figure A) is the conception that the structures of society, both structures of opportunity and structures of reward, exist prior to the individual and the family unit. These structures are largely determined by the given, but sometimes changing, system of social stratification in the society. This system reflects the underlying system of power and authority of the "preceding historical period," from which emerges a mixed system of rewards and sanctions for individuals. Rewards may be allocated for quality performance, but access to the ability to learn (socialization and education) those performances are unequally distributed across the class system. Throughout the system also exist sanctions for "performance failures;" however, there also are various amounts of leniency and "forgiveness" according to the nature of the class position of the actor and the nature of the task and organization in which the occupational role of the actor is located.

Social mobility, therefore, is conceived as the process by which individuals from unequal social origins obtain unequal levels of preparation

(socialization and education) and then unequal attainment of occupational level.

The occupational system, however, also is changing according to a) the nature of the economic state of the world system, b) the supply and demand for the materials, goods, and services produced in a state, c) the supply of more and less skilled workers, d) the competing occupational systems in neighboring states, and e) the policy of the state in the allocating of rewards to workers in various industries, sectors, and occupational levels, indeed, even to particular occupational roles.

It is difficult in any occupational system to obtain a good sampling of the major attributes of the system. One alternative to sampling the major social forces which shape the system is to sample the experience of workers moving through the system. Workers entering at different times in history experience different rates and types of mobility, rewards and sanctions for performances, and arrive with various levels of socialization and education for those occupational roles.

One method of segregating the nature of the differences in the occupational structure at different periods of history is to observe the gross levels of mobility occurring at any given time in the system and to associate those levels with the observed rates and directions of occupational and economic mobility of the workers in the system.

CHAPTER II

On the Historical Background of Zambian Situation and Specification of the Cohorts

Political pressure and the evolution of the educational system in Zambia

Three broad levels of education can be identified in Zambia. The first is the primary stage consisting of 7 (previously 8) years of education. The secondary stage consisting of 5 years (previously 6) of education, and post-secondary stage consists of teacher, technical and nursing training colleges, and the university. At independence in 1964 the country of about 4 million had less than 1,000 citizens with a high school certificate and less than 100 had completed a university degree. Thus post primary education was quite underdeveloped (Elliot 1975, Coombe 1967, G.R.Z. 1969).

Primary education was different. As early as around 1884 Anort, a French missionary, had started a school in the Western Province. By 1937 primary education had been spread by missionaries until nearly 30,000 pupils were enrolled. By the 1940s over 100,000 pupils had been enrolled in government-funded schools. By 1963 at least 64% and 45% of the eligible boys and girls respectively had been enrolled in primary schools. This at least compared favorably with other colonies. In contrast secondary schools were started in 1938 at Munali with 11 students, 54 years later than primary school. As late as 1952 there were only 405 Africans in secondary schools. This meant about one place in secondary

school for 350 places in primary school (Sanyal 1976). The reasons for this sorry state of affairs are complex and debatable. Elliot (1975) blames the great depression after 1930 for this, but the depression cannot explain why settler and primary education were not affected, nor why other colonial countries were not affected similarly. The main reason seems to be political. First, African education was designed to be elementary for curbing illiteracy and not for political awareness (Coombe 1967). Secondly, education was racially segregated. The settlers had the privileges. Koloko (1980) says, 'the colonial government earmarked £3,893,700 for the education of 10,000 Europeans but only £86,000 for the 3.5 million Africans in the 1951 ten year development plan. Settlers opposed African education on the ground of avoiding competition for jobs, and this was the greatest political obstacle to African educational advancement (Coombe 1968). The colonial situation gave birth to two factors important for education in the post-colonial era. The first was the link between political oppression and educational backwardness. The second was that education was seen as a prerequisite for advancement in employment. It is in this context that education became a central issue in the 1962 elections and the fight against the federation of Rhodesia and Nyasaland.

After independence the government of Zambia believed that the provision of education was the surest way of equitably sharing the fruits of the struggle and a way of appeasing hitherto politically excluded groups. Post-colonial educational developments have been impressive. Primary education has continued to expand with the result that by 1970 almost 90% of those eligible to attend primary class were at school, an increase of

approximately 50% from the 1963 figure. In comparison to other developing countries, percentage yearly increases in primary and secondary school enrollment have been impressively high. Linear expansion of secondary schools has quadrupled enrollments in less than a decade of independence since 1964. Expansion at secondary school level has been the most rapid in Africa (Elliot, J. 1975), but this educational expansion at one level may have meant more intense competition for access to another level. According to Stannard (1971) during the 1970-75 period 345,000 primary school leavers could not obtain places at secondary schools, and there were to be an additional 142,000 dropouts at other grades (quoted in Elliot, J. 1975).

The university also experienced a rapid development. It was opened in 1966 with 312 students. By 1970 it had an enrollment of 1,184. Average annual rate of enrollment increase was about 40%. This slowed to about 22% in the period 1970-74, making for a 30% annual rate of increase between 1966 and 1974. A number of teacher and technical training institutions have been opened since independence. Thus, formal education spread widely after independence and hence made the situation especially suitable for testing the credential inflation hypothesis.

Aspects of urbanization in Zambia

The ratio of the urban to rural population was relatively high in colonial Zambia, due primarily to the mining industry. Although at independence the country with 19% of the population in towns, was recognized as the most urbanized south of the Sahara, the increase of urbanites was somewhat gradual, mostly because of governmental controls. To be an urban resident one had to carry an identity card specifying one as such. Most of the urban residents came to seek gainful employment. Meanwhile

income differentials were wide. Urban per-capital income as K291 (K1=$1.25) while for rural areas it was K23 (Simmance 1975, Seers report 1964). This worsened with independence when between 1964-69 urban real income rose by 50%. The terms of trade worsened against rural areas, thus the real purchasing power of a unit of marketed peasant output fell by 20% from 1964 to 1973 (Fry and Maimbo 1973). Rural agriculture was neglected with the effect of pushing the food import bill higher. These growing rural-urban inequalities led to unprecedented rural urban migration.

TABLE 1

Zambian Urbanization 1963-1974

Year	Urban Population	Rural Population	Total Percentage of Population, Urban
1963	667,000	2,843,000	19 %
1969	1,128,000	2,971,000	27.5%
1971	1,309,000	3,027,000	30.2%
1974	1,700,000	3,030,000	35.3%

From Simmance (1975) and Mwanza (1979).

These urbanization figures have the implication of increasing pressure on existing socioeconomic opportunities in urban areas. To gain access to formal industrial employment and indeed to higher levels of education requires one to have a competitive edge, and in such a situation it is our expectation that parents with initial advantages of education, high occupation, and wealth will be more successful in providing their

dependents with this competitive edge.

The case for using cohorts in studying social change

Support for use of cohort analysis in studying social change comes from both Marxist and non-Marxist writers. In the 'German Ideology' Marx (1965, p. 57) states, 'history is nothing but the succession of the separate generations, each of which exploits the materials, capital funds, the productive forces handed down to it by all preceding generations, and thus on the one hand, continues the traditional activity in completely changed circumstances and on the other, modifies the old circumstances with a completely changed activity.'

Three non-Marxist sociologists have argued for use of cohorts in social change analysis. These are Ryder (1965); Carlsson and Karlsson (1970), Hagenaars and Cobben (1978). These have argued that the use of cohorts rests on the observed tendency in social psychology that with increasing age individuals are less likely to change. Carlsson et al (1970) report studies showing that 'learning ability' declines with age, especially with regard to tests of reasoning and nonverbal materials. They also report studies by Chown (1960) showing that flexibility (innovativeness) to intellectually grasp new behavior lessens with age. As one gets older, he is more experienced in his work; however, one benefits increasingly less from knowledge and skills acquired in the training phases (Hagenaars 1978). Ryder (1965) talks of the 'intersection of innovative and conservative forces in history' in which every cohort group has a fresh start with the social heritage it finds.

Cohort refers to 'a set of individuals who pass some crucial stage or experience a fundamental event like marriage, first job and especially

birth at approximately the same time' (Carlsson et al 1970). A cohort can be taken to be a bearer of an imprint of given events which it experienced around a particular age and which left a lasting mark on it (Hagenaars et al 1978). Our focus is on birth cohorts for age is not only a 'rubric of consequences of people's actions but also a basis for allocating roles in society' (Ryder 1965). With regard to employment and labor force participation specific age cohorts will differ according to the character of the labor market they meet upon entry. The case is similar with regard to education. This is important in this study which focuses on occupational mobility.

On the Formation of the Cohort Groups

We have divided the sample into three (3) cohort categories. The first category consists of those who were 18 to 29 years of age. These total 322 respondents and form 36.4% of our male random sample. The middle cohort category consists of those from 30 to 39 years of age. These total 283 respondents and form 32.0% of our male random sample. The oldest cohort consists of those with 40 years of age and beyond. These total 279 respondents and constitute 31.6% of our male random sample.

The cohort categories are not formed in an arbitrary manner, rather they are deliberately made to reflect the historical character of the Zambian occupational structure when the respondents in the three categories entered the labor market. The cohorts are formed so as to reflect relatively homogenous aggregates for the historical character of the labor force at the time the respondents in the three categories were entering the labor market. We estimate that respondents in the older cohort entered

the labor force in the years prior to 1949, those in the middle cohort in the years from the early 1950s to the early 1960s, and those in the younger cohort entered the paid labor force in the years after 1963/1964. The labor market for the older cohort was based on state and mining activity. The labor market of the middle cohort had experienced an added expansion due to colonial development plans starting around 1948 with pressures from trade unions and the movement for political independence. The younger cohort met labor force conditions affected by political change (independence) and which are one of rapid expansion based on greater revenues due to unprecedented demand for copper, favorable tax reforms (especially expropriation of the British South Africa mineral rights) and a more or less conscious policy to enlarge the wage labor force in order to fulfill pre-independence political promises. We turn to description of these three historical periods which form the basis for our cohort formation as shown in Table 14 in Appendix II.

'Economic growth and the creation of wage employment in Zambia'

For analytical purposes we conceptualize three phases in the economic growth of Zambia from the period 1920 to 1974 which define the cohorts. The first one is mostly based on administrative and mining activity. This started with the prospecting around the 1900s and continued up to the 1930s. We identify the second period of economic growth with the colonial government's development plans, with their emphasis on some economic diversification. The third period of economic growth is identified with the post-colonial government and its relatively more intense efforts at diversification -- especially in the area of manufacturing.

First phase of the economy

During this time (1900-1940) whatever economic development took place was principally in mining. The developments are shown in figures compiled by Coleman (1969) from government and mining statistical reports. Copper production itself was well underway by 1908 when about 589 long tons were realized. This continued with the high mark of 1912 when 1,972 tons were produced. Then there was a drop in production with a bottom of 96 tons in 1918 because of the World War I. Up to 1926 production largely remained approximately at several hundred tons. From 1927 to the early 1930s the production figure averaged several thousand tons. This changed with the adoption of large scale mining methods stimulated by high prices due to rearmament and new techniques of processing lower grade ore. This encouraged the opening of several other mines, dramatically enlarging production. In 1933, 103,516 long tons were produced and this steadily rose to the figure of 228,254 by 1941. During this period wage employment closely paralleled mining developments. Thus during the depression many wage earners were laid off. With the end of the depression, production picked up absorbing larger quantities of labor and lessening the number of Zambians employed outside the country as shown in Figure B.

Second phase of the economy

This period started around 1948 when there was unprecedented demand for copper and a sharp rise in its production. Production rose from 77.2 long tons in 1947 to 130.6 in 1948 to 220.7 by 1951. The colonial government realized that substantial profits were being realized by mining companies. The authorities faced with pressure from the settler community and rising African expectations and demands, as reflected in trade union

and political party movements, was pressed to devote some efforts towards other areas of the economy. The authorities wrested more revenue from the mining companies. Whereas in 1947 the companies provided only 27.7% of government revenues in 1948 they provided about 44.9% of its revenue, and 57.5% by 1952 (Berger, E. 1974, p. 8). According to Berger (1974), the companies were even a greater source of government revenue than income tax payments indicate. It is in this context that the first development plan of 1948 was launched. Its primary aims were to increase food production and construction (road and housing) activities. According to Sanyal et al (1975) the plan actually used £80.5 million to increase and upgrade communication networks and housing. Agricultural output increased more than 10 fold, as did copper production which increased 8 fold, and African education whose expenditure increased 20 fold.

With regard to manufacturing Thompson (1957) and Baldwin (1966) note that the colonial development corporation was set up. In its report this corporation said manufacturing was not feasible till the Europeans reached 35,000 and the internal African market was enlarged. Despite this, however, a cement factory, hydroelectric project at Kariba, sawmill and furniture industry, and beverage and clothing industries were established. In 1950 the loans board was set up to help small scale manufacturing efforts. Wage employment in construction itself increased from 60,000 to 180,000 (Baldwin 1966). Thus, the colonial plan had an impact in wage labor creation. It is actually the cause of the rise starting at the end of the 1940s as shown in Figure B.

Third phase of the economy

The next spurt of growth consequential for increase in wage employment came with political independence. It must be mentioned that the colonial governments efforts in manufacturing were minimal. The Seers report (1964) declared that 'for the level of income and population size, the manufacturing sector of the economy was unusually backward.' The major reason for this seem to have been the country's economic integration with Zimbabwe (then Southern Rhodesia) and South Africa -- especially during the Federation of Rhodesia and Nyasaland -- in which Zambia was a market. This could not continue after political independence. The country had to partially disengage from being a periphery of the south. This started by seeking alternative sea routes, improvement of communications, and, most important, local manufacture. After 1964, manufacture experienced a dramatic growth rate. Whereas it constituted 6.1% of the G.D.P. in 1964 it was 13.5% in 1972 (Steen 1975). From 1964 to 1974 many enterprises were founded. Among these were shoe, cement, rubber, explosive, glass, chemical, metallic, oil refining, engineering, and auto assembly enterprises. Table 2 below provides a picture of the unprecedented spurt of growth in various sectors of the economy:

TABLE 2

Percentage annual growth rate in real Gross Domestic Product, Zambia 1965-76

Sector	1965-70	1970-76	1965-76
Agriculture	7.6	10.1	8.6
Mining	-4.8	0.3	-2.0
Manufacturing	11.2	4.8	7.7

TABLE 2 (cont'd.)

Sector	1965-70	1970-76	1965-76
Construction	-2.4	4.5	1.4
Transport	2.2	1.1	1.8
Services	9.3	4.5	6.7

From Mwanza, J. (1979).

This growth was possible because of the high copper prices on the world market and the post-colonial regimes plans which were a response to popular pressure. This spurt of growth explains the sharp rise in wage employment starting from around 1964 (see Figure B). According to Mwanza (1979), between 1969 and 1974 wage employment increased by 12.2%. The annual increase was 5.1% from 1965-70 and 1.4% from 1970-74. After 1974, however, there has been a loss of growth in wage employment. Even before that, the 1.4% growth of 1970-74 could not absorb the people who were leaving school and therefore looking for jobs.

Our age cohorts are formed from and so as to reflect the three labor market phases we have described. The oldest cohort consists of workers who entered the labor market during the first phase, the middle cohort during the colonial plan phase, while the youngest reflect the post-colonial labor market as Figure B indicates. There are problems encountered in the use of cohorts in analyzing aspects of social change, and we see at least three shortcomings. First, all three cohorts share the effects of recent history. It is not possible to segregate out the unique experiences of each from the specific effects shared by all three cohorts. Second, there are historically constituted differences of the meaning of such

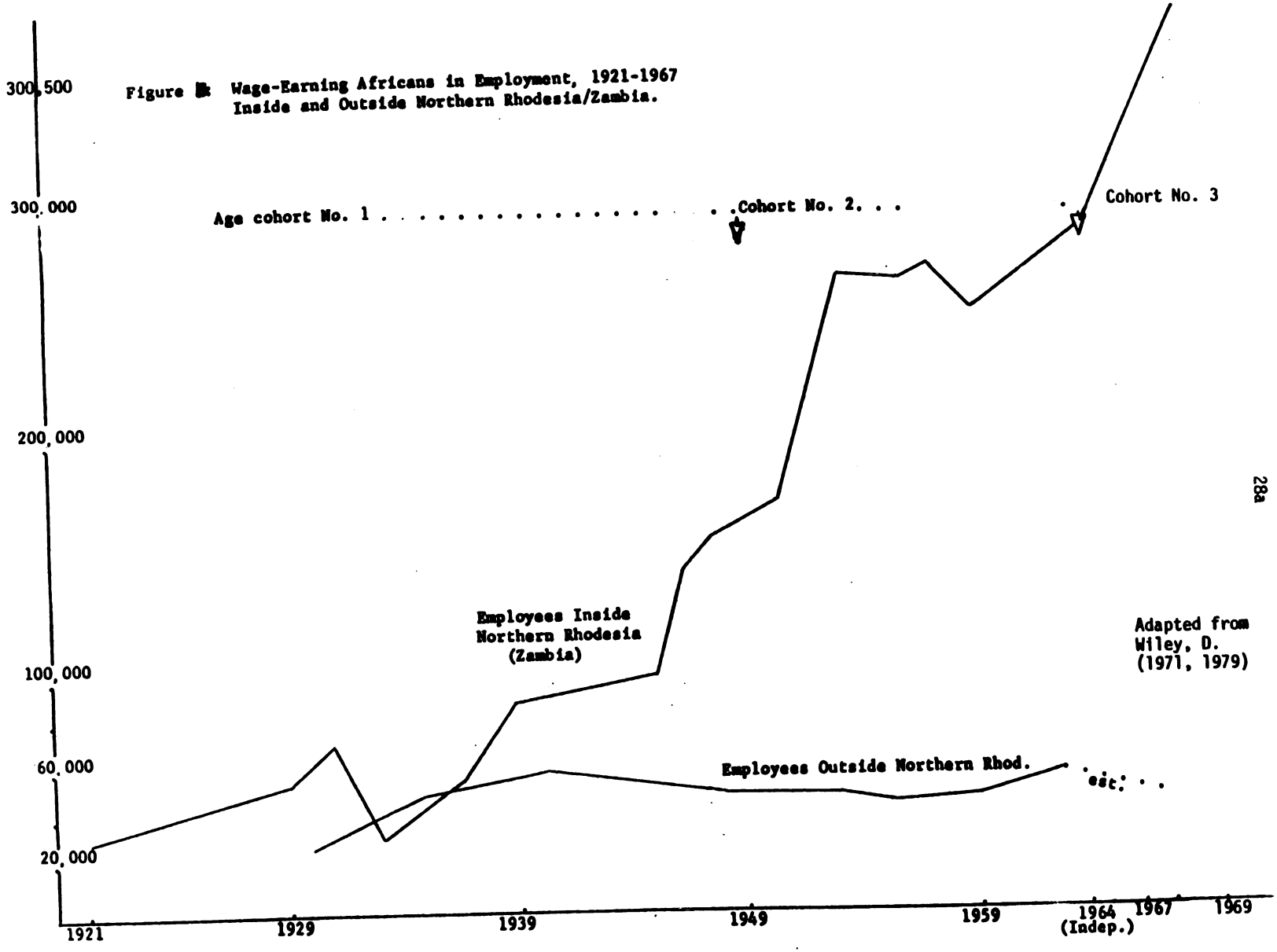


Figure 8: Wage-Earning Africans in Employment, 1921-1967 Inside and Outside Northern Rhodesia/Zambia.

variables as education. Third, the time (distance) between first and current job status in path model we are going to use differ for the three cohort groups and hence are not fully comparable. The older cohort has longer career time since the first job than the middle and younger cohorts. This makes it difficult to segregate out the separate effects of career stage and age from historical period.

It is important to note that the creation of employment over the years is important to our hypotheses, because the cost of creating a single job as measured by the capital-labor ratio has been rising over the years. This may or may not affect level of skills in occupations.

TABLE 3

The Ratio of Capital to Labor 1965 and 1973
in Constant Kwacha', Zambia
(Amount of Kwacha needed to create one job by occupational sector)

Sector	1965	1973
Commercial Agriculture	K 826.5	K 2,914.0
Mining	9,970.0	10,747.0
Transport	8,955.0	10,454.0
Construction	336.0	783.0
Manufacturing	944.0	3,658.0
Services	6,213.0	8,037.0
Total	K4,541.0	K 6,099.0

From Mwanza, J. (1979).

As Table 3 shows, capital-labor ratio rose from around K4,541.0 to K6,099.0 from 1965 to 1973. The increase is approximately 35% in real

terms. As Mwanza (1979) maintains, the implication is that it cost 35% more in resources in creating a single job in 1973 than it did in 1965. This same cost had been increasing before 1965.

The argument which relates to our hypotheses is that as the resource outlay for creating a job rises so should the outlay of resources a given individual dispenses with in order to fill that job. The cost of job creation increase actually reflects increases in mechanization and capital intensity. The implication might be that in order to perform the roles associated with these jobs adequately one requires more education and skills and that is assuming changes in nature of tasks. In this case we would expect those with initial advantages to be more successful in gaining access to these occupations. However, the relationship between mechanization (or capital intensity) is not a simple linear one. It is sometimes curvi-linear or much more complex. Thus mechanization may lead to deskilling like in the case of break up of high skill craft industries and the creation of low skill wage labor. On the other hand, in some sectors like in refining the requirements for maintenance may make for a demand in high skill labor. It is difficult to segregate the effects of mechanization on skill in our case.

CHAPTER III

Problem Specification and Methodology

Our basic question is -- do changing societal and economic states of structures imply an increase or decrease in the individuals experience of mobility. Through use of cohort analysis we want to answer these questions (which we shall translate into hypotheses): How are the rates and patterns of mobility among individuals in our cohort samples being affected by socioeconomic changes? How do changing occupational and educational systems affect the mobility of individuals?

These questions reflect the argument between those who conceptualize a process of democratization of access to opportunities and those who perceive a process of crystallization or reproduction of structured inequality.

Robinson (1978) argues mobility in the Third World is easier because as countries industrialize there is a movement into industrial classes, it requires lessor resource outlay for individuals to change position and there is relatively little institutionalization implying less obstacles to mobility across lines. This assumes an expanding economy, and since there are periods of crisis and booms, it is time specific. With economic expansion structural inequality is lessened. Peil (1965) investigated Ghanaian students and compared her results to Jahodas (1954) study. She found that during the decade between the two studies, ethnic and social bases of recruitment of students had broadened to a wider range.

Currie (1975) compared student bodies of secondary schools for the years 1954, 1959, 1964 and 1969 in Uganda. She found a greater democratization of education access in terms of ethnic and geographic origin over the whole period (quoted in Forster 1980). Van den Berghe and Nuttney compared students at Ibadan University in Nigeria in 1948 and 1968. They found lessening structural inequalities and greater democratization of access.

The class crystallization argument states that inequalities are reproduced with social changes. 'The rulers of almost every country have wished industrialization to augment either their own power or the dominance of the social class they represent' (Sutcliffe 1971). Bowles and Ginti's have argued the primary function of education has been to reproduce (i.e. strengthen) the same division of labor functional to capitalism, i.e. reinforce inferior positions of the underprivileged and Cicourel and Kitsuse argue the same position (Weis, 1979).

Weis (1979) tested these propositions using Ghanian data by comparing students in 1961 and 1974. The 1961 data had been collected by Forster who found high selectivity differentials. A child of a professional or clerical worker had 60% and 11% more chances of getting into secondary school than that of skilled workers or farmers respectively. In 1961 there were only 14,000 students in 39 public schools, whereas in 1974 there were 56,800 in 139 schools. Weis used father's occupation as an indicator of social backgrounds. She concludes that if recruitment was not fluid in 1961 it was very much less so in 1974. Whereas in 1961 2% of males and 7% of females had professional fathers the figure had shot up to over 13% for both in 1974. Whereas 19% males and 25% females came from clerical families in 1961 these were respectively 5% and 9% in 1974. Weis concludes

that the expansion of education implies increased reproduction (i.e. reinforcement) of social inequality. Chaim Adler (1974) investigated the influence of educational expansion on ethnic student recruitment and attainment in Israel and found that the gap in recruitment and achievements between Jews of oriental, European and American origin had increased in favor of the latter groups. Olson (1972) found a similar case for Kenya. Despite educational expansion between 1961 and 1968 the representation of youth from fathers with no schooling increased from 0.4% to 0.5% while those from fathers with elementary education slightly fell, thereby indicating no substantively significant changes. In contrast youth with fathers having some secondary education experienced marked improvement into access to secondary schools. Van den Berghe found similar results in 1968 when he compared his to Goldthorpes 1958 data for Makerere students (Uganda). He concludes that there is a gradual process of elite closure.

A close look at the democratization and crystallization of access to opportunities reveals that the differences may be due to the 'historical specificity' of the writers. Those writing during economic expansion talk of democratization, whereas those writing during hard times speak of crystallization. What we may have here is a situation reflecting the education and occupational market at specific points in time. Thus, the indications are that the nature of the opportunity structure in a society at the time when one enters the labor force is of major consequence for mobility. Democratization and crystallization may not necessarily be contradictory as such but may reflect the influence of the changing socioeconomic structure on individual mobility. This is the major underlying hypothesis we seek to test.

We now differentiate these questions into a number of specific hypotheses which will be tested using cohort analysis.

Hypotheses

i. "The greater the supply of educated laborers in a social-economic system the higher will be the level of education required for specific occupations in which educational requirements are variable."

This hypothesis reflects what Bowles (1978) has called 'credential inflation' caused by educational expansion designed to appease or buy off real or imaginary opposition groups. In Zambia most of the population was excluded from education (especially secondary school and higher) during the colonial era. The struggle for independence was linked to popular demands for access to social opportunities -- especially jobs and schools. Education thus was made into a top priority, eventually consuming over 25% of the national budget. In this context then we would expect the younger workers to have on average more educational qualifications in any given occupation than will older workers. This is because the younger workers entered employment at a time when education became relatively widespread and hence presumably has an inflationary character on the requirements for particular occupations.

Concerning this hypothesis it is important to distinguish between 'level of education required for specific occupations' and 'level of education required by specific occupations.' In the former the relationship between educational levels and specific occupations is not a function of changes in the composition of occupation (i.e. nature of the task). This is the main meaning of credential inflation as used here. In the

latter, changes in the nature of the task i.e. occupations necessitate changes in the levels of education required to perform it adequately. Here we can talk of real changes in the requirement of education by specific occupations, whereas in the former the changes are purely inflationary. We see four (4) relationships between educational production and occupational demand: a.) occupational demand is high while educational production is also high. There is potentially synchronized change and therefore credential value inflation is minimal, and if increases in education are proportional to increases in occupational demand, nonexistent. b.) occupational demand is high while educational production is low. There is no possibility of credential inflation and any change in the education required for specific occupations are real reflecting changes in the nature of the task. c.) occupational demand is low but educational production is high. In this situation credential inflation is highest and increases in the education required for specific occupations occur without no changes in the nature of those occupations. For example, if at one time one needed a primary school certificate to teach in primary school, at a later date one has to have a secondary school certificate even though the task of primary school teaching is essentially the same. d.) both educational production and occupational demand are low. We shall argue that these four scenarios correspond to the Zambian social historical situation. Low educational production and low occupational demand was characteristic of very early colonial period (1896-1910). The advent of mining starting around the 1910s was one in which occupational demands based on mining rose but also one in which educational production was low. Large scale mining taking off in the late 1930s, after the depression, and the growth

of African political and trade union movements saw a rise in both occupational demands and educational production. From the late 1960s to the present is a period in which there has occurred the so-called School Leaver problem, i.e. high unemployment levels among the young women and men leaving secondary school, and hence can be said to be a period of low occupational demands with relatively high education production.

ii. A second hypothesis is "As the amount of education in society, and the amount of education required for particular occupations increases, the amount of intergenerational occupational advantage transfer and the amount of intragenerational (within career) transfer of advantage also increases." Transfer of advantage is our focus. Differences in endowment of social economic attributes at father's level may lead to even more differences at son's level. We perceive advantage as due to such things as incomes, locus i.e., rural or urban residence, cultural advantages in the home, occupational skills and other related attributes.

If expansion of education implies more resource outlay to gain access to formal/industrial employment, then we would expect parents with initial advantages, i.e., wealthier, more educated and/or with high occupational status, to use their greater resources to help their offspring/dependents to gain better education and employment.

In this case we would expect that current occupation would depend more on first job and respondent's education (i.e. intragenerational transfer) in the younger population than in the older one. Similarly we would expect more intergenerational transfers (i.e. more influence of education and occupation of the father on the respondent's achievements/status) in the younger cohort than in the middle and older cohorts.

This is because when formal education is spreading widely those entering the labor market have opportunities for mobility likewise affected.

iii. Those who enter the labor market during periods of economic and occupational system transition experience much more intergenerational occupational mobility. In this respect we expect older population to experience more intergenerational occupational mobility. This is because older population enter the labor market at a time of more or less rapid transition from agrarian based to industrial based occupations. In contrast younger cohorts enter the labor market when the industrial activity/ formal employment based occupational system has been consolidated.

Data and Methodology

The data analyzed here are from a project entitled "Urbanization, Housing and Employment in Zambian High Density Housing Area" conducted in 1973 by Professor David Wiley. In all 3,200 households were surveyed. Within these 3,200 households a random adult sample of 1,663 respondents was drawn of whom 884 were males and 779 were females. In this analysis only the random sample of males has been utilized. Path analysis models were utilized to test structural equations as specified in the Statistical Package for Social Sciences manual. We have regressed respondent's education on father's education and father's occupation, and respondent's first job on his education and father's occupation and finally respondent's current job on his first job, education, and father's occupation. We also used zero-order correlations and cross tabulations. As already noted, we are mainly dealing with cohort effects, i.e. the fact that birth cohorts experience different social economic conditions made us examine occupational and educational attainments of each of the three cohorts separately

so that we could compare them, thereby hoping to gauge the separate effects that the changing character of institutions and historical processes entail for occupational mobility. The prestige scale utilized in path analysis was derived, as shown in Appendix 1, from the International Standard Occupational Prestige Scale (Treiman 1977) and the Zambian Scale (Lay 1975). A large proportion of the 779 females consisted of those not employed outside the home and therefore could not be included in the path model regression equations. Thus, we have focused only on the 884 males.

CHAPTER IV

Results and Analysis and Discussion

Characteristics of our 3 City Male Random Sample

How representative of the population is the three city male random sample used in our analysis? There is no sure way of answering this question in the present circumstances. The characteristics of the Zambian population noted here are derived from the 1969 Population Census (Zambia, 1970). The three city sample survey was carried out in 1973, therefore a comparison of the two has the drawback of not taking into account changes due to migration, politics, administration, etc. between 1969 and 1973. Secondly, our random sample was carried out in urban areas, whereas the 1969 population census is not broken down in rural or urban categories. Therefore, a comparison of population characteristics of 1969 census to our 1973, three city sample is strictly an estimation.

On one hand, we find a low correspondence between the distribution of education in the population as a whole in the country and the educational distribution in our three city, male random sample:

TABLE 4

Comparative Distribution of Education of all Employed Males Not Attending School Zambia, 1969, Compared with Male Education in the Three City Sample, 1973

Education (in years)	Young		Middle		Old	
	1969 Census*	1973 Sample	1969	1973	1969	1973
No Schooling (0)	28.6%	9.0%	25.7%	16.2%	61.6%	32.6%
Lower Prim. (1-4)	25.8	9.0	31.5	24.0	24.4	29.3
Upper Prim. (5-8)	31.4	41.6	25.2	44.8	10.5	32.2
Secondary (9-13)	12.1	36.9	3.1	14.8	1.1	2.8
Post Sec. (14 and above)	0.1	1.5	0.3	0.0	0.1	0.0
Not Stated	1.7	1.8	0.8	0.0	0.4	0.0
% Total	100%	100%	100%	100%	100%	100%
N (total)	299,969	322	225,614	283	36,427	279

*Census data is from Central Statistical Office Yearbook, 1970 Table 310.

The distribution of education between urban and rural areas of Zambia does differ, therefore an urban sample will not necessarily represent the distribution of education in the country as a whole, hence, the low correspondence characterizing the above Table 4.

On the other hand, as we break our working population into occupational categories we find a high correspondence between the census population and our random sample proportions as shown in the table below:

TABLE 5

Distribution of Employment Among Zambian Males
in 1969 Census and in 1973, Three City Random Sample

Occupational Category	1969 Census*		1973 Three City Random Sample
Professional/technical	2.9%	(1.6%)**	4.8%
Administrative/managerial	1.8	(1.0)	1.1
Clerical	14.8	(8.1)	10.1
Sales	9.4	(5.1)	8.1
Service	21.7	(11.1)	11.5
Production/transport	49.3	(11.8)	48.1
Agricultural/forestry	--	(27.0)	2.3
Total N		729,800	884

* Census figures from C.S.O. Yearbook, 1969, Table 419.

** Bracketed figure is calculated as percentage of whole labor force (i.e. not limited to urban working population).

Except for agriculture most of the other occupations are concentrated in urban areas. When we exclude agriculture we find some proportional correspondence between the 1969 census and our 1973, three city random sample. This correspondence is weak or disappears when we include agricultural sector occupations in our calculation of percentage proportions as shown in bracketed figures in above Table 5. This is especially so for production and agricultural occupations, because these are the ones most affected by rural and urban differences. Thus almost all agricultural

occupations are in rural areas.

In summary, we can say that our three city male random sample seems to be quite representative of urban males and not of the whole country. In other words, we have an urban bias.

Comparing Fathers to Sons

Because of the urban bias we cannot compare percentages of sons in agriculture with that of fathers in this sample. The two are incomparable because whereas all our male respondents were or are urban, not all fathers are. We can make comparisons with regard to the other occupations because they are urban based, and hence there is a high probability that in this case the fathers of our respondents were also in urban areas.

Looking at Tables 6 and 7 we find that for professional/technical and related occupations all the sons had some formal education, while 22.2% of the fathers did not. But even this 22.2% of the fathers consisted of traditional healers and preachers who were classified as professionals. The majority of the fathers in professional/technical occupations (i.e. 44.4% in Table 7) had an upper primary education. The majority of the sons (i.e. 60.4% in Table 6) in professional/technical occupations had a secondary school education. The average educational achievement of sons in professional/technical occupations is secondary school (i.e. above 9 years) in contrast to that of the fathers is upper primary school (i.e. above 4 years of school). Thus there has been an increase in the mean level of education from father to son.

This increase in the mean level of education from father to son is characteristic of all the other occupational categories. Substantial increases occur in administrative/managerial occupations (i.e. from primary

TABLE 6

Education Achievement by Occupational Category in the Three City Sample, Male Respondents (1973)

Educational Achievement (Years)	Occupational Category									Total
	Prof/ Tech	Admin/ Man.	Clerical	Sales	Service	Prod/ Trans	Agr/ For	Unempl.	Other	
0	0.0%	0.0%	2.2%	13.8%	30.3%	19.9%	33.3%	28.3%	50.0%	19.4%
1 - 4	6.9	0.0	8.9	22.2	26.4	24.1	28.5	15.0	28.5	20.3
5 - 8	27.9	10.0	38.9	44.4	35.2	46.4	28.5	29.2	0.0	39.7
9 - 13	60.4	80.0	48.9	19.4	7.8	9.1	9.5	27.1	21.5	19.5
14 and above	4.6	10.0	1.1	0.0	0.0	0.2	0.0	0.0	0.0	0.5
Total	99.6%	100%	100%	99.8%	99.8%	99.7%	99.8%	99.6%	100%	99.4%
% of Total Sample	4.8	1.1	10.1	8.1	11.5	48.1	2.4	11.9	1.5	
% of Total N	43	10	90	72	102	426	21	106	14	
Mean Years of Education	9.9	11.2	8.4	5.7	4.5	4.7	3.7	4.7		

TABLE 7

Educational Attainment of Fathers of our Male Respondents in Three City Sample by Occupational Category, 1973

Education (Years)	Occupational Category								
	Professional Technical	Administrative Managerial	Clerical	Sales	Service	Production Transport	Agriculture Forestry	Unemployed Other	Total
0	22.2%	0.0%	42.8%	51.8%	56.1%	41.7%	78.5%	10.9%	59.2%
1 - 4	8.9	25.0	14.3	7.4	17.1	25.1	9.2	2.1	12.1
5 - 8	44.4	25.0	21.4	25.9	17.1	22.8	8.5	4.3	14.0
9 - 13	17.8	37.5	21.4	11.1	2.4	2.8	0.8	2.1	3.3
14 and above	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Unspecified	4.4	12.5	0.0	3.7	7.3	7.4	2.9	80.6	12.3
Total %	99.9%	100.0%	99.9%	99.9%	100.0%	99.8%	99.9%	100.0%	100.0%
Total N	45	8	14	27	41	175	481	93	
% Total of Sample	5.1	0.9	1.5	3.1	4.6	19.8	54.4	10.5	
Mean Years of Education	5.1	5.9	3.4	3.1	1.6	2.1	0.8	2.2	

to secondary school) and in clerical, sales, service, and production/ transport occupations (i.e. from lower to upper primary school). There is no substantive increase in the mean level of education from father to sons in agricultural occupations (i.e. they are all in lower primary school), but for reasons stated earlier these two are incomparable.

"Comparing Male Cohort Mean Educational Achievements -- A Test for Credential Inflation Hypotheses"

As indicated in Tables 6 and 7 we have divided the system of occupations into eight (8) categories. These are professional/technical, administrative/managerial; clerical; sales; service; agricultural/animal husbandry/forestry; production/transport/equipment operation; and other. The Zambian educational system can similarly be classified into three broad groups: primary, secondary, and post secondary. The primary stage has two phases: lower, consisting of the first four (4) years of school, and the upper, consisting of the next four (4) years after lower. Secondary education also has two phases: Junior, consisting of grades 9, 10, and 11, and Senior, consisting of grades 12 and 13. University education, i.e. post secondary consists of the 14th to 17th years of school. These years are successive and progressive; therefore, it is possible to calculate mean years of education reflecting these classifications.

In Table 8 the older and middle cohort groups in professional/technical occupations have an average education of junior secondary school (i.e. 9.1, 9.5 years), being in their first year of junior secondary school. The younger cohort's educational average of 11.2 years represents an advance over the older and middle cohorts. More education is demanded for the younger cohorts to enter professional/technical occupations. The

difference between mean educations of the three cohort groups is not so large, although there is a tendency for the younger to average nearer senior secondary education.

The older cohort group had no members with administrative and managerial occupations. This may reflect the colonial economy which they entered when administrative and managerial occupations were reserved on a racial basis. It may also reflect that our sample is limited to occupations found in lower and middle class categories of the high density housing areas. The average number of years of education for the middle and younger cohorts to enter administrative and managerial occupations, are 11.0 and 11.5 respectively. Both are nearer senior secondary school, hence, there is no substantive difference.

The case of clerical workers is substantively different. On one hand the older and middle cohorts average upper primary school i.e. 7.3 and 7.5 years. The average education of the younger cohort in clerical occupations is junior secondary school (i.e. 10.5 years). This represents a substantial difference from primary to secondary school. Thus, education for clerical workers has definitely increased for the younger cohorts.

The average educational levels for sales workers is lower primary school for the older cohort. The average for sales workers is upper primary school (i.e. 5-6 and 7-8 years) for the middle and younger cohorts; however, we note that although both middle and younger sales workers average upper primary school level the former is in the first year whereas the latter is in the last year of primary school, hence an increase for the young.

Among service workers both the older and middle cohorts average educational level is lower primary, i.e. 3.0 and 4.1 years. The 6.5 mean

TABLE 8

Mean Years of Education Attained by Male
Cohorts by Occupational Category in Three City Sample

Cohort	Mean Years of Education									Total Sample
	National Mean*	Professional Technical	Administrative Managerial	Clerical	Sales	Service	Production Transport	Agriculture Forestry	Un-employed	
Old	4.9	9.1	--	7.3	3.9	3.0	3.8	3.1	1.7	228
Middle	6.5	9.5	9.5	7.5	5.6	4.1	4.5	3.3	4.8	248
Young	6.8	11.2	11.2	10.5	7.8	6.5	6.0	4.7	7.7	227

* The national average of educational achievement was estimated from Table B39 in Central Statistical Office: Census of Population and Housing, 1969, First Report (1970).

years of education (i.e. upper primary school level) of the younger cohort in service occupations represents a substantial increase over the educational requirements for the old and middle cohorts respectively. This also is the case for the average educational levels for production and transport occupations. The 6.1 mean years of education of the younger cohort in production/transport occupations is considerably higher than the educational requirements for the older and middle cohorts, i.e. 3.8 and 4.5 -- lower primary level.

There is no substantial difference in the educational requirements of agricultural occupations for the three cohorts. The average level is lower primary school (i.e. 3.1, 3.3 and 4.7 years for the older, middle and younger cohorts respectively). There is a tendency for educational requirements among agricultural workers to increase towards upper primary school for the younger cohort.

On the average we can say that the more recently a worker has entered the labor force, the more years at school he needs to enter these occupations. However, we must distinguish between increasing supply of people with more education leading to recruitment of people with more education and the raising of the requirements for education of specific jobs due to changes in the nature of occupations. In Table 8 increases in the number of years of education in sales, service, production/transport and in agriculture/forestry occupations reflects general education increase in the Zambian population. That is so because these increases in education are either below or not substantially different from the national mean of education. This also applies to the advancement of education among the unemployed. The average of 7.7 years of education among the unemployed young represent an upper primary education like the 6.8 years of education which is the

national average of this group. However, this increase in the educational average also reflects the circumstances of increasing unemployment as evidenced by the fact that the education average of the unemployed middle and old men is below their national mean.

On the other hand increases of education in professional/technical, administrative managerial, and clerical occupations is well over and above the general increase of education in the population as represented by national mean. In these occupations increases in education might be needed as a result of changes in their nature. Mining employers forced to Zambianize have been complaining about the low level of education among candidates. Increases in the educational levels of professionals and administrators may be seen as an effort to have people with the necessary level of education. A definite statement to this effect would require a case study to show how jobs are changing and how this might affect educational requirements.

On the whole we can assert that our findings tend to confirm the credential inflation hypothesis, although further investigation is needed to determine whether increases in education are due to changes in nature of jobs or due to increases of education in the population.

Behavioral Patterns of Educational and Occupational Attainments Testing Intergenerational Privilege Transfer Hypotheses

A note on procedure:

Here we utilize path model analysis with standardized regression coefficients and zero order Pearsonian correlations to test the effect of father's education and father's occupation on the occupational and educational attainments of the son, and to test the effects of son's education on first and current occupation.

Patterns of path model

In the second hypothesis we predicted that as the amount of education for occupations increased (i.e. credential inflation) and as the character of occupational and educational systems change so will intragenerational and intergenerational transfer of occupational and educational privileges. In other words, we expect that the direct effects of status attainment variables on the social economic positions of our respondents in the path model will be higher for the younger cohort than for the middle and older cohorts respectively.

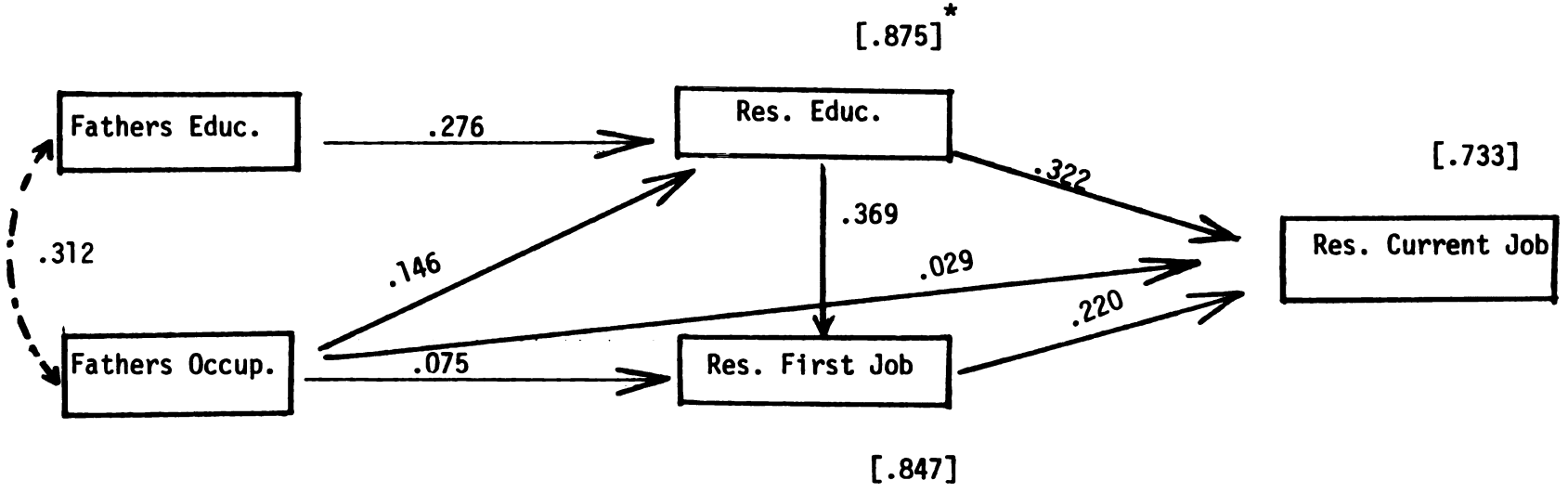
Figure C represents a general model (i.e. involving all cohorts) of path coefficients of influence of father's education and occupation on son's education and occupation; the influence of male respondent's education on their first and current job; and the influence of their first job on their current job.

The general model reveals that the influence of father's education and the influence of respondent's education are the most significant on occupational status. Thus the strongest influences on current job are from the respondent's education (i.e. 32.2% in comparison to 2.9% and 22% from father's and respondent's first job respectively). Similarly, the strongest influence on respondent's first job is from their education (i.e. 36.9% compared to 7.5% from father's occupation). Therefore, we are able to assert that education is the most effective vehicle for status achievement and inheritance among the variables included in this model.

In the second hypothesis we predicted that as the amount of education for given occupations increased (i.e. credential inflation) and as the character of the labor market changes (especially the capital

FIGURE C

Path Models with Standardized Regression Coefficients of Educational and Occupational Status Inheritance from Fathers to Male Respondents and Within Respondents for all Age Cohorts in the Three City Random Sample, 1973, N=703**

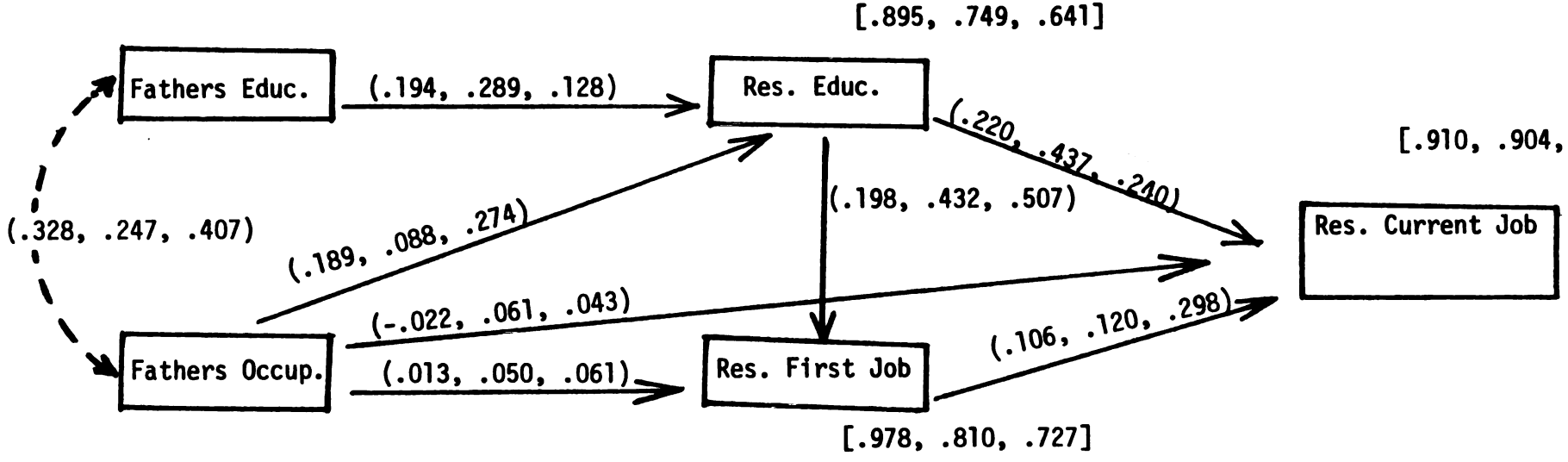


* The number in brackets represent adjusted R square, i.e., the amount of variance not explained in the equation for inherited status.

** It is interesting to make a brief comparison of this general model to that of Blau and Duncan (1967) In both the strongest causal patterns established are the one involving education. Father's education is the most important variable in the transfer of advantage intergenerationally (i.e., .310 in Blau and Duncan). Respondents education is also most important in the career attainments of individuals first and current job (i.e., .440 and .322 respectively in Blau and Duncan). However, the amount of the causal effect is lower in our 3 city Zambian sample.

FIGURE D

Path Model Utilizing Standardized Regression Coefficients of Educational and Occupational Status Inheritance from Fathers to Son and Within Sons Career in Three City Sample According to Age Cohort * (N = 703)



* The numbers in parentheses show standardized regression coefficients respectively of the older, middle, and younger cohorts. The numbers in brackets are residuals (i.e., adjusted r square), the amount of variance not explained in the various equations involving respondents education, respondents first and current jobs from older, to middle and younger cohorts respectively.

composition of jobs rise) so will intragenerational and intergenerational transfer of occupational privileges. In other words, we expect that the direct effects of status attainment variables on the social economic positions of our respondents in the path model will be higher for the younger cohort than for the middle and for the older cohorts.

According to our second hypothesis the older cohort should conversely experience much more intergenerational occupational mobility. In other words, we expect the least influence on the status attainment of the older cohort from father's education and occupation.

We are using the path models to test this hypothesis. We begin by considering intergenerational status transfers, that is, the effects of father's education on respondent's education and the effects of father's occupation on respondent's education, first and current jobs. Then we will consider the effects of intragenerational status on respondent's occupational status. We will analyze the effects of respondent's education on respondent's first and current jobs and the effect of respondent's first job on current job.

A. Intergenerational Status Transfers

The first pattern of causation we identify here is that of the effect of father's occupation on respondent's current job. The variation in respondent's current occupation due to the influence of father's occupation is indeed very small and in the case of the older cohort, negligible; however, the variation in current job due to influence from father's occupation was unexpected in that it was less in the younger cohort than in the middle cohort contrary to the prediction in Hypothesis 2. How do we account for this unexpected finding, i.e. the variation due to father's occupation for

the younger cohort's current job (4.3%) being smaller than that for the middle cohort (6.1%). It is attractive to believe that this is due to the nature of the sample of current occupation for the younger cohort. The occupational cases declared missing, i.e. belonging to unclassified categories such as unemployed, student, etc. was high in the younger cohort (Table 9).

TABLE 9

Percentage of Cases Missing from Path Model

Cohort Category	Percentage of Cases Missing from Path Model					
	Current Job	First Job	Father's Ed.	Res. Ed.	Father's Job	Av. Total
Old	11.0%	3.9%	10.0%	1.4%	8.6%	6.9%
Middle	8.4	2.8	0.0	5.6	7.4	4.8
Young	21.0	18.0	10.0	1.8	11.0	12.3
Total Sample	90	54	46	21	62	55

The younger cohort (Table 9) has a comparatively high share of missing cases from regression models overall and especially with regard to current job. This could be said to be a distorting effect on the variation in younger cohort's current job, explained by father's occupation; but the trouble with this explanation is that missing data in current job does not have a similar effect on the path from first job. More importantly we believe this might be due to rapid social change (as represented by political independence) leading to decreased effects.

The second causal pattern we have established is that of the variation in respondent's education due to the influence of father's occupation,

as shown in Figure D is 18.9%, 8.8%, and 27.4% for the older, middle, and younger cohorts respectively. It was expected according to predictions in hypothesis 2, that the causal influence of father's occupation on respondent's education should be highest in the younger cohort. It was not expected, and hence contrary to predictions in the second hypothesis that the least causal influence on respondent's education by father's occupation will be in middle cohort and not in the older cohort. The reason for this apparently is connected to the historical background of the country, especially the development of the labor force and the occupational system. At the time the older cohort was in school or entering the labor market, education and its associated colonial bureaucracies were derived mainly from missionary activity and, in the main, considered alien. It was those with occupations associated to missionary activity and public bureaucracies who sent their dependents to school. This was so because early British colonial policy aimed at having a set of functionaries to help carry out low, semi-literate jobs in the bureaucracy. In time, these lower functionaries even came to link education to monetary rewards. In contrast, the middle cohort was in school, i.e. from the late 1940s, when there was more urban growth and large scale mining methods towards the close of the 1930s. It was during this time that political demands for more benefits to the indigenous people began. The colonial development plans and the increase in primary education (discussed in Chapter II) should be seen in this context. Colonial authorities instituted some compulsion for lower levels of education. For instance, an individual was liable for punishment if he kept a primary school age child out of school in the early years of the Federation. Thus, the number of children at primary school was raised to over 50% of those in the age bracket, a large raise in the colonial situation; therefore, for

the middle cohort the variation in respondent's education will depend less on the father's occupation because education is widespread, throughout all occupations. On the other hand, the younger cohort attended school when it was clearly linked to social rewards through the daily altercations of political debate on justice and equality (especially in the 1962 elections). Education was linked to social rewards (i.e. mainly in the form of prestige and high salaries) when the older and middle cohort were at school. But the possibilities of realizing this link was limited because of the racial segregation of occupations and colonial policies which discouraged Africans from aspiring to higher education by denying them facilities and high paying jobs. For the younger cohorts, father's occupation becomes important in realizing high educational levels, because after independence there is higher competition for school positions. This competition increases with levels of education such that those with greater resource possessions (higher occupation) are better able to have their children in school and not working at home.

It does not follow that if the father is more educated the son also is more educated. Our third pattern of intergenerational occupational transfer shows that the variation in respondent's education due to the influence of father's education is 19.4% 28.9%, and 12.8% for the respective older, middle and younger cohorts. Clearly enough then, the respondent's education is for the younger cohorts less dependent on father's education. We believe this reflects the massive increase in educational levels after independence. Thus, as we saw earlier post-colonial increases in primary education was such that by 1970, almost 90% of those eligible to attend primary classes were at school, a considerable increase from the 1963 figure of approximately 50%. Expansion of primary and secondary

schools in Zambia has been the most rapid in post-colonial Africa (Elliot, J. 1975). At the same time unemployment had been increasing, such that it did not necessarily follow that once a person had high education he could have a high prestige job. In this situation in which the young cohort finds itself the effect of father's education, unless they have a high job, will not greatly affect variation in the respondent's education.

The fourth and last pattern of intergenerational transfer is the effect of father's occupation on respondent's first job. As expected according to prediction from hypothesis 2 this variation was greater for the younger cohort than for the middle and older cohorts (i.e. 6.1%, 5.0%, 1.3%). In this case we can say that father's occupation is increasingly a mechanism for the transfer of privilege to first job.

TABLE 10

Summary of Results Pertaining to Intergenerational Transfer of Privilege

Causal patterns of intergenerational transfer	Variation in dependent variable due to independent variable	Hypothesis 2 (Prediction: more privilege transfer in young cohort) Confirmed	Hypothesis 2 (Prediction: less privilege transfer in old cohort) Confirmed
Effect of father's occupation on son's current job	Older cohort = 0.2% Middle cohort = 6.1 Younger cohort = 4.3	No	Yes
Effect of father's occupation on son's education	Older cohort = 18.9% Middle cohort = 8.8 Younger cohort = 27.4	Yes	No

TABLE 10 (Cont'd)

Effect of father's education on son's education	Older cohort = 19.4% Middle cohort = 28.9 Younger cohort = 12.8	No	No
Effect of father's occupation on son's first job	Older cohort = 1.3% Middle cohort = 5.0 Younger cohort = 6.1	Yes	Yes

As the above Table 10 summary of results of the effect of father's social economic position on son's career indicates, we have obtained mixed results. The prediction in Hypothesis 2, namely that father's social economic position will have greater effect on the career of the younger cohort has been confirmed in two paths and not in two others. We have explained this nonconfirmation in the two other paths as possibly due to historical conditions which uniquely applied to the young cohort as they were in school and/or entering the labor force and by the nature of the sample. Again Hypothesis 2 we predicted that father's socioeconomic position will have the least causal effect on the achievements of the older cohort because they entered the labor force at the time of rapid transition from agrarian to industrial occupations. Again, this prediction has been confirmed in two paths and not in two others. In other words, our data offers limited support to the hypothesis that as amount of formal education spreads in a given society so will the effect of father's occupation and education on son's achievements. The nature of the data we are using

does not allow us to clearly distinguish between the confounding effects of career stage from historical period in which cohort entered labor force.

B. Intragenerational (within career) Status Achievements

The first causal pattern we identify here is that of the variation in respondent's current job (1973) due to the influence of the respondent's education. The variation in the respondent's current job due to the influence of respondent's education is 22.0%, 43.7% and 24.0% for the respective older, middle and younger cohorts. According to our predictions in Hypothesis 2, we are supposed to have greater variance explained in the younger than in the middle cohort. We expect the younger cohort to increase the level of association also as an artifact of method in which the time distance between education and current job is for them shortest; however, this was not so. This unexpected result is due to the fact that the younger cohort is experiencing a situation of increased education which is having an inflationary effect on occupations (as seen in credential inflation hypothesis). Moreover, their social situation is one of political dislocation, i.e. changes from colonial to post-colonial society which serve as channels of mobility to positions of authority or to positions reflecting contribution to political struggle regardless of education. In other words, for the younger cohort entering the labor market after 1964, the year of self-government, education is not enough to attain high prestige occupations other, mainly political, considerations came in.

The second causal pattern we were able to establish here is that of the effect of respondent's first job on respondent's current job. The

variation in respondent's current job due to influence of the respondent's first job is 10.6%, 12.0%, and 29.8% for the respective older, middle and younger cohort groups. The result confirmed our prediction in Hypothesis 2 that the younger cohort will have the most variation in current job due to first job. In other words, the quality of first job increasingly affects one's advancement in his occupational career. People with high prestige first occupations may increasingly more likely advance in their occupational careers.

The third causal pattern we have derived is that of the effect of respondent's education on respondent's first job. The variation in first job due to influence of the respondent's education is 19.8%, 43.2%, and 50.7% for the older, middle, and younger cohort groups. Here the result confirmed our prediction in Hypothesis 2, that the younger generation will experience much more mobility within career depending on their education.

In summary, concerning intragenerational occupational mobility of our respondents the results show two paths confirming that it is increasingly dependent on quality of first job and, more importantly, on one's education. One path did not confirm this. On the whole, we can assert that advancement within careers depends on the quality of first job and more on education obtained by people.

With regard to Figure D we have noted the problem of how to separate career stage from historical period in which a cohort entered the labor force remains unresolved because of the nature of our data. However, the separate career stage of the three cohorts may provide an alternative explanation for the high standardized regression coefficients of the middle cohort in three paths. Blau and Duncan (1967, p. 187) established that 'factors salient at an early stage of man's career may continue to play a direct role as he grows

older.' But the direct effects of education and father's status are attenuated directly with the passage of time. A compensatory effect is the increasing relevance of the accumulation of occupational experiences as time passes. The implication relevant to Figure 9 is that the younger cohort has lower regression coefficients than middle cohort in some paths as shown in summary Table 7 because they had had less time to advance beyond father's occupation, or perhaps, to have influence of father's occupation take effect. The older cohort may be at a stage where father's background may not be exercising that much influence, i.e. they depend more on their own career, whereas for the middle cohort, father's careers influence may be at its peak.

In Figure D the residuals, i.e. variance unexplained in the equation are rather high. For the older cohort unexplained variance range from .895 to .978; from .749 to .904 for the middle cohort; and from .641 to .877 for the younger cohort. The interesting point to note is that though the residuals are high, they become smaller as we move from the older to the middle and younger cohorts. The basic point is that with the consolidation of the social structure i.e. patterns of association, stratification, work, etc. originating with the imposition of colonialism; mobility becomes more predictable according to the set of variables included in this model. Researchers in Zambia have found that the variance not explained in regression equations is generally high (Wiley 1971, 1979).

In Hypothesis 3 we predicted that the older cohort should experience more mobility than the other cohorts because they are entering the labor market during a period of economic and occupational transition i.e. from subsistence agriculture to one of dependent industrial development, and the occupational systems they engender. We test this hypothesis using a mobility table i.e. Table 11. In this table respondents are concentrated in four occupational categories i.e. professional/technical; service, production/

Table 11 Social Origin of the Male Respondents in Three City Sample by Age Cohorts (N=703)

Respondents Present Position	Cohort Category	Social Origins of Respondents (i.e. father's social economic positions)						
		Pro/Tec	Adm/Man.	Clerical	Sales	Service	Agr/An. Hus.	Prod/Trans.
Pro/Tec	Old	1 (5.3%)	- (-%)	0 (0.0)	0 (0.0)	0 (0.0)	3 (1.9%)	1 (2.9%)
	Middle	0 (0.0)	0 (0.0)	1 (33.3)	0 (0.0)	4 (21.1)	12 (7.2)	1 (2.4)
	Young	1 (7.1%)	0 (0.0	2 (40.0)	0 (0.0)	2 (9.1)	8 (3.5)	6 (8.2)
Admin./Man.	Old	--	--	--	--	--	--	--
	Middle	0	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0	0 (0.0)	1 (2.4)
	Young	--	--	--	--	--	--	
Clerical	Old	2 (10.5)	--	1 (25.0)	0 (0.0)	0 (0.0)	10 (6.4)	4 (11.8)
	Middle	2 (15.4)	1 (100.0)	0 (0.0)	0 (0.0)	3 (15.8)	20 (12.0)	4 (9.5)
	Young	4 (1.8)		1 (20.0)	0 (0.0)	4 (18.2)	17 (7.5)	12 (16.4)
Sales	Old	3 (15.8)	--	2 (50.0)	1 (100.0)	2 (16.7)	9 (5.7)	2 (5.9)
	Middle	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	11 (6.6)	2 (4.8)
	Young	3 (1.3)	0 (0.0)	1 (20.0)	1 (33.3)	1 (4.5)	15 (13.9)	7 (9.6)
Service	Old	1 (5.3)	--	0 (0.0)	0 (0.0)	3 (25.0)	32 (20.4)	5 (14.7)
	Middle	0 (0.0)	0 (0.0)	0 (0.0)	1 (33.3)	1 (5.3)	23 (13.8)	2 (4.8)
	Young	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (22.7)	15 (13.9)	7 (9.6)
Agr/An. Hus.	Old	2 (10.5)	--	0 (0.0)	0 (0.0)	1 (8.3)	13 (8.3)	3 (8.8)
	Middle	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	7 (4.2)	0 (0.0)
	Young	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	7 (6.5)	3 (4.1)
Prod./Trans	Old	10 (52.6)	--	1 (25.0)	0 (0.0)	6 (50.0)	90 (57.3)	19 (55.9)
	Middle	11 (84.6)	0 (0.0)	2 (66.7)	2 (66.7)	11 (57.9)	94 (56.3)	32 (76.2)
	Young	6 (42.9)	2 (100.0)	1 (20.0)	2 (66.7)	10 (45.5)	46 (42.6)	38 (52.1)
TOTAL N	Old	19	--	4	1	12	157	34
	Middle	13	1	3	3	19	167	42
	Young	14	2	5	3	22	108	73

transport/equipment operation and agricultural/animal husbandry and forestry occupations. The whole mobility table shows that there is high mobility between occupations. Most of the children of fathers with professional/ technical occupations end up in production and transport occupations (i.e. 52.6%, 84.6%, and 42.9% for the older, middle and younger cohorts respectively). Similarly most respondents with service occupation fathers end up with production transport occupations (i.e. 50%, 58%, and 45% for the older, middle and younger cohorts respectively). Still, again most respondents with fathers in agricultural occupations end up in production and transport occupations (57%, 56%, and 43%). In all these mobility patterns there is no substantial differences between the three cohorts. This may be because though the older cohort experienced the transition from agriculture and subsistence based occupations to those which are greatly influenced by industrial activity the other cohort i.e. the middle and younger one have been in a period of rapid social change which also makes it possible for them to move to other occupational categories.

However, there is an interesting pattern with regard to self-recruitment within production/transport/equipment operation occupations. There is high self-recruitment within production/transport/ and equipment operation occupations. The highest self-recruitment is with the middle cohort, (55.9%, 76.2% and, 52.1% for the older, middle, and younger cohorts respectively). This again may be related to the confounding effects of career stage and historical period which cannot be segregated out in our data. The youngest cohort showing lower self-recruitment may be due to the possibility that they are not yet at level of occupations which social background will eventually "produce." On the other hand, oldest cohort may be more influenced by prior occupational experience than by background.

Self-recruitment in other occupational categories is low across cohorts.

Mobility Within and Between Generation Based on Zero Order Correlations

Below in Table 12, we see the zero order correlations of the various variables in the path diagrams of Figures C and D.

Table 8 reflects effects corresponding to the standardized regression coefficients discussed in Figure C except for some of the cases dealing with respondent's current occupation.

Concerning intergenerational transfers, we have similar patterns of association in the following: the relationship between father's education and respondent's education (i.e. .261, .308, and .273 correlations for the respective older, middle and younger cohorts); the relationship between father's occupation and respondent's education (i.e., .213, .152, and .301 correlation for older, middle and younger cohorts); and the relationship between father's occupation and respondent's first job (i.e. .013, .050, and .061 correlation for the respective older, middle and younger cohorts). One pattern of association of intergenerational transfer did not correspond to the pattern established in path model. The relationship between father's occupation and respondent's current occupation showed the younger cohort having the highest association between the two variables (i.e. .003, .165, and .234 correlation).

For within generation status achievement, we also obtained similar patterns of association between variables except one involving current occupation. Thus, the association between respondent's education and respondent's first job shows a pattern corresponding to that in path model (i.e. .193, .473, and .527 correlation for the respective cohorts).

TABLE 12

Zero Order Correlations between Dimensions of Status-Attainment for the Three Zambian Age Cohorts (Older, Middle and Younger) 1973

Status Variables	Cohort	Father's Education	Father's Occupation	Respondent's Education	Respondent's First Job	Respondent's Current Job (1973)
Father's Education	Older (O)	1.00	.328	.261	.156	.149
	Middle (M)	1.00	.247	.308	.261	.250
	Younger (Y)	1.00	.407	.273	.189	.276
Father's Occupation	O		1.00	.213	.030	.003
	M		1.00	.152	.121	.165
	Y		1.00	.301	.245	.234
Respondent's Education	O			1.00	.193	.242
	M			1.00	.473	.481
	Y			1.00	.527	.543
Respondent's First Job	O				1.00	.221
	M				1.00	.332
	Y				1.00	.515
Respondent's Current Job (1973)	O					1.00
	M					1.00
	Y					1.00

Similarly, this correspondence occurs in the correlation between first job and current job (i.e. .221, .321, and .515). The associations in both path model and for zero order correlation show a progressive trend from older to middle and younger cohorts. Unlike the path model, the relationship between respondent's education and respondent's current job shows a correlation (i.e. .242, .481 and .543 for the older, middle, and younger cohorts) which is progressive and higher.

The correlations then establish stronger and much more progressive association (i.e. greater in the younger age cohort) between variables indicating father's socioeconomic position and son's achievements (i.e. intergenerational transfers) and between variables indicating achievements within individual's career (i.e. intragenerational mobility). Zero-order correlations, then, confirm all the intergenerational predictions we made in Hypothesis 2. But correlations indicate only the strengths of association and do not indicate causal relations between variables. They are included only to assure completeness.

Discussion and Conclusion

The credential inflation hypothesis that as the amount of formal education increases in a given society the educational requirement for jobs is inflated has been tested. This was confirmed by these data. Substantial increases in the educational levels of younger Zambians who are in clerical, sales, services, production/transport occupations. We found statistical increases in the educational levels of the younger cohort over those of the middle and older cohorts in all the other occupational categories. The implication here is that as formal education increases it ceases to play the decisive role in one's occupation. That is, education is a necessary but

increasingly not a sufficient condition for entry to higher level occupations. This in part is evidenced by the pattern of causation found between respondent's education and his current job. Whereas the association (i.e. zero order correlation) is highest for the younger cohort the causal connection is not so strong. The effect of respondent's education on current occupation is higher for the middle than for the younger cohort. In the longer run this might affect patterns of access to education. When formal education is limited it was in the interest of the state to increase investments in the education of individuals. As education spreads, the cost burden of educating individuals may have come to rest more on families. One implication is that families weigh costs and benefits of sending their members to school (Forster 1980). Escalated qualifications for jobs may lead to frustrated expectations (Bowles 1978). For those with limited resources the cost might be too high hence, educational achievements may closely parallel social/class positions as emerging patterns of stratification consolidate.

We obtained mixed, hence quite inconclusive results regarding intergenerational mobility. It seems, on the one hand, father's occupation was increasingly consequential for the education and occupational achievements of sons. On the other hand, father's education did not seem to have an increasing effect on the educational achievements of sons. Further investigations are needed on the relationship of occupation to education as they influence education of offspring. The correlations between father's occupation and education are not high. This is in direct contrast to the correlations between son's education and occupation, which were high. This could signal that, over time, education and occupation are becoming more closely associated, but this association is affected by

structural changes in the economy and changes in politics of the country. Thus, whether there is a democratic access to opportunities or whether class-crystallization affects opportunities,hence achievements, may be influenced by changes in the economy and political organization. These changes provide limits to individual efforts at achieving a higher status. Economic changes and political changes may be affecting mobility and the use of education and social background in mobility in different ways with the result that there is no clear overall pattern established. What we may be observing is a situation of mobility affected by contradictory patterns of ascription of skill and education (Technocrats/Bureaucrats) to position of power, on the one hand, and political ascriptions to positions of influence, on the other hand. The interests associated with bureaucracy (technocrats) and its growth push for advancement on the basis of education and skill. The interests associated with political changes push for advancement on the basis of participation in politics and political struggles. The interests associated with technocrats and bureaucrats know their positions can be assured if and when some 'meritocratic' principles such as education become the main vehicle for recruitment. But these principles would not necessarily benefit other interests, which therefore would be interested in qualifying them and which may see education as just a justification for gaining access to positions of advantage. What we are talking about is illustrated in arguments over the issue of Zambianization of manpower (i.e. localization of manpower by replacing expatriate staff). Many in civil servants (bureaucrats and technocrats) argue that there should be 'authentic localization' (Koloko 1980) i.e. localization done on merit as in the case of a qualified expatriate being replaced

by a similarly qualified citizen. On the other hand, the e are political interests arguing that this is just another way of maint ning or perpetuating the colonial situation. They argue that expat ates exercise much power so as to discourage competition or threats to heir job security, hence block up-and-coming nationals in the name of ck of sufficient qualifications.

APPENDICES

Appendix I

On Prestige Scales of Occupations

At the time of data coding, the occupations were classified according to the International Standard Classification Code (ISCO) of the International Labor Organization (ILO). In this project we have been faced with the problem of translating occupations into prestige scores. We had two alternatives: first, we could use the Standard International Occupational Prestige Scale (SIOPS) as reported in Treiman (1977). The problem is that the SIOPS differ from those developed by various other analysts for Zambia; secondly, the Zambian scores incorporated by SIOP scales (Treiman 1977) taken from research of 1959 by Mitchell and Epstein and thus may be out of date. The second alternative was to use the prestige scales derived in Zambia. There are three such scales: the first was derived by Mitchell and Epstein (1959), the second by Hicks (1967) and the third by Lay (1973). Lay's research developed prestige scores for occupations in 1973, the year of the sample of this study, which are more recent than those of 1959 and 1967 and hence are more preferable. The problem is that the number of Zambian occupations ranked were limited to about 100 occupations while there are over 250 occupations in our sample.

Treiman (1977) carried out comparisons of hierarchies of occupations in about 60 societies derived from popular evaluations, as reported in surveys. The surveys themselves had been carried out by many and diverse researchers and therefore differ in terms of procedures. Treiman used secondary data which utilized both medians and means. His concern was with

the establishment of similarities in hierarchies of prestige at a global level; how differences in prestige evaluations relate to social cultural differences, and how much these differences are due to differing levels of industrialization etc. Treiman argues that his major finding is that averages of occupational hierarchies are essentially similar in all complex societies, hence there exists the possibility of a standard measure of occupational status.

We have opted for a method which seeks to base all prestige scores on the basic Zambian structure of occupational prestige as derived by Lay (1973) but then to utilize SIOP scale (Treiman 1977) to estimate the percentage scores for occupations Lay did not rank. We classified the various occupations into a hierarchy of eight occupational categories. We then calculated an average deviation from the SIOP scale. For example, as shown in Table 10 for professional, technical, and related occupations the Mean Deviation has been arrived at from the deviation of the Zambian ratings (Lays 1973) to SIOP scales (Treiman 1977). The mean deviation is 9.0. This means that for occupations in this category like Artist which has an SIOP score of 57, nine will be added to make for a score of 66. Robert Lay (1973) used 70 occupational titles chosen randomly from the 1969 Zambian census figures. He computed the average rating of titles by asking respondents to rate each occupation in two ways. On a scale ranging from zero (0) to ten (10). One way involved respondents perceptions of where a given occupation would be given a continuum ranging from 0 - 10. The other way involved evaluations of where a given job deserved to be on the continuum of 0 - 10. All the respondents in this study were males. Lay (1973) derived both means and medians.

The data derived by Lay (1973) are similar and comparable to the international scale by Treiman on the grounds that they reflect fundamentally similar Division of Labour and the complexity it engenders.

Traditionally, the question might be raised as to whether the shift from rural to urban occupations reflects a shift from one status system to another. That is, do traditional occupations, such as herbalists, headmen, chiefs, belong to a different status system from those occupations which have been introduced since the advent of Colonial rule. Theoretically this might be so, but research suggests that the existence of traditional and modern occupations in one social, political, and economic system has led to a situation whereby they are heavily interpenetrated, hence not defined in mutually exclusive terms. Lay (1973) found that in Zambia ratings of traditional occupations are very similar among George compound (urban) residents and Sonati (rural) residents (See following Table 13).

Table 13: Deviations in Prestige Rankings of Occupations of Males in Lusaka Zambia* and Combined S.I.O.P.S. Inventory**.

A. Deriving Scores for Estimating Prestige Ratings

	Zambian Rating	SIOPS Rating	Deviation (Zambian Minus SIOPS)	ISCO*** Code
1. Professional, Technical and Related Workers				
Doctor	87.7	78	+9.7	06105
Nurse	63.3	54	+9.3	07110
Midwife	50.0	46	+6.0	07310
African Doctor	40.3	29	+11.3	07960
Sec. School Teacher	77.0	64	+13.0	13290
Prim. School Teacher	63.5	57	+6.5	13320
Mean Deviation			| 9 |	
2. Administrative and Managerial Workers				
Manager	78.1	15.1	15.1	21940
Govt. Minister	73.7	-5.3	-5.3	20110
Chief	67.2	-0.8	-0.8	20270
Village Head	48.3	+6.3	+6.3	20271
Sub Chief	48.6	-1.4	-1.4	20270
Mean Deviation			| 3 |	
3. Clerical Workers				
Office Clerk	62.8	43	19.8	39310
Typist	56.8	42	14.8	32149
Compound Chairman	42.6	44	-1.4	20120
Mean Deviation			|11 |	
4. Sales Workers				
Small Shop Owner	55.8	38	17.8	41030
Travel Salesman	47.7	47.0	0.7	45130
Petrol Attendant	36.8	25	11.8	59980
Shop Keeper	36.4	42	-5.6	41030
Hawker	36.1	22	14.1	45220
Marketeer	30.1	36	-5.9	
Mean Deviation			| 5 |	

* Sample taken from George Compound, Lusaka July-August, 1973 by Robert Lay.
** Scale from Treiman D (1977) Occupational Prestige in Comparative Perspective.
*** International Standard Classification of Occupations (ILO, 1969).

Table 13: Continued.

	Zambian Rating	SIOPS Rating	Deviation	ISCO Code
5. Production and Related Workers, Transport Equipment Operators and Laborers				
Construction Captain	47.1	39.0	8.1	70075
Surface Miner	54.2	32.0	22.2	71105
Underground Miner	67.9	36.0	31.9	71105
Wood Cutter	14.5	31.0	-16.5	63270
Charcoal Burner	32.8	16.0	16.8	63260
Tailor	36.5	40.0	-3.5	79510
Village Blacksmith	34.4	34.0	0.4	02622
Auto Mechanic	44.8	43.0	1.8	84320
Spanner Boy	26.3	31.0	-4.7	84322
Machine Assembler	55.3	30.0	25.3	83419
Mine Electrician	63.8	44.0	19.8	85510
Council Electrician	53.0	44.0	9.0	85510
Pipe Layer	29.7	34.0	-4.3	95950
Plumber	29.8	34.0	-4.2	87105
Welder	38.5	39.0	-0.5	87210
House Painter	27.7	31.0	-3.3	93120
Basket Maker	25.2	21.0	4.2	94220
Carpenter	43.4	34.0	6.4	95410
Mud Brick Maker	29.6	15.0	14.6	95975
Builder	42.7	36.0	6.7	95910
Road Grade Operator	34.5	32.0	2.5	97445
Pirate Taxi Driver	35.3	28.0	7.3	98520
Lorry Driver	34.4	33.0	1.4	98560
Lorry Boy	17.1	15.0	2.1	99910
Road Laborer	19.3	19.0	0.3	99930
Casual Laborer	13.7	20.0	-6.3	99970
Mean Deviation			5	
6. Service Workers				
Policeman	61.3	40.0	+21.3	58220
Bartender	28.9	23.0	+5.9	53250
House Servant	13.0	17.0	-4.0	54020
Government Janitor	38.9	21.0	+17.9	55130
Large Store Janitor	37.0	21.0	+16.0	55130
Barber	28.9	30.0	-1.1	57030
Security Guard	28.5	22.0	+6.5	58940
Mean Deviation			9	

Table 13: Continued.

	Zambian Rating	SIOPS Rating	Deviation	ISCO Code
7. Agriculture and Animal Husbandry, Forestry and Fishing, Hunting				
Large cash farmer	89.5	63.0	+26.5	6110
Small cash farmer	61.9	38.0	+23.9	6110
Agriculture demonstv.	53.6	41.0	+12.6	13557
Chicken Farmer	43.3	55.0	-11.7	61260
Farm Laborer	16.3	23.0	-6.7	62105
Private Beer Brewer	23.3	21.0	+2.3	51062
Subsistence Farmer	27.1	30.0	-2.9	61281
Herder	45.0	26.0	+19.0	62410
Butcher	34.7	26.0	+8.7	62410
Village Butcher	33.8	26.0	+7.8	62410
Thatcher	19.8	19.0	+0.8	95360
Private Gardener	9.1	21.0	-11.9	62960
City Gardener	25.1	21.0	+4.2	62960
Subsistence Fisherman	27.1	28.0	-0.9	64970
Fish Trader	41.1	28.0	+13.1	45220
Commercial Fisherman	44.3	37.0	+7.3	64130
Subsistence Hunter	25.7	6.0	+19.7	64960
Mean Deviation			7	

B. Occupational Prestige Scores From Lay Study and Derived Herein

1. Professional/Technical and Related Workers

Occupational Title	SIOPS*	Zambian or Estimated Score	Occupational Title	SIOPS	Zambian or Estimated Score
Airline Pilot	64.0	75.0	Pharmacist-Asst	50.0	59.0
Science Technician	51.0	60.0	Nurse	-	63.0
Engineer-Unspecified	54.0	63.0	Choreographer	53.0	62.0
Engineer-Asst.	43.0	52.0	Optician-Trainee	44.0	53.0
Metal Worker	25.0	34.0	Herbalist (Nganga)	-	40.0
Surveyor	58.0	67.0	Accountant	62.0	71.0
Draughtsman	55.0	64.0	Professional Accountant	62.0	71.0
Technical Officer	58.0	67.0	Accountant-Asst.	47.0	56.0
Technical Asst.	45.0	54.0	Teacher-Commerce	-	77.0
Sr. Medical Asst.	50.0	59.0	Teacher-Secondary Arts	-	77.0
Doctor-General	-	88.0	Teacher-Secondary Geography	-	77.0
Surgery-Asst.	50.0	59.0	Teacher-Secondary Sciences	-	77.0
Medical Asst.	50.0	59.0			
Veterinarian-Asst.	53.0	62.0			

* Dashes indicate we used Lay's (1973) score not SIOPS.

1. Professional/Technical and Related Workers -- Continu i

Occupational Title	SIOPS	Zambian or Estimated Score
Teacher-Primary Arts	-	64.0
Teacher-Primary Sciences	8	63.0
Teacher - Kindergarten	-	60.0
Teacher - Mission School	-	64.0
Teacher - Unspecified	-	64.0
Teacher - Special Education	-	64.0
Teacher - Other Education	-	64.0
School Principal - Asst.	-	64.0
School Manager - Asst.	-	66.0
Pastor	54)	63.0
Missionary	49)	58.0
Regular Superior	48)	57.0
Artist	57)	66.0
Musician	45)	54.0
Radio Broadcaster	43)	52.0
Archivist	45)	54.0
Personnel Manager	46)	55.0
Personnel Officer	46)	55.0
Interpreter - Professional	49)	58.0

2. Administrative and Managerial Occupations

Occupational Title	SIOPS	Zambian or Estimated Score
Legislative Official	57.0	60.0
Political Party Worker	56.0	59.0
Exec. Civil Servant	71.0	74.0
Asst. District Secretary	63.0	66.0
Chief	-	56.0
Headman	-	48.0
Chief Retainer	51 0	54.0
Town Clerk	73 0	74.0
Managing Director		78.0
Govt. Under-Secretary	73 0	74.0
Transport Mgr.	60 0	63.0

3. Clerical Occupations

Occupational Title	SIOPS	Zambian or Estimated Score
Clerical Officer	55.0	66.0
Jr. Clerical Officer	44.0	55.0
Administrative Asst.	52.0	63.0
Stenographer	42.0	53.0
Stenographic Secretary	47.0	58.0
Court Clerk	51.0	62.0
Typist	-	57.0
Tele Typist		57.0
Bookkeeper	49 0	60.0
Bookkeeping Clerk	37 0	48.0
Cashier	49 0	60.0
Pay Master	49 0	60.0
Banker	48 0	59.0
Wages Clerk	31 0	42.0
Bus Supervisor	42 0	53.0
Bookkeeper - Proof Reader	43 0	54.0

3. Clerical Occupations -- Continued

Occupational Title	SIOPS	Zambian or Estimated Score	Occupational Title	SIOPS	Zambian or Estimated Score
Bookkeeper-Cashier	44.0	55.0	Telegraphic Sec.	45.0	56.0
Bus Inspector	41.0	52.0	Dispatch Clerk	29.0	40.0
Post Officer - Supervisor	55.0	66.0	Stores Clerk	32.0	43.0
Communication Supervisor	53.0	64.0	Storeroom Clerk	32.0	43.0
Rail Train Guard	23.0	34.0	Store Clerk-Other	32.0	43.0
Bus Conductor	31.0	42.0	General Clerk	33.0	44.0
Postal Clerk	39.0	50.0	Reporting Clerk	33.0	44.0
Postman	33.0	44.0	Correspondence Clerk	33.0	44.0
Mail Runner	26.0	37.0	Insurance Clerk	34.0	45.0
Mail Distribution Clerk	33.0	44.0	Meter Reader	22.0	33.0
Telephone Operator	38.0	49.0	Receptionist	38.0	49.0
			Registry Clerk	31.0	42.0
			Clerk-Other	31.0	42.0
			Unclassified Clerk	33.0	44.0

4. Sales Occupations

Retail Manager	53.0	58.0	Retail Seller	40.0	45.0
Beer Hall Manager	36.0	41.0	Salesman - General	52.0	57.0
Work Proprietor	47.0	52.0	Hawker	-	36.0
Retail Supervisor	52.0	57.0	Canvasser	-	36.0
Salesman-Door-to-door	46.0	51.0	Marketeer	-	30.0
Sales Representative	-	57.0	Tea Seller	25.0	30.0

5. Service Occupations

Restaurant-Hotel Manager	53.0	62.0	Nanny/Babysitter	23.0	32.0
Bar Manager	32.0	41.0	Janitor	-	39.0
Business - Cafe	34.0	43.0	Street Sweeper	16.0	25.0
Businessman-General	34.0	43.0	Garbage man	16.0	25.0
Shabeen Operator	34.0	43.0	Hospital Cleaner	16.0	25.0
Kitchen Supervisor	38.0	47.0	Launderer-General	22.0	31.0
Commercial Cook	31.0	40.0	Dry Cleaner	30.0	39.0
Cook-Unspecified	23.0	32.0	Fireman	35.0	44.0
Cook-Private House	23.0	32.0	Fire Guard	35.0	44.0
Waiter/Waitress	12.0	32.0	Police Officer	-	61.0
Bus Boy	21.0	30.0	Policeman GRZ	-	49.0
Barman	-	29.0	Police guard-private	-	31.0
Barmaid	-	29.0	Mine Police	40.0	49.0
Domestic Servant	-	13.0	Protective Worker	33.0	42.0
House Boy	-	13.0	Security Guard	21.0	31.0
			Grease Boy	20.0	29.0
			Cadymaster	16.0	25.0

6. Agricultural/Animal Husbandry and Forestry Occupations

Occupational Title	SIOPS	Zambian or Estimated Score	Occupational Title	SIOPS	Zambian or Estimated Score
Agriculture Supervisor	41.0	48.0	Gardener	-	25.0
Farm Captain	41.0	48.0	General Livestock Worker	-	33.0
Famer - General	44.0	54.0	Beef Cattle Farm Worker	-	45.0
Commercial Farmer	64.0	71.0	Nursery Worker	18.0	25.0
Crop Farmer	21.0	28.0	Garden Worker	18.0	25.0
Rice Farmer	21.0	28.0	Groundsman	18.0	25.0
Commercial Poultry Farmer	-	44.0	Forestry Ranger	41.0	48.0
Subsistence Farmer	-	27.0	Charcoal Burner	26.0	33.0
G/nuts Farmer	21.0	28.0	Wood Cutter/Worker	-	15.0
Millet Farmer	22.0	29.0	Fisherman	-	27.0
Potato Farmer	20.0	27.0	Fisherman Helper	-	25.0
Tobacco Planter	20.0	27.0	Trapper/Hunter	-	26.0
General Farm Worker	-	25.0			
Farm Worker - Other	18.0	25.0			

7. Production/Transport/Equipment Operation Occupations

Boss Boy	39.0	44.0	Butcher boy/ Salesman	29.0	34.0
Group Boss - Underground	52.0	57.0	Baker	35.0	40.0
Supervisor - Chemical Synthesis	43.0	48.0	Brewer	18.0	23.0
Goods/Beverages Processor	34.0	39.0	Tobacco Grader	34.0	39.0
Captain - Construction	-	47.0	Sewing	28.0	33.0
Captain - P.W.D.	42.0	47.0	Shoe Repairer	28.0	33.0
Supervisor - Unspecified	42.0	47.0	Turner	37.0	42.0
Miner	-	54.0	Blacksmith - General	29.0	34.0
Diamond driller	62.0	67.0	Machine Operator	38.0	43.0
Mine Timberman	62.0	67.0	Machine Boy	38.0	33.0
Smelter Foreman	62.0	67.0	Factory Worker	29.0	34.0
Open Hearth Furnaceman	49.0	54.0	Mine Machine Fitter	43.0	48.0
Mine Caster	49.0	54.0	Machine Fitter	39.0	44.0
Sawyer	30.0	35.0	Watch Repairman	40.0	45.0
Quarryman	48.0	53.0	Motor Mechanic	40.0	45.0
Cotton Splayer	-	16.0	Spanner Boy	-	36.0
Grain Miller	23.0	28.0	Trainee Mechanic	31.0	36.0
Butcher	-	35.0	Mine Mechanic	62.0	67.0
			Machine Assembler	31.0	36.0
			Bicycle Assembler	28.0	33.0
			Battery Maker	43.0	48.0
			Radio Repairman	42.0	47.0

7. Production/Transport/Equipment Operation Occupations -- Continued

Occupational Title	SIOPS	Zambian or Estimated Score
Television Repairman	42.0	47.0
Electrician	-	53.0
Trainee Electrician	-	47.0
Vehicle Electrician	-	53.0
Telegraphic Mechanic	35.0	40.0
Plumber	-	30.0
Plumber - Asst.	-	24.0
Welder	34.0	39.0
Boilermaker	31.0	36.0
Boiler Smith	-	30.0
Panel Beater - Asst.	25.0	29.0
Vehicle Sheet Metal Worker	36.0	41.0
Structural Steel Worker	45.0	49.0
Forced Labor	13.0	18.0
Printer	42.0	47.0
Book Binder	32.0	37.0
Paint Boy	-	28.0
Painter - Brush	-	28.0
Auto Painter	-	34.0
Basket Maker	-	25.0
Inspector - Industrial	63.0	68.0
Brick Layer - General	34.0	39.0
Stone Mason	33.0	38.0
Brick Layer - Chimney/fire	32.0	37.0
Roof Thatcher	-	20.0
Carpenter	-	43.0
Asst. Carpenter	-	36.0
Trainee Carpenter	-	36.0
Boat Maker	34.0	39.0
Furniture Maker	38.0	43.0
Joiner	36.0	41.0
Plasterer	31.0	36.0
Builder	38.0	43.0
Building Maintenance Man	29.0	34.0
Pipe Layer	-	30.0
Brick Maker	-	30.0
Construction Worker	28.0	33.0
Construction-Other	28.0	33.0
Boiler Operator	28.0	33.0
Stationary Engine Operator	28.0	33.0
Loader	23.0	27.0
Freight Handler	23.0	27.0
Packer	23.0	27.0
Steel Fixer/ Rigger	44.0	49.0
Overhead Crane Operator	39.0	44.0
Crane Operator	32.0	37.0
Bulldozer Operator	-	37.0
Driver - Earth Mover	32.0	37.0
Operator Material Equipment	32.0	37.0
Dumper Driver	32.0	27.0
Railway Engine Driver	28.0	33.0
Railway Fireman	33.0	38.0
Underground Train Driver	34.0	39.0
Mine Engine Driller	33.0	38.0
Railway Brakeman	32.0	37.0
Tram Driver	30.0	35.0
Driver - Unspecified	29.0	34.0
Bus Driver	29.0	34.0
Local Lorry Driver	-	34.0
Lorry Driver - General	-	34.0
Lorry Driver - Long Distance	-	34.0
Laborer-Unspecified	-	19.0
Lorry Boy	12.0	17.0
Railway Laborer	14.0	19.0
Laborer-PWD	-	14.0
Laborer-Construction	-	19.0
Wood Worker	-	15.0
Mine Laborer	-	24.0
Manufacturing Laborer	19.0	24.0
Casual Laborer	-	14.0

Appendix 2

On Data and Methodology

The source of the data used here is from a project entitled 'Urbanization, Housing and Employment in Zambian High Density Housing Areas' conducted by Professor David S. Wiley. This was a large scale survey of 3,200 households in Lusaka, Kitwe, and Ndola, respectively the three largest towns in the country. The survey was conducted in 1973 and was funded by Midwest Universities consortium in International Activities, Inc.,; Ford Foundation, National Institute of Mental Health, Rockefeller. Its focus was on quality of housing, incomes, health and employment.

Our interest concerns questions pertaining to employment and its associated variable of education. Within the survey there was a random sample consisting of 1,663 respondents. 884 of these were males while 779 were female respondents. We have chosen to use only the 884 males in the random sample for analysis. We have excluded the 779 female respondents from our analysis on the grounds that they would distort our tests (path models) on occupations. This was because a large proportion of the females consisted of many who were not employed outside the home, hence belonged to unclassified occupations and therefore could not be included in the path model/regression equations. Unemployment among male respondents in random sample was comparatively lower.

All the respondents in the survey, that is including those in the random sample, came from urban areas and more specifically from

high density compounds. In Zambian towns housing areas can be broadly (or roughly) grouped into three (3) types. The low density areas were formally -- in colonial time -- for the exclusive use of a small settler elite who were the officials of government and business firms. After independence these have increasingly been replaced by the strata of Africans who came into power. Like in all Third World countries there has been a rapid expansion of the bureaucracy, occasioning some people to speak of the hypertrophy of the tertiary sector, others of the overdeveloped state. Though I necessarily do not agree to these terms, at least there has been a tremendous expansion in administrative activities of both political and quasi political branches of the society. Those in the upper levels of these branches, e.g. high civil servants, middle to large business people, bankers, etc. form the strata effectively in control of the government machinery and therefore, can be spoken of as the new elites replacing settlers in low density housing areas. The high density areas of housing form the second group. Houses here are built by government or semi government bodies such as municipal councils. These are designed to house middle income level bureaucrats, e.g. clerks, semi to skilled workers, i.e. those who could be said to depend on steady salary incomes and who could be said to occupy middle sectors of the population. The third housing category are slums or shanty compounds defined by the government as unauthorized housing groups. Most of the people in this housing group only earn low incomes, e.g. peddlers, personal servants, prostitutes, message boys, and therefore gain their livelihoods largely through the informal sector. Our sample consists of people mainly from the second group.

A sample of the questions we concentrated on for the purposes of this thesis include:

1.) When you (respondent) were 20 years what job were you doing?

2.) What kind of work did the most important man in your life (i.e., respondent's father/guardian) do when you were 18 years of age?

3.) What kind of work is respondent doing now?

4.) What is the total number of years of education the respondent has?

5.) What was the educational standard attained by the most important man (father/guardian) in respondent's life?

6.) What is the first full-time job you (respondent) did for which you received money?

The questions are concerned with occupations and education. We want to run path models using regression analysis to test a set of hypotheses. The variables of father's education and occupation; respondent's education, first job, and current job are associated in the path model. The path model reports patterns of 'causation' between these stated variables, their unexplained variable and correlations. The regression equations we utilized are of the type found in the Statistical Package for Social Sciences (SPSS). The regression models, like correlations are aggregate and therefore in some cases, fail to capture some necessary detail. Therefore we have coupled these statistical tools with tables relating various aspects of the variables.

Table 14. Characteristics of the Age Cohorts of the Three City Random Sample, 1973 (N = 886)

Cohort Category	Estimated Dates of Entry to Wage Labor Force	Characteristics of the Labor Force Cohort at the Time of Entry in Labor Force	Cohort Percent of Total Sample	N =	Mean Years of School Completed
Young (18-29 Years)	After 1961	Very rapid with post colonial development plans. But after the per price drop. Increasing unemployment/ school lower problem	36.4%	322	8.2
Middle (30-39 Years)	1950 - 1960	Quite rapid expansion of labour force with colonial development plans and large scale mining	32.0%	283	6.1
Old (40 + Years)	Before 1949	Growth of labor force is gradual with dislocations due to great depression	31.6%	279	4.5

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