INDIGENOUS RURAL SAVINGS AND CREDIT SYSTEMS:
A CASE STUDY FROM BENDEL STATE, NIGERIA

by

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ABSTRACT

This study provides preliminary testing of the conventional economic idea of lack of cash surplus savings and credit in the rural areas of most less developed countries. The testing is conducted through investigation of the variety, sources, and magnitude of savings and credit that exist within the indigenous rural savings and credit system of one rural area--Ugwashi-Uku in Nigeria.

Evidence from the investigation suggests the existence of a significant cash surplus savings capacity in the rural area under study, and the functioning of a well-structured, sophisticated indigenous rural capital market channelling these savings and disbursing credit in the rural area.

The important policy issue examined is how to effectively mobilize--at an aggregate level--the available savings for significant rural investment purposes. In this regard, the

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study explores alternative ways of combining the indigenous

system with some formal mechanisms such as interest rate

policies for the performance of the above functions.

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NOTE: Two Nigerian currencies have been mentioned in this thesis. They are the Naira ₦ and the Pound £.

£1 = ₦2

At the current rate of exchange, ₦1 = $1.60.

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CHAPTER ONE

INTRODUCTION: AIMS OF THE STUDY AND BACKGROUND
INFORMATION ON THE STUDY AREA

Traditional development literature has often times stressed the limited voluntary cash savings capacities observable among rural people in the developing world, and the concomitant unavailability of credit to these people for carrying out their activities--particularly investment. Typically, the savings capacities of rural people has been regarded as being constrained by low incomes, and/or lack of sophistication regarding savings matters, while the entrepreneurial classes have been looked upon as the important savers in less developed countries. In this vein, W. Arthur Lewis argued in his well-known essay, "Economic Development with Unlimited Supplies of Labour," that the profit making entrepreneurs are the significant savers in society, and that landlords, wage earning peasants and the salaried middle classes contribute relatively little. Moreover, as Kelley and Williamson rephrase it ("Household Savings Behaviour in the Developing Economies: The Indonesian Case"), the saving of these nonentrepreneurial classes are typically channeled into relatively unproductive investment.

Ijose and Abaelu in their paper, "Institutional Credit for Smallholder Farmers. A Case Study of the Western Nigerian Agricultural Credit Corporation," state this view quite explicitly for the Nigerian case:

> Low per capita income is a well-known characteristic of the underdeveloped regions of the world. In the Western State of Nigeria per capita income is estimated to be less than ₦40 per annum. Given such a low level of income, the ability of the individual to save towards an increased level of consumption in the future is greatly limited. This is particularly true of the agricultural segment of the population. Among the farm group, per capita income is considerably less than in the state average, implying an even more limited capacity to save. (p. 1)

These views have held such wide currency among economic and financial planners, as well as government officials, in many parts of the developing world--of which Nigeria is a typical example--that most attempts to bring credit within the reach of all rural peoples have begun with no serious consideration of what potential might lie within the rural community in question in terms of savings, but have concentrated solely on the mechanics of establishing external and alien credit/savings sources within the community. Within the Nigerian context, many such attempts including the long-established cooperative movement have for various reasons (some of which have been explored in the literature; see Ijose and Abaelu, Ugoh, Osuntogun) not been too successful. Nevertheless, attention continues to be focused by academics and the government largely on formal institutional savings and credit sources.

More recently, research carried out in various rural communities in the developing world seems to indicate that contrary to the widely held belief of limited cash savings capacities, and lack of adequate number of savings and credit sources, some rural communities appear to exhibit substantial savings capacities, a wide variety of credit sources, and relatively little influence of the village moneylender. However, other constraints--some differing on a country-by-country basis--appear to exist on the mobilization and channelling of these funds in the directions that government planners might deem appropriate. In a study of two rural areas in Zambia, "The Role of Money in the Development of Farming in the Mumbwa and Katete Areas of Zambia," Roberts, convinced that the use of external finance and credit was not effective in getting farmers to adopt innovative farming methods, set out to explore the availability of local finance. He concluded that "the cultivators, as a whole, possess monetary resources which, if invested in farming, might be expected to bring about worthwhile increases in production." (p. 243) Furthermore, he goes on, "As a result of these findings, it is now possible to state that in the two areas studied, considerably more reliance can be placed upon local sources of finance for farm development, at the village level, than has been done in the past." (p. 244) This and other country studies on Korea and Taiwan thus challenge the universality often times attributed to the limited cash savings capacity and limited availability

of alternative forms of credit, and serve to point out that the problems of rural savings and credit may lie in directions other than their non-availability.

Study Objectives

This study is a preliminary investigation of the ideas of lack of cash surplus savings capacities and credit availability in the context of one rural area in the Bendel State of Nigeria. It is thus a case study, generalizable only to the extent that the prevailing savings/credit characteristics in this rural area prevail elsewhere in the state and country. Specifically, the study will investigate the variety, sources, and magnitude of savings and credit that exist within the indigenous rural savings and credit system in a bid to provide suggestive evidence on the existence of a sophisticated, well-structured rural capital market and on a substantial cash surplus savings capacity within the rural community. In addition, inquiries will be made into the issue of the possible existence of differential access to indigenous credit sources within the rural community under study.

The case study will be useful in a) adding further evidence to the growing body of knowledge that challenges conventional notions of savings and credit activities in rural areas, and b) highlighting the significance of this evidence for development activities in the rural areas.

Most of the information that will be used in this study was obtained in personal interviews conducted by the author in the area of study over a period of eight weeks. The exact nature of the data will be dealt with in more detail in a later chapter. (For the set of interview questions, see Appendix A.)

The thesis consists of five chapters. Chapter One has already begun with introductory remarks on the study. It will continue with relevant background information on Ogwashi-Uku, the study area. Chapter Two will consist of a summary of literature and ideas pertinent to the study. In Chapter Three, the descriptive aspects of indigenous rural credit--savings systems, i.e. credit sources, activities and characteristics-- will be dealt with. Chapter Four will be analytical--setting forth the hypotheses propounded by the author on possible determinants of participation in rural credit activities. Results that substantiate, disprove or shed no light on the hypotheses will be given here and possible reasons for non-substantiation where it does occur will be discussed. In Chapter Five the results from Chapters Three and Four will be pulled together, and conclusions drawn from the results. Any policy recommendations suggested by the results will be set forth here.

Relevant Background Information on the Study Area

In this section of the discussion, general information
on the development of Ogwashi-Uku will be presented. However,
several important characteristics of social and economic life
in the community relevant to future discussion in the study
will be stressed, such as characteristics of the land tenure
system, the importance of certain food crops, and the divi-
sion of labor between men and women.

Ogwashi-Uku, a sprawling rural town comprised of nine
villages, is located in the Ibo speaking areas of the Bendel
State of Nigeria. Maps 1-1 and 1-2 place it in context of
the other Ibo speaking areas of the state, and in relation to
Nigeria as a whole. As of the present (1977), the town's
population is estimated at slightly over 20,000.

Since pre-independence times, Ogwashi-Uku has been the
divisional headquarters of Asaba division--this in a politico-
administrative system comprised of states, provinces, and
divisions, or as is now commonly popular in Nigeria, local
government areas. Even though a local administrative center
for so long, Ogwashi-Uku had virtually no modern amenities--
light, water and secondary schools--until the 1970s. It re-
mained largely unmodernized and neglected both because it was
overshadowed by Asaba, an attractive market town on the banks
of the River Niger only 13 miles away, and also because some
of the most important politicians of the day were all natives

OGWASHI-UKU IN RELATION TO THE REST OF NIGERIA

KANO

RIVER NIGER

RIVER BENUE

IBADAN

BENIN

ASABA

OGWASHI-UKU

ONITSHA

LAGOS

BENDEL
STATE

Map 1-2
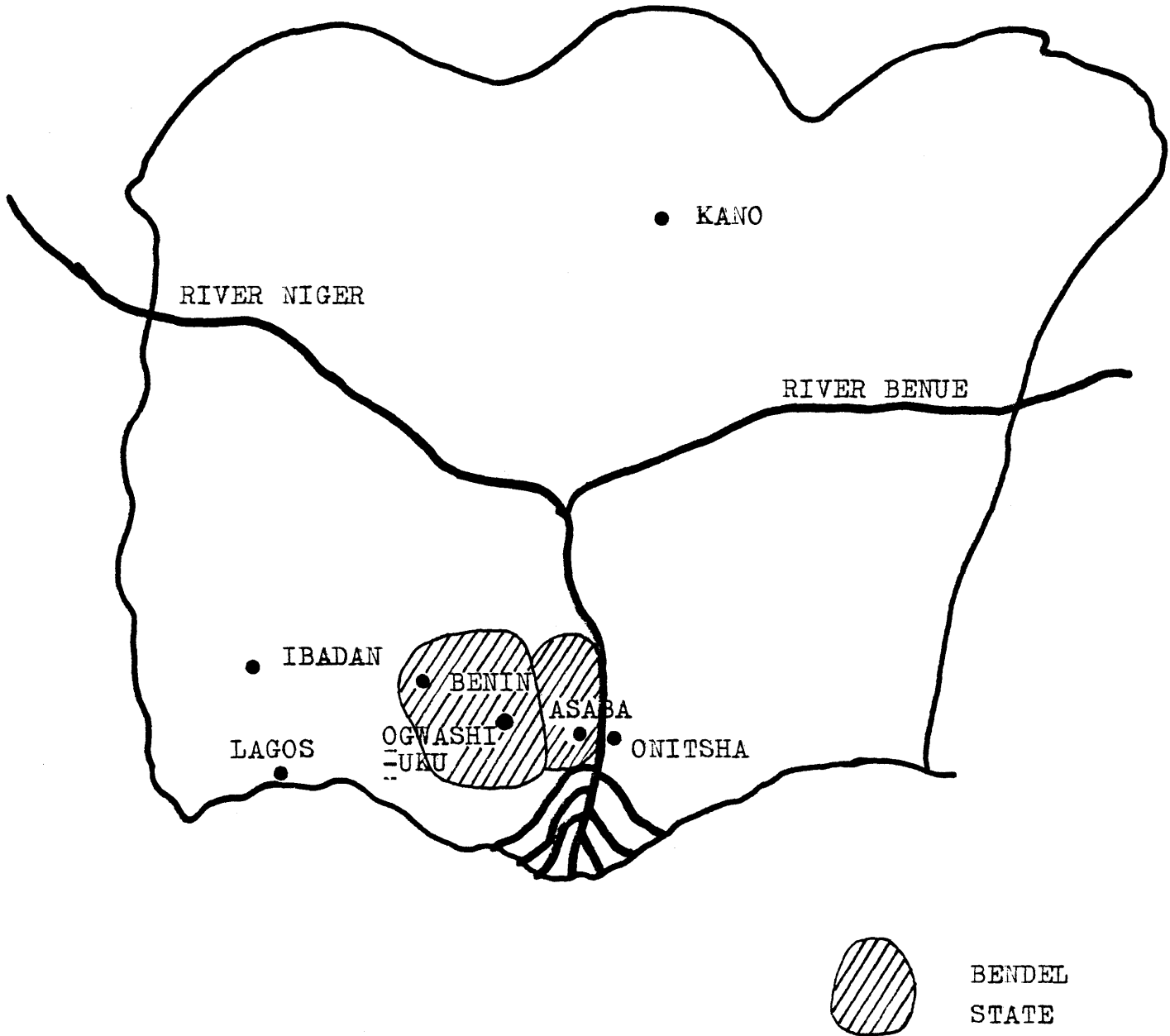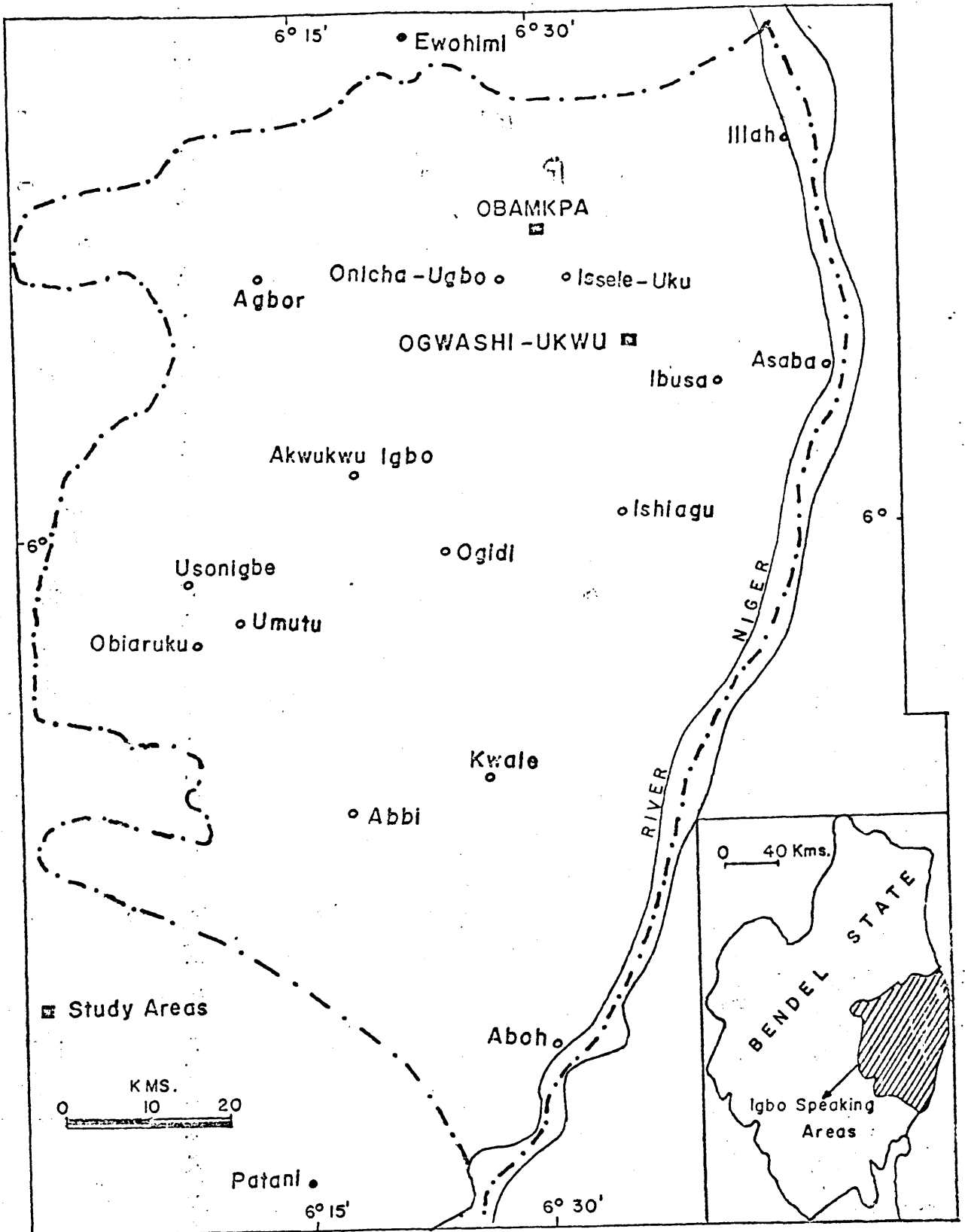
THE IGBO SPEAKING AREAS OF BENDEL STATE

(ALSO IBO)

NOTE :- OGWASHI-UKWU AND OGWASHI-UKU ARE THE SAME.

of Asaba and consequently paid more attention to its development within the division.

As has been noted, Ogwashi-Uku has been and remains largely a rural town. The main activity of the inhabitants is farming, with 75 percent of all farmers holding between 0.5 and 5 acres of land. There are no major cash crops grown in the town and most farmers remain subsistence farmers practicing non-mechanized agriculture. Wild palmfruits are, however, processed into oil for extra income. The major crops are yams, cassava, and maize, grown mostly by men, with yams being considered the most prestigious crop (probably because of the amount of work and energy involved in planting and tending the crop, the income it brings in, and the fact that it is the central food item in the area). The importance of yam is particularly noteworthy for the discussion in Chapters Three and Four, since yam is used as the major measure of family income in the analysis on determinants of access to credit in the indigenous rural savings and credit system. Recently (Summer 1977) cassava may be fetching a substantial amount of money, because of increased demand for processed cassava in urban areas, but it still does not have the prestige of yam. Okro, pumpkin, peppers and other vegetables may be interplanted with the major crops on the farms, or they may be planted by the women in vegetable gardens along with coco-yams. Farming is mainly a male activity in this Western Ibo area, while women concentrate on food processing and petty

trading. Any food crops left over after consumption needs have been taken care of are sold off in the market. Ogwashi-Uku has a well-monetized economy stretching as far back as pre-colonial times when cowry shells were used as currency. Although barter exchange still exists to some extent between friends and family, the bulk of exchange involves money. It is well linked economically to other towns in the area, possesses a big market (meeting every four days), and big trucks from the commercial towns of Onitsha across the Niger and Benin usually come to pick up the extra agricultural produce for sale in the urban towns around.

Land is held communally in each village in the sense that no man can sell off his piece of land without consulting with the village elders, though he may sell crops on the land while still unharvested. Each man, widowed or divorced woman can obtain any given piece of land not already taken up by someone else to farm, for as long as he or she wants. This land then becomes the person's and their children's property for as long as they farm it. There is still abundant land in the community, so that extensive rather than intensive farming takes place. The land situation is changing somewhat. As the community is expanding, more and more land is being used for home-building and farming too. Land is becoming an important commodity, as is demonstrated by several factors. In the early 1950s, when rural migrants from land-scarce areas in the east of the Niger appeared in Ogwashi-Uku, they were given

pieces of land free to farm on. More migrants were attracted,
and recently these migrants are being charged 'one shot' land
rents of about ₦50-₦100, depending on the size of the land,
for as long as they farm this land. It appears that land for
building is even being sold to Ogwashi-Uku sons and daughters
themselves at about the rates mentioned above, depending on
plot size. All such money collected goes to the communal cof-
fers controlled by the village elders, and is put to general
uses pertaining to the village or town; for example, construct-
ing a new building for the village school, or fighting a court
case over land with another town. The recent building of new
government offices in the town, and the presence of government
workers, has also contributed to the new pressure on land.
Although the situation is by no means critical--as previously
mentioned, there is still surplus land--it may become so in
the future as population expands and new activities move into
the area.

The issue of land tenure is again important for the
study because, as shall become evident in Chapter Three, the
land tenure system precludes use of land as collateral for
credit, thereby leading to the demand for human collateral in
the person of the 'surety' or guarantor (a trusted, hard work-
ing, well-to-do person who guarantees a loan for another per-
son).

Modernization in various forms has come very quickly
to Ogwashi-Uku in the last seven years, with schools (there
is at least one primary school in each village and three sec-
ondary schools the town over), electricity, running water,
a government secretariat, including branches of government
ministries which were not previously in the area, e.g. the
Ministry of Works and Transport. Also, a bank and a good sys-
tem of roads connecting the town to major centers. A post
office and a government cooperative credit society had previ-
ously existed in the area, although the cooperative's activi-
ties had been practically non-existent until given a new
lease of life very recently by the government. A new phenom-
enon that has arisen with the greater presence of government
offices in the area is the tendency for some farmers to hold
a second job as nightwatchmen or messengers in these offices.
Thus, they find another way of augmenting their cash income,
thereby finding relative income security. Younger, educated
men and women in the area have also found jobs as clerks, sec-
retaries, banktellers, teachers, drivers, etc. People appear
to be more affluent now than ever before due to spread effects
of the national oil boom. The pumping of money into the econ-
omy by the government has led to inflationary trends, includ-
ing increases in food prices. For the first time in Nigerian
economic history, these trends may be leading to an improve-
ment in the rural people's economic position in both absolute
and relative terms, although such improvements are as yet

unquantifiable by the author and may in the long run appear
illusionary. For now, however, the affluence in the rural
town is evidenced by the fast replacement of thatched roofs
with the more expensive and more prestigious zinc roofs, and
the gradual replacement of mud bricks with cement and sand
bricks in the houses.

One last issue of interest is education for one's chil-
dren, which has been sought as a highly desirable commodity,
because of its image as the definitive way up the ladder from
poverty and uncertainty of income. A good number of people
invest heavily in their children's education, as shall be
seen in Chapter Three when participation in indigenous savings
and credit societies in the Ogwashi-Uku area is discussed.
Investment in education is one of the prime reasons for par-
ticipation in the above financial activities, and it is an
important competitor for borrowed funds.

In conclusion, Ogwashi-Uku is, for the most part, a tra-
ditional rural community undergoing change and adaptation.
Several aspects of the community's characteristics, such as
land tenure systems, major crop planted, and parents' high
educational aspirations for their children, will be very rele-
vant in later discussions on operations of the indigenous
rural credit and savings market and the uses of funds in this
market.

CHAPTER TWO

THOUGHTS AND VIEWPOINTS ON SAVINGS AND CREDIT
ACTIVITIES IN LESS DEVELOPED COUNTRIES

One of the problems of dealing with the issue of in-
digenous rural savings and credit in this study is that there
is no systematic body of theory on the issue to which one may
refer. This literature review is therefore not going to be
a conventional one in the sense of summarizing a given body
of theory. What will be attempted is rather a drawing together
of all thoughts and viewpoints bearing on the issues with which
this study will be concerned. Thus, conventional economists'
views on savings and savings capacities as they relate to the
study in general will be discussed. The literature on exter-
nal or formal credit sources will also be referred to, and
finally, the interesting points and highlights of studies on
indigenous rural savings and credit systems will be summarized.

Conventional Economics and the Savings Issue

Voluntary Savings in the Whole Economy

Considerations of savings have been so important in the
writing and thinking of development economists because of the
importance of savings, together with the capital formation it
makes possible, as a driving force in the growth and develop-

ment process. There exists a whole body of literature on the
growth and development process and the role of savings within
this process. In this literature survey, the intent will not
be to review this entire body of literature. Such a review,
though interesting and important in itself, falls outside the
scope of this study. Rather, there will be a fairly narrow
focus on the savings issue because of its importance (as com-
pared to other issues of growth and development) to this study
of rural savings and credit in Nigeria.

Essentially, for most development economists,

> The main purpose of economic development is
> to build capital equipment on a sufficient
> scale to increase productivity in agricul-
> ture, mining, plantations and industry.
> Capital is also required to construct schools,
> hospitals, roads, railways, etc. This is
> possible only if there is a rapid rate of
> capital formation in the country, that is,
> if a smaller proportion of the community's
> current income or output is devoted to con-
> sumption, and the rest is saved and invested
> in capital equipment. (M. L. Jhinghan, The
> Economics of Development and Planning, 1976,
> p. 202.)

The rate of capital formation depends in turn on three aspects
of savings. These are the availability of savings itself, the
institutions for mobilizing these savings, and the investment
of these savings. (p. 203)

As regards today's developing countries, many conventional
economists have argued that the three aspects of savings are
weak or non-existent, hence the lack of capital formation. The
focus of the argument has been more on the lack of savings in
less developed countries. Low per capita income levels, and

high marginal propensities to consume out of income are said

to inhibit savings in most LDCs. Typically, the developing

countries are regarded as being caught in a vicious circle of

poverty out of which it is rather difficult to break. Ragner

Nurkse summarizes the situation aptly, and the author quotes

him extensively. He describes the vicious circle as implying

> a circular constellation of forces tending
> to act and react upon one another in such
> a way as to keep a poor country in a state
> of poverty.

He notes that

> perhaps the most important circular relation-
> ships of this kind are those that afflict the
> accumulation of capital in economically back-
> ward countries.

Moreover, he continues, there is a supply and demand side to

this problem.

> The supply of capital is governed by the abil-
> ity and willingness to save, the demand for
> capital is governed by the incentives to in-
> vest. A circular relationship exists on both
> sides of the problem of capital formation in
> the poverty ridden areas of the world.
>   On the supply side, there is the small capa-
> city to save, resulting from the low level of
> real income. The low level of real income is
> a reflection of low productivity, which in its
> turn is due largely to the lack of capital.
> The lack of capital is a result of the small
> capacity to save, and so the circle is complete.
>   On the demand side, the inducement to invest
> may be low because of the small buying power of
> the people, which is due to low productivity.
> The low level of productivity however is a re-
> sult of the small amount of capital used in pro-
> duction, which in its turn may be caused at
> least partly by the small inducement to invest.
> (Problems of Capital Formation in Underdeveloped
> Countries, pp. 4-5.)

For purposes of this paper, the supply side of the problem will be more relevant. Nurkse himself and later Prebisch further stressed the importance of relative consumption patterns at both a national and international level. That is, even if per capita incomes were to be increasing, savings might not increase by much if at all, because poor nations and the poorer people within these nations would be subject to the demonstration effects of superior consumption patterns of richer nations and richer people within individual nations. With high marginal propensities to consume sharpened by the demonstration effect, there would be few savings in poor nations. Thus, the demonstration effect of rich on poor would also lead to low savings levels even given increasing incomes.

On the other hand, Sir W. Arthur Lewis, another influential development economist, while subscribing like most of his colleagues to the poverty thesis in general, and the vicious circle in particular, stressed that the overriding factor is not so much poverty, as that the capitalist sector in the developing economies is very small. That is, the significant savers in society (whom, as was noted in the first chapter, are in his opinion the profit making entrepreneurs) are few in number in LDSs, thus resulting in a low level of savings.

A few conventional economists have, however, since the late 1960s and early 1970s, espoused other views on savings availability in LDCs, and the importance of savings in the

development process. For some, it is not so much that LDC
people have no savings, as that whatever savings there are,
are invested in non-financial assets, thereby rendering them
unavailable for capital formation. For example, Basch, in
his A Pragmatic Approach to Development (1970), notes that
"even now in a number of LDCs, savings take the form of buy-
ing gold, silver, jewelry, constructing costly residential
houses, investing in land, and acquiring stocks of commodities
for speculation." (p. 73) In this view, then, savings still
remain a central factor in the development process. However,
the main problem is that there are no cash savings for invest-
ment purposes.

Other economists like Bauer disagree with the vicious
circle thesis and its influence on savings in LDCs. Bauer
even goes so far as to question the idea of savings as a de-
terminant of material progress. In his book, Dissent on Devel-
opment (1971), he argues that the vicious circle thesis, for
instance, is "demonstrably invalid in that it is conclusively
refuted by obvious empirical evidence." (p. 34) Bauer cites
such empirical evidence as the rapid economic advance of many
poor countries in recent decades, demonstrated by increases
in Gross National Product and exports. (pp. 34-35) For Bauer,
poverty and therefore the low or non-existent savings levels
which it is supposed to cause are not even the primary deter-
minants of material progress. In his opinion,

economic achievement and progress depend largely
on human aptitudes and attitudes, on social and
political institutions and arrangements which
derive from these, on historical experience, and
to a lesser extent on external contacts, market
opportunities and on natural resources. (p. 41)

Despite such dissenting opinions as Bauer's, the cen-

tral ideas espoused by many of the conventional economists on

savings in less developed countries continue to have great

impact for policy proposals and policy measures in most of

these countries, and great appeal abroad, as is demonstrated

by sometimes heavy influxes of foreign capital into LDCs.

Views on Rural Savings

In considering, in particular, savings in the rural sec-

tor, conventional views have been even more pessimistic. Pea-

sants have typically been thought of as the least promising

savers in LDCs, possessing little or no significant savings

capacities because of incomes generally lower, and marginal

propensities to consume generally higher than the average for

people in other sectors of the economy. Buchanan and Ellis

typify the pessimistic attitude on peasant savings. They note

that "Throughout the economically underdeveloped world, with

only rare exceptions, the typical peasant, fellah, coolie, or

peon saves little or nothing." (Approaches to Economic Develop-

ment, p. 301) Consequent on what was regarded as the absence

of any significant rural savings capacities, the rural popula-

tion was also regarded as credit starved. Nigeria presents a

good example of conventional thinking on rural savings and

credit. In this country, the bulk of the rural sector consisting of food crop farmers were regarded as being too poor to save at all or significantly. Thus, even till today, the above belief is underscored by the lack of any modern savings institutions in many rural areas. The only effort at savings mobilization has come about incidentally, and it has usually been among cash crop farmers in the rural areas. Typically, the use of marketing boards as involuntary means of taxation to help stabilize cash crop prices has resulted in enormous amounts of savings being generated through these cash crop farmers. The bulk of such savings have usually not been reinvested in agricultural enterprises.

Stress on External Credit Systems

What has emerged from the convictions of many planners and economists regarding savings in the rural areas had led to a tendency to ignore the question of savings in such areas. It has also led to a concentration on the provision of credit-- this latter being most popular with governmental and international agencies today. Such credit programs are usually justified on the grounds that since no savings, and hence no credit, exists in the rural areas, and since credit is required to enable farmers to adopt new farming techniques and innovations, credit should be pumped into the rural community to facilitate improvement in agricultural practices and increase farmer incomes.

Following the adoption of this view by governments and
lending agencies, many programs were set up, some of them in-
discriminately, resulting in benefits going to only influential
or well-to-do farmers in the rural community. One example of
this is a government cooperative credit system in Ogwashi-Uku,
which has failed to reach the majority of farmers with the
credit that was intended for their use. Due to the concentra-
tion on credit programs, most of the literature to be found
today on rural credit deals with the introduction of these
external credit systems into rural communities, their charac-
teristics, successes and failures. Thus, in one of the most
extensive surveys yet to be undertaken on the subject of rural
credit in LDCs--the AID (Agency for International Development)
Spring Review on Small Farmer Credit, 1973--the majority of
the Review volumes are devoted to consideration of institutional
credit systems, though informal systems are also discussed.
Similarly, in one of the more recent discussions on agricultural
credit, Uma Lele's The Design of Rural Development, the focus
is on institutional credit, though again indigenous rural credit
systems are briefly considered. One of the facts that has
emerged from the writings on institutional credit, be it gov-
ernment or international agency inspired, is that in many cases
such systems as have been set up have not met with much success,
given the goals that had been set up for them. In some cases
where the objective had been to reach the poorer farmers with
the credit, credit has gone to more well-off farmers. In

other cases, high default rates, mismanagement of funds, lack

of proper administrative personnel, or even excessive red

tape have led to the folding up of programs. Finally, in

various cases where it was thought that provision of credit

would facilitate adoption of innovative practices, such adop-

tion has not been forthcoming (e.g., see Roberts, 1972, the

first chapter). In short, there has been a mixed experience

with credit programs, with a few of the programs working out

successfully, and others failing.

The above experiences have in recent times turned the

attention of those concerned with rural credit to the design

component of these external credit programs, and the assump-

tions underlying the setting up of the programs. According

to Uma Lele,

> Few baseline surveys have been conducted in
> designing rural development programs prior
> to establishment of a credit service. Con-
> sequently, little hard information is avail-
> able to program planners on the target popu-
> lation's savings propensities or the sources
> from which it obtains credit. Since incomes
> are very low and savings potential appears
> to be very small, the credit component in
> almost all the development programs reviewed
> have been based on the assumption that seas-
> onal credit is one of the major constraints
> to rural development. (The Design of Rural
> Development, 1975, pp. 82-83.)

She goes on to cite the fact that several recent studies now

show that substantial savings capacities may indeed exist in

rural areas contrary to the common assumptions on which rural

credit programs have been built. It is to this literature

that deals with these indigenous rural capital markets that the discussion now turns.

Views on Indigenous Rural Credit

Prior to the economists' and agricultural credit specialists' recent interest in and analysis of indigenous rural capital markets, anthropologists and sociologists had been for years exploring this area using case studies (e.g., see Ardener, 1953, 1962; Bascom, 1952; Firth and Yamey, 1964; Geertz, 1962). The work of these social scientists revealed the fact that a rich and varied capital market exists at the rural level in developing countries. They revealed the existence of rotating credit associations (commonly known as esusu, huis, arisan, depending on the part of the world), and the important savings functions performed on behalf of members of the rural community by these societies. They also showed that an active credit market involving these societies as well as relatives, friends, and money lenders flourished in the rural areas. Research findings on the capital markets, especially the rotating credit association component in different rural areas, pointed out remarkable similarities in organization and structure of these markets the world over, although varying degrees of sophistication existed from area to area. Anthropologists and sociologists also found rotating credit associations playing an important social and cultural role in most of the rural societies, and it was to this latter that many of them turned their attention and research efforts.

Rotating credit societies and 'safes' will be a central focus of discussion in Chapter Three; therefore, it is worth exploring some of the general findings on these associations in the literature. Geertz in his 1962 article on rotating credit societies gives the most general yet succinct description of these societies:

> The basic principle upon which the rotating credit association is founded is everywhere the same: a lump sum fund composed of fixed contributions from each member of the association is distributed, at fixed intervals and as a whole, to each member of the association in turn. Thus, if there are ten members of the association and if the association meets weekly, and if the weekly contributions from each member is one dollar, then each week over a ten week period a different member will receive ten dollars (i.e. counting his own contribution). If interest payments are calculated, by one mechanism or another, as part of the system, the numerical simplicity is destroyed, but the essential principle of rotating access to a continually reconstituted capital fund remains intact. Whether the fund is in kind or in cash; whether the order members receive the fund is fixed by lot or by agreement, or by bidding; whether the time period over which the society runs is many years or a few weeks; whether the sums involved are minute or rather large; whether the members are few or many; and whether the association is composed of urban traders or rural peasants, of men or women, the general structure of the institution is constant. ("The Rotating Credit Association: A 'Middle Rung' in Development," 1962, p. 243.)

One interesting question concerning these rotating credit societies is, What motivates people to join them? What exact role do they play in rural life? Different authors approach the above questions from different angles. Some view

the existence of such associations from mainly social perspectives, i.e., in funerals and marriages, as a money gathering agent, as in the case of the Maori in New Zealand (see Joan Metge, 1964). Others view the associations from primarily an economic perspective. For Geertz, the rotating credit association

> will be seen, in fact, to be an 'intermediate'
> institution growing up within peasant social
> structure to harmonize agrarian economic pat-
> terns with commercial ones, to act as a bridge
> between peasant and trader attitudes toward
> money and its uses. The rotating credit asso-
> ciation is thus an institution...which fits
> into community patterns and yet aims at planned
> and 'goal directed' savings. (p. 242)

Dale Adams (1973) also stresses the economic nature of these associations. He notes that "although not extensively documented in the literature, it is likely that informal systems of savings handle very large volumes of resources in LDCs." ("Case for Voluntary Savings Mobilization," p. 4) He regards the rotating credit association as one of the informal systems handling these resources, performing both savings and credit functions, and thus more highly financially integrated than any of the other informal systems. Finally, Zuckerman (1977) stresses that farmers have a cash management problem. The small amounts of cash trickling in throughout the year, if held at home, would be dissipated quickly on petty expenses, and thus be unavailable for any important lump sum expense. Since the marginal utility of a lump sum appears to be higher for these rural people than that of small petty cash, they use

the rotating credit association as a way of storing the
petty cash they get, so as to eventually get back a lump sum.
In his study in the western part of Nigeria, Zuckerman found
that sometimes farmers were even willing to pay to have this
cash management function performed for them through means
of such associations.

Though it appears that rotating credit associations
may handle a substantial volume of cash, the evidence on the
magnitude of these finances is as yet scanty. What evidence
there is, however, on these associations and on rural transac-
tions in general, indicates, as has already been noted, that
there may be more of a savings capacity in the rural areas
than would have been imagined given the writings of many con-
ventional economists--such savings capacities existing des-
pite relatively low per capita incomes. Uma Lele (1975)
cites a review of smallholder credit in Kenya done by Von
Pischke, in which he talks about the totally unanticipated
(by credit officials in Nairobi) deposits of KSh 15 million
by 1973, just three years after the rural banks had initiated
the cooperative Thrift Scheme.

More evidence comes from a study of rural credit in
Taiwan conducted by Dale Adams, H. Y. Chen, and C. Y. Hsu
(1973), in which they note that

> the size and importance of huis (savings-credit
> associations) in rural Taiwan provide additional
> evidence that rural credit requirements as well
> as savings capacities are considerable and that
> informal systems of credit-savings may provide

a valuable service in helping to mobilize and
channel a part of these savings capacities.
("Rural Capital Markets and Small Farmers in
Taiwan 1952-1972," p. 22.)

Yet other evidence on the magnitude of rural transactions
comes from studies in Korea   already cited in the
first chapter. Thus, though there may be a general trend of
the income-savings relationship in the direction postulated
by the conventional economists, evidence has come to light
that considerably weakens their assertions on rural savings
capacities. Not only is the latter higher than postulated,
but rural marginal propensities to save appear to be quite
significant.

As may have been gathered from the preceding discussion,
as well as the savings activities, a good number of credit
transactions take place in the rural areas proving the exis-
tence of an active capital market in some form. At the center
of this market in some rural areas, and funnelling a good deal
of credit, is the rotating credit association in a slightly
more sophisticated form. Other credit sources as previously
mentioned are relatives, friends, and moneylenders. Despite
the broad similarities that exist in these credit markets,
it would be difficult to provide a general summary of findings
on this issue here, because of variations in detail from area
to area. One common characteristic that has, however, been
of interest to economists and that will be of interest to us
in the following chapter is the interest rate structure in
rural credit markets.

Interest rates in these markets appear to be universally high with ranges of from 20% or below per annum to as high as 300%. Average rates of 110% are common in some places, while the average rate of 30-35% per annum is often quoted for rural interest rates in LDCs as a whole (see U. Tun Wai, 1957). Scholars of the subject state that though these rates are high, loans of a similar size, duration and risk in developed countries also bear relatively high rates. According to Millard Long (1968), the types of loans in developed countries most analogous to rural loans in developing countries are the loans made by consumer finance companies which usually bear a rate of about 24% per annum. Both types of loans are small in size, of short duration, are usually unsecured, and appear expensive to administer. The high interest rates on rural loans in LDCs have long been attacked as representing the presence of a monopolized credit market. Long and Bottomley (1963, 1964) point out that though some monopoly profits may exist as a component of the high interest charges, it is by no means certain that this component is chiefly responsible for the high interest rates found in LDCs. Interest rate charges usually have several components; an opportunity cost component, i.e., considerations of returns to alternative investments, administrative cost component--costs of funnelling and keeping track of loans and interest payments--and a risk component, i.e., arising from a high default rate. According to these writers, it appears that some, if not all, of these costs of loaning

funds are quite high in rural areas in LDCs, so that the in-
terest charges may do no more than cover costs. Therefore,
the indigenous lenders may be acting according to the reali-
ties of the market in which they operate. Bottomley concludes
in his discussion that the only way to get a reduction in in-
terest charges in rural areas is through general economic
development, that is, an increase in the rural people's pro-
ductivity. Only when the rate of farmers' output, for instance,
increases, will many of the costs (e.g. risk) of providing
credit in the indigenous credit market disappear. In the
next chapter, the applicability of some of the concepts to
this particular case study will be reviewed.

Conclusion

In this chapter, an attempt has been made to review
some of the important issues and assertions concerning savings
and credit in general, and rural savings and credit in partic-
ular, in developing countries. The conventional views on the
above subject have been outlined. It has been argued that
though the general trend of the conventional views may be ten-
able, these views do not hold as strongly as had been presumed,
when reviewed in the light of new evidence coming up from
studies of rural areas in LDCs. Studies have been cited that
demonstrate that a strong indigenous capital market exists
at the rural level in LDCs with substantial numbers of savings
and credit transactions taking place. In the light of this

new evidence, it would appear that not only can the conventional assertions be questioned, but the tendency to set up rural credit programs sometimes indiscriminately in rural areas, without regard as to the existing credit-savings situation or the appropriate target population, may have to be examined on a case-by-case basis to avoid failure. This is necessary since the problem in many rural communities may not, as has been repeatedly stated, be the availability of savings, nor the lack of credit sources (at least in a short-run sense), but may be the lack of a means for mobilizing these savings on a large enough scale for meaningful productive-type investment, at least at a communal level. There may also exist, at least at the individual level, a general lack of incentives to plough available savings and credit into desired 'planners' investment. As regards institutional credit sources, the argument is not that they are totally undesirable, but that rather, since evidence exists on a burgeoning rural capital market in many LDCs, what is needed is judiciousness in the setting up of such credit programs and the careful targeting, wherever possible, of program population.

In the next chapter, there will be an attempt to add to the body of evidence that has already come to light on the functioning of indigenous rural capital markets in LDCS.

CHAPTER THREE

INDIGENOUS RURAL SAVINGS AND CREDIT SYSTEMS
IN OGWASHI-UKU: A DISCUSSION

The main purpose of this chapter is to demonstrate
that a strong indigenous rural capital market exists in the
Ogwashi-Uku area of Nigeria, and that there is active com-
munity participation in this capital market. Further, that
the magnitude of amounts generated and circulating within
this system are quite substantial, thus proving the existence
in this particular rural area of a cash savings and credit
capacity much greater than one would have been led to believe
given the views of many conventional economists, as discussed
in Chapters One and Two.

In order to undertake the above demonstration, and
highlight the manner in which the amounts within the system
come into being, a description of the various components of
the indigenous rural savings and credit system will be under-
taken, as will a discussion of their structure, characteris-
tics and functions. In relation to their functions in the
rural community, it will be interesting to discuss the uses
to which the amounts available to rural people from this sys-
tem, either through savings or credit, are put. The strength
and continuity of the system in the future will also be dis-

cussed, and finally, some comparisons will be made between the indigenous system and the various components of the external savings and credit system currently in the Ogwashi-Uku area. But before launching the above undertaking, it will be necessary to describe and discuss the primary data sources on which the discussion in this chapter and the next is based. This will provide the reader a context within which to assess the findings of the study.

Data Sources and Limitations

The data for this study were collected over a period of eight weeks spanning part of the summer and Christmas periods of 1977, although in a sense, observation of some of the non-numerical data has been an ongoing process with the author since she comes from the study area.

Two types of data sets were collected. The first type had as its unit of observation the components of the indigenous rural credit and savings system, that is, the esusu (rotating credit association), the safes, relatives, friends, etc. Here, through interviews with the administrative officers, and some of the membership of the above organizations, descriptive data were collected on organization structure, characteristics, membership, and functions. Some of the data on the magnitude of amounts available within the system were also collected in this fashion, as well as through examination of organization accounts books kept by many of the more sophisticated esusus and safes.

The other type of data collected had as its unit of observation the individual participants in the rural capital markets. Here, a semi-stratified random sample of fifty Ogwashi-Uku men were interviewed with a view to determining a) extent of participation in the indigenous capital market, i.e., borrowing, lending and savings behavior; b) magnitude of amounts saved and borrowed by individuals; c) purposes for which loans were taken out, and uses to which lump sum savings were put; d) extent of participation if any in the 'external' so-called modern financial institutions; and e) perceptions of both external and indigenous financial systems. Data on socioeconomic characteristics of interviewees--income, age, number of children, etc. were also collected. Specific details can be found in the survey questionnaire in Appendix A. While the information in the two data sets will be used to a greater or lesser extent in Chapters Three and Four, the set that will be most relevant in the present chapter is that which has the components of the indigenous system as its unit of observation. The other data set will be most relevant for the analysis to be undertaken in Chapter Four.

It should be noted here that all the data collected on borrowing, lending and savings behavior is strictly in cash terms. The author did investigate 'in-kind' borrowing and lending and found that such in-kind activity is mainly among women, has to do with foodstuffs, and is of such short duration that in terms of an interesting analysis of credit activities

it yields little. Typically, in-kind borrowing involves two
neighboring women. If, for example, one woman is short of
processed cassava for cooking, she borrows from the neighbor-
ing woman in the same or a nearby compound. The lender usually
measures out the quantity desired in a bowl of a given size.
The borrower promises to return the loan either on the same
day, the next day, or two days hence. Such loans rarely last
longer than two days without being returned. The borrower re-
turns the exact amount lent as there are no charges on such
loans. Such reciprocity is so common among the rural people,
especially the women, that it would be stretching facts some-
what to describe this as borrowing and lending activity.
Hence the author's decision to do no further investigations
on this count. Reciprocity of labor services, which exists
to some extent, will be discussed later.

There are several limitations to the data collected that
serve as constraints on the study. Most of these limitations
concern data collected on individuals and their participation
in the indigenous capital market. The first important limita-
tion is the size of the sample interviewed. A sample of fifty
is a relatively small sample, thus limiting the extent o which
findings in the study can be generalized. However, the author
wanted as much detail as was possible in the interviews given
the time constraint, and therefore used a directed interview-
ing format to obtain the detailed information. This meant
that since the interviews were conducted almost singlehandedly,

there had to be a trade-off between desire for numbers and desire for in-depth information. The latter was chosen as being of more importance for an experimental study of this type.

A second important limitation is that the data obtained in the directed interviews deal only with the borrowing and lending behavior of men within the community. Women were left out initially because the author was particularly interested in how rural financial transactions affect farming investment and since, as noted in the first chapter, farming is a male activity in this area, the survey design took place with the men in mind. Since then, the scope of the study has broadened and shifted so that the exclusion of women's savings and credit behavior is a serious shortcoming, since women are very active in the rural capital market. Their inclusion would have made for a richer and broader data base. An attempt was made, however, to take women into account in assessing family income; this was not very successful, because although women do contribute substantially to family income through their petty trading activities, many women could not quantify their contributions. The problem was that they contributed so frequently from their trading stock into the family's "soup pots" that it had become routine and so no attempt on their part to quantify the contributions was ever made. Given more time, perhaps some of the women could help to quantify this activity. Because of the difficulties with the women's contributions, income calculation

was limited to the concept of men's production.

The measure used for income in the study is very crude, but given the lack of direct measures, this was the best that could be constructed. The decision was made to use number of yams planted as the basic indicator of the farmer's family income. As has already been pointed out in Chapter One, yam is a central food crop in the area and a prestige crop. In the old days, a man's prowess and position in society was measured by the number of yams he planted each season. Elements of this manly pride in number of yams planted still remain in many rural areas in Nigeria today--Ogwashi-Uku being one of them; hence the decision to use this criterion as the basic income measure. The number of yams planted was converted into cash value by the average price of yams prevailing at the time of the study (Summer 1977). To this base figure was added an estimate (estimated by the farmers themselves) of the worth of the cassava crop for each farmer. Estimates for other crops were then added, and finally, if a farmer had a part-time occupation, such as palm-wine tapper, messenger, or night guard, income from this was also added to arrive at a total family income figure.

Another set of limitations to the data involves the problem of time frames for some of the responses collected. This will be important when considering some of the analysis in Chapter Four. In particular, the responses to the questions on number of times money was borrowed and lent by individuals was

not constrained to any particular recent year as the income
was, but to a span of ten years. However, people tended to
remember more recent activity so that most of the responses
given were for the years 1974-1977, thereby bringing the time
frames closer together than would have been the case given the
phrasing of the questions. The open-ended nature of some of
the questions (again refer to Appendix A) arose from the fact
that it was felt people would feel less constrained in answer-
ing the questions if they were not too closely restricted to
a particular time period. As it was, however, the open ended-
ness also led to the problem of mismatch in time periods.

Components of the Indigenous Rural Capital Market

In this section, a discussion of the four indigenous
rural capital market savings and credit components will be
undertaken. The four components that will be discussed are
the Esusu, Safes, Friends and Relatives, and Moneylenders.
In this discussion, an attempt will be made to touch on issues
of the organization, structure, and functioning of the compo-
nents as applicable. However, before this is undertaken, a
brief description will be given of savings and borrowing ac-
tivities as they used to be in Ogwashi-Uku in the early and
middle part of the century, and as they are at present in the
late 1970s. Table 3-1 summarizes the important aspects of the
comparison.

TABLE 3-1

SAVING & BORROWING ACTIVITY: HISTORICAL COMPARISON IN OGWASHI-UKU

		Early and middle 1900s	Late 1970s
1.	Existing savings and credit systems	Esusu Relatives & friends Moneylenders	Esusu with safe components Major safe Relatives & friends Moneylenders
2.	Nature of activity, whether cash or 'in-kind'	More 'in-kind' lending and borrowing; e.g., labor reciprocity. Some cash activity also.	More cash lending and borrowing. Some 'in-kind' activity also.
3.	Interest charges on loans	Relatively low; 0-5% per month.	Range much broader; 0-25% per month. Average charges probably higher.
4.	Loan terms	a) Physical collateral demand, e.g., sewing machine, bicycle.	Human collateral demanded in form of the 'surety' or guarantor.
		b) Swearing of loan agreement before ancestral gods.	Recording of loan agreement on paper by educated person.
5.	External savings and credit. Sources existing at time.	Post office savings bank	Post office savings bank Government cooperative Savings & credit system Government commercial savings bank

SOURCE: Field interviews by author.

Casting back to the days of his youth, the oldest inter-
viewee (an eighty year old man) could remember savings and
credit transactions taking place between and among members
of the rural community. The major institution for saving
at the time was the esusu in a very unsophisticated form.
Sources of credit were relatives, friends, and moneylenders.
According to the old man, and along the lines of what would
be expected in the less monetized economy of those days, many
credit transactions were "in-kind," involving mostly borrowing
of a cash amount, which was then paid back in kind subject,
of course, to previous agreement between the principal parties.
At other times, in-kind borrowing and lending--if it can be
so described--which existed then and still exists today to
some extent--involved labor use. Men in the villages organized
themselves into working groups, and during the clearing and
planting season rotated as a work force between one another's
farms. All the owner of the farm had to do was provide food
for the group.

Regarding loans in those early days, interest charges
were not very common, and where they existed, they were usually
not high compared with what is observed within the same community
today (about 0-5% per month compared to 0-25% per month today).
There was, however, more of a tendency to demand some kind of
physical collateral on loans. Sewing machines and iron beds
were very precious commodities then, and could be demanded as
collateral. To seal a loan transaction, and as a signal of

willingness of the borrower to abide by the terms of a loan

agreement, there would be a little swearing ceremony before

the ancestral/community gods in which the borrower would swear

to pay back the loan at the agreed time. It was widely believed

that default on the agreement would bring down the wrath of the

gods.

In recent times, most of the above has taken on a new

face under the influence of external pressures. The credit

and savings sources remain basically the same. The esusu is

now more sophisticated as will be seen when it is described

below. A relatively new savings source now on the Ogwashi-Uku

scene is the Safe--a savings association which will also be

described in more detail later. Relatives, friends and money-

lenders still remain sources of credit, as is the Safe also.

In-kind borrowing and lending is now less common than in ear-

lier days. What remains of it concerns mainly foodstuffs as

was previously mentioned. In-kind labor reciprocity still

exists, but in a much more limited form than that described ear-

lier. The host of a working group, if one is organized, now

has to provide in addition to food, wine, beer and cigarettes--

all of which could prove expensive for a poor farmer. Interest

charges on loans are presently very common and in some cases

quite high (as high as 25% per month). Strangely enough,

there is less of a tendency for lenders to demand collateral

on loans. Virtually all the people interviewed had not left

any physical collateral on their loans if they were borrowers,

or demanded any if they were lenders. The demand for collateral has been replaced by the demand for a "surety" by some institutions--the surety being a respected person in the community who guarantees the borrower's loans. Still, the demand for a surety appears not quite so widespread as that for collateral had been in pre-independent Nigeria. Loan agreements are now written on a piece of paper usually by a primary or secondary school child recruited for the purpose by the transacting parties. External savings and credit institutions have been introduced into the area--a Post Office Savings bank, a state-owned commercial bank, and a cooperative credit and savings scheme. Despite the presence of all these non-indigenous types of institutions, participation in the indigenous credit and savings market appears to be as strong now as before, as is shown in Table 3-2.

Table 3-2 shows the number of interviewees who either borrowed or lent, i.e. participated in some form in the indigenous rural credit market. Out of 50 people, 44 (88%) indicated their participation either as borrowers, taking out loans from the various credit sources mentioned, or in the form of lenders making loans to others, or as both borrowers and lenders. While 39 out of 50 (78%) of the interviewees engaged in borrowing activity, 33 out of 50 (66%) took part as lenders. A large number of people, 28 to be exact, acted as both lenders and borrowers simultaneously, leaving only 6 out of 50 people who did not participate in any borrowing or lending activity. Another

Table 3-2

Borrowing and Lending Behavior Among a Sample of
Ogwashi-Uku Farmers

	Lent	Did not lend	Total
Borrowed	28	11	39
Did not borrow	5	6	11
Total	33	17	50

SOURCE: Field interviews conducted by the author.

look will be taken at these data in Chapter Four. As regards
savings activities through the esusus, and the safes, again
88% of the sample indicated membership in at least one of
these organizations, with 12% of the sample having no member-
ship in any. The mean and the modal number of societies to
which people belonged was four. In contrast, regarding par-
ticipation in the externally introduced institutions, 36% of
the sample indicated simultaneous use of the commercial bank
for deposits, along with their participation in the indigenous
system. This percentage figure is higher than it would have
been because six of the 18 depositors who have part-time jobs
with the government as night guards or messengers are obliged
by government regulations to receive their paychecks through
the state-owned commercial bank. Only four people (8% of the
sample) indicated participation in a cooperative society, and

one person was on the verge of dropping out. Six people indi-
cated use of the post office savings bank--the longest stand-
ing of these institutions in the community.

The data on participation in the indigenous capital mar-
ket is supportive of one of the facts the study set out to
show, that there is an active indigenous rural capital market
in which fairly broad participation exists. For a good pro-
portion of the rural community it appears that possibilities
for obtaining quick short-term (and sometimes long-term)
credit for their activities are fairly broad. The components
of the indigenous capital market have thus far been mentioned
frequently throughout the discussion. Table 3-3 presents a
brief summary of the interesting aspects of these components,
both for purposes of comparison and to give the reader a quick
grasp of the essential aspects of the indigenous savings and
credit system. A detailed discussion of each of the components
is undertaken below with a view to showing how the amounts in
the system come into being.

The Esusu Rotating Savings and Credit Association

There are several variants of the esusu in Ogwashi-Uku.
At the very simple level is found the type described by Geertz
as quoted in Chapter Two. Several people meet together either
every nine days, every fortnight, or every month, to contribute
a stipulated amount which in turn rotates from member to member.
This 'rotating fund' as the author will term it belongs to the

TABLE 3-3

ESSENTIAL ASPECTS OF THE COMPONENTS OF THE INDIGENOUS SAVINGS AND
CREDIT SYSTEM

Aims	Esusu generate lump sum savings and loanable funds for safe component	Safe generate lump sum savings & loanable funds	Relatives & Friends lend money when desired	Moneylenders lend money with interest charge
Organizational structure	ranges from president & membership in simple type to president, sec., treas., chiefwhip, zonal leaders in the larger, more sophisticated type, hierarchical set-up, but with plenty of feedback	same as Esusu	not applicable	not applicable
Membership composition & no.	generally mixed composition. Membership ranges anywhere from 10-300+ people	same as Esusu	not applicable	not applicable
Basic amounts contributed	range varies from 20 kobo to ₦4+ with 1% of contribution for safe component	ranges from 20 kobo to ₦4+	not applicable	not applicable
Nature of loans	mostly short-term; some long-term	mostly short-term; some long-term	same as Esusu and safe	same as others

Continued on following page...

TABLE 3-3 (continued)

	Esusu	Safe	Relatives & Friends	Moneylenders
Terms of loans	a) virtually no physical collateral demanded. Human collateral in form of guarantor or surety required for loans.	same as Esusu	no physical or human collateral demanded, in general	human collateral sometimes demanded
	b) interest charged on loans in most cases. But high flexibility when difficulties in payments encountered.	same as Esusu	no interest charged	interest charged
Social functions	a) moral and sometimes financial support to members in times of stress, e.g., funerals	some support for members in times of stress, but less common than in others	both moral and financial support in times of stress	none
	b) dancing, eating, drinking, merrymaking at meetings	virtually no dancing, merrymaking at meetings. Some eating & drinking. More businesslike atmosphere.		none

member who receives it for disposal in whatever manner that
member might wish. The cycle of this esusu as that of others
lasts until the last member in line has received the rotating
fund. At this level, the organizational structure of the
esusu is very simple. There is generally only one presiding
officer--the president who takes charge of the affairs of the
association. Record taking in this case is not very common.
The members (usually few in number, about 10-20 people) meet
in each recipient's house in turn, contribute the money, drink,
eat, and then disperse until the next meeting. No borrowing
fund is available here. These types of very simply structured
esusu are not so common any more. The more sophisticated types
of esusu now seem to be more prevalent in the community.

At the more sophisticated level, the esusu usually has
a larger membership-- anywhere from 30 to over 100 members.
The association also has a credit fund attached to it, and
this is what really differentiates it from the simpler type.
In other words, not only do the members meet to contribute to
the rotating fund, but at every meeting each member also pays
a small previously agreed upon levy--usually 1% of the amount
contributed by the member to the rotating fund. This levy is
put aside in a wooden (or any other type) box known as the
"safe," and from here any member or non-member who is permitted
can borrow for his or her needs at agreed upon interest rates.
This safe fund can also be augmented through membership late
fines, or through funds donated to or earned by the association

in a manner to be described shortly. In this type of esusu, organizational structure is more complex. There is usually a president who takes charge of the proceedings at each meeting, a chief whip to help keep order, a secretary who keeps a record of membership numbers, late fines, contributions to the safe, etc. A treasurer may also be elected to help the secretary count and keep a record of the money, and to take personal charge of the money in the safe. The secretary and treasurer by virtue of their duties are usually fairly literate in English and know arithmetic. That is, that have at least primary level education. While the records are kept in English, the proceedings of the organization are carried on in Ibo--the language of the area. The treasurer usually takes the safe box containing the money home, but the president and the secretary each get to keep one of the two keys to the safe box. The purpose of this, the author was informed, is to make certain that should any of the members of even non-members wish to borrow money from the safe at any time, there would be at least two witnesses to the transactions. Should such a loan be made at a non-meeting time, the loan transaction would then be announced to the general membership at the next meeting. Sometimes, when the membership becomes fairly large, as in two of the societies investigated (66 and 261 members), a more complex organizational structure arises. In this case, the membership is divided up into zones, and zonal leaders are elected whose duty it is to go around and collect the contri-

butions due for that meeting from the members prior to the meeting. These contributions are then handed over to the secretary and treasurer at the meeting. The zonal leaders thus become members of the organizational hierarchy. As the organization becomes larger, differentiation in the hierarchy becomes more pronounced, although a two-way dialogue between members and leaders is always maintained. Chart 3-1 displays the three types of organizational structure described here, from the simplest to the most complex.

How do these organizations come into being? There is no special force that is responsible for this. What typically happens is that an interested party calls together a few trusted friends and relatives and asks them if they would like to form an esusu club. If they are interested, all parties concerned then make decisions as to meeting times and frequency, size of contributions, to have an extra levy or not, type of organizational structure, etc. The founder of the organization usually becomes the president and other officers may then be elected. The president may be the first in line to receive the rotating fund. Other members may then take their turn according to the order in which they joined the society, according to age, or some other agreed upon criterion, but seldom by lottery as is common is some Asian and certain East African countries. Crucial in the organization of these societies is the fact that the organizer must be someone respected in the community--someone known to be reliable.

CHART 3-1

ORGANIZATIONAL STRUCTURE

PRESIDENT

MEMBERSHIP

TYPE I

PRESIDENT

Sec.	Treas.	Chief Whip

MEMBERSHIP

TYPE II

PRESIDENT

Sec.	Treas.	Chief Whip

ZONAL LEADERS

MEMBERSHIP

TYPE III
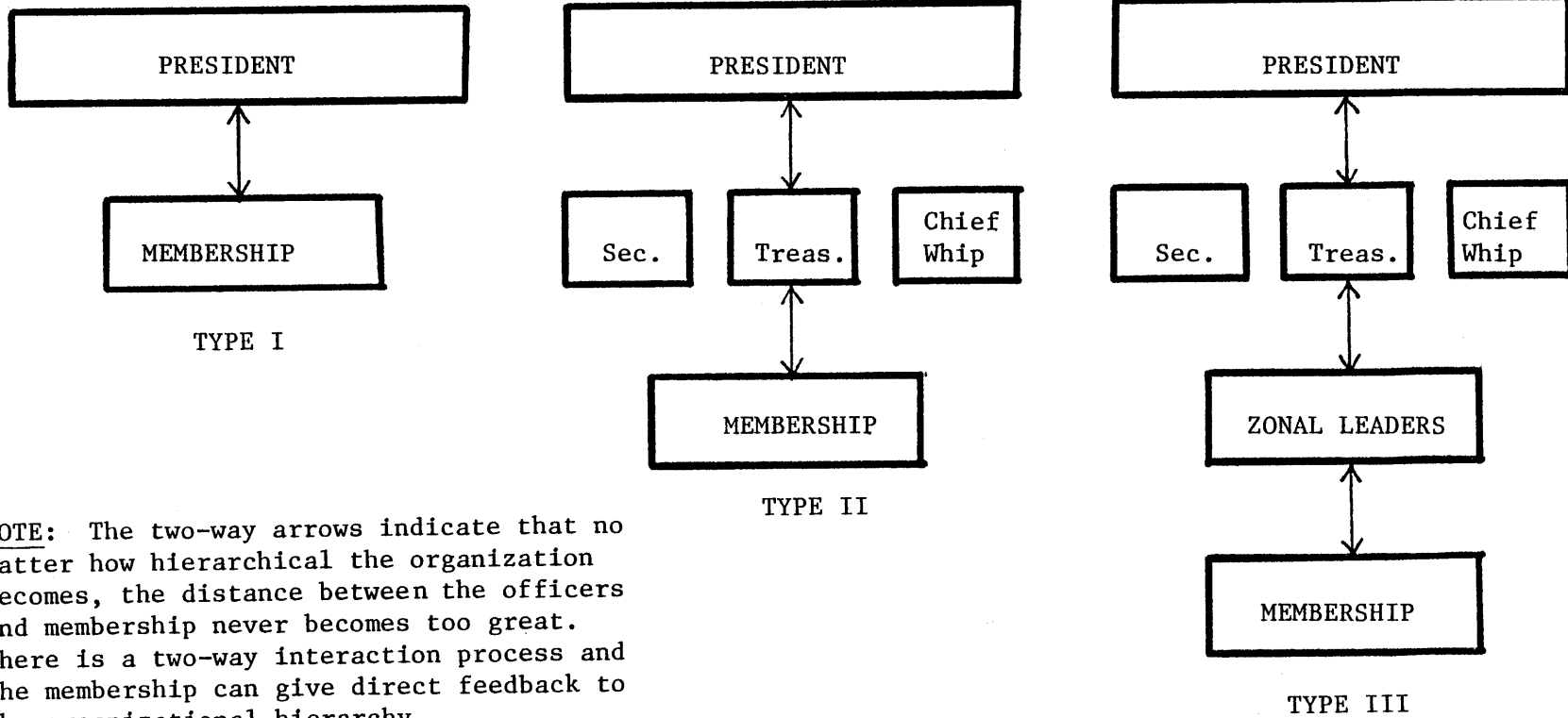
NOTE: The two-way arrows indicate that no matter how hierarchical the organization becomes, the distance between the officers and membership never becomes too great. There is a two-way interaction process and the membership can give direct feedback to the organizational hierarchy.

Otherwise, no one would be willing to join for fear that the founder would, after receiving their contributions, refuse to contribute further. Kamene Okonjo's (1976) observations on this matter in some women's rotating associations in Ogwashi-Uku, which she investigated, fully apply to all organizations in the community, including those considered here and whether founded by women or men. She notes that

> ...a thief, liar or bad debtor cannot success-
> fully found a credit association no matter how
> good or genuine her intentions are. People
> will assume that she needs money and will de-
> fault as soon as she has collected her 'take-
> out' (share of the rotating fund) which for
> her as initiator of such an association will
> usually be quite early in the life cycle of
> the association. A lazy woman who has no
> 'visible' means of income will usually also
> not get a following for this sort of contri-
> bution association. (Financial Institutions
> for the Mobilization of Resources for Invest-
> ment and Consumption in the Rural Areas:
> Women and the Socio-Economic Impact of the
> Esusu in Two Western Igbo Communities, p. 16)

The duration of the cycle until the fund has been received by each member is crucial; therefore, it is important that not only the founder be reliable but the membership also. A member who defaults on payments or drops out after receiving his share loses face in the community and earns a reputation as a credit risk. Naturally, people do all they can to avoid such an embarrassing and damaging social situation.

As is probably evident from the discussion thus far, there is no stipulated size for the esusu association. Membership size could range anywhere from 10 to over 300. Among all the components of the independent rural savings/credit

markets investigated, two were esusus and they had memberships of 66 and 261, as mentioned earlier. Membership size depends on the desires of foundation members and also on their popularity and consequently that of their association. Most esusu tend to have mixed membership--male and female--although some may be founded that are completely or predominantly unisexual. Those investigated in this study were of mixed membership.

There is also no overall stipulated amount to be contributed in these organizations. Generally speaking, members agree on a reasonable basic amount which everyone can afford to pay regularly without too much of a strain and hence threat of default. If some members are relatively more well-off than others and wish to contribute more, they may take what is known as a double or triple share, i.e., contributing two or three times the basic amount and thus taking a place in the queue for the fund the same number of times during the duration of the cycle. Basic amounts range anywhere from 20 kobo to ₦4 or slightly more. Associations with basic contributions on the upper end of the scale tend to meet less frequently--for example, once a month. Those at the lower end meet more frequently-- once every nine days or once a fortnight.

Most loans given out by the associations from their safes are short-term loans lasting 1-6 months and sometimes a year. There are no restrictions on the number of loans to be given during the life cycle of the association, neither are

there any formal restrictions on amounts. Each association
is careful, however, not to entirely exhaust the amount of
the safe in case the association needs to call on the funds
for some of its own activities. In general, however, as re-
gards requests for loans, there is a sense on the part of
association members and the rural community of legitimate
and illegitimate loan requests. For example, a request for
a loan to pay off gambling or drinking debts would be denied
outright as requests for irresponsible purposes, whereas re-
quests for funeral expenses, building or repairing a house,
education would be more readily granted. Other than this
broad recognition of legitimate and illegitimate loans, there
are no other requirements concerning the purposes of loans.

The decision to grant a loan tends to be taken at meet-
ing times by the general body. The borrower comes forward to
state his or her case for the loan and the amount desired.
The membership then reaches a consensus on whether the loan
is to be granted and, if so, whether to grant the full amount
requested or part of it. If the decision is favorable, the
borrower is given the association's previously set terms for
loans, i.e. repayment terms, interest rate schedule, etc. In
the majority of associations terms are strict, especially for
non-society members. For example, non-members are generally
required to have a 'surety' (guarantor) from the society be-
fore being granted a loan. The interest rates charged them
are usually higher than for members—sometimes even twice as

high.   (Interest rate charges will be dealt with in a later section; for example, in some associations members may be charged 20 kobo on the ₦2 a month interest, while non-members are charged 40 kobo on ₦2 a month.)   Flexibility, however, prevails as regards the enforcement of interest rate terms. In cases of extreme need or duress, particularly on the part of a member, a society may relax its rules considerably, even doing away with the payment of interest charges and foregoing the setting of a time path for repayments.   For example, one of the respondents in the sample recounted how the association of which he was a member lent him ₦40 to pay off a term's fees for his son.   The society lent him the money without in- terest.   Since his son was in the final year, it was expected that he would pay on working after graduation, and reward the society for the kindness toward him.   It is this flexibility and humaneness on the part of these associations that appeals to the membership and the general rural public in Ogwashi-Uku. As already mentioned, emergency loans may be made through association officers who have to use their own discretion at these times.   Reports are then made back to the general meet- ing.   At the end of the association cycle, all loaned-out funds are recalled for division among the membership.   Extra money from interest charges and other sources are also shared in a manner that will be discussed later.

Part of the use for the money in the safe is to remunerate officers at the end of the cycle. Such remuneration is usually not too high except in the really large societies. It may run from 50 kobo per officer in very small societies to ₦8 in large ones. The president usually receives more than the other officers. The secretary, treasurer and chief whip receive the same amount and, if zonal leaders exist, they are paid equal amounts, but less than the officers directly above them.

The economic functions and organization of the esusu association have been discussed at considerable length. Another important function that these societies have is the social one. A society meeting, after business has been taken care of, is a place where a member can relax, eat, drink, talk with friends and dance. Here it should be mentioned that whoever is receiving the fund on a particular meeting day is obliged to entertain the membership by providing the above mentioned food and drink. This becomes a kind of tax on the recipient, which sometimes could amount to 20% of the funds for those members wishing to entertain lavishly. In order to prevent too lavish an entertainment, and at the same time prevent too low a level of same, a society may stipulate the amount to be spent by each recipient on entertainment purposes. Most societies provide their own music--there are generally drummers and flutists who are also members, and while they provide the music, members dance and make merry. A party atmosphere prevails after busi-

ness has been done. To enable members to take maximum advantage of this relaxation function, many societies meet on Sundays or on the non-working market day for the particular village (if all the members are from the same village). (There are four market days that constitute the rural week, i.e., every village has a market day set aside in which it is taboo to work.) On the above two occasions, members usually have time away from work.

Some societies that get very good at drumming and dancing may be invited all over town to provide entertainment at various functions--marriages, births, etc. For this, such a society charges a standard fee which goes directly into its safe box for loaning out, or for later sharing among members. Extra donations received by the society at such times also go into the safe. Some societies earn substantial amounts this way. One of those investigated for this study earned some of its loanable funds in this fashion.

A much more serious social function of these societies involves that of support for a member in trouble. The most common type of trouble is, of course, a death in a member's family or even the death of a member. On such an occasion, all society members become mourners. They sit with the family of the dead person wailing and singing. A society in such a position will also provide financial support for the funeral out of funds in the safe, because funerals (with all the rites to be performed) may become very expensive. In cases where a

member has died and the family is too poor to provide what
the society considers a fitting burial, the society may take
over the bulk of expenses in order to ensure a proper burial.
In short, a person who belongs to an esusu association is a
member of a larger family and is assured of its support in
all aspects in times of stress.

Our discussion of the esusu--a major component of the
rural capital market--has shown, it is hoped, how structured
a body it is and how its structure is built around its function
of generating and safeguarding contributions, and augmenting
capital funds through performance of social activities. Now
for a discussion of a related component.

The 'Major' Safe

The descriptive word 'major' safe has been coined by
the author because as was evident in the discussion above,
esusus have safe components attached. The difference between
the two is that the major safe has no rotating fund component.
Its only function is that of a depository society for members.
Many of the attributes/functions of safe societies have already
been dealt with in the context of the discussion on esusus and
their safe components. Only major points of difference be-
tween the major safe and the esusu will now be discussed.
There are variants of the major safe--depending on membership
and function. Among those investigated of which respondents
were either members or had borrowed money from, one was all
male--an Umunna safe, i.e., a safe made up of sons of the same

lineage. Its main function was to provide loans to the members for their children's school fees and supplies. The method of contribution was interestingly enough tied to the concept of labor reciprocity. Throughout the planting, weeding and harvesting seasons—i.e., throughout the farm year—members would work in turn on each others' farms and the host, rather than provide all the usual food, drinks, cigarettes or tobacco, would provide only plain food, and would put the rest of the money he would have spent on this entertainment into the safe. This major safe had quite a small membership—17 members. Here we see a very interesting and rather unique way of continuing one of the traditional aspects of society life that is gradually dying out, while tying it in clearly to another necessary contemporary economic function—namely, provision for educational purposes. In this way, the members take care of two kinds of very important investment in rural Ogwashi-Uku society—investment in farming (in terms of labor) and investment in human resources.

Another variant of the major safe along membership lines was the Iyemedi safe—a depository society made up of women married to men of the same lineage. They had recently begun to admit their men into the society and some of the respondents in the interviews conducted were members and had loaned money from this safe association. The membership was similarly small—29 men and women. The funds contributed in the safe could be loaned out for any purpose.

The rest of the safes in the study were of the general kind consisting of men and women with membership ranging from 35 to 178. The organizational structure of the major safes are similar to one another despite some differentiating functions, and they are very much like that of the esusu with presidents, secretaries, and zonal leaders, depending on the size of the association.

The major function of the safes is to help the membership save cash income, i.e., conserve their petty cash resources, in order that they might have a lump sum for investment or consumption purposes at the end of the year. The safes are usually started in the same manner as the esusu (i.e., by any respectable, interested person) at the beginning of the calendar year. Contributions go on a 9-day, fortnightly or monthly basis throughout the year until December. In December the funds are divided and given back to the members according to what they have contributed, of which a strict record is kept. With resources mounting up, the safe's other function is that of a loan fund for its members, and also non-members with a guarantor. The procedure for loans, and the terms, are generally the same as those discussed for the esusu and so will not be repeated here. With the advent of the bank, some sophisticated safes that accumulate a lot of funds have taken to dividing these into two equal parts and depositing one-half in the bank, while the other half is kept back to serve as the loan fund for members. This development is very

recent and has not yet become widespread. The author heard

of it from one association's secretary, but none of the safes

investigated claimed to have done this as yet.

A difference between the esusu and its safe component

and the major safe is that, whereas the amount to be contributed

to the rotating fund and its safe component is usually stipu-

lated for all members, in a major safe, this is rare. What

is common is that members contribute or deposit whatever amount

they can at each meeting--the only requirement being that a

member deposit a consistent amount each time to enable record

keeping to remain relatively simple and manageable. So, if

a person decides they can afford to contribute ₦1 every fort-

night, they must keep this up throughout the year. Others may

be contributing ₦4 or 20 kobo.

Another difference--this time a major one--between the

esusu and the major safe is that the latter is a purely busi-

ness association. Hardly any dancing or merrymaking goes on

at meetings, although food and drink may be provided. The meet-

ing may be held at the president's house or an agreed upon venue.

Alternatively, members may volunteer to host meetings, but

entertainment is kept down to a bare minimum. The social

functions of the major safes are not well defined, although

again safe associations may provide support to a member in

times of stress, i.e., illness or death.

Although safes are relatively new institutions compared

with the esusu, they have become very popular as a means of

saving and borrowing money in this rural community and, as we shall see when we examine magnitudes of savings, very substantial amounts are generated through these institutions. Esusus and major safes serve as both a means of saving and borrowing within the community. There are other institutions, if one may call them that, which serve purely as sources of credit. One of these is the oft talked about moneylender.

Moneylender

A striking fact that arose during the process of the study was the rarity of that widely discussed symbol of village usury--the moneylender. It was not that there were no moneylenders within the Ogwashi-Uku community, just that there were few, and those that could be identified did not have moneylending as their major occupation. They were either women traders, farmers, or an occasional businessman/pensioner with surplus funds. The reason that the author has classified them as moneylenders is because they generally charged interest on their loans in contrast to individuals--friends and relatives--who charged no interest on loans. The interviewees in the study also regarded these people as moneylenders, not because that was their major occupation but because of their charging of interest.

The author's attempts to interview two such defined well-known moneylenders failed because of their refusal to acknowledge the role. It was therefore not possible to obtain the

inside details of their operations, or even how they came to decide on moneylending as a side profession. It was only possible to obtain information on their interest rate charges through those respondents who claimed to have borrowed money from them. As shall be seen when interest rate structure is discussed, these were in line with prevailing rates in esusus and safes within the community. One fact, as noted, is that moneylenders per se are not many and are not organized. This may be because of prevailing society norms which frown on individuals making their living out of interest paid them by other individuals. Strangely enough, this does not seem to apply to collectives of individuals--namely the associations-- perhaps because their loaning function, though extremely im- portant, may be regarded as secondary to their savings func- tions, and because there is considerable flexibility as to interest rate charges and payment schedules when individuals are in trouble. Such flexibility would probably not be pos- sible for an individual moneylender who, in order to survive and make pure gains out of that function, would have to insist on rigidity as to interest charges and repayment. One other factor is that unauthorized moneylending is frowned on by the government. All moneylenders are supposed to be registered (which probably has its costs). The author did not find any registered moneylenders in the community. Nevertheless, such moneylenders as there are provide one source of credit for the rural community. Two other major sources of credit in the indigenous system are friends and relatives.

Friends and Relatives

It is recognized throughout the community that a friend
or a relative may be called upon to extend credit at any time.
This source of credit which lies in every member of the com-
munity and thus is pervasive, vies with the esusus and safes
as the major credit source. The resources appear to be equally
important, from respondents' answers, the difference being
that on the average, non-trivial amounts are usually loaned
from the esusus and safes, while amounts borrowed from rela-
tives and friends could range anywhere from almost trivial to
very large. We shall examine these amounts shortly.

There is, of course, no organization in the credit mar-
ket of relatives and friends. Hardly any interest is charged
on such loans, and no 'surety' or collateral is demanded. It
has been mentioned that none of the credit sources in recent
time demand collateral as it is generally known, e.g., in the
form of land, a house, or other valuable possession. This is
probably because such possessions, although constituting valu-
able capital, are not very moveable in the sense that it is
difficult--although not impossible--to find a market for them.
In the case of land, the situation is even more difficult,
given the communal land tenure system that was described in
Chapter One. It is not possible for an individual to dispose
of a piece of land on his or her own authority, although the
crops on it could be sold. Therefore, rural lenders have found
it more convenient to demand the human collateral--a 'surety'

(a trusted, hardworking, well-to-do person)--rather than physical collateral. As far as the author could determine, no surety received any reward for his or her services other than the respect accruing from such a position of responsibility.

Before turning to a discussion of the magnitude of amounts circulating within the system, it is worth noting that unlike studies done on indigenous rural credit systems elsewhere (e.g., The All India Rural Credit Survey) where a substantial number of the rural people were found going outside their immediate sphere of activity for loans, or taking loans from urban moneylenders, this was not the case in this study of Ogwashi-Uku. Only one respondent mentioned trying to borrow money once, unsuccessfully, from an acquaintance at Ubulu-Uku, a nearby rural town. It appears, therefore, that for Ogwashi-Uku people and probably for other rural people in this area of Nigeria, credit and savings activity takes place very much within the boundaries of the village and town.

Magnitude of Amounts within Indigenous Systems

The pervasiveness and strength of indigenous credit and savings organizations illustrated above is only one important facet of the rural capital market in Ogwashi-Uku. Another has to do with the amounts found within the system. It is very important to examine these amounts in order to establish the fact that substantial savings are being generated within the indigenous rural capital market, and that therefore there exists

more of a saving capacity involving surplus cash than would
have been imagined, given the conventional views as discussed
in Chapter Two. A skeptic might question whether most of the
savings generated could be called real savings in that they
are not destined for productive purposes. Instead, such sav-
ings as are made within this indigenous system could be pre-
sumed to constitute only cash reserves held to help rural
families smooth out the troughs and dips within their consump-
tion cycle. It will be shown in this section that, though
savings for consumption purposes do constitute a substantial
part of rural savings, savings for 'productive' purposes (i.e.,
investments) are by far more important. Furthermore, it will
also be shown that a good number of loans made within this
system are also for productive purposes, although as one would
expect in a rural area, more loans are taken out for consump-
tion (mostly contingency purposes) than for investment. (The
separation of loans into production and consumption loans here
is less meaningful than for savings because of the short-term
nature of most of the loans. However, it will still be in-
structive to examine loans in this light to obtain some idea
on how many of the short-term credit needs are for operating
capital and how many for contingency consumption.) It will
be interesting to begin the above exercise by examining the
amounts saved by different esusu safe and major safe societies
from which respondents borrowed. Table 3-4 displays these
societies and the amounts saved for different years.

TABLE 3-4

AMOUNTS SAVED IN INDIGENOUS SYSTEM

Name of Society	Society Type	Year	Membership Composition	Membership Number	Amount Saved ₦	Number Loans	Amount Loaned ₦	Interest Charges per month		Interest Collected
								Members	Non-Members	
Onyeliyachei	major safe	1975	men & women	44	823	16	n.a.	20 kobo on 2₦ (10%) per month		n.a.
Onyeliyachei	major safe	1977	men & women	36	654	9	n.a.	"		n.a.
Aniuba	major safe	1977	mostly women; some men	29	452	8	n.a.	"	40 kobo on ₦2 (20%) per month	n.a.
Onyeweifeogo	Esusu safe	as of 1977	men & women	66	211	13	130	"	"	n.a.
Enyechiukwuhia	Esusu safe	1977	men & women	261	380	–	–	"	"	n.a.
Ogbe-Ofu	major safe	1977	men & women	178	3944	70	2616	"	"	₦300
Ogbe-Ubu	major safe	1977	men & women	100	1000	n.a.	n.a.	"	30 kobo on ₦2 per month	n.a.

SOURCE: 1977 survey conducted by the author.

Some simple calculations using the figures in the table show that, excluding the 1975 major safe savings of ₦823, a total of ₦6641 was saved by some 670 people in 1977. This amounts to approximately ₦10 per head, or 5% of the ₦215 per capita income figure calculated for the study sample, or roughly 1% of the sample average family income of ₦1419. If the esusu safes, whose major functions are not really seen as that of accumulating funds, are excluded, the total amount saved for 1977 becomes ₦6050 and the number of savers 343. This amounts to ₦17 per head. It might be argued that the per capita figures appear quite small. However, in a rural community where it is supposed that cash incomes are so low that people literally have no surplus in cash for savings, generating a pure saving of ₦17 per head per year on average could yield substantial dividends. More importantly, though, is the potential absolute savings over the whole community. If every adult man and woman in the Ogwashi-Uku community were to save at the average rate of the ₦10 per year in 1977, this would result in a total savings of ₦170,000 per year in this community, a sum that would make a great impact if ploughed in total into so-called productive investment--be it agricultural, small-scale industrial, educational or otherwise. If this calculation is extended on a country-wide level, Nigeria could generate millions of naira per year from the adult members of her population of 80 million. It can thus be seen that if the absolute amounts reposing with the indigenous organization are considered, as well as the widespread nature of the

organizations within the community, there exists a potential for generating substantial amount of savings from the rural population, whose cash savings capacities appear far from negligible.

The very nature of a 'safe' association--somewhere to let money lie and accumulate for a year or more without being frittered away on petty expenses--shows that for rural families, such 'safe' money is not destined mainly for cyclical consumption purposes but for lump sum investment. Table 3-5, which lists purposes for which lump sum 'safe' and esusu money was used, demonstrates this. Of the 44 people in the sample who belonged to at least one credit society in 1977, 27 had received contributions from the esusu or their shares from the safe at the time of interview. The 27 people listed 13 purposes for which their lump sum income was used. The author has listed absolute numbers for answers as to purpose, because some respondents listed multiple uses for their lump sum money. The total number of all purposes, of course, comes up to more than the number of respondents.

The purposes listed can be looked at in two broad categories. Productive (investment) type purposes and non-productive (consumption) purposes. The author has divided the purposes into these two categories according to what might be regarded by some economists as productive and non-productive (see Table 3-5). The controversial item in the division would, of course, be education, which some economists would tend not to

TABLE 3-5

USES OF LUMP SUM SAVINGS

Purpose	Times Listed	Productive	Non-Productive
Education of children	11	*	
Housebuilding of better house	7	*	
Hospital bills, medical expenses	5		*
Food consumption & miscellaneous	3		*
House repairs	2	*	
Hiring farm labor	2	*	
Bank deposit	2	*	
Second burial ceremony	2		*
Paying back a debt	1		*
Buying carpentry tools	1	*	
Court case	1		*
Title taking	1		*
Marry another wife	1		*

SOURCE: 1977 field interviews by author.

regard as direct investment. The author maintains that in the rural community, education of one's children up to secondary school is regarded as the greatest investment a rural family could make. The reason is that the returns to education beyond the primary school level in Nigeria are very high. A young boy or girl who finishes a secondary school or teacher training education and obtains employment in the formal sector is assured of making a gross income of approximately ₦1200 a year initially. This is 85% of the average yearly family income calculated for the study sample. If the family spent ₦600 (a high figure) for the five years of secondary school study, they would be guaranteed--especially if the child comes back to work or teach at home in the village after graduation-- of recouping the amount within 3 years, and of then obtaining pure profit or dividends thereafter. This would mean a steady source of income for the family, and the assurance that one or two other children would be able to proceed to secondary school or through an apprenticeship program. Moreover, the investment is almost risk-free, since most rural children understand the importance of an education and work hard. Even if they fail the school leaving certificate exam, which many of them may do because of the lower quality secondary school education in some rural areas, they could still obtain a modern sector job with a G-4 certificate. Such a job would assure them of a gross income of ₦960 a year. If by diligence, or by a stroke of luck, a child succeeds in entering the uni-

versity, then the family regards itself as being in financial bliss, because their child's yearly income would climb to approximately ₦3600 a year, not counting fringe benefits obtainable from modern sector jobs, such as very low interest loans for a car, car allowance, children's allowance, a free house, etc. For this reason, education competes very keenly for saved funds in the rural area, and should therefore be rightly classified as investment.

A look at Table 3-5 shows that of the 39 multiple responses of uses made of lump sum income, 25 were for productive purposes, the highest number being for education. This is very supportive of the idea that much of the saved income in the indigenous savings system is destined for some type of investment. It can therefore be said with a good deal of confidence that such savings are not obviously meant merely to smooth out the cyclical pattern of family consumption, as might be contended.

It is interesting to compare Table 3-5, which lists uses of lump sum savings, with Table 3-6, which lists uses to which loans taken out from the various credit sources already discussed were put. The two listings are very much alike. Most items are similar. Again it is noticeable that for purposes for which respondents could recall specific information, education is the single most important recipient of borrowed funds. However, this time 31 out of 60 responses are for purposes that may be looked at in an illustrative manner as productive, 29 being for so-called non-productive purposes. Productive

TABLE 3-6

PURPOSES OF LOANS

Purpose	Number Times Listed
Education	14
Illness	13
Farming (paying labor)	9
Funeral expenses	6
Court case	4
Building a new house	4
Household expenses	3
Wedding expenses	2
Rebuilding/repairing a house	2
Trading	1
Paying society dues	1
Buying apprenticeship	1

SOURCE: 1977 field interviews by author.

purposes are again quite important, but it appears from these
data that families may tend to borrow rather than use savings
to smooth their cyclical consumption patterns and take care
of contingency items. Although the intensity of borrowing
is increased during the dry, lean season (according to respon-
dents' remarks), borrowing goes on nearly all year around.
However, loans do tend to be paid off after harvest time.
Loan payments may also be made throughout the year, occasion-
ally from received lump sum income, as can be seen by the item
labelled food consumption and miscellaneous in Table 3-5.
The purposes listed in Table 3-6 for loans have been commonly
found in other rural areas, as is attested to by some country
studies in the AID 1973 Spring Review of small farmer credit
(e.g., see Robert's study on the Mumwa and Katete areas of
Zambia in Vol. 15).

To obtain some further idea of the magnitude of amounts
circulating within the indigenous capital market as loans,
and to further support the argument that substantial cash sur-
plus, part of which could be mobilized for investment purposes,
does exist within the community, it is instructive to examine
the range of amounts borrowed by respondents from various credit
sources. The amounts shown are strictly from whatever respon-
dents could recall of their credit transactions. Table 3-7
displays these amounts.

Table 3-7

Amounts Borrowed and Source

Source	Range of Amounts Borrowed from Source in ₦	
Relatives and Friends	20 kobo	200
Unauthorized Moneylender	20	30
Esusu Safes Major Safes	4	120

SOURCE: 1977 field interview by author.

Of the 39 respondents who claimed they borrowed money, over 50% of them borrowed amounts ranging between ₦16 and ₦47. The 33 who participated in the rural credit market as lenders lent amounts ranging from 20 kobo to ₦300. The average amount loaned out was about ₦35, while 11 people loaned out amounts greater than ₦60.

Examination of all the facts so far discussed, i.e., magnitude of savings, magnitude of loans, lump sum income and borrowed funds, seem very supportive of the statement at the beginning of this chapter, that the magnitude of amounts available and circulating within the indigenous system are quite substantial, suggesting the existence of a sizeable cash savings capacity within the rural area. An interesting question to consider is: What are the implications of the existence of a cash surplus savings capacity at the rural level in Nigeria? Given that rural areas in Nigeria have not received investment funds from the central and state gov-

ernments commensurate with the investment opportunities at
this level, the availability of cash savings in the rural
areas, as illustrated by the Ogwashi-Uku case, is very im-
portant, because if such funds could be mobilized in fairly
large amounts, they could be ploughed into various productive
investments at the community or individual level in these
rural areas. For example, community investments, such as
roads, small tractors, water, and schools, would benefit
greatly from such investment funds. The policy implications
of the above statement will be discussed in further detail
in Chapter Five.

The discussion so far has dealt with the issue of credit
gains, variety and magnitudes of amounts in the rural capital
market. An important aspect of the rural capital market
which bears directly on the availability of the amounts dis-
cussed above is the interest rate structure. It is informa-
tive to examine how interest rates are manipulated to render
credit more or less available and deposit of savings more or
less attractive to rural customers.

The interest rate structure in the Ogwashi-Uku area
appears to be very much like that discussed by several authors
for other rural areas in developing countries (see the Long
and Bottomley articles). As already mentioned elsewhere in
the study, such interest rate structures are characterized by
very high interest charges, especially for short-term loans.
In Ogwashi-Uku, most of the loans, except perhaps some of

those for educational purposes, are very short-term--1-6
months. Some loans are made for 9 months and some for longer.
What happens in these cases is that as long as the borrower
continues to pay interest charges on a monthly basis, the
lender (typically an esusu or safe society) does not bother
about the principal, until the time comes for the cycle of
the esusu or safe to end, at which time all principal amounts
loaned out are recalled. Most borrowers obtaining funds under
high interest charges are very much aware that borrowing costs
are indeed high and they attempt to pay off loans as quickly
as possible. Failing this, they attempt to renegotiate the
charges on the loans. It has been noted that most associations
are flexible as regards interest payments, especially with mem-
bers. According to respondents, in the case of a child in
secondary school whose fees were due, sudden death, prolonged
illness on the part of a debtor, associations will be quite
flexible in rearranging or foregoing interest payments.
Table 3-8 shows the range of interest charges for the various
sources in Ogwashi-Uku.

Table 3-8

Interest Rate Structure for Credit Sources

Source	Interest Charge per Month	
	Members	Non-Members
Relatives and Friends	typically none except in very rare cases	
Esusu Safes Major Safes	0-20%	5-25%
Unauthorized Moneylender	25-33%	

SOURCE: 1977 field survey by author.

The table does show that those paying interest on loans may indeed pay high amounts. Many people claimed they paid no interest at all on their loans, while others claimed they renegotiated the terms. Yet others said they paid very high amounts. Due to the nature of the survey and the data, it was not possible to compute an average interest charge. This constitutes a shortcoming in the sense that it is not possible to ascertain to what extent interest rate charges constitute an impediment to participation in the credit market. What can be said, however, is that it appears most people either elude the high charges or manage to renegotiate them for a short term. Evidence from the study sample shows that despite seemingly high rates, participation continues to be widespread and strong.

The question still remains, however, as to why interest rates (at least initially) are set so high. In Chapter One, the components of interest rate charges as discussed in the classic articles by Bottomley and Long on the subject were listed. These are opportunity cost component (consideration of returns to alternative investment), administrative cost component (costs of funnelling and keeping track of loans and interest payments), and risk components--arising from a high default rate. A consideration of these components in relation to the Ogwashi-Uku rural capital market will help delineate which of them are important contributory factors in the high interest charged in the rural area.

To consider the issue of the opportunity cost component of interest charges in Ogwashi-Uku, the question must be asked, to what alternative uses are loanable funds put when not lent out? The answer to this question as far as the author could determine is that the funds were not given to any alternative uses in the absence of being loaned out, except in the one case mentioned where a safe deposited some of its savings in the commercial bank. It was not possible to tabulate amounts loaned out for the various societies examined for the study, but a look at Table 3-4 shows that for the two societies for which such data were available, approximately 62% of their funds were loaned out at the end of the yearly period, while roughly 38% were still sitting in the safe box (some of which may have been repayments of loans made). In the Enyechukwuhia esusu safe, no loans had been made at all, and there was ₦380 in the safe at the end of the year. The author asked the secretary of this society why funds had not been invested in some enterprise or the other, which could bring dividends to the members of the society. He replied that he had suggested such a path, but it had been rejected by members because of their fear of the risks of investing in any short-term group enterprises. The author, however, heard of a rare occurrence of a long-cycle esusu safe which had offered scholarships (long-term loans, really) to some secondary school children nearing completion of their studies. These were to be paid back on the recipients' obtaining jobs after completion of their studies.

In the main, however, funds do not appear to be put to alter-
native uses, therefore one cannot properly assess what their
opportunity cost might be. Though this component may consti-
tute some part of interest charges, it is most certainly not
a major part.

When the administrative cost component is considered,
however, it appears to be a much more important factor in
interest charges. Associations and moneylenders do recognize
that costs of keeping records exist. The exercise books and
the pens for the record keeping have to be bought and the
secretaries, treasurers, and presidents who deal with loans
and record keeping have to be rewarded. Most of the rewards,
averaging around ₦4-6 per officer per cycle, are paid from
the interest payments collected, or, failing this, from the
safe contributions. The administrative cost component thus
appears to figure in the charges for interest, although the
issue of how much is at present--with the data available to
the author--unquantifiable. Suffice it to say that the sec-
retaries of associations interviewed mentioned administrative
costs as a component of their charges, though they appeared
not to regard it as very important.

The really important component of interest rate charges
in Ogwashi-Uku is, in the author's opinion, the risk component.
Long and Bottomley define risk as arising from high default
rates, although there is no indication of a cutoff point to
determine high as compared with low default rates. The author
set out to find the rate of default on loans for the sample

of associations examined for the study--i.e., the sample displayed in Table 3-4. Such information was available for six of the seven associations sampled, as can be seen in Table 3-9.

For the total of 116 loans made in these six associations, there were only 12 defaults, i.e., approximately 10% of the loans were at least initially "bad" loans. Some associations were later able to recover their money either because the debtor was a member and they were able to impound part or all of his contributions as payments, or because the debtor had a surety who could be pressured to help make the payments on the loans.

Table 3-9

Number of Defaults on Loans in Selected Associations

Association	Year	# Loans	# Defaults
Onyeliyachei	1975	16	2
Onyeliyachei	1977	9	1
Aniuba	1977	8	3
Onyeweifeogo	1977	13	-
Enyechukwuhia	1977	-	-
Ogbe-Ofu	1977	70	6

SOURCE: Field survey by author, 1977.

An examination of the number of defaults on loans in the sample proves it to be relatively low compared with the interest rate charges. Does this, then, mean that the risk factor among the Ogwashi-Uku rural community is low and therefore a search must be made elsewhere for an explanation of the interest charges observed? Some facts from the study, coupled with anecdotal information from respondents and from the study area suggest not. First, from Table 3-2 it is noticeable that there are differential interest charges for members and non-members. When the author asked for an explanation of these differential charges, three association secretaries stated that their associations were less familiar with and had less of a hold on non-member borrowers than on members. This meant that in the case of a default for whatever reason, the chances of recouping on the loaned funds would be less with a non-member. For example, in the case of a member of an esusu who had not taken his or her turn for the rotating fund, part of the funds could later be impounded for payment, as suggested earlier. The same could hold for a major safe society member. Such safeguards do not exist for non-members. In fact, many associations, in order to increase their chances of getting back funds from a debtor, had a rule that a debtors' guarantor or 'surety' must be some member of the association who at the time of the loan had not yet received his or her rotating fund or their share of safe funds. This is to enable impounding of such funds in case of non-payment.

Further anecdotal information suggests that there exists within this rural community an 'expectation' for high default rates. That is, rural people--even given fairly steady high incomes--are acutely aware of the vagaries of life and the unpredictability of events. A sudden death or illness could happen in a debtor's family or his crops could be damaged by insects, rendering him unable to repay. Because of this basic amount of uncertainty that is perceived in their lives by rural people, everyone has an expectation for high loan default rates. From the author's own perceptions in the village, people are not unduly surprised when they hear that a neighbor or acquaintance has been unable to repay a loan. It is this expectation that is therefore built into the charges on loaned funds, and typified by differential charges for members and non-members. For all the reasons discussed above, it seems certain that 'perceived or expected,' if not actual, risk is an important component in the interest charges--in fact, in the author's opinion, based upon the above discussion, it is the single most important factor.

High inflation rates may also play a part in the interest charges. During the period of the study in 1977, the inflation rate in the Nigerian economy hovered around 25-30% per annum--a very sizeable rate, which would eat away at loaned funds at low or zero interest charges. The question is, however, to what extent do the rural populace figure inflation actively into their credit and savings transactions?

It is difficult to answer this question. On the one
hand, the author finds it difficult to believe that rural
people who are in general very astute, would be subject to
money illusion. But on the other hand, none of the secretaries
mentioned inflation rates as a reason for high interest charges.
Moreover, it is easily recalled that participants in esusu and
safe associations do permit their funds to literally 'sit
around' with no interest payments (as would be the case with
deposits in the banks) if such funds are not loaned out. On
balance, therefore, a concrete judgement on the effect of
inflation on interest charges cannot be made, but to hazard
a guess, the author suggests that inflation does constitute
a factor, however minor, in the charges.

Finally, interest charges may be high partly, as one
association secretary suggested, to generate surplus funds for
association members. The author believes that the above inten-
tion may exist on the part of associations, but that the money-
making functions expected of such interest charges may not
materialize, because of associations' flexibility as to rene-
gotiation and complete revamping of loan terms in the case of
duress on a debtor's part. Unfortunately, except in the case
of the Ogbe-Ofu major safe association, the author was unable
to put together data on total amounts collected as interest
payments on loans. In the case of the above association,
that had loaned out ₦2616 in funds by the end of the year,
only ₦300 had been collected as interest payments, which leads

to the suspicion that interest rate terms were actually more lenient than suggested by the quoted official rates.

In conclusion, four factors appear to account for the high nominal interest charges observable in the Ogwashi-Uku area. These are administrative costs, high expected risk, inflation, and the profit motive. By far the most important factor, in the author's opinion, is the high expected default rate. At the beginning of the discussion on interest rate structure, it was noted that this latter was of interest because of its possible effect on the availability of credit. At the same time, it was noted that despite seemingly high interest rates, a lot of borrowing still appears to take place from the esusu and major safes, meaning therefore a continued accessibility of funds to a major proportion of the population. After consideration of all the information available on interest rate structures, association characteristics and behavior, it would appear that first, effective interest rates are considerably lower on average than nominal rates, thus permitting more accessibility to funds than would have been expected, and second, the rural people perceive association membership as assuring them the flexibility and even support of any such organization in the event of financial difficulties, thereby encouraging participation. In short, therefore, the author's assertion of availability of funds and accessibility of credit sources to a good proportion of the rural population in Ogwashi-Uku still holds.

An interesting issue, which points out once more the
sophisticated nature of transactions in the indigenous savings
and credit system, is that of the sharing of profits collected
on interest charges. The Ogbe-Ofu Association's secretary,
whose association had actually collected ₦300 in interest
payments, revealed an orderly predecided formula for the shar-
ing of such monies among members. In his association, the
six executive officers were to be first remunerated out of
the funds. Each one of them was to receive an amount slightly
above or below ₦6, depending on their position in the execu-
tive hierarchy. They would then join other members after
this to share in the rest of the proceeds. The membership
was to be divided into three groups. Group number one was
to be made up of people contributing between ₦1.50 and ₦4
per month. They would receive ₦4 each out of the fund. Those
contributing between 80 kobo and ₦1.50 would make up group two
and they were to receive ₦3 each. Finally, people contributing
any amount below 80 kobo were to receive ₦2 each. Any funds
left over after this were to be given as awards to a select
few people for good meeting attendance records. If funds re-
ceived as interest payments were to prove small, amounts paid
to each group were to be correspondingly reduced, and increased
if funds turned out substantial. This type of very sophisti-
cated orderly procedure again demonstrates the tight structur-
ing of the rural savings and credit market which permits sur-
plus cash amounts to be generated and circulated within the
rural community.

Having now discussed all the issues pertaining to the operation, structuring and viability of the rural capital market to date, a final issue to consider is the continuity of the system described.

Continuity of the Rural Savings and Credit System

Some Western economists or social scientists who deal with the issues of modernization, growth and development processes often list the disappearance or declining role of informal enterprise and informal methods of organization as a mark that successful development is underway (see, for example, Eckaus, 1977). Having a Western notion of development and modernization in mind, these scholars tend to regard informal organizations as temporary phenomena that will fade away with the development process and with time. Thus, it is not surprising that Geertz, as quoted in Chapter Two, sees the rotating credit associations as a "middle rung" in the ladder of development, that is, as intermediate organizations that would disappear at the top of the development ladder. Without an extended time series and cross sectional comparative study--which is outside the scope of the present study-- it is impossible to be definitive on the subject of stability of such organizations. Suffice it to note, however, that within the community studied, rotating savings and credit associations do not appear to be disappearing with "development and modernization," but instead seem to be continually changing form and function to suit the times. For example, the addition of the

safe component to the esusus in fairly recent times is one
such expansion of form and function to accommodate the grow-
ing needs for cash resources in a now highly monetized economy.
The creation of major safes is another example. Therefore,
while the indigenous associations may be changing into more
business-oriented type institutions, they are far from fading
away. The associations are, in fact, expanding and becoming
more sophisticated, even given the advent of the post office
savings bank, the commercial bank, and the cooperative credit
and savings association. In the rural areas, educated school
teachers and government workers form their own associations
where they pay in a percentage of their monthly salaries (see
Kamene Okonjo, 1976). In the urban areas of Nigeria, which
are replete with modern institutions, it is common knowledge
that people from the same home area gather together to form
these associations for their own benefit and sometimes for
the benefit of the home community. That is, they may decide
to utilize part of the collected funds to undertake a develop-
ment project that will benefit their village or town. Even
university lecturers and professors join up to form such asso-
ciations. The only difference between the esusus in the urban
areas and those in the rural is that the former become more
like the safes in the rural areas. Their social merrymaking
is minimized and the economic functions become paramount.
In addition, it would be expected that more educated people--
a preponderance of whom are to be found in the urban areas--
would have a tendency to participate as members in fewer num-

bers of organizations, simply because of the time constraint from their modern sector jobs. The tendency would be to belong to one or two of the associations and perhaps contribute heavily in these. Evidence that the author has from this rural area did indeed show a tendency for multiple membership in societies to decline with education. (See Appendix B.)

It may also be that the esusu and safe associations perform certain social and cultural functions which may never fade away, even given Western type modernization. For example, the esusu carries on the cultural norm of collecting members of the same village or town, no matter where they are found, into one big extended family for the benefit of the members. If it is indeed the case that the esusu performs a cultural service, then the associations will continue to have a role to play even at the height of development. But, they will so adapt as to suit each stage of society in the development process. It remains to be seen what will happen to these institutions. For now, however, they have a vital economic, social, and cultural role to play, well recognized by the rural populace.

Indigenous and External Savings and Credit Systems Compared

Mention was made in Chapter One and earlier on in this chapter of the components of the external savings and credit system--the Post Office Savings Bank, the government-owned commercial bank, and the government Savings and Credit Cooperative. These institutions are supposed to mobilize savings and disburse credit to the rural population of Ogwashi-Uku. However, as was previously noted, not too many people have made use of these institutions. Only four out of 50 people in the sample indicated participation in the savings cooperative, six people indicated use of the Post Office Savings Bank, while substantially more (18) had deposits in the government commercial bank. Six out of these 18 were obliged to open up accounts in the bank because they were part-time government employees, and had to receive their paychecks through the bank. No one in the sample indicated having received credit either from the bank or the cooperative, though the four cooperative members had tried with that organization. The reason for relatively little (compared with the indigenous system) participation in the external system on the part of the rural population is because they, for the most part, feel themselves effectively shut out from these institutions. This is because of the bureaucratic red tape--filling out of numerous forms associated with the institutions--and because of feelings, especially as concerns the Cooperative, that the institutions do not have the interest of the poor farmer at heart. How are these ex-

ternal savings and credit institutions set up, and how do
they function? These questions will be answered below when
the different components of the external system are discussed.

The Commercial and Post Office Savings Banks

Not much need be said about these two institutions since
their structure and functions follow the pattern of regular
savings and post office banks. The savings bank provides ser-
vices for current and savings account deposits. It pays an
interest rate of 8-12% per annum on deposits, and has similar
but slightly higher charges on credit--10-15% per annum. As
mentioned, no one in the sample had ever taken out a loan or
been encouraged to do so. There is a threshold deposit that
must be made and maintained in order to keep an account. This
is about ₦1 to ₦2. To make a deposit, various forms have to
be filled out. Each time a withdrawl is desired, forms also
have to be filled out. There are often long delays at the
bank while requests for withdrawals, especially from savings
deposits, are checked. Participation in the bank for each
individual, therefore, requires a degree of education that many
of the rural population do not possess. It also requires sac-
rifice in terms of time whenever a withdrawal is to be made.
However, individual monetary transactions are also more pri-
vate (compared with the indigenous system) for those who util-
ize the banks.

The Post Office Savings Bank is a somewhat fancy name
for an extra function of the post office. It is the longest
standing external savings institution in the community--having
been there for a while before independence in 1960. An initial
threshold deposit of about 50 kobo has to be made to start an
account. However, after this, deposits of even smaller sizes
can also be made. The Post Office Ssvings Bank has no credit
functions. As in the commercial bank, but to a lesser degree,
forms must be filled out if participation is desired. The
greatest problem with the Post Office Savings Bank are the long
delays associated with withdrawl of funds. While delays at
the commercial bank run into hours, delays at the Post Office
Savings Bank run into days. A person who desires to withdraw
any amount over ₦5 must wait three days or more while the
withdrawl is processed and the funds requested from state head-
quarters in Benin. Because of these long delays, the Post
Office system is relatively unpopular.

The Government Credit and Savings Cooperative

Unlike the savings banks mentioned above, this is an
institution whose organization and functions seek very much
(at least at the grassroots level) to imitate those of the
indigenous esusu and safe systems. However, it has not had
their success. In the Bendel State of Nigeria, government
credit and savings cooperatives are organized in a hierarchi-
cal fashion. Within individual rural communities, the basic
type of cooperative is known as the Primary. When several

Primaries join together, they form a Secondary Cooperative
Society or Credit Union. The Secondary is then affiliated
to the Bendel State Cooperative Financing Society in Benin,
which may, in turn, obtain some of its funds from the federal
Nigerian government in Lagos. In Ogwashi-Uku, the type of
cooperative that exists is the Primary. A Primary is formed
whenever any interested person, male or female, can gather
together nine other presumably interested people. They pre-
sent themselves to the chief cooperative officer as a group
interested in undertaking productive activities--either farm-
ing together or individually, trading, etc. They are then
registered as a primary cooperative eligible for government
loans. The aims of the cooperative movement are for these
primaries to mobilize savings among members, and disburse some
of these savings along with government loan grants as credit
among members for productive purposes. The loans could be
both short-term or long-term, and are available at interest
rates of 3% per month (which is still fairly low compared with
some of the rates in the indigenous system).

As in the esusu and safe societies, members are supposed
to contribute either a stipulated amount, or what they can
regularly. However, the contributions are not to be shared
out at any time, though a member who wishes to withdraw can
do so and obtain his or her total amount contributed. An
elected or hired secretary keeps records. On desire for a
government loan, an application is made by the group to the

chief cooperative officer in Ogwashi-Uku who disburses what funds he has directly to the Primaries. Primary members then decide among themselves how to share, and pay back for the credit. There is no attempt on the part of the cooperative officers at ensuring that the most needy people get the loans.

The experience has been that several influential, relatively well off, but badly intentioned people within the rural community have organized overnight a group of ten people--farmers and others--, got the group registered as a cooperative, and requested a loan. Then as soon as the loan became available they have appropriated the bulk of it and deserted the cooperative organization. No strong legal steps have been taken to deal with these people. In an instance reported to the author, a loan of ₦3000 made to a group of twelve farmers was appropriated by three people who then promptly lost interest in the Primary. In another instance, ₦2000 disappeared in the same fashion. Consequently, the majority of rural people have lost interest in this unsupervised, loosely structured, inequitable type of cooperative Primary. The replacement of this type of artificial cooperative organization for savings mobilization and credit disbursement with an organization more firmly grounded will be argued in the final chapter.

Even though many members of the study sample had not utilized or participated as a member in an external credit institution, all sample members had no difficulty in listing what they felt or perceived to be the advantages and disadvan-

tages of these institutions vis-a-vis the indigenous ones.
Table 3-10 shows this comparison between the two systems.
In the case of external credit institutions, some items are
more applicable to one institution than to others. For
example, ability to take action against loan defaulters,
listed as an advantage of the external systems, was especially
attributed to the savings banks because people felt that they
would have and use authority to deal with loan defaulters.
In general, as is to be expected, flexibility and accessibil-
ity are seen as decided advantages of the indigenous system,
while the opposite ridigity and red tape are seen as disadvan-
tages characterizing external systems. In fact, as previously
mentioned, the rural people feel themselves effectively ex-
cluded from the external system because of their complete
inability to deal with this red tape and rigidity. Of inter-
est is the factor 'Inability to police home loans' listed
under disadvantages of the indigenous system. This lends
credence to the discussion on the rural population as to risk.
Since rural people feel somewhat powerless to take action
against a debtor, either by seizing his or her property or
taking the debtor to court (both frowned upon except in ex-
treme cases), they must really ascertain in the associations,
for example, that every possible precaution is taken, i.e.,
sureties to ensure payback of the loans. The fourth item,
'various social sanctions as to loans,' under both advantages
and disadvantages of indigenous systems, has to do with the
discussion on the policing of loans. The rural community would

TABLE 3-10

INDIGENOUS AND EXTERNAL SYSTEMS OF CREDIT COMPARED BY FARMERS

	Advantages	Disadvantages
Indigenous	1) accessibility	1) inability to really police loans
	2) impromptu nature & readiness	2) no privacy in obtaining loans
	3) flexibility as to payments	3) high interest rates on loans as compared to external
	4) social sanctions as to enforceability of loan repayments	4) social sanctions
External	1) privacy in credit arrangements	1) limited ability to obtain credit
	2) low interest charges as compared to indigenous	2) rigid & impersonal
	3) ability to take action on loan defaulters	3) cannot withdraw all your money or obtain money in bulk when desired

SOURCE: 1977 field interviews by author.

tend to frown on a creditor or group of creditors really pressuring for payments from a debtor under duress, thus leaving the creditor sometimes helpless, and having to wait for the payment, or having to renegotiate the terms. On the other hand, when it is proven that a debtor is not under duress, but is either refusing or not working hard enough to pay off the loan, then the community would tend to side with the creditors and frown on the debtor's behavior, thereby pressuring the debtor to pay. On balance, however, since most of the borrowers may tend to be under duress, or carrying heavy financial burdens, these sanctions more often than not work in their favor.

Given the need of the rural people for access to quick, ready, flexible credit, and given their low levels of education which are likely to remain so for the next few decades in Nigeria, it is obvious that the indigenous system will continue to receive a more favorable overall assessment than the external systems, even given the knowledge on the part of the rural population of the low interest charges on loans (e.g., 10-15% per annum in the bank) in this system. As of now, some members of the study sample maintain small deposits in the bank, either with the help of literate children in secondary school, or because they are forced to do so due to their part-time government jobs.

Conclusion

In this chapter, strongly supportive evidence on the existence of a well-structured and viable rural capital market with a variety of credit and savings sources has been presented. More important for the author's argument, it has been shown that the magnitude of amounts available and circulating within this system are substantial enough to cast considerable doubts on many conventional economists' assertions of little cash surplus savings capacity on the part of the rural population. It has been demonstrated that most such cash surplus saved is indeed destined for productive investment purposes. The implication here is that investible surpluses do exist, at least in this particular rural community, that could be mobilized into desired planners' investment, but initially only for the immediate perceivable benefit of the community at hand. The greater implications of this latter point for credit and general development policies will be dealt with in the discussion on policy implications of the study's findings in the final chapter.

But before undertaking this discussion, there is an aspect of the workings of the indigenous credit market which is worth exploring, because of the implications which it might have for any considerations of credit policy in the rural areas. This aspect has to do with participation in the credit market. A key question in this regard is: Are some people

excluded from participation in the indigenous system? What enables access to loans within this system? This study will not pretend to provide answers to the above questions, simply because of the limited analytical scope of the data available. There will, however, be an attempt to indicate lines of enquiry which might be pursued in answering the above questions. Types of data that might be useful, and a possible research strategy, will also be suggested. Finally, the importance for credit policy of attempting to provide answers to the questions at hand will be discussed. The next chapter deals with these issues.

CHAPTER FOUR

PARTICIPATION IN THE INDIGENOUS CREDIT MARKET:
A LOOK AT SOME HYPOTHESES AND
SUGGESTIONS FOR FURTHER RESEARCH

This chapter will explore possible lines of enquiry

that will lead to answering the question, What enables access

or participation in the indigenous credit system? Having

established in Chapter Three the existence of this credit

system, with fairly broad participation, it is important to

ask whether some people are excluded from participating in

the system. In this regard, participation for the purpose

of obtaining investment loans is particularly policy relevant.

If there are indeed people who are excluded, but who would

like to participate (e.g., borrow money for investment in

farming, etc.), then its implications for any credit policy

that might be attempted by the government in this rural area

is that there exists a certain group in the population who

suffer double exclusion from existing systems: first, from

the very restricted external credit systems--the bank and the

cooperative--and second, from the more broadly based, open

indigenous system. Such a group might be considered as a spe-

cific target for aid in rural credit policy, as opposed to

the present general non-targeting tendency mentioned in Chap-

ter Two. A separate though important question which will not

be dealt with here concerns the implementation aspects of such

targeting. This latter might prove difficult. Nevertheless,
it is important for policy purposes to obtain a sense of exclu-
sion or non-exclusion from participation within the indigenous
system.

When the issue of participation and exclusion from the
indigenous credit system are considered, several plausible
hypotheses (lines of enquiry) concerning determinants of par-
ticipation come to mind. Some of the hypotheses come out of
suggestive anecdotal information obtained during the interview
process. Others are suggested by work done in related areas
by some scholars. (For example, see Zuckerman, 1977.)

With the inadequate and weak data base available, some
preliminary exploration of the direction of some of the rela-
tionships suggested in the hypotheses was attempted in order
to indicate possible fruitful lines for further research.
The poor specification of some of the variables involved in
this preliminary exploration may have led to the obscuring of
relationships which may indeed be present. Therefore, presen-
tation of any preliminary results here should not be taken as
serious indication of the existence or non-existence of certain
relationships, but rather as weak suggestive evidence that
there might indeed be some validity to the hypotheses suggested
here. The purpose is not to suggest abandonment of further
testing of relationships that appear non-existent. This ex-
ploration is too weakly based to lay any such concrete claims.
Rather, any serious testing of hypotheses will have to be left

to a further study that will include clearly specified variables and a stronger data base. And as stated at the beginning of the discussion in this chapter, one of the purposes of the chapter is to indicate lines of further enquiry and possible avenues for pursuing these lines.

In setting forth hypotheses concerning participation, the primary issue that has to be grappled with is the specifying of variables that will constitute an index of participatory activity. The immediately obvious variables of interest might be: the number of times individuals borrowed money out of the indigenous system within a given time period (call this Variable A); the amounts borrowed for each specific loan (Variable B); the number of times individuals lent money to other individuals (Variable C); and the amounts of these loans (Variable D). An index of participation combining variables A, B, C, and D could then be computed, once data were obtained for the variables specified. However, for participation as it has been thought of so far in the discussion, variables A and B seem to be the most important, since they concern attempts by individuals to borrow money from the indigenous system.

Once having obtained some quantifiable notion of participatory activity, the next step in hypothesis setting and exploration is a consideration of independent factors (variables) which might have an impact on participation--designated the dependent variable. In order to properly consider the

independent variables that might affect participation, and
in order to take into account the numerous multiple factors
that might be involved in participating in, for example, bor-
rowing activity, it is necessary to consider participation
(i.e., variables A and B) as motivated by both opportunity
and need, or to rephrase this, by supply and demand factors.
That is, the amount of credit a given individual gets is de-
termined by the person's need or demand for the credit, and
by other individuals/institutions' willingness to supply that
person with the credit. It seems plausible that in any given
situation supply factors would tend to dominate demand factors
in determining access to and amount of credit available. This
is because, while an individual may have strong credit demands,
whether they obtain the credit, and how much of it they obtain
depends strongly on supply factors. The consideration of par-
ticipation as determined by both supply and demand factors is
important because those who have the need (demand) may not neces-
sarily have the access to loanable funds, while individuals
who have access by virtue of certain socio-economic character-
istics which they possess may not have the need. The supply and
demand factors may indeed confound issues so that the relation-
ship between participation and certain other variables may at
first try be indeterminate, thus indicating the need for more
sophisticated analytical methods.

From anecdotal information, and from other sources as mentioned earlier, the independent variables representing both opportunity and need (i.e., supply and demand) that suggest themselves are income, age, education, number of credit societies of which an individual is a member. Others are part-time occupation (which could be expected to be related to income), and the enrollment of a child or children in a secondary or secondary commercial school. Number of children or dependents per family is also important and can be looked at separately, or considered together with income by computing per capita income. These are quantifiable variables. An important non-quantifiable variable that might affect participation is trustworthiness. A poor individual with no credit backing might be able to obtain a loan simply because he has proved himself reliable and trustworthy within the community. The following hypotheses about relationships between the dependent and independent variables seem plausible.

Hypotheses

(A) From anecdotal information obtained, participation, i.e., borrowing, should be positively related to income. According to the respondents in the sample, the higher an individual's income, the greater his or her credit worthiness, and therefore, the more the credit associations, safes and individual lenders would be willing to lend to that person. This represents the supply side of the picture. It seems

intuitively plausible and conforms with what obtains in the so-called 'modern' credit market.

However, on the demand side, and confounding the above in this rural area is the fact that as income increases, the need to borrow decreases. As family income increases in the rural area, the tendency seems to be to finance investment out of income, that is, the type of investment that is usually undertaken--education of one's children up to secondary school level, hiring of farm labor, improvement of or building a new house.

Considering the above two supply and demand factors together, borrowing activity might be expected to be low at the low end of the income scale, reflecting the reluctance of credit suppliers to supply credit at low income levels, rise with increasing income, and then decline at the upper end of the income scale, because of less demand as pictured in Figure 4-1a. However, individual lending activity and ability should be positively related to income in a more or less simple linear fashion, as indicated in Figure 4-1b.

(B) A second plausible hypothesis relates participation to age. Several studies have shown that people's positions in their life cycle are related to their need for and ability to obtain outside funds. For example, Zuckerman (1977) quotes Harrison's 1965 study of Buckinghamshire farmers in England, in which Harrison concluded that "advancing years seem to inhibit (or reduce the need for) borrowing and investment."

FIGURE 4-1 : BORROWING ACTIVITY AGAINST INCOME

PARTICIPATION
(BORROWING)

4-1(a)

INCOME

LENDING
ACTIVITY

4-1(b)

INCOME

PARTICIPATION
(BORROWING)

4-1(c)

NUMBER OF
CREDIT SOCIETIES
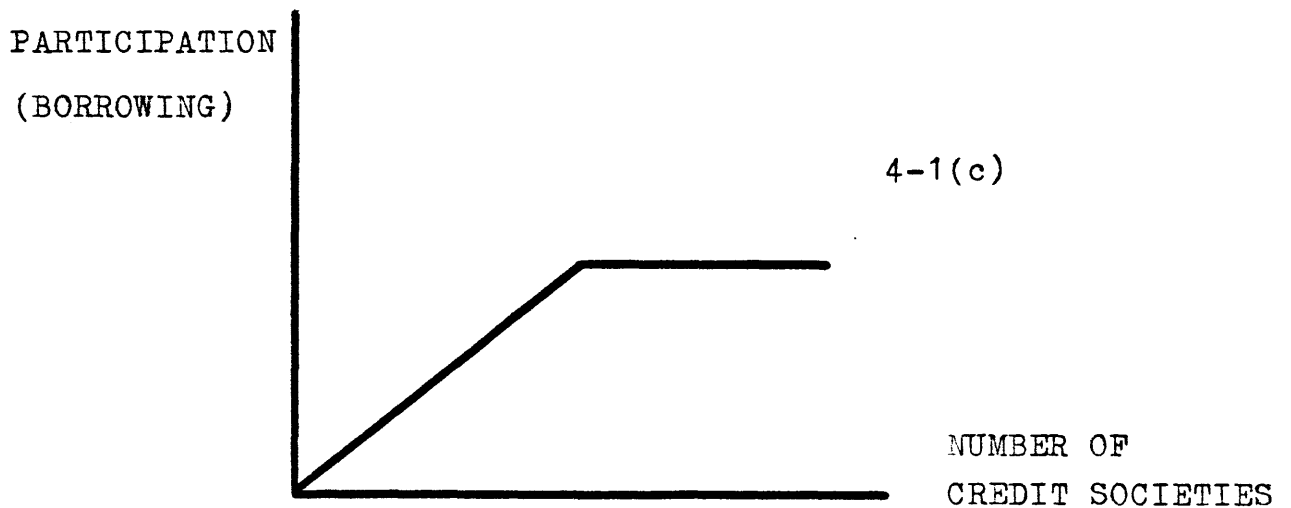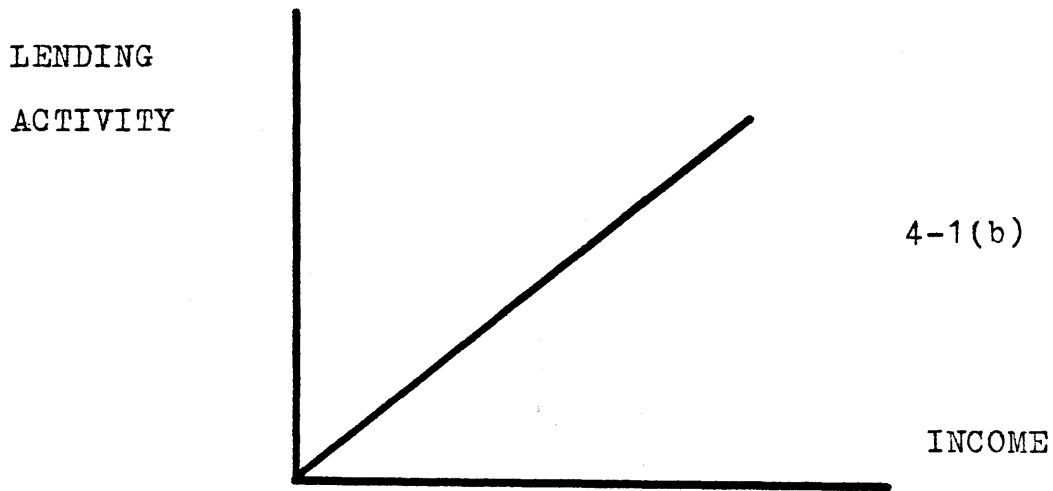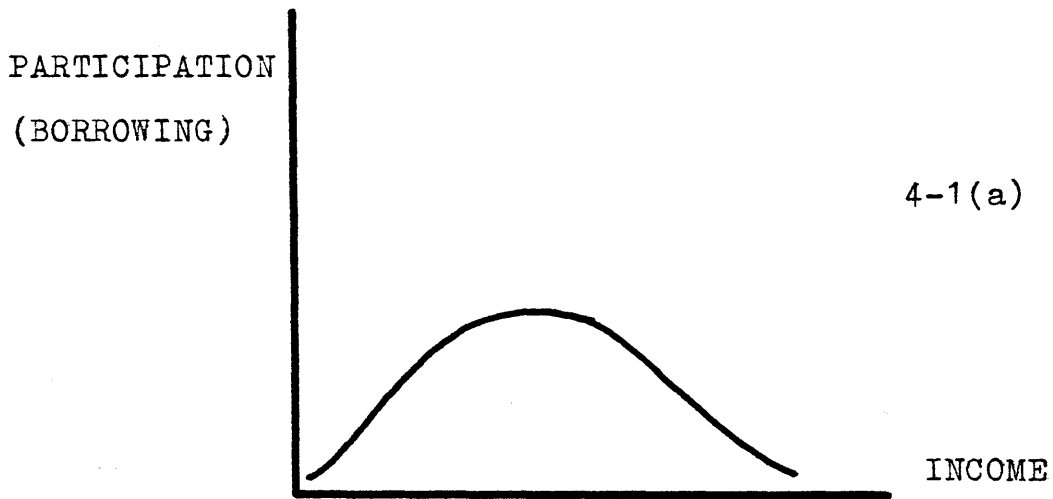
(Distinguishing between Smallholders: Two Factors Influencing

Smallholders' Decision, p. 2) It might also be expected

that in general, younger people starting out their life cycle

with small families and fewer responsibilities would, like

the older people, have less of a demand for credit, leaving

people in the middle range as the greatest borrowers. Such

a series of relationships between age and the need to borrow

would yield a graph similar to that of Figure 4-1a. However,

there is the question of access to loanable funds, which is

of great interest in the discussion. Other studies, and the

author's own intuitive feel for the study area suggest that

access to loanable funds is positively related to age. That

is, the older an individual, the better his access to loans

simply because of better command of material and non-material

resources, i.e. income, trustworthiness and respect. Indeed,

another study cited by Zuckerman--that done by Welsch in West-

ern Nigeria (different from the study area) in 1965--showed

that older farmers seemed possibly to have better access to

land. (Distinguishing between Smallholders, p. 3) In the

case of age and borrowing, it appears that people who have

the greater need for loans may also have better access to

them, thus making for a more clearly identifiable relationship

than in the case with income and participation.

(C)   Based on purely anecdotal information, a third
plausible relationship seems to be that between borrowing
and the number of credit societies of which an individual is
a member. It appears that in this rural community, membership
in credit associations and safes facilitates access to loan-
able funds. Thus, as a member of an association, borrowing
from the association is very much facilitated (refer to Chap-
ter Three), because of the checks provided by virtue of mem-
bership. Belonging to multiple associations--both rotating
and safes--seems to render borrowing much easier, according
to interviewed respondents. Not only does a person who has
membership in multiple associations have easier access to
funds within those associations, but the latter seem to take
on the role that credit cards play in Western countries such
as the U.S.A., in that to other possible lenders within the
rural community, the associations represent credit backing
of the potential debtor, thus making it easier to grant the
debtor a loan. The lender expects that if the debtor defaults
on a loan, he--the lender--will be able to ultimately collect
on the loan when bulk funds become available to the debtor
through participation in the associations.

The above account suggests that borrowing activity should
be positively related to the number of credit societies. That
is, as the number of credit societies to which a person belongs
increases, access to funds, and borrowing activity should in-
crease. The latter relationship may, of course, be confounded
by the fact that multiple membership assuring ease of access

may not necessarily mean more borrowing because of the 'need'
or demand factor. Furthermore, there may be a threshold num-
ber of credit societies beyond which borrowing activity may
not be increased, simply because the 'credit card' effect of
membership in seven associations may not differ significantly
from membership in ten. In general, however, a positive rela-
tionship between the two variables in question should be expec-
ted, at least at lower/medium levels of personal wealth.
(A very wealthy person may not find it necessary to join many
credit associations to assure credit backing since his or her
income may sufficiently assure this credit worthiness. The
relationship between credit societies and borrowing might look
like that in Figure 4-1c.)

(D) It seems intuitively appealing that a relationship
should exist between participation in borrowing activity and
education. However, it is difficult to directly link education
and borrowing activity in the rural community. Indirect links
could be consideration of the effect of education on income,
and on personal attitudes toward borrowing. Regarding the
former, it could be expected that perhaps as the number of
years of education increased, income earning ability would in-
crease (e.g., through having other part-time education related
activity). Thus, the type of relationship postulated between
income and borrowing (as regards the need and opportunity fac-
tors) might exist between education and borrowing. On the
other hand, regarding education and personal attitudes toward

borrowing, it might be that given the type of church-related education common in pre-independent Nigeria (to which the respondents would have been exposed), that stressed the immorality of borrowing, the predominant attitude among rural people as number of years of education increased, would be to decrease borrowing activity. In this case, a negative relationship could be expected to exist between borrowing activity and education. Concerning lending activity among respondents, the direction of the relationship would be more difficult to tell.

(E) Yet another plausible relationship is that between borrowing activity and the enrollment of children in post-primary institutions. Again, according to anecdotal information, it appears that people who have children in secondary school borrow substantially to enable them to pay school expenses. This is also visible from information on purposes of loans presented in Chapter Three. Here there is substantial demand for loanable funds. From this, some relationship--namely a positive one--could be expected between borrowing and having a child or children in secondary school. That is, as expenses increase, the need to borrow increases. At the same time, the supply of credit or the opportunity to borrow may be relatively easier (given the discussion about the relationship between opportunity and income), since in the rural area only those with a certain threshold income level can afford to have children in secondary or any post-primary institution anyway. The only exceptions to this latter being those chil-

dren from poor families clever enough to win government or
community scholarships, or those fortunate enough to have
some well-off relative put them through school.

(F) Lastly, from information emerging during the inter-
view process, and from the author's own judgement, a factor
that appeared as if it might have an impact on borrowing activ-
ity is part-time occupation on the part of the respondents.
However, since this factor is directly related to that of
income, in that a part-time occupation would act directly to
increase income (assuming the full pace of agricultural activ-
ity is still maintained), it is not necessary to go into detail
on the directions of the relationships as these should closely
parallel those discussed earlier on under the income hypothesis.

One additional important factor that has to be taken
into account in considering the determinants of participation
in borrowing activity is the purpose for which the loan is
sought. It might well be that the purpose for which a loan
is desired exercises some influence, quite distinct from other
influences, on access to loans. For example, it could well be
imagined that a person belonging to no credit societies who
would otherwise find it very difficult to obtain a loan, might
be able to obtain one if the purpose (e.g., sending a child
to secondary school) was regarded as intrinsically good in
itself, and for the community and therefore worth the risk.
No systematic hypothesis is posited here for the relationship
between purpose of loan and access to loanable funds because

the direction of the relationship would vary substantially depending on the specific purpose. The type of multiple analysis that would be required to take this into account cannot be captured in the fairly straightforward type of hypotheses postulated here. Neither can it be captured with unsophisticated analysis. In a later section of this chapter, ways to take such complex relationships into account will be discussed.

For the main objective stated for this investigation--that of determining with fairly simple analysis those factors which influence participation, especially access to loanable funds--it would seem that income, age, and membership in credit society factors are the most interesting, though as regards need, knowledge about children in secondary school is very important. Any serious attempt therefore to deal with determination of access to participation in the indigenous credit market would have to study and determine the effects of these factors on participation.

Evidence on the Hypotheses

What is to be attempted in this part of the study with the aid of the imperfect data collected is a preliminary exploration of some of the general directions of the relationships postulated above. It is necessary to reiterate that this does not represent an attempt to rigorously prove or disprove any of the hypotheses--the nature of the data obtained does not permit this--but rather represents an attempt to provide sug-

gestive evidence on the hypotheses to enable determination and delineation of further lines of enquiry. In short, what simple testing that can be done with the data available will be attempted here.

During the process of interviewing individual respondents, it was possible to obtain information on the independent variables listed above. Some other pieces of information were also obtained which enabled the specification of some imperfect dependent variables to represent participation for purposes of this exploration. These dependent and independent variables are defined below.

Dependent Variables

Numborw: Number of times the respondent borrowed during the period specified for the interview purposes. (This, unfortunately, had problems with it, as discussed in Chapter Three. The period specified was rather broad, although fortunately, most of the remembrances were confined to fairly recent years-- 1974-1977.) During trial interview runs, the author remarked that people who had had a high number of borrowings were happier being asked if they had had five or more borrowings over the period. This they could recall easily, but they did not have the patience to specify whether the borrowings had occurred six, seven, ten, or twelve times. A category of high borrowing (five or more) emerged, which unfortunately aggregated information. Also, out of the five or more borrowings done, not everyone in that category could recall the specific details of

each and every borrowing. They could generally recall the details for three or four. The variable Numborw here is regarded as the one of greatest interest.

Numlend: Number of times individual respondents lent money out to others. This variable has the same problems and the same characteristics as Numborw above.

Hiborrow: Highest amount borrowed. Although respondents who had borrowed a great many times could not remember all amounts because of the time span involved, they could generally remember the highest amount they had borrowed within this time period, and this was used, because of its specificity, as a very imperfect proxy for amounts involved in borrowing.

Of these three dependent variables, Numborw is the more interesting, because it more closely approaches measurement of borrowing activity--the dependent variable of interest. It is, of course, an incomplete specification of this variable.

Independent Variables

AGE: Approximate estimate of age of respondent, cross-checked in the case of doubtful answers against the ages of peers in the community.

Income: Mainly income of male family head, determined from number of yams planted and other income sources as discussed in Chapter Three.

Numcred: Number of credit associations of which respondent was a member.

Educ: Number of years of formal education undergone by respondent.

<u>Chisec</u>: A dummy variable with responses Yes or No as to whether respondent had at least one child in post-primary institution.

<u>Partioc</u>: Another dummy variable with Yes or No response as to whether respondent had another part-time occupation.

<u>Capita</u>: The ratio of income as defined above, to number of dependents, i.e., wives and children, plus self.

Although it is clear from review of the hypotheses that consideration of multiple factors and non-linearities might be important in weighing the issue of the relationships between dependent and independent variables, the author decided that for purposes of the preliminary exploration, rather than begin with complicated analysis, it might be more sensible to begin with bivarate scatter diagrams which would present visual pictures of the relationships under question, thus enabling the author to distinguish any discernible patterns (including curvilinearities) that would then justify more sophisticated analysis. At the same time, because of the type of computer package being used, it was also possible to obtain statistics on each scatter diagram that would verify the existence and strength of any bivarate linear relationships present. In one or two other cases, another simple form of bivarate analysis--namely Kendall's Tau non-parametric correlation-- was used to establish the existence of some sort of relationship (not necessarily linear), between the dependent and independent variables. The major effort here was to see if general

discernible trends existed between the variables. The scatter
diagrams and non-parametric correlations can be viewed in de-
tail in Appendix B. Table 4-1 presents a summary of observa-
tions of trends from the above bivarate analyses.

What the table summarizes is the significance and direc-
tion of the statistical relationship between any given pair
of dependent and independent variables. Where a relationship
exists in a specific direction as summarized by the statistic
R--the correlation coefficient--or by Kendall's Tau statistic,
and where this relationship is statistically significant (at
the 5% level of significance), as reported by the coefficient
for statistical significance, the author reports the existence
of a TREND. If a slight trend is reported, this means that
the relationship exists but is weak. A trend reported as be-
ing definitely there signifies a relatively stronger relation-
ship. Where the relationship is not statistically significant,
a NO TREND relationship is reported. Again, for the specific
statistics in question, refer to Appendix B.

As the table shows, in several of the cases there is no
significant trend between the dependent and independent vari-
ables. The case of age and income--two of the most important
independent variables--is particularly remarkable for the non-
appearance of a relationship. Regarding income especially,
some other descriptive statistic available from the study
seemed to indicate the existence of a relationship between in-
come and participation in the general directions that would

TABLE 4-1

PRELIMINARY EXPLORATION OF RELATIONSHIPS
BETWEEN DEPENDENT AND INDEPENDENT VARIABLES

Dependent Variables

Independent Variables	Numborw	Numlend	Hiborrow
Age	No trend	No trend	No trend
Income	No trend	Slight positive trend	No trend
Numcred	Positive trend	Positive trend definitely there	Positive trend definitely there
Education	Negative trend definitely there	No trend	No trend
Chisec	No trend	Slight positive trend	No trend
Partioc	Slight negative trend exists	No trend	No trend
Capita	No trend	No trend	No trend

SOURCE: Analysis of field interviews.

be expected. Looking at Table 4-2, which is a reproduction
of Table 3-2, four discernible borrowing and lending groups
can be seen. A ranking of these four groups according to
average incomes (see figures in parentheses in table) shows
that the six people who did not take part in any borrowing
or lending activity (due perhaps to lack of opportunity) have
the lowest average annual family income as a group (₦928),
the next lowest group are the eleven people who borrowed but
did not lend money (₦1119), followed by those who borrowed
and lent--the majority of the group--with ₦1353, and the high-
est average income group, the five people who lent money to
others but did not borrow (₦2276). There thus appears a pro-
gression here relating income to opportunity and need to bor-
row, and ability to lend. This type of relationship is not
shown in the bivarate analysis of Table 4-1. However, the
existence of this bivarate analytical result (which is essen-
tially a probe for a monotonic relationship) should not be too
surprising, given the multiple causal factors spoken of before,
and the general quadratic shape postulated for the relationship
between income and the dependent variable participation (see
Fig. 4-1). A look at the scatter diagram, however, does not
yield any discernible quadratic shape. This leads to the
observation that either a) no relationship exists between in-
come and participation, or b) the variables used are both very
poorly specified and measured and are thus obscuring the appear-
ance of a relationship, or c) there exist other non-specified

Table 4-2

Borrowing and Lending Behavior among a Sample
of Ogwashi-Uku Farmers

	Lent	Did Not Lend	TOTAL
Borrowed	28 (₦1353)	11 (₦1119)	39
Did Not Borrow	5 (₦2276)	6 (₦928)	11
TOTAL	33	17	50

factors intruding in on this relationship. An observation

such as in a) though noteworthy in itself is somewhat diffi-

cult to explain, and runs counter to intuition. Observations

b) and c) seem fairly plausible explanations for the nonobser-

vance of any significant relationships. These observations

will be more fully discussed under the suggestions for further

research section of this chapter.

Examining some of the other relationships, part-time

occupation (which is related to income) does show a slight

negative trend with Numborw, suggesting perhaps the presence

of the need factor--as income increases from part-time work,

the need to borrow and thus borrowing declines. The relation-

ship between Numcred and the three proxy dependent variables

seems to be the most promising. The trend definitely exists

and lies in the direction hypothesized. This suggests that

further exploration of this relationship with better specified

variables might prove very fruitful. There also appears to exist some associations between education and the dependent variable Numborw, though what is less clear is how to relate this directly to access to loanable funds--the variable of interest.

A review of this initial exploration of the general direction of hypothesized relationships shows that though not a good deal of information has been unearthed, interesting puzzles and hopeful suggestive evidence have surfaced which point the way to further lines of enquiry. For example, it is a puzzle that the type of relationship expected between income and participation appears to be absent--suggesting that ability to obtain loans is not related to monetary resources. It would be interesting with better information and more clearly specified variables to determine for certain whether income really does or does not matter in terms of participation in the indigenous credit system. If it turns out that it does not, as is so far indicated in the analysis, then this counter-intuitive result would really be interesting and surprising information, noteworthy of investigation on an even broader scale through surveys in other rural areas. As regards hopeful suggestive evidence, the existence of expected trends between one of the most important independent variables Numcred and the dependent variables suggests, as has already been pointed out, reasons for further investigation.

Finally, the possible multiple causation and non-linear aspects of these relationships have not been explored in any detail during this investigation because of its preliminary nature. However, these are important. The purposes for which loans were sought and their effects on participation in borrowing activity is especially interesting and ought to be pursued further. All the above interesting considerations--multiplicities, puzzles, suggestive evidence--are what will be taken into consideration in the discussion below on further research.

Suggestions for Further Research

It has been established above that there exist fruitful lines of enquiry as regards the objective of ascertaining determinants of participation--namely borrowing in the indigenous credit system. Three major relationships seem particularly worthy of further exploration, two of them--those between participation, income and age--because of the puzzling nature of the information so far turned up, and the third--that between participation and Numcred--because of the promising nature of the information obtained. Other relationships could also be further explored, but attention should be focused on the first three mentioned above, because of their potential importance in helping predict determinants of access to loanable funds. For purposes of detailed analysis, multivariate (rather than just bivariate) relationships should be considered, and the

existence of curvilinearities explored. To enable the carry-
ing out of research for hypotheses testing of the relation-
ships postulated, and to take into consideration some of the
factors mentioned above, guidelines for variable specification,
and measurement, data collection and further analyses, as well
as problems that might be encountered in carring out such re-
search analysis, are suggested below.

A major issue in carrying out further research for
hypotheses testing is that of variable specification--of the
dependent variable participation. One of the major problems
with the preliminary analysis was the lack of a clearly defined,
well-specified dependent variable. In the discussion on vari-
ables at the beginning of this chapter, two factors that could
be looked at in connection with variable specification rele-
vant to borrowing were mentioned--the number of times individuals
had borrowed within a specified time period, and the amounts
borrowed each time. The difficulty lies with finding a mean-
ingful way to combine the two factors into one single variable
representing participation. One possibility would be the com-
puting of an index of participation based on the magnitude of
amounts borrowed, and the intensity of borrowing activity.
Thus, people who had borrowed fairly large amounts and had
been fairly active compared to the rest of the sample might be
indexed as category one, and so on down the line. The problem
with this would be the excessive lumping together and therefore
loss of raw information that would be involved. All things

considered, it may turn out better to have two, well-specified variables such as the two suggested above to represent borrowing activity, rather than one ill-defined variable. The independent variables might then be compared as to the strength of their relationship to the two dependent variables, to determine whether any given independent variable does provide useful information relevant to the study objective.

Having decided on the problem of interest, the information desired, and the variables to be considered in acquiring such information, another problem that has to be faced has to do mainly with data collection. In this regard, sample size selection, time frame specification, and variable measurement are keys. For instance, another of the problems encountered in the preliminary analysis was that of small sample size. The limited sample size meant that it was not meaningful to carry out various sorts of exploratory multivariate analyses which might have proved insightful. For example, in attempting to isolate the effects of one variable while controlling for one or two others, the sample became so thinly categorized that meaningful interpretation of results was not possible, and this type of analysis was abandoned. For purposes of further research, therefore, a larger sample size--in the order of 150-200 or more, depending on the researcher's resources-- is necessary. It might, for instance, require 3-4 full months of research to carry out such research. The issue of time frame specification is also important in the sense that it

enables much more concrete analysis. In order to obtain
really meaningful results to which some degree of confidence
can be attached, it is important that a specific time frame
(say the past three years, or even one single year, 1977)
be chosen and all variables measured within this time period.
A further problem with the data gathered for this analysis,
as discussed in Chapter Three, is the fact that the time frames
for the various variables measured differ in some degree.
While measurement of income and membership in credit societies
spans the years 1976-1977, that for Numborw clusters around
1974-1977. In fact, this difference in time periods may be
one of the factors obscuring the appearance of relationships
between certain variables as hypothesized. For purposes of
further research, the time frame problem would have to be re-
solved to aid data collection. Finally, measurement of certain
variables of interest is another problem that is likely to be
encountered in the research process. It is one that would
have to be given the utmost attention because of its central
impact on analytical results obtained. In this study, most
variables were easily measureable, and even directly obtain-
able through the interview process. One variable that does
present difficulties in measurement is Income. Non-wage income,
because of conceptual difficulties in its imputation, always
creates problems. A rough-and-ready measure involving the out-
put of farmers' economic activities was used in this study.
For more sophisticated research, however, not only will it be

desirable to reimpute the value of the above farmers' output
more carefully, but it will also be important to find some
way of imputing a value to women's direct contributions to
family income, e.g., through their trading activities. For
those women traders contributing directly from their wares
some household food items, one way to arrive at an approximate
figure for their contributions would be to have for the women
a set of estimated figures--monetary values--for their contri-
butions (20 kobo, 30 kobo, 50 kobo, ₦1, ₦2, etc.--a range of
0.7 to 16% or more of average annual family income), and then
for each woman to pick that figure closest to what she believes
she contributes weekly. Although the women would not be able
to calculate with any exactness their contributions, they
should have a fairly good idea of the range in which it lay.
Such a process would, of course, be time-consuming, but the
inclusion of wives' contributions would present a more com-
plete, though still generally rough, measure of the income
variable.

With the problems of variable specification and measure-
ment dealt with, and with a fairly large sample size, it would
be possible to set up models, not only of bivarate relation-
ships as was done in the preliminary exploration, but it would
be more useful to set up various sorts of multivariate models
to test the different hypotheses suggested--particularly the
major one that age, income, membership in credit societies,
enrollment of a child in secondary school, and perhaps education

affect an individual's chances at participating in borrowing activity in the indigenous credit market. A multivariate regression of the sort

$$\text{Numborw} = B0 + B1\ \text{Age} + B2\ \text{Income} + B3\ \text{Education}$$
$$+ B4\ \text{Chisec} + B5\ \text{Numcred}$$

would be suitable for this type of analysis because it would reveal the extent to which variation in the dependent variable was explained by the independent predicting variables. Of course, it would be necessary to be aware of possible problems which might arise from this type of analysis. One such problem would be that of multicollinearity between some independent variables. Another problem that might be encountered in this type of analysis is that of obscuring of regression results by measurement errors arising from the imprecise measurement of such variables as income. However, at this level of sophistication in the analysis, it would be possible to introduce the purpose of loans as a variable that could be controlled for in an attempt to determine its real effect, if any, on access to loanable funds. If at the end of the analysis suggested above, the independent variables do not singly or collectively explain much of the behavior of the dependent variable participation, then it would be legitimate to conclude that either all or some of the variables had no effect on access to participation, and then the task would be to seek other non-quantifiable, perhaps idiosyncratic variables that would explain access to loanable funds.

Conclusion

In previous chapters, the study attempted to demonstrate the existence of a rural savings capacity ably managed by a well-structured rural capital market. In this chapter, an attempt was made to examine a policy relevant aspect of the workings of the credit side of the market. The preliminary enquiry outlined in this chapter has not been sufficient to answer the question: What enables access to participation in the indigenous credit system? It has, however, provided evidence that certain factors might indeed be important in considering a target population for credit policy in this rural area. More important, the preliminary analysis has provided a springboard for suggestions on how to set about answering in a more conclusive manner the important policy question posed above. In an extended version of this study, the author hopes to undertake analyses to provide answers to the above question. In the next chapter, the policy implications of possible exclusion of some people from participation in borrowing in the rural capital market will be mentioned. Conclusions on the entire study and policy recommendations regarding rural savings and credit will be made in that chapter.

CHAPTER FIVE

CONCLUSIONS AND POLICY RECOMMENDATIONS

From its position of benign neglect by many develop-
ment economists and planners in the decade of the sixties,
rural development has emerged as a crucial issue in the
seventies, because of the failure of industrialization-
urbanization strategies to lead the majority of less developed
countries to self-sustaining growth and development. Within
the issue of rural development, considerations of credit and
savings availability for purposes of development have been
key, as these two factors have generally been regarded as
constraints on rural investment and consumption activities.

This study set out to examine the general hypothesis
subscribed to by many conventional economists that there is a
lack of cash surplus savings in the rural areas, and that con-
sequently savings and credit availability from these areas
constitutes a problem for rural development.

The study has provided suggestive evidence that shows
that a cash surplus savings capacity does appear to exist in
the rural areas, as illustrated by the case study of one rural
area in Nigeria. Further, the study has shown that there exists
a sophisticated, well-structured rural capital market at the
indigenous level capable of generating and circulating savings

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and credit among members of the rural community. The question
of exclusion of some members of the community from participa-
tion in borrowing activity has been examined. Although the
study provided no conclusive answers to the question of exclu-
sion, investigations have suggested the importance of the
latter for considerations of population targeting for credit
policy and have established that the exclusion issue can and
should be researched.

The implication of the study finding of a cash surplus
savings capacity among rural people in Nigeria is especially
important for development policy. This importance arises from
the fact that should these savings be mobilized on a fairly
large scale, they could make a substantial impact on rural
investment activities. The existence of productive investment
opportunities in agriculture, rural industry, education, etc.
has already been noted in Chapter Three, as has the limited
nature of resources directed into these investments by the
state and federal governments in Nigeria. It appears, there-
fore, that if the cash resources available in the rural areas
could be mobilized on a substantial scale, this could prove
very important as a supplement to the meager resources directed
into genuine rural-level activities by the state and federal
governments.

The key question is: What method or mechanism will
prove most effective for mobilizing these savings and disburs-
ing them both at an aggregate and individual level for rural

investment purposes? Of the two existing systems in Ogwashi-Uku--external (savings banks, post office savings, and cooperative), and indigenous (esusus and safes)--whose functions are the mobilization of savings and the disbursement of credit, the indigenous system seems to have been more successful in performing the task. The issue to consider then is whether the indigenous system alone, or in conjunction with a modified external system, can be used as a means for mobilizing and distributing available savings on a scale large enough for effective rural investment undertakings.

The use of the indigenous system alone seems very attractive. It is therefore necessary to consider first whether this system will indeed prove effective in generating by it-self savings on a fairly large scale--that is, on a scale large enough to facilitate lump sum investments in water, tractors, electricity, or trade schools--as might be necessary and desir-able in the rural area.

The Indigenous System as Savings Mobilizer and Credit Disburser for Rural Development Purposes

There are several features of the indigenous savings and credit system--especially the esusus and safes--that render it a natural mechanism to turn to for purposes of savings mobilization and credit disbursement. Most of these features were mentioned in Table 3-9 (p. 88). They are: the accessibility of the indigenous system for depositing savings and

taking out loans, the impromptu nature of transactions in
case of urgency, the flexibility as to loan repayments, and
the personal contact between lenders and borrowers that facili-
tates social sanctions on the credit behavior of both parties.
To these attractive features might be added the additional
one of social functions (funerals, dancing, merrymaking) per-
formed by certain components of the indigenous system, espe-
cially the esusu. Because of these features, the indigenous
system is very successful in attracting rural people to par-
ticipate in savings and credit activities. It would seem,
therefore, that if the purpose at hand is mobilization of sav-
ings and disbursement of credit among rural people, the indige-
nous system would be the best mechanism because of its patron-
age by a majority of the rural population.

The above observation is true. However, one major draw-
back to the use of the indigenous system in its present form
for the mobilization of large amounts of savings and for the
channelling of these savings into rural investment is the frag-
mented nature of the system. Esusus and safes are widespread
within the community, and whereas they are very successful
in mobilizing savings among groups of individuals, there is
no mechanism by which these group savings can be brought to-
gether into larger amounts that would enable more productive,
perhaps fairly lumpy investments. For example, one investment
(discerned by the author over the years) that would make many
parents in Ogwashi-Uku very happy is a trade school in the

community where their children--especially those showing no inclination for a secondary school education--can learn useful and community-relevant skills such as carpentry, building, bricklaying, tin and blacksmithing, etc. Collectively, savings from safes and esusus could probably finance such an investment. But with the present fragmented group structure, there is no one to articulate this objective and no means of bringing about such a collective effort. Further, no organization is large enough to undertake such an investment. Therefore, whereas the indigenous system provides a very good basis for a savings mobilization and credit disbursement effort for small or divisible investments, there must be a search for a mechanism that would aggregate in some fashion the presently disaggregated efforts of the indigenous system. Such a mechanism must be one that would strengthen, or at least leave intact, the very good features of the indigenous system while supplementing its weak ones.

Interest Rate Policy

One mechanism that seems to fit the above description involves modification of current external systems through a change in interest rate policies. Interest rate policies as currently advocated involve the upward adjustment of rates paid on savings deposits by government savings banks and other savings institutions to reflect the true opportunity cost of capital. Advocates of interest rate policies, such as Dale

Adams (see 1973 paper on "Rural Capital Markets and Small
Farmers in Taiwan 1952-1972," and "The Case for Voluntary
Savings Mobilization"), argue that the interest rates paid
on savings deposits in many LDCs are set too low and there-
fore fail to attract substantial amounts of deposits. They
believe that adjustment of these rates upward to reflect the
true opportunity cost of capital should serve as an important
means for mobilizing cash surplus savings in the rural areas.
Not only are interest rate policies advocated for their cash
mobilization functions, but also for their role in redressing
inequity in the rural areas--inequity brought about by low
interest rate policies. Typically, governments set interest
rates below the opportunity cost of capital on the assumption
that this will make credit cheap for the small farmer or small
investor in rural areas. What it really does is render credit
cheap for larger, more educated, or more influential farmers
or investors because they are the ones who have the know-how
for dealing with the bureaucratic savings institutions. Be-
sides, the small operator may be at a disadvantage vis-a-vis
the larger one in obtaining a loan in the first place, because
of his or her lack of collateral.

Interest rate policies thus seem particularly promising
for performing multiple functions regarding savings and credit
without any physical planning intervention in the system. More-
over, such policies (though based on the sole assumption that
savings are responsive to interest rates which may not always

be the case) have been proven successful in a good number of countries. Examples are Taiwan, Mexico, Thailand and the Philippines (see Basch, A Pragmatic Approach to Economic Development). Interest rate policies used in conjunction with the indigenous system for savings mobilization and credit disbursement functions could prove very effective. For instance, the savings institutions offering the high interest rates could serve as a collective point for savings attracted from esusus and safes while offering no interference in the normal functioning of these organizations, thereby preserving their good attributes. It would be important for the savings institutions to also serve as intermediaries--lending the savings from the indigenous system for purposes of rural development. One disturbing aspect of interest rate policies is that if the interest rate is in some sense too high rural investors might not be able to borrow at these high rates. This is where the savings institutions might be able to directly use the indigenous system. One important component of the cost of capital is the administrative cost of channelling that capital. For savings institutions, this would imply all the bureaucratic procedures involved with carrying out individual loan transactions. Another important cost is the risk factor involved in loaning the capital to small individual investors who sometimes have no readily marketable collateral. Since the esusus and safes perform credit disbursement functions, the savings institutions could, in fact, at some point, use them as chan-

nels for additional credit for the small farmer/rural investor.
They could then absorb, as they usually do, all the normal
bureaucratic procedures for dealing with loans, e.g., keep-
ing records of the loans themselves. Furthermore, they could
also absorb some of the risk involved with making the loans
by acting as a social pressure group that would ensure a
responsible attitude by debtors towards repayment of their
loans. These two factors would enable the savings institutions
to reduce interest rates charged on credit to a figure very
close to that paid on deposits (instead of several percentage
points above it, as is usual in most freely operating savings
and credit systems), because of the reduction in transactions
and individual risk bearing costs brought about by use of
the indigenous system.

In order for savings institutions to be successful in
the above functions, they would have to be accessible to esusus
and safes in all the villages. Since it may not be possible
to build more than one savings bank for a large rural area,
it might prove necessary to use mobile banks to make savings
institutions easily accessible at the village level.

Possible Combinations of Indigenous and External Systems

From the discussion on interest rate policies and the indigenous system, there would seem to be several different ways in which the two mechanisms could be combined to yield an effective means of savings mobilization, credit disbursement and rural investment. Three of these are sketched out below--the detailed workings being left to vary as might be necessary from village to village, or from one rural area to another.

One possible combination would be for the savings institutions to generate savings from the esusus and safes through upward interest rate adjustments and then lend most or all of these savings to the Ogwashi-Uku local government council (a government-constituted local administrative unit), in conjunction with the council of village elders to carry out desired community investments. In this way, the indigenous system would be indirectly financing community development, but at the same time individual esusus and safes within the system would have their deposits guaranteed because of their use of the savings institutions.

On the assumption that the esusus and safes would not deposit all their savings but would retain some to enable them to maintain their role as a source of quick, short-term (and sometimes long-term) loans for their members, the savings institutions could waive participation in any short-term credit transactions and allow the credit distribution function to

remain at the indigenous level, as previously.

If there is, however, some concern on the part of the government about rural people's individual access to long-term credit for investment purposes, then the government could, through its savings institutions, provide for long-term purposes to interested safes and esusus as organizations. It would then be up to these individual organizations to decide how to disburse and pay for the credit among members. Such a procedure would, as previously mentioned, reduce the paperwork that the savings institutions would normally have to do, and the risk that they would have to bear, and this would hopefully reduce the cost of the loans. There could even be some kind of an incentive system attached to the whole scheme. For example, the savings institutions could stipulate that for larger indigenous organizations (and therefore for possibly larger loans), the interest rate charged would be lower because of the processing reduction brought about by their size. This could be instrumental in getting some small organizations to join together. The disadvantage of such a scheme would be that such larger groups might not necessarily function as efficiently internally as the smaller ones. The scheme would also penalize those groups who might want to maintain their own small identity. This type of a proposal for credit disbursement is very similar to that attempted by the government through the government cooperative savings and credit system. In order to avoid the experiences of the cooperative, in which any group

of ten could be registered as a primary cooperative and obtain a government loan, the savings institutions could stipulate that only those indigenous organizations who could prove that they had been in existence for some time (by showing their records and other evidence) would be allowed to receive the collective loans. A credit scheme based on an already existing indigenous system would probably be more successful because it would have more credibility among the rural population. If such a system of credit disbursement proved unsatisfactory because of high interest rates, acting as a deterrent on the demand for credit, it might become necessary to lower somewhat the overall rate charged, through some slight government subsidy. (A graduated rate for farmers depending on income or assets would have been ideal, but would be virtually impossible for the indigenous associations to administer because of the record keeping involved.) However, considerable care would have to be taken in deciding the amount of subsidy. Because if the subsidies should prove quite substantial, the whole system would be back where it started with low, heavily administered and inequitable interest rates on credit, and similarly low or negative rates on savings deposits.

One other major problem that would remain with such a credit disbursement scheme would be that if there were some people who were excluded from the indigenous system, as discussed in Chapter Four, they would continue to be excluded from participation in borrowing activity. Therefore, when and if

a determination of exclusion is made, it would be necessary to consider these people as a particular target population deserving special attention, and devise some separate means of getting credit to them for their activities, either on a welfare or repayment basis as individually necessary. The overall scheme described here for utilizing the indigenous system as a credit disbursement mechanism could be used as well with any of the savings mobilization and investment schemes about to be suggested.

A second possible combination of the indigenous and external systems as a joint mechanism for savings and investment purposes would be for the indigenous system to lend directly to a community project, planned for and articulated by the community itself, with the savings institutions as guarantors of the funds, and instead of making normal interest payments, the government savings institutions could give the funds directly as a block grant to the indigenous organizations. Again, as a scheme, the larger an amount an organization gave, and the longer it let the fund remain in the investment without requesting them back, the larger would be the block grant (interest payment really) given it by the government through its savings institutions. As well as receiving the block funds, participants in the indigenous system would have the satisfaction of seeing their funds go directly into a much-needed community investment project.

Finally, the savings institutions could mobilize funds from the indigenous system at the higher interest rates and then undertake the execution of rural investment projects themselves. This method, while straightforward, is not as attractive as the other two because it would mean very little community involvement in articulating and carrying out the investment projects. It is a method that could, however, be used by the government for inter-community rural investments. That is, those investments that would be so lumpy they might involve two separate rural communities. The quickest method of getting such investments going would then be through a third intermediary, such as the government and its savings institutions.

The idea of success for the above mechanisms is not such a far-fetched one. The argument for the non-responsiveness of savings to interest rate policies in LDCs has been disproved in case after case, including the examples of Taiwan, Mexico, and other countries previously cited. It seems entirely plausible that the Nigerian case would follow along the lines observed for these countries. The policies would first have to be tried before any substantial counter-argument against them can be put forward. And already, as reported in Chapter Three, some indigenous organizations seem to be moving towards depositing some part of their funds in the savings bank. This move is being made at a time when the interests paid on deposits (8% per annum) is really negative in real terms (because of the 30% per annum inflation rate in the economy), given the

Nigerian search, since 1977, for investment capital. With higher interest rates, with accessible mobile banks, and above all, with a great deal of publicity about these rates and what they really imply in terms of funds for those who deposit, the move towards depositing funds should become more widespread. For a long time to come, however, it should not be expected that all savings would be deposited by the indigenous organizations simply because of what will be the continuing need for quick accessible loans for working capital and consumption purposes.

Need for Further Research

There is very little known or written at present about the interactions or possible interrelationships between indigenous and external systems, or, as some would have it, between informal and formal systems. Of what has been written, there appear to be unnecessarily pessimistic views about the possible roles the informal or indigenous system could play in mobilizing savings and channelling credit for rural, and specifically for agricultural, development purposes. (For example, see Nisbet's 1973 paper, "Informal Lenders as Suppliers of Development Credits for Small Farmers in Developing Countries: Attractive or Deceptive Alternative.")

Although acknowledging the various attractive features of indigenous systems, the general trend of thought is that because of several drawbacks, such as lack of inherent development goals, and the lack of credit supervision within the in-

formal system, this system, to take one example, cannot be looked to as an effective instrument for credit policy. The suggestions sketched out above for the use of the indigenous system, in conjunction with the external system, for savings and credit policy indicate that the picture may not be so gloomy. The drawbacks mentioned may, in fact, serve as indications of the need for further integration between indigenous and external systems, not as signals of the need to disregard the role the indigenous system could play. What is needed for this important policy issue is further research on and more innovative thinking about possible means for utilizing the indigenous system for savings and credit found in many rural communities.

The findings of a cash surplus savings capacity, and a well-structured rural capital market in Ogwashi-Uku have great significance for development policies in this rural area. The simultaneous use of the indigenous and external savings and credit systems for savings mobilization and investment in the manner discussed above should facilitate implementation of investment projects that will make a significant impact on productive capacity and physical well-being in this rural area. Should the Ogwashi-Uku experience be typical of other rural areas in Nigeria (as the author suspects it is), then a whole new vista of rural development, hitherto deemed unattainable, could open up for rural Nigeria.

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APPENDIX A

INDIGENOUS RURAL SAVINGS AND CREDIT SYSTEM
IN OGWASHI-UKU: INTERVIEW QUESTIONS

1. Name

2. Age

3. Family Characteristics
    a) Number of children/dependents
    b) Number of wives

4. Education
    a) self
    b) wives
    c) children--any in post-primary institutions

5. Number of farms owned...acreage

6. Kinds of crops planted

7. Income from farming (annual income?)

8. Do you have any other occupations?
    If yes, how much do you make per week, per month?

9. What are the biggest expenditure items in your household
    budget?

10. Do you belong to any savings and credit societies?
    If yes, how many?

    a) How many people are involved in your group?
    b) How often do you meet?
    c) How much do you contribute?
    d) What type of a rotation system do you have?
       (i.e., who gets the rotating fund first?)
    e) Have you received the funds yet?
       If yes, how much?
    f) What did you use it for?

11. Do you have any other savings? Where?

12. Credit History: Have you borrowed at any time in the past ten years? In-kind or cash?

    a) When?
    b) How many times?
    c) From whom or where?
    d) How much?

Repayment Terms

13. a) By when were you supposed to repay the loan?
    b) Was it to be done in installments or all at once?
    c) What was the interest charge on the loan?
    d) Was any collateral demanded?
    e) Did you pay on time? If not, what were the consequences? (counter-check with lender)

14. What purpose was the loan made for?

    a) farming purposes
    b) other enterprise
    c) building a house
    d) travelling, illness, ceremonial purposes, etc.
    e) education of children

15. Lending History

    a) Have you extended credit within the past ten years to any person in the village? Be it your relative, friend, or someone non-related?
       If yes, what type of credit--in-kind or cash?
    b) If cash, how much?
    c) What were the repayment terms for the loans, i.e. interest rate charges, etc.?
    d) Did you demand collateral?

16. Have you ever experienced a lean year? If yes, what did you do to survive? Did you take loans? Did your relatives help you?

17. Do you always subsist entirely on your own production?

18. Use of external institutions:

    a) Do you know about Post Office Savings Bank? Have you ever used it? How did you learn you could use it?
    b) Do you know a bank has been established in this town? If yes, how did you learn? Have you ever used it? Why or why not?

c) Do you know about the government cooperative savings and credit system? Are you a member? Have you ever loaned money from the cooperative?

19. Indigenous and External Systems Compared

   a) Why do you use one type of credit and savings system as opposed to the other?
   b) What things do you like about the system you use? What don't you like?
   c) What displeases you about the system you don't use? What pleases you?

20. Have you always used the system of savings and credit you are currently using? If no, what did you use before, and what caused you to change?

21. Do you think a community-wide savings and credit system is necessary? If yes,
   a) Would you be willing to participate in one? as organizer? as member?
   b) What functions exactly do you think such a system should have, i.e., how do you want it organized? What type of loans should it make?
   c) On what terms?
   d) How much do you suggest each person should contribute? How regularly?
   e) What should the savings be used for, apart from loans?

APPENDIX B

INDCRED CODEBOOK

Column	SPSS Variable Name	Variable Description & Code
1-2	Name	01-50, Respondent Identity
3-4	Age	Approximate age of Respondent
5	Wives	Number of wives respondent has
6-7	Children	Number of children/dependents respondent has
8-11	Income	Estimated income of respondent
12-13	Education	Number of years formal education of respondent
14-16	HIBORROW	Highest amount borrowed by respondent within period given in interview
17-19	LOBORROW	Lowest amount borrowed
20-22	HILEND	Highest amount respondent ever loaned anyone
23-25	LOLEND	Lowest amount ever loaned
26	NUMBORW	Number of times respondent borrowed money, 0 (no lending) - 5 (five or more times)
27	NUMLEND	Number of times respondent lent money (0-5 as above)
28-29	NUMCRED	Number of savings & credit societies to which respondent belongs
30	Chisec	At least one child in post-primary institution 0=no; 1=yes

Column	SPSS Variable Name	Variable Description & Code
31	USEBANK	Use of the commercial bank 0=no; 1-yes
32	PARTIOC	Part-time occupation 0=no; 1=yes

NOTE:

Missing Values

Age (99)

Income (9999)

Hiborrow, Loborrow, Hilend, Lolend (999)

Numborw, Numlend (9)

SPSS FOR OS/360, VERSION H, RELEASE 7.1, JULY 11, 1977

DEFAULT SPACE ALLOCATION..   ALLOWS FOR..   100 TRANSFORMATIONS
WORKSPACE   70000 BYTES   400 RECODE VALUES + LAG VARIABLES
TRANSPACE   10000 BYTES   1600 IF/COMPUTE OPERATIONS

```
                RUN NAME    NIGERIAN RURAL CREDIT
                VARIABLE LIST   NAME,AGE,WIVES,CHILDREN,INCOME,EDUC,HIBORROW,LOBORROW,HILEND,
                            LOLEND,NUMBORW,NUMLEND,NUMCRED,CHISEC,USEBANK,PARTIOC
                INPUT MEDIUM   CARD
                N OF CASES     50
                INPUT FORMAT   FIXED(F2.0,F2.0,F1.0,F2.0,F4.0,F2.0,F3.0,F3.0,F3.0,F3.0,F1.0,
                            F1.0,F2.0,F1.0,F1.0,F1.0)
```


                ACCORDING TO YOUR INPUT FORMAT, VARIABLES ARE TO BE READ AS FOLLOWS

                VARIABLE   FORMAT   RECORD   COLUMNS

                NAME   F 2. 0   1   1-   2
                AGE   F 2. 0   1   3-   4
                WIVES   F 1. 0   1   5-   5
                CHILDREN   F 2. 0   1   6-   7
                INCOME   F 4. 0   1   8-   11
                EDUC   F 2. 0   1   12-   13
                HIBORROW   F 3. 0   1   14-   16
                LOBORROW   F 3. 0   1   17-   19
                HILEND   F 3. 0   1   20-   22
                LOLEND   F 3. 0   1   23-   25
                NUMBORW   F 1. 0   1   26-   26
                NUMLEND   F 1. 0   1   27-   27
                NUMCRED   F 2. 0   1   28-   29
                CHISEC   F 1. 0   1   30-   30
                USEBANK   F 1. 0   1   31-   31
                PARTIOC   F 1. 0   1   32-   32

THE INPUT FORMAT PROVIDES FOR 16 VARIABLES.   16 WILL BE READ
IT PROVIDES FOR 1 RECORDS ('CARDS') PER CASE. A MAXIMUM OF   32 'COLUMNS' ARE USED ON A RECORD.

                VAR LABELS
                MISSING VALUES AGE(99)/ INCOME(9999)/ HIBORROW,LOBORROW,HILEND,LOLEND(999)/
                            NUMBORW,NUMLEND(9)/
                LIST CASES   CASES = 50/VARIABLES= ALL

                SCATTERGRAM   NUMBORW NUMLEND HIBORROW WITH NUMCRED/NUMLEND HIBORROW WITH AGE/
                            NUMBORW NUMLEND HIBORROW WITH INCOME/NUMBORW NUMLEND WITH EDUC
                OPTIONS   2
                STATISTICS   ALL

**** GIVEN WORKSPACE ALLOWS FOR   1164 CASES FOR SCATTERGRAM PROBLEM *****

FILE   NONAME   (CREATION DATE = 03/07/78)

CONTENTS OF CASE NUMBER   1

SEQNUM	1.	SUBFILE	NONA	CASWGT	1.0000	NAME	1.	AGE	40.
WIVES	1.	CHILDREN	7.	INCOME	1800.	EDUC	0.	HIBORROW	40.
LOBORROW	999.	HILEND	20.	LOLEND	2.	NUMBORW	5.	NUMLEND	5.
NUMCRED	5.	CHISEC	1.	USEBANK	0.	PARTIOC	0.		

CONTENTS OF CASE NUMBER   2

SEQNUM	2.	SUBFILE	NONA	CASWGT	1.0000	NAME	2.	AGE	99.
WIVES	1.	CHILDREN	9.	INCOME	1800.	EDUC	0.	HIBORROW	120.
LOBORROW	20.	HILEND	24.	LOLEND	20.	NUMBORW	5.	NUMLEND	2.
NUMCRED	4.	CHISEC	0.	USEBANK	1.	PARTIOC	0.		

CONTENTS OF CASE NUMBER   3

SEQNUM	3.	SUBFILE	NONA	CASWGT	1.0000	NAME	3.	AGE	43.
WIVES	1.	CHILDREN	9.	INCOME	1420.	EDUC	6.	HIBORROW	60.
LOBORROW	20.	HILEND	120.	LOLEND	999.	NUMBORW	5.	NUMLEND	1.
NUMCRED	7.	CHISEC	1.	USEBANK	0.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   4

SEQNUM	4.	SUBFILE	NONA	CASWGT	1.0000	NAME	4.	AGE	50.
WIVES	3.	CHILDREN	11.	INCOME	2412.	EDUC	6.	HIBORROW	32.
LOBORROW	10.	HILEND	20.	LOLEND	3.	NUMBORW	2.	NUMLEND	5.
NUMCRED	0.	CHISEC	1.	USEBANK	0.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   5

SEQNUM	5.	SUBFILE	NONA	CASWGT	1.0000	NAME	5.	AGE	62.
WIVES	1.	CHILDREN	8.	INCOME	740.	EDUC	6.	HIBORROW	80.
LOBORROW	999.	HILEND	300.	LOLEND	999.	NUMBORW	1.	NUMLEND	5.
NUMCRED	4.	CHISEC	1.	USEBANK	0.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   6

SEQNUM	6.	SUBFILE	NONA	CASWGT	1.0000	NAME	6.	AGE	70.
WIVES	1.	CHILDREN	9.	INCOME	900.	EDUC	0.	HIBORROW	20.
LOBORROW	999.	HILEND	10.	LOLEND	999.	NUMBORW	5.	NUMLEND	5.
NUMCRED	2.	CHISEC	1.	USEBANK	0.	PARTIOC	0.		

FILE   NONAME   (CREATION DATE = 03/07/78)

CONTENTS OF CASE NUMBER   7

SEQNUM	7.	SUBFILE	NONA	CASWGT	1.0000	NAME	7.	AGE	36.
WIVES	2.	CHILDREN	6.	INCOME	2008.	EDUC	9.	HIBORROW	100.
LOBORROW	999.	HILEND	100.	LOLEND	10.	NUMBORW	1.	NUMLEND	5.
NUMCRED	4.	CHISEC	0.	USEBANK	1.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   8

SEQNUM	8.	SUBFILE	NONA	CASWGT	1.0000	NAME	8.	AGE	80.
WIVES	1.	CHILDREN	5.	INCOME	600.	EDUC	3.	HIBORROW	14.
LOBORROW	2.	HILEND	100.	LOLEND	5.	NUMBORW	3.	NUMLEND	5.
NUMCRED	0.	CHISEC	0.	USEBANK	0.	PARTIOC	0.		

CONTENTS OF CASE NUMBER   9

SEQNUM	9.	SUBFILE	NONA	CASWGT	1.0000	NAME	9.	AGE	46.
WIVES	2.	CHILDREN	9.	INCOME	1900.	EDUC	6.	HIBORROW	120.
LOBORROW	40.	HILEND	60.	LOLEND	0.	NUMBORW	5.	NUMLEND	5.
NUMCRED	5.	CHISEC	0.	USEBANK	1.	PARTIOC	0.		

CONTENTS OF CASE NUMBER   10

SEQNUM	10.	SUBFILE	NONA	CASWGT	1.0000	NAME	10.	AGE	49.
WIVES	1.	CHILDREN	6.	INCOME	1232.	EDUC	5.	HIBORROW	34.
LOBORROW	20.	HILEND	60.	LOLEND	1.	NUMBORW	3.	NUMLEND	5.
NUMCRED	5.	CHISEC	1.	USEBANK	0.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   11

SEQNUM	11.	SUBFILE	NONA	CASWGT	1.0000	NAME	11.	AGE	70.
WIVES	1.	CHILDREN	5.	INCOME	900.	EDUC	0.	HIBORROW	120.
LOBORROW	18.	HILEND	20.	LOLEND	12.	NUMBORW	5.	NUMLEND	5.
NUMCRED	6.	CHISEC	1.	USEBANK	0.	PARTIOC	0.		

CONTENTS OF CASE NUMBER   12

SEQNUM	12.	SUBFILE	NONA	CASWGT	1.0000	NAME	12.	AGE	44.
WIVES	0.	CHILDREN	4.	INCOME	704.	EDUC	1.	HIBORROW	20.
LOBORROW	999.	HILEND	4.	LOLEND	2.	NUMBORW	1.	NUMLEND	5.
NUMCRED	8.	CHISEC	0.	USEBANK	0.	PARTIOC	0.		

FILE   NONAME   (CREATION DATE = 03/07/78)

CONTENTS OF CASE NUMBER   13

SEQNUM	13.	SUBFILE	NONA	CASWGT	1.0000	NAME	13.	AGE	50.
WIVES	0.	CHILDREN	5.	INCOME	900.	EDUC	0.	HIBORROW	6.
LOBORROW	999.	HILEND	10.	LOLEND	10.	NUMBORW	1.	NUMLEND	2.
NUMCRED	3.	CHISEC	0.	USEBANK	0.	PARTIOC	0.		

CONTENTS OF CASE NUMBER   14

SEQNUM	14.	SUBFILE	NONA	CASWGT	1.0000	NAME	14.	AGE	50.
WIVES	1.	CHILDREN	8.	INCOME	800.	EDUC	3.	HIBORROW	20.
LOBORROW	8.	HILEND	40.	LOLEND	4.	NUMBORW	2.	NUMLEND	5.
NUMCRED	5.	CHISEC	1.	USEBANK	1.	PARTIOC	0.		

CONTENTS OF CASE NUMBER   15

SEQNUM	15.	SUBFILE	NONA	CASWGT	1.0000	NAME	15.	AGE	45.
WIVES	2.	CHILDREN	6.	INCOME	1120.	EDUC	3.	HIBORROW	20.
LOBORROW	20.	HILEND	50.	LOLEND	18.	NUMBORW	2.	NUMLEND	3.
NUMCRED	4.	CHISEC	0.	USEBANK	0.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   16

SEQNUM	16.	SUBFILE	NONA	CASWGT	1.0000	NAME	16.	AGE	52.
WIVES	3.	CHILDREN	9.	INCOME	1140.	EDUC	4.	HIBORROW	22.
LOBORROW	999.	HILEND	999.	LOLEND	999.	NUMBORW	5.	NUMLEND	9.
NUMCRED	3.	CHISEC	1.	USEBANK	0.	PARTIOC	0.		

CONTENTS OF CASE NUMBER   17

SEQNUM	17.	SUBFILE	NONA	CASWGT	1.0000	NAME	17.	AGE	60.
WIVES	3.	CHILDREN	15.	INCOME	9999.	EDUC	0.	HIBORROW	40.
LOBORROW	20.	HILEND	30.	LOLEND	999.	NUMBORW	5.	NUMLEND	5.
NUMCRED	3.	CHISEC	1.	USEBANK	1.	PARTIOC	0.		

CONTENTS OF CASE NUMBER   18

SEQNUM	18.	SUBFILE	NONA	CASWGT	1.0000	NAME	18.	AGE	80.
WIVES	1.	CHILDREN	11.	INCOME	1300.	EDUC	0.	HIBORROW	200.
LOBORROW	20.	HILEND	20.	LOLEND	6.	NUMBORW	2.	NUMLEND	2.
NUMCRED	4.	CHISEC	1.	USEBANK	0.	PARTIOC	0.		

FILE   NONAME   (CREATION DATE = 03/07/78)

CONTENTS OF CASE NUMBER   19

SEQNUM	19.	SUBFILE	NONA	CASWGT	1.0000	NAME	19.	AGE	25.
WIVES	1.	CHILDREN	3.	INCOME	2650.	EDUC	6.	HIBORROW	40.
LOBORROW	30.	HILEND	30.	LOLEND	10.	NUMBORW	2.	NUMLEND	3.
NUMCRED	1.	CHISEC	C.	USEBANK	0.	PARTIOC	0.		

CONTENTS OF CASE NUMBER   20

SEQNUM	20.	SUBFILE	NONA	CASWGT	1.0000	NAME	20.	AGE	47.
WIVES	1.	CHILDREN	5.	INCOME	579.	EDUC	0.	HIBORROW	30.
LOBORROW	10.	HILEND	20.	LOLEND	0.	NUMBORW	4.	NUMLEND	4.
NUMCRED	8.	CHISEC	1.	USEBANK	0.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   21

SEQNUM	21.	SUBFILE	NONA	CASWGT	1.0000	NAME	21.	AGE	52.
WIVES	0.	CHILDREN	5.	INCOME	926.	EDUC	0.	HIBORROW	40.
LOBORROW	999.	HILEND	60.	LOLEND	3.	NUMBORW	1.	NUMLEND	5.
NUMCRED	7.	CHISEC	1.	USEBANK	1.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   22

SEQNUM	22.	SUBFILE	NONA	CASWGT	1.0000	NAME	22.	AGE	60.
WIVES	2.	CHILDREN	4.	INCOME	1150.	EDUC	0.	HIBORROW	999.
LOBORROW	999.	HILEND	20.	LOLEND	10.	NUMBORW	9.	NUMLEND	3.
NUMCRED	3.	CHISEC	C.	USEBANK	0.	PARTIOC	0.		

CONTENTS OF CASE NUMBER   23

SEQNUM	23.	SUBFILE	NONA	CASWGT	1.0000	NAME	23.	AGE	35.
WIVES	1.	CHILDREN	6.	INCOME	1940.	EDUC	4.	HIBORROW	70.
LOBORROW	50.	HILEND	40.	LOLEND	5.	NUMBORW	3.	NUMLEND	5.
NUMCRED	7.	CHISEC	0.	USEBANK	1.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   24

SEQNUM	24.	SUBFILE	NONA	CASWGT	1.0000	NAME	24.	AGE	70.
WIVES	1.	CHILDREN	7.	INCOME	2000.	EDUC	0.	HIBORROW	40.
LOBORROW	10.	HILEND	30.	LOLEND	1.	NUMBORW	2.	NUMLEND	5.
NUMCRED	4.	CHISEC	1.	USEBANK	0.	PARTIOC	0.		

FILE   NONAME   (CREATION DATE = 03/07/78)

CONTENTS OF CASE NUMBER   25

SEQNUM	25.	SUBFILE	NONA	CASWGT	1.0000	NAME	25.	AGE	25.
WIVES	1.	CHILDREN	2.	INCOME	1000.	EDUC	6.	HIBORROW	80.
LOBORROW	45.	HILEND	10.	LOLEND	1.	NUMBORW	2.	NUMLEND	3.
NUMCRED	3.	CHISEC	0.	USEBANK	1.	PARTIOC	0.		

CONTENTS OF CASE NUMBER   26

SEQNUM	26.	SUBFILE	NONA	CASWGT	1.0000	NAME	26.	AGE	47.
WIVES	1.	CHILDREN	8.	INCOME	1620.	EDUC	4.	HIBORROW	100.
LOBORROW	999.	HILEND	30.	LOLEND	14.	NUMBORW	1.	NUMLEND	3.
NUMCRED	4.	CHISEC	0.	USEBANK	1.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   27

SEQNUM	27.	SUBFILE	NONA	CASWGT	1.0000	NAME	27.	AGE	58.
WIVES	3.	CHILDREN	18.	INCOME	1920.	EDUC	0.	HIBORROW	40.
LOBORROW	30.	HILEND	50.	LOLEND	40.	NUMBORW	2.	NUMLEND	5.
NUMCRED	7.	CHISEC	1.	USEBANK	0.	PARTIOC	0.		

CONTENTS OF CASE NUMBER   28

SEQNUM	28.	SUBFILE	NONA	CASWGT	1.0000	NAME	28.	AGE	50.
WIVES	0.	CHILDREN	4.	INCOME	1064.	EDUC	0.	HIBORROW	80.
LOBORROW	40.	HILEND	80.	LOLEND	10.	NUMBORW	5.	NUMLEND	5.
NUMCRED	10.	CHISEC	1.	USEBANK	0.	PARTIOC	0.		

CONTENTS OF CASE NUMBER   29

SEQNUM	29.	SUBFILE	NONA	CASWGT	1.0000	NAME	29.	AGE	60.
WIVES	2.	CHILDREN	10.	INCOME	1200.	EDUC	0.	HIBORROW	32.
LOBORROW	999.	HILEND	0.	LOLEND	0.	NUMBORW	1.	NUMLEND	0.
NUMCRED	4.	CHISEC	1.	USEBANK	0.	PARTIOC	0.		

CONTENTS OF CASE NUMBER   30

SEQNUM	30.	SUBFILE	NONA	CASWGT	1.0000	NAME	30.	AGE	35.
WIVES	1.	CHILDREN	2.	INCOME	1620.	EDUC	1.	HIBORROW	20.
LOBORROW	999.	HILEND	0.	LOLEND	0.	NUMBORW	1.	NUMLEND	0.
NUMCRED	6.	CHISEC	0.	USEBANK	1.	PARTIOC	1.		

FILE   NONAME   (CREATION DATE = 03/07/78)

CONTENTS OF CASE NUMBER   31

SEQNUM	31.	SUBFILE	NCNA	CASWGT	1.0000	NAME	31.	AGE	43.
WIVES	1.	CHILDREN	5.	INCOME	780.	EDUC	2.	HIBORROW	120.
LOBORROW	20.	HILEND	0.	LOLEND	0.	NUMBORW	5.	NUMLEND	0.
NUMCRED	5.	CHISEC	0.	USEBANK	1.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   32

SEQNUM	32.	SUBFILE	NONA	CASWGT	1.0000	NAME	32.	AGE	47.
WIVES	1.	CHILDREN	8.	INCOME	1125.	EDUC	2.	HIBORROW	100.
LOBORROW	999.	HILEND	0.	LOLEND	0.	NUMBORW	1.	NUMLEND	0.
NUMCRED	3.	CHISEC	1.	USEBANK	1.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   33

SEQNUM	33.	SUBFILE	NCNA	CASWGT	1.0000	NAME	33.	AGE	63.
WIVES	1.	CHILDREN	6.	INCOME	1120.	EDUC	0.	HIBORROW	40.
LOBORROW	999.	HILEND	0.	LOLEND	0.	NUMBORW	2.	NUMLEND	0.
NUMCRED	3.	CHISEC	0.	USEBANK	0.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   34

SEQNUM	34.	SUBFILE	NONA	CASWGT	1.0000	NAME	34.	AGE	60.
WIVES	1.	CHILDREN	7.	INCOME	904.	EDUC	0.	HIBORROW	100.
LOBORROW	999.	HILEND	0.	LOLEND	0.	NUMBORW	1.	NUMLEND	0.
NUMCRED	4.	CHISEC	0.	USEBANK	0.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   35

SEQNUM	35.	SUBFILE	NONA	CASWGT	1.0000	NAME	35.	AGE	30.
WIVES	1.	CHILDREN	6.	INCOME	1804.	EDUC	0.	HIBORROW	20.
LOBORROW	14.	HILEND	0.	LOLEND	0.	NUMBORW	2.	NUMLEND	0.
NUMCRED	5.	CHISEC	1.	USEBANK	0.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   36

SEQNUM	36.	SUBFILE	NCNA	CASWGT	1.0000	NAME	36.	AGE	45.
WIVES	1.	CHILDREN	1.	INCOME	1300.	EDUC	0.	HIBORROW	20.
LOBORROW	999.	HILEND	0.	LOLEND	0.	NUMBORW	1.	NUMLEND	0.
NUMCRED	1.	CHISEC	0.	USEBANK	0.	PARTIOC	0.		

FILE   NONAME   (CREATION DATF = 03/07/78)

CONTENTS OF CASE NUMBER   37

SEQNUM	37.	SUBFILE	NCNA	CASWGT	1.0000	NAME	37.	AGE	59.
WIVES	1.	CHILDREN	6.	INCOME	868.	EDUC	0.	HIBORROW	80.
LOBORROW	40.	HILEND	0.	LOLEND	0.	NUMBORW	3.	NUMLEND	0.
NUMCRED	5.	CHISEC	0.	USEBANK	0.	PARTIOC	0.		

CONTENTS OF CASE NUMBER   38

SEQNUM	38.	SUBFILE	NONA	CASWGT	1.0000	NAME	38.	AGE	57.
WIVES	1.	CHILDREN	8.	INCOME	500.	EDUC	2.	HIBORROW	60.
LOBORROW	999.	HILEND	0.	LOLEND	0.	NUMBORW	1.	NUMLEND	0.
NUMCRED	2.	CHISEC	0.	USEBANK	0.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   39

SEQNUM	39.	SUBFILE	NCNA	CASWGT	1.0000	NAME	39.	AGE	40.
WIVES	1.	CHILDREN	5.	INCOME	1620.	EDUC	6.	HIBORROW	0.
LOBORROW	0.	HILEND	0.	LOLEND	0.	NUMBORW	0.	NUMLEND	0.
NUMCRED	1.	CHISEC	1.	USEBANK	0.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   40

SEQNUM	40.	SUBFILE	NONA	CASWGT	1.0000	NAME	40.	AGE	45.
WIVES	1.	CHILDREN	4.	INCOME	408.	EDUC	6.	HIBORROW	0.
LOBORROW	0.	HILEND	0.	LOLEND	0.	NUMBORW	C.	NUMLEND	0.
NUMCRED	0.	CHISEC	C.	USEBANK	0.	PARTIOC	0.		

CONTENTS OF CASE NUMBER   41

SEQNUM	41.	SUBFILE	NONA	CASWGT	1.0000	NAME	41.	AGE	72.
WIVES	3.	CHILDREN	4.	INCCMF	500.	EDUC	2.	HIBORROW	0.
LOBORROW	0.	HILEND	0.	LOLEND	0.	NUMBORW	0.	NUMLEND	0.
NUMCRED	0.	CHISEC	1.	USEBANK	0.	PARTIOC	0.		

CONTENTS OF CASE NUMBER   42

SEQNUM	42.	SUBFILE	NCNA	CASWGT	1.0000	NAME	42.	AGE	32.
WIVES	0.	CHILDREN	6.	INCOME	900.	EDUC	2.	HIBORROW	0.
LOBORROW	0.	HILEND	0.	LOLEND	0.	NUMBORW	0.	NUMLEND	0.
NUMCRED	0.	CHISEC	0.	USEBANK	0.	PARTIOC	0.		

FILE   NONAME   (CREATION DATE = 03/07/78)

CONTENTS OF CASE NUMBER   43

SEQNUM	43.	SUBFILE	NONA	CASWGT	1.0000	NAME	43.	AGE	32.
WIVES	1.	CHILDREN	3.	INCOME	910.	EDUC	5.	HIBORROW	0.
LOBORROW	0.	HILEND	0.	LOLEND	0.	NUMBORW	0.	NUMLEND	0.
NUMCRED	2.	CHISEC	0.	USEBANK	0.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   44

SEQNUM	44.	SUBFILE	NONA	CASWGT	1.0000	NAME	44.	AGE	52.
WIVES	1.	CHILDREN	8.	INCOME	1230.	EDUC	6.	HIBORROW	0.
LOBORROW	0.	HILEND	0.	LOLEND	0.	NUMBORW	0.	NUMLEND	0.
NUMCRED	3.	CHISEC	1.	USEBANK	1.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   45

SEQNUM	45.	SUBFILE	NONA	CASWGT	1.0000	NAME	45.	AGE	45.
WIVES	2.	CHILDREN	12.	INCOME	2380.	EDUC	6.	HIBORROW	0.
LOBORROW	0.	HILEND	100.	LOLEND	20.	NUMBORW	0.	NUMLEND	5.
NUMCRED	0.	CHISEC	1.	USEBANK	1.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   46

SEQNUM	46.	SUBFILE	NONA	CASWGT	1.0000	NAME	46.	AGE	35.
WIVES	1.	CHILDREN	8.	INCOME	3320.	EDUC	5.	HIBORROW	0.
LOBORROW	0.	HILEND	200.	LOLEND	120.	NUMBORW	0.	NUMLEND	2.
NUMCRED	3.	CHISEC	0.	USEBANK	1.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   47

SEQNUM	47.	SUBFILE	NONA	CASWGT	1.0000	NAME	47.	AGE	65.
WIVES	1.	CHILDREN	2.	INCOME	1808.	EDUC	9.	HIBORROW	0.
LOBORROW	0.	HILEND	4.	LOLEND	1.	NUMBORW	0.	NUMLEND	5.
NUMCRED	5.	CHISEC	1.	USEBANK	1.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   48

SEQNUM	48.	SUBFILE	NONA	CASWGT	1.0000	NAME	48.	AGE	24.
WIVES	0.	CHILDREN	1.	INCOME	1956.	EDUC	13.	HIBORROW	0.
LOBORROW	0.	HILEND	30.	LOLEND	10.	NUMBORW	0.	NUMLEND	5.
NUMCRED	1.	CHISEC	0.	USEBANK	1.	PARTIOC	1.		

FILE   NONAME   (CREATION DATE = 03/07/78)

CONTENTS OF CASE NUMBER   49

SEQNUM	49.	SUBFILE	NONA	CASWGT	1.0000	NAME	49.	AGE	60.
WIVES	2.	CHILDREN	3.	INCOME	1920.	EDUC	5.	HIBORROW	0.
LOBORROW	0.	HILEND	160.	LOLEND	1.	NUMBORW	0.	NUMLEND	5.
NUMCRED	10.	CHISEC	1.	USEBANK	1.	PARTIOC	1.		

CONTENTS OF CASE NUMBER   50

SEQNUM	50.	SUBFILE	NCNA	CASWGT	1.0000	NAME	50.	AGE	32.
WIVES	1.	CHILDREN	4.	INCOME	1092.	EDUC	6.	HIBORROW	103.
LOBORROW	49.	HILEND	0.	LOLEND	0.	NUMBORW	5.	NUMLEND	0.
NUMCRED	3.	CHISEC	0.	USEBANK	0.	PARTIOC	1.		

FILE   NONAME   (CREATION DATE = 03/07/78)
SCATTERGRAM OF   (DOWN) NUMBORW   (ACROSS) NUMCRED
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              0.0       1.00      2.00      3.00      4.00      5.00      6.00      7.0C      8.00      9.00      10.00
```
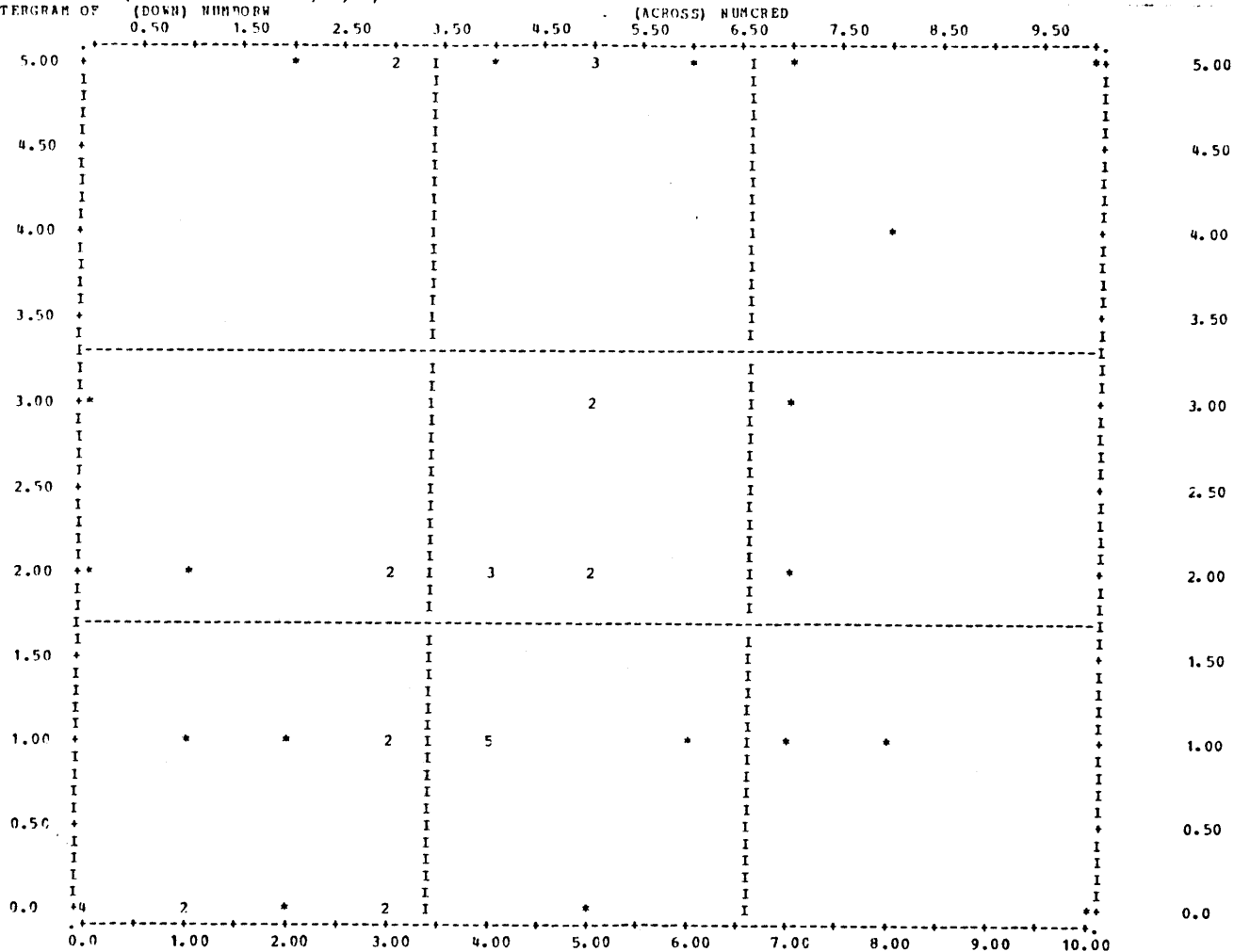
STATISTICS..

CORRELATION (R)-	0.34603	R SQUARED -	0.11974	SIGNIFICANCE -	0.008C0
STD ERR OF EST -	1.71621	INTERCEPT (A) -	1.09262	SLOPE (B) -	0.24491
PLOTTED VALUES -	48	EXCLUDED VALUES-	0	MISSING VALUES -	2

'*********' IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED.

FILE   NONAME   (CREATION DATE = 03/07/78)
SCATTERGRAM OF   (DOWN) NUMLEND   (ACROSS) NUMCRED

```
                    0.50     1.50     2.50     3.50     4.50     5.50     6.50     7.50     8.50     9.50
            .+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+.
     5.00  +3        *        *        *   I    3        5        *   I    3        *                 2+      5.00
           I                              I                          I                               I
           I                              I                          I                               I
           I                              I                          I                               I
           I                              I                          I                               I
     4.50  +                              I                          I                               +      4.50
           I                              I                          I                               I
           I                              I                          I                               I
           I                              I                          I                               I
           I                              I                          I                               I
     4.00  +                              I                          I        *                      +      4.00
           I                              I                          I                               I
           I                              I                          I                               I
           I                              I                          I                               I
           I                              I                          I                               I
     3.50  +                              I                          I                               +      3.50
           I                              I                          I                               I
           I- - - - - - - - - - - - - - - I- - - - - - - - - - - - - I- - - - - - - - - - - - - - - -I
           I                              I                          I                               I
     3.00  +        *               *   I    2                      I                               +      3.00
           I                              I                          I                               I
           I                              I                          I                               I
           I                              I                          I                               I
     2.50  +                              I                          I                               +      2.50
           I                              I                          I                               I
           I                              I                          I                               1
     2.00  +                         2   I    2                      I                               +      2.00
           I                              I                          I                               I
           I                              I                          I                               I
           I- - - - - - - - - - - - - - - I- - - - - - - - - - - - - I- - - - - - - - - - - - - - - -I
     1.50  +                              I                          I                               +      1.50
           I                              I                          I                               I
           I                              I                          I                               I
           I                              I                          I                               I
     1.00  +                              I                          I        *                      +      1.00
           I                              I                          I                               I
           I                              I                          I                               I
           I                              I                          I                               I
     0.50  +                              I                          I                               +      0.50
           I                              I                          I                               I
           I                              I                          I                               I
           I                              I                          I                               I
     0.0   +3        2        2        4   I    2        3        *   I                               +      0.0
            .+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+.
           0.0      1.00     2.00     3.00     4.00     5.00     6.00     7.00     8.00     9.00    10.00
```
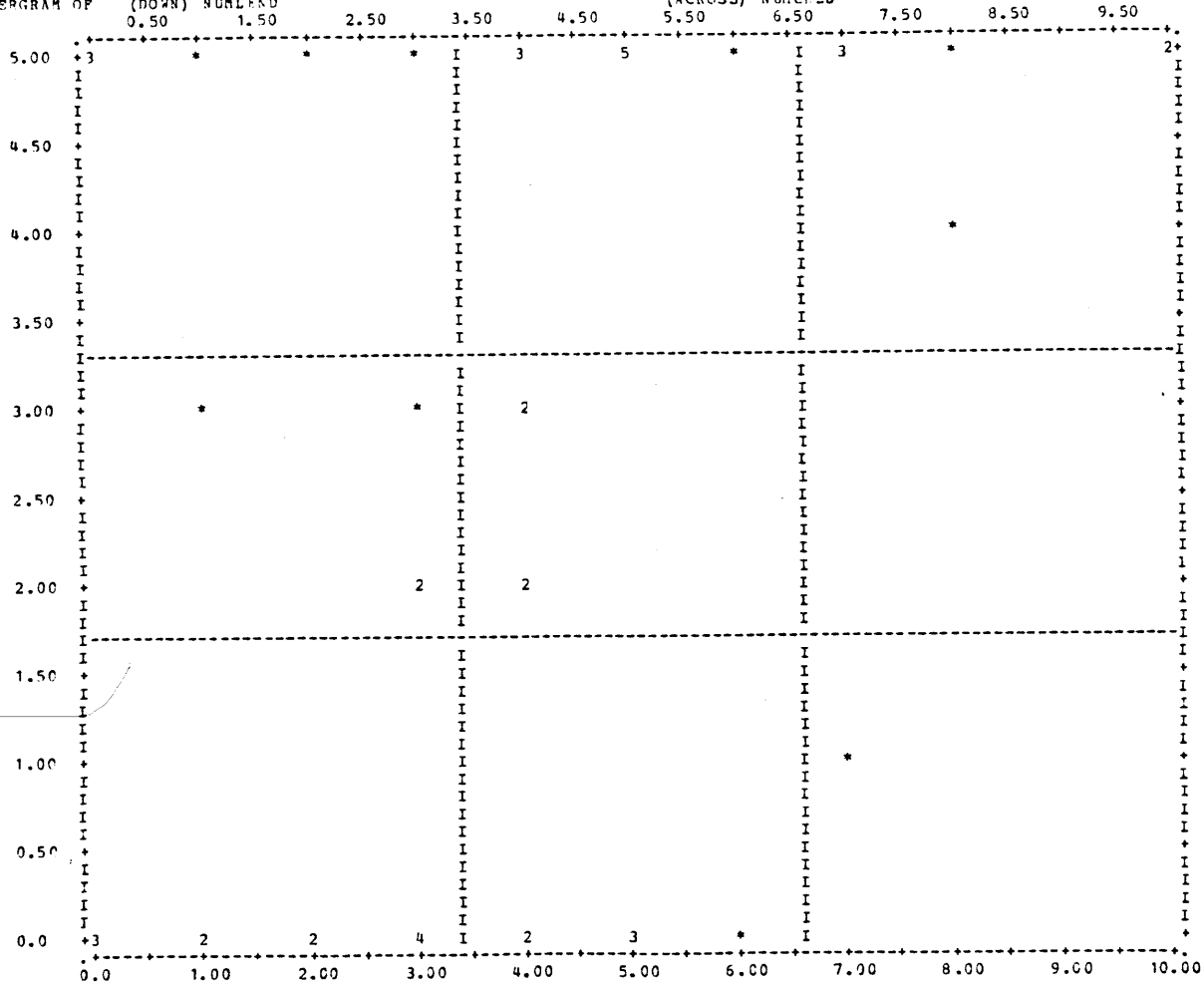
STATISTICS..

CORRELATION (R)-	0.32736	R SQUARED -	0.10717	SIGNIFICANCE -	0.01157
STD ERR OF EST -	2.16690	INTERCEPT (A) -	1.58272	SLOPE (B) -	0.29048
PLOTTED VALUES -	48	EXCLUDED VALUES-	0	MISSING VALUES -	2

'*********' IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED.

FILE   NONAME   (CREATION DATE = 03/07/78)
SCATTERGRAM OF   (DOWN) HIBORROW   (ACROSS) NUMCRED

```
                  0.50      1.50      2.50     3.50      4.50      5.50      6.50      7.50      8.50      9.50
               +---------+---------+---------+---------+---------+---------+---------+---------+---------+---------+.
     200.00  +                             I         *           I                 I                           +  200.00
             I                             I                     I                 I                           I
             I                             I                     I                 I                           I
             I                             I                     I                 I                           I
     180.00  +                             I                     I                 I                           +  180.00
             I                             I                     I                 I                           I
             I                             I                     I                 I                           I
     160.00  +                             I                     I                 I                           +  160.00
             I                             I                     I                 I                           I
             I                             I                     I                 I                           I
             I                             I                     I                 I                           I
     140.00  +                             I                     I                 I                           +  140.00
             I - - - - - - - - - - - - - - I - - - - - - - - - - I - - - - - - - - I - - - - - - - - - - - - - I
             I                             I                     I                 I                           I
     120.00  +                             I     *           2           *         I                           +  120.00
             I                             I                     I                 I                           I
             I                        *    I                     I                 I                           I
     100.00  +                        *    I     3               I                 I                           +  100.00
             I                             I                     I                 I                           I
             I                        *    I     *           *   I                 I                           I
      80.00  +                             I                     I                 I                          *+   80.00
             I                             I                     I       *         I                           I
             I - - - - - - - - - - - - - - I - - - - - - - - - - I - - - - - - - - I - - - - - - - - - - - - - I
      60.00  +              *              I                     I     *           I                           +   60.00
             I                             I                     I                 I                           I
             I                             I                     I                 I                           I
      40.00  +      *                 2    I     *           *   I     2           I                           +   40.00
             I*                            I     *               I                 I       *                   I
      20.00  +      *         *            I     *           2           *         I       *                   +   20.00
             I*                            I                     I                 I                           I
             I                        *    I                     I                 I                           I
       0.0   +4        2         *      2  1                   * I                 I                          *+    0.0
             +---------+---------+---------+---------+---------+---------+---------+---------+---------+---------+.
                  0.0       1.00      2.00      3.00      4.00      5.00      6.00      7.00      8.00      9.00     10.00
```
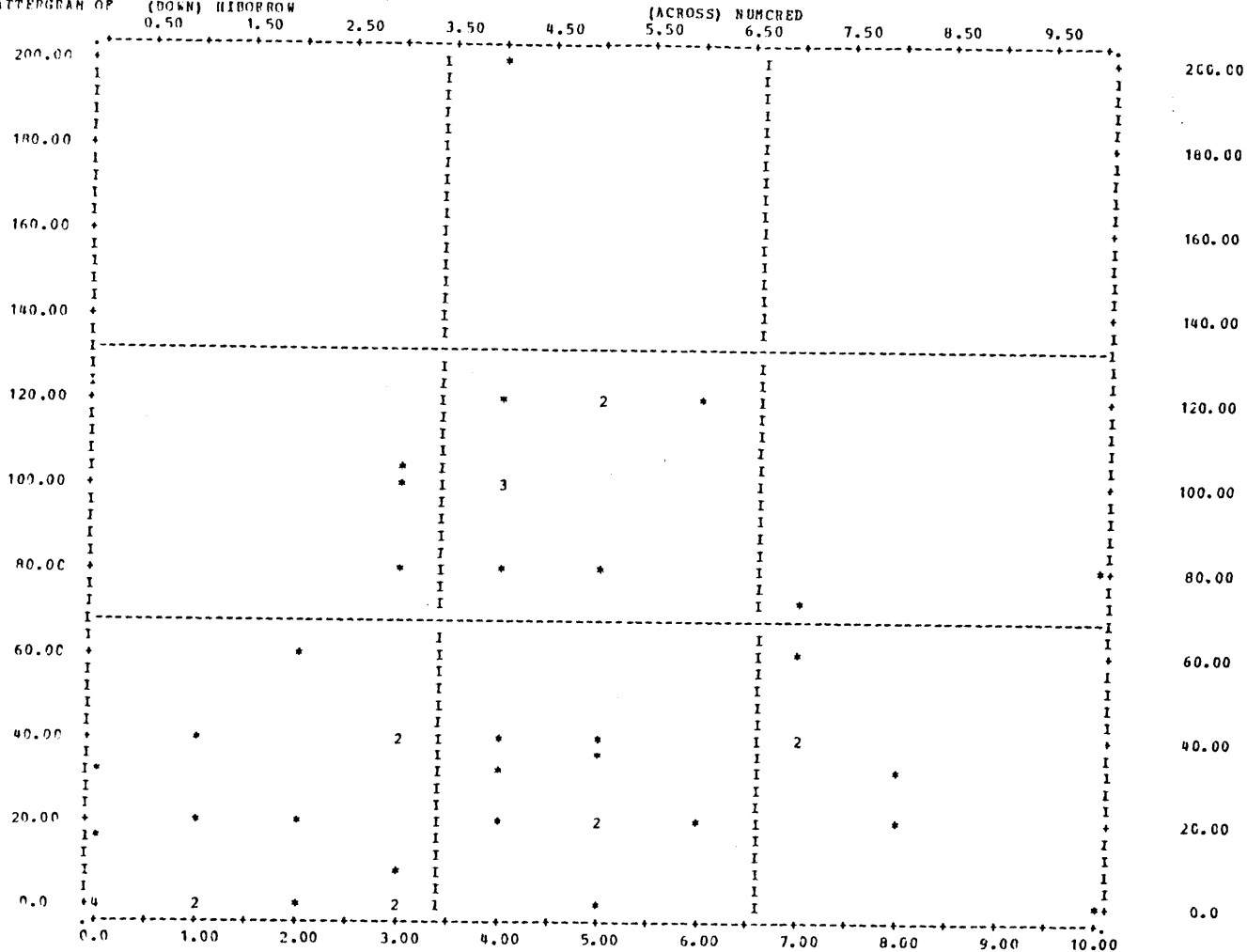
STATISTICS..

CORRELATION (R)-	0.25796	R SQUARED	0.06654	SIGNIFICANCE -	0.03835
STD ERR OF EST -	44.53590	INTERCEPT (A) -	29.27570	SLOPE (B) -	4.60090
PLOTTED VALUES -	48	EXCLUDED VALUES-	0	MISSING VALUES -	2

'*********' IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED.

FILE   NONAME   (CREATION DATE = 11/29/77)
SCATTERGRAM OF   (DOWN) NUMBORW   (ACROSS) AGE
                 26.80   32.40   38.00   43.50   49.20   54.80   60.40   66.00   71.60   77.20

```
         .--+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----.
 5.00  +        *          *    2    *    *   *         * I              2              +   5.00
        I                        I                        I                            I
        I                        I                        I                            I
        I                        I                        I                            I
 4.50  +                         I                        I                            +   4.50
        I                        I                        I                            I
        I                        I                        I                            I
        I                        I                        I                            I
 4.00  +                         I    *                   I                            +   4.00
        I                        I                        I                            I
        I                        I                        I                            I
        I                        I                        I                            I
 3.50  +                         I                        I                            +   3.50
        I - - - - - - - - - - - -I- - - - - - - - - - - - I- - - - - - - - - - - - - - I
        I                        I                        I                            I
 3.00  +              *          I         *         *    I                          **+   3.00
        I                        I                        I                            I
        I                        I                        I                            I
        I                        I                        I                            I
 2.50  +                         I                        I                            +   2.50
        I                        I                        I                            I
        I                        I                        I                            I
        I                        I                        I                            I
 2.00  +   2      *              I  *       2        *   I *        *         *       **+   2.00
        I                        I                        I                            I
        I - - - - - - - - - - - -I- - - - - - - - - - - - I- - - - - - - - - - - - - - I
 1.50  +                         I                        I                            +   1.50
        I                        I                        I                            I
        I                        I                        I                            I
        I                        I                        I                            I
 1.00  +           **            I **  2   *    *    *   2 I *                         +   1.00
        I                        I                        I                            I
        I                        I                        I                            I
        I                        I                        I                            I
 0.50  +                         I                        I                            +   0.50
        I                        I                        I                            I
        I                        I                        I                            I
        I                        I                        I                            I
 0.0   +  *         2       *        *   I 2         *        *  I    *         *       +   0.0
         .--+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----.
          24.00     29.60      35.20      40.80      46.40      52.00      57.60      63.20      68.90      74.40      80.00
```
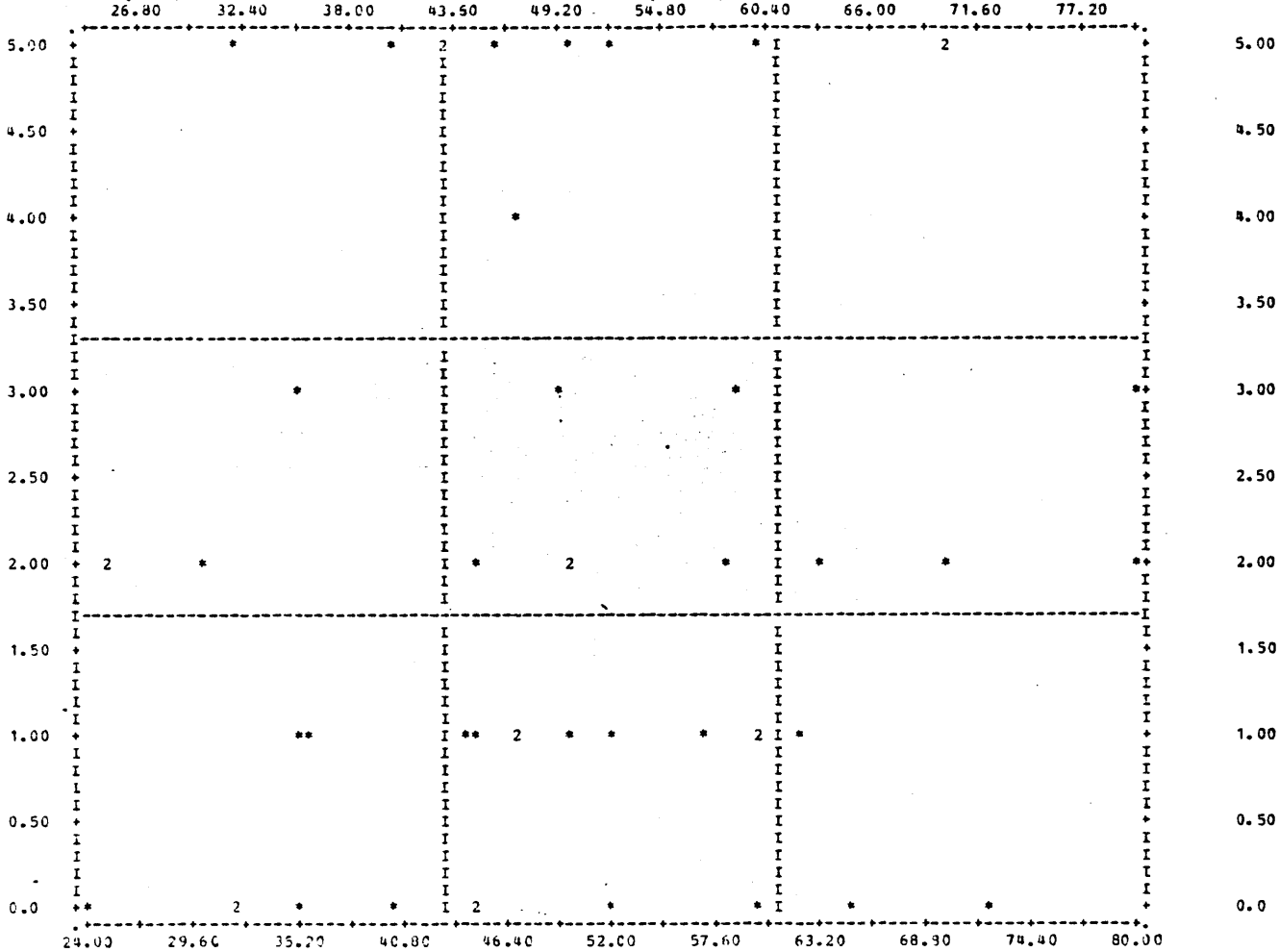
STATISTICS..

CORRELATION (R) -	0.11503	R SQUARED -	0.01323	SIGNIFICANCE -	0.21813
STD ERR OF EST -	1.81707	INTERCEPT (A) -	1.30953	SLOPE (B) -	0.01483
PLOTTED VALUES -	48	EXCLUDED VALUES-	0	MISSING VALUES -	2

'********' IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED.

FILE   NONAME   (CREATION DATE = 03/07/78)
SCATTERGRAM OF   (DOWN) NUMLEND   (ACROSS) AGE
                26.80   32.40   38.00   43.60   49.20   54.80   60.40   66.00   71.60   77.20

```
          .+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+..
    5.00  +*               **         *   I ** *     * 3     *            * 2 I *    *          3            ** +  5.00
          I                             I                                     I                            I
          I                             I                                     I                            I
          I                             I                                     I                            I
    4.50  +                             I                                     I                            +  4.50
          I                             I                                     I                            I
          I                             I                                     I                            I
          I                             I                                     I                            I
    4.00  +                             I        *                            I                            +  4.00
          I                             I                                     I                            I
          I                             I                                     I                            I
          I                  .          I                                     I                            I
    3.50  +                             I                                     I                            +  3.50
          I                             I                                     I                            I
          I- - - - - - - - - - - - - - -I- - - - - - - - - - - - - - - - - - -I- - - - - - - - - - - - - - -I
          I                             I                                     I                            I
    3.00  +    2                        I  *   *                              I                            +  3.00
          I                             I                                     I                            I
          I                             I                                     I                            I
          I                             I                                     I                            I
    2.50  +                             I                                     I                            +  2.50
          I                             I                                     I                            I
          I                             I                                     I                            I
          I                             I                                     I                            I
    2.00  +              *              I      *                              I                          **+  2.00
          I                             I                                     I                            I
          I                             I                                     I                            I
          I- - - - - - - - - - - - - - -I- - - - - - - - - - - - - - - - - - -I- - - - - - - - - - - - - - -I
    1.50  +                             I                                     I                            +  1.50
          I                             I                                     I                            I
          I                             I                                     I                            I
          I                             I                                     I                            I
    1.00  +                             *                                     I                            +  1.00
          I                             I                                     I                            I
          I                             I                                     I                            I
          I                             I                                     I                            I
    0.50  +                             I                                     I                            +  0.50
          I                             I                                     I                            I
          I                             I                                     I                            I
          I                             I                                     I                            I
    0.0   +         *  3      *         *   2   *         *      * * 2 1   *              *                +  0.0
          .+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+..
          24.00      29.60      35.20      40.80      46.40      52.00      57.60      63.20      68.80      74.40      80.00
```
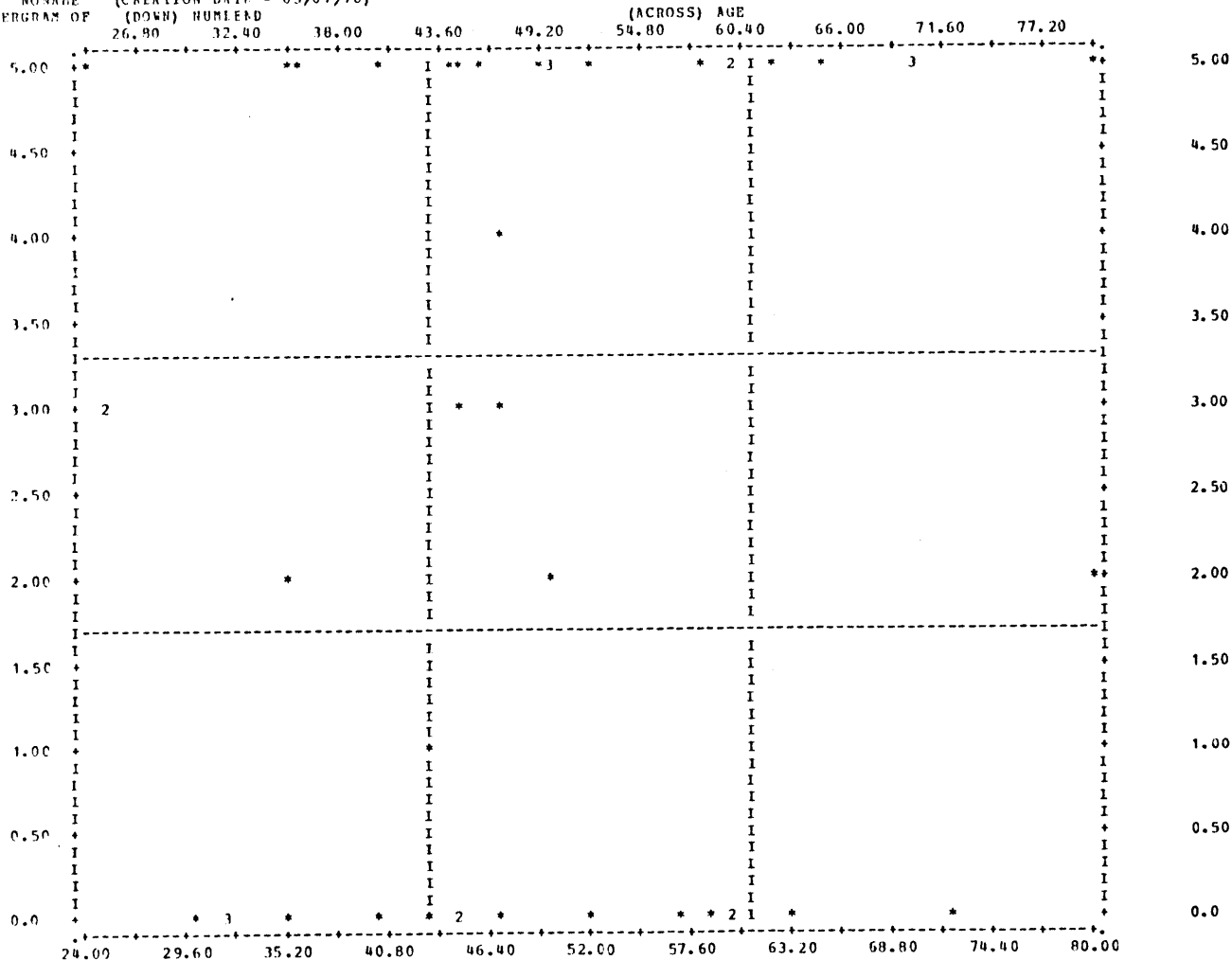
STATISTICS..

CORRELATION (R)-	0.17192	R SQUARED -	0.02956	SIGNIFICANCE -	0.12394
STD ERR OF EST -	2.28166	INTERCEPT (A) -	1.35408	SLOPE (B) -	0.02778
PLOTTED VALUES -	47	EXCLUDED VALUES-	0	MISSING VALUES -	3

'*********' IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED.

FILE   NONAME   (CREATION DATE = 03/07/78)
SCATTERGRAM OF   (DOWN) HIBORROW   (ACROSS) AGE
```
                  26.80     32.40     38.00     43.60     49.20     54.80     60.40     66.00     71.60     77.20
               .+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+.
     200.00  +                             I                        I                                        *+           200.00
             I                             I                        I                                         I
             I                             I                        I                                         I
             I                             I                        I                                         I
     180.00  +                             I                        I                                         +           180.00
             I                             I                        I                                         I
             I                             I                        I                                         I
             I                             I                        I                                         I
     160.00  +                             I                        I                                         +           160.00
             I                             I                        I                                         I
             I                             I                        I                                         I
             I                             I                        I                                         I
     140.00  +                             I                        I                                         +           140.00
             I                             I                        I                                         I
             I-------------------------------------------------------------------------------------------------I
             I                             I                        I                                         I
     120.00  +                             *     *                  I                              *          +           120.00
             I                             I                        I                                         I
             I              *              I                        I                                         I
             I·                            I                        I                                         I
     100.00  +                    *        I        2               * I                                      +           100.00
             I                             I                        I                                         I
             I                             I                        I                                         I
             I                             I                        I                                         I
      80.00  +   *                         I              *      *  I *                                       +            80.00
             I                             I                        I                                         I
             I                   *         I                        I                                         I
             I-------------------------------------------------------------------------------------------------I
      60.00  +                             *                  *     I                                         +            60.00
             I                             I                        I                                         I
             I                             I                        I                                         I
             I                             I                        I                                         I
      40.00  +  *                    *     I          *      *      * * I *          *                        +            40.00
             I                             I              *     *     * I                                     I
             I                             I                        I                                         I
             I                             I                        I                                         I
      20.00  +         *          *        I *2        *            I                        *               +I            20.00
             I                             I                        I                                       *I
             I                             I                        I                                         I
             I                             I              *         I                                         I
       0.0   +*                  2      *       *     I  2           *       * I      *          *            +             0.0
               .+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+.
                24.00     29.60     35.20     40.80     46.40     52.00     57.60     63.20     68.80     74.40     80.00
```
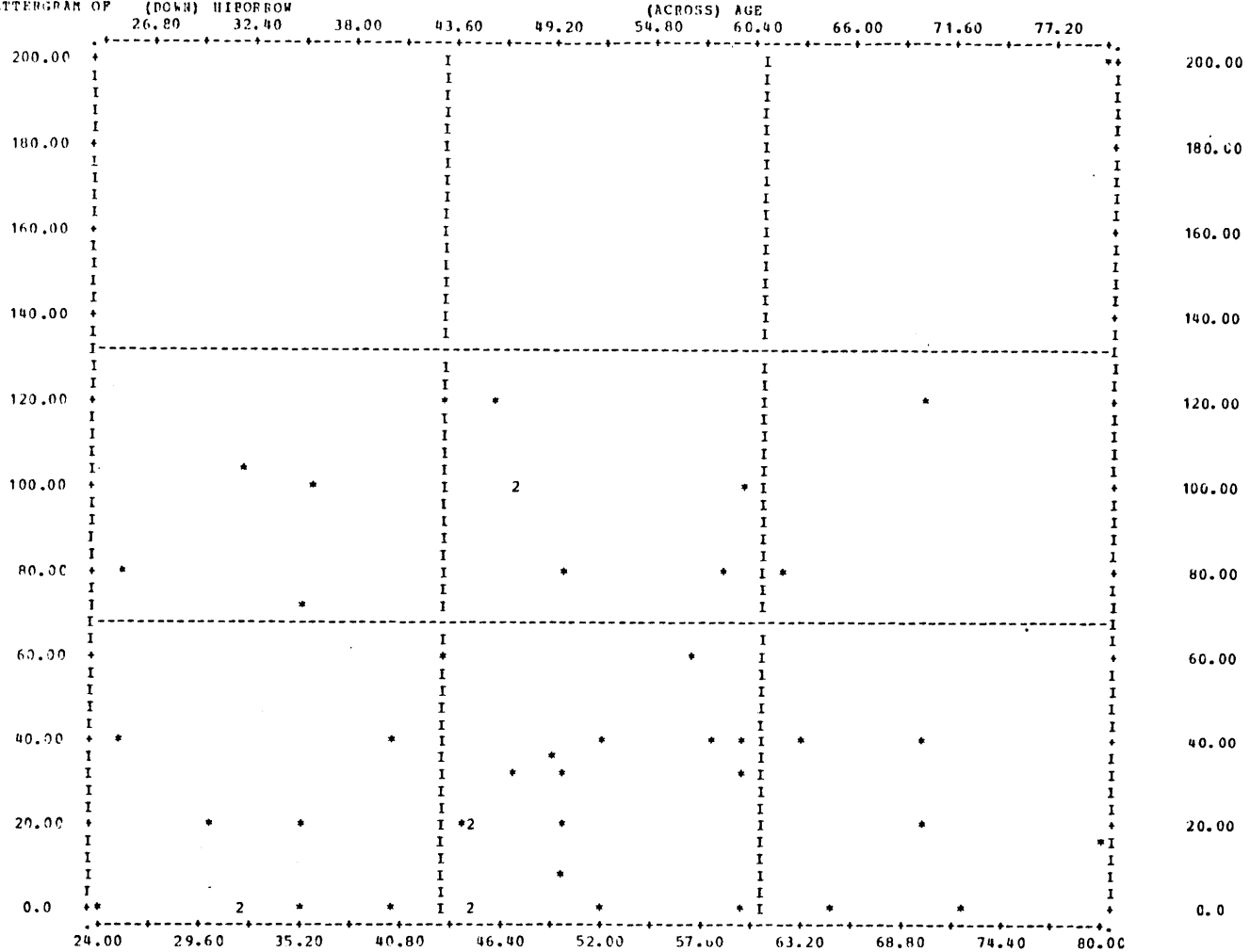
STATISTICS..

CORRELATION (R)-	0.17370	R SQUARED -	0.03017	SIGNIFICANCE -	0.12147
STD ERR OF EST -	44.60451	INTERCEPT (A) -	18.49827	SLOPE (B) -	0.54881
PLOTTED VALUES -	47	EXCLUDED VALUES-	0	MISSING VALUES -	3

'*********' IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED.

FILE   NONAME   (CREATION DATE = 03/07/78)
SCATTERGRAM OF   (DOWN) NUMBORW   (ACROSS) INCOME
             553.60   844.80   1136.00   1427.20   1718.40   2009.60   2300.80   2592.00   2883.20   3174.40

```
          +----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+.
   5.00 +            *   2      2       I*            2   *       I                                         +      5.00
        I                               I                        I                                         I
        I                               I                        I                                         I
        I                               I                        I                                         I
   4.50 +                               I                        I                                         +      4.50
        I                               I                        I                                         I
        I                               I                        I                                         I
        I                               I                        I                                         I
   4.00 +        *                      I                        I                                         +      4.00
        I                               I                        I                                         I
        I                               I                        I                                         I
        I                               I                        I                                         I
   3.50 +                               I                        I                                         +      3.50
        I                               I                        I                                         I
        I- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - I
        I                               I                        I                                         I
   3.00 +       *        *        *     I             *          I                                         +      3.00
        I              .                I                        I                                         I
        I                               I                        I                                         I
        I                               I                        I                                         I
   2.50 +                               I                        I                                         +      2.50
        I                               I                        I                                         I
        I                               I                        I                                         I
        I                               I                        I                                         I
   2.00 +         *      *   2      *    I         *    *  *      I  *         *                            +      2.00
        I                               I                        I                                         I
        I- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - I
   1.50 +                               I                        I                                         +      1.50
        I                               I                        I                                         I
        I                               I                        I                                         I
        I                               I                        I                                         I
   1.00 +    *       **     2*    * *  * I       2         *      I                                         +      1.00
        I                               I                        I                                         I
        I                               I                        I                                         I
        I                               I                        I                                         I
   0.50 +                               I                        I                                         +      0.50
        I                               I                        I                                         I
        I                               I                        I                                         I
        I                               I                        I                                         I
   0.0  +**  *            2        *    I     *      *   **       I  *                              **+      0.0
          .+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+.
        408.00   699.20    990.40   1281.60   1572.80   1864.00   2155.20   2446.40   2737.60   3028.80   3320.00
```
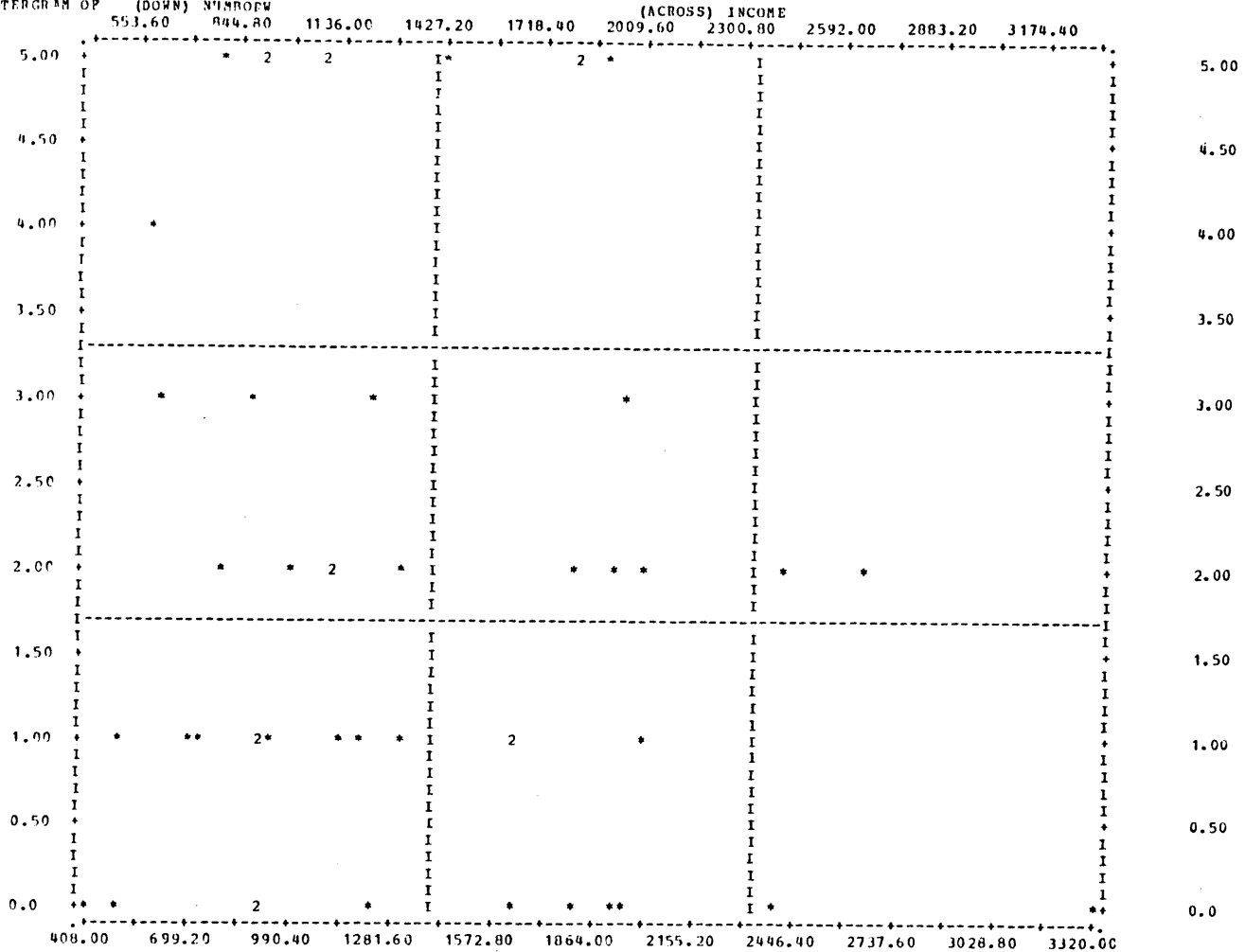
STATISTICS..

CORRELATION (R)-	-0.10347	R SQUARED	0.01071	SIGNIFICANCE	0.24444
STD ERR OF EST -	1.78529	INTERCEPT (A) -	2.37185	SLOPE (B)	-C.00029
PLOTTED VALUES -	47	EXCLUDED VALUES-	0	MISSING VALUES -	3

'*********' IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED.

FILE   NONAME   (CREATION DATE = 03/07/78)
SCATTERGRAM OF   (DOWN) NUMLEND   (ACROSS) INCOME
                  551.60   844.80   1136.00   1427.20   1718.40   2009.60   2300.80   2592.00   2883.20   3174.40
         +----+.
   5.00 +   *   ** *   2*   *   *   I   2 *22 2   1 **   +   5.00
         I   I   I   I
         I   I   I   I
         I   I   I   I
   4.50 +   I   I   +   4.50
         I   I   I   I
         I   I   I   I
         I   I   I   I
   4.00 +   *   I   .   I   +   4.00
         I   I   I   I
         I   I   I   I
         I   I   I   I
   3.50 +   I   I   +   3.50
         I   I   I   I
         I--I
         I   I   I   I
   3.00 +   *   *   I   *   I   *   +   3.00
         I   I   I   I
         I   I   I   I
         I   I   I   I
   2.50 +   I   I   +   2.50
         I   I   I   I
         I   I   I   I
         I   I   I   I
   2.00 +   *   * I   *   I   **+   2.00
         I   I   I   I   I
         I---I
   1.50 +   I   I   +   1.50
         I   I   I   I
         I   I   I   I
         I   I   I   I
   1.00 +   I*   I   +   1.00
         I   I   I   I
         I   I   I   I
         I   I   I   I
   0.50 +   I   I   +   0.50
         I   I   I   I
         I   I   I   I
         I   I   I   I
   0.0   +** 2   *   *3   *** **   * I   2   *   I   +   0.0
         +----+.
        408.00   699.20   990.40   1281.60   1572.80   1864.00   2155.20   2446.40   2737.60   3028.80   3320.00
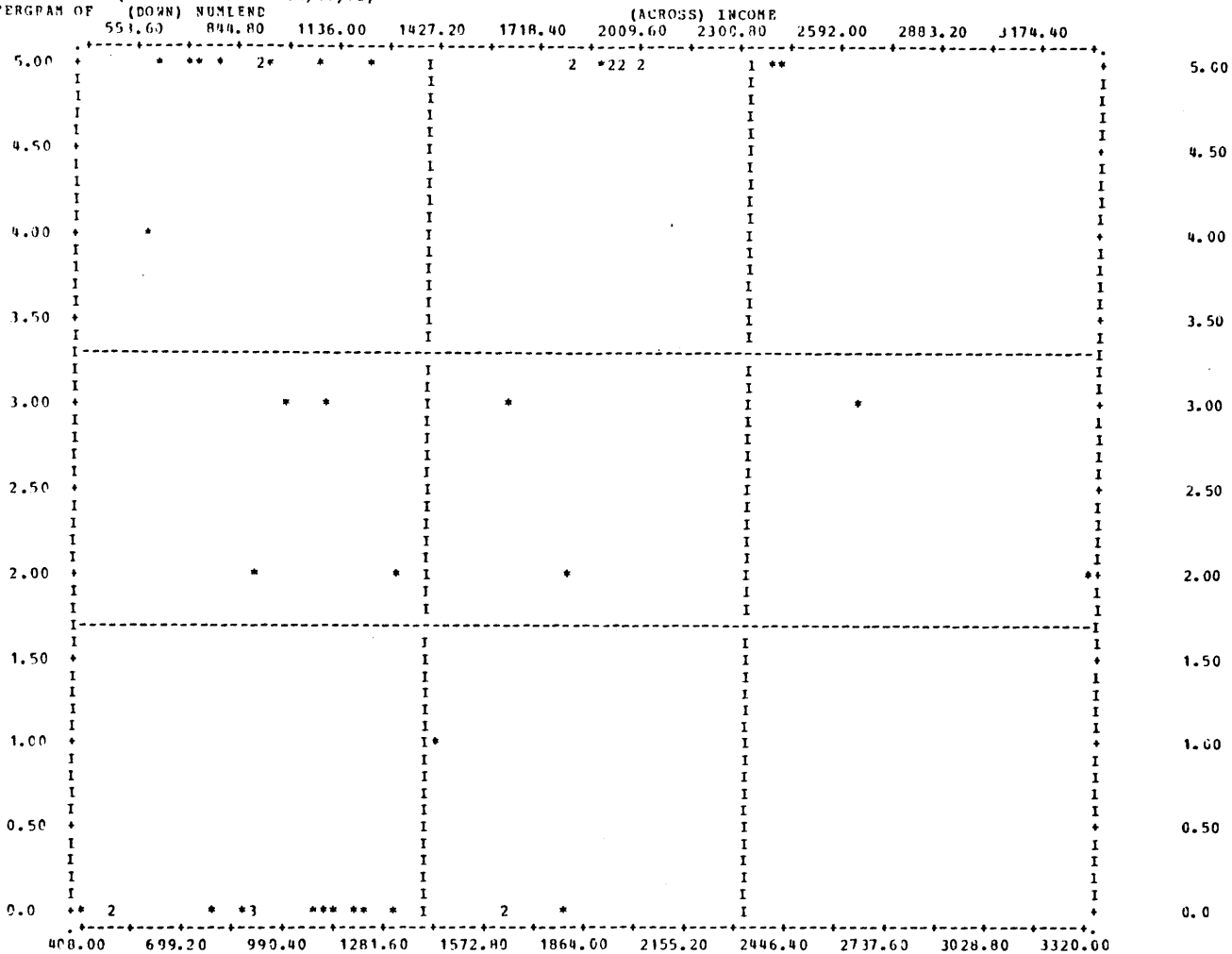
STATISTICS..

   CORRELATION (R)-   0.27658   R SQUARED   -   0.07650   SIGNIFICANCE   -   0.02992

   STD ERR OF EST -   2.20332   INTERCEPT (A) -   1.31721   SLOPE (B)   -   0.00099

   PLOTTED VALUES -   47   EXCLUDED VALUES-   0   MISSING VALUES -   3

                         '*********' IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED.

FILE   NONAME   (CREATION DATE = 03/07/78)
SCATTERGRAM OF   (DOWN) HIBORROW   (ACROSS) INCOME
            553.60   844.80   1136.00   1427.20   1718.40   2009.60   2300.80   2592.00   2883.20   3174.40

```
          .----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+.
 200.00 +                            *  I                          I                                          +   200.00
        I                               I                          I                                          I
        I                               I                          I                                          I
        I                               I                          I                                          I
        I                               I                          I                                          I
 180.00 +                               I                          I                                          +   180.00
        I                               I                          I                                          I
        I                               I                          I                                          I
        I                               I                          I                                          I
 160.00 +                               I                          I                                          +   160.00
        I                               I                          I                                          I
        I                               I                          I                                          I
        I                               I                          I                                          I
 140.00 +                               I                          I                                          +   140.00
        I                               I                          I                                          I
        I--------------------------------I--------------------------I-------------------------------------------I
        I                               I                          I                                          I
 120.00 +          *    *               I            *  *          I                                          +   120.00
        I                               I                          I                                          I
        I                               I                          I                                          I
        I                 *             I                          I                                          I
 100.00 +           *       *           I       *            *     I                                          +   100.00
        I                               I                          I                                          I
        I                               I                          I                                          I
        I                               I                          I                                          I
  80.00 +      *    *    *    *         I                          I                                          +    80.00
        I                               I                 *        I                                          I
        I--------------------------------I--------------------------I-------------------------------------------I
  60.00 +    *                          I*                         I                                          +    60.00
        I                               I                          I                                          I
        I                               I                          I                                          I
  40.00 +            *    *             I        *    *    *       I              *                           +    40.00
        I        *              *       I                          I      *                                   I
        I                    *          I                          I                                          I
  20.00 +      *    *    *       *      I    *         *           I                                          +    20.00
        I        *                      I                          I                                          I
        I              *                I                          I                                          I
   0.0  +*  *                   *       I     *    *    **         I *                                    **  +     0.0
          .----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+.
        408.00    699.20    990.40    1281.60    1572.80    1864.00    2155.20    2446.40    2737.60    3028.80    3320.00
```

STATISTICS..

CORRELATION (R) -	-0.07617	R SQUARED -	0.00580	SIGNIFICANCE -	0.30541
STD ERR OF EST -	46.45765	INTERCEPT (A) -	54.76829	SLOPE (B) -	-0.00556
PLOTTED VALUES -	47	EXCLUDED VALUES-	0	MISSING VALUES -	3

'*********' IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED.

```
FILE   NONAME   (CREATION DATE = 03/07/78)
SCATTERGRAM OF   (DOWN) NUMBORN                        (ACROSS) EDUC
                   0.65      1.95      3.25      4.55      5.85   7.15      8.45      9.75     11.05     12.35
           .+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+.
    5.00  +6           *                  I              3              I                                     +   5.00
          I                               I                             I                                     I
          I                               I                             I                                     I
          I                               I                             I                                     I
    4.50  +                               I                             I                                     +   4.50
          I                               I                             I                                     I
          I                               I                             I                                     I
          I                               I                             I                                     I
    4.00  +*                              I                             I                                     +   4.00
          I                               I                             I                                     I
          I                               I                             I                                     I
          I                               I                             I                                     I
    3.50  +                               I                             I                                     +   3.50
          I                               I                             I                                     I
          I-------------------------------I-----------------------------I---------------------------------I
          I                               I                             I                                     I
    3.00  +*            *        *  I  *                                I                                     +   3.00
          I                               I                             I                                     I
          I                               I                             I                                     I
          I                               I                             I                                     I
    2.50  +                               I                             I                                     +   2.50
          I                               I                             I                                     I
          I                               I                             I                                     I
    2.00  +5                    2         I              3              I                                     +   2.00
          I                               I                             I                                     I
          I-------------------------------I-----------------------------I---------------------------------I
    1.50  +                               I                             I                                     +   1.50
          I                               I                             I                                     I
          I                               I                             I                                     I
          I                               I                             I                                     I
    1.00  +5     2     2            *  I              *              I  *                                     +   1.00
          I                               I                             I                                     I
          I                               I                             I                                     I
          I                               I                             I                                     I
    0.50  +                               I                             I                                     +   0.50
          I                               I                             I                                     I
          I                               I                             I                                     I
          I                               I                             I                                     I
    0.0   +           2            I  3     4                        I  *                                   **+   0.0
           .+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+.
            0.0      1.30      2.60      3.90      5.20      6.50   7.80      9.10     10.40     11.70     13.00
```
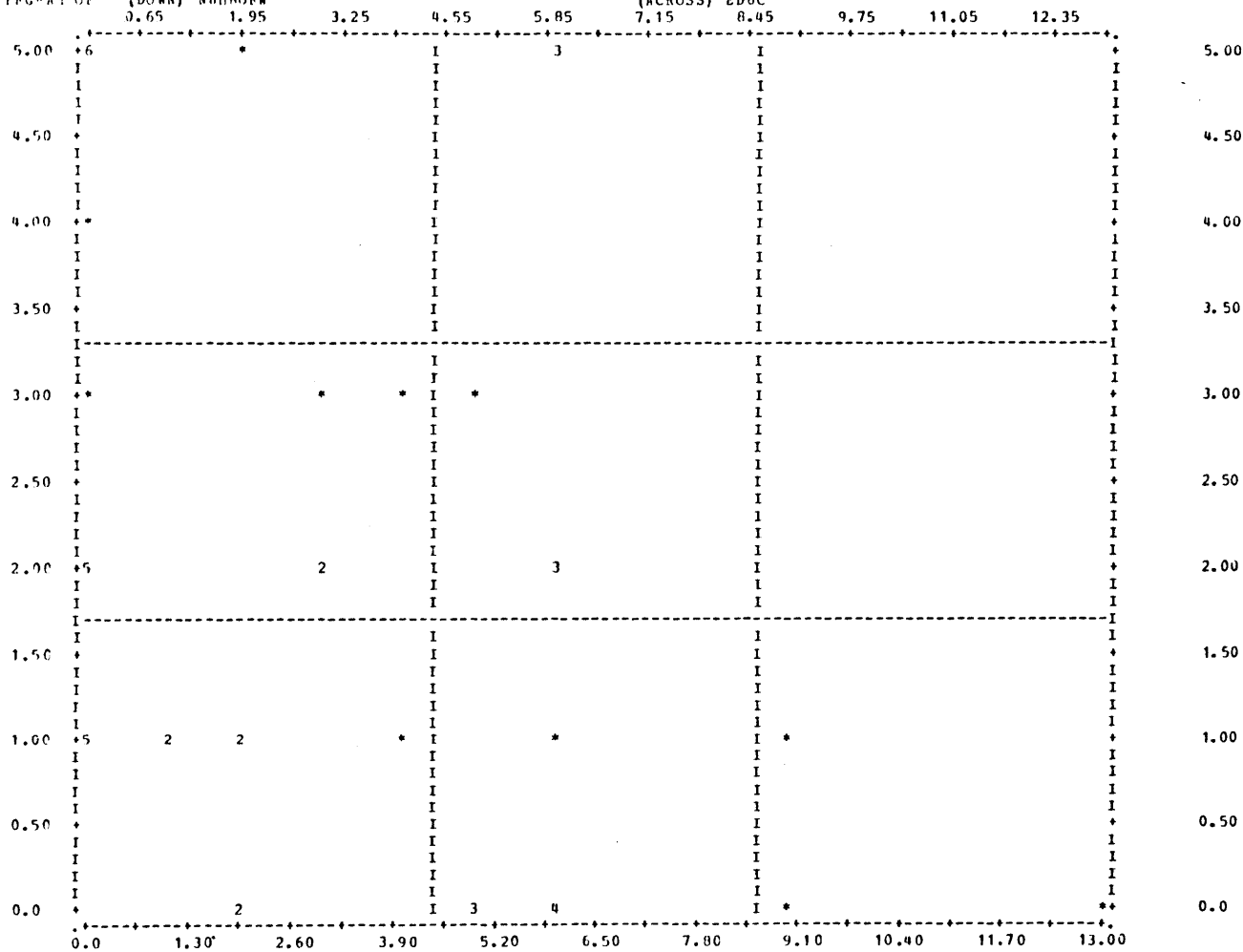
STATISTICS..

CORRELATION (R)-	-0.33338	R SQUARED -	0.11114	SIGNIFICANCE -	0.01029
STD ERR OF EST -	1.72457	INTERCEPT (A) -	2.62574	SLOPE (B) -	-0.19202
PLOTTED VALUES -	48	EXCLUDED VALUES-	0	MISSING VALUES -	2

'*********' IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED.

FILE   NONAME (CREATION DATE = 03/07/78)
SCATTERGRAM OF   (DOWN) NUMLEND   (ACROSS) EDUC
                 0.65   1.95   3.25   4.55   5.85   7.15   8.45   9.75   11.05   12.35

```
        .+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+.
 5.00  +H       *           2         *  I  2         4              1  2                                 *+  5.00
        I                               I                            I                                    1
        I                               I                            I                                    I
        I                               I                            I                                    I
        I                               I                            I                                    I
 4.50  +                                I                            I                                    +  4.50
        I                               I                            I                                    I
        I                               I                            I                                    I
        I                               I                            I                                    I
        I                               I                            I                                    I
 4.00  +*                               I                            I                                    +  4.00
        I                               I                            I                                    I
        I                               I                            I                                    I
        I                               I                            I                                    I
        I                               I                            I                                    I
 3.50  +                                I                            I                                    +  3.50
        I----------------------------------------------------------------------------------------------- I
        I                               I                            I                                    I
 3.00  +                         *      =  I            2            I                                    +  3.00
        I                               I                            I                                    I
        I                               I                            I                                    I
        I                               I                            I                                    I
 2.50  +                                I                            I                                    +  2.50
        I                               I                            I                                    I
        I                               I                            I                                    I
        I                               I                            I                                    I
        1                               I                            I                                    I
 2.00  +3                               I     *                      I                                    +  2.00
        I                               I                            I                                    I
        I                               I                            I                                    I
        I----------------------------------------------------------------------------------------------- I
 1.50  +                                I                            I                                    +  1.50
        I                               I                            I                                    I
        I                               I                            I                                    I
        I                               I                            I                                    I
        I                               I                            I                                    I
 1.00  +                                I            *               I                                    +  1.00
        I                               I                            I                                    I
        I                               I                            I                                    I
        I                               I                            I                                    I
        I                               I                            I                                    I
 0.50  +                                I                            I                                    +  0.50
        I                               I                            I                                    I
        I                               I                            I                                    I
        I                               I                            I                                    I
        I                               I                            I                                    I
 0.0   +6       *     5                 I  *         4               I                                    +  0.0
        .+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+.
        0.0      1.30      2.60      3.90      5.20      6.50      7.80      9.10     10.40     11.70     13.00
```
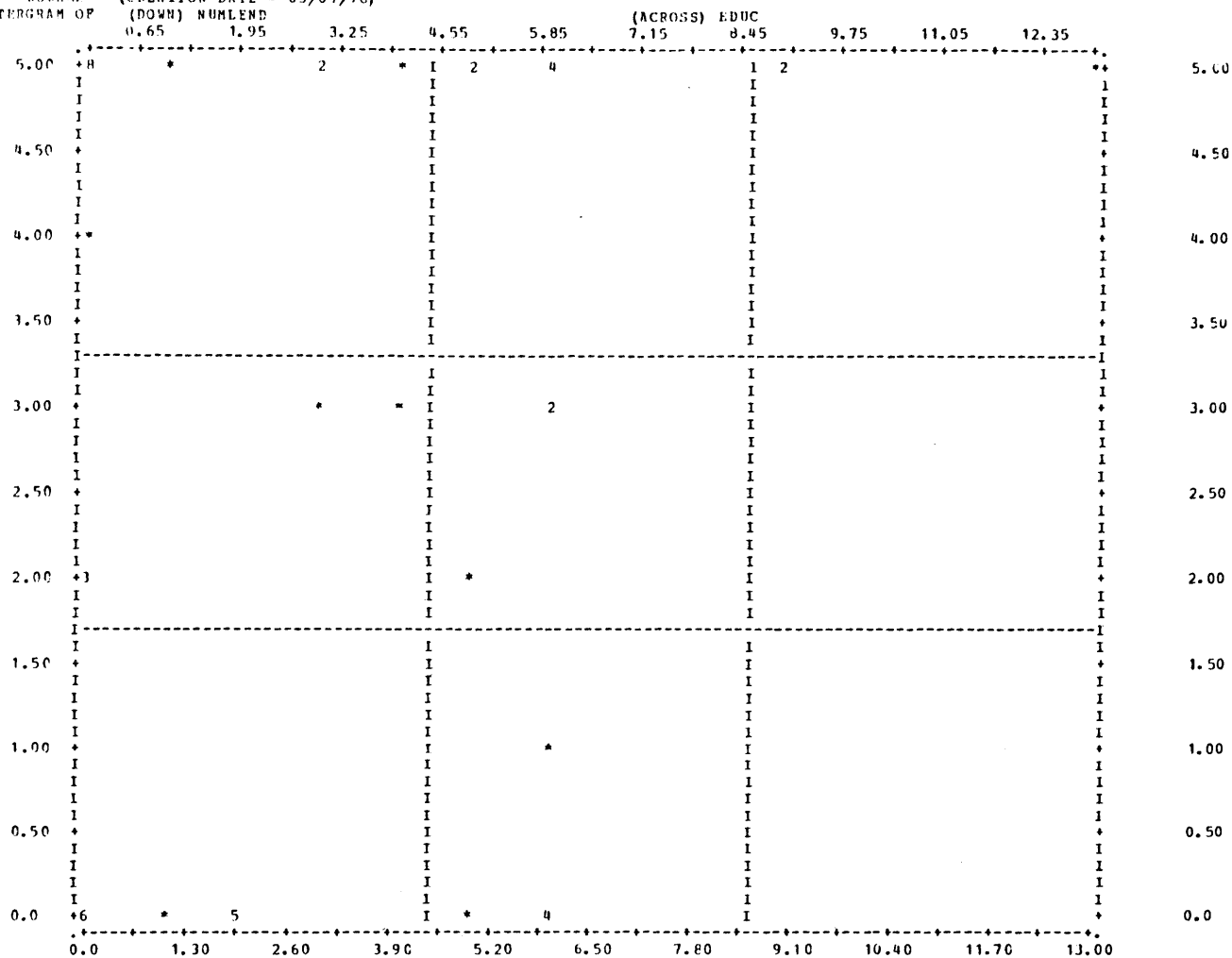
STATISTICS..

CORRELATION (R)-   0.17189   R SQUARED   -   0.02955   SIGNIFICANCE   -   0.12136

STD ERR OF EST -   2.25913   INTERCEPT (A)   -   2.33079   SLOPE (B)   -   0.12412

PLOTTED VALUES -   48   EXCLUDED VALUES-   0   MISSING VALUES -   2

'*********' IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED.

```
FILE   NONAME    (CREATION DATE = 03/13/78)
SCATTERGRAM OF    (DOWN) HIBORROW                        (ACROSS) EDUC
                   0.65      1.95      3.25      4.55      5.85      7.15      8.45      9.75     11.05     12.35
         .+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+.
  200.00 +*                              I                         I                                        +  200.00
         I                               I                         I                                        I
         I                               I                         I                                        I
         I                               I                         I                                        I
         I                               I                         I                                        I
  180.00 +                               I                         I                                        +  180.00
         I                               I                         I                                        I
         I                               I                         I                                        I
         I                               I                         I                                        I
         I                               I                         I                                        I
  160.00 +                               I                         I                                        +  160.00
         I                               I                         I                                        I
         I                               I                         I                                        I
         I                               I                         I                                        I
         I                               I                         I                                        I
  140.00 +                               I                         I                                        +  140.00
         I                               I                         I                                        I
         I-------------------------------I-------------------------I----------------------------------------I
         I                               I                         I                                        I
         I                               I                         I                                        I
  120.00 +2              *               I              *          I                                        +  120.00
         I                               I                         I                                        I
         I                               I                         I                                        I
         I                               I              *          I                                        I
  100.00 +*              *               *  I                      I  *                                     +  100.00
         I                               I                         I                                        I
         I                               I                         I                                        I
         I                               I                         I                                        I
   80.00 +2                              I              2          I                                        +   80.00
         I                               I                         I                                        I
         I                             *   I                       I                                        I
         I-------------------------------I-------------------------I----------------------------------------I
         I                               I                         I                                        I
   60.00 +               *               I              *          I                                        +   60.00
         I                               I                         I                                        I
         I                               I                         I                                        I
         I                               I                         I                                        I
   40.00 +6                              I    *         *          I                                        +   40.00
         I                               I                         I                                        I
         12                              I                         I                                        I
         I                               I                         I                                        I
   20.00 +3              2               2  I   *                  I                                        +   20.00
         I                               I   *                     I                                        I
         I                               I                         I                                        I
         I*                              I                         I                                        I
         I                               I                         I                                        I
    0.0  +               2               I  3         4            I  *                                     +    0.0
         .+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+.
         0.0      1.30      2.60      3.90      5.20      6.50      7.80      9.10     10.40     11.70     13.00
```
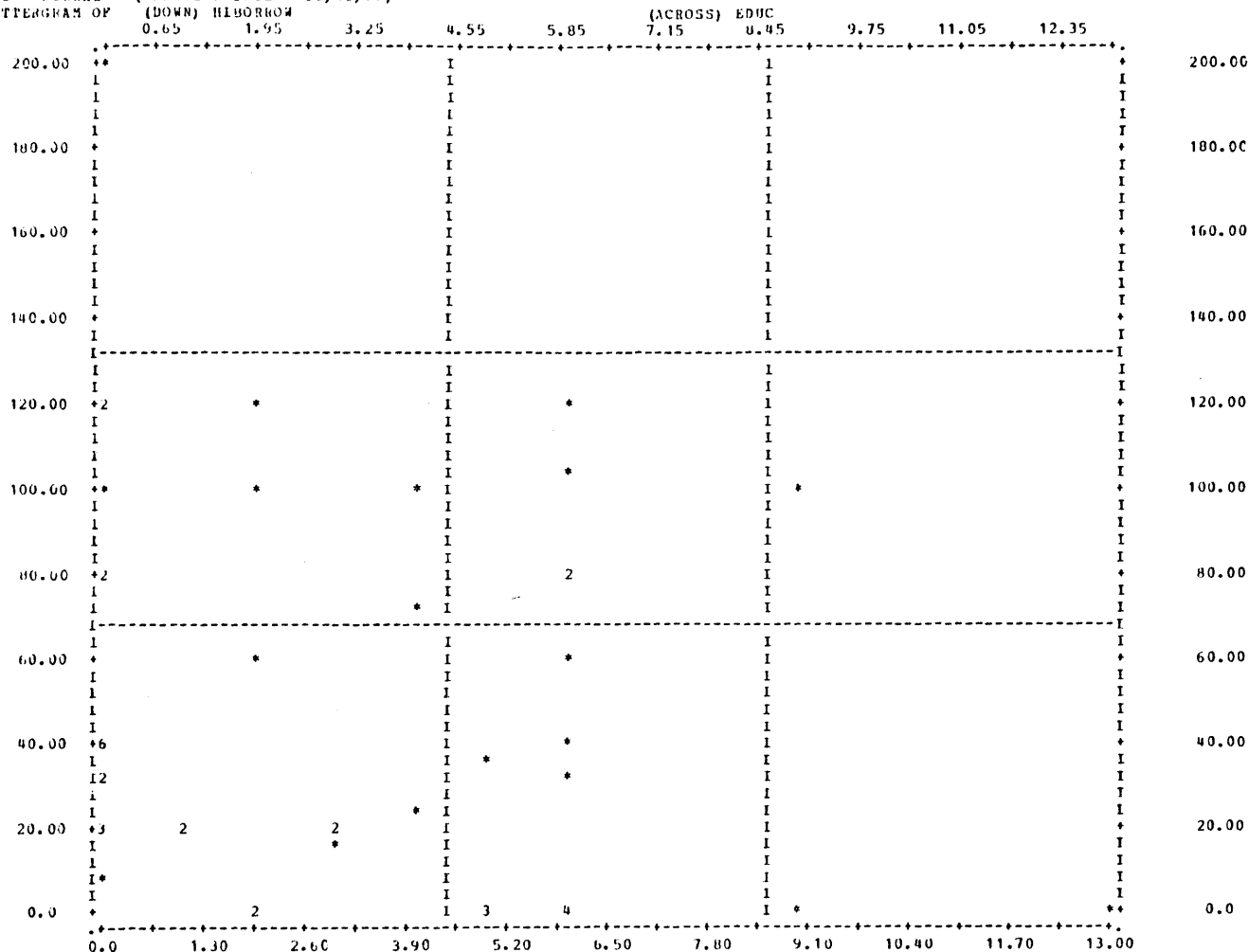
STATISTICS..

CORRELATION (R) -	-0.19208	R SQUARED -	0.03690	SIGNIFICANCE -	0.09305
STD ERR OF EST -	44.89487	INTERCEPT (A) -	55.14542	SLOPE (B) -	-2.79417
PLOTTED VALUES -	49	EXCLUDED VALUES-	0	MISSING VALUES -	1

'*********' IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED.

FILE   NONAME   (CREATION DATE = 03/13/78)
SCATTERGRAM OF   (DOWN) NUMCRED   (ACROSS) EDUC
                 0.65   1.95   3.25   4.55   5.85   7.15   8.45   9.75   11.05   12.35
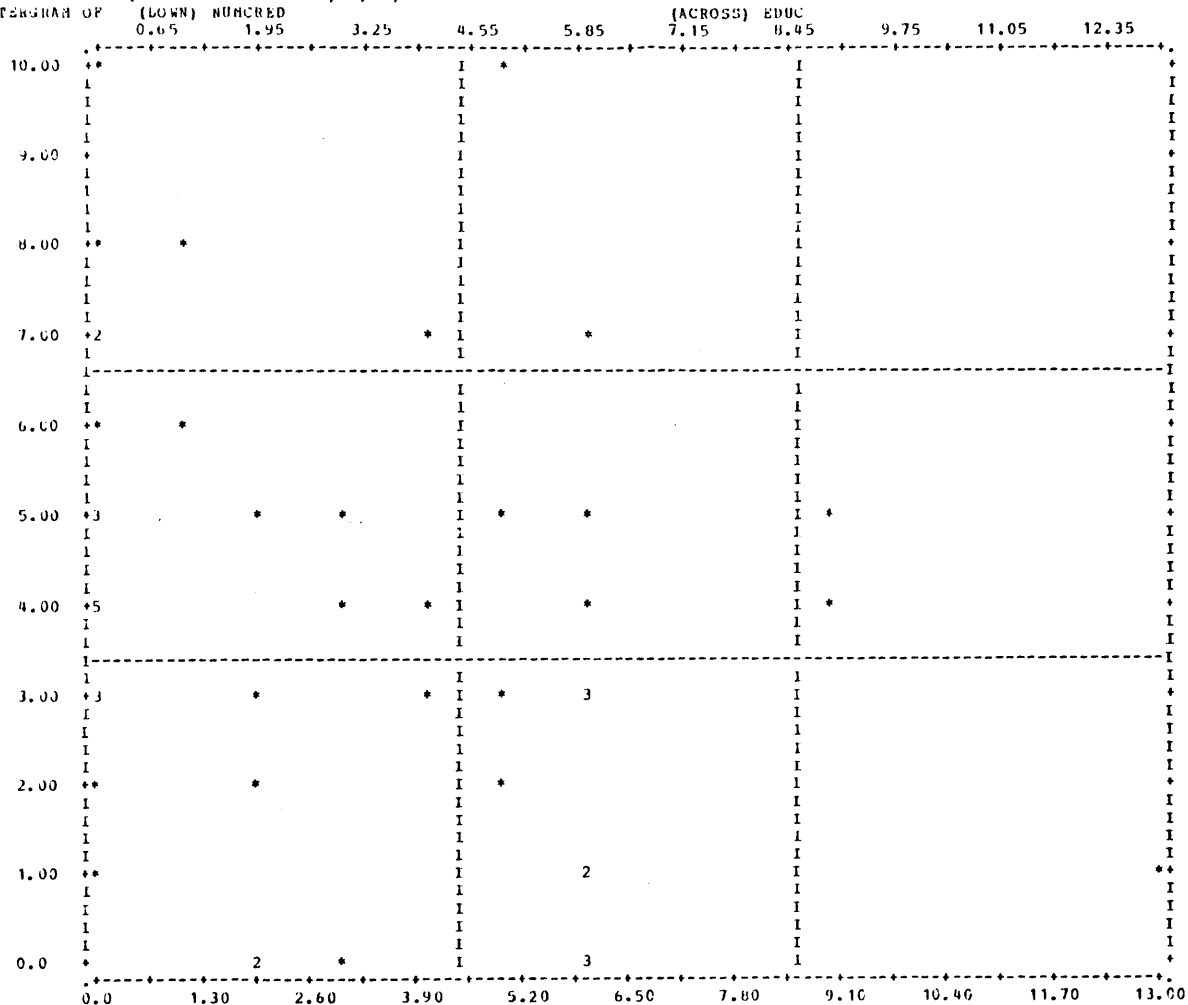
Handwritten margin notes: As educ ↑ intensity of partic ↓ i.e. instead of belonging to 4 or 5, you'll have less time due to your job, i belong to only one.

```
               .+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+.
     10.00  +**                                I     *                          I                          I   10.00
            I                                  I                                I                          I
            I                                  I                                I                          I
            I                                  I                                I                          I
      9.00  +                                  I                                I                          +    9.00
            I                                  I                                I                          I
            I                                  I                                I                          I
            I                                  I                                I                          I
      8.00  +**       *                        I                                I                          +    8.00
            I                                  I                                I                          I
            I                                  I                                I                          I
            I                                  I                                I                          I
      7.00  +2                            *    I    *           *               I                          +    7.00
            I                                  I                                I                          I
            I----------------------------------I--------------------------------I--------------------------I
            I                                  I                                I                          I
      6.00  +**       *                        I                                I                          +    6.00
            I                                  I                                I                          I
            I                                  I                                I                          I
            I                                  I                                I                          I
      5.00  +3       .        *        *    .  I   *           *               I    *                     +    5.00
            I                                  I                                I                          I
            I                                  I                                I                          I
            I                                  I                                I                          I
      4.00  +5                 *        *    * I               *               I    *                     +    4.00
            I                                  I                                I                          I
            I                                  I                                I                          I
            I----------------------------------I--------------------------------I--------------------------I
      3.00  +3        *                 *    * I   *           3               I                          +    3.00
            I                                  I                                I                          I
            I                                  I                                I                          I
            I                                  I                                I                          I
      2.00  +**       *                        I    *                          I                          +    2.00
            I                                  I                                I                          I
            I                                  I                                I                          I
            I                                  I                                I                          I
      1.00  +**                                I               2               I                        **I    1.00
            I                                  I                                I                          I
            I                                  I                                I                          I
            I                                  I                                I                          I
       0.0  +         2        *               I               3               I                          +     0.0
               .+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+.
                0.0      1.30      2.60      3.90      5.20      6.50      7.80      9.10      10.40     11.70     13.00
```

STATISTICS..

CORRELATION (R) -	-0.27902	R SQUARED -	0.07785	SIGNIFICANCE -	0.02610
STD ERR OF EST -	2.45826	INTERCEPT (A) -	4.55242	SLOPE (B) -	-0.22713
PLOTTED VALUES -	49	EXCLUDED VALUES-	0	MISSING VALUES -	1

'*********' IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED.

CPU TIME REQUIRED..   1.42 SECONDS'

                    REGRESSION   VARIABLES=NUMBORW,NUMLEND,HIBORROW CHISEC/
                                     REGRESSICN=NUMBORW WITH CHISEC (2),RESID = 0/
                                     REGRESSION=HIBORROW WITH CHISEC (2), RESID = 0/
                                     REGRESSICN=NUMLEND WITH CHISEC (2), RESID = 0
                    CPTIONS   2
                    STATISTICS   ALL

***** REGRESSION PROBLEM REQUIRES   640 BYTES WORKSPACE, NOT INCLUDING RESIDUALS *****

FILE   NONAME   (CREATION DATE = C3/07/78)

VARIABLE	MEAN	STANDARD DEV	CASES
NUMBORW	2.1020	1.8399	49
NUMLEND	2.7143	2.2454	49
HIBORROW	46.5918	45.2677	49
CHISEC	0.5000	0.5051	50

IAN RURAL CREDIT

FILE   NONAME   (CREATION DATE = 03/07/78)

CORRELATION COEFFICIENTS

A VALUE OF 99.00000 IS PRINTED
IF A COEFFICIENT CANNOT BE COMPUTED.

LOWER TRIANGLE: CORRELATION COEFFICIENTS
UPPER TRIANGLE: N OF CASES FOR CORRELATION

	NUMBORW	NUMLEND	HIBORROW	CHISEC
NUMBORW	49.	48.	49.	49.
NUMLEND	0.24659	49.	48.	49.
HIBORROW	0.47077	-0.00443	49.	49.
CHISEC	0.12216	0.30967	-0.10460	50.

FILE   NONAME   (CREATION DATE = C3/07/78)

* M U L T I P L E   R E G R E S S I C N * * * * * * * * * * * * * *   VAR \BLE LIST   1
                                                                                                           REGRI SION LIST   1
DEPENDENT VARIABLE..   NUMBORW

VARIABLE(S) ENTERED ON STEP NUMBER 1..   CHISEC

		ANALYSIS OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARE	F
MULTIPLE R	0.12216	REGRESSION	1.	2.42480	2.42480	C.71199
R SQUARE	0.01492	RESIDUAL	47.	160.06500	3.40564	
ADJUSTED R SQUARE	-0.00604					
STANDARD ERROR	1.84544					

----------------- VARIABLES IN THE EQUATION ------------------   ------------- VARIABLES NOT IN THE EQUATION --------------

VARIABLE	B	BETA	STD ERROR B	F	VARIABLE	BETA IN	PARTIAL	TOLERANCE	F
CHISEC	0.4450000	0.12216	0.52738	0.712					
(CONSTANT)	1.879541								

MAXIMUM STEP REACHED

FILE   NONAME   (CREATION DATE = 03/07/78)

* * * * * * * * * * * * * * * * * * * M U L T I P L E   R E G R E S S I O N * * * * * * * * * * * * * *   VARIABLE LIST 1
                                                                                                          REGRESSION LIST 1

DEPENDENT VARIABLE..   NUMBORW

                                            SUMMARY TABLE

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
CHISEC	0.12216	0.01492	0.01492	0.12216	0.4450000	0.12216
(CONSTANT)					1.879541	

FILE   NONAME   (CREATION DATE = 03/07/78)

* M U L T I P L E   R E G R E S S I O N * * * * * * * * * * * * * *   VARIABLE LIST   1
                                                                                                              REGRESSION LIST   2

DEPENDENT VARIABLE..   HIBORRCW

VARIABLE(S) ENTERED ON STEP NUMBER 1..   CHISEC

		ANALYSIS OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARE	F
MULTIPLE R	0.10460					0.51994
R SQUARE	0.01094	REGRESSION	1.	1076.21173	1076.21173	
ADJUSTED R SQUARE	-0.01010	RESIDUAL	47.	97283.62500	2069.86436	
STANDARD ERROR	45.49576					

----------------- VARIABLES IN THE EQUATION ------------------   ------------- VARIABLES NOT IN THE EQUATION --------------

VARIABLE	B	BETA	STD ERROR B	F	VARIABLE	BETA IN	PARTIAL	TOLERANCE	F
CHISEC	-9.375000	-0.10460	13.00150	0.520					
(CONSTANT)	51.27934								

MAXIMUM STEP REACHED

FILE   NONAME   (CREATION DATE = 03/07/78)

* M U L T I P L E   R E G R E S S I O N * * * * * * * * * * * * * *   VARIABLE LIST 1
                                                                                                                 REGRESSION LIST 2
DEPENDENT VARIABLE..   HIBORROW

SUMMARY TABLE

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	EETA
CHISEC	0.10460	0.01094	0.01094	-0.10460	-9.375000	-0.10460
(CONSTANT)					51.27934	

FILE   NONAME   (CREATION DATE = 03/07/78)

* M U L T I P L E   R E G R E S S I O N * * * * * * * * * * * * * * *   VARIABLE LIST 1
                                                                                                             REGRESSION LIST 3
DEPENDENT VARIABLE..   NUMLEND

VARIABLE(S) ENTERED ON STEP NUMBER 1..   CHISEC

MULTIPLE R   0.30967   ANALYSIS OF VARIANCE   DF   SUM OF SQUARES   MEAN SQUARE   F
R SQUARE   0.09590   REGRESSION   1.   23.20667   23.20667   4.98513
ADJUSTED R SQUARE 0.07666   RESIDUAL   47.   218.79333   4.65518
STANDARD ERROR   2.15759

---------------- VARIABLES IN THE EQUATION ------------------   ------------ VARIABLES NOT IN THE EQUATION --------------

VARIABLE   B   BETA   STD ERROR B   F   VARIABLE   BETA IN   PARTIAL   TOLERANCE   F

CHISEC   1.376667   0.30967   0.61658   4.985
(CONSTANT)   2.025952

MAXIMUM STEP REACHED

FILE   NONAME   (CREATION DATE = 03/07/78)

* M U L T I P L E   R E G R E S S I O N * * * * * * * * * * * * *   VARIABLE LIST   1
                                                                                                            REGRESSION LIST   3
DEPENDENT VARIABLE..   NUMLEND

                                            SUMMARY TABLE

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
CHISEC	0.30967	0.09590	0.09590	0.30967	1.376667	0.30967
(CONSTANT)					2.025952	

FILE   NONAME   (CREATION DATE = 03/07/78)

* M U L T I P L E   R E G R E S S I O N *

DEPENDENT VARIABLE: NUMLEND   FROM   VARIABLE LIST   1
                                            REGRESSION LIST   3

SEQNUM	OBSERVED NUMLEND	PREDICTED NUMLEND	RESIDUAL		PLOT OF STANDARDIZED RESIDUAL
				-2.0 -1.0 0.0 1.0 2.0	
1	5.000000	3.402618	1.597381		I *
2	2.000000	2.025952	-0.2595238E-01		*
3	1.000000	3.402618	-2.402618		* I
4	5.00000C	3.402618	1.597381		I *
5	5.000000	3.402618	1.597381		I *
6	5.000000	3.402618	1.597381		I *
7	5.000000	2.025952	2.974047		I *
8	5.000000	2.025952	2.974047		I *
9	5.00000C	2.025952	2.974047		I *
10	5.000000	3.402618	1.597381		I *
11	5.000000	3.402618	1.597381		I *
12	5.000000	2.025952	2.974047		I *
13	2.000000	2.025952	-0.2595238E-01		*
14	5.000000	3.402618	1.597381		I *
15	3.000000	2.025952	0.9740476		I *
16	MISSING**	3.402618	MISSING**		I
17	5.000000	3.402618	1.597381		I *
18	2.000000	3.402618	-1.402618		* I
19	3.000000	2.025952	0.9740476		I *
20	4.00000C	3.402618	0.5973809		I *
21	5.000000	3.402618	1.597381		I *
22	3.000000	2.025952	0.9740476		I *
23	5.00000C	2.025952	2.974047		I *
24	5.000000	3.402618	1.597381		I *
25	3.000000	2.025952	0.9740476		I *
26	3.00000C	2.025952	0.9740476		I *
27	5.000000	3.402618	1.597381		I *
28	5.00000C	3.402618	1.597381		I *
29	0.0	3.402618	-3.402618		* I
30	0.0	2.025952	-2.025952		* I
31	0.0	2.025952	-2.025952		* I
32	0.0	3.402618	-3.402618		* I
33	0.0	2.025952	-2.025952		* I
34	0.0	2.025952	-2.025952		* I
35	0.0	3.402618	-3.402618		* I
36	0.0	2.025952	-2.025952		* I
37	0.0	2.025952	-2.025952		* I
38	0.0	2.025952	-2.025952		* I
39	0.0	3.402618	-3.402618		* I
40	0.0	2.025952	-2.025952		* I
41	0.0	3.402618	-3.402618		* I
42	0.0	2.025952	-2.025952		* I
43	0.0	2.025952	-2.025952		* I
44	0.0	3.402618	-3.402618		* I
45	5.000000	3.402618	1.597381		I *

```
    46        2.000000          2.025952        -0.2595238E-01                              *
    47        5.000000          3.402618         1.597381                                  I          *
    48        5.000000          2.025952         2.974047                                  I                   *
    49        5.000000          3.402618         1.597381                                  I          *
    50        0.0               2.025952        -2.025952                       *          I
```

DURBIN-WATSON TEST OF RESIDUAL DIFFERENCES COMPARED BY CASE ORDER (SEQNUM).

```
VARIABLE LIST   1, REGRESSION LIST   1.      DURBIN-WATSON TEST     1.32978
VARIABLE LIST   1, REGRESSION LIST   2.      DURBIN-WATSON TEST     1.72183
VARIABLE LIST   1, REGRESSION LIST   3.      DURBIN-WATSON TEST     0.71468
```

FILE   NONAME   (CREATION DATE = 03/07/78)

* * * * * * PLOT: STANDARDIZED RESIDUAL (DOWN) -- PREDICTED STANDARDIZED DEPENDENT VARIABLE (ACROSS) * * * * * * *

DEPENDENT VARIABLE: NUMBORW   VARIABLE LIST 1   DEPENDENT VARIABLE: HIBORROW   VARIABLE LIST 1
                                 REGRESSION LIST 1   REGRESSION LIST 2
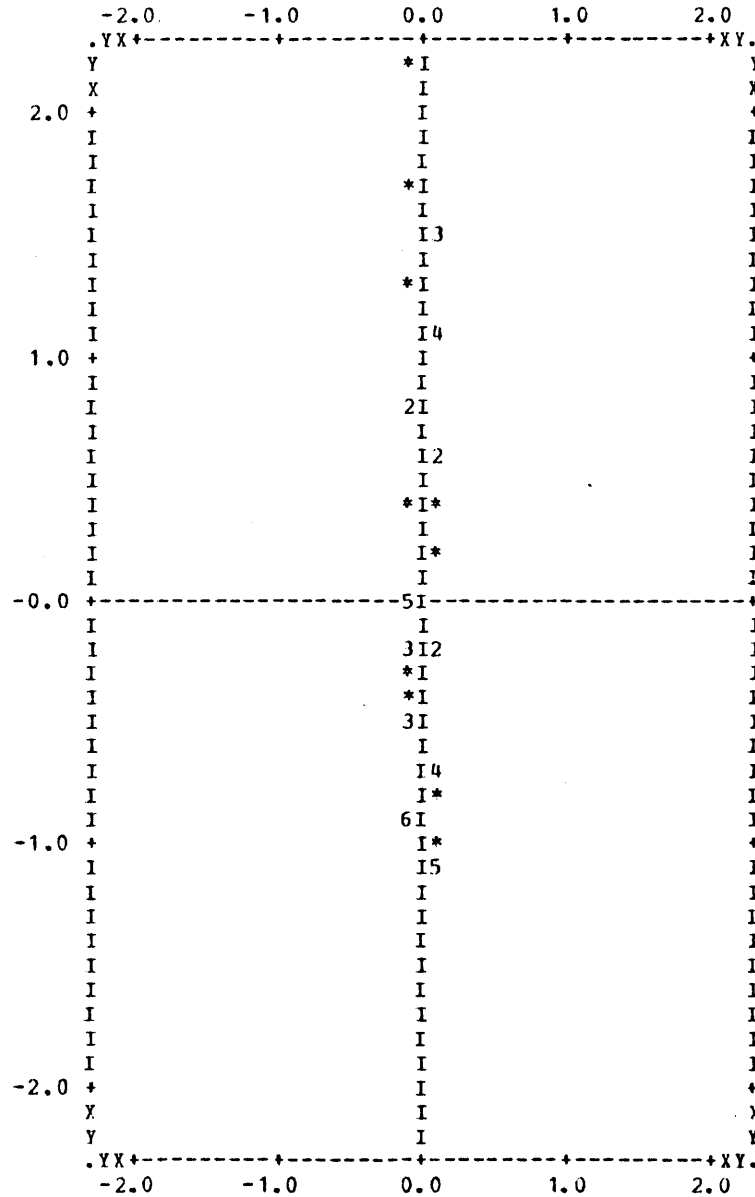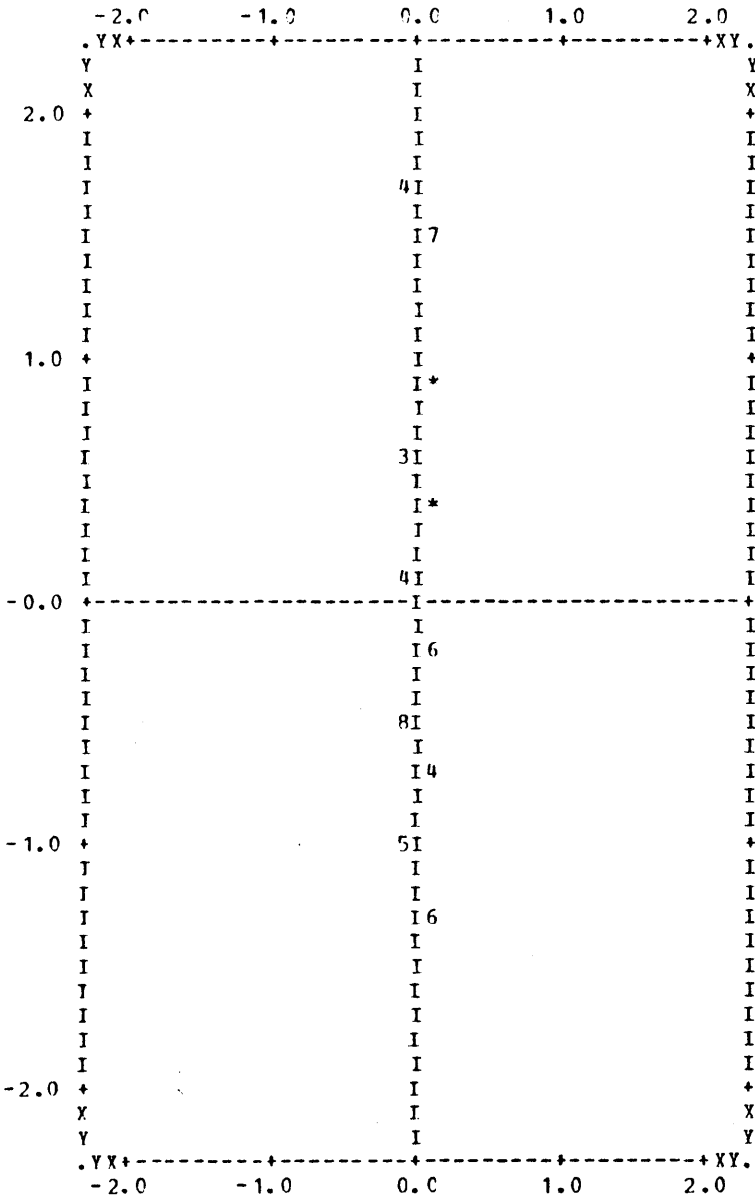
```
        -2.0      -1.0       0.0       1.0       2.0              -2.0      -1.0       0.0       1.0       2.0
        .YX+---------+---------+---------+---------+XY.           .YX+---------+---------+---------+---------+XY.
         Y                   I                   Y                 Y                  *I                   Y
         X                   I                   X                 X                   I                   X
   2.0 +                     I                   +          2.0 +                      I                   +
         I                   I                   I                 I                   I                   I
         I                   I                   I                 I                   I                   I
         I                  4I                   I                 I                  *I                   I
         I                   I                   I                 I                   I                   I
         I                   I7                  I                 I                  I3                   I
         I                   I                   I                 I                   I                   I
         I                   I                   I                 I                  *I                   I
         I                   I                   I                 I                   I                   I
         I                   I                   I                 I                  I4                   I
   1.0 +                     I                   +          1.0 +                      I                   +
         I                   I*                  I                 I                   I                   I
         I                   I                   I                 I                  2I                   I
         I                  3I                   I                 I                   I                   I
         I                   I                   I                 I                  12                   I
         I                   I*                  I                 I                  *I*                  I
         I                   I                   I                 I                   I                   I
         I                   I                   I                 I                  I*                   I
         I                  4I                   I                 I                   I                   I
  -0.0 +--------------------I--------------------+         -0.0 +-------------------5I--------------------+
         I                   I                   I                 I                   I                   I
         I                   I6                  I                 I                 3I2                   I
         I                   I                   I                 I                  *I                   I
         I                   I                   I                 I                  *I                   I
         I                  8I                   I                 I                  3I                   I
         I                   I                   I                 I                   I                   I
         I                   I4                  I                 I                  I4                   I
         I                   I                   I                 I                  I*                   I
         I                   I                   I                 I                  6I                   I
  -1.0 +                    5I                   +         -1.0 +                     I*                   +
         I                   I                   I                 I                  I5                   I
         I                   I                   I                 I                   I                   I
         I                   I6                  I                 I                   I                   I
         I                   I                   I                 I                   I                   I
         I                   I                   I                 I                   I                   I
         I                   I                   I                 I                   I                   I
         I                   I                   I                 I                   I                   I
         I                   I                   I                 I                   I                   I
         I                   I                   I                 I                   I                   I
  -2.0 +                     I                   +         -2.0 +                     I                   +
         X                   I                   X                 X                   I                   X
         Y                   I                   Y                 Y                   I                   Y
        .YX+---------+---------+---------+---------+XY.           .YX+---------+---------+---------+---------+XY.
        -2.0      -1.0       0.0       1.0       2.0              -2.0      -1.0       0.0       1.0       2.0
```

ROWS,COLUMNS Y: VALUES OUTSIDE (-3.0,3.0)   ROWS,COLUMNS X: VALUES IN (-3.0,-2.05) OR (2.05,3.0)

FILE   NONAME   (CREATION DATE = 03/07/78)

* * * * * *   PLOT: STANDARDIZED RESIDUAL (DOWN) -- PREDICTED STANDARDIZED DEPENDENT VARIABLE (ACROSS) * * * * * * *

DEPENDENT VARIABLE: NUMLEND   VARIABLE LIST 1
                                   REGRESSION LIST 3

```
        -2.0        -1.0        0.0         1.0         2.0
        .YX+---------+---------+---------+---------+XY.
        Y                      I                    Y
        X                      I                    X
 2.0 +  I                      I                    +
        I                      I                    I
        I                      I                    I
        I                      I                    I
        I                      I                    I
        I                      I                    I
        I                   6  I                    I
        I                      I                    I
        I                      I                    I
 1.0 +  I                      I                    +
        I                      I                    I
        I                      I                    I
        I                      I  F                 I
        I                      I                    I
        I                      I                    I
        I                   5  I                    I
        I                      I  *                 I
        I                      I                    I
        I                      I                    I
-0.0 +--------------------3--I------------------+
        I                      I                    I
        I                      I                    I
        I                      I                    I
        I                      I                    I
        I                      I  *                 I
        I                      I                    I
        I                   B  I                    I
-1.0 +  I                      I  *                 +
        I                      I                    I
        I                      I                    I
        I                      I                    I
        I                      I  6                 I
        I                      I                    I
        I                      I                    I
        I                      I                    I
        I                      I                    I
-2.0 +                         I                    +
        X                      I                    X
        Y                      I                    Y
        .YX+---------+---------+---------+---------+XY.
        -2.0        -1.0        0.0         1.0         2.0
```

ROWS,COLUMNS Y: VALUES OUTSIDE (-3.0,3.0)   ROWS,COLUMNS X: VALUES IN (-3.0,-2.05) OR (2.05,3.0)

SPSS FOR OS/360, VERSION H, RELEASE 7.1, JULY 11, 1977

DEFAULT SPACE ALLOCATION..   ALLOWS FOR..   100 TRANSFORMATIONS
WORKSPACE   70000 BYTES   400 RECODE VALUES + LAG VARIABLES
TRANSPACE   10000 BYTES   1600 IF/COMPUTE OPERATIONS

                    RUN NAME   NIGERIAN RURAL CREDIT
                    VARIABLE LIST NAME,AGE,WIVES,CHILDREN,INCOME,EDUC,HIBORROW,LOBORROW,HILEND,
                                   LOLEND,NUMBORW,NUMLEND,NUMCRED,CHISEC,USEBANK,PARTIOC
                    INPUT MEDIUM   CARD
                    N OF CASES   50
                    INPUT FORMAT   FIXED(F2.0,F2.0,F1.0,F2.0,F4.0,F2.0,F3.0,F3.0,F3.0,F3.0,F1.0,
                                   F1.0,F2.0,F1.0,F1.0,F1.0)

          ACCORDING TO YOUR INPUT FORMAT, VARIABLES ARE TO BE READ AS FOLLOWS

          VARIABLE   FORMAT   RECORD   COLUMNS

          NAME   F 2. 0   1   1-   2
          AGE   F 2. 0   1   3-   4
          WIVES   F 1. 0   1   5-   5
          CHILDREN   F 2. 0   1   6-   7
          INCOME   F 4. 0   1   8-   11
          EDUC   F 2. 0   1   12-   13
          HIBORROW   F 3. 0   1   14-   16
          LOBORROW   F 3. 0   1   17-   19
          HILEND   F 3. 0   1   20-   22
          LOLEND   F 3. 0   1   23-   25
          NUMBORW   F 1. 0   1   26-   26
          NUMLEND   F 1. 0   1   27-   27
          NUMCRED   F 2. 0   1   28-   29
          CHISEC   F 1. 0   1   ·30-   30
          USEBANK   F 1. 0   1   31-   31
          PARTIOC   F 1. 0   1   32-   32

THE INPUT FORMAT PROVIDES FOR 16 VARIABLES.   16 WILL BE READ
IT PROVIDES FOR 1 RECORDS ('CARDS') PER CASE.   A MAXIMUM OF   32 'COLUMNS' ARE USED ON A RECORD.

                    VAR LABELS
                    MISSING VALUES AGE(99)/ INCOME(9999)/ HIBORROW,LOBORROW,HILEND,LOLEND(999)/
                                    NUMBORW,NUMLEND(9)/
                    REGRESSION   VARIABLES=NUMBORW,NUMLEND,HIBORROW,PARTIOC/
                                    REGRESSION=NUMLEND WITH PARTIOC (2),RESID = 0/
                                    REGRESSION=NUMBORW WITH PARTIOC (2),RESID = 0/
                                    REGRESSION=HIBORROW WITH PARTIOC (2),RESID = 0
                    OPTIONS   2
                    STATISTICS   ALL

 ***** REGRESSION PROBLEM REQUIRES   640 BYTES WORKSPACE, NOT INCLUDING RESIDUALS *****

FILE   NONAME   (CREATION DATE = 03/08/78)

VARIABLE	MEAN	STANDARD DEV	CASES
NUMBORW	2.1020	1.8399	49
NUMLEND	2.7143	2.2454	49
HIBORROW	46.5918	45.2677	49
PARTLOC	0.5200	0.5047	50

FILE   NONAME   (CREATION DATE = 03/08/78)

CORRELATION COEFFICIENTS

A VALUE OF 99.00000 IS PRINTED
IF A COEFFICIENT CANNOT BE COMPUTED.

LOWER TRIANGLE: CORRELATION COEFFICIENTS
UPPER TRIANGLE: N OF CASES FOR CORRELATION

	NUMBORW	NUMLEND	HIBORROW	PARTIOC
NUMBORW	49.	48.	49.	49.
NUMLEND	0.24659	49.	48.	49.
HIBORROW	0.47077	-0.00443	49.	49.
PARTIOC	-0.30659	-0.13932	-0.07520	50.

FILE   NONAME   (CREATION DATE = 03/08/78)

* M U L T I P L E   R E G R E S S I O N * * * * * * * * * * * * * *   VARIABLE LIST 1
                                                                                                                REGRESSION LIST 1

DEPENDENT VARIABLE..   NUMLEND

VARIABLE(S) ENTERED ON STEP NUMBER 1..   PARTIOC

MULTIPLE R	0.13932	ANALYSIS OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARE	F
R SQUARE	0.01941	REGRESSION	1.	4.69732	4.69732	0.93035
ADJUSTED R SQUARE	-0.00145	RESIDUAL	47.	237.30268	5.04899	
STANDARD ERROR	2.24700					

------------------ VARIABLES IN THE EQUATION ------------------   ------------- VARIABLES NOT IN THE EQUATION --------------

VARIABLE	B	BETA	STD ERROR B	F	VARIABLE	BETA IN	PARTIAL	TOLERANCE	F
PARTIOC	-0.6198626	-0.13932	0.64265	0.930					
(CONSTANT)	3.036614								

MAXIMUM STEP REACHED

FILE   NONAME   (CREATION DATE = 03/08/78)

* M U L T I P L E   R E G R E S S I O N * * * * * * * * * * * * * *   VARIABLE LIST   1
                                                                                                               REGRESSION LIST   1

DEPENDENT VARIABLE..   NUMLEND

SUMMARY TABLE

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
PARTIOC	0.13932	0.01941	0.01941	-0.13932	-0.6198626	-0.13932
(CONSTANT)					3.036614	

FILE   NONAME   (CREATION DATE = 03/08/78)

* M U L T I P L E   R E G R E S S I O N * * * * * * * * * * * * * * *   VARIABLE LIST 1
                                                                                                                  REGRESSION LIST 2

DEPENDENT VARIABLE..   NUMBORW

VARIABLE(S) ENTERED ON STEP NUMBER 1..   PARTIOC

		ANALYSIS OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARE	F
MULTIPLE R	0.30659					4.87639
R SQUARE	0.09400	REGRESSION	1.	15.27408	15.27408	
ADJUSTED R SQUARE	0.07472	RESIDUAL	47.	147.21572	3.13225	
STANDARD ERROR	1.76982					

------------------ VARIABLES IN THE EQUATION ------------------   ------------- VARIABLES NOT IN THE EQUATION -------------

VARIABLE	B	BETA	STD ERROR B	F		VARIABLE	BETA IN	PARTIAL	TOLERANCE	F
PARTIOC	-1.117758	-0.30659	0.50617	4.876						
(CONSTANT)	2.683275									

MAXIMUM STEP REACHED

FILE   NONAME   (CREATION DATE = 03/08/78)

* M U L T I P L E   R E G R E S S I O N * * * * * * * * * * * * * *   VARIABLE LIST   1
                                                                                                                  REGRESSION LIST 2

DEPENDENT VARIABLE..   NUMBORW

SUMMARY TABLE

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
PARTIOC	0.30659	0.09400	0.09400	-0.30659	-1.117758	-0.30659
(CONSTANT)					2.683275	

FILE   NONAME   (CREATION DATE = 03/08/78)

* M U L T I P L E   R E G R E S S I O N * * * * * * * * * * * * * *   VARIABLE LIST   1
                                                                                                              REGRESSION LIST   3
DEPENDENT VARIABLE..   HIBORROW

VARIABLE(S) ENTERED ON STEP NUMBER   1..   PARTIOC

		ANALYSIS OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARE	F
MULTIPLE R	0.07520					
R SQUARE	0.00565	REGRESSION	1.	556.18623	556.18623	0.26728
ADJUSTED R SQUARE	-0.01550	RESIDUAL	47.	97803.65050	2080.92873	
STANDARD ERROR	45.61720					

----------------- VARIABLES IN THE EQUATION ------------------   ------------- VARIABLES NOT IN THE EQUATION --------------

VARIABLE	B	BETA	STD ERROR B	F	VARIABLE	BETA IN	PARTIAL	TOLERANCE	F
PARTIOC	-6.744973	-0.07520	13.04664	0.267					
(CONSTANT)	50.09922								

MAXIMUM STEP REACHED

FILE   NONAME   (CREATION DATE = 03/08/78)

* M U L T I P L E   R E G R E S S I O N * * * * * * * * * * * * * *   VARIABLE LIST 1
                                                                                                                    REGRESSION LIST 3
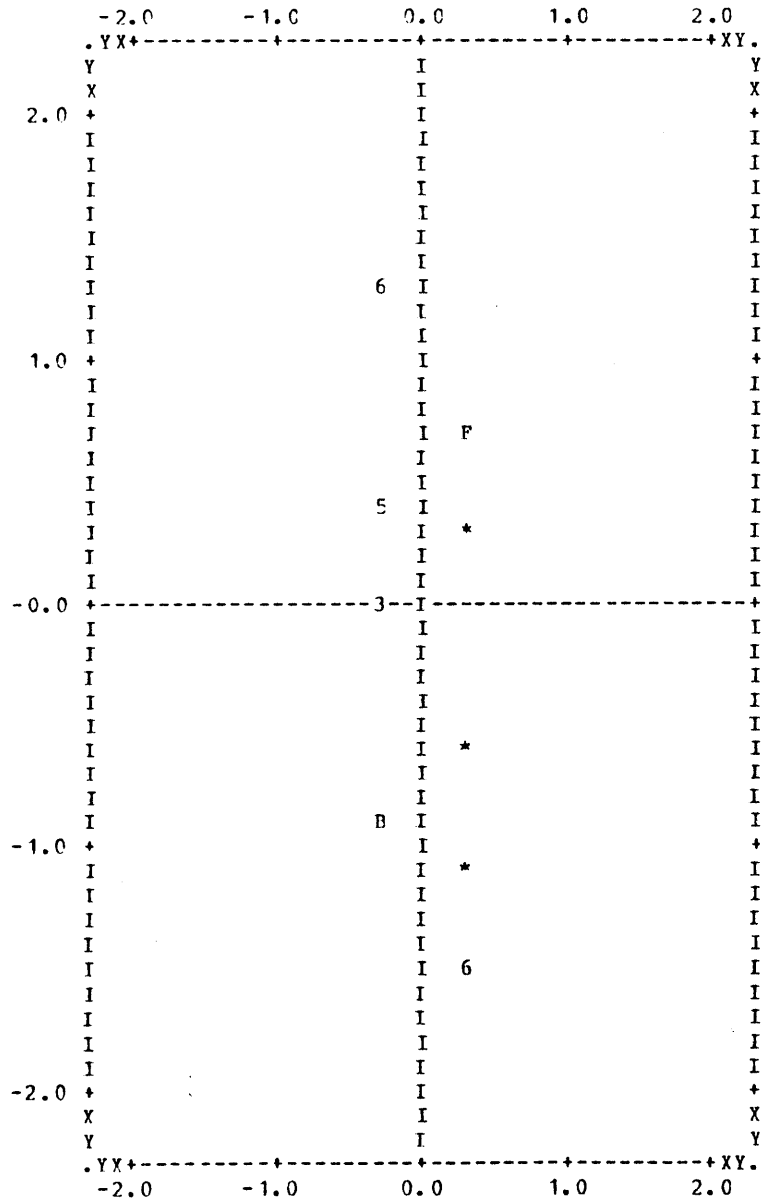
DEPENDENT VARIABLE..   HIBORROW

                                                           SUMMARY TABLE

VARIABLE	MULTIPLE R	R SQUARE	RSQ CHANGE	SIMPLE R	B	BETA
PARTIOC	0.07520	0.00565	0.00565	-0.07520	-6.744973	-0.07520
(CONSTANT)					50.09922	

FILE   NONAME   (CREATION DATE = 03/08/78)

* M U L T I P L E   R E G R E S S I O N *

DEPENDENT VARIABLE: HIBORROW   FROM   VARIABLE LIST 1
                                         REGRESSION LIST 3

	OBSERVED	PREDICTED				PLOT OF STANDARDIZED RESIDUAL		
SEQNUM	HIBORROW	HIBORROW	RESIDUAL	-2.0	-1.0	0.0	1.0	2.0
1	40.00000	50.09921	-10.09922			* I		
2	120.0000	50.09921	69.90077			I	*	
3	60.00000	43.35425	16.64574			I	*	
4	32.00000	43.35425	-11.35425			* I		
5	80.00000	43.35425	36.64574			I	*	
6	20.00000	50.09921	-30.09921		*	I		
7	100.0000	43.35425	56.64574			I	*	
8	14.00000	50.09921	-36.09921		*	I		
9	120.0000	50.09921	69.90077			I	*	
10	34.00000	43.35425	-9.354249			* I	*	
11	120.0000	50.09921	69.90077			I	*	
12	20.00000	50.09921	-30.09921		*	I		
13	6.000000	50.09921	-44.09921		*	I		
14	20.00000	50.09921	-30.09921		*	I		
15	20.00000	43.35425	-23.35425		*	I		
16	22.00000	50.09921	-28.09921		*	I		
17	40.00000	50.09921	-10.09922			* I		
18	200.0000	50.09921	149.9008			I		X
19	40.00000	50.09921	-10.09922			* I		
20	30.00000	43.35425	-13.35425			* I		
21	40.00000	43.35425	-3.354249			*I		
22	MISSING**	50.09921	MISSING**			I		
23	70.00000	43.35425	26.64574			I	*	
24	40.00000	50.09921	-10.09922			* I		
25	80.00000	50.09921	29.90077			I	*	
26	100.0000	43.35425	56.64574			I	*	
27	40.00000	50.09921	-10.09922			* I		
28	80.00000	50.09921	29.90077			I	*	
29	32.00000	50.09921	-18.09921		*	I		
30	20.00000	43.35425	-23.35425		*	I		
31	120.0000	43.35425	76.64574			I		*
32	100.0000	43.35425	56.64574			I	*	
33	40.00000	43.35425	-3.354249			*I		
34	100.0000	43.35425	56.64574			I	*	
35	20.00000	43.35425	-23.35425		*	I		
36	20.00000	50.09921	-30.09921		*	I		
37	80.00000	50.09921	29.90077			I	*	
38	60.00000	43.35425	16.64574			I	*	
39	0.0	43.35425	-43.35425		*	I		
40	0.0	50.09921	-50.09921		*	I		
41	0.0	50.09921	-50.09921		*	I		
42	0.0	50.09921	-50.09921		*	I		
43	0.0	43.35425	-43.35425		*	I		
44	0.0	43.35425	-43.35425		*	I		
45	0.0	43.35425	-43.35425		*	I		

46	0.0	43.35425	-43.35425	*	I	
47	0.0	43.35425	-43.35425	*	I	
48	0.0	43.35425	-43.35425	*	I	
49	0.0	43.35425	-43.35425	*	I	
50	103.0000	43.35425	59.64574		I	*

DURBIN-WATSON TEST OF RESIDUAL DIFFERENCES COMPARED BY CASE ORDER (SEQNUM).

VARIABLE LIST 1, REGRESSION LIST 1.   DURBIN-WATSON TEST   0.74934
VARIABLE LIST 1, REGRESSION LIST 2.   DURBIN-WATSON TEST   1.29896
VARIABLE LIST 1, REGRESSION LIST 3.   DURBIN-WATSON TEST   1.77776

FILE   NONAME   (CREATION DATE = 03/08/78)

* * * * * * * PLOT: STANDARDIZED RESIDUAL (DOWN) -- PREDICTED STANDARDIZED DEPENDENT VARIABLE (ACROSS) * * * * * * *

DEPENDENT VARIABLE: NUMLEND   VARIABLE LIST 1   DEPENDENT VARIABLE: NUMBORW   VARIABLE LIST   1
                                  REGRESSION LIST 1   REGRESSION LIST   2
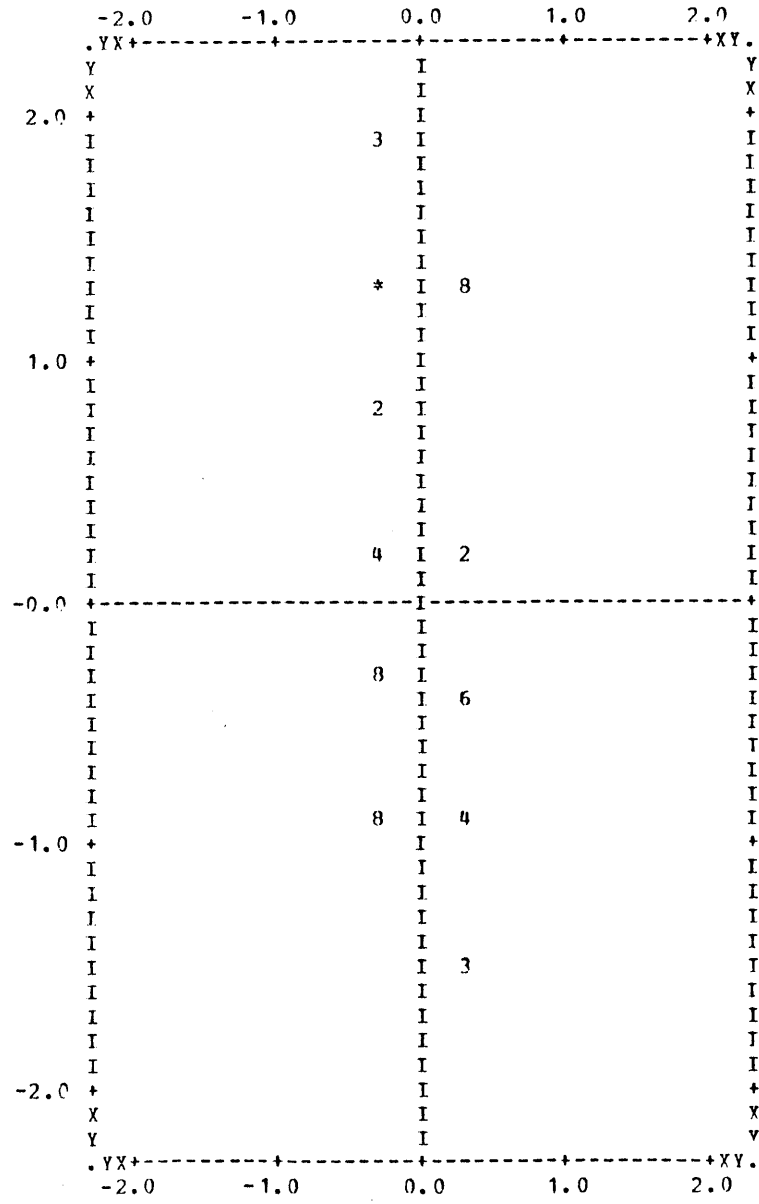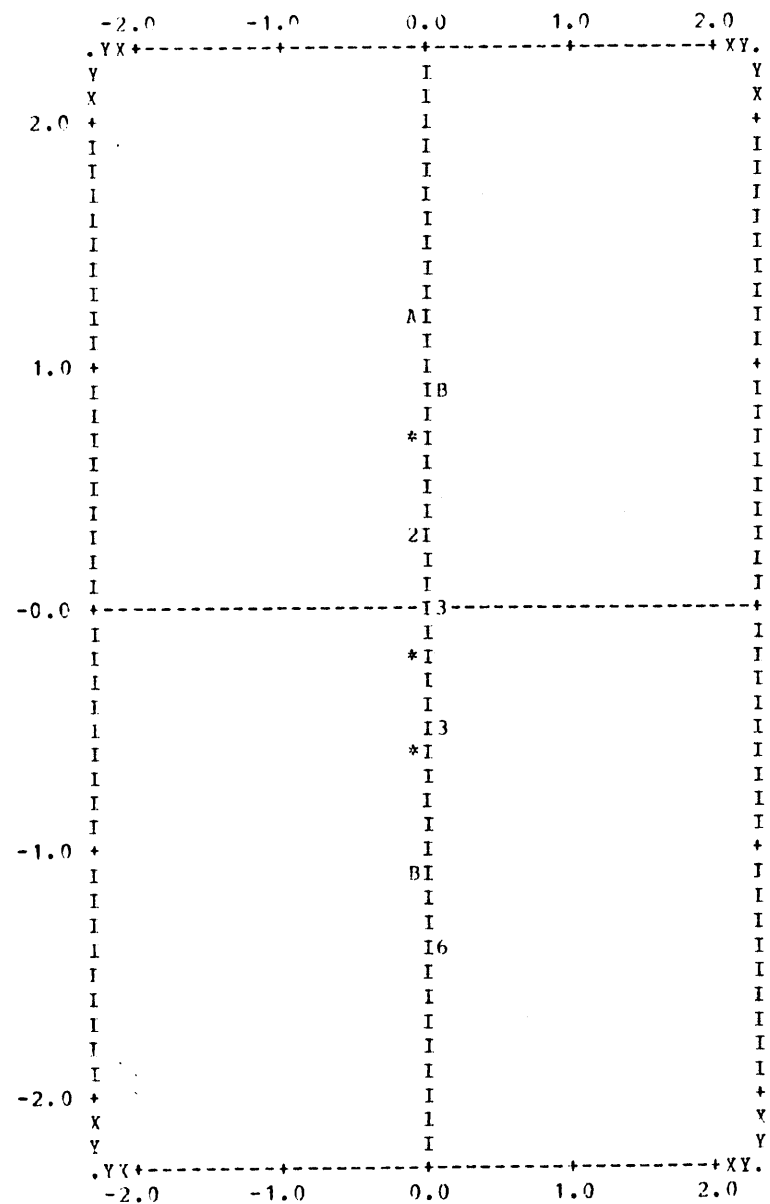
```
        -2.0      -1.0       0.0       1.0       2.0                -2.0      -1.0       0.0       1.0       2.0
        .YX+---------+---------+---------+---------+XY.              .YX+---------+---------+---------+---------+XY.
         Y                     I                   Y                 Y                     I                   Y
         X                     I                   X                 X                     I                   X
   2.0 +                       I                   +           2.0 +                       I                   +
         I  .                  I                   I                 I                   3 I                   I
         I                     I                   I                 I                     I                   I
         I                     I                   I                 I                     I                   I
         I                     I                   I                 I                     I                   I
         I                     I                   I                 I                     I                   I
         I                     I                   I                 I                     I                   I
         I                   AI                    I                 I                   * I 8                 I
         I                     I                   I                 I                     I                   I
         I                     I                   I                 I                     I                   I
   1.0 +                       I                   +           1.0 +                       I                   +
         I                    IB                   I                 I                     I                   I
         I                     I                   I                 I                   2 I                   I
         I                   *I                    I                 I                     I                   I
         I                     I                   I                 I                     I                   I
         I                     I                   I                 I                     I                   I
         I                     I                   I                 I                     I                   I
         I                   2I                    I                 I                   4 I 2                 I
         I                     I                   I                 I                     I                   I
         I                     I                   I                 I                     I                   I
  -0.0 +----------------------I3-----------------+           -0.0 +----------------------I-----------------+
         I                     I                   I                 I                     I                   I
         I                   *I                    I                 I                   8 I                   I
         I                     I                   I                 I                     I 6                 I
         I                   I3                    I                 I                     I                   I
         I                   *I                    I                 I                     I                   I
         I                     I                   I                 I                     I                   I
         I                     I                   I                 I                   8 I 4                 I
  -1.0 +                       I                   +          -1.0 +                       I                   +
         I                   BI                    I                 I                     I                   I
         I                     I                   I                 I                     I                   I
         I                   I6                    I                 I                     I                   I
         I                     I                   I                 I                     I 3                 I
         I                     I                   I                 I                     I                   I
         I                     I                   I                 I                     I                   I
         I                     I                   I                 I                     I                   I
         I  .                  I                   I                 I                     I                   I
  -2.0 +  .                    I                   +          -2.0 +                       I                   +
         X                     I                   X                 X                     I                   X
         Y                     I                   Y                 Y                     I                   Y
        .YX+---------+---------+---------+---------+XY.              .YX+---------+---------+---------+---------+XY.
        -2.0      -1.0       0.0       1.0       2.0                -2.0      -1.0       0.0       1.0       2.0
```

ROWS,COLUMNS Y: VALUES OUTSIDE (-3.0,3.0)   ROWS,COLUMNS X: VALUES IN (-3.0,-2.05) OR (2.05,3.0)

FILE   NONAME   (CREATION DATE = 03/08/78)

* * * * * * *   PLOT: STANDARDIZED RESIDUAL (DOWN) -- PREDICTED STANDARDIZED DEPENDENT VARIABLE (ACROSS)   * * * * * * *

DEPENDENT VARIABLE: H1BORROW   VARIABLE LIST   1
                                     REGRESSION LIST   3

```
           -2.0        -1.0         0.0        1.0         2.0
          .YX+---------+---------+---------+---------+XY.
           Y                       I*                    Y
           X                       I                     X
     2.0 +                         I                   +
           I                       I                     I
           I                       I                     I
           I                     *I                      I
           I                       I                     I
           I                       I3                    I
           I                       I                     I
           I                      5I                     I
           I                       I                     I
           I                       I                     I
           I                       I                     I
     1.0 +                         I                   +
           I                       I                     I
           I                     *I                      I
           I                       I3                    I
           I                     *I                      I
           I                       I                     I
           I                      2I                     I
           I                       I                     I
           I                       I                     I
           I                       I                     I
    -0.0 +-----------------------I-----------------------+
           I                      2I                     I
           I                     *I5                     I
           I                      2I                     I
           I                       I*                    I
           I                      3I                     I
           I                       I*                    I
           I                       I4                    I
           I                       I*                    I
           I                       I                     I
    -1.0 +                       8I*                   +
           I                       I3                    I
           I                       I                     I
           I                       I                     I
           I                       I                     I
           I                       I                     I
           I                       I                     I
           I                       I                     I
           I                       I                     I
           I                       I                     I
    -2.0 +                         I                   +
           X                       I                     X
           Y                       I                     Y
          .YX+---------+---------+---------+---------+XY.
           -2.0        -1.0         0.0        1.0         2.0
```
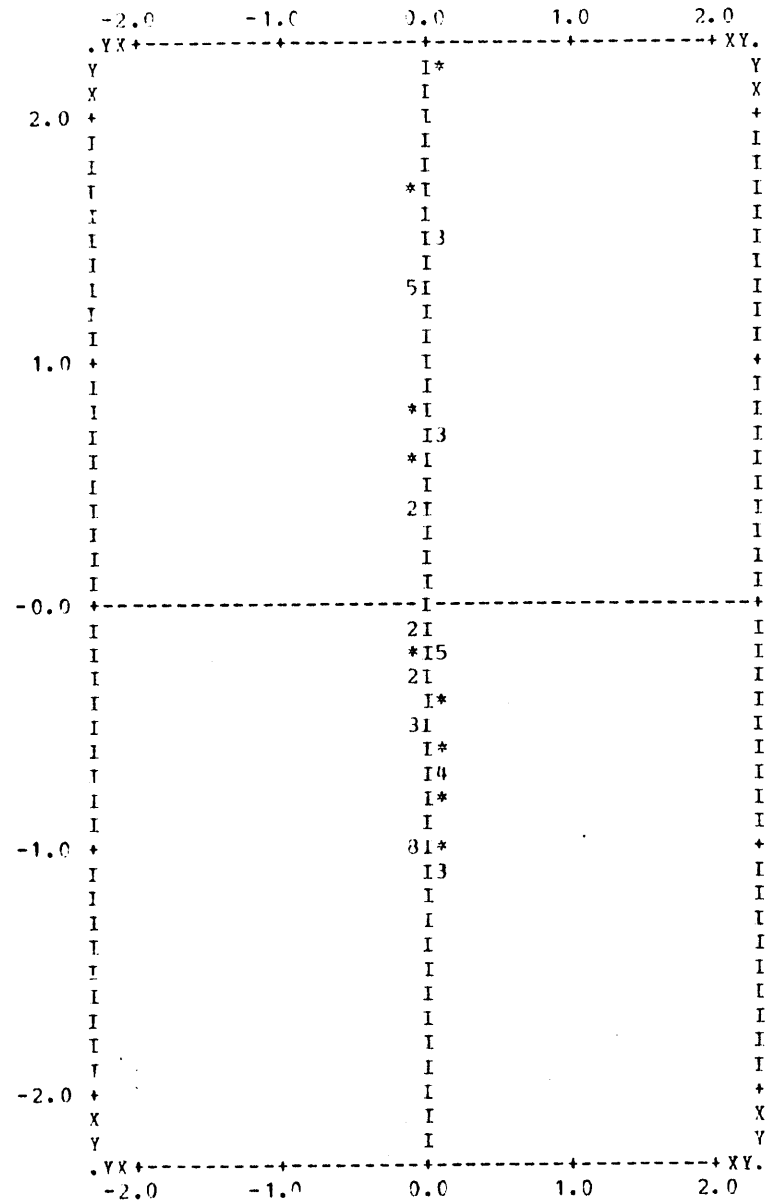
ROWS,COLUMNS Y: VALUES OUTSIDE (-3.0,3.0)   ROWS,COLUMNS X: VALUES IN (-3.0,-2.05) OR (2.05,3.0)

FILE   NONAME   (CREATION DATE = 03/10/78)

- - - - - - - - - - - - -   K E N D A L L   C O R R E L A T I O N   C O E F F I C I E N T S   - - - - - - - - - - - - - - -

VARIABLE PAIR		VARIABLE PAIR		VARIABLE PAIR		VARIABLE PAIR		VARIABLE PAIR		VARIABLE PAIR	
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NUMBORW WITH CAPITA	-0.0711 N(47) SIG .258	NUMLEND WITH CAPITA	0.1458 N(47) SIG .101	HIBORROW WITH CAPITA	-0.0852 N(47) SIG .210	NUMCRED WITH CAPITA	0.0294 N(47) SIG .390	EDUC WITH CAPITA	0.1922 N(47) SIG .039	AGE WITH CAPITA	-0.3812 N(47) SIG .001
CHISEC WITH CAPITA	-0.1231 N(47) SIG .156										

A VALUE OF 99.0000 IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED.