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EDUCATION AND POVERTY IN MICHIGAN

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ABSTRACT

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In the United States as a whole, 21.4% of the families have incomes below \$3,000 while in Michigan, only 15.7% fall below this line. Poverty in Michigan is definitely not as severe as that which exists in many states of the deep South and in Appalachia. In Michigan, there are about 314,000 families or 1,256,000 people who have incomes or live in families with incomes below \$3,000 per year. The poor exist in every county of the state.

Poverty for the purposes of discussion was defined as existing when a family of four had an income of \$3,000 or less. Seven hypotheses describing the relationship between lack of resources and poverty were considered. One of these is the relationship between poor educational systems and low income. This relationship was the main focus of the last part of the paper. Since the author of this paper did not feel that one variable could adequately explain all poverty, he stated how the relationship between low income and poor educational systems fit into a circular description of the causes of poverty.

Issues discussed which are relevant to the education of the poor and that are likely to cause problems when implementing any programs in this area are as follows: 1. Are those left behind the less able and intelligent? 2. There is some doubt about the ability of compensatory education to do the job, the results have been discouraging to date. 3. Should the nation educate the boxed in or should they be put on income maintenance programs? 4. Should the nation through education programs force upon people ideas they don't want to accept?

With respect to the empirical analysis in this paper of the relationship between income and educational level, the correlation between quality of education and income was not high enough to explain poverty. On the other hand, the amount of variance explained by the variables measuring quality of education did suggest that the improvement in the quality of education would help to alleviate poverty.

Several things stood out when discussing the variables used in the analysis, these were: 1. Education level did not correlate highly with income and it was not significant. 2. Teacher's salary was the most significant and highly correlated variable used in the analyses. 3. Dropout rate surprisingly correlates positively with income which contradicted previous arguments. 4. The relationship between expenditures per pupil and income was negative in both multiple correlation analyses. This contradicted previous arguments. 5. There was a much higher simple correlation between education level and income in all rural counties than in the isolated rural counties. 6. The simple inverse correlation between pupils per teacher and income is higher in the isolated rural county analysis.

In conclusion, it is hypothesized that other major factors such as location of industry are more important in determining poverty than quality of education. It is argued, that even if quality of education were improved, there would be no decrease in the amount of poverty in the county or its severity unless the education is able to be utilized in gainful employment in the county. The better educated can move to areas of greater opportunity but this does little to help those left behind. A major way to help these areas utilize increased educational attainment is to increase employment opportunities in the area and this should in turn increase income.

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## I. INTRODUCTION

With the election of John F. Kennedy to the Presidency in 1960, poverty became in this country a national issue. Of course, poverty existed before 1960 as it has since the dawn of history. Why then did it not receive recognition before this time? Four main factors converged and started things rolling. These were: 1. Election of a national leader who made it one of his goals to do something about poverty. 2. The attachment of the poverty problem to an already growing civil rights movement. 3. Large economic gains and tremendous technical advances occurring after World War II which accentuated the difference between the haves and have nots. 4. The development of a modern communications industry, especially television which brought the poverty problem directly into the homes of the affluent and also brought the affluence of the middle class into the homes of the poor (they now knew what they were missing).

Although President Kennedy started the ball rolling, it wasn't until Lyndon Johnson came to office in November of 1963 and the election of 1964 that poverty became the focus of national legislation. In this election, the Republicans took a beating at the polls which paved the way for President Johnson's Great Society Legislation. Since this time, poverty has been studied, debated, argued and even caused much of the nation's civil unrest and riots that occurred in the inner cities. It is now truly a national problem of such proportions that to eliminate poverty may necessitate such broad changes in this nation's economic and political organization that may well shake this nation to its very roots and herald the start of an era of sweeping and rapid change. In fact, the issues are so complex as to involve every intellectual discipline known to man.

In The People Left Behind, a report by the President's National Advisory Commission on Rural Poverty, there were six reasons for action stated:

1. Simple justice demands it. 2. Must act now because rural poor continue to migrate to the central cities. 3. Anti-poverty program has by-passed the rural poor. 4. Rural communities do not share the benefits of progress and change. 5. Rural communities fail to prepare people to participate in the modern economy. 6. Public programs in rural areas are woefully out of date. This, of course, is directed at rural poverty but then as is cited above, poverty in the nation's central cities is directly related to poverty in the rural areas. Alleviation of poverty in the nation's central cities demands action in our rural areas also.

The commission is basing its reasons for action on the belief that the benefits to society for the alleviation of poverty are greater than the costs in the long run. In its words:<sup>1</sup>

"The costs to society for implementation of the Commission's recommendations will be high, but the costs will be immeasurably higher if we do not implement them. Over the long pull, the gains to society from wiping out poverty will far exceed the costs. The time for action is indeed now."

There are those on the other hand, who would say just the opposite, that the benefits will not exceed the costs. Neither faction's arguments rests on a strong base for it is difficult to prove either case. There is also a basic moral question raised by the commission's stand. They say it is right to alleviate poverty. But again, there are those who say it is wrong to alleviate poverty. Neither is right or wrong. It depends in the last analysis on the belief of the majority when dealing with a democracy such as the United States.

The existing alternatives by which the United States intends to alleviate poverty can be broken up into four general areas. These are:

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1. The People Left Behind, A report by the President's National Advisory Commission On Rural Poverty, U.S. Government Printing Office, Washington D.C., 1967, Pg. 14.



1. Train and educate the poor to handle more skilled jobs
  - a. Community training and education programs
  - b. Federal aid to local schools
  - c. State aid to local schools
  - d. Head Start
  - e. Job Corps
  - f. Vista
2. Population control - birth control clinics for those that cannot afford children
3. Make available jobs for existing skills
  - a. Ways to increase labor mobility
  - b. Creation of jobs through attracting and developing industry.
4. Transfer of resources from wealthy to poor
  - a. Improved environment through government action
    - (1). Health
      - (a). Medicaide
      - (b). Medicare
      - (c). Training of nurses and physicians  
(not necessarily a direct transfer)
      - (d). Building hospitals (not necessarily a direct transfer)
    - (2). Housing
      - (a). Rent subsidies
      - (b). Public housing
    - (3). Clothing stamps
    - (4). Food stamps
  - b. Income supplements
    - (1). Aid to Dependent Children
    - (2). Guaranteed income
    - (3). Public works projects

This paper will concentrate on the training and educating of the poor to the exclusion of the other three areas for two reasons, the limited scope of this research and education of the poor is considered to be a major weapon in the war on poverty. More specifically, the paper will focus on the improvement in the quality of education for grades K-12 as a means of alleviating poverty.

What can education do and what are its limitations in any effort to alleviate poverty? Education can do a number of things: 1. Create assets in the needy. 2. Once created, these assets reside to some extent in the individual for life and can't be sold, stolen, or squandered in a single transaction.

3. Enhance a person's ability to better allocate resources among production and consumption alternatives so that welfare is improved. 4. Be used to influence tastes and preferences of individuals so that attitudes towards work, social institutions, and patterns of consumption and production can be shifted to reduce the conflict between behavior of individuals and the society in which they live. On the other hand, education: 1. Cannot be used as a means to reduce poverty directly or rapidly. 2. Is of less help to those over 45 - a large share of those in poverty. 3. Is hindered by lack of incentive to prepare for college (no money). 4. Can be hindered by a poor home environment.

The objectives of the paper are: 1. To review the data on the extent of poverty in Michigan. 2. To consider hypotheses as to the cause of poverty with special attention to the interaction of education and poverty. 3. To discuss issues relevant to the education of the poor. 4. To explore how closely certain measures of quality of education correlate with median family income.

## II. POVERTY IN MICHIGAN

In comparison to the rest of the United States, poverty in Michigan comprises a smaller proportion of the population. In the United States as a whole, 21.4% of the families have incomes below \$3,000, while in Michigan only 15.7% fall below this line (Table I). Poverty in Michigan is definitely not as severe as that which exists in many states of the deep South and in Appalachia. Assuming a population in Michigan of 8,000,000 and 4 people per family, there are about 314,000 families or 1,256,000 people who have incomes or live in families with incomes below \$3,000 per year. According to the U.A.W. publication, Poverty In Michigan: Characteristics Related To Poverty In Michigan's 83 Counties, in the large cities, the poor consist mainly of three groups. These are the Negroes, retired people, and Caucasian families having recently migrated from

rural areas. The Negroes have migrated from the South and have had in most cases poor educations which have limited their ability to obtain good paying jobs. Because the cheap housing was in the inner cities and because of prejudice, they congregated in what are known as urban ghettos. The retired people living on pensions and social security are scattered throughout the cities. Poverty for the young Caucasian families in the large cities is usually of shorter duration than that which confronts the Negro. These people are usually assimilated quite rapidly into the lower middle class. In the rural areas and small cities, the poor consist primarily of three groups and these are the poor non-farm Caucasians, poor farm Caucasians, and groups of Indians.

There is one notable exception and this is Lake County which has a non-Caucasian population of 26.6%. These people are primarily Negro farmers who migrated from the South and for some reason decided to farm instead of settle in the larger cities. As can be seen from the above discussion, the poor in Michigan are scattered throughout the state. In fact, they are present in every county. Table I shows two things and these are that poverty exists in all counties and that generally, the higher the median family income for the county, the lower is the incidence of poverty. This does not differ notably from that which prevails in the United States as a whole.

### III. EXISTING THEORY

This section of the paper is devoted to: 1. A definition of poverty. 2. Considering existing hypotheses as to the cause of poverty. 3. A description of the circle of poverty thesis as defined by the paper. 4. A discussion of how the multiple correlation analyses relate to the use of the improvement in the quality of education as a singular weapon in the war on poverty and as a variable in the circle of poverty thesis.

TABLE I

Statistics Pertaining To Poverty In Michigan: Top Five Counties--And Bottom Five Counties, In Terms of Income<sup>1</sup>

Counties	% of Families With Income Under \$3,000	Median Family Income	% of All Housing Units That Are Substandard <sup>2</sup>	Infant Mortality Rate, Number of Deaths Under 1 Year of Age Per 1000 Births
Oakland	9.2	\$7,576	12.8	18.9
Macomb	9.5	7,091	9.5	20.8
Washtenaw	12.2	6,890	18.5	21.6
Midland	13.6	6,627	22.1	13.4
Wayne	<u>15.3</u>	<u>6,597</u>	<u>13.6</u>	<u>25.9</u>
Mean	12.0	\$6,956	15.7	20.1
Kalkaska	35.5	\$3,876	60.1	25.0
Ogemaw	38.6	3,874	55.3	34.7
Missaukee	37.9	3,678	45.0	33.6
Montmorency	42.9	3,574	56.9	27.8
Lake	<u>48.0</u>	<u>3,158</u>	<u>56.6</u>	<u>54.9</u>
Mean	40.6	\$3,612	54.8	35.2
State of Michigan	15.7		21.3	23.2
United States	21.4		26.0	25.2
State High	48.0-Lake		63.6-Gladwin	54.9-Lake
State Low	9.2-Oakland		9.5-Macomb	4.9-Gladwin

1. Source: Poverty in Michigan; Characteristics Related To Poverty In Michigan's 83 Counties, Statistics Compiled By U.A.W. Research Department, July 1965.

2. Substandard Housing; this includes all units that either lack hot water, lack other plumbing facilities, are deteriorating, or are dilapidated.

The definition of poverty using a per capita income figure is a problem of definition and relativism. Instead of being set at \$3,000 for a family of four, it could have been set at \$5,000 for the same sized family depending upon your definition of what is an adequate standard of living. According to the Social Security Administration of the Department of Health Education and Welfare, the poverty line is set at \$3,200 for a rural non-farm family of four and \$2,240 for a farm family of four. Although these poverty lines are static now, they will have to be raised in the future because of inflation and the progress of the more affluent society. It is relative in relation to the poor of other countries. If you look at the problem from an international point of view, people in poverty in this country are well off in comparison to the poor of the underdeveloped countries. On the other hand, there are those such as James T. Bonnen who would argue that the relevant standard and comparison must be found by each generation within its own time, social organization, and values. Although, the two positions might not be inconsistent depending upon how you define social organization and values.

What does the government do with the person who has less than his neighbor but is happy? All too often researchers in this area are willing to dismiss poverty as an inadequate way of life. This is demonstrated very well by E. Walton Jones when he states:<sup>1</sup>

"It seems important to me that we at least recognize poverty as more than a shortage of income. It is the lack of access to respectable positions in society and lack of power to do anything about it. It is insecurity and unstable homes. It is a wretched existence that tends to perpetuate itself from one generation to another. We can agree on these things."

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1. Jones, W.E., "Nature and Extent of Rural Poverty", Papers on Rural Poverty, Agricultural Policy Institute School of Agriculture and Life Sciences, North Carolina State University, March 1969, Page 3.

Certainly, a lot of poverty fits this description but not all of it. How does the government separate the two? How does the government measure happiness, family ties, ties to the land, cultural and sociological beliefs as components of poverty?

This research is going to use the income figure of \$3,000 for a rural family of four as the dividing line between those in poverty and those out of poverty. Even though it has its drawbacks, it is being used for two reasons. . . These are: 1. Lack of ability to measure happiness, family ties, ties to the land, and cultural and sociological beliefs. 2. Lack of definitions of what is adequate housing, health, education, and recreational opportunity. Although this income figure is not the same as the official position of the Social Security Administration, it has its value in that it is simple to use.

There are several different types of poverty. There is poverty which is the result of the basic economic organization of the system (capitalism) and can't be eliminated or alleviated unless the system is modified. Otherwise, as long as there is capitalism, there will be differences in income and consequently, there will be those who are poor in relation to others. There is poverty which is caused by specific policies of the government. Such as a planned recession used to fight inflation. This type of policy can counteract other efforts made by government to alleviate poverty. Then there is poverty which is caused by the lack of resources both natural and human. These are locational by nature and as such are different from the first two types of poverty which tend to effect all parts of the country. This paper is going to limit itself to an analysis of certain aspects of poverty caused by lack of human resources.

Within this broad category of lack of resources, there are several specific hypotheses as to the cause of poverty which include those dealing with deficiencies in the human resource. Seven important ones cited are: 1. The lack of

natural resources including favorable climate and strategic geographic location have caused certain areas of this country to become underdeveloped and poverty stricken in relation to other more prosperous sections. 2. Due to the lack of industry in these resource poor areas, the tax base has been very small which has led to inadequate government services such as roads, water and sewage systems, police protection, and schools. This in turn has kept new industry from entering the area. 3. Poor educational systems as defined by their inability to produce citizens who can become a part of the mainstream of American culture have helped to maintain a culture which is alienated from that of the majority. 4. The more intelligent and or able have left the poverty areas for areas of greater opportunity. Those left behind are less able to compete and as a consequence are on the bottom of the income ladder. 5. Poor housing, poor health, lack of food, and inadequate dress or as is commonly called, environmental obstacles to motivation have led to an atmosphere where those in poverty become trapped. 6. Cultural and sociological obstacles to motivation have led to a particular thought pattern which has impeded the development of the particular beliefs and values necessary for a person to become a part of the modern world. 7. Lack of job opportunities (either inability to take a job because of training or the job isn't there) have led directly to high unemployment rates and consequently low income.

The cause of poverty is more than likely not so simple as to be explained solely by any one of the above mentioned hypotheses. This has led to what is known as the circle of poverty thesis. There are many variations of this thesis which are due to the differences in belief as to what is cause and what is effect and because of the varying degrees of importance placed on the different parts. Even though different author's state it differently, they all basically say the same thing. Likewise, the version given below will vary

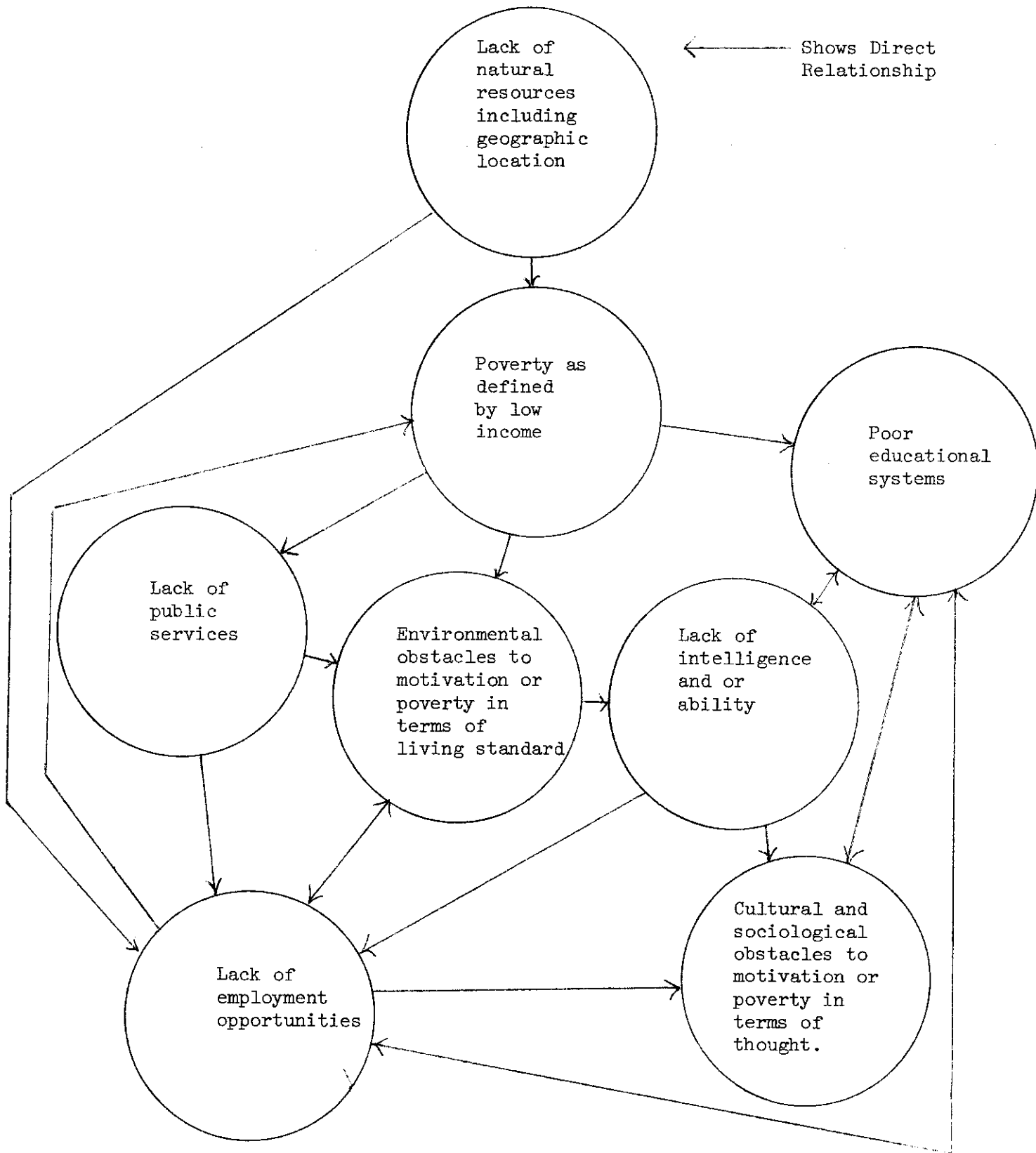
due to the author's own interpretation of the situation. It is as follows. As modernization and industrialization of the economy took place, those areas which had resources less able to compete were left behind and forced into an income situation which deteriorated relatively year after year. As income deteriorated, the tax base deteriorated with it. This led to inadequate services which drove away new industry that could have reversed the whole process. Those who were highly motivated to get ahead left these areas for areas of greater opportunity. Those left, never adjusted to a changing world and became poverty stricken, not only in terms of income but thought also. This led to cultural, sociological, and environmental obstacles to motivation which led to poor educational systems and consequently poor educational opportunities which in turn led to low mobility and poor job opportunities which led, coming full circle, to poverty (Figure I).

If this general thesis is correct, improvement in education in the poverty areas is a mandatory part of the attack if the nation is ever going to break this circle of poverty. This is not to imply that other steps in this circle are not also important but to emphasize the importance of education in the drive to alleviate poverty. Of course, this assumes that the alleviation of poverty is a national goal.

However, the paper has assumed, that quality of education does correlate significantly with median family income. If the paper cannot show this relationship, it would appear that the quality of education as a variable in the circle of poverty is perhaps less important. If in fact, the correlation is so low as to warrant the removal of education as a variable from the thesis (an  $R^2$  of .05 or less), the validity of the thesis would come into doubt. A low correlation would also bring doubt upon the validity of the use of the improvement of education as a singular and exclusive weapon in the war on poverty.



Interrelationships Between Seven Variables  
In The Circle of Poverty



#### IV. ISSUES INVOLVED IN EDUCATING THE POOR

Since the United States is legislating programs to alleviate poverty and some of these involve federal aid to education such as the Elementary and Secondary Education Act of 1965, it becomes vitally important to discuss issues relevant to the education of the poor. Thus the paper intends to discuss:

1. Compensatory education.
2. Intelligence and or ability of those left behind.
3. Education of the boxed in.
4. Forced change.

Basically there are three approaches that the United States as a nation has in relation to investment in education for poor youth. These are:

1. To continue present levels of education.
  2. To attempt to assure equality of educational opportunity as compared to areas with greater resources.
  3. Provide compensatory education as compared to areas with greater resources and specific children within all districts.
- If the United States decides to do nothing about the situation, then it will continue to get the same results that it has had in the past. High schools that graduate children who can't read and write let alone compete, high dropout rates, and persistence of ideas that are totally incongruent with the ability to fit into a modern society. With this approach the United States will continue to have a segment of its population in poverty, unless it moves to some form of income maintenance.

Turning to equality of educational opportunity, the United States runs into three basic problems: 1. The added cost to the taxpayer to finance the program. 2. The fact that unless the government helps those students who are less able, they will continue to fall behind (after all, each student's ability and motivation are different). 3. How does the nation define equality of education; is it in terms of dollars per pupil, teachers salary, class size, home environment, and or etc.?

In the opinion of the author if the United States wants to use education

as a weapon in the war on poverty, it is going to have to move to compensatory education. A good definition of compensatory education is given by Thomas Ribich:<sup>1</sup>

"Programs designed to aid school age children are largely a matter of assigning more and better personnel and adding supplementary services to the education of poor children. An additional feature is the attempt to gear instruction to those children's needs arising from such factors commonly associated with poverty as low educational attainment of parents, large family size, broken homes, discrimination, and slum conditions. "Cultural deprivation" has come to be the key phrase to describe the educational problem posed by these circumstances and "compensatory education" the name for specially designed programs to meet the problem."

There are several basic questions surrounding compensatory education. Are the costs acceptable to the taxpayer? Does compensatory education really work? Do the benefits exceed the costs? To answer the first two questions one must realize that the taxpayer is only going to shell out the dollars if you can appeal to his conscience or prove to him that the benefits exceed the costs. Actually, it can be said that the taxpayer accepts the cost if when appropriation time comes around he shells out enough to do the job right.

Turning to evidence about returns to compensatory education, Thomas Ribich did a study of the Higher Horizons Program in New York City to try and answer the question of how well compensatory education works. He chose this program for three reasons which were: 1. Comprehensiveness of the report. 2. Care of the experimental design. 3. The fact that it was the largest program of this nature, involving 64,075 children in the experimental group. Although some gains were made by those in the experimental group, they were not large and when put into a benefit cost analysis the results were even more disappointing. In the words of Thomas Ribich:<sup>2</sup>

"It can of course, be agreed that disappointing results should not come as a surprise. There is no reason to believe that every experiment will be a success, and much of the compensatory effort is, and for some time

1. Ribich, T.I., Education and Poverty, The Brookings Institution, Washington D.C., 1968, Pg. 61

2. Ribich, T.I., Education and Poverty, The Brookings Institution, Washington D.C., 1968, Pg. 78

will remain, experimental. This, however, argues even more forcefully for the importance of evaluation and of comparison of gains and costs, for just as not every experiment must necessarily fail, so too there can be degrees of success. Labeling a program as compensatory doesn't insure success, as is clear from the evidence presented. It is therefore imperative that further evaluation be undertaken."

This, of course, seems to dispute the findings made by other researchers when they studied returns to further education and concluded that the benefits far exceeded the costs. These studies have been done in urban and rural schools all with practically the same results. Many of these studies have been used as a basis for arguing that the government should invest heavily in elementary and secondary education. Thomas Ribich explains this seeming inconsistency when he states:<sup>1</sup>

"What then should be said about the high rates of return (discussed in Chapter 1) associated with undertaking additional levels of schooling? These payoff rates suggest that an individual who chooses (voluntarily) to undertake continued study, at any educational level, tends to earn a high rate of return on his own investment and a high before tax rate of return on total resource costs. The answer to this apparent contradiction with the findings of the present study is that inducing heavier flows of students through additional increments of education may require an expensive program of counseling and persuasion. It follows, then, that these previously calculated rates of high return for voluntary school continuance are not necessarily inconsistent with the conclusion that available policy alternatives yield low payoff rates. The students involved - and their motivation - are, after all, quite different."

In comparing the two alternatives of either spending on education or direct income transfers to reduce poverty, if the benefits from increased emphasis on education do not exceed the costs than it would be more efficient to rely on income transfers to reduce poverty. Even if benefits do exceed costs, there is another problem which is well stated by Thomas

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1. Ribich, T.I., Education and Poverty, The Brookings Institution, Washington D.C., 1968, Pg. 127

Ribich when he says:<sup>1</sup>

"Improved education for children from poor families is aimed at rescuing individuals from future adult poverty. It cannot be assumed that each case is successful. Nor should it be assumed that without this extra educational thrust all the children will end up as poor adults. It follows that education, as compared to income transfers or income in kind, lacks "precision" as a poverty weapon. Dollar transfers can presumably be focused on persons in poverty. Dollar gains from education are more diffused. We must simply treat the youths we think will turn out poor; though we might be able to predict the percentage of a certain type of youth who will end up poor, It is difficult to isolate the sure bets. Some of the income gains from education will therefore involve moving future adults from future nonpoor levels. Thus, only a fraction of the total educational expenditure will contribute to the specified goals in the Lampman criteria."

Another issue surrounds the lack of information about those left behind. Have all the able and or intelligent left the rural areas for the cities and hence greater opportunity? This is a major question that should be studied before the United States undertakes to make large investments in rural education. For that matter, the nation needs to obtain better information on all aspects of rural poverty. What is implied here of course, is that if all the able and or intelligent have left, then what remains is a population which has a distribution of abilities and or intelligence which is below the normal distribution for the population as a whole. If this is true, then to get a given response from the rural youth you would have to invest considerably larger resources than if this were a normal range of abilities and or intelligence. It might even be that it is the less able and or intelligent that have left and the nation has in its rural areas a distribution of ability and or intelligence which is higher than the normal distribution. The point is that the United States has made large investments in rural schools and is preparing to make even larger investments without answering some very important

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1. Ribich, T.I., Education And Poverty, The Brookings Institution, Washington D.C., 1968, Pg. 21

questions.

If you are a geneticist (one who believes that ability is inherent and can't be changed) and not an environmentalist (one who believes that ability is not inherent and that environment after one is born completely determines ability), you would argue that no amount of resources is going to make any difference. Neither side can be called right or wrong, because they have not conclusively proved their respective positions. If the geneticists are right, then the battle is partly lost before it starts and consequently there would be lower returns to trying to educate these people and therefore income maintenance schemes might be more useful if you want to alleviate poverty. But, on a more optimistic note, the picture does not seem to be as black as the geneticists have painted it. Research to date seems to indicate that achievement or performance is determined partly by inherent natural ability and partly by environment at least within the ranges of normal distribution of intelligence. Otherwise, you can't take a person with an I.Q. of 80 and train him to be a nuclear physicist. But, you can take this same person and maybe raise their I.Q. to 90 by exposing them to a favorable environment.

Another group of rural poor are the boxed in (over 45, poor, and low levels of educational achievement). What alternatives does the government have when trying to educate these people? If the goal of the nation is to eliminate poverty in the short run, then they can't be ignored. According to the United States government publication The People Left Behind, those boxed in represent over 50% of the low income rural family heads. Of course in the long run and changing the terminology to the alleviation of poverty, one could concentrate upon the poor youth and wait until the older generation passed on. But what about those values that they are transmitting to the young. Will they impede the education of their children? If they do, then the nation has no

choice but to try and educate (change values) those over 45. This could needless to say, be very costly. Of course, if a direct income transfer will accomplish the same goals as an education program to change the values of these people and the cost of education is greater than the cost of direct income transfers, then it would be better to go to income maintenance programs. There are those who argue, that the cultural and sociological effects plus the values transmitted to the younger generation from the parents are not strong enough to impede development when jobs are available. In this case, perceived job opportunities and education to handle these jobs become the critical variables and consequently the boxed in do not have to be educated.

It is evident or should be evident that there are those in this country who are living in poverty (in terms of income and or standard of living), who are happy with this life, and are not willing to change in order to work their way out of poverty. What is meant when people speak of eliminating poverty? Do they mean that these people who are happy will be forced into changing their life and conforming to a set of government regulations or do they mean that they will be given a choice? Since education is a slow but effective and incipient process for changing values, there are those who would argue that these people were not actually forced but changed of their own free will and consequently there is nothing to worry about. In this setting, the nation needs to guard against legislating such tight regulations that education ceases to promote creativity but instead produces a nation of conformists, i.e. Communism as it is practiced in North Korea.

#### V. QUALITY OF EDUCATION AND INCOME

At this point, the paper will concern itself with the definitions and parameters under which the multiple correlation analyses were run. This section

proceeds as follows: 1. Statement relating research results to previous discussions. 2. Definitions of rural and isolated rural counties. 3. Description of the estimating equation. 4. Independent variables used and arguments for their use.

This research intends to correlate the quality of education and median family income for all rural counties in Michigan and for all isolated rural counties in Michigan. It then will apply the resulting correlations to the discussion on the use of the improvement in the quality of education as first, a singular and exclusive weapon in the war on poverty and secondly, as a variable in the circle of poverty thesis. Michigan was chosen because it is the state with which the author is most familiar and because it is the present place of residence of the author and consequently the best state from which to obtain information.

Rural counties in Michigan are defined as all those which have populations of less than 50,000 and no cities larger than 25,000. All isolated rural counties are defined as those which fit the criteria for rural counties, have no more than 1/3 of the county within a 40 mile commuting distance of any city larger than 25,000, and do not contain within their boundaries any federal government defense installations and or state supported four year degree granting institutions. By limiting the multiple correlation analyses to rural counties and specifically removing Lake County, this research removed two basic considerations. These are the problem of giving proper weights to those counties with large populations and the problem of discrimination and segregation associated with the large Negro population in Michigan. A third reason and the most important is that the circle of poverty thesis as stated earlier is not directly relevant to those people who have settled in the larger cities. After all, they are the ones who left the rural areas for areas of greater opportunity. Another circle of poverty hypothesis could be stated which would describe the situation of those in poverty in the cities. By limiting the analyses further to isolated



rural counties, this research is attempting to determine whether there is a significant difference in the analyses when most of the effects of the more urbanized modern society have been removed. The data was not disaggregated further because this is only a general study and its scope did not permit such an indepth analysis.

Use was made of the estimating equation for a multiple correlation analysis of a linear regression relationship with five independent variables.

The equation is as follows:

$$X_{1c} = a + b_{12} \cdot 3456 X_2 + b_{13} \cdot 2456 X_3 + b_{14} \cdot 2356 X_4 + b_{15} \cdot 2346 X_5 + b_{16} \cdot 2345 X_6$$

$X_{1c}$  = Median family income

$X_2$  = Educational attainment levels of those over 25

$X_3$  = Pupils per teacher

$X_4$  = Average teacher's salary

$X_5$  = Dropout rate

$X_6$  = Total general fund expenditures per pupil

TABLE II (page 20) lists the counties and the data that was used in the study.

The analyses were limited to five independent variables because that was all that was available and relevant. The arguments for using these five variables are as follows:

Educational attainment levels of those over 25, (education level),  $X_2$ ;

The hypothesis is, the greater the education level of the parents, the greater the likelihood that they will push their children to get educated and thus the greater the motivation on the part of the young to continue in school. The paper therefore assumes, that their performance and achievement increase correspondingly. Thus the paper expects, that the higher the education level of the parents, the higher the income. This variable is measured by the mean educational attainment level of those over 25 in each county.

TABLE II

Rural And Isolated (+) Rural Counties In Michigan; With  
Data Pertinent To The Correlation Of Median Family Income  
To Quality Of Education

Rural And Isolated (+) Rural Counties In Michigan <sup>1</sup>	Median Family Income	Educational Attai. Levels Of Those Over 25	Pupil Per Teach.	Ave. Teach. Salary	Drop Out Rate	Total General Fund Expend. Per Pupil
	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub> <sup>3</sup>	X <sub>3</sub> <sup>4</sup>	X <sub>4</sub> <sup>5</sup>		X <sub>6</sub> <sup>7</sup>
+ 1. Alcona	\$4,167	9.4	24.3	\$6,256	4.6	\$570.36
+ 2. Alger	5,028	9.1	24.5	6,192	5.7	457.18
+ 3. Alpena	5,575	9.5	28.9	6,952	4.1	506.58
+ 4. Antrim	4,002	10.3	26.6	6,232	5.0	458.11
5. Arenac	4,237	9.3	26.9	6,315	5.1	426.12
+ 6. Baraga	4,287	9.0	22.5	6,469	3.3	478.03
7. Barry	5,592	10.9	25.8	6,906	5.0	387.13
+ 8. Benzie	4,563	10.4	25.7	6,339	4.7	444.94
9. Branch	5,449	10.2	25.2	6,754	5.0	435.40
10. Cass	5,418	10.1	23.7	6,339	6.1	452.51
+11. Charlevoix	4,502	10.6	25.4	6,521	4.7	451.39
+12. Cheboygan	4,291	9.3	26.3	6,171	8.0	424.32
13. Chippewa	4,975	10.6	24.2	6,447	5.4	454.90
14. Clare	4,400	10.3	20.4	5,848	5.3	420.75
15. Clinton	5,636	10.5	25.4	6,411	4.6	413.48
+16. Crawford	4,399	10.6	25.7	6,866	3.4	445.00
+17. Delta	5,009	10.2	26.3	6,728	3.9	421.59
+18. Dickinson	4,700	10.6	22.8	6,701	4.5	492.30
+19. Emmet	4,694	11.0	25.3	6,502	5.2	460.70
20. Gladwin	4,481	9.5	20.9	6,431	4.8	449.75
+21. Gogebic	4,287	10.4	19.1	6,585	2.3	531.42
+22. Grand Traverse	5,259	10.7	25.2	6,455	3.7	459.57
23. Gratiot	5,218	10.5	24.5	6,612	4.1	421.72
24. Hillsdale	4,940	11.4	23.9	6,928	4.6	465.13
25. Houghton	4,260	9.3	24.4	6,088	3.3	452.19
26. Huron	4,198	8.8	22.9	6,402	2.1	506.62
27. Ionia	5,091	10.4	26.9	6,307	5.3	409.10
28. Iosco	4,602	11.5	25.1	6,780	3.8	460.10
+29. Iron	5,043	10.4	21.5	6,884	1.9	516.19
30. Isabella	5,206	10.5	26.1	6,660	5.0	472.10
+31. Kalkaska	3,876	10.2	29.2	6,220	5.1	489.27
+32. Kewennaw	3,952	8.5	26.4	5,834	data not available	
33. Lapeer	5,282	9.7	29.3	6,961	5.3	409.92
+34. Leelanau	4,139	9.7	19.7	5,454	2.6	503.71

TABLE II (Continued)

Rural And Isolated (+) Rural Counties In Michigan <sup>1</sup>	Median Family Income	Educa-tional Attai. Levels Of Those Over 25	Pupil Per Teach.	Ave. Teacher Salary	Drop Out Rate	Total General Fund Expend. Per Pupil
	X <sub>2</sub> 1	X <sub>3</sub> 2	X <sub>4</sub> 3	X <sub>5</sub> 4	X <sub>6</sub> 5	X <sub>7</sub> 6
35. Livingston	\$5,775	11.1	28.2	\$6,439	6.0	\$415.09
+36. Luce	5,254	8.8	25.6	7,254	5.1	408.30
+37. Mackinaw	4,721	10.0	33.3	5,979	4.2	447.81
+38. Manistee	5,112	9.8	23.1	6,588	5.0	446.50
+39. Mason	4,991	10.3	24.4	6,422	4.4	421.74
40. Mecosta	4,322	10.6	23.9	6,131	3.5	452.54
+41. Menominee	4,323	9.7	25.2	6,387	2.1	421.20
+42. Missaukee	3,678	8.9	28.5	5,568	1.4	409.95
43. Montcalm	4,815	10.5	26.3	6,235	6.1	459.87
+44. Montmorency	3,574	9.8	27.4	5,894	3.7	420.29
45. Newaygo	4,538	9.5	26.1	6,430	4.7	428.95
46. Ocena	4,841	9.3	25.4	5,806	3.2	407.20
+47. Ogemaw	3,874	9.2	50.4	6,886	4.5	436.44
+48. Ontonagon	4,736	9.0	21.6	6,466	4.0	542.93
+49. Osceola	4,350	9.8	27.5	5,972	3.6	440.34
+50. Oscoda	4,442	10.1	26.4	6,176	5.7	465.74
+51. Otsego	4,556	9.6	23.9	6,691	5.3	539.98
+52. Presque Isle	5,140	8.9	25.3	5,946	5.9	459.78
+53. Roscommon	4,477	10.9	23.3	6,454	5.0	558.44
54. Sanilac	4,428	9.2	33.3	6,225	3.8	433.77
+55. Schoolcraft	4,438	9.6	28.3	6,227	3.6	436.64
56. St. Joseph	5,626	11.0	24.6	6,258	4.4	407.82
57. Tuscola	4,993	9.1	27.3	6,514	2.9	410.94
+58. Wexford	<u>4,865</u>	<u>10.0</u>	<u>27.8</u>	<u>6,505</u>	<u>6.4</u>	<u>396.75</u>
+Mean	\$4,540	9.8	26.1	\$6,376	4.2	\$451.87
Mean	\$4,702	10.0	25.8	\$6,397	4.3	\$445.11

1. Lake County was excluded although it did meet these criteria because it has a non-Caucasian population of 26.6%. This was done to remove the effects of discrimination.

2. Source: United States Bureau of the Census, United States Census Of Population: 1960, Based on income for the year 1959

3. Source: United States Bureau of the Census, United States Census Of Population: 1960

4. Source: Michigan Department of Education, 1967 Michigan School Census Of Children And Youth Through Age 19, A Comparison By Counties, Research Monograph No. 5, Revised, 1966-67 Status Report: Certified Personnel In Michigan Public Schools, and special release
5. Source: Michigan Department of Education, Classroom Teacher's Salaries In Michigan By County, Research Monograph No. 9, Revised, and 1966-67 Status Report: Certified Personnel In Michigan Public Schools
6. Source: Completed by the Bureau of Research and Educational Planning, Public High School Dropouts In Michigan, Research Monograph No. 7, Revised, Michigan Department of Education, June 1968
7. Source: Michigan Public Schools; Ranking Of Michigan High School Districts By Selected Financial Data 1965-66, Bulletin No. 1012, The State Board of Education, Lansing, Michigan, January 1967

Pupils per teacher, ( $X_3$ );

The hypothesis to be explored is, the fewer pupils per teacher, the more individualized instruction is possible. The greater time spent with each child will result in better performance. It is therefore assumed, that the lower this ratio, the higher the income. This estimate was obtained by dividing the number of public school teachers into the number of public school pupils for each county.

Average teacher's salary, (teacher's salary,  $X_4$ );

The hypothesis is, the highly motivated young teachers leaving college will take employment in those areas that pay higher salaries. These teachers will in turn pass this motivation on to the children they teach. The children having been motivated, realize that to get ahead they must stay in school. Their performances increase correspondingly. Thus one expects, the higher the teacher's salary the higher the income. The average excludes salaries of non-teaching personnel in all schools and salaries of teaching personnel in private schools.

Dropout rate, grades 9-12, ( $X_5$ );

It is argued that no matter how good the educational system, there will still be high rates of dropouts if perceived job opportunities are poor. But job opportunities are directly related to the amount of time spent in school. The hypothesis is, anything that tends to motivate the student to stay in school will favorably increase his perception of job opportunities. Motivation will increase performance and performance will in turn increase motivation, thus reinforcing a student's desire to stay in school. It is therefore assumed, if the school system is of high quality and income is high, the dropout rate will be low. The definition of a dropout is given in the introduction to, Public High School Dropouts In Michigan. It is as follows:<sup>1</sup>

1. Public High School Dropouts In Michigan 1966-67, Research Monograph No. 7, Revised, Completed by the Bureau of Research and Educational Planning, Michigan Department of Education, June 1968, Introduction

"A student of the Michigan Public Schools is considered a dropout if he or she is dropped from the school membership roll for any reason except death prior to graduation or completion of a program of studies and fails to make provisions to transfer to another school which would provide courses leading to the completion of a high school education."

The estimates of the dropout rates were furnished by the individual districts in each county. This data does not include statistics from private schools.

Total general fund expenditures per pupil, (expenditures per pupil,  $X_G$ );

Total general fund expenditures are defined by type of expenditure which includes instruction, administration, attendance, health services, transportation services, operation of plant, maintenance of plant, fixed charges, capital outlay, community services, and student services. These expenditures include salaries of those performing the services. This data was furnished by each individual school district. It was converted into county data by multiplying the number of pupils in each district by the general fund expenditures per pupil, adding these sums for all districts in a county, and dividing by the number of pupils in the county. This data does not include statistics from private schools.

Quantity does not necessarily denote quality. Therefore, one could not automatically assume that the higher the expenditures per pupil, the better the school system. It would depend upon how the school system spent these extra revenues. If the school board decided to spend more money on teacher's salaries, more teachers, and adult education, one could assume that it is a better school system. The point is, that the school board determines where the money goes and they can spend it on anything they like assuming, of course, that the voters approve. For instance, they could carpet the halls which would not improve the quality of education. The hypothesis to be explored is, a positive correlation between expenditures per pupil and quality of education will be observed but it

will not be high. Thomas Ribich also indicates such a relationship when he states:<sup>1</sup>

"The effect of increased school expenditures on test performance is shown to be strongest at the lower end of the expenditure range. A difference of more than a full year of achievement appears between boys in school districts spending less than \$200 and districts spending between \$200 and \$300. The apparent power of increased expenditures to improve performance diminishes progressively with each successive expenditure level."

Thus, one expects, as expenditures per pupil rise the income rises. Since it is not entirely clear whether expenditures per pupil are a valid measure of quality of education, the analyses were run with and without expenditures per pupil included.

Other indicators of quality of education which the author wanted to include in the study but were not available, are as follows: 1. Percent of those graduating from high school who go on for further training. The assumption being, that if the school is of high quality it will motivate the children to continue their educations. Thus, those school districts who have higher percentages of children going on for further training, would be considered of high quality. 2. Percent of those graduating from high school who leave the rural areas for areas of greater opportunity. After having been motivated, the children will seek high paying jobs which are not available in the rural areas, thus they leave. Higher percentages of those leaving would correlated positively with income. 3. Some measure of average intelligence. Since it is known, that intelligence can be raised if one is exposed to a favorable environment, it will be assumed, that good schools have favorable environments. Thus, good schools will have student bodies with a high average intelligence.

Better performance will be defined in terms of higher grades (the traditional measure for ranking students and often the door to greater opportunity).

1. Ribich, T.I., Education And Poverty, The Brookings Institution, Washington, D.C., 1968, Pg. 87

There are those who will argue that to get higher grades one has to say and do what the teacher wants, thus stifling creativity. Therefore, if you define good education in terms of developing creativity, superior grades are not necessarily an indication of better education. There are also those who claim that it is not high grades which determine success but motivation to succeed. They base their arguments upon statistical evidence which shows that it is not always those who earn the higher grades who go to the top in their chosen field. This paper will stick with its definition of good education in terms of higher grades or better performance for three reasons. These are: 1. Inadequate measures of true creativity. 2. The author's disagreement with those who claim, that to get higher grades one has to stifle creativity. It is felt, that to be truly creative, one must first master in terms of understanding, the knowledge and beliefs of the past. This necessarily demands a great deal of conformity and dilligence on the part of the student, especially in grades k-12. 3. Higher grades will be assumed to be an indication of motivation to succeed.

Preferably this research should have made a comparison of correlations over time. The first time period being that of an era when there was little or no state or federal government aid to local school districts. The second time would be after the start of state aid to local schools. On May 13, 1927, the state legislature passed the Turner Act which at the time authorized the distribution of \$1,000,000 to local districts. Since that time, there have been other acts and ammendments passed which have resulted in two things. These are even larger amounts of money distributed and redistribution of funds from the wealthier districts to the poorer districts. In 1965-66, state aid contributed anywhere from \$16.43 to \$348.39 per pupil depending upon a districts state equalized valuation per residence member. The third time would be after the passage of federal legislation which resulted in federal funds going to local



districts. There are federal direct funds which don't amount to much except in impacted areas or areas in which the federal government employes large numbers of people. In 1965, the federal legislature passed the Elementary and Secondary Education Act. These funds are redistributed through the state government by a formula which gives districts with the most children from families with less than \$3,000 incomes, the most aid. These funds ranged from nothing to \$106.12 per pupil in 1965-66. Unfortunately, the unavailability of data did not make such an analysis possible. It was not even possible to completely remove the effects of the Elementary and Secondary Education Act of 1965.

It is obvious that these programs have significant effect upon the analyses. All of the data has been affected by state aid to education and all except median family income and educational attainment levels have been effected by the Elementary and Secondary Education Act of 1965. In the absence of these programs, the correlations would have been higher. How much higher no one knows, because it would be impossible to determine their full effects and because of the absence of data before 1927.

#### VI. REGRESSION ANALYSIS RESULTS<sup>1</sup>

The multiple correlation analyses of "all rural countries" and of "isolated rural countries" provides higher significant results. The significance of R never rises above .6%. The value of R is generally higher in the isolated rural countries for example .4242 as compared to .4099.

Three variables were highly correlated with income and generally significant. Teacher's salary was the most significant and had the highest correlations with income of any variable in both analyses. Its level of significance never rose above .1%. The next most important variable was the dropout

1. The multiple correlation analyses were run on the 3600 computer at Michigan State University. Use was made of a standard program put out by the Agriculture Experiment Station which is entitled, Stat Series Description No. 7; Calculation of Least Squares (Regression) Problems on the LS Routine.

rate. In both analyses, it correlated positively with income which contradicted the hypothesis stated earlier. Pupils per teacher also proved significantly and inversely related to income. In the isolated rural counties, its level of significance remained below 3%.

The analysis of the 58 rural counties will be discussed first. Taking the variables in order, the simple correlation between education level and income was quite high and positive (.35797), however, the education level was not significant in the multiple correlation analyses. One might expect a higher correlation between income and education level. Since this was not observed, it could be hypothesized that the location of industry is a greater factor in determining income than education level.

Pupils per teacher in the simple correlations was related negatively with income as expected. The same sign occurred in the multiple correlation analysis. This analysis was generally significant at the 5% level except when expenditures per pupil was removed from the analysis.

Teacher's salary had not only a high positive simple correlation but was also highly significant in the multiple correlation analysis (below .1%). It would appear, since state and federal sources accounted for 47.23% of school revenues in Michigan in 1967-68 and the greater share of these funds usually goes to the poorer districts, that in the absence of these fund, the correlation between teacher's salary and income would be much higher.

The dropout rate had a high positive simple correlation with income and was significant at a level of significance of 5% in the multiple correlation analysis. In fact, the dropout rate correlated positively with income, education level, teacher's salary, and expenditures per pupil. According to previous arguments, these simple correlations should have been negative. We find, therefore, that as income rises (generally assumed to be associated with better school systems) the dropout rate increases.

TABLE III

Correlation Analysis: All Rural Counties - 58 Observations

Simple Correlations						
Variables	Income 1	Ed. Level 2	Pup./ Teach. 3	Teach. Sal. 4	Dropout Rate 5	Exp./ Pupil 6
1 Income	1.00000					
2 Ed. Level	0.35797	1.00000				
3 Pup./Teach.	-0.14355	-0.17697	1.00000			
4 Teach. Sal.	0.47588	0.29079	0.10058	1.00000		
5 Drop. Rate	0.36305	0.25961	0.09171	0.19918	1.00000	
6 Exp./Pupil	0.01833	0.20899	-0.19197	0.10385	0.27044	1.00000

Multiple Correlations						
Variables	Regression Coefficients	Std. Error Coefficients	Sig. Level Regre. Coef. %	Multiple Corr. Coefs.		
				R <sup>2</sup>	R <sup>-2</sup>	Sig. Of R <sup>2</sup> %
<u>All Variables Included</u>						
1 Constant	427.80101933	1204.62597451	72.4			
2 Ed. level	112.82043026	85.73041299	19.4			
3 Pup./Teach.	-28.97433248	13.99669953	4.3	0.4099	0.3532	.05
4 Teach. Sal.	0.64354582	0.16881586	.1			
5 Drop. Rate	124.47339276	44.90268320	.8			
6 Exp./Pupil	-1.70475216	0.83899571	4.7			
<u>Exp./Pupil Excluded</u>						
1 Constant	57.14099883	1225.37431061	96.3			
2 Ed. Level	102.46514568	88.06845208	25.0			
3 Pup./Teach.	-22.59955884	14.03738076	11.3	0.3631	0.3150	.05
4 Teach. Sal.	0.58833234	0.17146168	.1			
5 Drop. Rate	102.28360406	44.82151589	2.7			
<u>Ed. Level Excluded</u>						
1 Constant	1197.27356222	1060.45030001	26.4			
3 Pup./Teach.	-33.00552115	13.75135423	2.0			
4 Teach. Sal.	0.70211832	0.16396332	.1	0.3903	0.3443	.05
5 Drop. Rate	137.19598422	44.15129580	.3			
6 Exp./Pupil	-1.63911675	0.84327437	5.7			

TABLE IV

Correlation Analysis: Isolated Rural Counties - 34 Observations

Simple Correlations						
Variables	Income 1	Ed. Level 2	Pup./ Teach. 3	Teach. Sal. 4	Dropout Rate 5	Exp./ Pupil 6
1 Income	1.00000					
2 Ed. Level	0.12731	1.00000				
3 Pup./Teach.	-0.24651	-0.18563	1.00000			
4 Teach. Sal.	0.52790	0.23926	0.08679	1.00000		
5 Drop. Rate	0.28659	0.13408	0.11879	0.20154	1.00000	
6 Exp./Pupil	0.19319	0.36584	-0.19285	0.25605	0.37513	1.00000

Multiple Correlations						
Variables	Regression Coefficients	Std. Error Coefficients	Sig. Level Regre. Coef. %	Multiple Corr. Coefs.		
				R <sup>2</sup>	R <sup>-2</sup>	Sig. Of R <sup>2</sup> %
<u>All Variables Included</u>						
0 Constant	1504.58324486	1456.44871345	31.0			
2 Ed. Level	-52.13069869	115.82859733	65.0			
3 Pup./Teach.	-33.56706565	14.41968934	2.7	0.4242	0.3214	.6
4 Teach. Sal.	0.67344917	0.18896395	.1			
5 Drop. Rate	82.48235467	50.30636437	11.2			
6 Exp./Pupil	-0.45512662	0.90152597	61.8			
<u>Exp./Pupil Excluded</u>						
0 Constant	1548.47472543	1435.05202466	28.9			
2 Ed. Level	-68.84193386	110.12673779	53.7			
3 Pup./Teach.	-31.94630514	13.87597819	2.9	0.4190	0.3388	.3
4 Teach. Sal.	0.65796730	0.18403412	.1			
5 Drop. Rate	73.32882762	46.31845734	12.4			
<u>Ed. Level Excluded</u>						
0 Constant	1107.49333292	1155.19848803	34.6			
3 Pup./Teach.	-32.56667992	14.05842312	2.8			
4 Teach. Sal.	0.65772235	00.18326337	.1	0.4199	0.3399	.3
5 Drop. Rate	82.32238848	49.61559122	10.8			
6 Exp./Pupil	-0.56623542	0.85647222	51.4			

In attempting to explain these results, it is the author's opinion, that a lack of perceived job opportunities probably explain lower dropout rates in low income areas. It is likely the young people from the isolated rural areas have an increased perception of the link between school and job opportunities for three reasons which are interdependent and self reinforcing. First, they are predominantly Caucasian and as a consequence do not worry about discrimination. Second, because of their isolation, they are a very proud and independent people even though they are poor. They believe, as did the 19th century man, that they are the masters of their fate and can do whatever they set their minds to. They do not look upon themselves as being poor or deprived. Third, they see as their main chance of being gainfully employed, migration to the cities and they know that their ability to get work once they arrive in the big cities depends upon the possession of at least a high school education, thus they stay in school. On the other hand, the youth in and around the larger cities do not perceive a clear link between high school education and job opportunities for several reasons, which are again, interdependent and self reinforcing. First and especially in the case of the Negro, they see discrimination as a barrier to employment even if they have an education. Second, they see the possibility of gainful employment even if they discontinue school, at least in the short run. Third, having been told that they are poor and having this reinforced day after day by welfare agencies, good intentioned middle class organizations, and modern communications, they begin to believe it and are therefore not likely to succeed. In the works of James T. Bonnen:<sup>1</sup>

"In the 19th century and earlier the poor frequently lived in great cultural and social isolation from the broader society. In the 20th century, the interpretation and shrinkage of social space begun

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1. Bonnen, James T., "Progress and Poverty: The People Left Behind", Prepared for presentation at the Minneapolis Farm Forum in Minneapolis, Minnesota on March 6, 1968, Pg. 5

by radio and newer forms of transportation has been completed by TV. The television particularly presents to the deepest denizen of any ghetto, urban or rural, a window into the world. It puts on display all of the material tinsel of the American middle class way of life, It changes the poor's view of the world and of their role in that world. It whets their appetite for the artifacts of the good life while simultaneously confronting them with the deprivation of their own way of life. When a consciousness of deprivation prevails for years in the same community, individual self-confidence and ego collapse and an expectation of failure, a self hatred and general hopelessness become endemic."

Turning finally to expenditures per pupil, one notes a positive but weak simple correlation with income. On the other hand, whenever expenditures per pupil was included in the multiple correlation analysis, it had a negative coefficient, significant at a level of 5%. This is hard to explain. The exclusion of expenditures per pupil from the analysis had no significant effect upon the  $R^{-2}$ .

The analysis of the isolated rural counties had results similar to those observed for all rural counties except for certain significant differences which will be discussed now. Taking the variables in order, in the isolated rural country analysis, the coefficients for education level were negative, although not significantly so. In the simple correlation there was a much weaker relation between education level and income in the isolated rural counties than in all rural counties. A hypothesis to explain the reduction in this simple correlation in the isolated rural county is that in these counties many young people with high levels of educational attainment leave for areas of greater opportunity, thus reducing the level of education in the isolated rural counties.

The simple inverse correlation between pupils per teacher and income is higher in the isolated rural country analysis. It would appear that the difference is explained by the fact that in the more urbanized counties, the

local school districts would be more willing to except the ideas of professional educators and teacher's organizations who usually suggest lower pupil per teacher ratios.

The simple correlations between expenditures per pupil and income, education level, and dropout rate were higher in the isolated rural country analysis than in the rural county analysis. This result could be due to economies of scale in education in more densely populated areas.

#### VII. SUMMARY AND CONCLUSIONS

In The United States as a whole, 21.4% of the families have incomes below \$3,000 while in Michigan, only 15.7% fall below this line. Poverty in Michigan is definitely not as severe as that which exists in many states of the deep South and in Appalachia. In Michigan, there are about 314,000 families or 1,256,000 people who have incomes or live in families with incomes below \$3,000 per year. The poor exist in every county of the state.

Poverty for the purposes of discussion was defined as existing when a family of four had an income of \$3,000 or less. Seven hypotheses describing the relationship between lack of resources and poverty were considered. One of these is the relationship between poor educational systems and low income. This relationship was the main focus of the last part of the paper. Since the author of this paper did not feel that one variable could adequately explain all poverty, he stated how the relationship between low income and poor educational systems fit into a circular description of the causes of poverty.

Issues discussed which are relevant to the education of the poor and that are likely to cause problems when implementing any programs in this area are as follows: 1. Are those left behind the less able and intelligent? 2. There is some doubt about the ability of compensatory education to do the job, the results have been discouraging to date. 3. Should the nation educate the boxed in

or should they be put on income maintenance programs? 4. Should the nation through education programs, force upon people ideas they don't want to accept?

With respect to the empirical analysis in this paper of the relationship between income and educational level, the correlation between quality of education and income was not high enough to explain poverty. On the other hand, the amount of variance explained by the variables measuring quality of education did suggest that the improvement in the quality of education would help to alleviate poverty.

Several things stood out when discussing the variables used in the analysis, these were: 1. Education level did not correlate highly with income and it was not significant. 2. Teacher's salary was the most significant and highly correlated variable used in the analyses. 3. Dropout rate surprisingly correlates positively with income which contradicted previous arguments. 4. The relationship between expenditures per pupil and income was negative in both multiple correlation analyses. This contradicted previous arguments. 5. There was a much higher simple correlation between education level and income in all rural counties than in the isolated rural counties. 6. The simple inverse correlation between pupils per teacher and income is higher in the isolated rural county analysis.

In conclusion, it is hypothesized that other major factors such as location of industry are more important in determining poverty than quality of education. It is argued, that even if quality of education were improved, there would be no decrease in the amount of poverty in the county of its severity unless the education is able to be utilized in gainful employment in the county. The better educated can move to areas of greater opportunity but this does little to help those left behind. A major way to help these areas utilize increased educational attainment is to increase employment opportunities in the area and this should in



turn increase income. Support for this hypothesis comes from the fact that the educational level does not correlate highly or significantly with income. Further support is found in a study done by Richard J. Nanneman employment changes in rural Michigan. To be more specific, he used statistical methods of regression and correlation to analyze the relative importance of certain variables in explaining comparative employment growth, 1950-1960, in rural areas. Two of the independent variables were education level (percent of county population consisting of males, 25 years and older, with at least four years of high school completed in 1950) and local direct per capita expenditures for education. His study showed, that educational levels and expenditures were not a drawing point for manufacturing industries. In fact, the analysis indicated, that at best, higher levels of education did not hinder comparative growth. This evidence suggests, that there are factors other than education level which are more important in explaining the level of income. Since the higher incomes occur in areas of greater industrialization, location of industry appears to be important in explaining the level of income. A test of this hypothesis would be to correlate income with some measure or measures of industrialization and compare this to the present analyses.

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This paper is generally a description of poverty in the United States. It covered areas such as who are the poor, the nature of poverty, and the changing structure of rural communities. It also contained a report by the Commission On Rural Poverty. Of particular use was the section on the nature of poverty. It opened new insights into an area that must be better understood before a rational and workable program for attacking poverty can be organized.

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