

POVERTY IN TENNESSEE

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INTRODUCTION

Poverty is a social failing which must be eradicated definitely.

It should not be a destiny for human beings.

Cihat Cetinkaya

Poverty is nothing new in the United States. President Franklin D. Roosevelt declared the poverty situation in 1937. He characterized poverty as a social disaster for the United States. Also, the unconditional war on poverty was started by President Johnson.² The principal objective was to wipe out poverty completely, and the main aim for American society was raising the population above the poverty line.

The United States has been growing rapidly since President Roosevelt's era. This growth has witnessed an increase in per capita income and welfare. But a polling of the poverty rate does not equal growth rate. Today, substantial numbers of Americans are living in poverty. In 1973 27.5 million Americans living in the United States were below the poverty line. This number is 12 percent of the nation's population. The poor in America are a minority, albeit a sizable minority, and they are largely unrepresented by the affluent majority. Using a yearly measurement of those below the poverty line, it is reported that 5.5 million more Americans lived in poverty in 1979. The poverty group includes 10.7 percent of all families.

CHAPTER I

INTRODUCTION

Poverty is a social, economic, and emotional condition that has been in human existence for a long time. The main approach to poverty is income distribution. The distortion of income distribution might be a cause of poverty. Poverty also causes some economic and social problems today; not only in the United States, but all other nations are face-to-face with this social and economic evil.

Poverty is nothing new in the United States. President Franklin D. Roosevelt declared the poverty situation in 1937.¹ He characterized poverty as a social disaster for the United States. Also, the unconditional war on poverty was started by President Johnson.² The principal objective was set with Johnson's declaration, and the main aim for American society was raising the population above the poverty line.

The United States has been growing rapidly since President Roosevelt's era. This growth has witnessed an increase in per capita income and welfare. But a decline of the poverty rate does not equal growth rate. Today substantial numbers of Americans are living in poverty. In 1979 27.5 million Americans living in the United States were below the poverty line. This number is 12 percent of the nation's population. The poor in America are a minority, albeit a sizeable minority, and they are largely unseen and unheard by the affluent majority. Using a yearly measurement of those below the poverty line, it is reported that 5.5 million American families lived in a state of poverty in 1969. The poverty group included 10.7 percent of all families.³

In 1979, the poverty line was \$7,412 for a family of four persons. Below this line, the number of poor American families increased to 5.6 million, but this group included 9.6 percent of all families. In Tennessee, the extent of poverty has been declining also from 186,000 (18.2 percent) of all families in 1969 to 163,000 (13.1 percent) in 1979. In 1980, per capita income was \$6,213 and median household income was \$14,142. Though the incidence of poverty has been declining in the United States, the declining rate is too slow. Poverty might be completely eliminated in this country if the present rate of reduction is to be continued in the future.

Economic discrimination may play a dominant role in poverty. Additionally, education, age, employment, earnings, and inheritance of poverty play an important role in economic discrimination. Obviously, poor families cannot provide proper nutrition and education for their children. Nor would they have any inheritance for their children. Further, their children are raised in families with less education and tend to remain in poverty as they grow up. This weakens their earning power later on and so tends to perpetuate itself. Thus, inequality of income distribution is not merely an evil in itself. It is also a cause of inequality in the next generation. For these reasons, poverty looks like a vicious cycle. A poor family or individual must make extra efforts to break this circle.

Differences in income distribution between people are based on capital differences. Each individual has a different ability and capital (including human and nonhuman capital). In the market system, individuals earn income by that production and distribution. If the individual has more capital and ability, his or her income can be

higher than one with less capital.

Two main questions about poverty need to be addressed: (1) Who are the poor? and (2) Why are these people poor? The main objective of this study is to attempt to answer these two questions for the United States by using the selected state of Tennessee as a sample.

This study consists of six chapters which are organized as follows: Chapter II summarizes some theoretical aspects about the definitions, measures, and causes of poverty; Chapter III displays and discusses the findings of income distribution, dependency ratio, and poverty gap which were collected from census for the state of Tennessee; Chapter IV will present the econometric model for earning; Chapter V displays and discusses the findings of empirical results for the state of Tennessee; Chapter VI is devoted to concluding remarks.

CHAPTER II

THEORETICAL FRAMEWORK AND LITERATURE SURVEY

A. DEFINITIONS OF POVERTY

The economic definition of poverty is "inadequate income." But this does not mean that poverty is strictly an economic condition. Therefore, poverty is a subject for sociologists and political scientists, as well as economists.⁴ Poverty has been defined differently and construed in various historical periods and in various cultures. There are many relevant definitions of poverty depending on various aspects of usage and aims. But the composition of poverty shows three major policy relevant characteristics: (1) age and family status, (2) geography and residence, and (3) labor force status.⁵ Poverty can be defined as "the economic inability to maintain standards of medical care, nourishment, housing, and clothing."⁶

Poverty is defined as a lack of income, which in turn is related to poor housing, inadequate education, insufficient medical care, excessive fertility, unemployment, and many other problems.⁷ According to George Wilber, the system of poverty is defined as the relative lack of resources and the inability to utilize resources. At the general level, poverty is treated as a function of resources and mobilization. Lester C. Thurow states:

Depending on usage and aims, there are many relevant definitions of poverty. There is no reason why definitions should be the same for economic, sociological, or cultural poverty or why the same individuals should be identified under different definitions.⁸

Two definitions of poverty have developed. These are: (a) the culture of poverty,

and (b) the cycle of poverty concepts.⁹

a). The Culture of Poverty

This definition was popularized by Oscar Lewis. He says:

As an anthropologist I have tried to understand poverty and its associated traits as a culture, or more accurately, as a subculture with its own structure and rationale, as a way of life which is passed down from generation to generation along family lines.¹⁰

The culture of poverty has come into being in a variety of historical contexts. This definition is not only an adaptation to a set of objective conditions of the larger society. Once it comes into existence it tends to perpetuate itself from generation to generation because of its effect on the children. In view of these aspects, poverty is further examined by housing conditions, stage in childhood, initiation into sex, the local or community level, etc. All of these factors have an effect on children, and the culture of poverty tends to be self-perpetuating.

b) The Cycle of Poverty

According to Orhansky, Duncan, Blau, Lepset, Bandix, et al., the cycle of poverty is defined as a predestination of certain people to a life of economic poverty. The idea suggests that one inherits poverty through color, economic status, occupation of parents, education, family structure, and community reputation. All of these variables become part of the vicious circle in which each factor acts on the other to perpetuate the social structure and the individual family's position.. Under these conditions, poverty appears to be an inescapable destiny for the poor.

In White Colonialism, Stokely Carmichael and Charles V. Hamilton define poverty:

... Indeed the colonial white power structure has been a most formidable foe. It has perpetuated a vicious circle - the poverty cycle - in which the black communities are denied good jobs, and therefore stuck with a low income and therefore unable to obtain a good education with which to obtain good jobs.¹¹

Additionally, poverty is classified by: (1) health, (2) capability, (3) motivation, (4) personality, (5) socio-economic status, (6) natural resources, (7) policy, and (8) economics.

B. MEASURES OF POVERTY.

There are two useful and basic economic approaches to the concept of poverty: the absolute approach and the relative approach.¹²

a.) The Absolute Approach

In this approach, the absolute necessities indicate the lack of money in amounts sufficient to maintain a minimally acceptable standard of living. The bulk of economic goods and services consist of the minimum caloric intake essential for human existence. The absolute definition focuses on budgets. Minimum human needs are stabilizing the poverty line, which is calculated officially.

The measurement of the absolute approach is utilized by some economists and governments today. For example, Prof. Sahota used this measure for calculating poverty in Panama¹³ The preparation of the minimum food basket for Panama was developed by the Ministry of Health through a nutrition survey in 1980.

b.) The Relative Approach

In this approach, average income level plays a dominant role in determining the

poverty line. In essence, it shows that an individual is poor when his/her income is significantly less than the average income of the population. This definition is based on the comparative incomes of the poor to those of the nonpoor. It is not sufficient enough to explain poverty, however, because median income level can change with the growth of national income. Additionally, half of the population's incomes are less than the national median by definition.

For these reasons, standard of living is defined in absolute or relative terms. Thus we can separate the poor from the rich. Poverty is officially defined in terms of the adequacy of current family income to meet a constant absolute standard of consumption based on family size.

Measurement problems are among the foremost difficulties in the study of poverty. George C. Wilber says, "... Measures currently in use also fail to reflect adequately the true extent of either absolute or relative deprivation."¹⁴

In the United States the definition or measure of the poverty level is based on absolute poverty. The most prevailing absolute definitions are those of the Council of the Economic Advisor and the Social Security Administration. An official definition of poverty was adopted in 1964. The poor were those families with an income below \$3,000 in 1964. This dividing line between the poor and the nonpoor was called poverty line, a goal was established; to get all Americans above the poverty line by the nation's bicentennial in 1976.¹⁵ Their definitions defined and priced a minimum food budget and multiplied that amount by a certain factor to estimate the poverty floor. This definition assists in showing those who are below or above some specified threshold. The definition of the

poverty line was subsequently modified to account for differences in family size and other considerations, and it is now also adjusted each year to reflect changes in the cost of living. Poverty is defined in this study as a problem of income distribution. This results in a substantial number of people left at the bottom of the distribution is with poverty status in 1979, which compares the ratio of family or unrelated individual income in 1979 to the poverty cutoff. The family size plays an important role in measuring the poverty level. In this system the poverty level is calculated by official measurement. Seven poverty lines are specified. The first two lines indicate a lower measure of poverty or the poverty of basic needs. The other five lines indicate a higher measure of poverty or the poverty of conventional needs.

C. THE CAUSES OF POVERTY

The causes of poverty can be interpreted by different aspects. Numerous factors contribute to poverty, but some are less important than others. Broadly, the phenomenon of poverty is viewed as a result of the relationship of people to related factors: culture, education, physical environment, demography, employment, etc. Harrel R. Rodgers, Jr. shows that poverty results primarily from capitalism, elite rule, racism, sexism, and geographic isolation.¹⁶ Michael Harrington adds the important role of age and family size to the causes of poverty. There was, Harrington argued, a "cycle of poverty" - a cycle that could be broken only by government action.¹⁷

Bradley R. Schiller views poverty in terms of Human Capital Deficiencies. The human capital refers to the number of skills and abilities that are significantly determined by genetic endowments ("natural ability") and social environment. However,

a person can increase his human capital by learning new skills. Additionally, the human capital aspect touches on the supply characteristics of the labor force. Thus, the human capital aspect is used to explain income status. The other set of causes of poverty are economic discrimination, both in the schools and in the labor market.¹⁸ His definition, which is called the Restricted Opportunity, states:

The poor are poor because they do not have adequate access to good schools, jobs, and income, because they are discriminated against on the basis of color, sex, or income class and because they are not furnished with a fair share of government protection, subsidy, or services. In the face of these socially-imposed constraints no amount of work ethic or effort assures escape from poverty...."¹⁹

This means if the poor are poor because of flawed characters, then the nonpoor must be nonpoor as a result of nonflawed characters. Thus, the flawed characters argument not only explains poverty, but justifies the position of the nonpoor. Additionally, the flawed character view shows the poor in families that are aged, female-headed, large, or prone to sickness and disability. For these reasons, the theoretical framework of poverty exists in an infant stage. Currently, there is no generally accepted theory of poverty. Theoretical explanations about poverty are based upon these definitions.

Lester C. Thurow attributes the causes of poverty in the 1970s to labor's marginal productivity.²⁰ The people are poor because their incomes are low, while low incomes are the result of the marginal productivity of labor. If labor has a higher contribution to the marginal increase in output, then h/she earns a higher wage. So MPL* plays a dominant role in determining the earning ability of the poor. The theoretical aspect of the

*From now on, we will use MPL for Marginal Productivity of Labor.

relationship between MPL and income is that in the short run, given the assumption of perfect competition and market equilibrium, labor wages equal their marginal productivity. Thus, the solution to poverty is to raise the marginal productivities of the poor. The raise in MPL depends on the economic growth of output.

Thurow used the Cobb-Douglas production function as a theoretical framework. In his model, the MPL depends on five important factors: (1) Human Capital; with more education and training labor is increasingly productive, (2) Physical Capital; increases in the amount of capital cause the MPL increases per worker, (3) Disembodied Technical Progress, (4) Utilization Levels, and (5) Labor Stock.²¹

Recently, the distortion of the income distribution shows the causes of poverty. So income distribution theories have been borrowed to explain it. Personal income distribution theories have been developing during history. The oldest theory about income distribution is the Human Capital Theory. Adam Smith, Alfred Marshall and other followers defend this theory.²² The modern Human Capital Theories have been developing since the 1960s by the Cambridge School and the Chicago School. They use micro-economic analysis, namely optimization and equilibrium.²³ Poverty cannot be a macro problem for people. They cannot escape from poverty to work and they cannot maximize their income.

The Cambridge theory of income distribution is based upon the inheritance theory. Inheritance plays a dominant role in this approach, since human capital is part of it. Personal income distribution is relatively determined by factor. Inheritance passes along from within the family. It includes ability, education, and human skills factor, as well as

thrift, industry, luck and fraud (by Fisher's model), genetic makeup, parental nurturing and training, social contacts and inherited property (by Meade's model).

The Chicago theory of income distribution was developed by Becker in 1967.

He develops his basic model in the framework of optimization by individuals and equilibrium in human capital markets. He applies the tools of demand and supply to the acquisition of human capital and stream of income among individuals.²⁴

In Becker's model the elasticities of demand and supply can effect the income distribution. He used two twin analytical techniques of economic theory of income distribution. The first technique is optimizing behavior. The second technique is the determination of equilibrium. Atkinson, Shultz, Friedman, Blau, Duncan and other followers' definitions of income distribution are based upon the same concept.

The differences concerning the income distribution aspects between the Cambridge School and the Chicago School can be summed up by the points of "inherited human capital" and "human capital."

A criticism of the human-capital theory of income distribution is asserted by Tinbergen. He argues about the relationship between educational and economic progress. More education can affect the national income, and the growth of national income causes an increase in income distribution. He believes that human capital is more responsible for inequalities today than nonhuman capital.²⁵ The educational inequalities are accepted as the dominant factor in personal income distribution. Most economists agree on this point. So educational differences are shown to be a cause of income differences. Some economists assert the strong relationship between the individual's human capital and parents'

(especially the mother's) human capital. Brittain says, "A man is effected not only by his own educational attainment but also by that of his parents."²⁶

The other theory about income distribution is the "Ability Theory." The development of modern theory of human capital is accepting the ability of income inequalities, which cause differences in income distribution.

Friedman, Harry Johnson, Shultz, Kuznets et al. have developed the Individual Choice Theory. They believe the source of differences in income distribution is due to individual choice.

For these reasons, personal income distribution theories have been used to explain causes of poverty. So a general theory of income distribution and poverty is combined with the modern theories. Under these conditions, income distribution theories are used to define the causes of poverty. Economic definitions and causes are used to construct poverty models. Further, economic models might be changed for the national specialty and structure.

Under these conditions, the urban population increased, as rural population decreased. The per capita personal income increased from \$3,097 (in 1970) to \$7,562 (in 1980) in Tennessee. At the same period, the average per capita personal income for the United States increased from \$3,946 to \$9,603. The ratio of per capita personal incomes between the United States and Tennessee are 76.5 percent in 1970 and 80.5 percent in 1980 which increased two percent.

In 1979, the total number of families in Tennessee was 1,252,235. Of this number, 163,505 families had income less than the poverty level for a total of 1.1

CHAPTER III
INCOME DISTRIBUTION IN TENNESSEE

Tennessee was rated 40th in the state rank by per capita income nationally in 1980, though the incidence of poverty has been declining in the United States as well as in Tennessee.

This section indicates the distribution of income in Tennessee in 1970 and 1980. The total population in Tennessee was 3,926,018 which was 1.9 percent of the United States population in 1970. Urban population was 2,318,458 which was 59.1 percent of the state population and rural population was 1,605,229 which was 40.9 percent of the state total. In 1980, the population was 4,591,120 which is 2 percent of the United States total. Urban population was 2,773,573 which is 60.4 percent of the state population and rural population was 1,817,547 which is 39.6 percent of the state total. Under these conditions, the urban population increased as rural population decreased.

The per capita personal income increased from \$3,097 (in 1970) to \$7,662 (in 1980) in Tennessee. At the same period, the average per capita personal income for the United States increased from \$3,945 to \$9,503. The ratio of per capita personal incomes between the United States and Tennessee are 78.6 percent in 1970 and 80.6 percent in 1980 which increased two percent.

In 1979, the total number of families in Tennessee was 1,252,226. Of this number, 163,505 families had incomes less than the poverty level for a total of 13

percent of the state's families, in general. Classification of families by poverty status varies according to family size and place of residence. For example, in 1979, the national poverty threshold for a family of four was \$7,412. 60,364 poor families had female heads of household which comprise 37 percent of the state's poor families. Also, 32,889 poor families had a head-of-household aged 65 or over, which comprises 20 percent of the state's poor families.²⁵

We collected the (C)* sample data from the census which included the information of family income. Table I shows the "Dependency Ratio" which is the relationship between earners and families. In the table, each decile covers poor and nonpoor families, with family income increasing with the decile number.

* (C) Sample: 1% of the population, identifying regions, divisions, and most states by type of area (urban/rural).

TABLE I. 'DEPENDENCY RATIO FOR THE STATE OF TENNESSEE'

DECILE	(1)\$	(2)\$	(3)\$	(4)\$	(5)	(6)	(7)%	(8)%	(9)%	(10)\$	(11)\$
1.	958,325	1,856	416	462	1,371	490	1.80	3.45	1.23	2,413	698
2.	2,680,055	4,996	1,296	163	1,209	678	0.78	3.05	1.71	6,750	2,216
3.	3,929,430	7,257	1,095	82	1,184	700	0.69	2.98	1.76	9,897	3,318
4.	5,160,630	9,088	824	71	1,253	768	0.63	3.16	1.93	12,999	4,118
5	6,390,560	11,099	655	50	1,255	770	0.63	3.16	1.94	16,097	5,092
6.	7,673,635	13,188	387	51	1,297	794	0.63	3.27	2.00	19,329	5,916
7.	9,046,565	15,431	400	15	1,301	818	0.59	3.28	2.06	22,787	6,953
8.	10,761,555	18,979	310	20	1,333	877	0.52	3.36	2.21	27,107	8,073
9.	1,319,050	21,557	319	11	1,401	975	0.44	3.53	2.46	33,224	9,414
10.	20,841,055	38,432	223	21	1,408	980	0.44	3.55	2.47	52,496	14,801
TOTAL	80,631,960	-	-	-	13,120	7,850	-	-	-	-	-

Source: Census of Population and Housing, 1980: Public-Use Microdata Samples (C Samples) Technical Documentation, The State of Tennessee, prepared by the Data User Services Division, Bureau of the Census, Washington, D. C.: The Bureau, 1983.

- (1) Total family income.
- (2) Average householder personal income.
- (3) Average Social Security income.
- (4) Average public assistance income.
- (5) Total number of persons for each decile.
- (6) Total number of earners for each decile.
- (7) Dependency Ratio = (Number of Persons - Earners)/Total Earners.
- (8) Average rate of family size.
- (9) Earner rate per family.
- (10) Average family income.
- (11) Per capita personal income = To. Family Income/To. Number of Persons.
- (12) Per capita earner = To. Family Income/To. Number of Earners.

In this table, total family income (1) is increasing from the first decile to the tenth decile, and also average householder's personal income (2) is increasing. Rising family income and householder personal income is going to lead to decreasing of average social security income (3) and average public assistance income (4). So, the relationship between earning and welfare payment is negative. On the other hand, the total number of persons (5) are rising from first decile to last decile. Growth of population causes an increase in the number of earners for each decile (6). It means, the relationship between the rising of the number of earners and the growth of population is positively related. For this reason, the dependency ratio (7) is decreasing as population and the average rate of family size (8) increases. Finally, earner rate per family (9), average family income (10), per capita income (11) and per capita earner (12) are increasing with declining of the dependency ratio.

Obviously, the dependency ratio is a useful evidence to understand the family income level. If the number of earners increases in the family, the dependency ratio will decline because family income can be higher than the other families. So, family income depends on the number of earners in the family.

The difference between the total family income and official poverty level leaves a "Poverty Gap" for society. Total family income can cover welfare payments (Social Security Payments, Public Assistance, In-kind Assistance, etc.) for poor families.

We collected (C) sample data from the census about the family for the state of Tennessee, and we kept to 1,598 sample families. Table II shows the family income distribution and the poverty gap.

TABLE II - POVERTY GAP IN TENNESSEE
(For C Sample Size)

DECILE	NFAMILY	TNPSN	TFINC	TFINC8	TINCPRO	PROVGAP 1	PROVGAP 2
TOTAL	1,598	5,254	3,653,085	5,562,655	10,584,325	6,931,240	5,021,670
1.	160	497	82,660	173,065	336,592	1,083,880	828,155
2.	160	424	0	361,690	702,585	854,159	492,469
3.	160	386	0	428,700	851,837	777,607	348,307
4.	160	445	23,300	379,065	754,183	873,165	517,400
5.	160	480	154,050	389,350	827,241	812,923	577,623
6.	160	532	317,965	446,405	1,008,056	753,763	625,323
7.	160	518	495,885	554,922	1,351,221	547,640	488,600
8.	160	511	664,400	709,705	1,386,334	365,023	319,718
9.	160	642	867,190	886,950	1,611,063	426,136	406,376
10.	158	819	1,212,955	1,232,800	1,755,212	436,943	417,098

Source: Census of Population and Housing, 1980: Public Use C Sample Data, The State of Tennessee K 10 Prepared by the Data User Services Division, Bureau of the Census, Washington, D. C.: The Bureau, 1983.

NFAMILY - Number of Families

TNPSN - Total number of persons

TFINC - Total family income without welfare payments

TFINC8 - Total family income from all sources

TINCPRO - Estimation of total poverty cut off, with welfare payment (i. Cut Off)

PROVGAP1 - The poverty gap without welfare payment (TINCPRO - TFINC)

PROVGAP2 - The poverty gap with welfare payment (TINCPRO - TFINC8)

We can calculate the poverty line and poverty gap for each decile either with welfare payments or without welfare payments.* For this reason, the poverty gap and poverty line can be defined differently from the politicians and economists. The Government would rather see that poverty line falls, therefore welfare is included in the definition of poverty line (I. Cut Off). In the real world, the poverty gap shrinks as much as the welfare or in-kind payments.

Under some assumptions, the poverty gap depends on the poverty line (cut off) and the amount of welfare payment. The average poverty line can be calculated either WWFP (I. CUT OFF = $TINCPRO/TNPSN$ or $NFAMILY$) or WOWFP (II. CUT OFF = $TINCPRO - TFINC8 + TFINC/TNPSN$ or $NFAMILY$) in which the poverty line will be changed. In this study, we calculated average poverty line, average income and average poverty gap theoretically, either WWFP or WOWFP for an individual and families from Table II as follows;

1. Average Poverty Level	<u>Individuals (\$)</u>	<u>Family(\$)</u>
a - I. Cut-off WWFP	~ 2,014.	~6,623.
b - II. Cut-off WOWFP	~ 1,651.	~5,428.
2. Average Income **		
a - WWFP	~ 1,058.	~3,481.
b - WOWFP	~ 695.	~2,286.

* From now on we will use signs;

WWFP = for with welfare payment

WOWFP = for without welfare payment

3. Average Poverty Gap***

a - WWFP	~ 956.	~3,142.
b - WOWFP	~ 1,319.	~4,337.

Under these conditions, average poverty level WWFP (I. cut off) per family or individual is equal to average income WWFP plus average poverty gap WWFP, as shown below;

$$(1) 1a = 2a + 3a$$

Second, average poverty level WOWFP (II. cut off) equals I. cut off minus average income WWFP plus average income WOWFP as shown below;

$$(2) 1b = 1a - 2a + 2b$$

If we substitute equation (1) in to equation (2);

$$(3) 1b = 3a + 2b$$

We can calculate the difference of average poverty levels (I. cut off - II. cut off) is equal to the difference of average income from equation (1) and (3) as shown below;

$$(4) 1a - 1b = 2a - 2b$$

On the other hand, the difference between the average incomes (2a - 2b) is equal to the average of welfare payments which (TFINC8 - TFINC)/TNPSN, (or NFAMILY). So;

** Average Income

- a - WWFP = TFINC8/TNPSN (or NFAMILY for family)
- b - WOWFP = TFINC/TNPSN (or NFAMILY for family)

*** Average Poverty Gap

- a - WWFP = PROVGAP2/TNPSN (or NFAMILY for family)
- b - WOWFP = PROVGAP1/TNPSN (or NFAMILY for family)

(5) $1a - 1b = 2a - 2b = \text{Ave. Welfare Payment}$

Finally, the difference between the poverty gaps equal the average welfare payment, as shown below;

(6) $3a - 3b = \text{Average Welfare Payment.}$

From equation 4, 5, and 6; the differences of average incomes, average poverty levels, average poverty gaps is equal to average welfare payment - abbreviating;

$1a - 1b = 2a - 2b = 3a - 3b = \text{Average Welfare Payment.}$

The average poverty level (R) is equal to $TINCRO/TNPSN = \$2,016.53$ for each person. The average income without welfare payments (Y) is equal to $TFINC/TNPSN = \$695.29$. So, the average poverty gap for each person (PG) is equal to the average poverty level minus the average income without welfare payments, as shown below:

$PG = R - Y = PG = 2016.53 - 695.29 = \$1319.26.$

Under this equation, the total poverty gap for sample set is equal to:

$PG \times TNPSN = \$1319.26 \times 5254 = \6931240 which is equal to PROVGAP 1 in Table II.

When I compare my sample income (\$80,631,960.- in Table I) with the total state income (about 27.8 billion), it is composed of 0.0028 percent of that total. The average poverty gap in my sample is about \$4,337.44 per family, as expressed before. In Tennessee, 163,505 families live under the poverty line. So, the poverty gap for the whole state could be calculated as approximately $(163,505 \times \$4,337.44 =) \$703,190,000.-$. Thus, the total gap consists of about 0.0254 percent of the total state income.

Until this point we used the average value for explanation of the poverty gap and poverty line. Of course, the real position might be different because some individuals or families need more or less money to live above the poverty line.

Poverty can be explained by income distribution theories as mentioned before. In the real world, individual incomes differ for many reasons. We can give some reasons for unequal incomes as follows; (1) Differences in native ability, (2) Discrimination - that is, unequal pay for equal work - is obviously a reason, although it is hard to measure, (3) Risk taking, (4) Compensating wage differentials, (5) Schooling and other types of training, (6) Inherited wealth. All of these factors, however explain only part of the inequality that we observe. A portion of the rest is due simply to good or bad luck, and the balance is unexplained.

A worker's skill is of obvious relevance to his/her productivity, and thus to his/her wage. To some extent and in some jobs, this skill is simply innate and unchangeable. But to a much greater extent, the skill necessary to earn high wages can be acquired by individuals through deliberate decisions, such as going to school, taking other types of training, or relocating geographically. One crucial aspect of these decisions is that people usually require some current sacrifice in order to get future benefits. Education is the best example. The individual has made a conscious decision to go to college rather than to enter the labor market directly after high school. His/her education can be thought of as an investment in himself or herself, a human investment. In the economy, we call decisions like this investments in human capital, because they give the people many of the attributes of a capital investment.

education (schooling). Not only education but also other personal characteristics (age, experience, working time, sex, marital status) play an important role on income. To understand the relationship between these factors and income level, we collected data about the heads of families from the census for the state of Tennessee. Under some assumptions we run to 70,000 observations, and we got the 1,710 heads-of-households who were living with their spouses or children, or together or with only their children. Table III shows the relationship between income level, age and education of heads-of-households.

TABLE III - DISTRIBUTION OF INCOME LEVELS BY EDUCATION AND AGE GROUPS FOR
HEADS-OF-HOUSEHOLD

EDUCATION LEVELS	POOR INCOME GROUP*			MIDDLE INCOME GROUP**			HIGHER INCOME GROUP***			TOT.
	YOUNG ⁺	OLD ⁺⁺	OLDER ⁺⁺⁺	YOUNG	OLD	OLDER	YOUNG	OLD	OLDER	
None	0	0	0	1	0	0	0	1	0	2
Elementary (8 yrs. Edu.)	18	17	1	16	31	3	18	54	4	162
H. Schl. (12 yrs.)	111	33	0	192	58	1	358	193	7	953
College (More Tn. 12)	21	6	0	85	20	1	333	122	5	593
Total	150	56	21	294	109	5	709	370	16	1710

Source: Census of Population and Housing, 1980; Public-Use, A Sample Data, The State of Tennessee, Prepared by the Data User Services Division, Bureau of the Census, Washington, D.C.: The Bureau, 1983.

* Poor = Income level less than poverty line.

** Middle Income Group = Income Level between 1 and 1.75 poverty level.

*** Higher Income Group = Income level higher than 1.75 poverty level.

⁺ Young = Older than 16 but younger than 35 years old.

⁺⁺ Old = Older than 34 but younger than 65 years old.

⁺⁺⁺ Older = Older than 64 years old.

The relationship between income and education is positive. There was an increase in education, which seemed to cause an increase in income. A total of 162 heads-of-household had eight years of education (elementary school level). In this number, 22 percent (36/162)* of head-of-household income was less than poverty level (they are poor). When the amount of schooling increased to twelve years, the poor heads-of-households declined from 22 percent to 15 percent (144/953). This ratio is less than five percent (27/593) for more than twelve years of education (college). This scale was observed in the middle income group families. The relationship between education and income is more relevant for higher income group. In this group; 67 percent (76/162) heads-of-households had eight years of education, 59 percent (558/953) of heads-of-households had twelve years of education, 78 percent (460/593) had more than twelve years of education.

The distribution of age in the sample set is; (a) 67.5 percent (1153) young head-of-household, (b) 31 percent (535) old head-of-household, (c) 1.5 percent (22) older head-of-household. The income levels are increasing from young to older age group. In the young age group, 13 percent (150/1153) of heads-of-households are poor. In the old age group, 11 percent (56/535) heads-of-households are poor. In the older age group, only 6.5 percent (1/22) heads-of-households are poor. On the other hand, income levels are increasing from the young to older age group. In the higher income group; 62 percent (709/1153) are young, 69 percent (370/535) are old and 73 percent

* From now on the numbers in parentheses represent number of persons observed in the tables.

(16/22) are in the older age group of heads-of-households. These numbers mean there is more accumulation of the poor under 35 years of age. Poverty is more effective for the young population. After 35 years old, the income level increases.

In the income distribution, age or education are not taken alone, but the combination of education and work time gives an idea about income level. These are explained by the Ability Theory. During the time period, ability of working (experience) increases. For this reason, age and education and working time (employment) goes hand-in-hand during one's lifetime.

Following Table IV, we will show the relationship between marital status, sex of the heads-of-household and their income levels.

TABLE IV. - DISTRIBUTION OF INCOME BY MARITAL POSITIONS AND HEAD-OF-FAMILY SEXES
(% shows the raw percentage in the parentheses)

A - Marital Status	Poor Income Group		Middle Income Group		Higher Income Group		Tot.
	Num.	%	Num.	%	Num.	%	Num.
Married Householders	108	(8.67)	257	(20.63)	881	(70.71)	1246
Unmarried Householders*	99	(21.34)	151	(32.54)	214	(46.12)	465
B - Sex of Householder							
1. Male Householders	112	(8.78)	266	(20.86)	897	(70.35)	1275
-Married	100	(8.38)	246	(20.60)	848	(71.02)	1194
-Unmarried	12	(14.81)	20	(24.69)	49	(60.49)	81
2. Female Householders	95	(21.84)	142	(32.64)	198	(45.52)	435
-Married	2	(5.41)	6	(16.22)	29	(78.38)	37
-Unmarried	93	(23.37)	136	(34.17)	169	42.46)	398

Source: Census of Population and Housing, 1980; Public-Use, a Sample Data, The State of Tennessee, Prepared by the Data User Services division, Bureau of the Census, Washington, D. C.: The Bureau, 1983.

* Unmarried Householders; we collected widowed, divorced, separated and single heads-of-household under this title.

The relationship between head-of-household income and marital status looks positive. Usually, the percentage of poverty is lower for married heads-of-households ($108/1246 = 8.67\%$) than the unmarried heads-of-households ($99/466 = 21.34\%$). Married head-of-household income is higher than the income of unmarried heads-of-households, as shown in Table IV.

Finally, the female heads-of-households are earning less than the male heads-of-households. In Table IV, a total of 207 families are below the poverty line. In this group, the female heads-of-households number 95, which is 21.84 percent ($95/635$) of the poor. The male heads-of-households number 112, which is 8.78 percent ($112/1275$) of the poor. So, the relation between poverty and the female head-of-household families is positive.

CHAPTER IV

THE EARNINGS MODEL

The causes of poverty are analyzed by studying the relationship between income distribution and factors which reduce poverty. The theory of income distribution was explained before. Income function can be specified in two alternative forms as follows;

$$(1) Y = Y(H, K, V)$$

where;

H = Human Capital,
K = Material Wealth or Nonhuman Capital,
V = Environmental Variables,

$$(2) Y = Y(ENDO_{inh}, ENDO_{acq}, V)$$

where;

$ENDO_{inh}$ = Inherited Endowments,
 $ENDO_{acq}$ = Acquired Endowments,
V = Environmental Variables.

According to these two equations, income function can be written as follows:

$$(3) Y = Y(H, H^I, K, K^I, V)$$

where;

H = Acquired Human Capital,
 H^I = Inherited Human Capital,
K = Acquired Nonhuman Capital,
 K^I = Inherited Nonhuman Capital,
V = Environmental Variables.

Both inherited and acquired human capital include genetic elements, formal and informal education (usually given by mothers and surroundings), measured ability,

unmeasured abilities (such as dynamism, self-discipline, determination, and endurance). The variable (K) is direct material wealth, whether inherited property or accumulated by saving out of personal earnings. The symbol (V) is a large variable representing the overall ecology of work, such as the level of technology, job characteristics, segmented versus integrated labor markets, discrimination versus competitiveness in employment and is the acquisition of human capital, social contracts and other environmental variables.²⁵

Human capital (H) is indexed by formal education and experience. Experience is measured by the number of years of work in the modern sectors after schooling. Inherited human capital (K¹) is based on the parents' education (and also other parental variables).

Nonhuman capital can be explained as ownership of different properties, such as; housing, land, etc. Environmental variables could be use of governmental public services, such as; health facilities, schooling, minimum wage, etc., or individual human characteristics, such as: white/black, married/single, etc.

After these theoretical explanations, the earning function for the head-of-household can be specified as shown below:

$$\text{Log } Y = A_0 + A_1 \text{EDU} + A_2 \text{EXP} + A_3 \text{EXP}^2 + A_4 \text{Dummy MR} + A_5 \text{Dummy FM} + A_6 \text{EMP}$$

In this semi-logarithmic equation, Log Y is the symbol of dependent variable. So, the logarithm of total head-of-household incomes (Y) in dollars are regressed against a set of explanatory variables (head-of-household personal characteristics) in the above equation; so that, the estimated coefficients might be interpreted as percentage changes.

The quadratic terms are included to satisfy nonlinearity in the income function

which fits the real world observation. However, this is nonlinear in terms of variables, but linear in terms of parameters. The symbols stand for the following;

A_0 = Constant term

EDU = Education as measured by completed years of schooling

EXP = Experience, as measured by age - education - 4

EXP² = Experience squared for the head-of-household

EMP = Weeks worked in 1979

Dummy variables used in regression analysis are shown below:

1. Marital Dummy Variable:

MR = 1, if head-of-household is married
= 0, otherwise

WD = 1, if head-of-household is widower
= 0, otherwise

DY = 1, if head-of-household is divorced
= 0, otherwise

SP = 1, if head-of-household is separated
= 0, if otherwise

SI = 1, if head-of-household is single
= 0, if otherwise

2. Sex Dummy Variable:

MA = 1, if head-of-household is male
= 0, if otherwise

FM = 1, if head-of-household is female
= 0, if otherwise

Under these conditions:

(1) Head-of-household incomes which the dependent variable covered; (a) wage and/or salary income, (b) nonfarm self-employment income, (c) farm self-employment income. We took the rural and urban area together.

(2) Education and experience are the measure of human capital. The measure of these variables, less than sixteen-years-old heads-of-households were deleted.

(3) Marital status is the measure of environment. In this study, it is hypothesized that married heads-of-households earn more than unmarried heads-of-households. Marital status also taken dummy variables, and the relationship between marriage and family income comparison others, (widower, divorced, separated, single).

(4) The sex is the measure of environment. The sex of the head-of-household is taken dummy variables.

(5) Employment (weeks of work) is the measure of environment. Prevalence of full-time work is a measure of governmental policies which give permits for work officially. Thus, heads-of-household less than 16-years-old had reduced work time.

CHAPTER V

EMPIRICAL FINDINGS AND INTERPRETATION

By cross section analysis technique for regression based on the 1979 census data, our data set covered information about the 1,710 heads-of-households which were collected from the census for the state of Tennessee. For this data set, 70,000 observations were eliminated that did not fit the economic model or huge of data set. All of the data collected are explained as follows:

1. Non-family households and one-member families were reduced. Thus, less than two-member families were taken off the sample set.
2. Family size included only householders and children. Thus, brothers, sisters and other relatives were deleted. These assumptions created a pure family type for the model.
3. Families paying less than \$80.00 per month for housing were reduced from the data set. In this way, we could run more observations in the census.
4. A head-of-household's income (dependent variable) covered wage or salary and/or nonfarm self-employment income and/or farm self-employment income. Thus, social security income and public assistance income were deleted.

The equation was fitted in linear and semi-logarithmic forms for all the selected variables. The semi-logarithmic form of the equation fit better than the linear form of the equation. So, I decided to use semi-logarithmic form rather than the linear form of

the equation. At the same time, use of semi-logarithmic form allows one to make easy estimations for head-of-household income, because the coefficients of independent variables directly indicate on the dependent variable.

Under these assumptions, some relationships were calculated between head-of-household incomes and his/her education, experience level, marital status, sex and work time. The estimates are presented below:

$$\text{Log } Y = 6.565 + 0.0527 \text{ EDU} + 0.0425 \text{ EXP} - 0.0008 \text{ EXP}^2$$

(50.05) (9.94) (11.33) (-10.17)

$$+ 0.0606 \text{ MR} - 0.3594 \text{ FE} + 0.030 \text{ EMP}$$

(1.06) (-6.18) (16.84)

$$R^2 = 0.2989 \quad \text{numerator d.f.} = 1701$$

$$F\text{-value} = 120.91 \quad \text{denominator d.f.} = 1707$$

The critical F critical is $F_{.05} = 1.00$. In this regression, F - value is equal to 120.91 which is bigger than critical F - critical. It means, the probability of effectiveness of at least one of the independent variables on the dependent variable is higher than .95 percent. So, the F statistic is significant at .05 percent since calculated F - value is higher than the critical value.

All of the regression coefficients in the model have signs that could be expected theoretically. The coefficient of each explanatory variable tells how much that variable influences head-of-household income in the model while holding other factors constant.

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$$+ 0.0606 \text{ MR} - 0.3594 \text{ FE} + 0.030 \text{ EMP}$$

$$(1.06) \quad (-6.18) \quad (16.84)$$

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All of the regression coefficients in the model have signs that could be expected theoretically. The coefficient of each explanatory variable tells how much that variable influences head-of-household income in the model while holding other factors constant.

EDUCATION (Schooling)

The regression coefficient of family heads with schooling is +0.052. The positive sign of the coefficient indicates the direct relationship between this explanatory variable and income in the model. "Returns" to schooling are 5.2 percent. It means the head-of-household income increased 5.2 percent as schooling time increased one year.

The result shows a positive and statistically significant relationship between the head-of-household's income and his/her education level. The t-value is higher than the critical value, (9.94). So, this variable explains the increase of income to the 95 percent significant level.

The human capital theory has successfully demonstrated that the average earnings of people with different number of years of schooling could be explained by the hypothesis of free investment choice in the perfect market. The basic assumption of the theory is that the discounted present value of the lifetime income of an individual may in some circumstances be increased by investments on his/her education or training.³⁰

Orthodox analysis would predict that all groups in the labor market should realize that monetary returns increase proportionally to their marginal investments in education. Orthodox analysis assumes that workers appreciate returns to formal education when they become more productive with increasing education.³¹ The economist Gintis argued that the economic productivity of schooling is due primarily to the inculcation of personality characteristics.³² He assumes that increasing the educational achievements of the poor will automatically increase their incomes.

At these levels of analysis on the structural role of education, however, much more

work needs to be done to provide differential evidence on the mechanisms of education affecting different classes. Education helps to reinforce class differences by distributing different kinds of attitudes and behavioral characteristics in the people. The individual is affected not only by his/her own educational attainment, but also by his/her parents' (especially mother's).³³

EXPERIENCE

The regression coefficient of head-of-household experience is +0.0425, the positive coefficient sign indicates the direct relationship of this explanatory variable to income in the model. This explanatory variable is used in order to measure the effectiveness of increasing ability with increasing ages and education time. Experience is equal to age minus education time and four years. It means, if the education level is constant (for example for 10 years), each additional year of age causes an increase of experience. Increasing of the experience has a positive effect on income. If experience increases one more year, head-of-household's income increases 4.2 percent in the sample set. But, it is not going on continuously. Later, the positive effect of experience on the income begins to go down, and it starts to have a negative effect. We can see this condition with experience square signs. The regression coefficient of head-of-household experience squared is -0.0008, the negative coefficient sign indicates an inverse relationship to earnings in the model. On the other hand, the results show the positive and statistically significant relationship between the head-of-household's income and his/her experience.

Experience's positive effect and experience squared's negative effect on earning, absorb each other during time. Until the peak point, increases in experience years lead to

increasing income. At the peak point, increasing experience years does not effect the income level (if the other things - education, schooling,etc, - remain constant). We can calculate the maximum average experience years for our sample set at follows;

- (1) The maximum experience years which does not effect income, when the experience positive effect is equal to experience squared negative effect. So,

$$0.0425 \text{ EXP} = 0.0008 \text{ EXP}^2$$

$$\frac{0.0425}{0.0008} = \text{EXP} \therefore \text{EXP} = 54 \text{ Years}$$

- (2) Income per head-of-household increases during this time. But the increasing of income is very high in the first half of the maximum experience year. In the second half, the growth of income slows down. After 54 years of experience, each additional year of experience causes the income level to decline. For example:

Experience Years	$0.0425 \text{ EXP} - 0.0008 \text{ EXP}^2$	Income Change	%
1 Year	$0.0425 - 0.0008$	= Increase	4.15
20 Years	$0.850 - 0.320$	= Increase	53.00
27 Years	$1.126 - 0.5618$	= Max. Increase	56.42
30 Years	$1.275 - 0.720$	= Slow down	55.50
54 Years	$2.25 - 2.25$	= No effect	0.00
55 Years	$2.33 - 2.42$	= Decline	-9.00

- (3) We can also calculate the age level for each head-of-household in which their

Income reaches the maximum level depending on their education level. For example, if the education is none, age would be 29. If the education is at the elementary level, age would be 33. If the education is at the high-school level, age would be 35.

Human Capital Theorists assume that work experience has to be paid for by lower earnings in early years. The accumulation of knowledge is a process similar to the accumulation of capital in a firm. Our regression results fit the human capital theories. Since we have no direct estimate of the earnings forgone by an individual in the first year of his/her working life, we simply assume that his/her maximum earnings capacity in that year was equal to (1) what his/her earnings capacity would have been if he/she had no education plus (2) the return on his/her accumulated investment in education. Human capital theorists have offered this explanation for these phenomena. The base assumptions of the theory are: (1) work experience raises productivity, at least in early years, but by different amounts in different occupations; (2) people have free choice between occupations in which work experience is more or less productive.³⁴ Mincer and others have found that, when years of work experience are included as an explanatory variable, the proportion of individual earnings which is explained statistically is substantially increased.

Orthodox economists (Becker, Thurow, Mincer, Rosen, Reder, et al) place great weight on the role of general experience and specific training in increasing workers' marginal productivities.³⁵ Radical analyses qualify their aspects about experience and training with some differentiated observations about the labor market. Finally, the fact

that earnings growth with years of experience is not necessarily evidence in favor of the human capital theory as against alternative explanations.

The variables mentioned above explain the relationship between experience and income at the 95 percent statistically significant level for the state of Tennessee.

Marital Status

The regression coefficient of marital status is +0.060. The positive sign of the coefficient indicates the direct relationship of this explanatory variable to income in the model. We took the marital status as dummy variable in the model. For that reason, a married head-of-household earns an income 6.0 percent higher than the one-parent household. We can see this result on Table IV. Usually, the percentage of poverty is lower for two parents (married head-of-household). We can explain this condition with family responsibilities and, of course, constant work. A married person does not often make the decision to leave or to change jobs as an unmarried person does. His/her decision is affected by many factors.

On the other hand, the t-value (1.06) is lower than the t-critical, which is 1.64. Therefore, this coefficient is insignificant and insufficient to explain the relationship between marital status and income.

As we have mentioned before, single, unmarried parents are usually regarded in a scornful way by society, and they often have a tendency towards poverty, being less favored by social support and legal inheritance rights.

It is much more difficult for one-parent households to obtain security, because of the obstacles inherent in the absence of one of the financial supporters. Actually, the

disadvantage is more than half, since two-parent families are capable of successfully combining wage earning activities and household duties, while one-parent families are forced to pay for household duties at the time the head of such families is earning support money. This increases the risk of impoverishment for the latter group. It could be said that, since the householder lives below the poverty level, there is a high probability he/she would marry a poor person. This does not lead to combined support to improve the family income.

All this evidence suggests that impoverishment causes dissolution and it is entirely possible that the solution of family problems will not solve poverty.

At Table IV, the relationship between income and marriage condition looks positive. Usually, the percentage of poverty is lower for married (two-parent) families. Poverty is widespread between widowers, divorcees, those separated and single-parent families. Also, separated families look poorer than the other unmarried families. Widowers and divorcees are less poor than the other one-parent groups. For these reasons, marital status is a factor in reducing poverty in the state of Tennessee, but the explanation between marriage and income level is not significant at 90 percent, because the t-cal (1.06) is less than t-critical (1.64).

Head-of-Household's Sex

The regression coefficient of sex is -.359. The negative sign coefficient indicates the indirect relationship of this explanatory variable to income in the model. We took the sex status as dummy variable in the model. For that reason, a female head-of-household earns an income 35 percent less than the male head-of-household. Also, this coefficient is

statistically significant at the 95 percent level, because the t-value (6.18) is bigger than the t-critical (1.96)

If the head-of-household is female, the percentage of income is lower than for male head-of-household. So the relationship between poverty and female head-of-household looks positive. The causes of lower income are explained by work status, work time, and wage discrimination for female householders. Usually, women do not work in the heavy industrial sectors. For this reason they work for lower wages and earn less than male workers. On the other hand, women's work time is less than men's because they usually spend more time with their children and on housework. So, job discrimination for women employees would be another reason for women earning less than men. Since Tennessee is not as progressive as some states, job discrimination against women in many companies is a reality.

Employment

The regression coefficient of family heads is +0.030. The positive sign of the coefficient indicates the direct relationship between this explanatory variable and income in the model. The head-of-household income increased 3.07 percent as working time increased one week.

The result shows a positive and statistically significant relationship between the head-of-household's income and his/her weeks of work. This variable explains the increase of income at the 95 percent significant level in the state of Tennessee.

All of the income distribution theories have established a positive relationship

between the income level and employment. Generally, increases of working time cause the increase of the income level, as mentioned before. Factors affecting the marginal productivity of labor are human capital, physical capital, disembodied technical progress, utilization levels and labor stock.

In this study, I have tested the variables which will affect income and poverty levels for heads-of-households in the state of Tennessee. The study found that the independent variables, education, experience, and employment are more effective, but that marriage is less effective on the income level, because the regression coefficient signs are positive and have a 95 percent level of significance (except marriage). On the other hand, the other two variables, experience (male) and female head-of-household has affected income levels adversely due to the minus signs of the coefficients. These are also at the 95 percent level of significance.

The easiest way to eliminate poverty is just simply to transfer money to the poor. The more money that can be transferred, the more poverty can be reduced. The traditional approach to reduce the causes of poverty in the short run are: (1) the Food Stamp Program, (2) the Medical Aid Program, (3) Public Housing Program, (4) Aid to Families with Dependent Children Program, and (5) the Negative Income Tax Program. These kinds of anti-poverty programs relieve only the symptoms of poverty, however. Under these policies, income distribution problems would not be solved.

A more promising long-run approach to poverty is to attack its causes. For example, expenditures on education or training are designed to cure one of the causes of poverty: inadequate human capital. In the long run, (1) increasing investment in human capital, (2) anti-discrimination policies like the Equal Pay Act (1963) and the Equal

CHAPTER VI

CONCLUSION

In this study, I have tested the variable which will affect income and poverty levels for heads-of-households in the state of Tennessee. The study found that the independent variable, education, experience, and employment are more effective, but that marriage is less effective on the income level, because the regression coefficient signs are positive and have a 95 percent level of significance (avoid marriage). On the other hand, the other two variables, experience squared and female head-of-household has affected income levels adversely due to the minus signs of the coefficients. These are also at the 95 percent level of significance.

The easiest way to eliminate poverty is just simply to transfer money to the poor. The more money that can be transferred, the more poverty can be reduced. The traditional approach to reduce the causes of poverty in the short run are: (1) the Food Stamps Program, (2) the Medical Aid Program, (3) Public Housing Program, (4) Aid to Families with Dependent Children Program, and (5) the Negative Income Tax Program. These kinds of anti-poverty programs relieve only the symptoms of poverty, however. Under these policies, income distribution problems would not be solved.

A more promising long-run approach to poverty is to attack its causes. For example, expenditures on education or training are designed to cure one of the causes of poverty: inadequate human capital. In the long run; (1) subsidizing investment in human capital, (2) anti-discrimination policies (like The Equal Pay Act (1963) and The Civil

Rights Act (1964)), (3) dealing with employment and disability, and (4) The Work Incentive Program are more effective on income distribution and earning. All of these policies include subsidizing investment in human capital and eliminating employment discrimination against minorities and women.

We wish to point out some suggestions on the matter of fighting poverty:

- (A) Allow the labor market to adjust itself to capacity in order to improve utilization and marginal productivity of labor.
- (B) Once marginal productivity of labor is improved, investment will rise, bringing along capital inflow, employment and transfers.
- (C) Utilize transfers as a means to invest more thoroughly in education and human capital, as well as non-human capital.

ENDNOTES

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- ¹³Gian S. Sahota, "Measurement" A Study of Poverty in Panama, Part II, Republica De Panam, Ministerio De Planificacion Y Politica Economica (August 31, 1985).
- ¹⁴Wilber, Poverty, p. 169.
- ¹⁵William S. B. and Alan S. B., Economics Principles and Policy, (U.S.A.: Harcourt Brace Savonovich, Inc., 1979). pp. 558.
- ¹⁶Harrell R. Rodgers, Jr., Poverty Amid Plenty. A Political and Economic Analysis (U.S.A.: Wesley Publishing Company, 1979), p. 40.

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