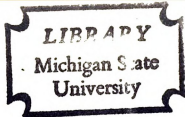NEEDS AND POTENTIALS FOR
ESCAPE FROM POVERTY THROUGH
RETRAINING FOR FAMILIES IN
THE EASTERN CORN BELT

Thesis for the Degree of Ph. D.
MICHIGAN STATE UNIVERSITY
MARVIN E. KONYHA
1970

This is to certify that the

thesis entitled

Needs and Potentials for Escape from Poverty
Through Retraining for Families in the Eastern
Corn Belt

presented by

Marvin E. Konyha

has been accepted towards fulfillment
of the requirements for

___PhD___ degree in _Agricultural Economics_

Dale E. Hathaway
Major professor

Date___2/27/70___

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ABSTRACT

NEEDS AND POTENTIAL FOR
ESCAPE FROM POVERTY THROUGH
RETRAINING FOR FAMILIES IN THE
EASTERN CORN BELT

By

Marvin E. Konyha

The objectives of this study were to determine the
extent of poverty level incomes in the East North Central
States and to estimate the potential ability of job re-
training to provide employment and income sufficient to
raise low income families above the poverty line.

The study provided an extensive review of the literature
pertaining to the nature and extent of rural poverty in the
United States. It employed a slight modification of the
Orshansky poverty criteria to measure the extent of poverty
in the open country area of the East North Central sub-
region. Data was provided by the 1967 Rural Life Survey
study conducted by the Economic Research Service of the
U.S. Department of Agriculture.

It was found that sixteen percent of the consumer units
and thirteen percent of the individuals over age fifteen
received 1966 poverty level incomes, that is, incomes below
the 1.00 ratio of income received to income required. For
retraining purposes, all individuals below the 1.50 income
ratio were included in the low income category. Twenty-six
percent of the survey individuals were so classified. Based
on their age-health status, sixty-three percent of these

low income persons were considered to be potentially
economically viable.

The theoretical base for eliminating rural poverty
through job retraining was established by application of
the investment in human capital extension of marginal
productivity theory. Procedures for estimating expected
increases in future income streams were evaluated, with
the benefit-cost analysis approach being recognized as
most appropriate for estimating the gains from retraining.
Tentative empirical estimates indicated that seventy-five
percent of the low-income families could theoretically be
raised above poverty status through retraining.

Minimum skill level requirements for earning above
poverty incomes were developed based on the specific
vocational preparation scale (SVP) applied to occupational
titles by the U.S. Department of Labor. Job titles
utilized were those for which workers have been retrained
under MDTA programs. Respondents' present skill levels,
in terms of the SVP scale, were determined from their prior
vocational training experience. Compared with required skill
levels, ninety-two percent of the males and eighty-six
percent of the females with potential viability were found
in need of job retraining.

Based on years of schooling completed as a measure of
general educational development levels, fifty-eight percent
of the males and two-thirds of the females with retraining
needs were considered to have good potential for completing

job retraining programs. Thirty-seven percent of the males and thirty percent of the females were found to have fair retraining potential, and less than five percent of the respondents were found to have no retraining potential apart from programs providing basic education in addition to vocational training.

Theoretically, respondents should evaluate the opportunity for job retraining in terms of expected future income streams. Survey data indicated that low income respondents reacted in a manner consistent with such an economic decision rule in relation to age, educational level, recent unemployment, attitudes toward present job, availability for alternative employment, and potential costs of retraining programs.

Application of all estimates developed in the study to the survey's potentially viable low income respondents indicated that from twenty to twenty-five percent of them could be removed from the poverty category via job retraining.

The study results implied that existing vocational training programs have been most inadequate for preparing this subregion's rural workers for employment in today's labor market. The study found sufficient retraining needs, potentials for completing, and interest in retraining to warrant major efforts in this area. Implications concerning the type of occupational training needed and the type of delivery systems required were briefly explored. Serious

implications were raised for the large percentage of rural

poor who could not be removed from poverty through job

retraining.

NEEDS AND POTENTIALS FOR
ESCAPE FROM POVERTY THROUGH
RETRAINING FOR FAMILIES IN THE EASTERN
CORN BELT

By

Marvin E. Konyha

A THESIS

Submitted to
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Department of Agricultural Economics
1970

ACKNOWLEDGMENTS

TABLE OF CONTENTS

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I. INTRODUCTION

A. Need for the Study

Many households, and individuals in those households,
in the Eastern Corn Belt are in poverty. Whereas an exact
count of these families is not readily available, and any
such count is dependent on how "poverty" is defined, the
1960 Census did give an indication of the extent of this
problem. As indicated in Table 1, over 580,000 rural families
in the five East North Central States had 1959 incomes below

Table 1.

Number and Percent of Poor Rural Families in the
East North Central States - 1959
(poor families are those with net money incomes under $3,000)

State	No. of poor rural families[1]	Total no. of rural families[2]	Poor families as percent of total
Ohio	138,240	640,222	21.6
Indiana	103,594	450,591	23.0
Illinois	134,958	505,280	26.7
Michigan	108,215	509,964	21.2
Wisconsin	98,425	347,277	28.3
Total	583,432	2,453,334	23.8

Source: [1]Alan R. Bird and John L. McCoy, White Americans in
Rural Poverty; Agricultural Economic Report No. 124
(Washington: U. S. Department of Agriculture, Economic
Research Service, November, 1967).

[2]U. S. Bureau of the Census, U. S. Census of
Population: 1960. General Social and Economic Characteristics,
PC(1) - C (five State volumes), table 50.

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the crude family income poverty line of $3,000. This repre-
sented nearly 24 percent of all rural families in the region.
An understanding of the magnitude of this number of families
may be obtained by noting that the number of rural poor
families exceeded the 1960 total number of all families in
the combined cities of Cleveland, Milwaukee, Indianapolis,
and Youngstown.

A 1966 Census Bureau survey found that thirty-six-
percent of the whole North Central region's poor families
were rural residents. Also, the 1966 rural poverty rates
were 14.6% among farm families and 16.0% among nonfarm
families in the region - rates which were exceeded only in
the South. (By contrast the urban poverty rate was 8.5% in
this region, the lowest urban rate of any region in the
country[1]).

It is thought that certain heads of poverty level
households, and other household members, in the Eastern
Corn Belt possess characteristics and attitudes that would
make them prime candidates to undertake retraining and
accept different jobs. The successful attainment of these
conditions would be expected to raise the family above the
poverty level and to improve the chances for children of

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[1]Harold L. Sheppard, "A Search for New Directions in
the War Against Poverty," Appendix Paper in Toward Economic
Security for the Poor, Subcommittee on Employment, Manpower,
and Poverty of the Committee on Labor and Public Welfare,
U. S. Senate (90th Congress, 2nd Session), October, 1968,
pp. 85-86.

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these households to stay out of poverty.

For some it would not be "retraining," but training for the first time in any formal sense. However, if whatever work one may have done previously is considered to be "training," then any attempt to raise one's skill level can be considered retraining. The terms are used interchangeably in the literature, and will be so treated here.

What are the characteristics of rural poor individuals that make them retrainable? How many rural poor individuals in this region actually need retraining and would profit by it? How many would be willing to undergo retraining and what, if anything, would they be willing to pay for new employment skills? If national anti-poverty programs are to be effective in alleviating the rural poverty which exists within this region of commercial agriculture, then answers to these questions are urgently needed.

There are certain value judgments implicit in the above paragraphs. This focus on retraining the rural poor for better paying employment leads to the conclusion that all persons should be job-holders, that all are capable of being job-holders, and that having a job will automatically provide a family with above poverty income. Such a focus, by itself, would imply that all rural poverty was amenable to a strictly "economic" solution.

It is recognized in this study that all rural poverty can not be eliminated through job retraining. Some of the rural poor are unable to work for physical reasons, either

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advanced age or disability. These are singled out for special social welfare programs. Others suffer from various emotional or social disabilities, such as a lack of motivations and aspirations or having been engulfed in a "culture of poverty." Solutions to their poverty problems would also be likely to require programs other than, or in addition to, job retraining. Such persons are likely to be among those low income respondents who either express no interest in participating in job retraining programs or, when retrained, would fail to obtain employment. Attention will be drawn to the failure of job retraining to provide an escape from poverty for all rural poverty victims, but the exploration of programs to deal with the non-retrainable poor is beyond the scope of this study.

B.   Purposes and Objectives

The purposes of this study are: (1) to determine the potentials for job retraining to provide employment and income which would raise families above the poverty line; (2) to determine the needs and potentials for retraining for members of rural, poverty-level households in the Eastern Corn Belt; (3) to examine existing retraining programs as they function in rural areas; and (4) to propose program changes to enable them to more effectively aid individuals to realize their potentials.

The objectives of this study are:

1. To explore contemporary economic theory as it
    applies to rural poverty and retraining.

2. To determine specific socio-economic characteristics

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such as age, education level, and prior work
experience of subgroups of the rural population in
the Eastern Corn Belt with poverty-level incomes,
and thus to determine the needs for escape from
poverty.

3. To estimate the potentials for escape from poverty
   of those households and individuals in each subgroup
   through retraining, based on measures of their
   retrainability.

4. To estimate the potentials for escape from poverty
   of those households and individuals in each sub-
   group determined to be retrainable, based on their
   stated interest in retraining.

5. To estimate approximate numbers of individuals who
   would participate in retraining programs, based on
   combinations of estimated needs and potentials for
   retraining.

6. To prepare recommendations for program changes to
   improve chances of households and individuals to
   escape from poverty through retraining which will
   qualify them for higher paying employment.

C. Methodology

1. Sampling

This study is part of a larger study being conducted by
the Economic Development Division, Economic Research Service,
U. S. Department of Agriculture, for the Office of Economic
Opportunity (OEO). The major study is titled the "Rural Life

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Survey," and it has as its primary purpose a study of rural poverty conditions existing in a region which is noted for its commercial agriculture.

The Rural Life Survey was conducted for the Economic Development Division by the Agriculture Department's Statistical Reporting Service in conjunction with a Pesticide Survey taken for the Farm Production Economics Division. The identification of households and Pesticide Survey were conducted in March, 1967, and the Rural Life Survey was taken in April - May, 1967.

Place:

East North Central States: Ohio, Indiana, Illinois, Michigan, Wisconsin (the "Eastern Corn Belt").

Population of Rural Life Segments:

Farm operator households: Those with sales of less than $10,000. Nonfarm operator households: Open country households, defined as those living in land segments with a density of less than 50 households per segment.

Number of cases in Sample:

Planned:

Farm operator households	2,000	(about a .6% sample)
Nonfarm households	2,000	(about a .3% sample)
Total selected:	4,055	
No interviews (835) or defective (25)	860	
Final number of cases	3,195	

Sample Design:

1. Counties were grouped into agriculturally similar contiguous groups containing about 4,000 qualifying

farms.

2. From each group one county was selected with probability proportional to the 1959 number of farms in economic classes I-IV (i.e. with sales of $5,000 or more).

3. The land area of selected counties was divided into counting areas and segments in accordance with the Master Sample of Agriculture developed in 1943-45.[2] The necessary number of sample segments for each selected county was drawn from an accumulated listing of segments using a random start and then successively applying the sampling interval (i.e. total segments in the county divided by the number of segments needed to get the number of farms desired).

4. The segments so selected were then divided into two groups. All households in the first group, consisting of every fourth segment, were asked only the Pesticide questionnaire. Households in the remaining three-fourths of the segments which had sales of $10,000 or more were asked the Pesticide questionnaire.

5. The remaining households of the second group were divided into farm and nonfarm households on the basis

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[2]See R. J. Jessen, "The Master Sample Project and its Use in Agricultural Economics," Journal of Farm Economics, Vol. 29, No. 2 (May, 1947), pp. 531-540.

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of the Identification Sheet and then into sub-
samples to give 2,000 cases of each using a random
start and a given interval. For farm households,
every second one was skipped and then every fifth
one remaining was dropped.

This area block sampling procedure allowed proportional
selection of counties by the region, but not by individual
states.

2. Survey

The survey was administered by experienced enumerators,
regular part-time employees of the Statistical Reporting
Service. The survey instrument was a 28 page questionnaire,
designed as a single integrated document providing the data
necessary for the accomplishment of the primary objectives
of the study. The questionnaire was also organized into a
series of more or less self contained sections which would
support one or more specialized studies in such areas as
housing, education, food patterns, and health conditions.
The present study is one of these.

The questionnaire was poverty, farm, and tax record
definition oriented. It focused on family work activities
and personal characteristics which affected 1966 income. It
contained exceedingly detailed income information which
permitted the formulation of numerous income concepts and
detailed data on family composition which permitted flex-
ibility in unit definition. The questionnaire also provided
detailed farm information geared to the income-tax return.

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There are two basic weaknesses in the measures of poverty utilized in this study. First, although all sources of consumer unit money income were included in the measure of income received, the amount of assets owned by the consumer unit were not taken into account. Thus, a family could have been relatively wealthy and still be classified below the poverty line because of a low level of money income. The second weakness, related to the first, is due to the nature of the one-year cross-sectional study. Lanzilotti has referred to this as the condition of "temporary low income." He noted that about twenty percent of the 1962 poverty status families in the United States had moved out of poverty in 1963. At the same time, about the same number of 1962 above poverty families moved into the poverty status in 1963.[3] It can reasonably be assumed that some percentage of the Rural Life Survey poor families would respond similarly and receive above poverty incomes in 1967. However, no allowances for temporary low income will be made here. Job retraining might very well provide the solution to the problem of temporary low income as well as to persistent poverty problems.

3. Editing

The process of editing the Rural Life Survey data was described in an editing manual prepared by the Economic

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[3]Robert F. Lanzilotti, "The Poverty Syndrome: A Critical Review," Michigan State University Business Topics (Spring, 1966), pp. 39-49.

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Research Service.[4] The editing process was designed to assure as much accuracy and completeness as humanly possible. The process can be briefly summarized as follows.

There were three main phases to the editing process: the field edit, the office edit, and the machine edit.

The Field Edit was designed to do three things:

a. Check completeness and sense of responses while respondents and enumerators could still be reached.

b. Code certain items not already precoded for enumerators.

c. Prepare entries for key punchers by seeing that all were legible and uniform as to decimals, etc.

The Office Edit. This also had three main objectives:

a. To prepare all schedules for the key punchers in a uniform manner.

b. To code and preserve data not already coded.

c. To bring all problems to the attention of the directors of the study.

The work was performed by two groups of people:

a. The office edit staff who edited the questionnaires and did the coding.

b. The Problem Review staff who resolved the questions and set the codes.

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[4]U. S. Department of Agriculture, Economic Research Service, Editing Manual: Rural Life Survey (Washington, 1966, mimeo).

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The Machine Edit. The machine edit prepared the data
for analytical manipulation. It had two phases:

    a.   The consistency checks.

    b.   Imputations

    It involved three groups of people:

    a.   The computer staff performed the mechanics of the
        edit.

    b.   The office edit staff searched the questionnaires
        to determine what was right.

    c.   The Problem Review staff determined the actions to
        be taken and provided any additional information
        the computer needed for its operation.

This part of the editing process had three main functions:

    a.   To check the accuracy of the key punching and to see
        that all cards had been put on tapes.

    b.   To check and measure the internal consistency of
        the responses and the completeness of the replies.

    c.   To impute the missing information where this was
        essential to the analysis and then to measure the
        effect of the imputation.

4. Statistical Analysis of the Data

    The survey data was placed on computer tape for statistical
processing on Michigan State University's CDC-3600 computer.
For the most part, cross tabulations of the data which tested
the hypotheses of the study were done using the "Analysis
of Contingency Tables" (bivariate frequency distributions)
developed by the Michigan State University Computer Institute

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for Social Science Research.[5] Where other routines or pro-
cedures were utilized, they are described in the following
chapters, as are the specific details of each cross tabulation.

D. Hypotheses to be tested

The general hypothesis of this study is that certain
members of rural, poverty-level households in the Eastern
Corn Belt possess characteristics and attitudes which make
them prime candidates to undertake job retraining. This
retraining would, in turn, qualify them for employment in
jobs which would provide income sufficient to raise the
households above the poverty category.

The sub-hypotheses which this study is designed to
test are sub-divided according to the study's three main
categories; education and retraining needs, potentials for
retraining based on measures of retrainability, and potentials
for retraining based on stated interest in retraining. The
major hypotheses are listed in this section. All hypotheses
will be discussed in detail, with rationalizations for them,
in the chapters where they are tested.

1. Hypotheses regarding education and retraining needs:
Assumptions

Two basic assumptions will be made here. The first is
that education and training data on the questionnaires can be
quantified into a meaningful, usable measure of respondents'

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[5]Alan M. Lesgold, "Analysis of Contingency Tables: Act
II," Technical Report No. 14 (East Lansing: Michigan State
University, Computer Institute for Social Science Research,
January, 1968).

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occupational skill level. The second is that, by use of the
U. S. Department of Labor's <u>Dictionary</u> <u>of</u> <u>Occupational</u> <u>Titles</u>,[6]
basic educational skill level requirements can be established
for those occupations in which low income individuals are
now being trained under various Federal programs and that
these requirements can serve as a proxy for a "minimum skill
level requirement," a standard against which RLS poverty-
level respondents can be judged.

Hypotheses

a. The worker members of rural, poverty-level house-
holds in this region possess levels of education which are
significantly below those levels possessed by persons of the
same age in the general population of the region.

b. The worker members of rural, poverty-level house-
holds in this region possess levels of job skills or training
which are significantly below those levels possessed by
workers in the region's non-poverty-level households.

c. The levels of training possessed by worker members
of rural, poverty-level households in this region are below
the "minimum skill level requirement" for entry into jobs
for which low income individuals are now being trained under
various Federal programs.

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[6]U. S. Department of Labor, <u>Selected</u> <u>Characteristics</u> <u>of</u>
<u>Occupations</u> (<u>Physical</u> <u>Demands</u>, <u>Working</u> <u>Conditions</u>, <u>Training</u>
<u>Time</u>) <u>1966</u>- <u>A</u> <u>Supplement</u> <u>to</u> <u>the</u> <u>Dictionary</u> <u>of</u> <u>Occupational</u>
<u>Titles</u>, <u>3rd</u> <u>edition</u> (Washington: U. S. Government Printing
Office, 1966).

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d. There exists a considerable need for job retraining among worker members of poverty-level households in this region.

2. Hypotheses regarding "Potentials for Retraining" based on other studies of retraining programs:

Assumptions

It is assumed here that sufficient data on the socio-economic characteristics of participants in Federally sponsored retraining programs are available for comparisons with RLS respondents. It is also assumed that, although most of these Federal programs have been conducted in urban areas, a large percentage of the program participants were raised and educated in rural areas and are, therefore, similar to our rural population with regard to these variables. For the purpose of this study it will be assumed that no basic regional differences in these characteristics exist, thus allowing the use of studies of retraining programs conducted in other regions. This is necessitated by the relatively small number of such studies completed to date in the East North Central States.

Hypotheses

a. The "worker" members of rural, poverty-level households in this region possess socio-economic characteristics which make them potentially retrainable.

b. The younger the poverty-level worker, the greater will be his potential retrainability.

c. The more formal education possessed by a poverty

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level worker, the greater will be his potential retrainability.

d. The less the amount of time spent in recent unemployment, the greater will be the worker's potential for retraining.

3. Hypotheses concerning "Potentials for Retraining" based on stated interest in retraining:

Survey respondents were asked to indicate their interest in participating in a free retraining program should one be given locally which would qualify them for better jobs.

The subjective nature of such responses and the possible difference between the responses to a hypothetical question and to the actual offer of participation in a retraining program are recognized. No attempt will be made to adjust for these factors, however. It must be assumed here that all respondents perceived the question concerning a free training program in the same way. It is also assumed that any downward bias in respondents' abilities to recall past training experiences are offset by tendencies they have to overstate the number and the extent of such experiences.

The major assumption underlying these hypotheses was that respondents weighed the possibility of participating in a retraining program in a manner consistant with an economic decision making rule, that is, in terms of expected changes in future income streams.

Hypotheses

a. There will be a relationship between the severity of poverty and extent of interest in retraining, those

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respondents with relatively lower incomes being more interested in retraining than poor respondents with relatively higher incomes.

b. There will be a relationship between age of respondents and their interest in retraining, among all low income respondents, with older workers showing relatively less interest than younger workers.

c. There will be a relationship between degree of interest in retraining and potential costs of the retraining program; among poverty-level workers expressing an interest in retraining, progressively less interest will be expressed as potential program costs increase.

d. Among all low income respondents there will be a relationship between unemployment and interest in retraining; those respondents who were unemployed at the time of the interview and those who experienced relatively more unemployment the previous year will have more interest in retraining than those respondents with relatively less recent unemployment and those who were employed at the time of the interview.

Several additional hypotheses will be tested. They will relate interest in retraining to such variables as amount of prior vocational training received, educational levels, problems encountered in finding employment, and availability for employment.

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II. RURAL POVERTY AND RETRAINING - LITERATURE REVIEW

A.   Rural Poverty

Larson said (in 1967) that "Studies of the rural poor and experience with public programs aimed at rural poverty date back more than three decades in the United States."[7] Most of these studies and public programs, however, were primarily concerned with the economic viability of farms and farmers and, thus, with maintaining farm prices and/or incomes, or with poverty pockets such as Appalachia or the Upper Great Lakes where poverty was regional in scope rather than being isolated in regions of relative affluence.

It is only in recent years that a national concern has been generated for individual victims of rural poverty and that we have faced up to the fact that existing agricultural commodity programs have not been, and cannot be, of much assistance in alleviating conditions and causes of rural poverty.[8]

This national concern was reflected in the President's Executive Order No. 11306 of September 27, 1966, which charged the National Advisory Commission on Rural Poverty

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[7]Olaf F. Larson, "Discussion: Rural Poverty in the United States", Journal of Farm Economics, Vol. 49, No. 5 (December, 1967), p. 1235.

[8]James T. Bonnen, "Rural Poverty: Programs and Problems", Journal of Farm Economics, Vol. 48, No. 2 (May, 1966).pp. 452-65 and James T. Bonnen,"The Distribution of Benefits from selected U.S. Farm Programs," in National Advisory Commission on Rural Poverty, Rural Poverty in the United States (Washington: U. S. Government Printing Office,1968),pp.461-505.

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To make a comprehensive study and appraisal of the current economic situations and trends in American rural life, as they relate to the existence of income and community problems of rural areas, including problems of low income, the status of rural labor, including farm labor, unemployment, and underemployment and retraining in usable skills...[9]

The charge continued in more detail. The findings of the commission are reported, with recommendations, in The People Left Behind, and the volume of technical studies prepared for the commission presents 32 illustrations of the new concern for rural poverty.[10]

The Rural Poverty Commission estimated that there were 14 million rural poor in the United States in 1965. The details on the incidence and distribution of this rural poverty have been very thoroughly presented and analyzed elsewhere, and require only brief mention here. The most complete rural poverty study was that of Bird, who noted that half of all the poor people in the United States resided in rural areas in 1959, and that the incidence of poverty was more than twice as great in rural as in non-rural areas.[11] The 1967 report on manpower of the U.S.

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[9]National Advisory Commission on Rural Poverty, The People Left Behind (Washington: U. S. Government Printing Office, 1967), p. vi (emphasis supplied).

[10]National Advisory Commission on Rural Poverty, Rural Poverty in the United States (Washington: U. S. Government Printing Office, 1968).

[11]Alan R. Bird, Poverty in Rural Areas of the United States, Agricultural Economic Report No. 124 (Washington: U. S. Department of Agriculture, Economic Research Service, November, 1964).

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Department of Labor also presented a concise summary of
poverty and employment conditions in rural America.[12] It
was noted by Tweeten that different classification schemes
presently in use give quite different pictures of the current
rural poverty situation, but that by any measure, rural
poverty is extensive in this country; he discussed the
extent and causes of and potential cures for rural poverty.[13]

As noted above, most national programs designed to
alleviate rural poverty have been focused upon regional
poverty, that is, concentrations of poverty in large
geographic regions including the Upper Great Lakes region.
Yet, in comparing this region with the Ozark and Appalachian
regions, Tweeten noted that a higher percentage of all farms
were commercial farms in the Upper Great Lakes than in the
other two regions (58 percent as compared to 46 percent). He
concluded, on the basis of the farm operator level of living
index, that "the Upper Great Lakes was not a serious area
of rural poverty in 1959."[14]Yet Michigan and Wisconsin had
over 200,000 rural families with net cash incomes under
$3,000 in that year (see Table 1, Chapter I).

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[12]U. S. Department of Labor, Manpower Report of the
Presidents and A Report on Manpower Requirements, Resources,
Utilization, and Training (Washington: U. S. Government
Printing Office, April, 1967),pp. 101-121.

[13]Luther G. Tweeten, Rural Poverty: Incidence, Causes,
and Cures, Processed Series P-590R (Stillwater: Oklahoma
State University, Experiment Station, July, 1968).

[14]Ibid., pp. 3-4.

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B. Rural Poverty in Regions of Commercial Agriculture

The apparent bias of rural anti-poverty programs to concentrate only upon regional poverty is reflected in this statement by Tweeten: "Progressive farmers can support favorable attitudes and institutions such as good schools in commercial farming areas in which only a few farmers are poor. Thus area-wide rural poverty is a more serious problem than poverty interspersed among plenty."[15] One cannot deny the seriousness of area-wide poverty, yet two fallacies of this statement stand out. First is the assumption that "only a few farmers are poor" in any region which is considered a commercial agriculture area - this is not always the case. Secondly, the focus on only farmers in such areas overlooks all the rural nonfarm families, and it is precisely among this group where the greater share of rural poverty exists today. As Booth has strongly argued, the "farm problem", defined as one of surplus labor and inadequate income for farmers, is well on the way to being solved; the substantial poverty problem in rural America is no longer connected with farming.[16]

Statistics on median income levels by counties have also helped foster a complacent attitude toward rural poverty problems in commerical agricultural regions. Data

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[15]Ibid., p. 39.

[16]E. J. R. Booth, "The Economic Dimensions of Rural Poverty," American Journal of Agricultural Economics, Vol. 51, No. 2 (May, 1969),pp. 428-42.

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on the number of counties in each state in which the median

cash incomes of rural families was less than $3,000 in

1959 would indicate that there is little rural poverty in

the East North Central States (Table 2). The small total

of only 33 counties with low median incomes in this region

Table 2.

Number of counties in which median cash income of all rural
families, only rural farm families, and only rural nonfarm
families was less than $3,000 in 1959.

East North Central and Selected Southern States

State	Total No. of Counties	All Rural Families Under 3,000	Only Rural Farm Families Under $3,000	Only Rural Nonfarm families under $3,000
East North Central				
Ohio	6	1	5	–
Indiana	–	–	–	–
Illinois	18	5	13	–
Michigan	3	–	3	–
Wisconsin	6	–	6	–
Southern				
Alabama	57	47	10	–
Georgia	115	96	19	–
Kentucky	92	73	18	1
Mississippi	75	68	6	1
Tennessee	78	67	11	–
Texas	115	82	26	7

Source: Alan R. Bird, Poverty in Rural Areas of the United
  States, U. S. Department of Agriculture, Economic Research
  Service, (Washington, November, 1964), table 4, pp. 9-10.

is in sharp contrast to the number of counties in selected

Southern states with median rural incomes below this crude

poverty line. But the median tells us nothing about the

variance in cash incomes. Particularly for the rural nonfarm

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oup with only six East North Central counties in which
dian cash incomes were below $3,000, it ignores all
milies whose incomes still are less than this poverty line.
e evidence presented in Chapter I, Table 1, demonstrates
at much more rural poverty exists in this region than
dian income levels would seem to indicate.

Ruttan was among the first to recognize that our
ral development program must go beyond the regional
velopment approach. He drew attention to the possibility
at the total number of rural families in poverty might
greater in regions of commercial agriculture than in the
ical rural poverty regions even though the incidence
poverty was clearly lower in the commercial regions.[17]

Prior to the inauguration of the present set of studies
the Economic Development Division and the Office of
nomic Opportunity, there were no comprehensive studies
the exact nature and extent of rural poverty in commercial
iculture regions.

Rural Needs for Job Retraining

The awareness of the need for deliberate national
ower policies and programs to provide employment skills
arginal workers developed in the early 1960's along
the awareness of the apparent contribution that education,

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[17]Vernon W. Ruttan, "Agricultural Policy in an Affluent
ety," Journal of Farm Economics, Vol. 48, No. 5
ember, 1966), pp. 1100-20.

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investment in human capital as it became fashionable
call it, had made to the overall growth in the American
conpmy. (The theory of human capital investment is discussed
Chapter III).

The massive outmigration from rural areas in the United
ates over the two decades 1940-1960 had fostered the
lief that all that was needed to eventually bring about
equilibrium condition with respect to rural labor was
ntinued high levels of aggregate demand in the economy
d additional net rural outmigration. If rural-urban
grants lacked employment skills, it was assumed that
ivate industry would provide the necessary training to
sure their employability as it had done in the decade of
e forties with its tight labor market. It was also
sumed that necessary adjustments in agriculture which
st be made concurrently with changes in the capital-
ratio would automatically follow the decline in the
or force.

In a 1960 address to the American Economic Association,
haway noted that both of these assumptions were faulty.
pointed out the problem faced by unskilled migrants
found themselves to be marginal members of the nonfarm
iety, and that "mere out-movement of labor from agriculture
a necessary, but not sufficient, condition to achieve
e adjustments" in agriculture.[18] Hathaway called for

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[18]Dale E. Hathaway, "Migration From Agriculture: The
orical Record and Its Meaning," _American Economic Review_,
50, No. 2 (May, 1960), p. 387.

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lic policies to cope with these non-self-correcting

blems.

The economist who led much of the early thinking in

area of human capital was also among the first to identify

need for job training as a critical problem in rural

as. Schultz stated that a major cause of poverty,

al and urban, was a "long standing disequilibria rooted

nadequate investment in particular classes of people,

are therefore poor." [19] He was referring specifically

he poor quality of rural education. As early as 1960

op also argued that "many farm people will likely need

tly increased training and skills before they can earn

asonable income from nonfarm employment."[20]

By 1967 national leaders were well aware of the need for

retraining, as well as for improved public school systems,

ral America. This awareness was reflected in the 1967

t on manpower of the U. S. Secretary of Labor which

ed:

>   Educational and training facilities available to
> rural residents have been shockingly deficient in both
> quantity and quality as compared with those in urban
> communities. A revolutionary upgrading of the rural
> labor force is called for. Called for also, and
> equally important, is the establishment of educational
> and training facilities for rural youth, so that they

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[19]T. W. Schultz, "Public Approaches to Minimize Poverty,"
Fishman (ed.), _Poverty Amid Affluence_ (New Haven:
University Press, 1966), p. 176.

[20]C.E. Bishop, "Increasing Mobility of Labor Through
ing Programs" (1960), in R.J. Hildreth (ed.), _Readings
ricultural Policy_ (Lincoln: University of Nebraska
1968), p. 439.

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will not be forced to enter the labor force under
the same handicaps from which their fathers suffer.[21]

The Rural Poverty Commission also reflected this
.tional awareness when it recommended, in addition to
.lling for close coordination and administration of all
deral manpower development and training programs under
e agency, "That adequate job training opportunities be
ovided for (rural) workers to maintain and upgrade their
ills and to qualify for better jobs."[22]

Rural Areas' Share in Retraining Programs

Since the passage by Congress of the Area Redevelop-
it Act in 1961 and the Manpower Development and Training
: (MDTA) in 1962, a considerable amount of effort and
ense have been directed toward developing programs of
raining for unemployed workers, largely under MDTA
grams. The history of these acts and the number of
sons retrained are well documented.[23] Also, evaluations
the benefits and costs of such programs are becoming
e frequent (see Chapter V for a discussion of these).

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[21]U. S. Department of Labor, Manpower...(1967), p. 119.

[22]National Advisory Commission on Rural Poverty,
People Left Behind, p. 34.

[23]See Sar A. Levitan, Federal Manpower Policies and
grams to Combat Unemployment (Kalamazoo: The W. E.
ohn Institute for Employment Research, 1964); and U. S.
artment of Health, Education and Welfare, Education and
ining:...(Washington: U. S. Government Printing Office,
ious years); this is the annual report of the HEW
etary to Congress on MDTA training.

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wever, very few retraining programs have been established

primarily rural areas, and even less research has been

nducted into the effectiveness of such retraining.

ere is one study of rural retrainees in Eastern Kentucky

d a report of the Concentrated Employment Program (CEP)

roach in pilot form being conducted in Minnesota and

other locations by the Federal Employment Service.[24]

Rural Poverty Commission itself stated that "Few of the

programs have had a major impact on rural America."[25]

   The evidence from other sources appears equally

couraging. Discussing the failure of public anti-

erty programs to reach the rural poor, Clawson stated,

ch efforts as have been made to develop rural manpower

ining programs have found it difficult to locate the

al poor in need of such training."[26] And in discussing

potential effects of alternative Federal policies

he welfare of rural people, Martin thought it "doubtful

rograms now authorized (in 1966) will arrest the growing

ciency in educational achievement of the rural labor

e."[27]

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[24]John S. McCauley, "Manpower Development in Rural
s," _Employment Service Review_, Vol. 5, Nos. 3 and 4
ch-April, 1968), pp. 10-15 ff.

[25]National Advisory Commission on Rural Poverty,
People Left Behind, p. vii.

[26]Marion Clawson, "Rural Poverty in the United States,"
al of Farm Economics, Vol. 49, No. 5, (December, 1967),
30.

[27]Lee Martin, "Effects of Alternative Federal Policies
lfare of Rural People," _Journal of Farm Economics_,
48, No. 5 (December, 1966), p. 1275.

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What has been the actual participation record of the
[ru]ral poor in Federal manpower retraining programs? Looking
[on]ly at trainees who were farm workers prior to training,
[Tw]eeten noted that they comprised less than 2.5 percent of
[al]l trainees in 1966.[28] However, when rural farm and rural
[no]nfarm workers are both considered, the U. S. Department
[of] Labor data indicated that they comprised roughly 19
[pe]rcent of the total number of 1966 trainees.[29] The more
[si]gnificant facts revealed by this data were that over 70
[pe]rcent of all rural trainees were under 35 years of age,
[an]d only 22 percent of the institutional trainees and 15
[pe]rcent of the on-the-job trainees had less than nine
[yea]rs of education - meaning that those rural workers
[mos]t in need of retraining because of age and educational
[han]dicaps were the least likely to be included in retraining
[pro]grams.

The 1969 manpower report of the U. S. Department of
[Lab]or estimated that 20 percent of all MDTA trainees from
[196]3 to 1968 were rural residents. The report stated that
[al]though recent manpower programs have been concentrated
[mor]e in urban than in rural areas, they have had some impact
[out]side the cities."[30] In 1968, there were 13 Concentrated

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[28]Tweeten, Rural Poverty..., p. 49.

[29]U. S. Department of Labor, Manpower Report...(1967),
[p.]275.

[30]Ibid. (1969), p. 112.

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Employment Programs operating in rural areas as compared
to 63 in urban areas.

It would appear that rural poverty problems have not
as yet received adequate attention from Federal anti-
poverty programs, particularly those designed to upgrade
the occupational skills of the rural labor force. After
reviewing the broad array of Federal anti-poverty programs,
Tweeten concluded that "A combination of too many programs
and too little funds have made Federal efforts to relieve
rural poverty imaginative and promising, but often in-
effective."[31]

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[31]Tweeten, Rural Poverty..., p. 63.

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II. LABOR THEORY APPLIED TO RURAL POVERTY AND RETRAINING

Introduction

Any socio-economic problem worthy of a researcher's time and effort must be capable of being analyzed in terms of received economic theory. Stated differently, if it is to pass the tests of external consistency and workability, the received economic theory must be applicable to those perceived problems which command the time and effort of socio-economic researchers.

In this chapter theoretical concepts of labor economics are briefly examined and related to problems of rural poverty and to contemporary concepts of manpower retraining.

Marginal Productivity and Bargained Wage Theories.

The two prevailing labor theories today are marginal productivity theory and the bargaining theory of wages. What contributions do these theories make to an understanding of the causes of and the possible remedies for conditions of rural poverty?

Modern labor theory had been primarily concerned with explaining the level of wages and changes in this level. Under perfect competition, with the assumptions of fully employed resources, perfect mobility of factors of production, perfect knowledge of prices and wages on the part of all concerned, and rational economic motivations, marginal productivity theory "postulates the theory that, over the long run, each factor of production will tend to receive remuneration which is equal to its marginal contribution to

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the production process."[32] Thus the wages of workers should be equal to their marginal productivity.

In recognition of the fact that labor markets are less than perfectly competitive due to such factors as legal minimum wages, union wage contracts, and the apparent tendency of large corporations to not maximize profits, labor economists have formulated the theory of bargained or negotiated wages to replace, or to expand upon, marginal productivity theory.

Four basic criteria upon which collectively bargained wages depend, according to Lester, are: (1) wage scales for comparable work in other plants or industries; (2) changes in the cost of living; (3) changes in labor productivity; and (4) the company's or industry's ability to pay wages, usually measured by profits.[33] A pragmatic approach such as this helps to explain some of the short-run variations in wage levels. Even so, labor productivity and increases in it are utilized when bargaining for higher wages, although it is average worker productivity, rather than marginal productivity, which is usually considered. To explain the level of long-run wages, Morgan noted that

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[32]Chester A. Morgan, _Labor Economics_ (Homewood, Illinois: The Dorsey Press, 1966), p. 61.

[33]Richard A. Lester, _Economics of Labor_ (New York: Macmillan, 1964), p. 286.

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marginal productivity theory still appears to give the most valid answers. He cited the ratio of manufacturing wages to value added by manufacturing and the ratio of wages to gross national product, ratios which have varied very little over time, as historical indicators of the relatively close relationship between wages and productivity. Morgan concluded that "While the so-called 'bargaining theory' is perhaps the best explanation to date of the short run wage-setting mechanism in the industrial economy, it is also probable that the marginal productivity theory is the most valid explanation thus far of the basic factors determining long-run wage levels and tendencies.[34]

Does each labor factor in fact receive wages equal to its marginal contribution to the production process? Regional differences in wages paid for identical work performed for the same firm and continuing wage differences of from ten to fifteen percent between firms in local metropolitan labor markets seem to indicate it does not.[35] The bargaining theory of wages, recognizing the generally unorganized nature of labor in rural areas, can explain much of the causes of low wages in rural areas, and much of the short run variation in regional and local wage levels. However, data on relative labor earnings by industries, and changes in them from 1948-66, indicate that many of these

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[34]Morgan, _Labor Economics_, pp. 73-74.

[35]Lester, _Economics of Labor_, p. 267.

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riations appear to be of a long-run nature and, therefore,
ey raise questions about the validity of marginal pro-
ctivity theory.[36]

Many writers have assailed the "unrealistic" assumptions
marginal productivity theory and have concluded that,
cause the assumptions are unreal, the theory itself is
eless. In discussing recent developments in economic
eory that have significant implications for broader
cial questions, Johnson noted that emphasis has shifted
om anxiety about the reality of the assumptions to
ting the "robustness" of the conclusions of a theory
empirical estimation or theoretical investigation.
Johnson, the "robustness" of a theory meant the extent
which its conclusions survive under changes in the
umptions from which it is derived."[37] He concluded
t "the results have almost invariably been to confirm
main propositions of neo-classical theory."[38] It
ears appropriate, therefore, to accept marginal productivity
ory on the basis of its performance, but at the same
e to question the assumptions underlying the theory.

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[36]Hyman P. Minsky, "Adequate Aggregate Demand and the
itment to End Poverty," in National Advisory Commission
ural Poverty, Rural Poverty..., pp. 572-74.

[37]Harry G. Johnson, "The Economic Approach to Social
tions," Public Interest, No. 12(Summer, 1968), p. 71.

[38]Ibid, p. 72.

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Obvious deviations from reality of the theoretical
umptions have received considerable attention from
nomic theorists. The inaccuracy of the assumption of
l employment requires little comment here. The relation-
p between the degree of unemployment and the extent of
erty in our economy is clearly discussed by Minsky,[39]
Schuh has demonstrated the relationship between the
m labor force and the total economy.[40] Minsky noted
t, with the technological revolution in agriculture
easing a very large number of workers from this sector
providing a relatively elastic supply of labor to the
ustrial sector, "a rise in aggregate demand that might,
er other circumstances, lead to inflationary pressure
ld under these circumstances lead to faster absorption
formerly rural population into the urban society. Thus,
ighter urban labor market would go far to eliminate
al poverty.[41]

The lack of perfect knowledge of wages and prices by
workers is also clearly recognized. Recommended
tions to this problem generally call for an improvement
he job information and placement services provided by

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[39]Minsky, "Adequate Aggregate Demand...," pp. 562-80.

[40]G. Edward Schuh, "Interrelations Between the Farm
r Force and Changes in the Total Economy," in National
sory Commission on Rural Poverty, Rural Poverty...,
170-184.

[41]Minsky, "Adequate Aggregate Demand...," p. 572.

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present state and Federal employment services. A good
mple of recommended changes in these services which
ld affect rural poverty victims in particular is presented
the National Advisory Commission on Rural Poverty.[42]

Numerous labor market imperfections which inhibit the
ility of labor and thus cause or aggravate poverty
e also been detailed. Batchelder lists among these
perfections the misallocation of educational resources,
e men's unwillingness to change, family obligations,
social minimum wage, discrimination, and rising
oductivity.[43]

Several recent studies have examined available data
occupational mobility to determine the variables
ociated with mobility and the effects of mobility
n income. Of concern here is whether or not the labor
ket is functioning in accordance with theoretical
tulates and what implications its functions has for
uction of rural poverty.

While it is unfortunate that the several studies
not focus on the same groups in the labor force nor
he same questions about these groups, so that the
lusions of the studies are really not comparable,

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[42]National Advisory Commission on Rural Poverty,
People Left Behind, pp. 28-31.

[43]Alan B. Batchelder, The Economics of Poverty (New
: John Wiley and Sons, 1966), pp. 83-95.

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each does shed some light on the functioning of the labor market.

Two studies which focused on the effects on income of geographic labor mobility between regions of the United States were those of Lansing and Morgan[44] and of Gallaway.[45] Lansing and Morgan found that income levels of geographically mobile workers are less than those of nonmobile workers. However, by comparing income levels of comparable groups of mobile and non-mobile workers this relationship tended to disappear. By extending the regional mobility analysis to include an analysis of interindustry mobility between 1957 and 1960 as well, the Gallaway study showed that mobile male workers who did not change industry of employment had earnings slightly higher (about three percent)than similar nonmobile workers, and mobile workers who also changed industry of employment also had even slightly higher earnings that similar nonmobile workers (about five percent). Lansing and Morgan also found that the income levels of those who moved into a region were lower relative to those already in that area; again by adjusting in-movers for change in industry Gallaway found them to have higher income than in-movers in seven of the nine regions.

These two studies show conflicting effects upon income from regional mobility of workers, depending upon whether

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[44]John B. Lansing and James N. Morgan, "The Effects of Geographic Mobility on Income," <u>Journal of Human Resources</u>, . 2, No. 4 (Fall, 1967), pp. 449-460.

[45] Lowell E. Gallaway, "The Effect of Geographic Labor ility on Income: A Brief Comment,"<u>Journal of Human urces</u>, Vol. 4, No. 1 (Winter, 1969), pp. 103-109.

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industry of employment changes are also considered or not.
It appears, however, that a major weakness in both studies
arises from the fact that only a small percentage of mobile
workers actually move across regions in the United States,
yet only regionally mobile workers were considered. It is
doubtful if any valid generalizations can be made for all
mobile workers from the limited sample used in these
studies.

A second type of mobility study is that which con-
centrates on mobility of labor from particular sectors of
the economy. In relation to rural poverty, a mobility
study by Gallaway[46] of hired agricultural labor and two
by Hathaway and Perkins[47,48] of both hired and self-employed
agricultural workers are of particular interest.

Gallaway found considerable outmigration of hired
agricultural labor from agricultural employment which was
apparently responsive to income differences between agri-
culture and other sectors. However, relatively large
back migration into agriculture led to relatively small

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[46]Lowell E. Gallaway, "Mobility of Hired Agricultural
Labor," _Journal of Farm Economics_, Vol. 49, No. 1 (February,
1967), pp. 32-52.

[47]Brian E. Perkins and Dale E. Hathaway, _The Movement
of Labor Between Farm and Nonfarm Jobs_, Agricultural
Experiment Station, Research Bulletin No. 13 (East Lansing:
Michigan State University, 1966).

[48]Dale E. Hathaway and Brian E. Perkins, "Occupational
Mobility and Migration From Agriculture," in National
Advisory Commission on Rural Poverty, _Rural Poverty_...,
pp. 185-237.

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(in view of income differentials) net outmigration from this
sector. The large income differentials[49] were explained
as reflecting the combination of costs of movement, including
costs of retraining for other types of employment and
artificial barriers to labor mobility. Gallaway noted that
younger workers predominated among the outmigrants whereas
older workers predominated among the inmigrants. He
hypothesized that voluntary mobility (a job change the worker
willingly elects to make) characterized the former, whereas
the latter could be considered involuntary mobility (a
job change which the worker is forced to make). The
conclusion reached was that dynamic equilibrium existed
in the agricultural labor market.

Hathaway and Perkins found the same conditions of
large gross but relatively small net outmigration from
agriculture for all agricutural workers. They found no
relationship between off-farm mobility and income, apparently
because the most successfully mobile were more likely to
have been multiple jobholders and have higher incomes
prior to changing employment than were the less successfully
mobile. Occupational mobility and income gains were most
common for the young, whites, farm wage workers, living
in high income counties located close to SMSA's. They
also found that most farm workers do not move far when

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[49]Gallaway, "Mobility...," p. 35. The 1960 level of
mean estimated earnings of hired agricultural labor was
$1,922; the 1960 all-industry average was $4,924.

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changing jobs, the only exceptions being the young and the
Southern Negro and there was no evidence that long-dis-
tance migration pays economic dividends. In general,"the
mobility process works less well for those who need it
most."[50] Viewing the situation in the agricultural labor
market as one of dynamic disequilibrium, Hathaway and Perkins
noted that measures are not needed to speed the rate of out-
migration from agriculture. What is needed, they stated,
is reduced unemployment in the overall economy and programs
of job retraining to better equip those who are not
successfully mobile for employment in the nonfarm economy.

It thus appears that workers in the agricultural
sector do respond consistently with predictions from a
simple model of expected income gains in moving from farm
employment to sectors of higher expected incomes. Back-
moving is also a consistant choice in view of actual income
experience. Is this market characterized by barriers to
mobility? The large gross movement both ways would suggest
that it is not. However, if mobility is viewed in terms
of successfully remaining in the new occupation on a
long-term basis and earning above poverty-level incomes,
then there are apparently major barriers to mobility from
the agricultural sector.

No mobility studies to date have focused their attention
on those workers who are residents of rural areas but who

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[50]Hathaway and Perkins, "Occupational Mobility...,"p. 212.

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are not employed in the agricultural sector. The above
studies illuminate the situation which exists among farm
sector workers and clearly illustrates the need for removing
barriers to their occupational mobility. It can probably
be assumed that similar conclusions would be reached for
all rural residents with poverty-level incomes.

The above discussion has supported the contention
that labor market conditions in the United States presently
do not coincide closely with the assumptions of marginal
productivity theory. A situation of less than full
employment led to the development of the complex Keynesian
theory of macro-economics. Numerous prescriptions have
been made for improving the flow of labor market information,
and certainly much improvement has already been made.
And it appears that numerous barriers to labor mobility still
characterize this market. Does all this mean that marginal
productivity theory can contribute nothing substantial to
an understanding of rural poverty conditions? It does not.
The assumptions are made for a system in static equilibrium;
as long as dynamic adjustments are continually being made
in an economy, even if perfect competition were to exist,
the failure to attain an equilibrium implies that static
assumptions will not hold.

The real test for marginal productivity theory is
whether it leads to policy prescriptions which will, when
carried out, improve the functioning of the labor market
and in so doing reduce the extent of poverty-level incomes.

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he following section indicates that on this basis the
heory has made a major contribution.

. Human Capital Investment

An alternative approach to the question of long-run
variation in wage rates between industries, as opposed to
attacking the assumptions of marginal productivity labor
theory, is to apply the theory directly and examine the
marginal productivity of workers in various industries.
This approach leads to the conclusion that wages differ
because workers differ in their marginal productivity.
Whereas this difference has long been recognized between
entry-level workers and trained or experienced workers
in a particular occupation, it has not been generally
recognized that such productivity differences may exist
between entry-level or marginal workers in the different
occupations and industries. This lack of recognition was
due to the additional assumption or simplication of
marginal productivity theory that treated labor as a
homogeneous factor of production rather than recognizing
differences in labor skills.

Recognizing that workers do possess different human
capacities has led to what Johnson considered "a new
approach to the economics of labor - more broadly, the
economics of the role of human beings in the productive
process - based on the concept of 'human capital'."[51]This

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[51]Johnson, "The Economic Approach...," p. 73.

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ncept envisages workers as particular types of capital
quipment employed in the production process whose pro-
uctive capacity is developed by a process of investment,
hrough education and on-the-job training, and this in-
estment yields a return over the worker's lifetime.

The history of this human capital approach has been
xtensively documented and needs only brief mention here.
aizey summarized the view of classical economists, noting
hat since Adam Smith economists have been aware of the
mportance of human resource development.[52] Yet modern
conomists tended to concentrate upon physical capital
nd to neglect the human factor. This apparent neglect
nd its implications were noted by Schultz in his presi-
ential address to the American Economic Association in
960 when he said:[53]

> The failure to treat human resources explicitly as a
> form of capital, as a produced means of production,
> as the product of investment, has fostered the
> retention of the classical notion of labor as a
> capacity to do manual work requiring little know-
> ledge and skill, a capacity with which, according
> to this notion, laborers are endowed about equally.
> This notion of labor was wrong in the classical
> period and it is patently wrong now.

The development of the concept of human resources
ad been well summarized by Harbison and Myers,[54]

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[52]John Vaizey, "What Some Economists Said about
lucation," Chapter I, The Economics of Education (London:
ber and Faber, Ltd., 1962).

[53]Theodore W. Schultz, "Investment in Human Capital,"
e American Economic Review, Vol.51, No. 1 (March,1961),p.3.

[54]Frederick Harbison and Charles A. Myers, "Concepts
Human Resource Development,"Chapter I, Education, Manpower
Economic Growth (New York: McGraw Hill, 1964).

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weeten,[55] and others. In general, the studies which they
summarized found that education, through enhancement of
the human factor, had made a major contribution to the
observed growth in national economies. On the individual
level, additional education contributed considerably
to increased expected lifetime earnings.

Ginzberg has noted that a number of economists are
considering the human resource factor as the key determinant
of economic progress, and he considers this "a revolution
in economic thinking that may yet exceed in significance
the change wrought by Keynes."[56] This new emphasis on the
human factor in production, the emergence of a new psy-
chology which emphasizes the dynamic facets of human
growth and development, and a transformation of the economy
from a dependence on unskilled, physically strong laborers
to increasing dependence on men of general and specialized
education and skill have been, according to Ginzberg, the
three major forces responsible for the modern concern for
the development of human resources.

Some studies have attempted to measure the contribution
to lifetime earnings of various amounts of formal schooling.

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[55]Luther G. Tweeten, The Role of Education in Alleviating
Rural Poverty, Agricultural Economic Report No. 114 (Wash-
ington: U. S. Department of Agriculture, Economic Research
Service, June, 1967).

[56]Eli Ginzberg, The Development of Human Resources
(New York: McGraw Hill, 1966), p. 3.

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l studies presented only general approximations of the
nefits of education and numerous methodological problems
i making the computations remain unresolved. Yet Ribich
ted that "practically all of the studies arrive at the
onclusion that the payoff rate for continued education
: all levels is remarkably high - something in excess of
) percent for college education and perhaps as high as
) percent for increments at lower levels."[57] Comparative
:udies of the payoffs from vocational versus general
lucation have been limited, the work by Ribich being
ie only one which attempted to make such comparisons
i a national level with a standardized methodology. He
ound that "vocationally oriented training, at least in
ie form of recent manpower training programs, exhibits
higher rate of payoff than does general education."[58]

The evidence on the role of education in enhancing
th national economic output and individual lifetime
come streams appears very conclusive. Most economists,
erefore, automatically ascribe to education a major
sponsibility in alleviating family poverty level incomes.
at is the nature of the relationship between education
d poverty? Wolfbein claimed that about 40 percent of
e decline in poverty among families in the United States

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[57]Thomas I. Ribich, _Education and Poverty_ (Washington:
Brookings Institution, 1968), p. 9.

[58]_Ibid._, p. 97.

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between 1950 and 1964 resulted from the increased level of educational attainment of household heads during the period.[59] Also, by means of a more precise specification of the relationship between poverty and education (and six other explanatory variables) in a regression model, Thurow found education to be significantly related to poverty. The 1963 incidence of poverty was 44 percent among households with family heads having less than eight years of schooling, 10 percent for heads having completed high school, and under 5 percent when the head had completed four years or more of college.[60] Thus, improvements in education are, according to Thurow, one of the most effective ways of eliminating poverty. While cautioning that accelerating the decline of poverty by improving educational levels would be difficult because low educational attainments were concentrated among older workers, he concluded that investment in human resources, together with equal rights for Negroes and the push towards full employment, could potentially make significant re- ductions in the number of families living in poverty.

Tweeten has made the most comprehensive attempt to relate the findings on human resource development to rural

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[59]Seymour L. Wolfbein, _Education and Training for Full Employment_ (New York: Columbia University Press, 1967), p. 102.

[60]Lester C. Thurow, "The Causes of Poverty," _Quarterly Journal of Economics_, Vol. 81, No. 1 (February, 1967), p. 46.

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poverty conditions, discussing social as well as economic
determinants of rural poverty. He stated that

> Education has a two-fold effect on rural poverty.
> First, it increases skills of persons, potentially
> raising farm management levels as well as increasing
> suitability for nonfarm jobs. But equally important
> may be the second effect of education - enhanced
> motivation and aspirations for improved earnings
> and living standards, and changed attitudes more
> consistent with frictionless assimilation into a
> new environment.[61]

Estimates by Bird, cited by Tweeten, showed that in
1959 the incidence of poverty among farm families was
57 percent in families whose heads had less than eight
years of schooling; this dropped to 31 percent in families
where the head had twelve years of schooling. Comparison
with Thurow's data, which showed rates of 44 percent and
10 percent respectively for these two groups in the nation
as a whole, gives an indication or rural-urban differences
in the relationship between education and poverty.

The studies cited indicate a very definite relationship
between education and poverty. Caution must still be followed,
however, in applying the relationships found in cross-
section studies of the entire population to those families
and individuals now in poverty. Years of schooling attended
is not the only factor which causes those with more education
to earn higher incomes, and the studies themselves have
really presented only tentative estimates of returns to
human capital investment. In addition, most studies measured

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[61]Tweeten, The Role of Education..., p. 21.

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average, rather than marginal, returns to this form of investment.

One attempt has been made to evaluate the returns to several forms of educational investment designed as antipoverty programs. In the study cited previously, Ribich compared benefit-cost ratios (which could be estimated on the basis of very limited data and few programs) of programs aimed at dropout prevention and compensatory education at the secondary level, pre-school training, increased per-pupil expenditure, and job retraining of unemployed workers. It was found that all but the job retraining programs had very low benefit-cost ratios, usually less than unity. The retraining programs fared much better, apparently because their efforts were focused on individuals known to have low incomes.[62] So for marginal contributions of education in relieving poverty conditions, the type of educational investment made appears to be of significant importance.

D. Conclusion

Since the major emphasis of job-retraining programs is upon raising worker productivity, the human capital investment extension of marginal productivity labor theory does appear to present valid conclusions and policy re-commendations in relation to the causes of and potential cures for conditions of rural poverty.

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[62]Ribich, _Education_ ..., p. 97.

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To the extent that factors other than low worker marginal productivity cause rural poverty conditions, an increase in worker productivity will not, by itself, completely solve the rural poverty problem. For example, Bluestone noted that in 1963, over 25 percent of United States households in poverty were headed by a fully employed individual.[63] This poverty resulted, at least in part, from their being employed in low-wage industries. While Thurow noted that the incidence of poverty among families with a fully employed head dropped from 12.2 percent in 1956 to 6.9 percent in 1963, this still re-presented eight and one-half million families.[64]

Raising the productivity of these workers through retraining would have some effect on their income levels, either through upward mobility in the low-wage industry itself or through movements to higher paying industries. But the low-wage industries would presumably still employ other workers at poverty-level wages in the absence of full employment.

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[63]Barry Bluestone, "Lower-Income Workers and Marginal Industries," in Louis A. Ferman, et. al. (eds.) Poverty in America (Ann Arbor: University of Michigan Press, 1968), pp. 273-302.

[64] Thurow, "The Causes . . .," pp. 77-78.

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A. Family Composition[65]

There are several alternative ways of organizing a household for statistical studies depending on the primary emphasis of the study. The basic interview unit in the RLS study was the <u>household unit</u> (HU), not just an occupied dwelling itself, for an occupied dwelling may contain more than one household depending on whether they live separately or together.

Just as a dwelling can contain one or more households, so a household can contain one or more consumer units. A <u>consumer unit</u> (CU) was the general term used to refer to both families and unrelated individuals. A <u>family unit</u> (FU), according to the Census definition, consists of two or more persons living together and related by blood, marriage or adoption. In this study, unless otherwise stated, the family unit also included any unrelated children under sixteen years of age and any foster children living with the family, even though the current population surveys treat a foster child as an unrelated individual. Also in this study, an <u>unrelated</u> <u>individual</u> (UI) or unit one over fifteen years of age who lives alone or with others unrelated to him by blood, marriage, or adoption.

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[65]This section draws heavily from USDA, Economic Research Service, <u>Rural Life Survey: Editing Manual</u>, A1-A3.

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For many purchasing and taxing transactions the basic unit is the marital unit. <u>Marital unit</u> (MU) is the general term applied to both husband-wife marital units and to other marital units, and it was extensively used in RLS tabulations. The <u>husband-wife marital unit</u> (H-WMU) is the husband-wife couple of Census or the joint taxpayer of the Internal Revenue Service. In the RLS study, unless otherwise stated, the H-WMU was restricted to those couples living together at the date of the survey. This agreed with Census in that it included husband-wife heads of sub-families (a sub-family is a family group, husband-wife-child or parent-child, living with relatives, i.e., couples, parents with children, or children with parents) but differed from IRS both as to date and to the requirement that they be in the same household. A H-WMU had the combined income or assets of both husband and wife but the classifying personal characteristics of the unit were those of the husband unless otherwise stated.

The <u>other marital units</u> (OMU) were the one-person decision making and income units. It comprised all those who could not be classified as H-WMU. It included Census female and other male heads, other relatives, and un-related individuals. It included IRS taxpayers filing returns as singles, heads of households, or surviving spouses.

This study of needs and potentials for escape from poverty through retraining focused, alternately on consumer units and on their individual members. The basic unit for

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termining the poverty status of all RLS respondents
s the consumer unit, so needs for escape from poverty were
termined by consumer unit poverty status. Potentials
r escape from poverty, however, were determined by the
aracteristics and attributes of individual members of
he consumer units. The study determines the retraining
tentials of individuals and then estimates the effect
eir retraining will have on raising consumer unit income.
tailed information relative to labor force participation
s obtained for all consumer unit members above 15 years
 age. Whenever "individuals" are the group under an-
ysis, it must be noted that it is this particular group
 some sub-sample of it that is referred to, and not all
dividuals (including children under 16) in the survey
useholds.

 Farm and Non-Farm Households

 For purposes of sample design, households were origi-
ly identified as either farm operator or non-farm house-
ds. There were twice as many non-farm as farm households, so
 sampling procedure then selected approximately a 0.6
cent sample of farm operator households and a 0.3 per-
t sample of non-farm households. To make the entire
le proportional, the non-farm households were given a
ht of "2" and farm operator households were weighted

 This permitted generalizations from the sample to
area as a whole on the same basis for both farm and non-
households or for the sample as a whole if farming

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Delineation of Poverty Categories

The basic poverty code used in this analysis was the
onsumer unit poverty status. This poverty status was
xpressed in terms of the ratio of consumer unit income
eceived to that unit's income required, with income
equired being determined by consumer unit "poverty level"
ncome less a modification for home grown food. That is,

$$
\begin{aligned}
\frac{\text{Consumer Unit}}{\text{Poverty Status}} &= \frac{\text{Income Received}}{\text{Income Required}} \\
&= \frac{\text{Consumer Unit Income}}{\text{Consumer Unit} - \text{Consumer Unit Home}} \\
&\quad\ \ \text{Poverty Level}\ \ \ \ \text{Grown Food Modification}
\end{aligned}
$$

The value of the poverty status ratio would be
sitive whenever there was any income received and negative
the consumer unit received negative income, with the
tio 1.00 being the dividing line between poverty level and
n-poverty level incomes.

Throughout the Rural Life Survey study, the poverty
atus ratios have been broken down into categories which
flect varying degrees of poverty. This breakdown permits
lysis of the influence of the numerous socio-economic
iables on the degree of poverty suffered by consumer
ts rather than just lumping together all units below
"poverty line." The ratios used throughout this analysis
etraining potentials, utilizing the degree of poverty
nement, were arbitrarily classified as follows:

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          <0.80 - deep poverty
     0.80 <1.00 - poverty
     1.00 <1.20 - near poverty
     1.20 <1.50 - hardship
          ≥1.50 - non-poverty
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The procedures followed in deriving each of the variables on the right hand side of the poverty status equation, and their theoretical bases, are described below.

Components of the Poverty Status Formula

The poverty status criteria developed by Orshansky for the Social Security Administration[66] provided the theoretical base for the RLS measure of poverty status.

Consumer Unit Income

In principle there is no difference between the income concept used in this study and that used by Orshansky, and determining what consitutes income is a fairly straight-forward task. However, the income measure used in this study is probably more complete than that found in Census data. Here income received consisted of all cash income, including transfer payments and property incomes, received by any member of the consumer unit. Any earnings data not pro-vided by respondents were inputed on the basis of job descriptions and total farming operations.

Consumer Unit Poverty Level

The Rural Life Survey consumer unit poverty level is the same concept as the Orshansky "non-farm income require-ment."

The Orshansky non-farm income requirement was based on the fact that long observation has shown that food expendi-

[66]Mollie Orshansky, "Counting the Poor: Another Look
the Poverty Profile," Social Security Bulletin, Vol. 28,
1 (January, 1965), pp. 3-29.

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...res of families of uniform size decline as a percent

...total expenditures as income increases. Thus, a specified

...rcent expenditure for food could be used to indicate

...e poverty line for each type of family. For families

...three or more persons, Orshansky found that about 33

...rcent of total expenditures for low-income families were

...r food, so food costs were expanded by a factor of

...ree to arrive at the non-farm poverty income criteria.

...e Orshansky poverty criteria was theoretically based

on the following factors:

I. In setting food costs, factors considered were:

    a. <u>Size of family</u> - a unit food cost was assigned
to each member and adjustment was made for family
size to allow for scale economies in food
purchasing.

    b. <u>Age</u> - it was recognized that unit costs of
food and other items differ by age, at first
increasing and later declining.

    c. <u>Sex</u> - at certain ages these costs also differ
by sex.

II. In setting the expansion factor:

    Food purchases as a proportion of total income—
study showed that three person families average
about one third of their income expended for food.
Living costs per capita were considerably higher
for a couple and still higher for a single person
due to relatively larger per person fixed costs.

The expansion factors set were:

CU Size	Expansion Factor
≥3	3.0
2	3.7
1	6.0

The non-farm poverty level matrix developed by

...ansky from the theoretical base, adjusted to the 1966

...e level, was used to establish the Rural Life Survey

...mer Unit poverty level.

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Consumer Unit Home Grown Food Modification

In making final adjustments in the level of Consumer Unit income requirements, Orshansky assumed that farm families earned income in kind from food that was home grown. The farm poverty level was, therefore, somewhat arbitrarily set at 70 percent of the non-farm poverty level.

Instead of accepting and applying the arbitrary 30 percent adjustment factor of Orshansky for income in kind of rural farm families, the Rural Life Survey study attempted to adjust incomes as accurately as possible by the actual amount of food requirements that were met by home-grown food for both farm and non-farm consumer units. To do this, each respondent was asked to specify the percentage of their total 1966 needs of fruits, vegetables, grains, milk, and meat and poultry products which were raised by household members or given to the household by employers, friends, relatives, or welfare agencies.

This percentage of food requirements which was home-grown was converted to a home-grown food component by multiplying it by the dollar food requirements for individuals by age and sex types and summing for all individuals in the Consumer Unit and, as in the case of poverty-level described above, by adjusting for family size.

The non-farm poverty level (the left hand term in the denominator of the CU poverty status equation) was then reduced by the value of this food in kind to give the consumer unit income required." This measure of income required can be considered a "modified Orshansky" requirement,

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e Orshansky criteria being modified for all consumer

its by actual amounts of food requirements met by home

own food.

It must be cautioned that this procedure for determining

nsumer unit poverty status presents only one measure of

e extent of rural poverty in this subregion. This is not

esented here as the only or the "true" measure of rural

verty, since any poverty line is necessarily arbitrary.

e Orshansky poverty measure is plagued with several

nceptual shortcomings. Bonnen has discussed the major

mitations of the Orshansky measure, noting that

It defines poverty entirely in terms of a nutritionally
adequate low-cost food budget. No other human need
enters into the definition in any operational manner.
The income numbers which are set out as poverty-line
cutoffs are not meaningful income aggregates since they
are simply arbitrary food-cost figures multiplied in
all cases by an assumed food-budget-income "multiplier"
of three. This multiplier of three is derived from a
1955 food-budget study which found that one-third of
all consumer income was spent on food... But not only
is the multiplier statistic a decade old; it is also an
average for the entire range of income rather than for
the lower end of the distribution, which would be the
relevant statistic.[67]

In addition, the reduction made in required farm

omes because some percentage of farm family food re-

rements are home-grown also assumes that farm families

uire the same percentage less than non-farm families of

nsportation, housing, medical care, and all other goods

service. In so doing, the Orshansky measure substantially

[67]Bonnen, "Rural Poverty...," pp.462-463.

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reduces the number of farm families that would be found in the poverty catagory by other measures.

The poverty measure used in this study contains all of these limitations. It does improve upon the Orshansky measure by using actual amounts of homegrown food, but in so doing it also extends whatever understatement of poverty there is to the non-farm households as well.

E. The Rural Life Survey Population

1. Extent of Poverty---Standard Criteria

By applying the procedures described above for determining consumer unit poverty status to the Rural Life Survey population, the following percentages of consumer units and individuals were found to be in poverty, that is, with a poverty status ratio below 1.00.

The date in Table 3 indicate that sixteen percent of all consumer units were in poverty in 1966, with the percentage among farm units only slightly higher than for non-farm consumer units. However, among family units only, the rate of poverty was over fifteen percent for farm and only ten percent for non-farm consumer units for a total rate of less than twelve percent. The rate of poverty among unattached individuals[68] was very high, as shown in Table 3, with an overall rate of nearly fifty percent; the poverty rate was slightly higher for non-farm than it was for farm units. Since unattached individuals represented only about

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[68]Unattached individuals are persons living alone with persons to whom they are not related; they are single member consumer units.

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twenty percent of the total survey population, the effect of nearly a fifty percent poverty rate among them was to raise the total poverty rate for consumer units from less than twelve percent for family units to sixteen percent for all consumer units.

Perhaps a more meaningful breakdown of consumer units than by farm-non-farm status is the breakdown by potential economic viability. All consumer unit heads under age 65 and not physically disabled were classified as potentially economically viable. This group no doubt includes some persons not retrainable and not potentially viable without specialized programs. As stated in Chapter I, individuals may be afflicted with non-physical disabilities which effectively prevent them from being retrained and gainfully employed. The measure of potential economic viability used in this study, and the retraining potentials derived from it, will tend to overstate the actual potentials of the Rural Life Survey poor. Unfortunately, no measure of non-physical disabilities was available in the survey data.

The date in Table 4 are arranged by age, health, and family status. It is apparent that poverty was much more prevalent among the aged and the disabled, as would be expected, than among the young and healthy. The poverty rate was twenty-seven percent among families whose heads were over 64 years of age; among the aged unattached individuals the rate was fifty-three percent (for the disabled aged it reached a very high seventy percent). The overall rate among the aged consumer units was thirty-five percent,

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Table 3.

Percentage of Consumer Units in Poverty,
by Residence and Family Status
Total 1967 Rural Life Survey Consumer Units

| Residence Status | Family Status | | Total Consumer Units |
	Heads	Unattached Individuals	
Farm	15.4	42.7	17.4
Non-farm	10.0	48.4	15.2
Total	11.8	47.2	15.9

compared to a rate of just over nine percent for potentially
viable consumer units, that is, for those units whose
heads were under 65 years of age and not handicapped or
seriously disabled. Even among the potentially viable
units, however, one-third of the unattached individuals were
in poverty, as compared to less than eight percent for other
family units.

Although the poverty rates were very high among the
aged and disabled groups (nearly four times the rate among
the young and healthy for all consumer units), only one half
of the total number of consumer units in poverty were
over 64 years of age. This was due to the larger total
numbers of younger consumer units, and particularly younger
family units (only twenty-one percent of all poor unattached
individuals were under 64 and healthy). Of particular interest
in any consideration of the role of job retraining in
lifting rural poor families from poverty is the fact that

Table 4.

Percentage of Consumer Units in Poverty, by Age-Health and Family Status, and Percent Distribution

1967 Rural Life Survey Consumer Units Below 100 Income Ratio

1967 Rural Life Survey Consumer Units Below 100 Income Ratio

	Age-Health								
	Healthy				Disabled				
	Viable				Welfare				
Family Status	<25	25-44	45-64	≥65	<65	≥65	Total	Viable	≥65
Heads	4.9	7.4	8.8	25.0	28.0	32.2	11.8	7.9	26.8
UI's	16.7	36.8	34.8	45.9	56.5	69.9	47.3	33.7	52.8
Total	5.7	7.7	10.9	31.7	32.3	46.1	15.9	9.1	35.4
Percent Distribution of Total	1.3	17.3	23.7	34.0	6.6	17.0	100.0	42.3	51.1

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ly forty-two percent of the poor consumer units in the
urvey could be considered potentially economically viable,
id the heads of fifty-six percent of those were over 44
ars of age. The number of potentially viable poor
nsumer units represented less than seven percent (6.7%)
the 4766 total consumer units in the survey.

dividuals

There were 10,533 individuals over age 15 included
the Rural Life Survey. The percentage distribution of
ese individuals by consumer unit status is presented
Table 5. No separate breakdown of persons in poverty

Table 5.

Number and Percent Distribution of Survey
Population by Consumer Unit Status

Total 1967 Rural Life Survey Individuals

Consumer Unit Status	Number	Percent
Heads	4218	40.0
Wives of heads	3885	36.9
Unattached individuals	548	5.2
Other relatives	1882	17.9
Total	10533	100.0

these four groupings is given, because the poverty rate
wives and other relatives will very closely approximate
rate for family consumer units discussed above. The

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erty rate among unattached individuals was also dis-
sed above.

Looking at all individuals together, the data in
le 6 indicate that just under thirteen percent of the
ey individuals were in poverty in 1966, compared to
sixteen percent for consumer units mentioned above.
difference between poverty rates for individuals and
sumer units lies in the fact that all wives and other
atives have the same poverty rate as the head of their
sumer unit. Therefore, the family rate of 11.8 percent
ied to the ninety-five percent of the individuals who
members of family units offsets the effect of the forty-
n percent poverty rate among the unattached individuals.
large majority of the survey population, and of its
rty level individuals, are members of family units.

As was the case for family consumer units, the farm
rty rate for individuals of fifteen and one-half
ent exceeded that for non-farm persons, which was just
eleven percent. Among potentially viable individuals,
total poverty rate was just over eight percent, with the
among farm individuals at twelve percent, while it
only half that for non-farm individuals. In the age
over 64 years, one-third of all persons were in
rty regardless of their place of residence.

Looking at the percent distribution of poor individuals,
ata in Table 6 indicate that fifty-two percent of all

Table 6.

Percentage of Survey Individuals in Poverty by
Age-Health and Residence Status, and Percent Distributions

Percentage of Survey Individuals in Poverty by
Age-Health and Residence Status, and Percent Distributions

1967 Rural Life Survey Individuals Below 100 Income Ratio

Resi-dence	Age-Health						Total	Viable	≥65
	Healthy Viable			≥65	Disabled Welfare				
	<25	25-44	45-64		<65	≥65			
Farm	10.9	11.3	13.4	28.6	23.5	36.0	15.5	12.1	30.1
Non-farm	4.7	6.5	7.2	30.6	30.5	41.4	11.4	6.3	33.4
Total	6.6	7.8	9.8	29.9	27.8	40.0	12.8	8.3	32.3
% Distribution of poor									
Farm	11.4	20.6	30.3	24.0	5.6	8.1	100.0	62.3	32.1
Non-farm	7.3	21.6	16.1	31.9	8.0	15.1	100.0	45.0	47.0
Total	9.0	21.2	21.9	28.7	7.0	12.2	100.0	52.1	40.9
% Distribution of total population	17.2	34.6	28.7	12.3	3.2	3.9	100.0	80.5	16.2

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oor individuals are potentially viable, as compared to
orty-two percent potentially viable among poor consumer
nits (Table 4). The difference lies largely with the under
wenty-five group which consists primarily of other re-
atives living with poverty level families.

In the overall survey population there were very slight
ifferences in the percent distribution by age-health
ategories. The only large differences were among the viable,
ged 25-44, where the percent of non-farm persons was ten
ercent more than farm persons, and those aged 45-64,
here the difference was reversed. Eighty percent of the
otal survey population were potentially viable, and only
xteen percent were over 64 years of age.

2. Extent of Poverty for Retraining Purposes

nce no apparent differences exist between the family with
.99 income ratio (in poverty) and one with a ratio of 1.01
ot in poverty) and since being in a state of "near
verty" still leaves a lot to be desired, all persons with
come ratios below 1.50 were included among the "poor" in this
udy of needs and potentials for escape from poverty
rough retraining. Thus, one-fourth of the survey
pulation (26.3%) was included in the group below the
50 income ratio as shown in Table 7. Of this group,
arly two-thirds (62.6%) were considered to be potentially
onomically viable, that is, under 65 years of age and
althy. Those below the 1.50 income ratio who were viable
presented one-fifth of all potentially viable respondents

Table 7.

Distribution of Survey Population by "Degree of Poverty"

Percentage of Survey Population by "Degree of Poverty" and Age-Health Status, and Percent Distributions

1967 Rural Life Survey Individuals Below 1.50 Income Ratio

Income Ratio	Individuals								
	Age-Health								
	Healthy				Welfare	Disabled			
	Viable						Total	Viable	≥65
	<25	25<45	45<65	≥65	<65	≥65			
Deep Poverty <.80	4.4	5.0	6.9	20.9	16.0	27.5	8.6	5.5	22.5
Poverty .80-.99	2.3	2.9	2.9	9.0	11.7	12.3	4.2	2.8	9.8
Near Poverty 1.00-1.19	3.8	4.2	3.6	8.7	5.0	12.0	4.9	3.9	9.5
Hardship 1.20-1.49	8.1	9.9	6.3	10.3	10.8	9.4	8.6	8.3	10.1
Total <1.50	18.6	21.9	19.7	48.9	43.6	61.2	26.3	20.5	51.9
Percent Distribution	12.2	28.9	21.5	22.8	5.4	9.2	100.0	62.6	32.0
Consumer Units									
Total <1.50	18.4	21.7	20.6	52.1	51.6	67.5	30.0	21.0	56.0
Percent Distribution	2.2	25.7	23.7	29.6	5.6	13.2	100.0	51.6	42.8

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d one-sixth (16.5%) of the entire survey population.

Table 7 also presents the percentage breakdown of those
dividuals below the 1.50 income ratio by "degree of poverty."
ly total percentages are given for consumer units inasmu
the consumer unit percentages by degree of poverty
ry closely approximated those for individuals. The only
jor difference was in the under 25 age group. No break-
wns of the under 1.50 income ratio population were made
farm-non-farm status or by type of consumer unit status
, again, this group was distributed on these dimensions
ry similarly to the group under 1.00 income ratio which
s extensively described above.

Among the potentially viable individuals, it is interesting
note that approximately one-fifth of each of the three
e groups is included in the group below 1.50 income ratio.
ong those individuals over age 64, more than one-half
the total population (individuals and consumer units)
s included in this measure of poverty, and over forty
rcent of all persons under age 65 who were disabled had
come ratios below 1.50.

3. Selected Characteristics of the Retraining Study Poor
smuch as this retraining study focused upon all in-
iduals with income ratios below 1.50, it will be this
up of "poor" which is referred to in the remainder of
study unless otherwise specified.

It was noted above that sixty-three percent of the poor
e considered to be potentially economically viable, that

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, under age 65 and not seriously disabled. They would be

tential candidates for job retraining programs. The

er thirty-seven percent of the poor, the thirty-two

rcent over age 64 and the five percent under 65 but

sabled, could only expect to be lifted from poverty

rough some form of social welfare program.

cation

Concerning the education levels of the poor in relation

median years of schooling completed for the general

Table 8

Percentage Distribution of the Survey
Poor by Relationship to Educational
Medians of the Regional Population,
by Degree of Poverty and Total by Sex.

7 Rural Life Survey Individuals with Income Ratios Below 1.50

ome io	Relationship to Educational Median			
	Special*	<	=	>
< .80	4.5	39.8	47.5	8.2
< 1.00	3.4	45.4	46.3	5.0
< 1.20	3.3	41.3	47.7	7.6
< 1.50	3.2	39.0	49.2	8.6
al < 1.50	3.7	40.7	47.9	7.7
al Non-poor	1.0	28.4	56.8	13.8
l Sample	1.7	31.6	54.5	12.2
s < 1.50	4.3	45.8	43.4	6.5
les < 1.50	3.1	36.1	52.0	8.8

*Includes those with no schooling or with less than five
s due to handicaps. By degree of poverty, chi-square=
89 with 9 d.f. (sig. only at .30 level).

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opulation in this region, it was found that forty-one
ercent were below the median, forty-eight percent were at
he median, and only eight percent exceeded the median
ducational level for their age group. There were no
ignificant differences in the relationship to educational
edians when the poor were subdivided by degree of poverty;
he percentages were fairly uniform across all categories.
owever, the poor did differ very significantly from the
urvey non-poor in this respect. For the non-poor twenty-
ight percent were below the median, fifty-seven percent
qualled the median, and fourteen percent exceeded the
edian. The percentage relationships are presented in Table

Looking at males and females separately, no significant
ifferences appeared for either sex group when subdividing
degree of poverty. However, ten percent more of the
les, as compared to females, were classified below the
dian, with nearly fifty percent of the males so classified.
st High School Training

It was found that less than four percent of the survey
or had received any type of post high school technical
aining. While only eight percent of the total survey
pulation had received any training of this type, the dif-
rences between the poor and and the non-poor were still
riking as the percentage for the non-poor was more than
uble that for the poor. There were also highly significant
fferences in the relationship between degree of poverty and
st high school technical training, with nearly seven

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rcent of those in the highest poverty category, i.e.,

rdship (1.20-1.49), having received some training as

mpared to less than three percent in the other three

tegories. The data on post high school training are

esented in Table 9.

Table 9.

Relationship Between Degree of Poverty
and Post High School Technical Training for
Survey Poor; Percent Distributions

67 Rural Life Survey Individuals Below 1.50 Income Ratio

come tio	Post High School Technical Training	
	None	Some
< .80	97.8	2.2
80 - .99	98.4	1.6
00 - 1.19	97.3	2.7
20 - 1.49	93.2	6.8
tal < 1.50	96.3	3.7
tal non-poor	90.7	9.3
rvey Total	92.2	7.8

Among poor, chi square = 37.095 (with 3 d.f., sig.
.001 level).

cupational Skill Index

A rough measure of respondents' occupational skill

vels was developed based upon the type of occupation in

ch they worked during 1966. Those who worked in more

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an one type of occupation were credited with the highest
ill level in which they worked. The various occupations
re classified on a continuum from lowest to highest
illed as follows:

Skill Level Code	Occupations
ghest 4	Professional and technical employees and self-employed; non-farm managers and officials
3	Craftsmen
2	Clerical; sales; self employed farmers; operatives; non-farm non-technical self employed
est 1	Service workers; laborers; armed forces

The percentage distributions of the survey poor, by
ree of poverty, are given in Table 10. As would be ex-
ted, there was a highly significant relationship between
ree of poverty and skill level, even with such a rough
ll level measure. Also, the very large majority of
the poor, irrespective of degree of poverty, were em-
yed in the two lowest skill level occupation groups. The
centages in the two lowest groups were about ninety-percent
the total poor and for all but the highest poverty level
up, which had eighty-five percent in the two lowest
ll categories. This compared to only seventy-four
cent in these two categories for the non-poor individuals
the survey. The larger percentage of the under .80 in-
e ratio group in skill level category two was due to the
t that all respondents with negative income ratios were

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embers of farm families.

Another interesting point revealed by the data in Table 10

as that degree of poverty was strongly related to employment,

s would also be expected.

Table 10.

Relationship Between Degree of Poverty
and an Occupational Skill Index for Survey Poor
Who Held Jobs in 1966 and Totals by Sex;
Percent Distributions.

'67 Rural Life Survey Individuals Below 1.50 Income Ratio

	Continuum of Occupational Skill Levels				
	lowest ←		→ highest		Percent of Total With 1966 Job
.come .tio	1	2	3	4	
< .80	22.6	70.3	4.2	3.0	37.2
80 - .99	34.5	53.6	11.3	0.6	38.1
00 - 1.19	28.1	60.3	6.7	4.9	43.8
20 - 1.49	27.7	57.4	9.9	5.1	54.4
tal < 1.50	27.3	60.9	7.9	3.8	44.2
les < 1.50	20.0	66.2	10.6	3.2	69.4
ales < 1.50	48.7	45.5	---	5.8	21.3
al non-poor	18.6	55.5	14.7	11.2	67.3
vey Total	20.3	56.5	13.4	9.8	61.3

poor, chi square= 32.664 (with 9 d.f., signigicant
001 level).

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hile only thirty-seven percent of the deep poverty
individuals were employed at all in 1966, the percentage
mployed increased to fifty-four percent for the hardship
roup (1.20-1.49 ratio) and to a full two-thirds for the
on-poor in the survey. The major cause of this difference
as apparently due to the difference in employment of
emales. The data show that sixty-nine percent of the poor
ales were employed some in 1966, comparing very favorably
o the sixty-seven percent for all non-poor individuals, while
ly one-fifth of the poor females reported holding a job
1966.

roblems Finding Employment

Although receiving poverty level incomes, only a very
all percentage of the poor respondents indicated having
oked for employment of any type in the past three years.
indicated in Table 11, only ten percent had sought
gular full-time employment, three percent sought part
ar or seasonal work, and four percent looked for part time
rk (the categories are not mutually exclusive--some in-
viduals may have looked for all three types of employment).

Of those having sought employment, from twenty-five
thirty percent reported having problems finding employment
to such personal inadequacies as lack of experience,
k of skill, lack of education, and personal limitations.

ilability for Alternative Employment

Two different estimates of respondent's potential
ilability for employment on another job were recorded.

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The first was the individual's self-estimate of his avail-

ability, while the second estimate was generated from

Table 11.

Types of Problems Encountered in Finding Employment By the Poor
Who Sought Jobs in Past Three Years, by Type of Job Sought;
Percent Distributions.

1967 Rural Life Survey Individuals Below 1.50 Income Ratio

of yment t	Type of Problems Encountered			% of Total Poor Seek- ing Job
	No Problems	Personal Inadequacies	Other Problems	
ar Full-Time	31.2	24.9	43.9	10.3
Year or Seasonal	37.9	26.3	35.8	3.4
Time	32.5	30.7	36.8	4.1

survey data concerning the person's 1966 work record and his

or her family obligations.

Again, although receiving poverty incomes, a rather

small nineteen percent of the poor estimated that they would

e available for alternative employment (Table 12). However,

art of the reason for the low percentage here was due to non-

iability of respondents, for the percentage increased to

venty-nine percent when only viable poor were considered.

nterestingly, twenty-five percent of the non-poor also

ndicated their availability for alternative employment.

It was calculated that only nine percent of the viable

or would definitely be available for alternative employment,

t an additional thirty-three percent were determined to be

tentially available in case of financial stress. The

Measures
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Table 12.

easures of the Availability of the Poor for Alternative
mployment in Succeeding Year; Percent Distributions.

1967 Rural Life Survey Individuals

ncome roup	Self Estimate		Calculated Estimate		
	Yes	No	Yes	Maybe	No
1 < 1.50	19.0	81.0	5.5	20.8	73.8
able < 1.50	28.8	71.2	8.7	33.1	58.2
n-poor	24.7	75.3	7.9	24.9	66.2
rvey Total	23.0	77.0	7.3	23.7	69.0

Availability Measures

eakdowns on calculated availability by degree of poverty
d show a highly significant relationship, and this was
rgely a function of family size. Degree of poverty
ong the viable is partly a function of family size--
r a given money income the more members in the consumer
it the lower the income ratio--so the hardship level
seholds tend to have fewer children and this allows
e of the wives in these households to be available for
loyment. This interpretation was supported by the survey
a which indicated that while wives comprised only twenty-
e percent of the individuals who stated they would be
ilable for alternative employment, they constituted forty-
ee percent of those calculated potentially available
aybe") and seventy-two percent of all individuals cal-
ated to be definitely available in the total survey
lation.

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Summary

The various units of household composition have been
tlined. The unit receiving primary interest in this
idy will be the consumer unit, which may be either family
its or unattached individuals. Consumer units were class-
ied according to farm or non-farm status.

The poverty status of consumer units was determined
rough the procedure developed by Orshansky for the Social
curity Administration with one major modification. Whereas
e Orshansky procedure assumed that farm families meet
irty percent of their food needs through homegrown foods,
is study determined the actual percentage of food require-
nts met with home-grown food for both farm and non-farm
rvey consumer units. The poverty status ratio was the ratio
income received to income required, with requirements based
size, age, and sex characteristics of each unit. Con-
mer units with income ratios below 1.00 were considered
be in poverty by this criteria.

Sixteen percent of all survey consumer units had income
tios below 1.00 in 1966, with the percentage among farm
its only slightly higher than for non-farm units. How-
er, the rate was nearly fifty percent among unattached
dividuals as compared to less than twelve percent for
mily units. On the basis of potential economic viability,
e extent of poverty was found to be much greater among the
ed and the handicapped as compared to the young and healthy.
rty-five percent of the consumer units whose head was over

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64 years old were in poverty, while just over nine percent of the potentially viable units, those whose heads were under 65 years of age and not handicapped or seriously disabled, were below the 1.00 income ratio. The potentially viable poor consumer units represented forty-two percent of the poor consumer units in the survey and less than seven percent of the total number of survey consumer units.

The poverty rate for individuals over age 15 in the survey was just under thirteen percent, with a farm rate of fifteen and one-half percent and a rate among non-farm individuals of just over eleven percent. Fifty-two percent of the poor individuals were potentially economically viable.

For retraining purposes, all individuals with income ratios below 1.5 were classified as "poor." One-fourth of the survey population was included in this group of poor individuals, and sixty-three percent of the goup were classified as potentially economically viable.

Concerning educational levels of the poor (below 1.50 income ratio), forty-one percent were below the regional median, forty-eight percent were at the median, and eight percent exceeded the median educational level for their age group. Very few poor respondents had received any post high school technical training, less than four percent of the group, and a very large majority of the poor were employed in the lowest skill level occupation groups.

The percentages of respondents who had looked for work

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ıring the past three years were very small in view of their
ɔw income conditions. Of those who had looked for employment,
rom twenty-five to thirty percent found that their most
ifficult problem getting a job was due to personal ed-
cational or training deficiencies. Twenty-nine percent of
he potentially viable poor respondents stated that they would
ɔe available for alternative employment within the year, and
t was calculated on the basis of 1966 work experience and
family obligations that fully forty-two percent could
reasonably be expected to be available for employment in
case of financial stress. Most individuals calculated
potentially available were females.

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V. POTENTIALS FOR INCREASED EARNINGS THROUGH RETRAINING

Introduction

There are basically two approaches which may be used to estimate the potentials for a poverty-level worker to increase his earnings by participating in a job retraining program. One approach is to compare the present values of the future income stream which can reasonably be expected from the worker's present occupation with the income stream he can reasonably expect from the occupation for which he will be retrained. Two ways of making this comparison are discussed in this chapter.

The second approach is to conduct a benefit-cost analysis based on the actual experiences of a sample of poverty-level persons who have undergone job retraining. In this way the net benefits to workers from retraining could be estimated, and the addition of these net personal benefits to original income levels of poverty-level workers would indicate the potentials for their escape from poverty through job retraining. The results of several benefit-cost studies of retraining programs and their implications for raising poverty level incomes are also examined in this chapter.

Expected Future Income Streams

It would be relatively simple to determine if it would pay a worker to undergo job retaining if data were available on the present value of future income streams he could reasonably expect to earn over his lifetime from various

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alternative occupations. Such precise data, covering many
alternative occupations for workers by age, education,
race and other pertinent variables are not available at
the present time.

There are two studies available which present "very
rough approximations" of the desired data, one limited to
five "specific" occupations and the other covering ten
broad occupational classifications. One of these studies
was reported in the Ph.D. thesis of Venkareddy[69] and in
Venkareddy and Johnson.[70] This study estimated present
values of future income streams of males in farming and in
four alternative occupations into which farmers most frequently
move when taking non-farm employment. These estimates were
made for the broader purpose of projecting the age dis-
tribution of farm operators in the United States to 1970.
Time series data on (average) wages, interest rates, and
unemployment rates from 1917 to 1962 (from published sources
or estimated from regression equations) were utilized in
estimating these present values.

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[69]Chennareddy Venkareddy, "Present Values of Expected
Future Income Streams and Their Relevance to Mobility of
Farm Workers to the Non-farm Sector in the United States,
1917-62" (unpublished Ph.D. dissertation, Michigan State
University, 1965).

[70]Chennareddy Venkareddy and Glenn L. Johnson, "Pro-
jection of Age Distributions of Farm Operators in the United
States Based Upon Estimates of the Present Value of Income,"
American Journal of Agricultural Economics, Vol. 50,
No. 3 (August, 1968), pp. 606-620.

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This approach to estimating present values of future income streams has many limitations to its use in the present study. Venkareddy and Johnson estimated the present values only for twenty-five and forty-five year old workers, largely because of the effort involved in making the estimates. The educational level of workers was not included as a variable in the study. The two ages were arbitrarily selected as "representative" of persons in the two age groups 15 to 30 years and 40 years and older. The younger category was believed to include most persons who enter farming to make it a lifetime work, whereas the older group was believed to include "many of those who leave farming." The farm labor mobility studies cited in chapter three would indicate that the latter of these conditions has not held in recent years.

In addition, where previous studies indicated that farm workers most often move to employment in (1) building trades, (2) manufacturing, (3) service industries and (4) trade, the authors selected for consideration the sub-occupations of (1) "helpers and laborers" in building trades, (2) "laundries" in service industries, and (3) "retail trade" under trade, as well as "hired agricultural labor" instead of farm operators simply because wage rates were available for these groups, with some exceptions, for the period 1917-1962. The authors made no attempt to justify these sub-occupations as being representative of the type of work actually engaged in by occupationally mobile farm workers.

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Projections of wage rates for these occupations also appear very shaky. First, it was assumed that all workers earn income until their death, approximately at age 72, rather than until the presently accepted retirement age of 65. Secondly, estimates to the year 2007 were made as a linear function of current year and past year annual income rates. But, if the hoped for adjustments in the size of the farm labor force take place there should also be a narrowing of the difference, or a change in the linear relationship, between agricultural wage rates and those in other sectors.

Finally, the assumptions that unemployment rates do not differ for the two age groups considered, and that "the differences between the capacities, skills and training of a 25 year old and a 45 year old worker are not significant enough to effect any difference in their expectations of future income streams up to n_1 years"[71] (n_1 ranges from 25 to 27 remaining years of life) appear to be quite unrealistic. For example, the 1960 census data on median years of schooling completed for these age groups raises strong doubts about the latter assumption, particularly for both rural farm and rural non-farm residents (Table 13). These data show a difference of three years in median years of schooling completed between the two age goups which include

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[71] Venkareddy, "Present Values..., "p. 21.

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the two ages used in this study.

Table 13.

Median Years of Schooling
Completed in United States,
Selected Age Groups

Residence	Age Group	
	25-29	45-49
U. S. Total	12.3	10.3
U. S. Rural Farm	11.5	8.7
U. S. Rural Non-farm	12.0	9.0

Source: U.S. Bureau of the Census, U.S. Census of Population: 1960. Detailed Characteristics. U. S. Summary. Final Report PC (1) - 1D (Washington: U.S. Government Printing Office, 1963), Table 10.

The second study which estimates the present value of expected future income streams was done by Miller and Hornseth.[72] The development of this set of estimates was motivated by the concern of the legal profession for placing a pecuniary value on a human life, or on a person's impaired earning capacity. Using cross-sectional data on average (mean) 1959 earnings contained in the 1960 Census, the present value of estimated lifetime earnings was calculated for males according to age, education level, color, and major occupational group. The ten major occupational groups listed in the 1960 Census occupational index were used, and lifetime

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[72] Herman P. Miller and Richard A Hornseth, Present Values of Estimated Lifetime Earnings, U.S. Bureau of the Census Technical Paper No. 16 (Washington: U.S. Government Printing Office, 1967).

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earnings were estimated for various combinations of discount rates and annual productivity increase rates.

Miller and Hornseth correctly projected the working life of a man to his retirement age, rather than to his expected mortality. Their use of cross-sectional data again assumed that present (1959) relative income positions would remain the same in the future. However, such is likely to be the actual expectations of individuals presently making occupational decisions. The use of this assumption inherent in cross-sectional data appears justified for the purpose of the Miller and Hornseth projections, while its acceptance by Venkareddy and Johnson in projecting the decline in farm operator numbers cannot so easily be justified. Miller and Hornseth noted that estimates made from life-history data which trace a man's earnings through his working life might, if such data were available, provide better estimates of present values. Even then, future projections would only be made on the basis of past trends.

The Miller and Hornseth study avoided the thorny problem of selecting specific discount rates and rates of annual productivity increase, leaving such decisions to the user of the data, but compounding the problem of determining what the most probable present values might be.

The major drawback in the use of their estimates, however, is the lack of disaggregation in the occupational categories. For example, the category "professional

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technical, and kindred workers" includes such diverse occupations as physicians-and-surgeons and clergymen; the category "farmers and farm managers" includes owner operators and share croppers; the category "sales worker" includes the diverse occupations of real estate brokers and newsboys. Certainly the expected future earnings differ significantly for the occupations noted in each category, yet all are averaged together in this study.

Comparisons between estimated present values presented by these studies are difficult to make, and are probably quite meaningless. One would need to know the rate of interest used by Venkareddy and Johnson before one of the four rates used by Miller and Hornseth could be selected in such a comparison. The maximum rate considered by the latter was 5.0 percent, while the rates used in the former varied from 6.95 percent in 1921 to 4.48 percent in 1947. For 1959 (the only year in which any comparison might be made) the Venkareddy and Johnson rate was 5.41 percent.[73] Also for comparisons, the annual rate of productivity increase implicit in Venkareddy and Johnson would have to be known before the proper rate used by Miller and Hornseth could be selected.

Nevertheless, if one heroically assumes a discount rate of 5.0 percent and a productivity growth rate of 3.0 percent to be "reasonably" close to those used by Venkareddy

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[73]Venkareddy, "Present Values...," p. 48.

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and Johnson, and that the occupational categories are comparable, it is apparent that the two methods arrive at widely divergent estimates of present values for all but farm laborers (Table 14). One is left wondering which type of study, time series or cross-sectional, gives the "better" estimates of present values. The cross-sectional study of Miller and Hornseth was able to make estimates for workers of all ages with differing educational levels, and it avoided many of the methodological problems faced in generating time series data. The lack of dis-aggregation of income data into more realistic occupational categories limits the usefulness of this study in determining present values of expected future income streams for workers retrained in specific occupations, but with sufficient disaggregation of Census data this method could be rather economically utilized to make the desired projections. Whereas the Venkareddy and Johnson study did make estimates of present values for relatively specific occupational categories, it was plagued by lack of data and numerous methodological problems. It also appears, from Table 14, that this approach tends to greatly underestimate these present values.

A final weakness of both approaches for the purpose of this study, along with the occupational aggregation problem, is that both used _average_ incomes of all workers in each occupational category. Retrained poverty-level workers would most likely earn only marginal incomes upon

Table 14.

Expected Lifetime Earnings Compared - 1959
(in thousands of dollars)

Categories: (Miller and Hornseth)			(Venkareddy and Johnson)*	
Education Levels	age 26	46	age 25	45
Operatives & Kindred Workers (incl. laundry & dry cleaning)			Laundries	
all ed. levels	116	64	55	42
8 years	114	66		
12 years	130	72		
16 years	145	84		
Craftsmen, Foremen & Kindred (incl. carpenters, electricians painters, machinists, toolmakers mechanics)			Construction	
all ed levels	138	75	142	102
8 years	128	74		
12 years	150	84	Manufacturing	
16 years	202	118	142	84
Farmers & Farm mgrs. (incl. tenants & share croppers)			Farming	
all ed levels	87	44	57	43
8 years	79	44		
12 years	104	57		
16 years	165	90		
Farm Laborers & Foremen				
all ed. levels	49	26		
8 years	56	32		
12 years	81	46		
16 years	89	48		

* All education levels are implied.

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beginning employment and would probably always tend to earn below the occupational average. This would result from the fact that there are several variables which explain the incidence of poverty, as pointed out in the study by Thurow.[74] Even though training raised a poverty-level worker's skill level, other socio-economic variables such as his race, formal education, percentage of time employed, his place of residence and its industrial structure, as well as motivational variables, would continue to exert downward pressures on his income level.

C. Retraining Benefit-Cost Analyses

When considering studies of the effectiveness of job retraining programs, it is essential to know what the basic objectives of these programs have been. Evaluations which are made for the benefit of public-policy makers can be expected to focus on the issues and objectives which are considered most important by these policy makers.

The Federal retraining legislation with the most clearly defined set of objectives is the Manpower Development and Training Act (MDTA) of 1962, the nation's first large-scale attempt at retraining. The MDTA objectives are (1) to increase the nation's output; (2) to reduce the aggregate level of unemployment; (3) to reduce the governmental costs of unemployment; and (4) to reduce the burdens of unemployment for specific groups of the unemployed.

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[74]Thurow, "The Causes of Poverty."

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he statistics on retrainees in the early years of MDTA
ould not be used to determine with any accuracy the pro-
ram's effectiveness in reaching objectives one and two
ecause of general overall growth in the economy due to
ther factors. It appeared that the program had some success
n reducing government costs of unemployment, at least for
hose workers retrained, but it was quite apparent that the
ost disadvantaged members of the ranks of the unemployed
ere not being retrained. Amendments to MDTA in 1963 and 1965
ttempted to deal with this failure of the program by
roviding more adequate retraining allowances and, in effect,
y lowering entrance requirements by providing for up to
2 weeks of basic education prior to actual skill retraining.

No studies of significant scope, with results generalizeable
o the total population, have been made of the benefits and
osts of retraining specifically rural workers. In addition,
ince reduction of the number of families in poverty was not
pecifically one of the goals of MDTA, none of the program
nalysis studies deal specifically with the potential for
etraining to enable workers' families to rise above
overty levels.

In keeping with the objectives of the MDTA, most
ederal assessments of the program focus upon (1) the per-
ntage of MDTA course completers who are placed in employment;
) the increase in per hour earnings for retrainees
ter training compared to pretraining earnings, and (3) the
rcentage of time employed after training as compared to

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pretraining employment. This focus is summed up in the 1969 report of the Secretary of Health, Education and Welfare (HEW) which states, "according to all available evidence-- placement in jobs, increase in earnings, length of employment -- the manpower institutional training programs have been successful."[75] The earnings evidence appears in a December 1968 report of the U.S. Department of Labor.[76] Based primarily on persons completing retraining in 1965 and 1966 who were employed on the latest reporting date, 70 percent of whom reported pretraining and posttraining earnings data, the report shows an increase of 20 percent in the average earnings level of employed graduates. Of those reporting, 60 percent showed advances in earnings, 25 percent moved laterally within the same earnings interval, and 15 percent experienced a decline in hourly earnings. In the latter group, nearly two-fifths still earned at least $1.75 per hour after retraining. The majority of those reporting pretraining earnings below the $1.25 per hour (1966) Federal minimum,

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[75]U.S. Department of Health, Education and Welfare, Education and Training: A Chance to Advance, 7th Annual Report to the Congress on Training Activities Under the MDTA (Washington: U.S. Government Printing Office, April, 1969), p. 1.

[76]U.S. Department of Labor, Manpower Administration, "The Influence of MDTA Training on Earnings," Manpower Evaluation Report No. 8 (Washington, December, 1968), pp. 7-11.

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nearly one-third of the total, did move upward in the earnings scale. Only one-eighth were found in this category after training. The following three tables summarize the report findings.

The significant aspect of this report on earnings mobility of retrainees is that it reports on only those who were employed on the last reporting date. The evidence on the success of retrainees in finding employment is not completely clear, largely due to early inadequacies in gathering job placement data and later attempts to correct these in-adequacies. Early reports tended only to record job place-ments immediately upon course completion. Data for 1965 graduates indicated that 71 percent were employed, with the rate for males being 77 percent,[77] and these figures have been widely quoted as indicators of the success of retraining. Better follow-up reporting was reflected in the 1969 HEW report, which stated that "recent studies indicate that 85 percent of those who completed institutional train-ing obtained jobs (some time) after training and 75 percent were employed at the time of last contact."[78] The rates are

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[77] U. S. Department of Labor, Report of the Secretary of Labor on Manpower Research and Training Under the MDTA (Washington, 1966), p. 18.

[78] U. S. Department of Health, Education and Welfare, Education ... , p. 1.

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Table 15.

Pretraining and Posttraining Earnings
of MDTA Institutional Graduates in 1965 and 1966

(Percentage distribution)

Straight time average hourly earnings	Employed graduates	
	Before training	After training
Total: Percent[1]	100.0	100.0
$0.50 to $0.74	6.6	1.7
$0.75 to $1.14	20.9	7.8
$1.15 to $1.24	4.3	2.1
$1.25 to $1.49	23.3	21.4
$1.50 to $1.74	14.3	17.4
$1.75 to $1.99	8.1	13.2
$2.00 to $2.49	12.0	20.4
$2.50 to $.299	6.3	10.6
$3.00 and over	4.1	5.5
Median earnings	$1.44	$1.73

[1] Percent distribution based on 79,836 employed graduates reporting pretraining earnings and 95,542 reporting posttraining earnings.

NOTE: Detail may not add to 100 percent due to rounding.
Source: U.S. Department of Labor, Manpower Administration, "The Influence of MDTA Training on Earnings," Manpower Evaluation Report No. 8. December, 1968. Washington, D.C. (Table 1).

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Table 16.

Posttraining Earnings Compared With Pretraining Earnings of
MDTA Institutional Training Graduates in 1965 and 1966

Straight time average hourly earnings before training	Number of employed graduates experiencing changes in earnings			
	Total graduates reporting	No Change	Increases	Decreases
Total:Number	73,161	16,650	44,476	12,035
$0.50 to $0.74	4,807	488	4,319	-----
$0.75 to $1.14	15,400	2,370	12,780	250
$1.15 to $1.24	3,198	99	2,872	227
$1.25 to $1.49	17,117	4,399	11,620	1,098
$1.50 to $1.74	10,470	2,267	6,385	1,818
$1.75 to $1.99	5,908	1,146	3,208	1,554
$2.00 to $2.49	8,763	3,195	2,576	2,992
$2.50 to $2.99	4,566	1,430	716	2,420
$3.00 and over	2,932	1,256	----	1,676

Source: U. S. Department of Labor, Manpower Administration,
"The Influence of MDTA Training on Earnings,"Manpower
Evaluation Report No. 8, December, 1968. Washington, D. C.
(Table 2).

Table 17.

Pretraining and Posttraining Earnings of MDTA Institutional Training Graduates in 1965 and 1966

average hourly earnings

Straight time average hourly earnings before training	Total	Straight time average hourly earnings after training								
		$0.50 to $0.74	$0.75 to $1.14	$1.15 to $1.24	$1.25 to $1.49	$1.50 to $1.74	$1.75 to $1.99	$2.00 to $2.49	$2.50 to $2.99	$3.00 and over
Total: Number	73,161	934	5,126	1,309	14,452	12,966	10,142	15,819	8,119	4,294
$0.50 to $0.74	4,807	488	1,241	179	1,417	577	325	365	154	61
$0.75 to $1.14	15,400	250	2,370	631	4,662	2,896	1,708	1,804	789	290
$1.15 to $1.24	3,198	25	202	99	1,044	745	453	411	162	57
$1.25 to $1.49	17,117	90	782	226	4,399	4,073	2,695	3,221	1,213	418
$1.50 to $1.74	10,470	33	262	83	1,440	2,267	1,994	2,833	1,123	435
$1.75 to $1.99	5,908	14	89	32	537	882	1,146	2,032	873	303
$2.00 to $2.49	8,763	19	111	38	625	992	1,207	3,195	1,818	758
$2.50 to $2.99	4,566	6	37	13	226	378	428	1,332	1,430	716
$3.00 and over	2,932	9	32	8	102	156	186	626	557	1,256

Includes only those reporting both pretraining and posttraining earnings

Source: U. S. Department of Labor, Manpower Administration, "The Influence of MDTA Training on Earnings", Manpower Evaluation Report No. 8, December, 1968. Washington, D. C.

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even better for OJT Trainees.

The major shortcoming of these Federal evaluations of earnings and employment gains of retrainees is that, since no data is presented on the economic behavior of comparable control groups of workers, it cannot be ascertained from them how many of the gains are attributable to retraining and how many to "normal" factors such as the overall increase in economic activity, Federal minimum wage legislation, and regular increases in pay rates due to union-management contracts. Thus, alone they fail to answer questions concerning potential income gains from retraining.

The need for comparable control groups was recognized early by persons conducting benefit-cost analyses of retraining programs, and most attempted to incorporate various control groups in their evaluations.

There have been basically two types of benefit-cost studies completed to date. The first can be considered relatively large scale, based on some type of sampling procedure, and requested specifically by one of the Federal agencies responsible for administering manpower programs. The second type has been of much smaller scale, focused on fewer retrainees in relatively local regions, and often sponsored by non-governmental organizations. The discussion below will focus first on two of the larger type studies, then attention will be turned to three works which evaluated the smaller studies, to attempt to determine if retraining pays for poverty-level workers.

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Before examining the existing benefit-cost studies, it is worthwhile to note the comments of two research groups about the possibilities for conducting such studies.

A committee appointed by Congress to examine the administrative practices of training programs noted, in 1968, that one reason it did not undertake an economic benefit-cost evaluation of the various programs was because of the "non-existence of benefit-cost evaluation models for the various programs."[79] The committee even found it impossible to determine actual impact on trainee incomes by examining a statistical sample of trainees' post-training employment history because the "crude records" available precluded even the selection of such a sample except at undue cost. The committee, therefore, recommended:

> Because data on program performance and trainee status, characteristics, and accomplishments are limited or unavailable to the degree that meaning-ful evaluation of the benefits and costs of these activities appear precluded, a comprehensive and expeditious system of data collection must be put into being immediately.[80]

Other researchers for this committee planned to conduct a follow-up study based on a 5 percent random sample of trainees registered six months earlier in selected programs. The proposed study was dropped due to the

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[79]U. S. Senate, Subcommittee on Employment, Manpower, and Poverty of the Committee on Labor and Public Welfare, Employment and Training Legislation - 1968 Background Information Supplement (90th Congress, 2nd Session) (Washington: U. S. Government Printing Office, June, 1968), p. 121.

[80]Ibid.,p. 16.

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"inadequacy of statistical data on trainees"; few program records were adequate for follow-up purposes, dropouts were not clearly identified, and post-training status was often unknown.[81]

The first of the large sample benefit-cost studies to be discussed was completed by the Planning Research Corporation for the Manpower Administration.[82] The primary purpose of this study, in view of the above criticism, was to develop and demonstrate methodology, and reservations were made about the quality of the data. Specifically, non-trainee control groups were not used for comparison. Nevertheless, both the U. S. Department of Labor and HEW quoted the findings of the study in support of manpower development and training programs.[83] From a sample of about 2,000 institutional trainees and 650 on-the-job trainees who enrolled in training, estimates were made of benefit-cost ratios of training based on differences between pretraining and posttraining hourly earnings and on duration of employment after training.

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[81]Ibid., p. 268.

[82]Planning and Research Corporation, _Cost Effectiveness Analysis of On the Job and Institutional Training Courses_, A Report to the U. S. Department of Labor, Office of Manpower Policy, Evaluation and Research (Washington: By the Corporation, 1967).

[83]U. S. Department of Labor, _Manpower Report of the President and Report on Manpower Requirements, Resources, Utilization, and Training_ (Washington: U. S. Government Printing Office, January, 1969), p. 219; U. S. Department of Health, Education and Welfare, _Education..._,p. 63.

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This study found the average net Federal benefit-
cost ratio, defined as the direct and indirect benefits
to society (exclusive of increased taxes paid) compared to
the Federal investment per trainee, to be 3.28 to 1 for
on-the-job training and 1.78 to 1 for institutional training,
only one year after training. This was for all program
enrollees; when only completers were included, the ratios
were 2.13 to 1 for OJT and 1.09 to 1 for institutional
training.[84] It was found that OJT trainees received higher
hourly wages and were unemployed less than institutional
trainees, yet the latter experienced greater percentage
gains in both earnings and employment because of poorer
retraining performance.

The value of such a study lies more in its comparative
evaluation of alternative training programs than in its
ability to measure gains from retraining. Nevertheless,
the U.S. Department of Labor concluded that, "even without
prejudging the number of years for which the differential
benefit would last, or whether it would tend to increase,
decrease, or remain constant, or without arbitrarily
assigning a discount rate by which to calculate present
values of benefits, the desireability of both programs is
clear."[85]

The only large sample study which included a "comparable"

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[84] U.S. Department of Labor, Manpower Report..., p. 219.

[85] Ibid., p. 219.

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control group was conducted by Main of the National
Opinion Research Center of the University of Chicago for
the Office of Manpower Policy, Evaluation, Research.[86]
This study was based on interviews with a national prob-
ability sample of about 1,200 trainees and 1,060 other
persons who were unemployed about the same time the training
courses started. Since it is impossible in this type of
research to obtain a true control group, each trainee to
be interviewed was selected first and then asked to
provide the names of three acquaintances who were unemployed
about the time his training course started. One of these
"controls" was then interviewed. Interviews took place in
1966, more than a year after job training was completed.
Whereas this procedure had to rely on recall data, and it
contained certain methodological problems such as differing
time periods during which work histories were compared, it
presents the most thorough and objective analysis of
retraining programs to date.

Main found that the secular growth in the economy and
other, unknown, factors enabled controls to obtain increases
in weekly wages which were not significantly different
from trainees' increases when ten background variables
were controlled for, even though trainees did experience
significantly greater increases in family income (60 percent

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[86]Earl D. Main, "A Nationwide Evaluation of MDTA
Institutional Job Training," _Journal of Human Resources_,
Vol. 3, (Spring, 1968), pp. 159-70.

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still earned less than $80 a week). The increases in family

income, estimated at about $10 per week, resulted because

training did have an effect on employment, estimated to be

between 11 and 22 percent of the period after training

(the differences depending on what variables were controlled

in the analysis). Thus, while MDTA training probably did

not help people get better paying jobs, it did help them

to obtain more full-time employment and, thereby, increases

in family incomes of approximately $500 per year.

No attempt was made in this study to compute benefit-

cost ratios. What the study does present is a measure of

net personal benefits from retraining, which is essentially

the only measure needed in the present study to determine

if it pays the individual with poverty level income to

undertake retraining. The measure of benefits obtained by

Main provides others with one carefully estimated variable

to include in their benefit-cost calculations.

There have been only three basic smaller benefit-

cost studies of retraining programs by Page in Massachusetts,[87]

Borus in Connecticut,[88] and Somers and Stromsdorfer in

West Virginia.[89] There were also additional variations on

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[87]David A. Page, "Retraining Under the Manpower Development Act: A Cost-Benefit Analysis," Public Policy, Vol. 13 (1964), pp. 258-267.

[88]Michael E. Borus, "A Benefit-Cost Analysis of the Economic Effectiveness of Retraining the Unemployed," Yale Economic Essays, Vol. 4, No. 2 (Fall, 1964), pp. 371-429.

[89]Gerald G. Somers and Ernest W. Stromsdorfer, "A Benefit-Cost Analysis of Retraining," Seventeenth Annual Proceeding of the Industrial Relations Research Association (Madison: University of Wisconsin Press, 1965), pp. 172-185.

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the original studies for the two latter ones.[90] Since these studies have been analyzed extensively elsewhere, only a brief summary of their analysis need be presented here.

Somers discussed the West Virginia benefit-cost study, as well as several others which estimated the effects of retraining in terms of increased employment and increased earning.[91] He noted that all benefit-cost studies found more favorable relationships for trainees relative to control groups and that regression analyses in two of the studies found retraining to be a major explanatory variable in the improved income positions, largely through better employment records of formerly unemployed workers. Somers concluded that "the retraining of unemployed workers is a sound social investment."[92]

Mangum also briefly summarized the three benefit-cost studies.[93] While noting that such small samples of

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[90]See Michael E. Borus, "The Cost of Retraining the Hard-Core Unemployed," Labor Law Journal (September 1965), pp. 574-583; Michael E. Borus, "Time Trends in the Benefits From Retraining in Connecticut," Twentieth Annual Proceeding of the Industrial Relations Research Association (Madison: University of Wisconsin Press, 1968), pp. 36-46; Ernest W. Stromsdorfer, "Determinants of Economic Success in Retraining the Unemployed: The West Virginia Experience," Journal of Human Resources, Vol. 3, No. 2 (Spring, 1968),pp. 139-168.

[91]Gerald G. Somers (ed.), Retraining the Unemployed (Madison: University of Wisconsin Press, 1968),pp. 7-13.

[92]Ibid., p. 7.

[93]Garth L. Mangum, MDTA: Foundation of Federal Manpower Policy (Baltimore: The John Hopkins Press, 1968), pp. 125-127.

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trainees from particular locations and occupations are not necessarily representative of the entire program, and suggesting that all benefit-cost analyse's conclusions should be treated with restrained skepticism, Mangum concluded that "There appears to be little reason for doubting the value of the manpower development and training program in general."[94] He believed that, by any reasonable measure, the program's benefits, both in society and the individuals retrained, have exceeded its costs by a substantial margin.

The three benefit-cost studies under consideration arrived at widely divergent benefit-cost ratios, ranging from 137.3 in the Connecticut study to 6.1 in Massachusetts. This "substantial margin" of benefits over costs, and the wide divergence between the estimates, raises doubts concerning the findings of these studies.

Ribich has attempted to resolve these gross differences in estimated benefit-cost ratios.[95] He noted that the primary reason for the discrepancies was the considerable difference in the basic assumptions made in each study. After developing a set of computational rules for the treatment of program costs, program returns, and the interest rate to be used in discounting present values of expected future income streams, Ribich recalculated the three

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[94]Ibid., p. 127.

[95]Thomas I. Ribich, Education and Poverty (Washinton: The Brookings Institution, 1968) pp. 38-50.

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enefit-cost ratios by applying the rules and uniform
:sumptions to each study. The resulting benefit-cost
itios were 10.1 in Connecticut, 4.2 in Massachusetts,
d 15.0 in West Virginia.[96]

While the Ribich corrections still indicated that
training is a socially profitable undertaking, questions
ncerning the profitability of retraining poverty-level
rkers (the original focus of this chapter) are still
answered. Borus did make some estimates of the effects
retraining the hard-core unemployed, using the data
his earlier study.[97] While he found that program
sts might be doubled for this type of retrainee, he
timated that the hard-core groups would experience
eater benefits as compared to others, even in excess
these increased costs.

Conflicting opinion was presented by Somers, however.
noted that previous labor force experience appeared to
a major predictor of post-training employment success,
ose with more prior unemployment and who were in un-
illed occupations being the least likely to find post-
aining employment.[98] This conclusion was reached on the
sis of the earlier studies which examined programs not

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[96]Ibid., p. 49,Table 3.

[97]See footnote no. 90.

[98]Somers, Retraining..., p. 10.

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designed specifically for the hard-core unemployed.

Elsewhere, using U.S. Department of Labor data, Somers

stated:

> In summing up the position of the disadvantaged, it
> can be said that their employment and earnings after
> retraining are not as favorable as the employment
> and earnings of other retrainees; but the labor-
> market position of the disadvantaged is considerably
> enhanced by their retraining, as compared with
> their own pretraining experience and as compared
> with disadvantaged workers who have not been re-
> trained.[99]

In a Michigan Study of MDTA retraining, Nosow also

found that the most striking results were for persons

considered "marginal" to the labor force - the very young,

aged, poorly educated, nonwhite, female, and vocationally

ill-prepared.[100] When trained specifically for a job in

which labor was in short supply, marginal workers obtained

jobs and lost their marginal character. Successful labor

market outcomes, in terms of successful job placement, was

made possible for these people because of job retraining,

Nosow concluded.

The Main study examined above included programs

whose emphasis was focused more on the hard-core group,

although only about 50 percent of the enrollees could be

so classified. The results of more recent emphasis in the

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[99]Gerald G. Somers, "Our Experience with Retraining and
Relocation," in R.A. Gordon (ed,);<u>Toward A Manpower Policy</u>
New York: Wiley, 1967),p. 226.

[100]Sigmund Nosow, "Retraining Under the Manpower Develop-
ment Training Act: A Study of Attributes of Trainees Assoc-
iated with Successful Retraining," East Lansing: Michigan
State University, School of Labor and Industrial Relations
January 1968) (mimeo), pp. 3(1) - 3 (4).

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larger cities with the JOBS (Job Opportunity in the Business Sector) program, and other programs including basic education training prior to job-retraining, will provide more conclusive evidence on the results of training poverty-level workers. Published studies of those programs which carefully calculate benefit-cost ratios have not yet appeared. However, early reports from businesses partici-pating in these programs are quite optimistic.

). Empirical Estimates of Potentials for Increased Earnings Through Retraining

With the limited data available on estimated increases n earnings obtained as a result of job retraining, attempts ere made to project the potential income increases xpected to accrue to low income RLS respondents who ould undergo retraining. These projections were based pon the three employment-income variables which received rimary attention in the several benefit-cost studies nalyzed above - increases in straight time hourly earnings; ncreases in family incomes; and increases in the extent f full-time employment.

. Full Time Employment Increases

The study by Main[101] which was analyzed in the preceeding ection found that increases in family income were primarily he result of increases in percent of time employed full ime by training completers as compared to controls.

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[101]Main, A Nationwide Evaluation....

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applying the findings of the Main study regarding

ration of full time employment after retraining to the

rvey low income group, it should be possible to arrive

estimates of increases in full time employment this

oup can expect to receive through retraining.

Unfortunately, no directly comparable measures of

e extent of full time employment existed for the groups

the Main study and the survey respondents. The data

Table 18 incorporate a conversion of the Main data

the scale utilized in the Rural Life Survey, the number

Table 18.

eks Employed Full Time for Respondents Having Some Full
me Work in the Reporting Period,[1]by Respondent Class

Percent Distributions

eks l ie	Main Study Groups		RLS Viable 1.50 Income Ratio, by Income Class				
	Completers	Controls	.80	.80- .99	1.00- 1.19	1.20- 1.49	Total 1.50
0	6.9	18.9	8.4	9.4	7.2	10.8	9.3
40	34.1	52.2	37.7	33.0	27.6	24.7	29.6
	59.0	28.9	53.9	57.6	65.2	64.5	61.1

[1]Weeks full time was translated from "percent of months
l-time between training date and interview" for the Main
ups; the years ranged from 1964 through 1966. The report-
year for the RLS was 1966.

Source: Earl D. Main, A Nationwide Evaluation of
.T.A. Institutional Job Training Programs (Chicago:
ional Opinion Research Center, University of Chicago),
ober,1966, Table IV. 5, p. 79.

veeks of full time work during the preceeding year. On

basis of this limited data, it is apparent that no

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meaningful estimates of increases in duration of full time
employment can be made for survey respondents who would
undergo retraining. The survey poor appear not only to
have had more favorable full time rates than the controls in
the Main study, but they also had rates which closely
approximated those of Main's completers. This left no
room for estimates of potential increases in duration to
be obtained through retraining.

It was thought that the difficulty with this attempt
to measure potential employment duration gains resulted
from the non-rigid definition of full time employment
utilized in the RLS study. Respondents were simply asked
how many weeks they were employed on specific jobs in
1966, and how many of those weeks were worked full time.
Undoubtedly many respondents, particularly self employed
farmers, reported weeks of full time employment in excess
of the number in which they actually worked a full forty
hour week. Since we have no way of knowing the extent
of this over-reporting of full time work, there is no
way that the two studies can be reconciled to arrive
at the desired estimates of expected increases in full
time work duration.

Increases in Consumer Unit Income

The result of increases in percent of time employed
full time after retraining, according to the Main study,
was to increase family incomes by an average of $500
per year for MDTA training course completers as compared to

controls.

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rols. A second approach to empirically estimating

extent to which retraining would conceiveably lift

umer units from poverty was to simply add the $500

ease in income to each consumer unit's income.

As detailed in Chapter IV, consumer unit income

us was determined by the ratio of income received

ncome required, that is

$$\text{sumer Unit} \atop \text{erty Status} = \frac{\text{Income Received}}{\text{Income Required}}$$

$$= \frac{\text{Consumer Unit Income}}{\text{Consumer Unit} \quad \text{Consumer Unit Home} \atop \text{Poverty Level} \quad \text{Grown Food Modification}}$$

dding $500 to the numerator of this fraction and

lculating consumer unit income status, it was possible

eadily determine the effect this increase in earnings

d have on poverty level incomes. Table 19 presents

results of this transaction with consumer units class-

d by income status "before" and "after" receiving

benefits of retraining, subdivided by age and various

income categories. The data reveal that while over

of the potentially economically viable consumer units

raised one category in the income ratio scale, less

one fifth of the entire group below 1.50 income ratio

ived sufficient increases to raise them above this

trary poverty line. When the poverty line is set at

1.00 income ratio, just over one fifth of the consumer

s would be lifted from poverty with the addition of

to consumer unit income.

Is it reasonable to conclude that job retraining would

only twenty percent of the poverty level consumer units

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of poverty? Probably not, because the "pretraining"
racteristics of the Rural Life Survey low income
sumer units appear to be considerably different from
characteristics of Main's controls or his completers.
most noticeable difference, of course, is their income
tus. Whereas all of the RLS subsample considered here
classified as being in poverty, it is reasonably
tain that not all of Main's MDTA graduates would have
n classified in poverty prior to training. It was
ed in Section C that about one-half of the Main graduates
e classified as "hard-core" unemployed. However, no
a is given on annual incomes in the Main study from
ch poverty rates might be derived. A second factor
difference between RLS low income consumer units and
n's respondents was the reporting of negative income
ios by a number of the RLS farm consumer units (6% of
< 1.00). None of these had any possibility of being
ted above even the 1.00 income ratio.

   Again, the general lack of comparability between the
respondents and the Main study respondents precluded
drawing of definite conclusions about the possibility
RLS poverty level families being lifted from poverty
ugh job retraining.

   Increased Hourly Earnings

   From the U. S. Department of Labor data presented in
es 16 and 17, the following items were computed: (1)
mean posttraining hourly earnings for each pretraining

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Table 19.

Income Status of RLS Consumer Units Before and
   After Addition of $500 "Retraining" Income

Percent Distributions

7 Rural Life Survey Consumer Units Below 1.50 Income Ratio

ome Status	Age of CU Head	No Change	Improved
0.80	< 45	72.3	26.8
	45 < 65	62.4	37.6
	Total	67.1	32.9
0 - 0.99	< 45	36.2	63.8
	45 < 65	11.1	88.9
	Total	23.9	76.1
0 - 1.19	< 45	21.0	79.0
	45 < 65	18.3	81.7
	Total	19.6	80.4
0 - 1.49	< 45	59.3	40.6
	45 < 65	32.7	67.3
	Total	49.8	50.2
al Lifted Step	< 45	52.7	47.3
	45 < 65	37.1	62.9
	Total	45.4	54.6
al Lifted n < 1.00	< 45	79.2	20.8
	45 < 65	76.5	23.5
	Total	77.7	22.3
l Lifted n < 1.50	< 45	81.6	18.4
	45 < 65	80.7	19.3
	Total	81.2	18.8

Before Training — After Training Income Status

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ngs level for (a) graduates who experienced earnings

ases and (b) graduates who did not experience increases;

2) the percentage of each pretraining hourly earnings

that experienced earnings increases with retraining.

are given in Table 20.

The relationship between the highest hourly wage rate

d and income status for each consumer unit is pre-

d in Table 21. By applying the percentage of increases

ourly earnings and the mean posttraining hourly earnings

s of the MDTA graduates to each hourly earnings category

he RLS low income population, the number and percent

he RLS respondents expected to be lifted from poverty

estimated. The following assumptions were made to

litate these estimates:

Assumptions

1. For given levels of 1966 hourly earnings, the

rural poor will, when retrained, receive the same

mean hourly earnings as did the 1965-66 MDTA insti-

tutional training graduates.

2. The same percentages of RLS poor will receive

increases in hourly earnings as did the 1965-66

MDTA institutional training graduates.

3. Among the RLS poor who would receive higher post-

training hourly wages, the same poverty rate will apply

as was experienced by that (posttraining) hourly

wages group in the RLS population. That is, the

group which earns higher wages due to retraining will

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Table 20.

...ttraining Status and Mean Posttraining Earnings of 1965-66
...nstitutional Training Graduates, by Pretraining Earnings Level

t Time Hourly s Before g	Posttraining Earnings Status Relative to Pretraining Level (% Distribution)		Mean Posttraining Hourly Earnings For Those With:	
	Decrease or no Change	Increase	No Increase	Increase
<$0.75	10.1	89.9	$0.65	$1.46
- $1.24	15.8	84.2	$0.93	$1.74
- $1.49	32.1	67.9	$1.29	$2.02
- $1.74	39.0	61.0	$1.47	$2.29
- $1.99	45.7	54.3	$1.64	$2.48
- $2.49	70.6	29.4	$1.95	$2.90
≥$2.50	100	-	$2.44	$3.25

: Data in Tables 16 and 17.

Table 21.

Relationship Between Consumer Unit Highest Wage Earned
and Income Status, Percent Distributions

7 Rural Life Survey Consumer Units Below 1.50 Income Ratio

ight Time ly Earnings	Rural Life Survey Income Status					
	<.80	.80-.99	1.00-1.19	1.20-1.49	≥1.50	% of Total
<$0.75	40.5	5.4	5.4	10.8	37.8	1.2
75 - $1.24	26.7	5.6	14.4	12.2	41.1	3.0
25 - $1.49	14.4	7.6	6.1	10.6	61.4	4.4
50 - $1.74	10.3	4.1	8.3	14.5	62.8	4.8
75 - $1.99	7.4	1.2	8.0	14.2	69.1	5.4
00 - $2.49	2.9	4.0	3.4	10.8	78.9	14.9
≥$2.50	0.9	1.4	2.1	5.4	90.3	66.2

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respond employment-wise in the same manner as that

higher wage group did without retraining.

4. Among those RLS poor who received no increase in

hourly earnings with retraining, the poverty rate would

equal the rate for their earnings group in the total

RLS population without retraining. That is, even though

some respondents would not receive increased hourly

rates with retraining, the percent of time they were

employed would increase to equal the average for

their total hourly earnings group without retraining.

The application of these assumptions to the data of

les 20 and 21 is recorded in Table 22 for consumer units

h income ratios below 1.00 and in Table 23 for all

ts whose income ratios were less than 1.50.

The effects of these wage rate changes were to reduce

percentage of the total potentially viable survey

sumer units below the 1.00 income ratio from six percent

less than one percent; the reduction in the total survey

sumer units below the 1.50 income ratio was from seven-

n percent to less than five percent. Only thirteen

cent of the consumer units below the 1.00 income ratio,

just over one-fourth whose income ratios were below

), would be expected to remain in poverty after under-

ng job retraining.

The results of this measure of the effects of job

raining on lifting the rural poor households from poverty

icate that retraining can play a major role in reducing

Table 22.

Relationship Between Pretraining and Posttraining Hourly Earnings and Income Status for RURP ...
Survey Consumer Units Below 1.00 Income Ratio

Pretraining straight time average hourly earnings	Respondents with these earnings who had low incomes		Expected to receive increased earnings with retraining			Not expected to receive increase in earnings			Expected to receive increase in earnings			Total expected to be poor post-training
	No.	%	No.	%	No.	Mean hourly earnings	Expected poor		Mean hourly earnings	Expected poor		
							%	No.		%	No.	
	A	B	C	D=A.C	E=A-D	F	G	H=E.G	I	J	K=D.J	L=H+K
<$0.75	17	45.9	89.9	15	2	$0.65	45.9	1	$1.46	22.0	3	4
$0.75-$1.24	29	32.3	84.2	24	5	.93	32.3	2	1.74	14.4	3	5
$1.25-$1.49	29	22.0	67.9	20	9	1.29	22.0	2	2.02	6.9	1	3
$1.50-$1.74	21	14.4	61.0	13	8	1.47	22.0	2	2.29	6.9	1	3
$1.75-$1.99	14	8.6	54.3	8	6	1.64	14.4	1	2.48	6.9	1	2
$2.00-$2.49	31	6.9	29.4	9	22	1.95	8.6	2	2.90	2.3	2	4
≥$2.50	44	2.3	--	--	44	2.44	6.9	3	>2.50	--	--	3
												Total = 24

Survey Consumer Units Below 1.50 Income Ratio

Pretraining straight time average hourly earnings	Respondents with these earnings who had low incomes		Expected to receive increased earnings with retraining		Not expected to receive increase in earnings				Expected to receive increase in earnings			Total expected to be poor post-training
	No.	%	No.	%	No.	Mean hourly earnings	Expected poor %	No.	Mean hourly earnings	Expected poor %	No.	
	A	B	C	$D=A \cdot C$	$E=A-D$	F	G	$H=E \cdot G$	I	J	$K=D \cdot J$	$L=H+K$
<$0.75	23	62.2	89.9	21	2	$0.65	62.2	1	$1.46	38.7	8	9
$0.75–$1.24	53	58.9	84.2	45	8	.93	58.9	5	1.74	37.2	17	22
$1.25–$1.49	51	38.7	67.9	35	16	1.29	38.7	6	2.02	21.1	7	13
$1.50–$1.74	54	37.2	61.0	33	21	1.47	38.7	8	2.29	21.1	7	15
$1.75–$1.99	50	30.9	54.3	27	23	1.64	37.2	9	2.48	21.1	6	15
$2.00–$2.49	94	21.1	29.4	28	66	1.95	30.9	20	2.90	9.7	3	23
≥$2.50	192	9.7	--	--	192	2.44	21.1	41	>2.50	--	--	41
												Total =138

number of consumer units in poverty. This measure

the advantage of comparability between U.S. Department

Labor reports and the RLS data. It also implicitly

orporated changes in full time employment rates, the

iable which Main found to be the major cause of increases

family income. These estimates of changes in poverty

es with job retraining also assume that labor market

ditions for RLS retrainees would be the same as con-

ions for MDTA graduates in the Labor Department survey.

A. Introduction

To obtain a measure of the needs for retraining of the
Rural Life Survey's low income level individuals, it was
necessary to obtain a measure of their present level of
skills and abilities and to compare this level with a min-
imum standard training requirement.

Two recently published supplements to the U.S. Depart-
ment of Labor's _Dictionary of Occupational Titles_ were
utilized to develop a generalized "basic training re-
quirement." The requirements for average performance on the
jobs for which unemployed workers have been retrained under
MDTA training programs were used as the base for determining
the minimum training standards.

Present levels of education, in terms of years of
schooling completed, were reported by each respondent and
these were used as a measure of general educational
development. The level of vocational training of respondents
was determined by quantifying the amount of vocational
education, on-the-job training, or other specialized vocational
training which they indicated they had participated in.

Those low-income respondents who were found to be in
need of job retraining were then classified according to
their expected ability to successfully complete a job
retraining program.

. Development of Basic Training Requirements

The purpose in developing a basic training requirement measure was to have a standard against which RLS poverty-level respondents could be compared to determing the extent of their need for retraining. Such requirement must be expressed in terms of a minimum skill level which, when attained, should enable the poverty-level worker to earn an income sufficient to lift his family above the poverty level.

Before such requirements are developed, it is necessary o define the type of requirements that are being established. ine has explained that educational and training requirements ay be thought of in terms of functional or performance re-uirements, employer or hiring requirements, or the education-l attainment of workers at a point in time. The functional equirements approach, defined as "the requirements determined y objective job analysis as necessary and sufficient to chieve average performance in the specific tasks of the obs,"[102] was followed in this study.

Although "average performance" is nowhere clearly de-ned, estimates of physical demands, working conditions, and raining time have been made for each of roughly 14,000 ob titles identified by the U.S. Department of Labor in

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[102]Sidney A. Fine, "Use of the Dictionary of Occupational tles to Estimate Educational Investment," _Journal of man Resources_, Vol. III, No. 3 (Summer, 1968), pp. 5-66.

s _Dictionary_ _of_ _Occupational_ _Titles_ (DOT).[103] The

raining requirements were expressed in terms of a measure

f general educational development (GED) and a measure of

ocational training time required, the specific vocational

reparation (SVP) scale.

Three fundamental skills which people are supposed to

quire from general education were delineated: reasoning,

thematics, and language. The requirements for each of these

ills on each job as described in the _DOT_ were then determined,

sed on a seven point scale of development. This general

ucational development is described as "education of a general

ture which does not have a recognized, fairly specific,

cupational objective. Ordinarily such education is obtained

 elementary school, high school, or college. It also derives

om experience and individual study."[104]

The SVP scale is a measure of the amount of time required

 learn the techniques, acquire information, and develop the

cility needed for average performance on a job.

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[103]U.S. Department of Labor, _Dictionary_ _of_ _Occupational_
tles, Vol I, _Definitions_ _of_ _Titles_, and Vol II, _Occupational_
assification,3rd, ed. (Washington: U.S. Government Printing
fice, 1965).

[104]U.S. Department of Labor, _Selected_ _Characteristics_
 Occupations (_Physical_ _Demands_, _Working_ _Conditions_, _Training_
me),A Supplement to the Dictionary of Occupational Titles,
. ed. (Washington: U.S. Government Printing Office, 1966),
 A-5.

It includes training received through vocational educa-
tion, apprentice training, in-plant and on-the-job training,
and essential experience in other jobs. Each job title listed
in the DOT has been rated in terms of functional training
requirements on both the GED and the SVP scales.

When considering poverty-level respondents' needs for
retraining, basic training requirements in terms of the
SVP measure were utilized. Potentials for successfully
completing retraining programs were based upon the GED measure
and corresponding skill levels deemed attainable by individuals
with given levels of general educational development.

The procedures utilized in developing the basic training
requirements and respondents' SVP and GED levels are de-
scribed in Appendix A. A list of over 900 job titles was
obtained and weighted by total MDTA enrollments in these
occupational classifications.[105] After recording all GED and
SVP measures for the 900 job titles separated roughly
according to male and female occupations, the median SVP
levels were determined (Appendix Table A-2). The "median

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[105]U. S. Department of Labor, Manpower Administration,
Register of Projects Approved Under the MDTA Through June,
1965 (Washington: by the Department, 1965). This was the
only volume of the Registry which was published; it is
believed that MDTA programs were developed sufficiently by
June, 1965 so that job titles added to the approved list after
that date would have little effect on the overall dis-
tribution of enrollments.

ge" SVP established in this manner was SVP 5-7 for
les and SVP 4-5 for females (see pages 210 through 214
r a complete description of the procedures followed). The
dian range SVP levels were then designated as the minimum
andard training requirements.

It was found that the occupational categories utilized
developing the training requirement could be classified
o four broad skill-level groups as follows:

SVP 1 and 2 = unskilled occupations

SVP 3 and 4 = semi-skilled

SVP 5 and 6 = skilled

SVP 7 and 8 = highly skilled

Thus, the median range for male occupations consisted of
her skilled or highly skilled occupations and for females
included semi-skilled and skilled occupations.

Respondent SVP and GED Levels

The development of SVP and GED levels for respondents
presented in Appendix C. In the Rural Life Survey, each
pondent indicated the type of vocational program, if any,
t he participated in while attending high school and the
unt of vocational training received, if any, in the past
years. Following weighting procedures outlined by Fine,[106]
high school vocational education and the portion of college
cation considered to be vocational training were converted

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[106]Fine, "Use of the Dictionary...," p. 368.

weeks of specific vocational preparation. This value was
en added to weeks of post high school vocational training,
en the total was converted to an equivalent SVP value
cording to the <u>DOT</u> scale. An arbitrary adjustment in the
lue given to vocational training was made according to the
tent to which the training was utilized in recent employment.

Each respondent's level of educational development, as
asured by years of schooling completed, was utilized as
 basis for his GED level. Although it was recognized
t the number of years of school attendance was not a per-
t substitute for a measure of a respondent's general ed-
tional development, it was used because no better
ernative was available from the survey data. The con-
sion of years of schooling to the GED scale was made in
ordance with the translation made by Eckaus.[107] The con-
sion categories appear in Appendix Table C-1.

Retraining Needs Based on Basic Training Requirements

The median required skill levels have been developed in
ms of the vocational preparation required for average per-
mance on the type of jobs for which workers have recently
 retrained under the MDTA. The measured skill levels of
 potentially economically viable respondents described
ve were compared to these required skill levels and were

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[107]Eckaus, R.S., "Economic Criteria for Education and
ning," <u>Review of Economics and Statistics</u>, Vol. 46,
2 (May, 1964), pp. 181-190.

assified as less than, equal to, or greater than the re-
ired levels. Table 24 contains the percentage distributions
 respondents' SVP levels in relation to the required levels
 income ratios and separately by sex.

For males with income ratios below 1.50, ninety-two
rcent were classified as having skill levels below required
ill levels. There were no significant differences between
e different low income classifications for males. The
rcentage of females below the required levels ranged from
ghty-four to ninety percent, with an overall average of
ghty-six percent. The difference between the several low
come groups for females was statistically significant.

Looking at all potentially viable survey respondents, the
fferences between the lower and higher income groups for
th sexes were highly significant. The total percentages
low the required levels were eighty-six percent for males
d seventy-five percent for females. If respondents had
dertaken any training which affected their measured SVP
vels, they were more likely to be classified above the re-
ired level than equal to requirements.

It appears that the SVP measure probably underestimates
spondents' actual skill levels, as it records only formal
cupational training which was received in the last ten
ars. Nevertheless, in comparison to the non-poor, those
th income ratios below 1.50 were significantly less well
 on the skill level index. Also, rates of eighty-five

Table 24.

Relationship Between Potentially Viable Respondents'
Skill Levels and Median Required Skill Level, by
Income Ratio and by Sex; Percentage Distributions

1967 Rural Life Survey Individuals*

| Income Ratio | Skill Levels Related to Median Levels Required | | | | | | | | | |
| | Males | | | % of <1.50 | % of total | Females | | | % of <1.50 | % of total |
	<	=	>			<	=	>		
< .80	93.0	2.2	4.8	25.5	4.7	83.8	5.5	10.6	26.6	5.7
.80- .99	94.4	0	5.6	12.2	2.3	90.2	4.1	5.7	13.9	3.0
1.00-1.19	92.8	3.3	3.9	20.9	3.9	88.5	0.6	10.9	18.7	4.0
1.20-1.49	90.7	4.0	5.3	41.4	7.7	84.7	1.9	13.3	40.8	8.8
Total <1.50	92.2	2.9	4.9	100	18.6	86.0	2.9	11.1	100	21.5
≥ 1.50	84.6	5.3	10.1	-	81.4	72.1	5.3	22.6	-	78.4
Total	86.0	4.9	9.2	-	100	75.1	4.8	20.2	-	100

For the total population, chi-square for males = 31.610 and
for females = 81.267 (with 8 d.f., both are sig. at .001 level).
For income ratios below 1.50 only, chi square = 4.852 for males
and 15.639 for females (with 6 d.f., not sig. for males and
sig. at .02 level for females).

*There were 123 individuals excluded from the SVP
computation; they were either still attending school or
their questionnaires were incomplete.

percent below the required level for males and seventy-two

percent below requirements for females may not be too

unrealistic even for the non-poor. It should be noted

that the survey population was limited to farm households

with net cash incomes below $10,000 and open-country

nonfarm households. As noted in chapter four, three fourths

of the workers in the survey population were employed in the

two lowest skill level occupational categories and over ninety

percent had received no post high school technical training.

It was concluded, on the basis of the relationship of respondents' present skill levels to those required for higher income employment, that there is an overwhelming need for occupational retraining among the low income residents of the open country area in the Eastern Corn Belt states. Specifically, ninety-two percent of the potentially economically viable males with income ratios below 1.50, and eighty-six percent of the females in this subgroup, were determined by this analysis to be in need of vocational retraining. Even among the higher income persons in the survey, there was an indication of a serious shortage of vocational training of the type which would enable them to compete with other members of the region's labor force for the higher paying jobs.

It should be noted, before leaving the discussion of required SVP levels, that some respondents may be in need of retraining, as judged by their poverty-level income, even though their SVP level indicates they are skilled individuals. This situation does arise when a particular skill becomes obsolete due to changing technology. It will be assumed here that such individuals will recognize their need for retraining and will express an interest in taking a retraining course. Thus, even though they will be omitted in determining needs for retraining based on their SVP levels, they will be included later in measuring retraining potentials based on interest in retraining.

E.   Retraining Potentials - Introduction

In the preceeding section respondents with a need for
job retraining were identified by the combination of their
poverty-income status and their low levels of specific voc-
ational preparations. In order to measure the potential for
escape from poverty through job-retraining, it was essential
to establish a measure of the potential retrainability of those
respondents with retraining needs.

It was assumed that certain socio-economic character-
istics could be identified which were closely assoiciated
with potential retrainability. It was further assumed
that sufficient data on these socio-economic characteristics
of participants in Federally sponsored retraining programs
were available. Rural Life Survey respondents could then
be compared with successful trainees and measures of
respondents retrainability could be estimated.

Certain individuals with retraining needs clearly possess
characteristics which make them non-retrainable except in very
specialized programs. These are the handicapped, both
physically and mentally, and the elderly. For the purpose
of the present study, the handicapped and the elderly were
considered non-retrainable and were excluded from the analysis.

Although some economists might question the inclusion of
persons over 45 or 50 years of age in the group of potentially
retrainable respondents, no age limitation below age 65 was
imposed here. Despite the possibility that costs of retraining
older workers might exceed the benefits obtained from

retraining, the Federal MDTA training program makes no effort to exclude older trainees. In fact, as more of the hard-core unemployed are included in training programs more older workers are being retrained. Table 25 indicates that in fiscal year 1968, eleven percent of all MDTA program enrollees were over 44 years of age, and 2.5 percent were over 54 years old. For this reason all "potentially viable" respondents with a need for retraining were examined to determine their potential for successful retraining.

Table 25.

Number and Percent of MDTA Enrollees 45 Years Old
and Older During Fiscal Year 1968

Enrollment and Age	Institutional		On-The-Job		Total	
Total Enrollment	140,000		125,000		265,000	
Age	Number	% of Total	Number	% of Total	Number	% of Total
45 and older	15,300	10.9	13,800	11.0	29,100	11.0
45 - 54	12,100	8.6	10,400	8.3	22,500	8.5
55 - 64	3,100	2.2	3,300	2.6	6,400 ⎫	2.5
65 and older	100	0.1	100	0.1	200 ⎭	

Source: U. S Department of Health, Education, and Welfare, Education and Training, Report of the Secretary to the Congress on the MDTA (Washington: U. S. Government Printing Office, April, 1969), Tables G-1 and G-2, pp. 91-92.

F.   Characteristics of Successful Retrainees

     1.   Defining Successful Retraining

     Examination of previous studies of MDTA retrainees

indicates there is no uniform definition of retraining

success.   In some studies success is measured by completion

of the retraining course; others consider both course

completion and posttraining employment history; still

others consider only the two principle factors of post-

training employment history-percentage of time employed

and hourly wage rates.   Furthermore, as pointed out in

Chapter V, many studies fail to include appropriate

control groups with which retrainees can be compared.

     Other questions arise in regard to successful re-

training.   Is an individual to be classified as an unsuccess-

ful trainee if he drops out of a training program prior

to its completion to accept employment?   This question

is even more relevant if the dropout utilizes skills

acquired in the retraining program in his new job.   The

dropout must, subjectively at least, evaluate the present

value of the expected future income streams from two jobs,

the one he accepts in the present and the potential job he

would expect to find upon course completion.   When he drops

out he apparently finds the known present job opportunity

more attractive than the unknown future job.   In his own eyes

he is being a successful retrainee.

     Equally thorny is the question of the degree of success

of the training program which provides the trainee with lower

hourly wage rates than he received in the last job held prior
to undertaking retraining. This situation frequently arises
when the trainee had previously been a skilled worker, but
the old skill has become obsolete. In this one instance
lower posttraining wages would not necessarily mean
training was unsuccessful. In other situations the question
of retraining success would remain, and without the
inclusion of carefully selected control groups who did
not retrain no definitive evaluation of the success of
retraining could be given.

In this study, all the definitional problems did not
have to be faced, since the concern here was with respondents
retraining potentials. Retrainability was defined as
the ability to successfully complete a job-retraining
program. One who drops out of training to accept employ-
ment was assumed to have the ability to complete the
retraining program if he chose to do so; the question of
lower posttraining earnings was sidestepped with this de-
finition as it is more an effect of labor market conditions
than of worker retrainability.

2.   Hypotheses

The general hypothesis of this section was that worker
members of rural, poverty-level households in this region
possess socio-economic characteristics which make them
potentially retrainable, according to the above definition
of retrainability. As Wolfbein[108] has pointed out, modern

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[108]Wolfbein, _Education and Training_..., pp. 42-52.

developments in psychology and learning theory have indi-
cated that all persons are retrainable. But for some this
would only be true at a cost in time and money greatly
in excess of what is now considered appropriate by policy-
makers for retraining the unemployed via MDTA programs.
Thus, it was hypothesized that, with the exclusion of the
handicapped, respondents had socio-economic characteristics
which would enable them to complete present MDTA retraining
programs. It was further hypothesized that age, formal
education, and recent unemployment history were three such
characteristics which would be related to, and which could
be used as predictors or retraining success.

3. Characteristics Which Influence Retraining Success

Reports by Federal agencies generally give a limited
breakdown of characteristics of persons enrolled in MDTA
training programs, but these are of no value here because
they tell nothing about characteristics of persons who
successfully completed training. The 1969 HEW report on
the MDTA does contain some information on a 50,000 person
sample of MDTA Institutional course completers, but this
data is limited to their labor force status at the time
of the canvass and comparisons of pretraining and post-
training hourly earnings.[109] Thus, there is no data
available from Federal publications with which characteristics

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[109]U.S. Department of Health, Education, and Welfare,
Education and Training:..., Tables E1-E5, pp. 87-89.

of successful retrainees can be adequately identified.

Turning to the several studies of retraining programs detailed in Chapter V we find that only those of Nosow[110] and Borus[111] attempt to isolate the effects of individual characteristics on the outcomes of job-retraining. In the study of retraining in four Michigan communities Nosow found that two dynamic forces, worker motivation to take and complete a training program and the pull of local market opportunities, obscure the effects of differing social and social psychological attributes of the trainees upon training outcome. He concluded that "Training is of value to all types of persons irrespective of age, education, or their post occupational, education, or social backgrounds.[112]

After examining the benefits from retraining for a sample of retrainees in Connecticut over a five year period, Borus did find the influence of age on the benefits of retraining to be statistically significant, but not until the third year following retraining. He found that for either the entire five-year period or any one year of the period the average gain from retraining "was not influenced by sex, race, marital status, education, number of dependents and prior earnings of the persons selected for

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[110]Nosow, "Retraining...".

[111]Borus, "Time Trends in the Benefits...".

[112]Nosow, "Retraining...," p. 3 (4).

retraining.[113]

Two additional studies, not discussed in Chapter V, have reached similar conclusions. Trooboff found, in a study of post-training experiences related to selected trainee characteristics such as age, education, and pre-training unemployment experience, that these characteristics cannot be used to predict post-training employment success: "There was no significant correlation between trainee characteristics and percent of time employed after training" for either retraining program completers or for dropouts.[114] And Weber has stated that "Most of the conventional demographic variables, by themselves, are of limited significance in distinguishing the experience of the trainees in the programs."[115] Weber found that the characteristics of race, age, sex, and education had little influence on retraining course completion rates.

Thus, while the evidence is limited and the few studies cited may be far from representative of all retraining programs, it would appear that no clear relationship does exist between retrainees' age, education, and prior work history

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[113]Borus, "Time Trends in the Benefits...," p. 45.

[114]Benjamin M. Trooboff, *Employment Experience After MDTA Training: A Study of the Relationship Between Selected Trainee Characteristics and Posttraining Experience* (Atlanta: Georgia State College, School of Business Administration, July, 1968), p. 121.

[115]Arnold R. Weber, "Experiments in Retraining: A Comparative Study," in Somers (ed.), *Retraining The Unemployed*, p. 272.

and their potentials for retraining success. As Nosow
stated, retrainee motivation to take and complete a
training course and local labor market conditions apparently
have more influence on retraining success than such personal
characteristics as age, education, and prior employment
experience. It was concluded, on the basis of the studies
cited, that the above hypotheses concerning the relation-
ships between poverty-level workers' age, formal education
and recent unemployment and their potential retrainability
must be rejected.

G.   The Relationship Between Education and Training

The failure of the above studies of retraining programs
to obtain evidence of a clear relationship between education
and potential retrainability runs counter to the generally
recognized relationship between education and job training
levels. The 1963 U.S. Department of Labor study of the
extent of formal occupational training among the 60.8
million workers in the United States revealed that for
workers with less than three years of college, years of
schooling and formal occupational training were closely
related.[116] This relationship is revealed in Table 26
which shows that only one-sixth of the workers with less
than nine years of education had undergone vocational

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[116]U.S. Department of Labor, Manpower Administration,
Formal Occupational Training of Adult Workers: Manpower/
Automation Research Monograph No. 2 (Washington: By the
Department, December, 1964), pp. 5-20.

training, with the percentage increasing steadily with increased years of education so that three-fourths of the workers with one or two years of college had some vocational training.

There are several reasons why this observed relationship does not hold in the retraining studies examined. Perhaps the primary reason is the application of restrictive selection criteria when admitting persons to retraining programs. In an effort to insure that public retraining funds were spent on persons most likely to

Table 26.

Relationship Between Formal Occupational Training And Formal Education for Workers with Less Than Three Years of College, 1963

Year of Schooling Completed	Number of Workers (in millions)	Percent of Total	Percent with Training
Less than 9	16.9	32	16.0
9-11	12.2	23	46.3
1-2	18.1	35	65.2
1-2 years college	4.6	9	71.3
Total	51.8	100	45.2

Source: U.S. Department of Labor, Manpower Administration, Formal Occupational Training of Adult Workers: Manpower/ Automation Research Monograph No. 2 (Washington: By the Department, December, 1964), Table 1, p. 5.

complete training and to secure employment the administrators of MDTA programs in the early years applied fairly

rigid selection standards. Later MDTA amendments were designed to lower these standards and to allow more of the hard-core unemployed, those who presumably are higher-risk enrollees, into retraining programs. However, HEW data indicates that characteristics of actual enrollees in fiscal year 1968 differed very little from those in earlier years (Table 27). It would appear, therefore, that screening of applicants for retraining still functions to exclude from training many with lower levels of education and other characteristics which might affect their ability to complete a retraining program.

Another factor which obscures the education-training relationship is the various skill levels of the retraining programs. MDTA programs are designed to meet the needs of unemployed workers regardless of their educational background, so some train for unskilled or semi-skilled occupations (5.6 percent and 21.6 percent respectively of total male enrollments through June, 1965).[117] The enrollees with lower educational levels are able to complete the less demanding training programs when they are not excluded from program participation.

The motivation factor, mentioned above, also exerts influence on the education-training relationship. At this time, however, very little research has been done concerning trainee motivation so the nature of this influence is not

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[117]See Appendix Table B-1. The derivation of these skill levels corresponding to SVP levels is described in Appendix A.

Table 27.

Selected Characteristics of Persons Enrolled in
MDTA Institutional Training Projects, for Fiscal Years,
1963-65 and 1968

	Fiscal Year trainee enrolled	
Characteristics	1963-65	1968
Trainees enrolled	245,000	140,000
PERCENT OF TOTAL		
Sex:		
Male	61	55
Female	39	45
Education:		
Less than 8th grade	7	9
8th grade	9	10
9th-11th grade	33	41
12th grade	44	35
over 12th grade	7	6
Age:		
Under 19 years	15	15
19-21 years	24	24
22-44 years	51	51
45 years and over	10	11
Color:		
White	69	51
Nonwhite[1]	31	49
Labor force status:		
Unemployed (including family farm workers)	91	80
Reentrant to labor force	2	3
Underemployed	7	17
Duration of unemployment:		
Less than 5 weeks	31	31
5-14 weeks	24	24
15-26 weeks	14	16
27-52 weeks	11	11
Over 52 weeks	20	18
Gainfully employed 3 years or more	63	55
Head of family	54	55
3 or more dependents	26	25
Unemployment insurance claimant	20	9
Public assistance recipient	10	13
Handicapped	7	9
Eligible for allowance	65	83

[1]Approximately 93 percent of nonwhite are Negro.
    Note: Detail may not add to 100 due to rounding
    Source: U.S. Department of Health, Education, and Welfare,
Education and Training: A Chance to Advance, 1969 Report of
the Secretary to the Congress on the MDTA (Washington: U.S.
Government Printing Office, April, 1969), Table B-1, p. 70.

clearly specified.

Because there does exist a definite relationship between formal education and the amount of vocational training received, an alternative measure of retraining potential, based on educational levels, was developed.

H.   Potentials for Retraining Success

The specific determination of retraining potential was made as follows. Respondents who were determined, by the analysis of Section D, to be in need of vocational retraining were divided into two categories according to their GED levels. The SVP levels of respondents with GED greater than or equal to 3 were compared with the median attainable SVP corresponding to their GED levels. Those whose SVP levels were less than the corresponding SVP were considered to be potentially retrainable in regular MDTA programs and in occupations classified as skilled or highly skilled.

Respondents in need of vocational retraining with GED less than 3 were considered to be potentially retrainable only in programs which provide basic educational instruction in addition to or concurrently with vocational training. This consideration rests upon the assumption that it is essential to raise all GED levels at least to three. This assumption was made because the median SVP levels of occupations requiring GED levels below three are unskilled or the lower semi-skilled types. It was believed, as stated by a congressional committee on administration of

training programs, that training programs in these low skilled occupations "lead to jobs which produce insufficient income for a family to survive."[118]

The extent and nature of retraining potentials for the low income respondents with retraining needs are presented in Table 28. One hundred percent of these respondents possessed SVP levels which were below the skill levels which individuals with these GED levels could reasonably expect to attain. As stated above, those with GED levels 1 and 2 were considered to have potential for vocational retraining in programs that also gave them basic educational instruction to improve their general educational abilities. Less than five percent of the potentially viable low income males and only three percent of the females with need for retraining possessed GED levels 1 and 2, so the need for dual basic education vocational training programs does not appear very great.

Although the median attainable SVP for individuals with GED level 3 was found to be SVP-5 for males and SVP-4 for females, it is questionable if persons with such low levels of formal education (grades 6-8) can success-fully compete in most retraining programs without some additional basic educational instruction as well. If this questionable group was added to those definitely in need

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[118]U.S. Senate, _Employment and Training Legislation_..., p. 14.

Table 28.

Retraining Potentials of Low Income Respondents
With Retraining Needs, by Sex; Percent Distributions

1967 Rural Life Survey Individuals Below 1.50 Income Ratio

GED Level	Males Poor with Need For Retraining	Males Total Poor	Potentials for Retraining	Females Total Poor	Females Poor With Need For Retraining	GED Level
1	0.9 } 4.8 = 4.4		Retrainable only with basic education to supplement GED } 2.5		2.9 { 0.5	1
2	3.9				2.4	2
3	36.8 } 36.8 = 33.9		Possibly retrainable, may require basic education } 26.1		30.3 { 30.3	3
4	33.4				40.2	4
5	25.0 } 58.4 = 53.8		Good potential for success in retraining program } 57.4		66.8 { 26.6	5
6	---				---	6
Total	100	100	92.2	86.0	100	Total

Table 29.

Retraining Potentials of Higher-Income Respondents
With Retraining Needs, by Sex; Percent Distributions

1967 Rural Life Survey Individuals Above 1.49 Income Ratio

GED Level	Males Poor with Need For Retraining	Males Total Poor	Potentials for Retraining	Females Total Poor	Females Poor With Need For Retraining	GED Level
1	0.6		Retrainable only with basic education to supplement GED		0.6	1
2	1.5	1.78		0.8	0.5	2
	2.1				1.1	
3	24.4	20.6	Possibly retrainable, may require basic education	14.3	19.9	3
	24.4				19.9	
4	31.4		Good potential for success in retraining program		32.4	4
5	41.8	61.9		57.0	45.9	5
6	0.3				0.7	6
	73.2				79.0	
Total	100	84.6		72.1	100	Total
	100				100	

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of basic educational instruction, forty-two percent of the
males and one-third of the females in the low income
category would be classified as in need of dual education-
training programs. The actual need for such programs
undoubtedly lies somewhere within the range of these
extremes of three percent and forty-two percent.

The remaining majority of the low income respondents
in need of training were found to have good potential
for successful retraining, with fifty-eight percent of the
males and fully two-thirds of the females so classified.
The percentages of the total low income population re-
presented by those in need of training are also presented
in Table 28. Over half of the total low income individuals
were classified in need of and with good potential for
completing a job retraining program.

Table 29 shows the degree of retraining potentials
among the survey respondents with income ratios above
1.49. Although a smaller percentage of this group appeared
in need of dual type education-training programs, roughly
sixty percent of the total group was estimated to have need
of and good potential for completing retraining programs.
In all, eighty-five percent of the non-poor males and
seventy-two percent of the females were classified as being
in need of retraining.

In conclusion, it can be said that only a small per-
centage of the survey poor who need retraining appear to have
no potential for successful completion of job retraining
programs, less than five percent of both sex groups.

Approximately one-third of both sex groups were considered to be borderline cases, their GED levels being low enough to cast doubt on their ability to complete a retraining program. It can be reasonably concluded that a majority of the poor who need retraining, nearly sixty percent of them, have excellent chances of successfully completing regular MDTA type retraining programs.

These conclusions were based upon a measure of the general educational achievement of each respondent. This is certainly not the only variable which determines one's potential ability to succeed with job retraining. Level of educational achievement has been shown to be closely related to extent of vocational training received, however. With the inconclusive evidence concerning the relationship between retraining success and other socio-economic variables which was discussed above, use of the GED measure does facilitate the development of reasonable approximations of potentials for successful retraining.

VII. RETRAINING POTENTIALS BASED ON INTEREST IN RETRAINING

A.   Introduction

It was concluded in Chapter III that the "human capital" modification of marginal productivity theory provided an appropriate theoretical framework for the analysis of rural poverty problems. It was noted that, other things being equal, some individuals have relatively low marginal productivities because relatively little has been invested in them as human capital in terms of occupational or vocational training. The rate of return on the actual educational investment in them may be acceptable, but because so little has been invested in them their labor incomes are low and they are in poverty.

The solution to the poverty-problem, from this analytical framework, is to raise the marginal productivities of such individuals by increasing the level of investment in them as human factors. This increase in the quality of the labor input should, in turn, increase the returns to that factor. If sufficient investment is made, the individuals will earn labor returns sufficient to lift their families from poverty.

The potential ability of job-retraining programs to lift rural households from poverty levels depends largely upon the willingness of workers in these households to participate in the programs. This study now turns to an analysis of respondents' interest in participating in job-retraining programs.

B. Interest in Retraining

1. The Decision Rule

RLS respondents were asked if they would be interested
in taking a "free training course given locally which would
qualify them for a better job." Enumerators were instructed
to emphasize the three conditions regarding the training
course - that it would be free, given locally, and would
qualify the respondent for a better job in one or more
aspects; higher pay rate, less seasonality, more convenience,
more permanence, etc.

Ignoring the hypothetical nature of the retraining
offer, the respondents' interest in participating in a
retraining program would be theoretically determined by
their evaluation of the net discounted value of the future
income streams attributable to the improvement in their
skill levels as compared with future income streams
expected without job retraining. The decision to accept
or reject participation in a retraining program has been
expressed symbolically by Chesler as follows:[119]

$$M = \sum_{t=0}^{T} P_t \ (Y_t^R - Y_t) \left(\frac{1}{(1 + r)^t} \right) - C_{t_0}$$

Where M represents the discounted present value of the
future income stream from the start of training (t=o) to

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[119]Herbert A. Chesler, "The Retraining Decision in
Massachusetts: Theory and Practice," in Gerald G. Somers
(ed.), Retraining the Unemployed (Madison: The University
of Wisconsin Press, 1968), pp. 149-170.

the time of retirement from the labor force (t); Y^R represents income from post-training employment, and Y is income earned from work without being retrained; r is the individual's internal rate of discount. Also, the symbol P denotes the probability that the individual will be capable of actually working in any given year or period of time, t; and C denotes the opportunity costs of training to the individual such as potential earnings foregone while in training, the surrender of leisure time, the possible relinquishment of seniority and other rights accumulated on previous jobs, and the uncertainty of obtaining employment upon completion of retraining.

If respondents behave consistantly with the above decision rule, they would be interested in undertaking retraining if the value of M was greater than zero and they would be indifferent to the retraining offer if M equalled zero for them. If M were negative, non-participation would be the rational choice. In general, the lower the present level of income earned by respondents the larger the value of M and, therefore, the greater likelihood that they would express an interest in taking retraining. This is also assuming that the retraining opportunity costs for lower income individuals are either the same as or less than those for relatively higher income individuals.

It was clear that individuals with incomes significantly above the poverty line would express little interest

in job retraining. For most of them, the skill levels
attainable through government sponsored retraining programs
would be lower than skill levels already attained and the
value of M to them would be negative. But for those
respondents whose income levels were below or barely
above the poverty line, the value of M would, in most
cases, be positive.

The hypotheses selected for analysis in this chapter
were based upon the variables in the above decision rule.
By examining these variables in detail in relation to
respondents' expressed interest in participating in job
retraining programs, the extent of concurrence with the
decision rule on the part of low income respondents will
be determined. This will permit the drawing of conclusions
about the economic decision making of these individuals
and will indicate the importance of these variable in
future considerations of retraining policies and programs
in rural areas.

The focus of attention in this chapter is upon all
the potentially economically viable low income individuals
in the survey inasmuch as such a small percentage of them
possessed adequate levels of specific vocational preparation.
Ninety-two percent of the males and 86 percent of the
females had SVP levels below those required. It was
assumed that those few skilled respondents were in need
of some upgrading of skills that were either obsolete or
in surplus in their labor market. There were 123 individuals

(7 percent of the subgroup) for whom the question concerning interest in retraining was non-applicable because they were still attending school or college or their records were incomplete. The total number of responses in some tables will vary due to various control variables applied.

All hypotheses were tested separately for males and females in reflection of the types of retraining courses offered under MDTA programs which are often designed primarily for either males or females. Also, in view of the differing societal expectations of the work roles of males and females in the family unit, it was expected that considerable differences in response to the retraining query would exist between the sexes and should be controlled for in the analysis.

Although the original question concerning interest in retraining allowed a conditional interest response ("if it doesn't interfere with my current work"), responses were classified here as "interested" or "not interested" only. The conditionally interested responses were grouped with "interested" responses because, first, the survey editors believed that interviewers did not usually probe deeply enough to elicit the conditional affirmative response. Secondly, when the two responses were not grouped several cross tabulations could not be statistically evaluated because of low theoretical frequencies in several cells of the contingency tables.

2. Hypotheses

It was hypothesized here that poverty-level workers would have reasoned consistantly with the above economic decision rule, therefore:

Hypothesis (a) - There will be a relationship between the severity of poverty and extent of interest in retraining, those poor respondents with relatively lower incomes being more interested in retraining than those with relatively higher incomes. This hypothesis follows from the fact that lower current income levels will give lower values to Y_t, the expected future income stream without retraining, in the decision rule and this will lead to larger values of M.

The data for testing this hypothesis are presented in Table 30. By the chi-square test of independence, this hypothesis was not supported by the survey data for either male or female respondents. In fact, the small but non-significant relationship which did exist for males was in the opposite direction than was hypothesized. That is, as poverty status increased, the degree of interest in retraining among males also increased. For females, the relationship was in the direction hypothesized but it also was not statistically significant.

Two features of the data in Table 30 do stand out and merit additional comment. First, it is apparent that there did exist a considerable interest in participating in free job retraining programs on the part of the poor

Table 30.

Interest in Retraining in Relation to Poverty Status,
By Sex; Percent Distribution

1967 Rural Life Survey Individuals Below 1.50 Income
Ratio and Viable

| Poverty Status | Males | | | Females | | |
| | Retraining Interest | | | | | |
	I*	NI*	% of Total	I*	NI*	% of Total
1.20 < 1.50	50.3	49.7	41.4	37.4	62.6	41.1
1.00 < 1.20	44.1	55.9	20.5	28.0	72.0	17.7
0.80 < 1.00	39.3	60.7	12.0	38.8	61.2	13.7
< 0.80	46.1	53.9	26.1	36.5	63.5	27.5
Total	46.6	53.4	100	35.7	64.3	100

*I = Interest; NI = no interest. Chi-square at .10
level with 3 d.f. = 6.251; calculated chi-square for males =
4.007; for females = 5.053 (neither is significant).

segment of our open-country population. Although those
respondents in the lowest income categories did not express
more interest in retraining than those in slightly higher
categories, forty-seven percent (nearly one-half) of all the
males and thirty-six percent of all the females did express
interest in retraining. Among the total survey population
one-third of the respondents expressed an interest in
participating in a job retraining program, so the rate for
the potentially viable low income level females closely
approximates the total survey rate, while the males in
this low-income subgroup expressed considerably more
interest than did the non-poor in the survey. Thus while it
appears that between the different low income categories

the respondents did not react as expected, as a group compared to other survey respondents the low income males did behave consistantly with the decision rule in expressing greater interest in retraining than the non-poor.

The greater than one-third rate of interest in retraining among low-income females is the second point which deserves comment. In view of the fact that only twenty-one percent of the potentially viable low income females were employed at the time of the survey (see Table 34) and under half of them expressed an interest in retraining, approximately one-fourth of the low income females were not working but were interested in participating in job retraining programs in preparation for obtaining employment.

Hypothesis (b) - There will be a relationship between age of respondent and his interest in retraining, among all low income respondents, with older workers showing less interest than relatively younger workers. This hypothesized relationship should appear because the older the worker the shorter the time period in which he can expect to earn the Y_t^R income and the smaller the value of M. In addition, costs may be greater for the older worker in terms of seniority and other benefits foregone by changing jobs.

This hypothesis was tested with the data in Table 31. Here, the chi-square test of independence indicated that older respondents were less interested in retraining than

Table 31.

Interest in Retraining in Relation to Age, by Sex;
Percent Distribution

1967 Rural Life Survey Individuals Below 1.50 Income
Ratio and Viable

Age Levels	Males			Females		
	Retraining Interest			Retraining Interest		
	I*	NI*	(% of Total)	I*	NI*	(% of Total)
< 35	44.6	55.4	41.2	37.8	62.2	45.7
35 - 44	56.9	43.1	27.6	41.5	58.5	24.5
45 - 54	46.8	53.2	18.8	32.1	67.9	14.8
55 - 64	30.4	69.6	12.4	23.3	76.7	15.0
Total	46.6	53.4	100	35.7	64.3	100

*Chi-square for males = 18.791 (with 3 d.f., sig. at .001 level); for females = 13.572 (with 3 d.f., sig. at .01 level).

younger workers among both males and females; the relationship was in the expected direction and highly significant for males, and as hypothesized and significant for females.

Nearly seventy percent of the respondents in this subgroup were under forty-five years of age, and the interested rate among them was nearly fifty percent for males and about forty percent for females. The lower rate of interest among the under 35 age group was undoubtedly due to the influence of the very young, unmarried respondents who faced less economic responsibilities and who had had fewer negative experiences in the job market because of their lack of skills. It is significant to note that one-third of the males over age fifty-four, and nearly one-fourth

of these older females, also expressed an interest in job
retraining.

Hypothesis (c) - Among all low income respondents the amount
of prior occupational training received, and the extent of
its use, will influence the degree of poverty level
respondents' interest in retraining; those respondents
with relatively more training and who used it relatively
more in recent employment will be less interested in
(additional) retraining than those with relatively less
prior training or who used their training relatively less.
This relationship should exist because of two influences.
First, workers with more prior training will have higher
expected Y_t than workers with less or no training. Secondly,
workers who have had vocational training but still earn
poverty-level incomes are likely to place a lower expected
value on Y_t^R than workers who have not had prior training.
These two factors will both tend to reduce the value of M
for respondents with relatively more prior training as
compared to those with less training.

Since the SVP value for respondents which was cal-
culated in Chapter VI incorporated both the amount of prior
training and the extent to which it was used, the SVP
scale was used here as the independent variable. The data
for testing this hypothesis appear in Table 32. The SVP
levels of respondents were grouped initially according to
the broad skill level categories identified in Chapter VI;
unskilled, semi-skilled, skilled, and highly skilled,

Table 32

Interest in Retraining in Relation to Amount
of Prior Training, by Sex;
Percent Distribution

1967 Rural Life Survey Individuals Below 1.50 Income
Ratio and Viable

SVP Level	Males			Females		
	Retraining Interest			Retraining Interest		
	I	NI	% of Total	I	NI	% of Total
Special	44.0	56.0	86.1	34.7	65.3	86.6
1 - 4	70.2	29.8	6.4	50.0	50.0	2.9
5 - 6	60.0	40.0	2.7	60.0	40.0	0.6
>6	55.6	44.4	4.9	38.6	61.4	9.9
Total	46.6	53.4	100	35.7	64.3	100

For males, chi-square = 14.923 (with 3 d.f., sig. at .01); females could not be statistically tested.

plus the "special" category for those whose SVP level was essentially non-computable and presumably equal to zero. It was found that the frequencies were so low in the two lower skilled categories that SVP levels 1-4 were grouped together in the final analysis. The hypothesis was initially tested with the inclusion of the "special" category containing all those for whom no SVP was computable-- those with no formal vocational training. For both sex groups the persons in this category had the lowest interest in training rate, so low, in fact, that with over eighty-six percent of all respondents in the "special" classification, the hypothesis had to be rejected. For females

no judgment of the significance of the relationship between SVP and retraining interest could be made due to low theoretical frequencies in several cells, while for males the relationship was significant but not in the hypothesized direction.

A further test of the hypothesis was made by excluding the "special" category and looking only at respondents with a measureable SVP level. Males and females were combined due to the relatively small sample size. As shown in Table 33, the relationship was then in the hypothesized direction. The level of significance was only .05, however, again due in part to the small sample size (222 total cases).

Perhaps of must value here is the knowledge that less than fourteen percent of all potentially viable low income respondents had received training which could be included in this study's measure of vocational training. Over one-half of those with measureable skill levels were classified in the highly skilled category.

Hypothesis (d) - Among all low income respondents, those who were unemployed at the time of the interview and those who experienced relatively more unemployment in 1966 will have more interest in retraining than those respondents with relatively less 1966 unemployment and those who were employed at the time of the interview.

This relationship results from the effect of unemployment on expected income; the more an individual has been

Table 33

Interest in Retraining in Relation to
Amount of Prior Training for Respondents with
Measureable SVP; Percent Distribution

1967 Rural Life Survey Individuals Below 1.50 Income
Ratio and Viable

SVP Level	Retraining Interest		
	I	NI	% of Total
1 - 4	63.0	37.0	32.9
5 - 6	60.0	40.0	11.3
>6	43.5	56.5	55.8
Total	51.8	48.2	100.0

Chi square = 7.290 (with 2.d.f.sig. at .05).

recently unemployed the more likely he is to view Y_t as smaller, and Y_t^R as larger, than will the person with relatively less unemployment. These two elements both lead to a larger value of M for workers with greater unemployment.

As hypothesized, interest in retraining in relation to weeks of unemployment in 1966 was considerably greater for both males and females with relatively more weeks of unemployment. However, the number of individuals who were considered to be unemployed at all in 1966 was so relatively small (only 9 percent of the males and 5 percent of the females) that no statistical tests could be reliably made.

The problem arose due to the use of "official" definitions of unemployment. An individual was classified as unemployed only if he was either "not working but looking for work" or receiving unemployment compensation, or both, at some time during 1966. All workers who were unemployed but not eligible to receive unemployment benefits, and all underemployed, were excluded from this calculation. It is doubtful that ninety-one percent of the males whose families had poverty level incomes experienced absolutely no unemployment during the year. No meaningful conclusions could be drawn from the data on 1966 unemployment.

Whereas the RLS questionnaire obtained extensive information regarding the recent employment experience of respondents, it did not enquire directly if the respondent was _presently_ employed. It was necessary therefore, to determine present employment status (i.e. at the time of the interview) by screening answers to two other questions.

After each 1966 job, if any, was described, respondents indicated whether they were still working at that job or not. If no 1966 job was still held and if no new 1967 job was described, the respondent was considered unemployed at the time of the interview.

This unemployment measure may have overstated the percentage of workers unemployed as compared to U.S. Department of Labor figures because it included persons who were not working and not looking for work at interview time, that is, those who had withdrawn from or had not yet

entered the labor force. On the other hand, the under-employed were again classified as employed by this measure. Although this was in many respects an unsatisfactory measure of unemployment, it provided a rough estimate for the purpose of this study of the number of unemployed persons who might be available for employment and who might be interested in participating in job retraining.

As shown in Table 34, the relationship between current employment status and interest in retraining was statistically significant, but not in the hypothesized direction.

Table 34

Interest in Retraining in Relation to
Employment Status at Time of Interview, by Sex;

Percent Distribution

1967 Rural Life Survey

Employ-ment Status	Male			Female		
	Retraining Interest			Retraining Interest		
	I	NI	Total (% of)	I	NI	Total (% of)
Employed	52.2	47.8	84.6	45.5	54.5	21.1
Unemployed	15.8	84.2	15.4	33.0	67.0	78.9
Total	46.6	53.4	100	35.7	64.3	100

Chi square for males = 51.477 (with 1 d.f., sig. at .001); for females chi square = 9.898 (with 1 d.f., sig. at .01).

Over half of the employed males, and nearly as high a percentage of the employed females, expressed interest

in retraining. The rate of interest among unemployed males was quite low. By way of explanation, it is probable that many workers who were classified as employed but who were actually underemployed were very interested in the possibility of obtaining job training. On the other hand, many of those considered to be unemployed were not in the work force at all and therefore they were not interested in retraining. It would certainly appear that many employed low income workers, by any measure of employment status, would be interested in job training which would enable them to obtain "better" jobs.

Hypothesis (e) - Among all low income respondents for those who looked for some type of a job during the past three years, those whose biggest problem in finding employment resulted from their lack of skill, education, or training will express more interest in retraining than either those who experienced no problems or those whose problems were not related to such personal inadequacies.

This relationship is the result of the effect of problems due to personal training inadequacies upon an individual's view of benefits to be gained from correction of those inadequacies. In the theoretical decision rule framework, this would lead to a larger value assigned to Y_t^R, and thus to larger M for respondents having had this type of difficulty finding employment. The data relating to this hypothesis appear in Table 35.

Only twenty-three percent of the low income males reported having looked for work in the past three years,

Table 35

Relationship Between Difficulties in
Finding Employment and Interest in Retraining,
by Sex; Percent Distribution

Major Problems in Finding Employment	Male			Female		
	Retraining Interest			Retraining Interest		
	I	NI	% of Total	I	NI	% of Total
No Problem	64.3	35.7	30.7	46.9	53.1	31.4
No Personal Inadequacies	70.2	29.8	45.6	62.5	37.5	39.2
Personal Inadequacies	74.1	25.9	23.7	85.0	15.0	29.4
Total	69.3	30.7	100	64.2	35.8	100
N	(158)	(70)	(228)	(131)	(73)	(204)

and only thirty-one percent of the females so reported. Of
those who sought employment, about one-fourth reported that
some personal training inadequacy was the major problem they
encountered in finding a job. The rate of interest in
retraining for respondents with these problems was somewhat
higher than for those facing different types of problems
and considerably higher than for those who reported no
problems finding employment, thus supporting the hypothesis.

In view of the extent of low income problems among
this population it is rather surprising to find such a
small percentage of respondents who reported having sought
employment in recent years. Among those who did seek employ-
ment the overall rate of interest in job retraining was

considerably higher than for the total subgroup; it was
nearly seventy percent for male and sixty-four percent
for female employment seekers as compared to forty-seven
and thirty-six percent respectively for the total subgroup.

Hypothesis (f) - There will be a relationship between the
respondents' interest in retraining and their availability
for employment in a (different) job during the following
year, those declaring their availability being more
interested in retraining than those who would not be avail-
able.

Clearly, the worker who sees himself available for
a different job in the near future will be more likely
to view retraining as one way of obtaining a different
job. This will lead to larger values of Y_t^R for him
relative to the person who does not consider himself
available. In addition, because of his apparently weaker
attraction to what work, if any, he is now doing, the
available worker will face smaller opportunity costs from
participating in retraining relative to his non-available
counterpart. Both of these factors will tend to increase
M for the person available to work at another job.

Two measures of respondent availability were utilized
to test this hypothesis. The first measure was taken
from the respondents' indications of their availability
in the following year and this is tested with the data
in Table 36. The second measure represented an attempt
to determine the respondents' availability in relation to

Table 36.

Interest in Retraining in Relation to Stated
Availability, by Sex;
Percent Distribution

1967 Rural Life Survey Individuals Below 1.50 Income
Ratio and Viable

Availability	Male			Female		
	Retraining Interest			Retraining Interest		
for Job	I	NI	% of Total	I	NI	% of Total
Available	80.8	19.2	36.1	75.6	24.4	26.7
Not Available	27.4	72.6	63.9	21.6	78.4	73.3
Total	46.7	53.3	100	36.0	64.0	100
N	(343)	(392)	(735)	(316)	(562)	(878)

Chi square for males = 193.479; for females = 217.711 (both sig. at .001).

how well their 1966 job or jobs provided reasonably stable employment and, particularly for female respondents, the extent of family obligations which might keep them out of the labor market. This calculated measure of availability and its relationship to interest in retraining is given in Table 37.

Those respondents who considered they would be available for alternative employment in the succeeding year were very significantly more interested in retraining than those not considering themselves available, as was hypothesized. Not too surprisingly, in view of the low level incomes received by respondents, over one-third of the males and over one-fourth of the females declared that they would be available for a job, or another one. Inasmuch as the data

Table 37.

Interest in Retraining in Relation to
Potential Availability, by Sex;
Percent Distribution

1967 Rural Life Survey Individuals Below 1.50 Income
Ratio and Viable

| Potential | Male | | | Female | | |
| | Retraining Interest | | | Retraining Interest | | |
Availability	I	NI	% of Total	I	NI	% of Total
Not expected to be Available	50.1	49.9	68.8	36.1	63.9	47.9
Can reasonably expect available	35.6	64.4	27.3	30.5	69.5	39.6
Expected to be Available	62.1	37.9	3.9	50.5	49.5	12.5
Total	46.6	53.4	100	35.7	64.3	100
N	(345)	(395)	(740)	(316)	(570)	(886)

Chi square for males = 15.035 (with 2 d.f., sig. at
.001, but negative); for females = 14.714 (with 2 d.f.,
sig. at .001).

in Table 34 revealed that eighty-five percent of the males
were classified as employed at the time the survey was taken,
it is clear that many of the employed were prepared to
change jobs and the vast majority of those prepared to
change were also interested in receiving retraining to
assist them in obtaining alternative employment.

When a determination of respondents' availability for
alternative employment was made on the basis of recent
work history and family obligations, the non-availability

rate among males was very close to the rate of stated

non-availability-- sixty-nine percent as compared to

sixty-four percent respectively, (Table 37). Again,

nearly one-third of the males were determined to be

potentially available for other employment. However,

the relationship between this measure of availability

and interest in retraining was not in the hypothesized

direction, although it was highly significant statistically.

While those males definitely expected to be available

had the highest rate of interest in retraining, those

"reasonably expected available" had the lowest rate.

It was clear that the calculated measure of availability

did not identify as available those males who declared

that they would be available for alternative employment.

As stated above, the measure of declared availability

for males was highly significantly related to interest

in retraining.

For female respondents, the scale of calculated

availability was in the hypothesized direction and highly

significant. Even then, the percent interested in retraining

among those definitely expected to be available was

twenty-five percent less than among those who stated

that they would be available. The apparent weakness of

the calculated availability code was that it identified

as reasonably expected available respondents who, although

not participating fully in the work force, had relatively

less interest in undergoing retraining so that they could

be more fully employed.

Hypothesis (g) - There will be a relationship between the poverty-level respondents' attitudes toward their present jobs and their interest in retraining. Respondents who like their present jobs and would recommend this work to others will have relatively less interest in retraining than workers who hold more negative views concerning their present job.

Two forces serve to cause the hypothesized relationship. First, if one likes his work he is receiving some amount of psychic income from it, so Y_t will be relatively higher for him than for those who like their work less. Secondly, switching (hypothetically) from employment one likes to a presently unknown occupation becomes an added cost of retraining. Both of these forces would tend to lower the value of M for persons who like, relative to those who dislike, their present employment.

This relationship was tested with the data in Table 38. Among male and female respondents classified as "employed", there was found a highly significant relationship in support of this hypothesis. Workers' interest in job retraining is closely related to their attitudes toward present employment, presumably even when they receive poverty level wages from that employment. It is also surprising to note that over sixty percent of the employed low income males, and over fifty percent of the females, reported that they liked and would recommend to others their present job.

Table 38.

Interest in Retraining in Relation to Attitude
Toward Current Job, by Sex;
Percent Distribution

1967 Rural Life Survey Individuals Below 1.50 Income
Ratio and Viable

Attitude Toward Current Job	Male Retraining		Interest	Female Retraining		Interest
	I	NI	% of Total	I	NI	% of Total
(1) like and recommend	46.9	53.1	61.7	45.3	54.7	51.7
(2) like only	50.0	50.0	16.5	16.0	84.0	17.2
(3) just a job	59.2	40.8	12.8	21.4	78.6	9.7
(4) would change if possible	80.0	20.0	9.0	80.6	19.4	21.4
Total	52.0	48.0	100	45.5	54.5	100
N	(289)	(267)	(556)	(66)	(79)	(145)

For males, chi square = 20.828 (with 3 d.f., sig. at
.001); for females, chi square = 27.485 (3 d.f., sig. at
.001).

Hypothesis (h) - There will be a relationship between degree

of interest in retraining and potential costs of the re-

training program. Among those poverty-level workers

expressing an interest in retraining, progressively less

interest will be expressed as potential program costs increase.

With a free training program the value of C in the

decision rule for respondents derives primarily from the

several opportunity cost items mentioned above (p.143).

As the potential dollar costs of the program increase, the

size of C increases, reducing M and decreasing the extent
of interest in retraining. The percentage changes in
retraining interest with increasing potential costs of
retraining are presented in Table 39.

Table 39.

Percentage Changes in Retraining Interest
With Increasing Potential Costs of Retraining,
and Percent of Total Poor Viable Population, by Sex

1967 Rural Life Survey Individuals Below 1.50 Income
Ratio and Viable

Potential Retraining Costs	Males			Females Interested in Retraining		
	I	%I	%Change-Cum.	I	%I	%Change-Cum.
(1) Free	345	100	–	–	316	100	–	–
(2) 0 < $100	232	67.2	-32.8	-32.8	187	59.2	-40.8	-40.8
(3) $100 < $500	66	19.1	-48.1	-80.9	26	8.2	-51.0	-91.8
(4) ≥ $500	20	5.8	-13.3	-94.2	4	1.3	- 6.9	-98.7

Potential Retraining Costs	Percent of Total Poor					
	Males No. and Percent Interested			Females No. and Percent Interested		
	I	%I	%Change-Cum.	I	%I	%Change-Cum.
(1) Free	345	46.6	–	–	316	35.7	–	–
(2) 0 < $100	232	30.1	-16.5	-16.5	187	19.4	-16.3	-16.3
(3) $100 < $500	66	8.5	-21.6	-38.1	26	2.7	-16.7	-33.0
(4) ≥ $500	20	2.6	- 5.4	-43.5	4	0.4	- 2.3	-35.3

It was very clear that the rural poor responded consistantly
with the decision rule to hypothetical increases in the cost
of a hypothetical retraining program. Only respondents who
answered affirmatively to the "free" training offer were asked

the succeeding questions, so it is not known if some respondents would have expressed interest in a retraining program with a positive dollar price tag. Such is possible among people who might view the free program as a form of "charity" or "socialism". For the most part, however, respondents lost interest very rapidly as potential training costs increased. The percentage of the total low income viable population interested in training at the different price levels, and percent changes, are also presented in Table 39.

Hypothesis (i) - There will be no relationship between the poverty-level respondents' education level, in relation to the median education level for their age, and their interest in retraining. Respondents whose educational level is below the median will be as interested in retraining as those with educational levels equal to or greater than the median for their age group.

This hypothesis was made on the assumption that the concentration of workers with relatively high educational levels in Federal MDTA training programs to date has been more the result of admission screening practices of program administrators than of less interest in retraining on the part of the more poorly educated workers. By using education in relation to the median for the respondents age level, as opposed to years of schooling completed, age is controlled

for in this relationship.[120]

The data testing this hypothesis appear in Table 40.

Table 40.

Relationship Between Education
and Interest in Retraining, By Sex;
Percent Distribution

1967 Rural Life Survey Individuals Below 1.50 Income
Ratio and Viable

Education in Relation to Median	Male			Female		
	Retraining		Interest	Retraining		Interest
	I	NI	% of Total	I	NI	% of Total
<	50.9	49.1	52.0	36.9	63.1	41.5
=	41.9	58.1	42.8	34.7	65.3	53.3
>	42.1	57.9	5.2	39.1	60.9	5.2
Total	46.6	53.4	100	35.8	64.2	100
N	(343)	(393)	(736)	(316)	(566)	(882)

Neither relationship is significant above the .10 level.

As hypothesized, there is no significant relationship between
the two variables for either sex group. Respondents with
below average educational levels, as measured by years of
schooling completed, did not view their lack of educational
achievement as a barrier to participation in job retraining
programs.

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[120]The median levels were those computed for Ohio males
from the 1960 Census. The medians for all other residents of
the ENC states were not significantly different from those for
Ohio males. The procedure used to develop these medians was
described in Marvin E. Konyha, "Educational Medians in the
East North Central States, 1967," Michigan State University,
East Lansing, 1969 (mimeo).

C.   Retraining Potentials

This analysis of variables related to interest in participating in job retraining programs has indicated that considerable potential does exist for enrolling low income rural people in retraining programs in this sub-region.   Nearly one-half of all potentially economically viable males, and over one-third of the females, indicated that they had an interest in participating in job retraining programs.

Nearly seventy percent of the hypotheses tested were supported by the analysis, indicating that the low income rural residents of this subregion tended to evaluate the expected returns from retraining in a manner consistant with the decision rule.   An extensive analysis of the relationship between retraining needs and potentials among the rural poor and of the implications of the hypotheses explored in this chapter are presented in the next two chapters.

VIII. SUMMARY AND CONCLUSIONS

A. Introduction

Three general hypotheses provided the investigative
framework for this study. The first, and most general,
was that many of the households or consumer units in the
open country rural areas of the Eastern Corn Belt States
were receiving poverty level incomes in 1966. This
hypothesis was based upon 1960 Census data which revealed
that nearly one-fourth of the rural families in this
region received net money incomes of less than $3,000 in
1959, and upon a 1966 Census Bureau survey which found
poverty rates in the entire North Central region of nearly
fifteen percent among rural farm families and sixteen
percent among rural non-farm families.

The second general hypothesis reflected the recent
emphasis on manpower training programs in the nation. It
stated that the successful completion of a job retraining
program by the worker member(s) of the area's rural,
poverty level consumer units would be expected to provide
sufficient increments in income (assuming available job
opportunities existed) to lift the units above the poverty
line.

The third general hypothesis was that worker members of
rural, poverty level consumer units in the Eastern Corn Belt
possessed characteristics and attitudes that would make them
prime candidates to undertake and successfully complete job

retraining and to accept different, more remunerative employment.

The summarization of the findings related to each of these major hypotheses and various subhypotheses, and the conclusions drawn on the basis of these findings, are presented in the subsequent sections.

B.   Rural Poverty in the Eastern Corn Belt

The report of the National Advisory Commission on Rural Poverty[121] and numerous journal articles and Department of Agriculture reports helped draw considerable national attention to the overall nature and extent of rural poverty in the United States. Even prior to the Rural Poverty Commission's formulation, much national energy had been devoted to overcoming the problems of regionally concentrated poverty conditions, whether rural or urban in location. Prior to the inauguration of the present set of studies by the Economic Development Division and the Office of Economic Opportunity, however, there were no comprehensive studies of the exact nature and extent of rural poverty in regions characterized primarily as commercial agriculture regions.

In determining the extent of poverty in this sub-region, consumer unit income was the measure utilized to determine poverty status. Consumer units consisted of

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[121]National Advisory Commission on Rural Poverty, The People Left Behind, ...

either family units or unattached individuals, and they were classified according to farm or non-farm status.

The poverty status of consumer units was determined through the procedure developed by Orshansky[122] for the Social Security Administration with one major modification. Whereas the Orshansky procedure assumed that farm families meet thirty percent of their food needs through home-grown foods, this study determined the actual percentage of food requirements met with home-grown food for both farm and non-farm survey consumer units. The poverty status ratio was the ratio of income received to income required, with requirements based on size, age, and sex characteristics of each unit. Consumer units with income ratios below 1.00 were considered to be in poverty by this criteria. Several conceptual limitations of the Orshansky criteria were recognized.

Sixteen percent of all survey consumer units had income ratios below 1.00 in 1966, with the percentage among farm units only slightly higher than for non-farm units. However, the rate was nearly fifty percent among unattached individuals as compared to less than twelve percent for family units. On the basis of potential economic viability, the extent of poverty was found to be much greater among the aged and the handicapped as compared to the young and healthy. Thirty-five percent of the consumer units whose head was over 64 years old were in poverty, while just over nine percent of the potentially viable units,

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[122]Orshansky, "Counting the Poor...,".

those whose heads were under 65 years of age and not
handicapped or seriously disabled, were below the 1.00
income ratio. The potentially viable poor consumer
units represented forty-two percent of the poor consumer
units in the survey and less than seven percent of the
total number of survey consumer units.

The poverty rate for individuals over age 15 in the
survey was just under thirteen percent, with a farm rate
of fifteen and one-half percent and a rate among non-
farm individuals of just over eleven percent. Fifty-
two percent of the poor individuals were potentially
economically viable.

For retraining purposes, all individuals with income
ratios below 1.50 were classified as "poor". One-fourth
of the survey population was included in this group of
poor individuals, and sixty-three percent of the group
were classified as potentially economically viable. Those
below the 1.50 income ratio who were viable represented
one-fifth of all potentially viable respondents and one-
sixth of the total survey population.

<u>Conclusion</u>

The data on the extent of poverty level incomes in
this subregion, utilizing the definition of poverty
income described in Chapter IV, confirmed the hypo-
thesized existence of poverty level incomes among
many of the rural, open country consumer units in
the Eastern Corn Belt States.

C.   Job Retraining - The Escape Route From Poverty

1.   Labor Theory

The two prevailing labor theories today are marginal productivity theory and the bargained theory of wages. The bargaining theory is built around the concepts of comparable wages for comparable work, the cost of living, labor productivity, and an employer's ability to pay (profits). This theory does an acceptable job of explaining short-run variations in wage levels.

The marginal productivity theory states that, in the long-run, under perfect competition, workers' wages will equal their marginal productivity. The perfect competition theory assumes full employment of resources, perfect mobility of productive factors, perfect knowledge, and rational economic motivations.

But full employment has eluded our modern industrial economy, not all workers are fully cognizant of wages and employment opportunities, and there are numerous barriers to occupational and geographical mobility of labor resources. Nevertheless, by concluding that worker wage rates differ because worker marginal productivities differ, marginal productivity theory has led to policy prescriptions which, when carried out, will improve the functioning of the labor market and reduce the extent of poverty level incomes.

2.   Human Capital Investment

By recognizing that workers are not a homogeneous factor, that they do have differing marginal productivities,

the theoretical solution was to recognize that workers were a special type of capital, human capital, and that returns to labor could be enhanced by additional investment. This human capital investment takes the form of education and training.

Studies of the payoff rate for education at all levels indicate this rate is very high, and it appears to be even higher for vocational training programs which focus specifically upon low income (low marginal productivity) workers. Improvements in one's education and training are recognized by economists as one of the most effective ways of eliminating poverty.

Conclusion

It was concluded, on the basis of the investment in human capital modification of marginal productivity theory, that job retraining has the theoretical potential for lifting rural poor families out of poverty.

3. Benefits of Job Retraining - Approaches to Benefit Estimation

One approach to estimating the potentials for job retraining to lift low income consumer units from poverty is to compare the present value of the future income stream which can reasonably be expected from the worker's present occupation with that of the income stream he can reasonably expect from the occupation for which he will be retrained. The two available attempts at making such

comparisons proved to be unsatisfactory for generating the type of estimates sought in this study, however.

The second approach to estimating retraining's potential for lifting consumer units from poverty is to estimate the increase in earnings retrained workers may expect with the use of benefit-cost analyses. Although the application of benefit-cost procedures to retraining programs has been plagued with serious methodological problems, some estimates have been completed which indicate the benefits to society are definitely in excess of societal costs. The focus of these studies was on returns to society rather than on retraining's potential for lifting families from poverty. They did indicate, nevertheless, that increases in retrainee incomes would be considerable.

One study of retraining completers and a reasonably similar group of controls who did not retrain indicated that completers experienced about a $500 increase in annual family income as compared to controls. The reason for this increase was that completers experienced more full-time employment after training than controls.

Empirical Estimates of Retraining Benefits

Three attempts were made to apply the findings of previous benefit-cost studies to the Rural Life Survey poor consumer units to estimate their potential for escape from poverty with retraining. No estimates of expected increases in full-time employment could be made because of noncomparable

data by which to compare RLS respondents with those in prior studies. Application of the $500 increase in annual consumer unit income to RLS units also gave unsatisfactory results because of the clear differences in the background characteristics of RLS respondents as compared to prior study respondents.

The third estimate of rates of escape from poverty combined reported increases in hourly earnings of MDTA institutional training program graduates with the percentage distribution of RLS respondents on the income ratio scale. It implicitly incorporated increases in full-time employment. This procedure resulted in the estimation that only thirteen percent of the consumer units below the 1.00 income ratio, and just over one-fourth whose income ratios were below 1.50, would be expected to remain below the respective ratio after completing job retraining. Those consumer units expected to remain below the 1.00 income ratio by this estimate represented less than one percent of all potentially economically viable consumer units, compared to six percent prior to "retraining"; the percent of the total units below the 1.50 income ratio was reduced from seventeen percent to less than five percent with this adjustment. There estimates were only intended to be indicative of the income ratio changes attainable through retraining; they are not definitive projections.

Conclusion

It was concluded that the benefit-cost analysis approach
to estimation of retraining's potential for lifting

families from poverty does provide an adequate methodological framework for these estimates. Estimates based on increases in hourly wage rates, combined with income ratio distribution of the RLS respondents, indicated that a large proportion of potentially viable, rural, low income consumer units in this region could theoretically be lifted from poverty through job retraining.

D.   Characteristics and Attitudes Related to Retraining

   1.   Retraining Needs - General Needs of Low Income
        Rural Workers

Considerable evidence was presented in Chapter II to indicate that economists, including Hathaway,[123] Schultz,[124] and Bishop,[125] clearly understood the extensive needs for vocational retraining among the thousands of workers who would be displaced from the agricultural labor force in the 1960-1969 decade.

The available evidence on the extent to which rural low income workers have participated in Federal manpower retraining programs was found to be unclear. Tweeten[126] noted that farm workers comprised less than two and one-half percent of 1966 trainees, yet governmental agencies

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[123]Hathaway, "Migration From Agriculture:...,"

[124]Schultz, "Public Approaches to Minimize Poverty,"...

[125]Bishop, "Increasing Mobility of Labor...,"

[126]Tweeten, Rural Poverty..., p. 49.

estimated that nearly twenty percent of all MDTA trainees
from 1963 to 1968 were rural residents. The difficulty
was in the lack of adequate data regarding place of
residence of trainees. But even the twenty percent
estimate revealed that rural workers were highly under-
represented in retraining programs in view of the fact
that nearly half of the nation's poor resided in rural
areas.

Conclusion

It was concluded, on the basis of the extensive
adjustments in resource use that are taking place
in United States' agriculture and the relatively
low rate of participation of rural workers in
Federal retraining programs, that there is consider-
able need for increased enrollment of rural workers
in retraining programs.

Individual Retraining Needs of RLS Low Income Respondents

(a) It was hypothesized that RLS poverty level
respondents possessed levels of education significantly
lower than those levels possessed by persons of the same
age in the general population of the region.

Survey data indicated that forty-one percent of the
respondents below 1.50 income ratio had educational levels
below the median, forty-eight percent equalled the median,
and only eight percent exceeded the median (compared to
roughly twenty-five, fifty, and twenty-five percent,

respectively, for the general population). The survey poor
differed very significantly from the non-poor on this
variable as well, and an even larger percentage of males
than of females were classified below the educational
median.

(b) It was hypothesized that worker members in poverty
level households possessed occupational skill levels signi-
ficantly below those possessed by workers in the region's
non-poverty households, and below the minimum skill
required for entry into jobs for which low income workers
were being retrained.

The survey respondents were classified on the basis
of potential economic viability. All respondents who were
below age 65 and not physically or mentally handicapped
were considered to have potential viability. Sixty-three
percent of the respondents with income ratios below 1.50
were classified as potentially economically viable. The
data in Table 24 indicate that these significant differences
in skill levels related to median required skill levels
did exist for potentially economically viable respondents,
both male and female. Ninety-two percent of the low
income males and eighty-six percent of the females had
skill levels below the established minimum required level.
Among the non-poor, the corresponding rates were eighty-
five percent for males and seventy-two percent for females.

Conclusion

It was concluded that there exists a very extensive
need for job retraining among low income workers

in this subregion.

2. Retraining Potentials Based on Individual Character-
istics

Sufficient data on the socio-economic characteristics
of participants in Federally sponsored retraining programs
were not available for comparison on a number of variables
with RLS respondents. Therefore, specific hypotheses
regarding age, unemployment, and other characteristics
could not be tested.

The 1963 U.S. Department of Labor study of the extent
of formal occupational training among the 60.8 million
workers in the United States revealed that, for workers
with less than three years of college, years of schooling
completed and formal occupational training were closely
related. Workers with more education had considerably
more occupational training.

On the basis of this relationship and the general
educational development (GED) rating of job titles for
which workers are being retrained under Federal manpower
programs, RLS potentially viable low income respondents
were classified on potential retrainability according to
their educational levels. Respondents with GED levels
1 and 2, under five percent of the males and only three
percent of the females, were considered to be retrainable
only in programs which provided basic educational instruction
as well as vocational training. Another thirty-seven per-
cent of the males and thirty percent of the females had
GED levels of 3 and were considered doubtfully retrainable --

some would likely require dual education-training programs
as well. There were still fifty-eight percent of the
males and two-thirds of the females who were considered
to have good potential for success in retraining programs,
those with GED levels 4 and 5.

Conclusion

    The conclusion reached from this analysis was that
    a substantial majority of the low income survey res-
    pondents who were in need of vocational training
    had the potential to successfully complete regular
    MDTA type occupational retraining programs.

    3. Retraining Potentials Based On Attitudes Toward
        Retraining

    The potential ability of job retraining programs to
lift rural consumer units from poverty levels depends
ultimately upon the willingness of workers who need re-
training to participate in the programs. Theoretically,
a respondent would be interested in participating in a
retraining program whenever the net discounted present
value of the future income stream attributable to an
improved skill level exceeded that value of the income
stream he could reasonably expect to receive without
retraining. Several hypotheses were formulated on the
basis of this economic decison rule concerning respondents'
interest in retraining.

    Most of the hypotheses relating interest in retraining
with respondent characteristics were supported by the data.
With only one exception, the non-support of hypotheses

resulted from the nature of the variables being tested, their being "hybrid" in that they were generated as a combination of two or more other variables.

The only "normal variable" hypothesis not supported by the data was the one relating retraining interest with degree of poverty, as no significant differences appeared in this test. It appeared that uncontrolled variables washed-out expected differences. When all low income respondents were compared with the total survey population, the low income males showed considerably more interest in retraining than did all survey males. Altogether, nearly one-half of the low income males and one-third of the females expressed interest in participating in job retraining.

Conclusion

It was concluded that, as a group, the low income male respondents tended to react in an economically consistant manner toward potential retraining.

The two hypothesis which were not supported by the data stated that more interest in retraining would be displayed by those respondents who were unemployed at the time of the survey interview and by those who were calculated to be available for alternative employment in the succeeding year. It appeared that the measure of unemployment was the cause of rejection on the first of these hypotheses, as it included among the unemployed those not considering themselves to be in the labor market. This

same methodological weakness existed with the calculated
measure of availability, as again persons with no strong
commitment to a current job and no family obligations
were the ones determined available for alternative employ-
ment. In both cases persons with no interest in becoming
members of the work force also showed little interest in
retraining programs and caused the hypotheses to be re-
jected.

All other hypotheses were supported by the survey
data, and with statistical significance wherever statistical
tests could appropriately be administered. Interest in
retraining was greater among the younger age groups of
respondents (except for the youngest, generally unmarried
group), reflecting the longer expected time period for
receiving increased earnings. The age-interest relation-
ship was highly significant for males and significant
for females.

Although too few respondents reported any 1966
unemployment for statistical testing of the relationship,
there was considerably greater interest in retraining
demonstrated by respondents who experienced more than
four weeks of unemployment in 1966 than by those with no
unemployment. The rates of retraining interest were ninety
percent for males and eighty-three percent for females with
longer 1966 unemployment, compared to forty-four and
thirty-five percent, respectively, for males and females
with no 1966 unemployment recorded.

Among respondents who had sought a job in the past
three years, those whose major difficulty in finding
employment resulted from some personal educational or
skill level deficiency (about one-fourth of those who
sought work) demonstrated somewhat more interest in
retraining than those with other major difficulties and
considerably greater interest than respondents who reported
having had no difficulties finding employment. The overall
rate of retraining interest was much higher among those
who had sought employment than among the total subgroup.

Conclusion

Respondents reacted to the potential offer of partici-
pation in a job retraining program consistantly with
the decision rule in relation to the variables of
age, 1966 unemployment experience, and recent experience
in finding employment

It was noted above that respondents didn't react as
hypothesized concerning their calculated availability
status. When they classified themselves on availability,
however, the available respondents were highly signifi-
cantly more interested in retraining than those not
considering themselves available. More than one-third
of the males and over one-fourth of the females reported
that they would be available for alternative employment.

As a corollary to stated availability, respondents
whose attitudes toward their present jobs were more
favorable were significantly less interested in retraining

than respondents whose attitudes toward present jobs were less favorable.

Concerning various potential costs of retraining programs, interested respondents quickly lost interest in retraining as potential cost increased. Only two-thirds of the interested males remained interested at a program cost of up to $100; only one-fifth continued to be interested when costs were set from $100 up to $500; and only six percent were interested in retraining which would cost $500 or more. The percentage interested declined even faster for females as potential retraining costs increased.

As hypothesized, there was no significant relationship between respondents' education levels in relation to educational norms and their retraining interest. Degree of interest was spread uniformly across all educational levels.

Conclusion

It was concluded that respondents reacted consistantly with interest in retraining as related to their own estimation of their availability for alternative employment, their attitudes toward their current jobs, and potential retraining program costs. Survey data indicated that respondents were equally interested in retraining across all educational levels.

E.   Conclusions of the Study (Recapitulation)

1.   Conclusion Regarding the Extent of Poverty

The data on the extent of poverty level incomes in this survey led to the conclusion that poverty level incomes do exist among many of the rural, open country consumer units in the Eastern Corn Belt States.

2. Conclusions Regarding Potential Income Gains From Retraining

   (a) On the basis of the investment in human capital modification of marginal productivity theory, it was concluded that job retraining has the theoretical potential for lifting rural poor families out of poverty by raising workers' marginal productivities.

   (b) The benefit-cost analysis approach to estimation of retraining's potential for lifting families from poverty provides an adequate methodological framework for these estimates. Estimates indicated that a large proportion of the rural, low income consumer units in this region could theoretically be lifted from poverty through job retraining.

3. Conclusions Regarding Potentials for Retraining Success

   (a) There is considerable need for increased enrollment of rural workers in retraining programs.

   (b) A very extensive need for job retraining exists among low income workers in this subregion.

   (c) A substantial majority of the low income survey respondents who were in need of vocational

training had the potential to successfully complete regular MDTA type occupational retraining programs.

(d) As a group, the low income male respondents tended to react in an economically consistant manner toward potential retraining.

(e) Respondents reacted to the potential offer of participation in a job retraining program in a consistant manner in relation to their age, 1966 unemployment experience, and recent difficulties in finding employment.

(f) Respondents reacted with economic consistancy with interest in retraining as related to their own estimation of their availability for alternative employment, their attitudes toward their current jobs, and potential retraining costs.

(g) Respondents were equally interested in re-training across all educational levels.

F. Potentials for Escape From Poverty Through Retraining - Empirical Estimates

Job training cannot provide an escape from poverty for all low income families in the Eastern Corn Belt. There are numerous, interrelated causes of poverty. Where low worker marginal productivity is the primary causal factor, then increases in marginal productivity through job retraining can reasonably be expected to correct the poverty status of

a large percentage of the consumer units. When low
worker marginal productivity is only one of several causal
factors, or when other factors predominate in causing
poverty level incomes, then other solutions to the poverty
problem must be found.

Those respondents whose poverty was related to ad-
vanced age or physical disabilities were considered in
this study to have no potential for retraining. Respondents
whose poverty was caused by low motivation and aspirations
effectively excluded themselves from this analysis of
retraining potentials by expressing no interest in retraining.
Other percentages of respondents were eliminated from the
estimates of retraining potentials by the additional
adjustments summarized below.

The nature of the data utilized in making several of
the estimates incorporated in this study prevents the
drawing of definite predictions of retraining potentials.
The following empirical estimates are believed, however,
to present reasonable approximations of the role that job
retraining can be expected to play in eliminating rural
poverty in the Eastern Corn Belt States. They are based on
the several measures developed in this study and summarized
above, and on the survey finding that three-fourths of
the low income respondents lived within commuting distance
(approximately forty miles) of a city of 25,000 or more
population. The estimates of the percentages of the
potentially economically viable low income respondents who

would be lifted from poverty through job retraining are
as follows:

Percentage who:	Males	Females	Source of Estimate
a. Need Retraining	92%	86%	(Chapter VI, Section D)
b. Have Retraining Potential	88%	84%	(Chapter VI, Section H)
c. Are Interested in Retraining	41%	30%	(Chapter VII, Section B,2)
d. Live within Commuting Distance	31%	22%	(above paragraph)
e. Can Be Expected to Find Employment	26%	19%	(Chapter V, Section C)
f. Earn CU Income Above Poverty Level	20%	14%	(Chapter V, Section D,3)

These estimates reveal that approximately twenty per-
cent of the potentially economically viable consumer units
with income ratios below 1.50 could be expected to be lifted
from poverty through job retraining. These are considered
to be relatively conservative estimates for several reasons.
First, the assumption that the twenty-five percent of the
respondents not living within reasonable commuting distance
of urban employment would not be retrainable probably
overstates this problem. People do find jobs utilizing
their occupational skills in smaller cities as well.
Secondly, the conversion from individual retraining and
employment potentials to consumer unit income is necessarily
arbitrary. If it is assumed that only one worker per consumer
unit is retrained, then the twenty percent estimate for
retrained males may reasonably be applied to consumer units.

But if two or more consumer unit members are retrained, then as many as one-fourth of the consumer units could be lifted above poverty levels. Finally, with adequate job placement efforts on the part of retraining program administrators, employment rates could be expected to exceed the 85 percent rate of past MDTA graduates.

The measure of interest in retraining probably tends to overstate the actual retraining potentials. It is generally recognized that response to such a hypothetical question as the one asked concerning interest in retraining will be considerably greater than actual participation in a training program. However, more interest would undoubtedly have been shown if the hypothetical training program had included the subsistance allowance usually incorporated in MDTA programs. On balance, it was decided to make no arbitrary adjustments in the degree of interest expressed. It was implicitly assumed that all interested respondents would participate in retraining programs.

G. Conclusion

The above estimates indicate that job retraining programs can reasonably be expected to lift at least one-fifth of the potentially viable poverty level consumer units above the poverty line in this subregion. While this would still leave a major portion of the rural poverty problem unsolved, any single program that can reasonably be expected to solve twenty percent of this critical problem must receive major emphasis in anti-poverty programs in rural areas of the East North Central States.

IX. IMPLICATIONS

A. Introduction

There have been two significant assumptions implicit
in this analysis. The estimates of labor market performance
of potentially retrained rural workers were made with the
assumption that labor market conditions would remain as
they were in the 1965-1967 period. Should future unemploy-
ment rates differ significantly from those in that period,
then placement and earnings estimates for rural retrainees
would also need to be revised. By including no estimate
of non-completion rates for training enrollees, the study
contained the assumption that all who enrolled would
complete training. Such has not been the actual experience
in MDTA programs. As noted in Chapter V, however, many
drop out of training courses to accept employment. For
this reason, no adjustments in estimates were made for
non-completion of retraining.

Perhaps the most critical implications of this study
are those concerning the role that job retraining can not
play in eliminating rural poverty in this subregion. The
thirty-seven percent of the low income individuals con-
sidered to have no potential for economic viability can
only be removed from the poverty category by social welfare
oriented, as opposed to work oriented, programs. They will,
for the most part, require some form of income supplements.

Among the potentially economically viable respondents, approximately fifty percent were found to be in need of job retraining but expressed no interest in participating in retraining programs. While many of these were wives of men who would be retrained, half of the males also expressed no interest in retraining. This segment of the rural poor presents an urgent challenge to anti-poverty program administrators to develop innovative approaches to solving its poverty problems.

Finally, innovative types of delivery system need to be developed to provide retraining and employment opportunities for those low income individuals who are not within commuting distance of employment centers.

B.   Implications for Present Training Programs

The extensive poverty level incomes and needs for retraining among RLS respondents are clear indications that the present rural system of vocational training (where one exists) in the Eastern Corn Belt States has left a considerable percentage of the rural workers ill-prepared to compete in today's labor force. Only four percent of the survey poor, and only eight percent of the entire survey population, had received any post high school technical training within the past ten years. Elsewhere, the U.S. Department of Labor 1963 study of vocational training in the total United States labor force revealed that sixteen percent of the workers with less than nine years of schooling completed and nearly fifty percent of those with 9-11 years of schooling had received some formal occupational training (see Table 26). Although the data

are not directly comparable, they do serve to illustrate the apparent lack of vocational training among the survey respondents.

Although the limited data available on the place of residence of enrollees in Federal retraining programs was not broken down by geographical regions, even the liberal estimate that twenty percent of MDTA participants were rural residents indicates that these Federal programs have not concentrated their efforts where the highest rates of unemployment (and underemployment) and poverty exist. Inasmuch as the total MDTA enrollment of 599,000 through 1966[127] represented the equivalent of only three and one-half percent of the 1963 labor force with less than nine years of education, these Federal programs could not have been expected to make a major impact on rural training deficiencies. But they could have indicated, by enrolling and training more rural trainees, that they were focusing their efforts where the need was greatest.

The extent of interest in retraining programs expressed by both poor and non-poor survey respondents indicated that rural vocational training programs have not adequately functioned in this subregion.

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[127]U.S. Department of Labor, Manpower Report of the President and A Report on Manpower Requirements, Resources, Utilization, and Training, (Washington: U.S. Government Printing Office), April, 1967, p. 277, Table F-1.

C.   Implications for Redirection of Rural Retraining Efforts

    1. Potentials for Escape From Poverty Through Retraining

    Manpower development programs have been a significant part of our overall national manpower program since 1962. Yet it was not possible to cite for this study any estimates of the potential that job retraining has for raising low income consumer units above the poverty line. The few "efficiency" studies of retraining programs that have been completed to date have been concerned with societal costs and benefits, with comparisons of alternative retraining programs in terms of these costs and benefits, or with increases in employment or hourly earnings for trainees. None of the evaluations have addressed themselves to measuring retraining's potential for lifting people from poverty, ostensibly because the manpower development programs have not been directed toward that end themselves.

    It was noted in Chapter V, Section C, that the objectives of the MDTA are: (1) to increase the nation's output; (2) to reduce the aggregate level of unemployment; (3) to reduce the governmental costs of unemployment; and (4) to reduce the burdens of unemployment for specific groups of the unemployed. With the emphasis on national output and on unemployment it was not surprising that program evaluations focused on employment and cost factors.

    It appears that retraining evaluations have not asked the appropriate questions, therefore we do not have appropriate answers about potentials for escape from poverty.

And the appropriate questions have not been asked because the retraining programs have pursued objectives other than lifting poverty level families from poverty.

The implication of this is that it is time to make the lifting of families from poverty the primary objective of manpower programs. It does seemingly little good to reduce unemployment by training a worker for employment in such a low skilled, low paying job that his family continues to receive a poverty level income, as some training programs apparently have done. There should be no question of the ability of job retraining to lift families from poverty - a worker should not be considered sufficiently trained until he can earn an above poverty income, providing he has the mental and physical capacity for such training.

The importance of retraining rural workers, particularly farm workers, for employment which provides adequate incomes was illustrated by Hathaway and Perkins.[128] They found that the initial income changes experienced when moving from farm to non-farm employment were an important determinant of whether an individual remains in non-farm employment. With adequate retraining, the low income rural worker (farm or non-farm) would be in a position to experience initial income changes sufficient to keep him

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[128]Hathaway and Perkins, "Occupational Mobility and Migration...," p. 205.

in the alternative employment and keep him earning above
poverty income.

    2. Retraining for What?

    Inasmuch as one-third of the survey consumer units
were classified as farm units, and a number of the non-
farm units also received some "farm income," what are the
potentials for assisting respondents to become viable
farmers through agricultural training programs? A farming
potential, based on the possession of some amount of farm
acreage and the extent to which that acreage provided
income in 1966, was developed for RLS respondents. The
data on acreage potentials for respondents below 1.00
income ratio and for respondents below 1.50 income ratio
appear in Table 41.

    While over thirty percent of the poor individuals
(by either measure) had some acreage potential, half of
those with acreage were already over age 64 in 1967.
Furthermore, of those under age 65, sixty percent of the
group below 1.00 income ratio and two-thirds of the group
below 1.50 income ratio either earned no income from their
land or these earnings were less than half of their total
earnings in 1966. Of the respondents under age 65 with some
acreage potential, only one-third with income ratios below
1.50 and forty-one percent with income ratios below 1.00
received all or a major share of their 1966 earnings from
their acreage. Respondents with major earning from acreage
represented only seven percent of the below 1.00 income

Table 41.

Potentials for Viability in Farming Based
on Acreage and Its Use, 1966, for Poor Respondents;
Percent Distributions

1967 Rural Life Survey Individuals	Income	Ratio
Classification	Below 1.00	Below 1.50
Percent of Total Population	12.8	26.3
Percent of Poor with Acreage Potential	34.3	30.9
Percent of Those with Potential Over Age 64	52.5	48.0
Those Under 65 with Acreage		
1. No 1966 Income From Acres	18.1	24.3
2. 1966 Income Not Farm "Earnings"	17.3	19.1
3. Farm Income Minor Share of Earnings	23.2	22.9
Total 1-3	58.6	66.3
4. Acreage Gave Sole or Major Share of Earnings	41.4	33.7
5. Percent with "Major Share" over age 44	74.7	75.3
Percent of Poor Under Age 45 With Acreage Potential	6.7	5.4

ratio individuals, and only five percent of those below the
1.50 income ratio. Most with acreage potential were consumer
unit heads, and three-fourths of them were already over
age 44 in 1967.

The implication of these acreage potentials is clear.
Even in this region of commercial agriculture, only a very
small percentage of the rural, open country low income
population has any potential for becoming viable commercial
farmers through job retraining. Many with acreage had already
recognized this and had turned to non-farm employment for

part of their income. Thus, retraining for non-farm employment would, in most instances, facilitate a process which was already well under way in 1966.

3. Implications of Retraining Needs

The measure of retraining needs developed in this study was not intended to be a definitive measure, because the measure of respondents'skill levels included only formal occupational training received in the past ten years. As a rough approximation of retraining needs based on skill levels being below a required skill level, however, the measure did permit indicative estimates of retraining needs.

This study found that approximately eighteen percent of all potentially economically viable respondents had need for retraining and had income ratios below 1.50.[129] With a 0.6 percent sampling rate, the poor needing retraining would total some 200,000 persons. If the non-poor with apparent retraining needs were included, the total would be considerably larger, possibly from one-half to three-fourths of a million individuals.

The apparent scale of retraining needs among the rural population in this subregion implies that retraining programs will have to be much more extensive in the future than they have been to date if they realistically plan to retrain all needy individuals.

The need for retraining the estimated 200,000 poor workers in the region is an immediate need. Once the relatively short range programs for retraining these workers

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[129]Figures derived from data in Table 24.

are completed, longer range training needs could be concentrated upon. In the long-run, after present skill deficiencies are corrected, there will be continued need to train new entrants to the labor force and to provide upgrading to some percentage of the previously retrained workers. Both short-run and long-run training needs require attention.
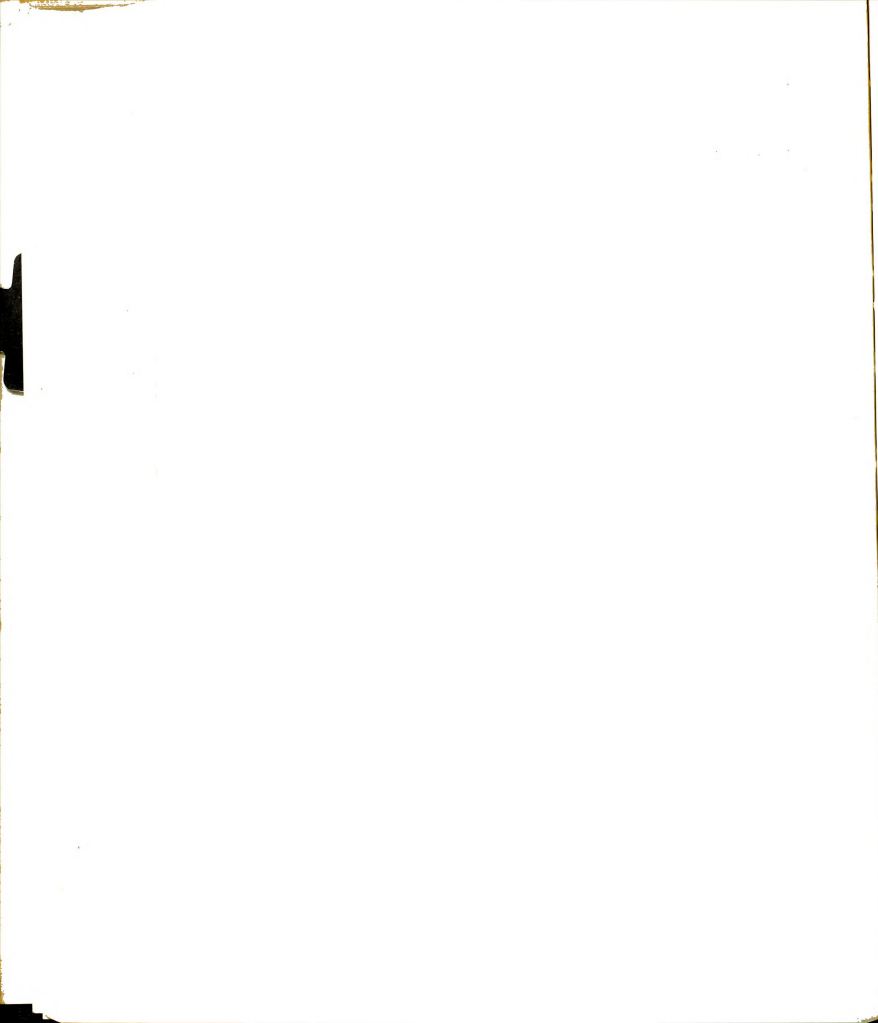
   4. Implication of Retraining Potentials

   On the basis of retraining potentials developed in this study, retraining program administrators can be assured that sufficient numbers of rural, poverty level workers are interested in participating in, and have good potentials for completing, regular MDTA type retraining programs. On the other hand, if retraining is going to give first priority to the most needy of the rural poor, then much more effort will have to be exerted in providing basic educational instruction, as well as vocational training.

   Although this study focused only on educational level as a measure of potential for retraining success, past experience with retraining "hardcore" individuals indicates that a complete package of services - counseling, health, placement, follow-up - are also required to insure their successful retraining. The same would undoubtedly apply to the rural poor with the least potential for success in retraining as measured here.

   5. Implications of Expressed Interest in Retraining

   Survey respondents expressed interest in a "free training program given locally" which would enable them to obtain a

better job. It is probable that even more than forty-seven percent of the males and thirty-six percent of the females would be interested in a program which was not only free but which provided a subsistance allowance while in training as well. Conversely, there would no doubt be less interest in retraining courses which were not given locally.

The data in Table 34 indicated that a large percentage of the respondents interested in retraining were employed at the time of the interview. It would be essential to provide a subsistance allowance before most of these respondents could actually participate in retraining.

Interest in retraining was found to be relatively strong across all age groups. In providing retraining programs for members of the older age groups, administrators would have to consider their unique training and employment problems.

The data in Table 10 revealed that, as would be expected, poverty was closely associated with employment. But employment rates among poor males were the same as employment rates among all non-poor respondents. One of the major differences, then, between poor and non-poor consumer units was the employment rate among females. This implies that retraining programs should concentrate upon retraining females and raise families above the poverty line by increasing the number of wage earners rather than by raising the skill level of the male consumer unit head.

6. Implications for Trainee Recruitment

Under the MDTA manpower training programs the primary means of recruiting candidates for retraining programs has been through referrals from the state employment service offices. The survey data indicated that the method of publicizing programs and recruiting candidates would probably have to be altered considerably in rural areas of this subregion. As shown in Table 42, even though they were receiving poverty-level incomes, only eight percent of the low income consumer units reported that a CU member visited the employment office in the past year. It is clear that none of three other public service agencies, the Cooperative Extension Service, the Social Security Administration, and county welfare offices, would be better prepared to reach those in need of training than the employment office. Data in Table 42 indicate that these other agencies had even less frequent contact with the rural poor than did the employment service.

The major implication to be drawn from this is that totally new institutional arrangements may be required for recruitment of rural retrainees. Alternatively, the present recruiting agencies will have to adopt revolutionary new techniques of trainee recruitment.

D. Conclusion

The major conclusion to be drawn from these implications for rural retraining programs, and perhaps from the entire study, is that there must be a continuing emphasis on

Table 42.

Use of Public Services by Low Income Consumer
Units; Percent With Visits, by Income Ratio

1967 Rural Life Survey Consumer Units Below 1.50 Income Ratio

Income Ratio	Public Service Visitied			
	Cooperative Extension	Social Security Administration	County Welfare	Employment Office
.80	10.8	11.3	9.5	5.4
.80- .99	6.7	8.6	4.8	15.2
1.00- 1.19	2.7	7.5	9.5	8.8
1.20- 1.49	5.0	3.2	5.3	7.8
Total	6.5	7.2	7.3	8.3

training and retraining rural residents, low income and
non-low income alike, for competitive employment in today's
labor market. Regardless of the extent to which rural-urban
distinctions are said to no longer be valid in the United
States, it is in the rural areas that the people are "left
behind," and it is into the rural areas that new institut-
ional arrangements for recruiting and retraining potentially
viable, poverty level workers will have to be extended.

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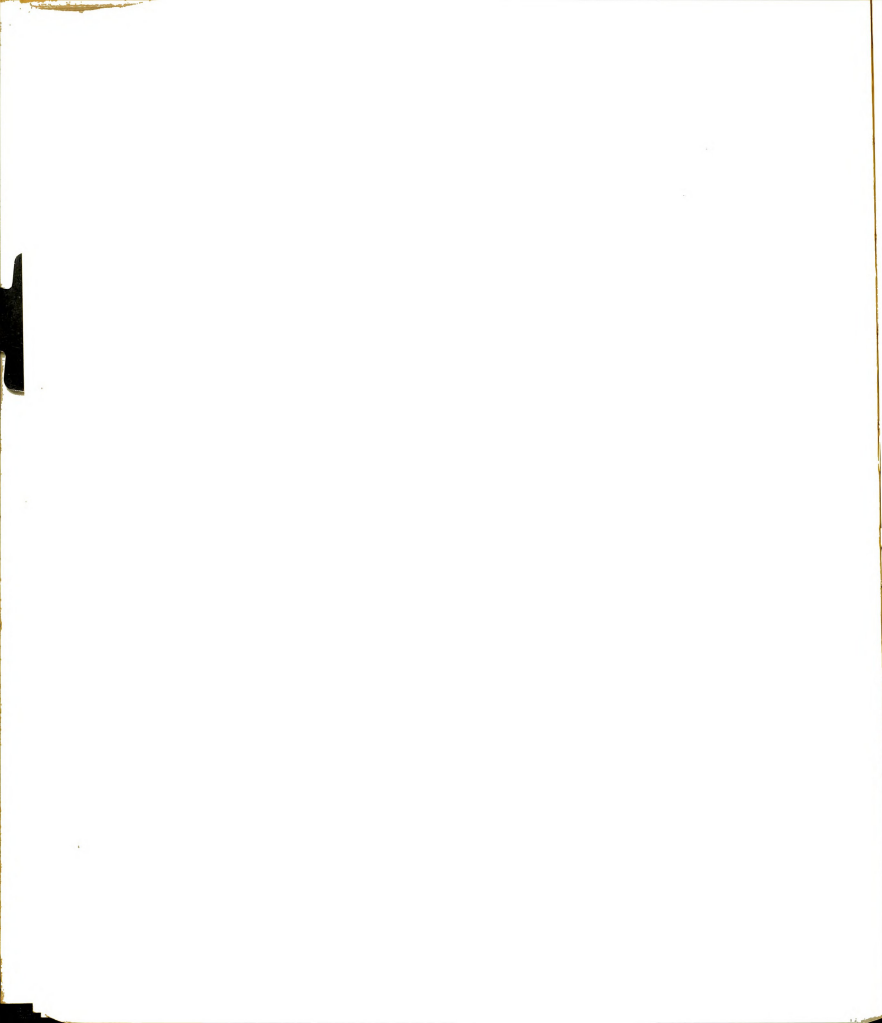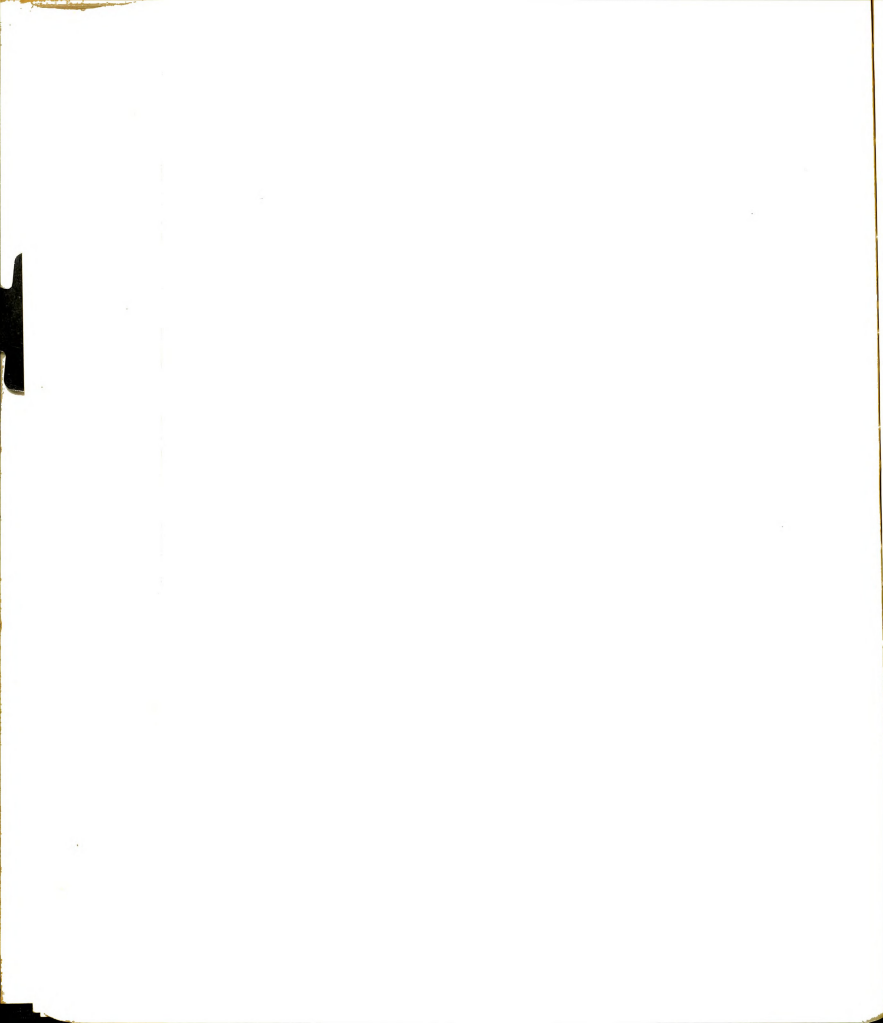
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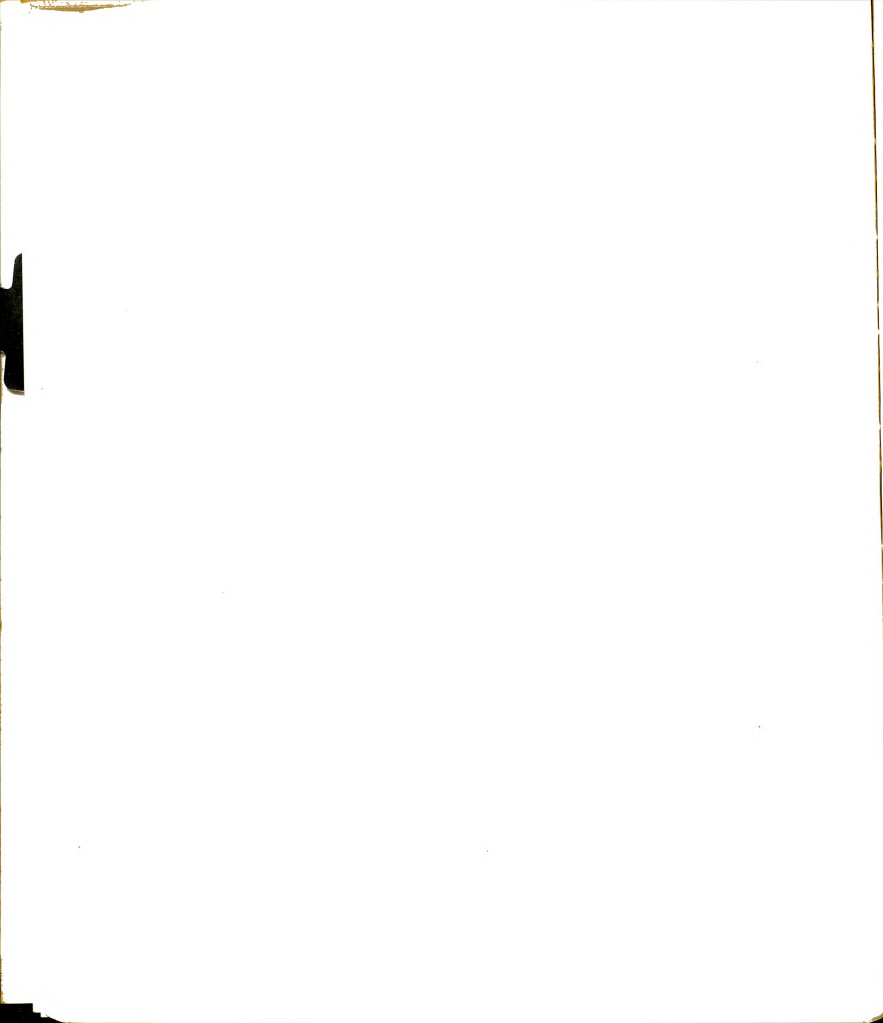
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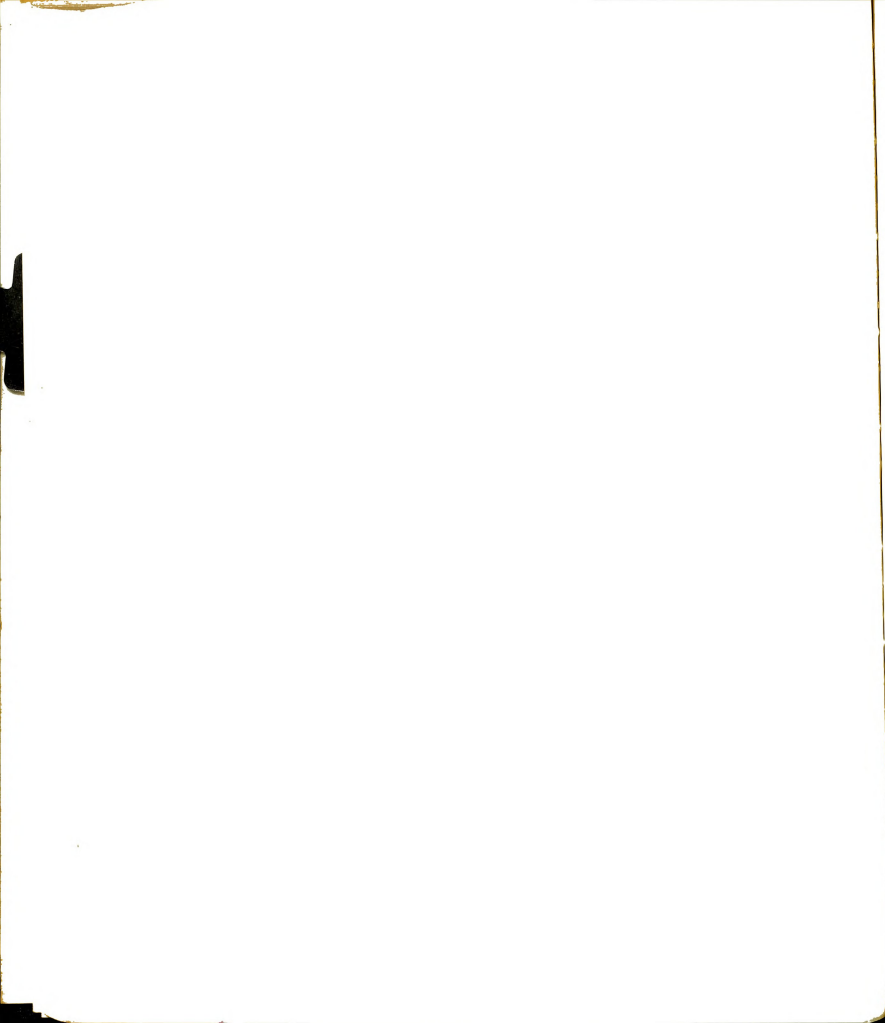
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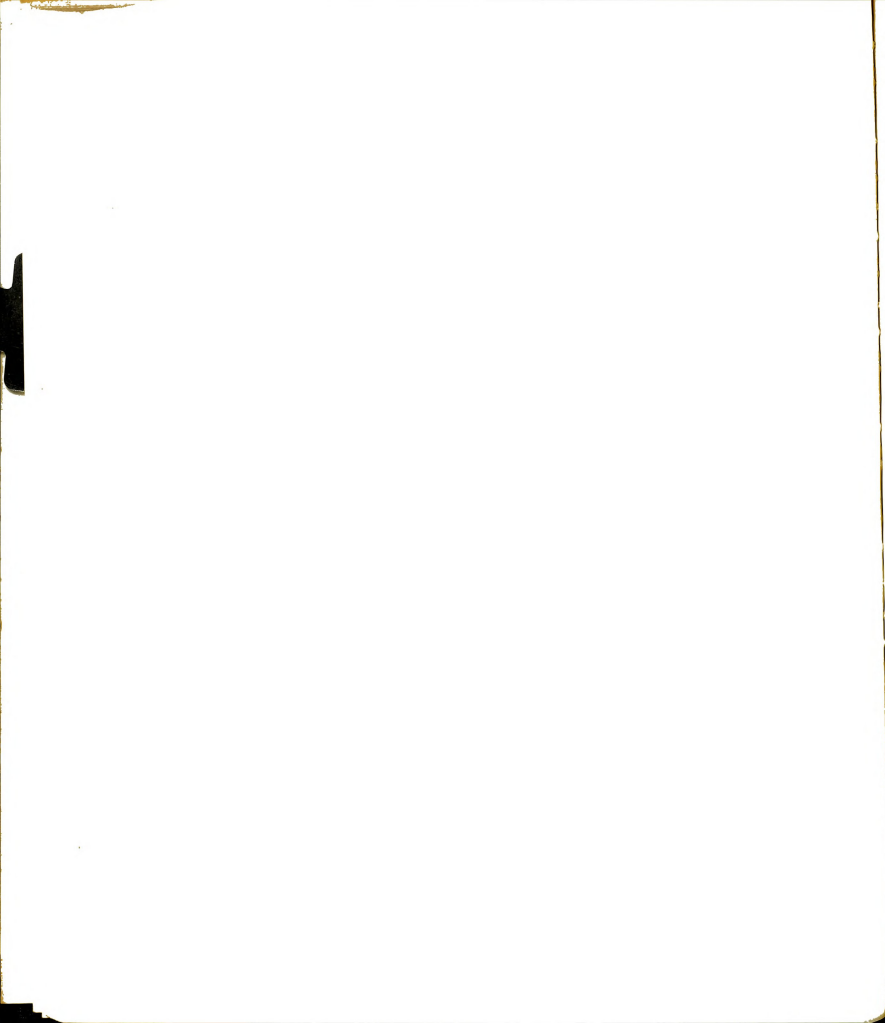
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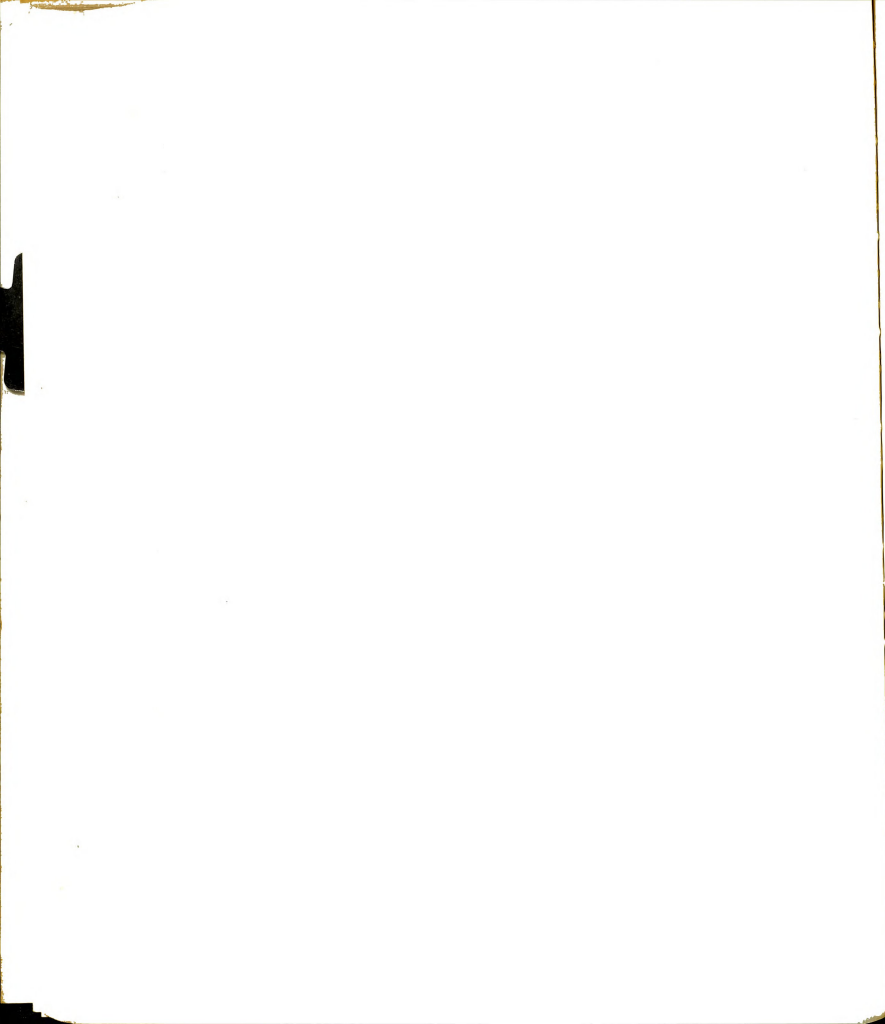
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APPENDICES

APPENDIX A

DEVELOPMENT OF BASIC TRAINING REQUIREMENTS
AND RESPONDENTS" SVP AND GED LEVELS

Basic training requirements for low income individuals were based upon a selected list of occupational titles and the SVP levels of those titles as presented in the Dictionary of Occupational Titles.

A.   Occupational Titles Used

The job-titles which were used to determine the basic training requirements for poverty-level workers were those jobs for which unemployed and underemployed workers have been retrained under Federal programs authorized by the Manpower Development and Training Act (MDTA) of 1962 (as ammended). A listing of all MDTA projects approved through June, 1965, was the source used to obtain the list of job titles, a list which totaled over 900 titles.[130]   Specifically, there were 917 titles, 393 of which were institutional courses and 524 of which were OJT programs (157 occupations appeared in both type programs).   Seventy-five of the occupations were identified as predominantly female occupations.

For each occupation or job-title listed, the DOT code number was found in Volume II of the Dictionary of Occupational Titles, then the corresponding GED and SVP

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[130]U.S. Department of Labor, Manpower Administration, Register of Projects Approved Under the MDTA Through June, 1965 (Washington: by the Department, 1965).

were obtained from the 1966 DOT <u>Supplement</u>. In order to evaluate GED and SVP "requirements" on the basis of total trainees in each occupation, the following sampling and weighting procedures were applied.

It was noted that trainee enrollments in approved institutional courses were considerably larger than those in OJT courses, so it was decided to weight institutional courses by the ratio of institutional to OJT average enrollments. A random sample of ten states was selected, using a random number table,[131] and average enrollments in these states were computed (Table A-1). It should be noted that these averages, 43.47 for institutional programs and 19.4 for OJT programs, differ considerably from averages which would result if the totals for enrollments and projects presented on pages 3-4 of the <u>Register of Projects</u> <u>Approved</u> were used to compute averages. This results because, in computing these averages in the ten-state sample, all multi-occupation programs, those programs whose file was incomplete and did not give the occupational title, those providing only pre-vocational training, and those whose total enrollment was not given were all eliminated.

The ratio of institutional to OJT average enrollments in occupational courses which could be identified, then, was

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[131]Robert G. D. Steel and James H. Torrie, <u>Principles</u> <u>and Procedures of Statistics</u> (New York: McGraw Hill, 1960), Appendix Table A.1, pp. 428-431.
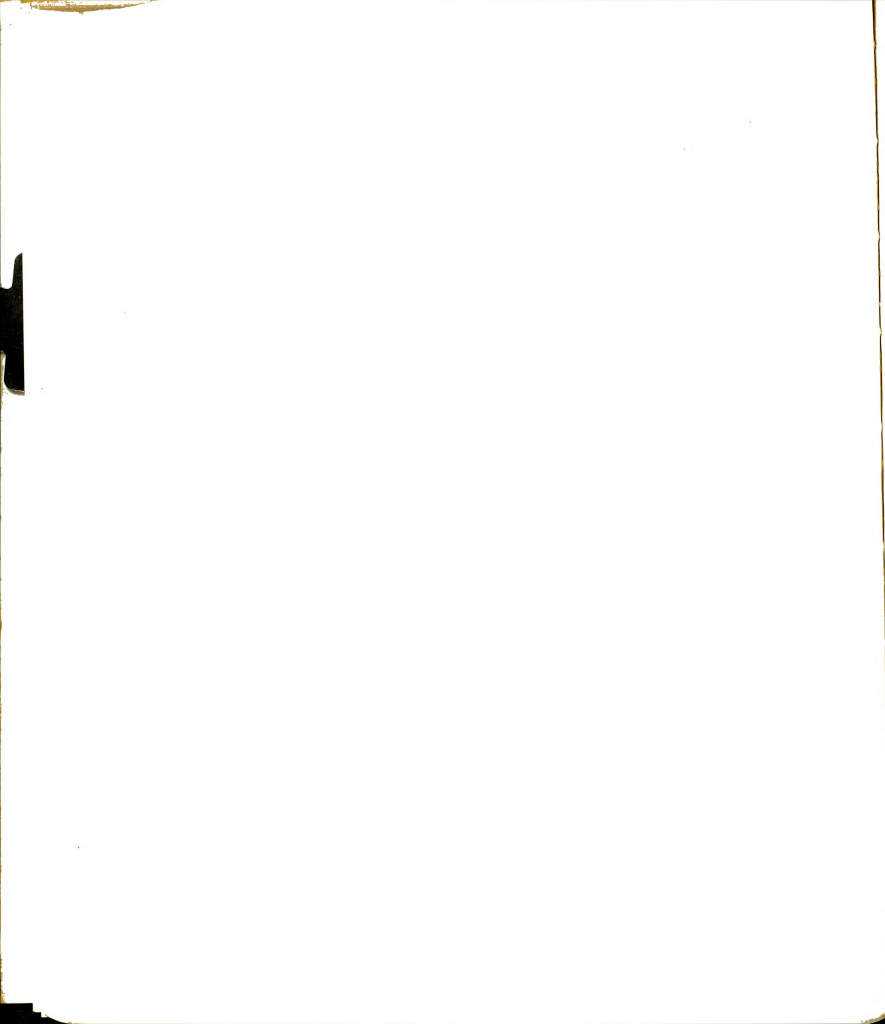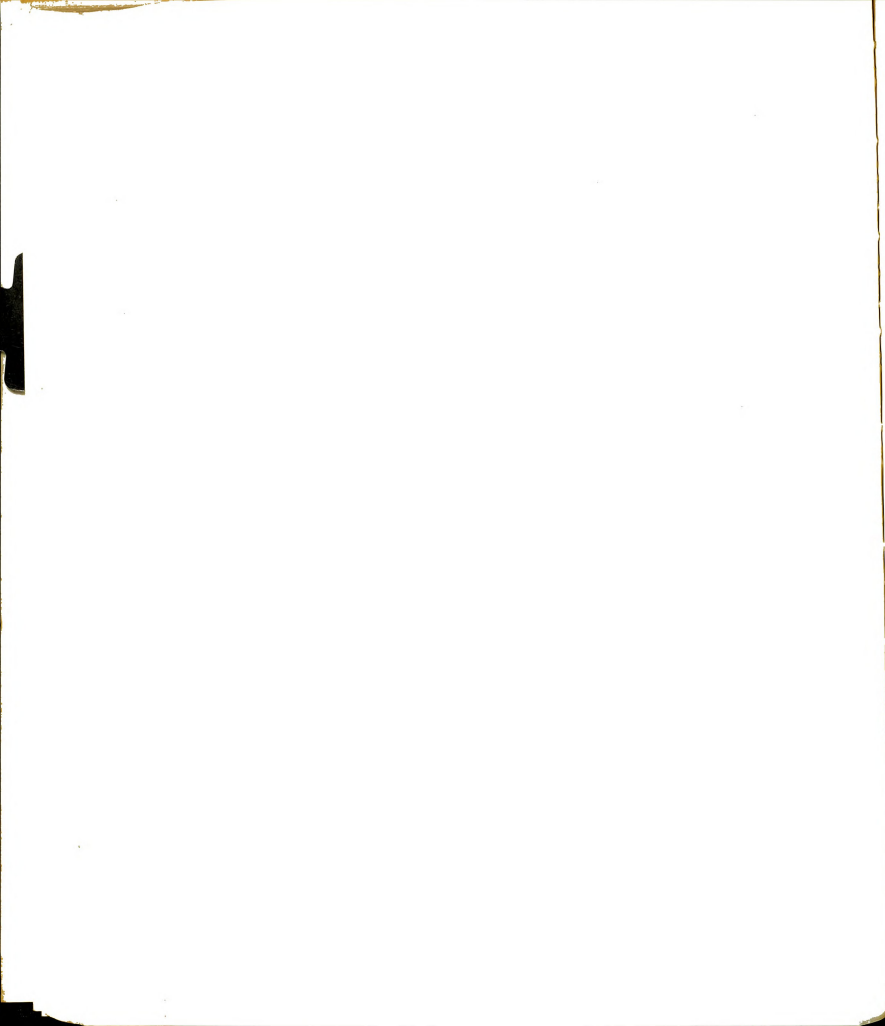
Table A-1.

Number of MDTA Projects Approved and Number
of Trainees Enrolled in Selected States,
by Program Type, Through June, 1965

State	No. Inst Projects	No. Inst Trainees	No. OJT Projects	No. OJT Trainees
3 Arizona	48	2,739	19	97
4 Arkansas	69	1,724	43	218
5 California	463	22,360	42	2,263
15 Illinois	237	13,893	22	1,824
16 Indiana	102	4,659	19	62
17 Iowa	76	2,652	5	212
32 New Jersey	191	7,405	97	1,130
38 Oklahoma	49	1,635	4	162
40 Pennsylvania	309	10,547	95	1,044
44 South Dakota	20	379	28	252
Total	1,564	67,993	374	7,264
Average		43.47		19.4

Source: U.S. Department of Labor, Manpower Administration, Register of Projects Approved Under the MDTA Through June, 1965 (Washington: by the Department, 1965) pp. 3-4.

43.47/19.4 or 2.24. The number of institutional courses approved should be multiplied by this factor to reflect the greater importance of institutional as compared to OJT programs in terms of total enrollments. However, to compensate partially for the fact that OJT programs have been given more emphasis in recent years than data through 1965 would indicate, the weight factor was rounded to 2.0.

A second weight factor was utilized to account for the greater frequency of some programs. Using the ten randomly sampled states, a frequency count of all occupational programs was made, with a weight factor of one given each

time the occupational category was listed. For those
programs which were not given in any one of the ten sample
states, it was assumed that they were listed no more than
five times in the non-sampled states and they were also
given a weight of one.

B.   SVP Median Levels

The weighted number of job titles with various SVP
scales are given, by sex, in Table A-2. The job titles
are also classified in Table A-2 according to their
relationship to the median SVP, this being defined as the
SVP level at which the median of the total (weighted) number
of job titles is found. For male job titles the median
falls at SVP = 6 and for female categories the median falls
at SVP = 4. A "median range" was established for each sex
category, with the range for males including one SVP level
above and one below the median SVP, and for females this
range included only the median SVP level and the one above
it. This "median range" for males comprised 70.5 percent
of all job titles; for females it contained 83 percent of
all titles.

Upon examination of the over 900 job-titles given in
the Register of Projects Approved, it was found that the
occupations could be roughly broken down into four broad
categories according to SVP scales as follows:

            SVP 1 and 2 = unskilled occupations
            SVP 3 and 4 = semi-skilled
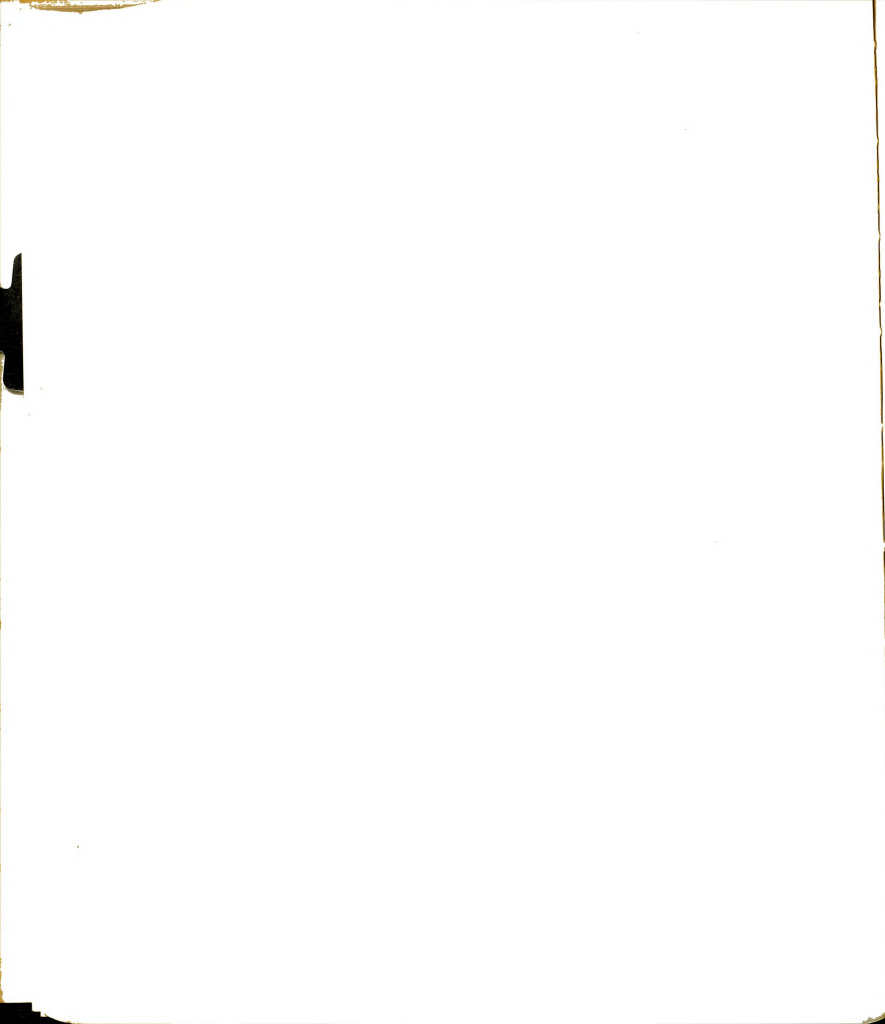   SVP 5 and 6 = skilled
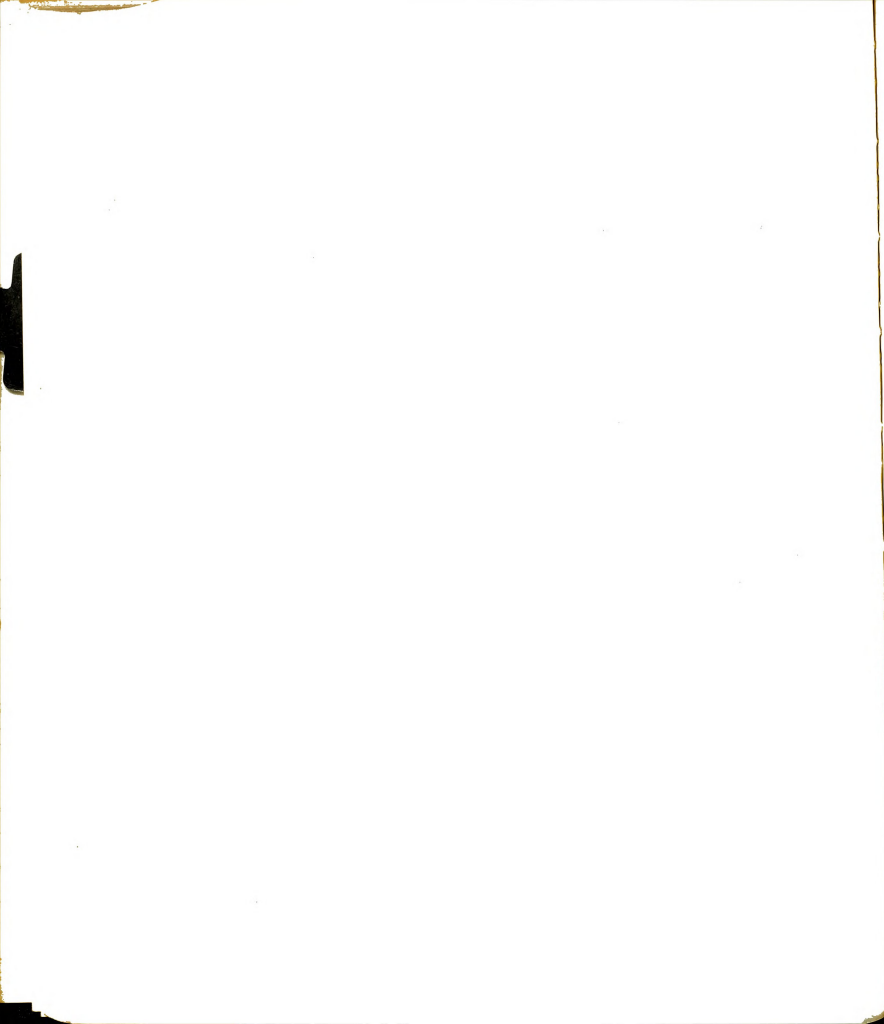   SVP 7 and 8 = highly skilled

Table A-2.

Weighted Number of MDTA Approved Retraining
Courses by SVP Scales, by Sex

Males			Females		
SVP	No. of Job titles	Relation to median	SVP	No. of Job titles	Relation to median
1	4		1	0	
2	158		2	34	
3	258	< median	3	47	< median
4	265		4*	612	
5	292		5	255	= "median range" (867=82.9%)
6*	613	= "median range" (2032=70.5%)	6	66	
7	1127		7	31	
8	66	> median	8	1	> median
9	1		9	0	

*Median SVP Level
Source: U.S. Department of Labor, Manpower Administration,
Register of Projects Approved Under the MDTA Through June, 1965
(Washington: By the Department, 1965).

Thus, the "median range" for male occupations consisted of
either skilled or highly skilled occupations, and for
females it included semi-skilled and skilled occupations.

APPENDIX B

DEVELOPMENT OF RETRAINING POTENTIALS

For determining retraining potentials, the data from
Appendix A has been tabulated as shown in Table B-1, with
the weighted number of occupations listed by GED and
corresponding SVP scales and broken down by male and female
occupations. In addition, median SVP levels corresponding
to each GED level, by sex, were calculated as shown in Table
B-2.

Inasmuch as vocational abilities are focused upon,
and presumably improved, when occupational retraining
courses are given, respondents' GED levels were considered
to be the independent variables and their SVP levels were
treated as dependent variables. Thus, for a given GED,
a respondent was compared to the median SVP corresponding
to that GED level of MDTA retraining programs to determine
if he had a potential for retraining based on his general
level of educational development. For example, since the
median SVP for male occupations which "require" a GED
of 4 is an SVP of 7, a respondent whose GED was 4 and
whose SVP also equalled 4 could have a potential for
retraining to raise his SVP level from 4 to as high as 7.

Table B-1

Weighted GED and SVP Values of
MDTA Courses Approved Through June, 1965

Males

SVP	GED Institutional					On-the-Job					Total (Inst.=2, OJT=1)					Percent Distribution by Skill Levels
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
1	-	-	-	-	-	4	-	-	-	-	4	-	-	-	-	Unskilled = 5.6%
2	4	19	21	-	-	5	56	9	-	-	13	94	51	-	-	Semiskilled = 21.6%
3	-	36	53	2	-	-	41	33	2	-	-	113	139	6	-	
4	-	16	79	30	-	-	19	86	10	-	-	51	244	70	-	Skilled = 31.4%
5	-	2	76	31	1	-	-	60	12	-	-	4	212	74	2	
6	-	-	121	146	1	-	-	50	26	1	-	-	292	218	3	Highly skilled = 41.4%
7	-	-	109	319	43	-	-	19	155	11	-	-	237	793	97	
8	-	-	2	20	1	-	-	2	17	-	-	-	6	57	2	
9	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	

Table B-1
Continued

Weighted GED and SVP Values of
MDTA Courses Approved Through June, 1965

Females

SVP	GED Institutional					On-the-Job					Total (Inst.=2, OJT=1)					Percent Distribution by Skill Levels
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Unskilled= 3.2%
2	-	8	6	-	-	-	4	2	-	-	-	20	14	-	-	
3	-	-	21	-	-	-	1	4	-	-	-	1	46	-	-	Semi-skilled= 63.0%
4	-	1	285	1	-	-	3	35	-	-	-	5	605	2	-	
5	-	-	120	5	-	-	-	4	1	-	-	-	244	11	-	Skilled= 30.7%
6	-	-	7	24	-	-	-	-	2	-	-	-	14	50	-	
7	-	-	-	13	-	-	-	-	1	2	-	-	-	27	1	Highly Skilled= 3.1%
8	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	

Table B-2.

Required GED Levels and the Corresponding
Median SVP Levels of MDTA Training Courses Approved
Through June, 1965, by Sex

GED	Median SVP	
	Male	Female
1	2	–
2	3	2
3	5	4
4	7	6
5	7	7
6	–	–

Source: Data in Tables A-1 and A-2.

PRESENT LEVELS OF EDUCATION AND TRAINING

Measures of the present levels of education and training
possessed by poverty-level respondents were derived from the
survey data, and these levels were then converted to equi-
valent GED and SVP measures.

A.   General Educational Development Measures

Several methodological problems in developing these
measures were readily apparent. To determine accurately
the present level of skills and abilities of respondents
would require the administration of a complex battery of
general aptitude and vocational aptitude tests. Even then,
it is recognized that such tests have numerous weaknesses
and that such verbal instruments cannot be a perfect
measure of an individual's skill level and cannot, therefore,
be used to make definite predictions concerning labor
market performance. Numerous attitudinal and motivational
factors enter into an individual's actual performance in
the labor market. While social-psychologists have recently
made much progress in developing measuring devices for these
factors, there appears to be no instrument available as
yet to greatly improve upon the predictive capacities of the
general and vocational aptitude tests which, as noted,
have only limited predictive ability.

At any rate, the sample size in the RLS study precluded
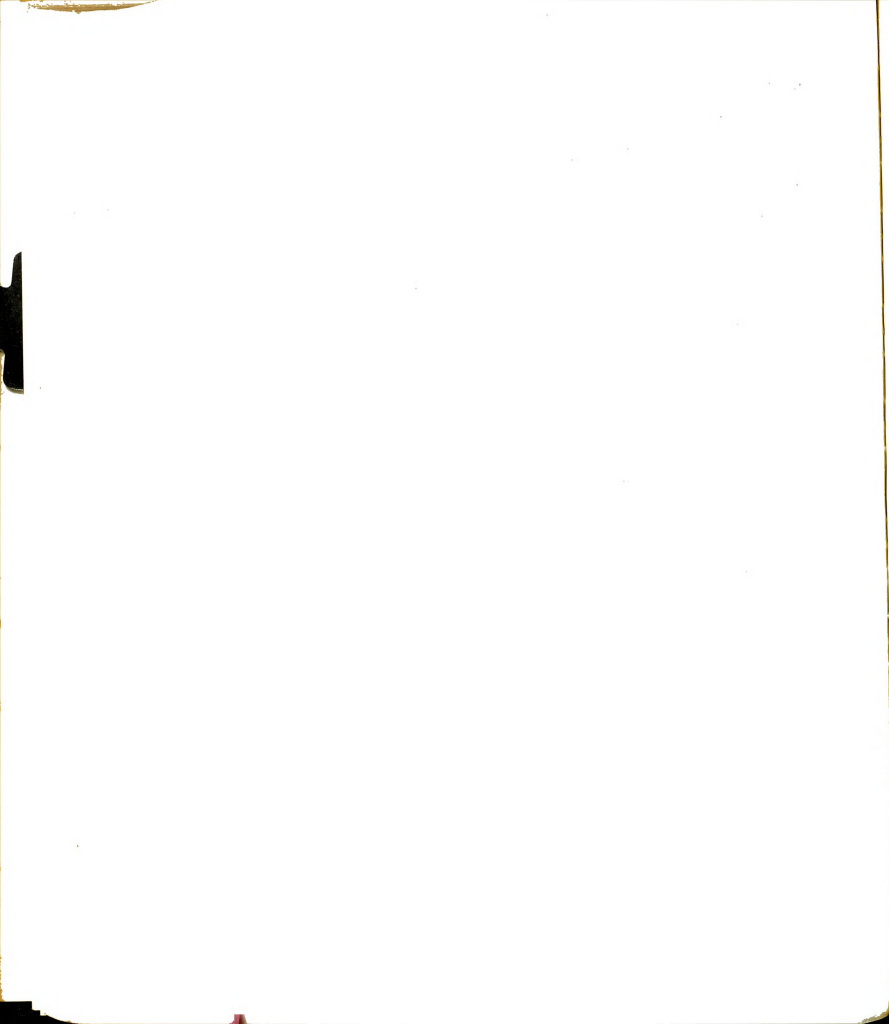the administration of any such battery of tests. As an

alternative, the number of years of schooling completed by the respondents was used as a proxy for a measure of general aptitude. This is admittedly not a perfect substitute for three basic reasons. One is response bias. It is known that persons with lesser amounts of formal education tend to overstate their educational level when responding to survey questionnaires (RLS poverty-level respondents tend to have below average educational levels) and some report last grade attended even though it was not completed.[132] The second reason is that the quality of schooling differs widely between some school systems, and even many times within the same school system for different individuals. Thirdly, many individuals have received self-education well beyond that received from formal schooling either through individual efforts or as a part of specific job training. However, no more appropriate measure was available from the survey data so years of schooling were used as the best substitute available for a precise measure of respondents' general educational abilities.

The years of schooling completed were converted to an "equivalent" value on the GED scale. This was done in

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[132]U.S. Bureau of the Census, <u>U.S. Census of Population</u>: <u>1960. Detailed Characteristics, United States Summary</u>. Final Report, PC (1) - 1D (Washington: U.S. Government Printing Office, 1963), pp. XVIII-XIX.

accordance with the translation made by Eckaus[133] and must be interpreted with the precautions which he specified. The conversion categories are shown in Table C-1, which duplicates the Eckaus categories except that a range of grades, such as 3-5, is used for each GED category instead of just one grade, in this case grade 4 only.
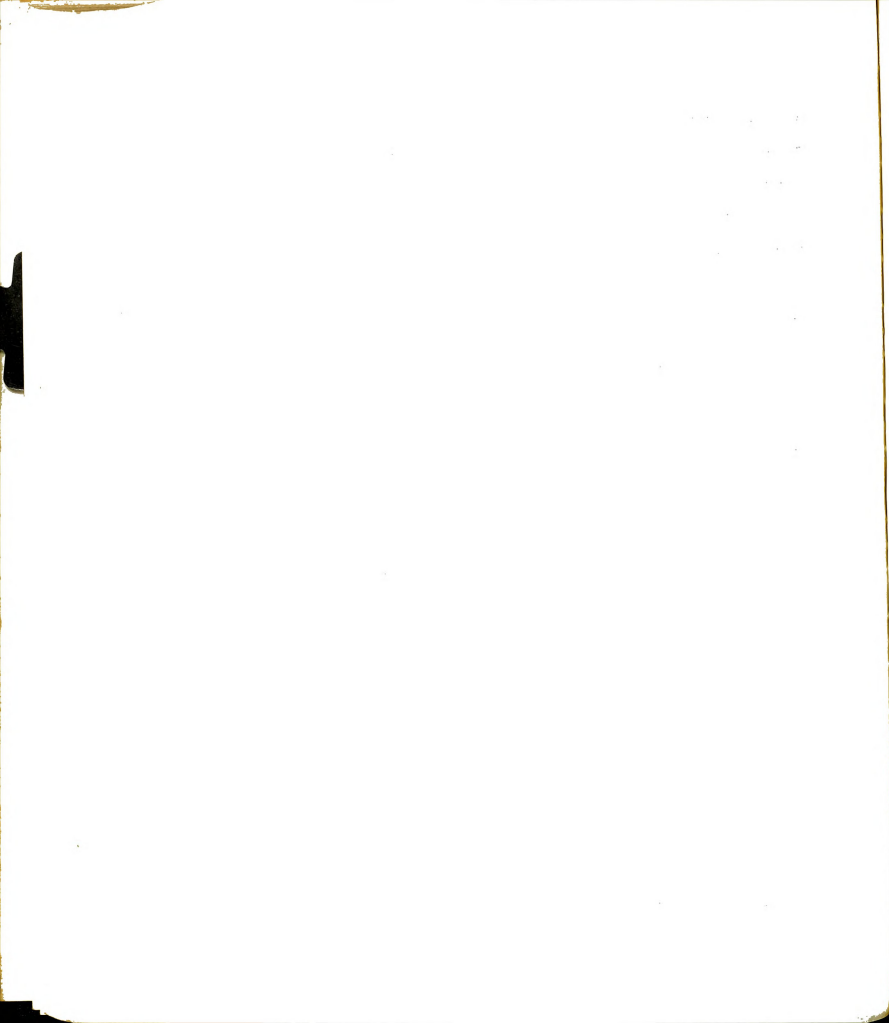
Table C-1.

General Educational Development Categories

GED Category	School Year Equivalent in Years
1	0-2
2	3-5
3	6-8
4	9-11
5	12-14
6	15-17
7	>17

Source: R.S. Eckaus, "Economic Criteria for Education and Training," *Review of Economics and Statistics*, Vol. 46, No. 2 (May, 1964), p. 184, Table 2.

Eckaus noted, in particular, that he had conflicting advice in making the translation and that he chose that which represents "higher standards" for the general school system. The translation, he knew, was controvercial and he did not intend it to be definitive.[134]

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[133]R.S. Eckaus, "Economic Criteria for Education and Training," *Review of Economics and Statistics*, Vol. 46, No. 2 (May, 1964), pp. 181-190.

[134]*Ibid.*, p. 185 (note).

Fine emphasized, in addition, that the U.S. Department of Labor "resolutely avoided" attempts to translate their GED estimates into a time scale related to years of schooling completed, because a job's GED requirement could have been rated at a different level for each scale - reasoning, mathematical, and language development.[135] With these precautions in mind, the Eckaus translation was, nevertheless, utilized. It was believed that the upward bias of the Eckaus scale which resulted from using "higher standards" for school systems was offset here by the use of a range of grade levels for each GED category.

B.   Specific Vocational Preparation Measures

High School and College Training

If the respondent indicated that he was attending regular school or college at the time of the survey, no SVP score was calculated for him. To determine the extent of high school vocational training received, the high school program was subdivided as follows:

1. College preparatory program
2. Business program
3. Vocational program
4. General program
5. Only one program given
6. Did not attend high school

In general, few respondents over 25 years of age had attended high school when such specialized programs were a

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[135]Fine, "Use of the Dictionary of Occupational Titles...," p. 367.

part of the curriculum, so most took courses only in the general program and no SVP equivalent was credited for this program. Vocational agriculture courses would have been the major exception to this general finding. For female respondents, home economics courses were not considered to be vocational training.

For those respondents having taken courses in the high school business or vocational programs, the following computational procedures were utilized:

1. It was assumed that high school vocational courses given only in grades 11 and 12 were advanced enough to qualify as actual job training (below these grades most vocational courses were considered to be introductory in nature).

2. It was assumed that students attended vocational courses two hours each school day. The school year was about 180 days long resulting in 360 hours of training which were equivalent to nine weeks of 40 hours each - the normal work-week.

3. Following Fine,[136] high school vocational training was considered equivalent to one-half the number of hours of on-the-job training. Thus, each year of high school vocational training, equaling nine 40 hour weeks, was equivalent to 4.5 weeks of SVP equivalents. Allowing for absences from school, and to avoid the use of fractions of weeks, the SVP equivalent of one year of high school vocational training was set at 4 weeks.
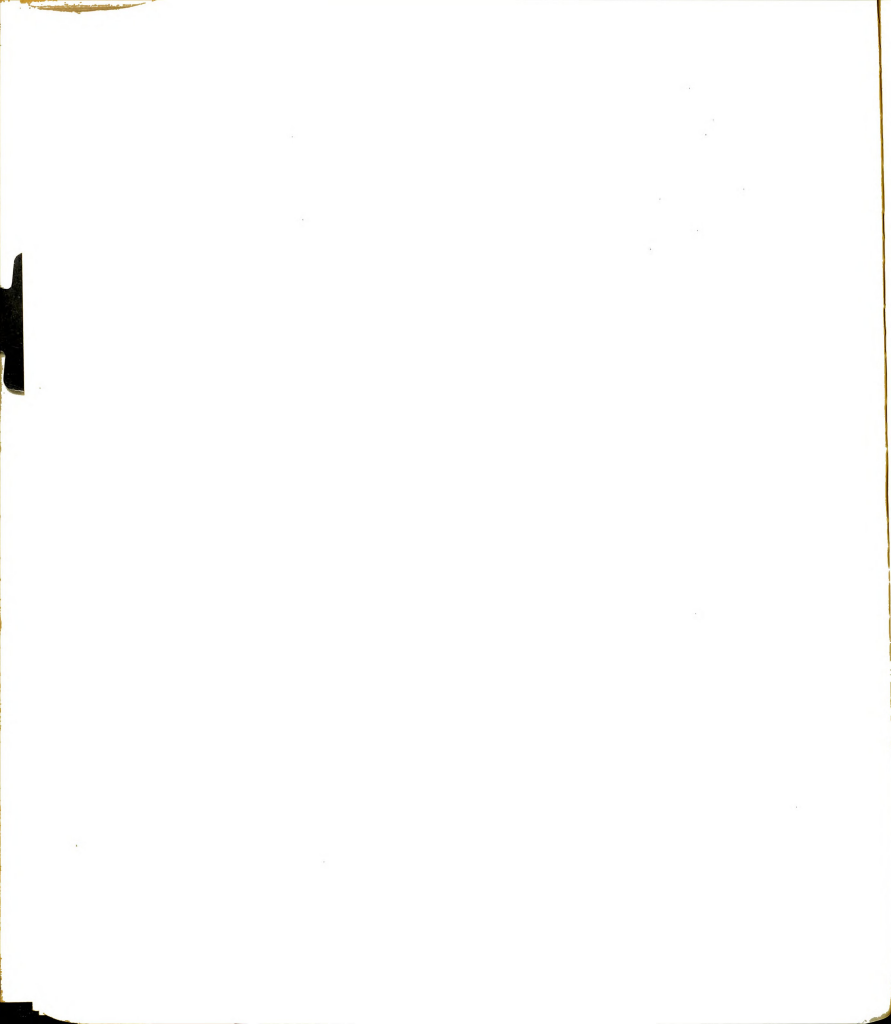
For respondents having taken the college preparatory program in high school, no SVP equivalents were given. For each respondent who attended college, the following computational procedures were utilized:

1. It was assumed that the first year of college consisted of basic or introductory courses and

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[136]*Ibid*., p. 368.

did not contain any vocational instruction.

2. Beyond the first year of college, each year was regarded as one-half specific vocational preparation, following Fine.[137]

3. Since each regular college year usually consists of thirty weeks of class attendance, each year of college completed beyond the first year was set equivalent to 15 weeks of specific vocational preparation.

Thus, for respondents having taken vocational programs in high school and for those having completed two or more years of college, the SVP weeks equivalent given in Table C-2 were applied to determine the amount of SVP obtained from school or college type courses.

Table C-2.

SVP Weeks Equivalent of High
School Vocational and College Training

Years of schooling completed including high school vocational	SVP weeks equivalent	Years of Schooling completed, no high school vocational	SVP weeks equivalent
<11	0	--	--
11	4	--	--
12	8	--	--
13	8	<14	0
14	23	14	15
15	38	15	30
>15	53	>15	45

Vocational or Technical Training

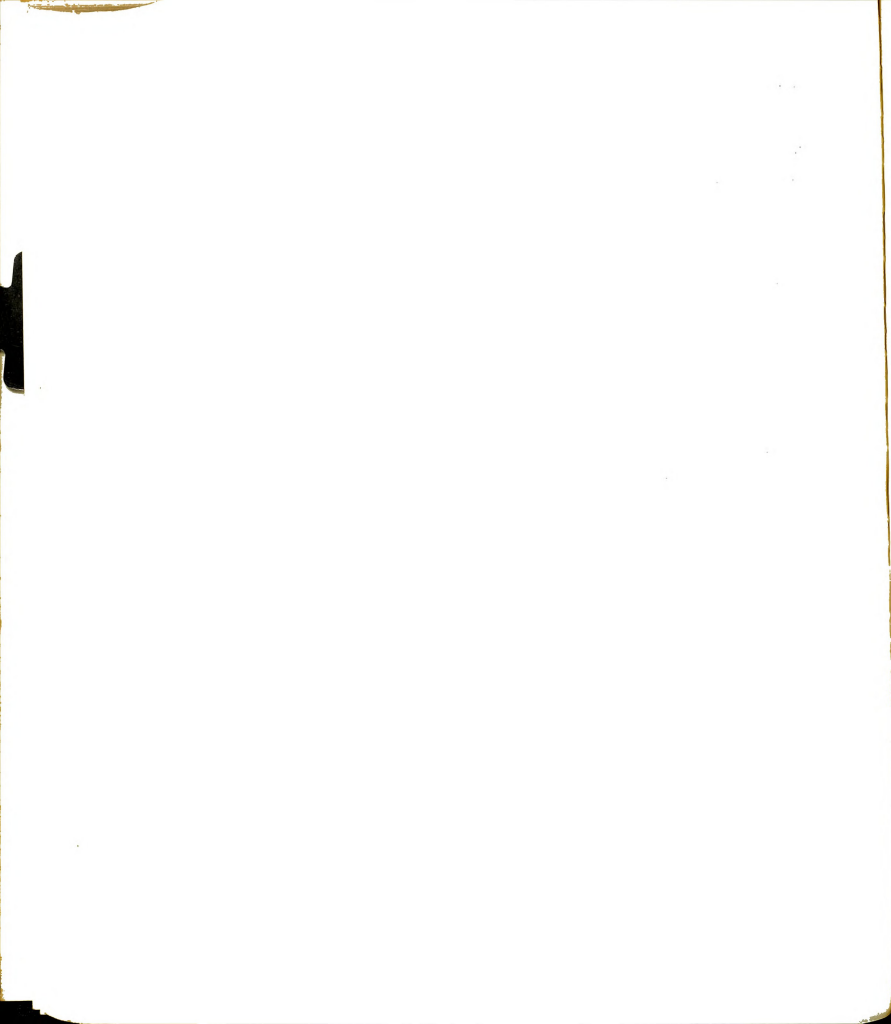When evaluating the SVP equivalent of training that was exclusively of a vocational or technical nature, only the

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[137]Ibid.

latest training course taken within the last ten years was
considered, and only training courses lasting more than
six weeks were included. It was assumed that training taken
more than ten years earlier would presently do little to
improve the income position of these families as evidenced
by the fact that they were now in poverty, and a training
program of less than six weeks was assumed to make less
than a marginal contribution to an individual's earning
ability. Training which was included was vocational or
technical training courses, apprenticeship, and formal,
government sponsored on-the-job training programs.

Each week of attendance in any of these training
programs was considered as a full week of vocational
preparation, with two exceptions. If the training course
was described as "home economics," it was not considered
to be vocational training, and if it was described as a
"school or college type course," each week of attendance
was considered to be one-half of a week of vocational
preparation as instructed by Fine. Furthermore, adjustments
were made (arbitrarily) for training which had not been
used for some time or which had never been used. The SVP
ratios of total attendance time credited for the several
categories of when the training was taken and how much it
was used are shown in Table C-3. Briefly, for unused training,
that taken more than 5 years previously was not counted at
all; that taken 3-5 years previously was given one-half
credit; that taken 1-2 years previously was given full

credit. For training that had been used but which may
have been recently unused, that taken before 1962 and last
used before 1965 was given one-half credit; that taken
1962 through 1964 and last used before 1965 was given
three-quarters credit; and any training taken within the
last 10 years and last used in the past two years was
given full credit.

Table C-3.

SVP Ratio of Unused Training

Year Training Taken	SVP ratio if never used	Year Training Taken	Latest Year Training was used	SVP ratio if recently unused
1956-1961	0.0	1956-1961	Before 1965	0.5
1962-1964	0.5	1962-1964	Before 1965	0.75
1965-1967	1.0	1956-1967	1965-1967	1.0

By adding the SVP weeks equivalent of high school
vocational courses, years of college attendance, and other
vocational and technical training courses taken by each
respondent, a total measure of their vocational preparation
in terms of weeks of training was obtained. This measure
was then converted to the specific vocational preparation
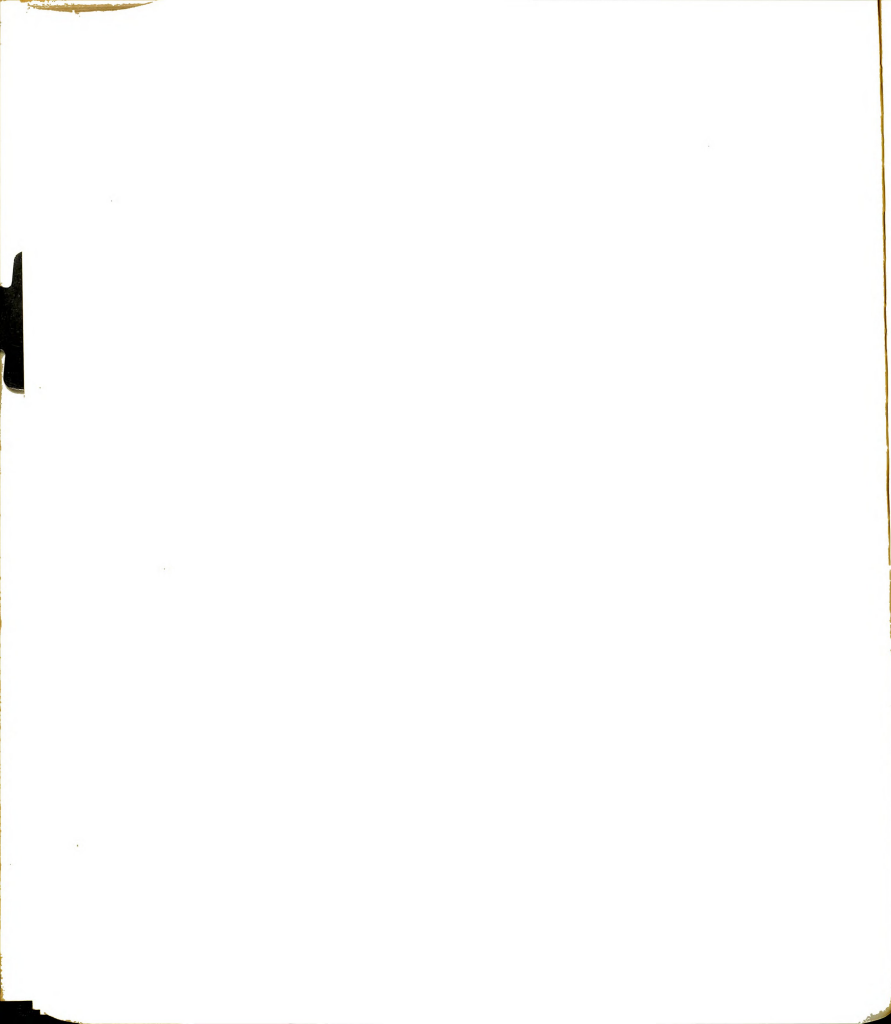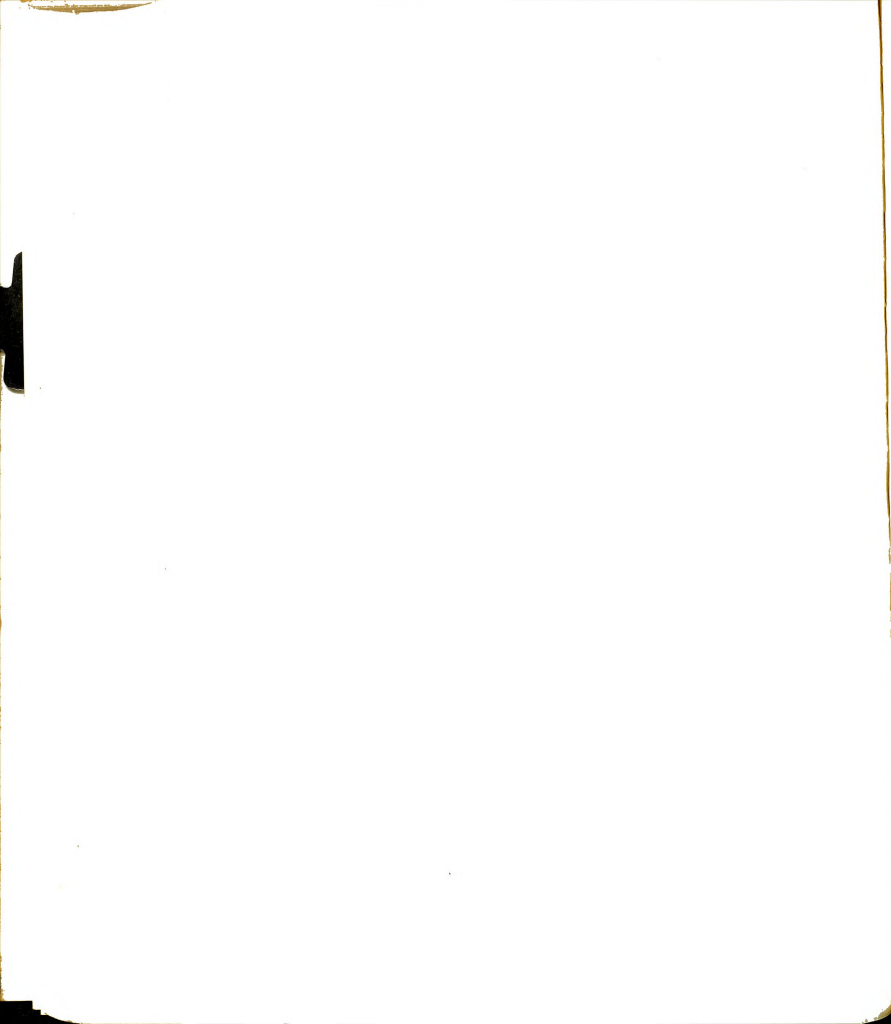(SVP) scale developed by the U.S. Department of Labor
which is given in Table C-4.

Table C-4.

SVP Equivalents of Weeks of
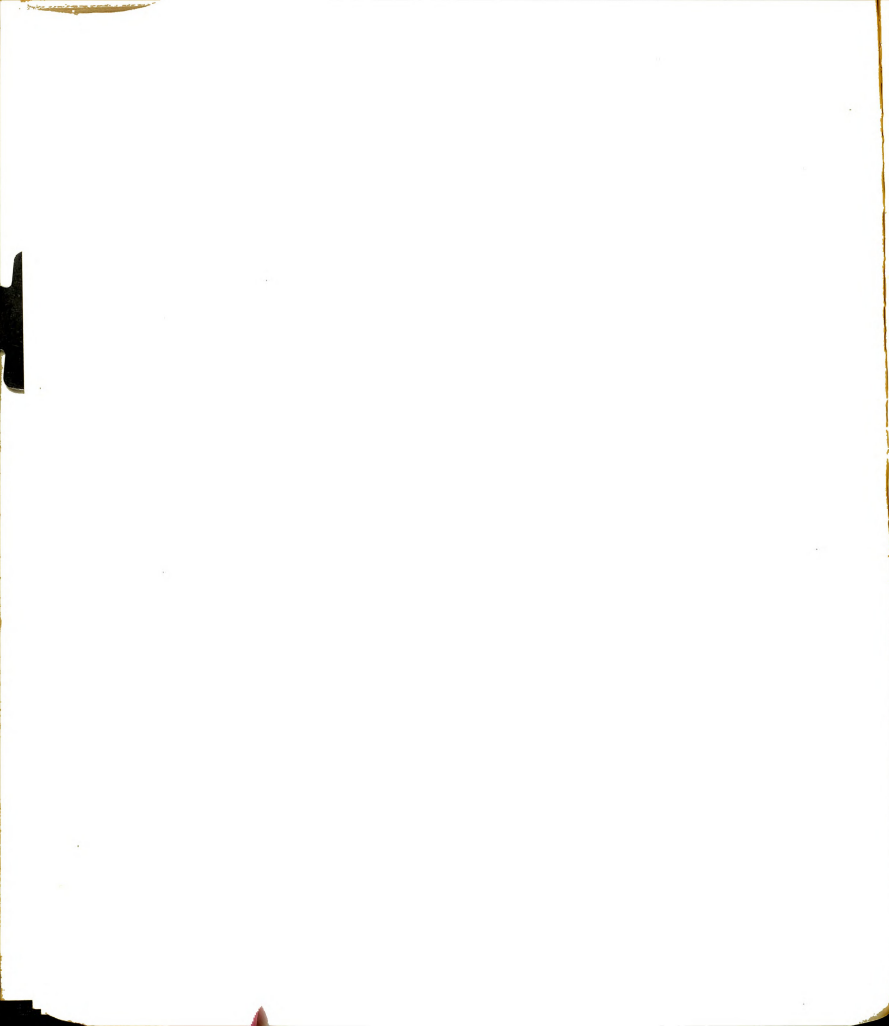Vocational Training

Training Time in Weeks	SVP Equivalent
0	1
1-4	2
5-13	3
14-26	4
27-52	5
53-104	6
105-208	7
209-520	8
>520	9

Source: U.S. Department of Labor, Selected Characteristics of Occupations, A Supplement to the Dictionary of Occupational Titles, 3rd ed. (Wa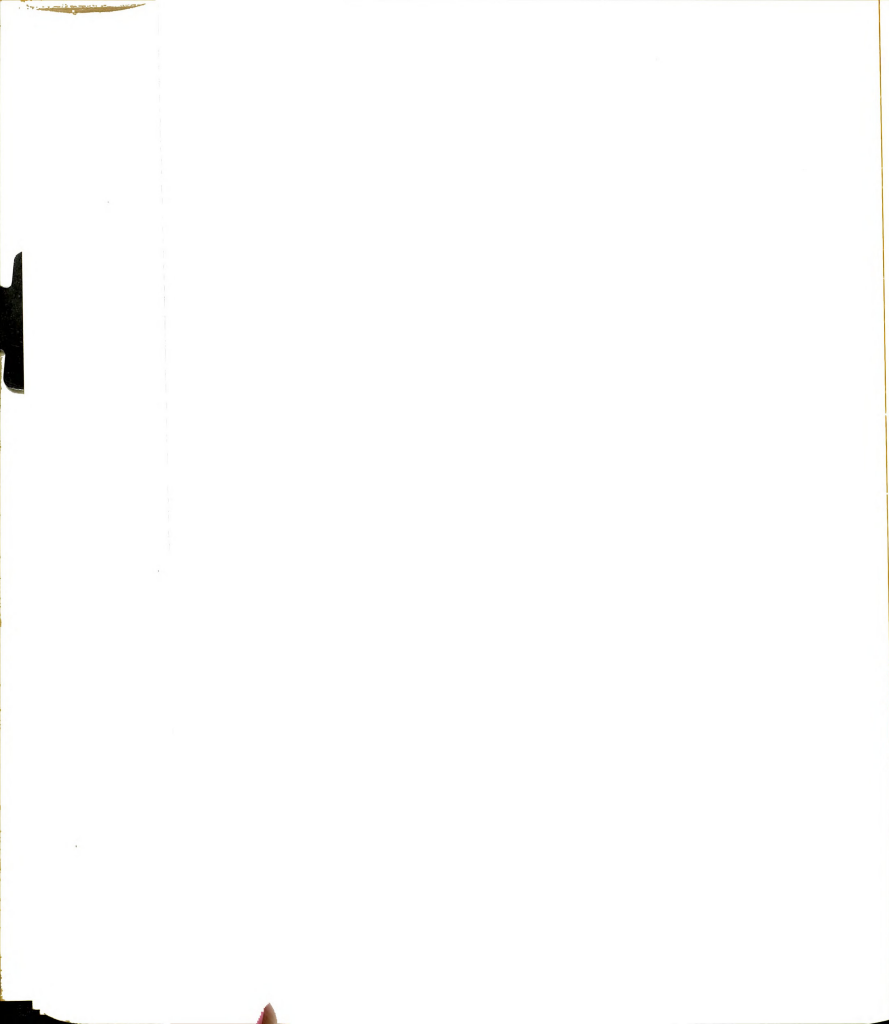shington: U.S. Government Printing Office, 1966), p. A-5.