FACTORS THAT AFFECT INCOMES OF MIDLIFE AND OLDER DISPLACED WORKERS

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Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
May, 1990

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AND OLDER DISPLACED WORKERS

Thesis Approved

Thesis Advisor

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PREFACE

This study was undertaken to investigate and predict the income effect of displacement upon midlife and older workers. The research identifies two models of factors that impact incomes of midlife (45-54 years of age) and older (55-64 and 65 and older) displaced workers. These models predict the income effects from displaced worker variables, human capital investments variables and socioeconomic variables. The results of the study are discussed in terms of public concerns for government, business, and families regarding the displacement impact upon income of midlife and older displaced workers.

The format of this dissertation deviates from the general thesis style used at Oklahoma State University. The purpose of this deviation style is to provide manuscripts suitable for publication as well as fulfilling the traditional dissertation requirements. Each manuscript is written for the style appropriate for each respective journal: Chapter 3: Manuscript 1, follows the style recommended by The Journal of Human Resources. Chapter 4: Manuscript 2, follows the pattern of The Gerontologist. Chapter 5 provides the summary and conclusions of the dissertation. Manuscript 3 is provided in chapter 5 and is

a summary and policy implications article. It is written in the style of the Journal of Home Economics and has been accepted for publication. Literature review for the dissertation is included in each manuscript. Chapters 1 and 2, and tables in the appendices follow the style recommended by The Journal of Human Resources. The cooperation of the Graduate College and Dean Norman Durham in the stylistic adaptations is greatly appreciated.

This research experience could not have been accomplished without the guidance, support, and prayers of many persons. I would like to express my sincere appreciation to Dr. Claudia J. Peck, who served as my research adviser at the formulative stage of my doctoral studies. Her research guidance was invaluable. I am also grateful to Dr. Sue Williams, for her significant guidance and devoted support as my major advisor and friend throughout my doctoral studies.

A special thanks to Dr. Dottie Goss, who was an inspiration to me during my research studies and her never ending contributions in various ways, and also to Dr. Margaret Weber who provided professional guidance and friendly community advice. Special thanks to Dr. Kent Olson and Dr. Althea Wright for serving as members of my committee. Each had a positive affect upon my graduate program at OSU.

It is with great pride and admiration that I thank Dr. Glennis Couchman, my research advisor and mentor for all of

her contributions throughout the completion of my dissertation. Her optimistic attitude was uplifting and fulfilling. Her untiring devotion will not be forgotten.

Many others were significant contributors to this study. I am appreciative of the monetary support for computer time provided by the College of Home Economics. I am especially thankful for computer guidance that Mrs. Iris McPherson provided and Dr. Larry Claypool's statistical guidance. His expert advice has added much depth to the statistical techniques utilized in the dissertation. Lynda Dillwith, THANK-YOU for your assistance with the final stages of the dissertation. Your sweet disposition and tireless energy assistance was invaluable.

I am very blessed to have a wonderful husband, Chris, who has been supportive, loving, and devoted throughout our marriage and particularly during my graduate program at Oklahoma State University. Thank-you Christie, for remaining a "little trooper" throughout my graduate studies, you are a darling daughter! To other members of my family, my mother, brothers, Jerry and Victor thank-you for all of your wonderful support. To my grandmother, thank you for all your thoughts and prayers! Many thanks to my in-laws who were supportive of this educational goal and shared much of their time helping manage personal matters in Louisiana. To all my wonderful friends, I will always treasure the times we have shared! This celebration would have little meaning without the lasting friendships we have developed!

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CHAPTER I

INTRODUCTION

Loss of a job through terminated positions is a fact of life for many workers in the United States. Between January 1983 and January 1988, 4.7 million American workers, 20 years of age and over have become displaced from jobs due to economic downturn. According to the Bureau of Labor Statistics (BLS), job displacement is caused by extended years of reduced output levels due to declining product sales, plant or company relocations, mergers, shutdowns, or business failures [1].

The BLS report on worker displacement obtains information on the number and characteristics of displaced workers 20 years of age and over with three or more years work experience at jobs previous to displacement. The information in the BLS report is gathered from January displaced worker supplements to the Current Population Survey (CPS) which determines who is displaced from jobs over the previous five years. Three such studies have been conducted by the BLS during the CPS survey years: 1984 (1979-84), 1986 (1981-86), and 1988 (1983-88). Refer to Appendix A for displaced worker definitions used in the surveys.

Seventy-one percent of displaced workers in the 1988 CPS returned to the labor force, however, 44 percent of these reemployed displaced workers received a decrease in pay [1]. This decrease could be due to earnings concessions or acceptance of part-time work. Moreover, the proportion of persons seeking employment, 14 percent of displaced workers in the 1988 survey, is lower than in the previous displaced worker surveys.

Over the span of the CPS surveys some types of displaced workers do not fare well with reemployment. Many midlife and older displaced workers drop out of the labor force after weeks of discouraging job hunting. Instead of electing to say that they are unemployed they decide to take early retirement [2].

One of the problems with high numbers of midlife and older displaced workers opting for early retirement is a smaller pool of persons in the labor force, resulting in a reduced percentage of taxpayers [3]. The reduced work force raises the total cost of transfers to the older generation. It also increases the proportion of income that those who are employed must pay as taxes to finance benefit programs.

The BLS [1] states that reemployment rates for women following displacement lag behind those of men by 11.7 percent. The BLS 1988 report also indicates the displacement rate for women 55 to 64 years of age is 38.7 percent compared to 32.2 percent for men in this age category. Herz [4] indicates that as women age, their

earnings decline as a share of family income when compared to other sources of income. Herz finds that earnings of women who remain in the labor force, produce a larger share of household income. Refer to Appendix A, Tables 1-7 for more information about the 1988 BLS report on displacement.

This study pertains to midlife and older workers displaced during 1983-1988 from full-time jobs as a result of unanticipated job loss. It examines factors that affect incomes of midlife (45 to 54 years of age), late midlife (55 years to 64 years of age), and older (65 years and older) displaced workers.

JUSTIFICATION

In recent years literature reports a variety of special economic problems that confront midlife, late midlife, and older workers. Some of these concerns are that midlife and older workers, while often protected by seniority against job loss, generally find themselves vulnerable to plant shutdowns and encounter job displacement arising from acquisitions, corporate mergers, and business failures.

Literature lacks comprehensive research studies of factors affecting incomes of midlife and older workers displaced from jobs because of economic downturn. Studies are needed to examine demographic and economic indicators of midlife and older displaced workers' incomes. This research will provide a foundation for developing liaison and cooperative networking guidelines among government, public, and policy-making sectors. Because of the consequences of

job displacement upon incomes of midlife and older workers, cooperative networking of entities and comprehensive planning to assist displaced workers is necessary.

This research study provides the foundation data needed to establish an interactive communication systems network for facilitating coordination of programming and support services for displaced workers. Research findings will have particular implications directly related to curriculum development in the vocational technical school system and issue based programming for the Cooperative Extension Service.

PURPOSE OF THE RESEARCH

The purpose of this study is to examine factors that affect incomes of midlife (45-54 years of age), late midlife (55-64 years of age), and older (65 years and older) workers who are displaced from the labor force. The research analyzes displaced workers from survey years, 1983-1988 who worked full-time (35 hours or more per week) at the lost job with three or more years of continuous work at that job. This study builds on previous research findings and theoretical considerations identified as affecting incomes and general economic well-being of midlife and older displaced workers. The study is guided by three objectives.

1. Analyze and make predictions concerning new earnings of midlife, late midlife and older displaced workers.

2. Analyze affect of displaced worker, economic, human capital and socioeconomic factors on group health insurance coverage for midlife, late midlife and older displaced workers.
3. Identify factors that influence economic and employment status of midlife and older displaced workers and suggest family public policy steps to address the identified concerns.

CHAPTER II

METHODOLOGY

The analyses of factors affecting the incomes of displaced workers provide a unique contribution to research on characteristics of the economic stability of midlife (45-54 years of age), late midlife (55-64 years of age) and older (65 years and older) displaced workers. The study is designed to provide predictive analyses of the impact of sociodemographic characteristics and human capital investment on the resulting income of midlife, late midlife, and older displaced workers. Established methodological procedures estimating the result of displacement upon income and health insurance coverage will yield analyses about midlife, late midlife, and older displaced workers' economic standings. The description of the data set, sample selection, description of the sample, variables of interest, method of analysis and statistical models, procedures, and limitations are described in this chapter.

THE DATA SET

The data set analyzed in this study is from the Displaced Worker Supplement to the January 1988 Current Population Survey (CPS). The CPS is the source of

government statistics which provides basic data on employment and unemployment for the Bureau of Labor Statistics by the Bureau of the Census. The CPS is made up of 59,500 nonmilitary households selected by a national probability sample on the basis of area of residence to represent the nation as a whole and individual states. Data on employment and income are based on the preceding year of the survey, although demographic data refer to the time of the survey [5].

Data for the sample is weighted by the CPS so the results may be generalized to the national population of midlife, late midlife, and older workers. Weighting of the sample is necessary to obtain a representative distribution of the United States population. The estimation procedure utilized in this survey involves inflation of the weighted sample results to independent estimates of the total civilian noninstitutional population of the United States by age, race, Hispanic origin, and sex. These independent estimates are based on updated statistics from the 1980 decennial census and the statistics on births, deaths, immigration and emigration, and the Armed Forces. The estimation procedure for the data in this survey involves a further adjustment to control weighted sample results to composited CPS estimates of employment characteristics [6].

Under the estimating methods utilized in the CPS, all of the results for a given month become available simultaneously and are based on returns for the entire panel

of respondents. The CPS estimation procedure involves weighting the data from each sample person. The basic weight, which is the inverse of the probability of the person being in the sample, is a rough measure of the number of actual persons within the same sample area having the same basic weight, but the weight may differ across sample areas. The basic weight is the same for almost all sample persons in unsupplemented states. The basic weights are then adjusted for noninterview, and the ratio estimation procedure is applied [5]. Refer to Tables 1-3 in Appendix B for more information concerning weighting of the sample.

Data for the displaced worker supplement is derived from the 1988 Current Population Survey (CPS), representing 59,500 households. Data is generated during 1983-88, representing 4.7 million displaced workers. It is a comprehensive source of information that identifies the extent to which, and the characteristics of, displaced workers 20 years and older following the 1982 recession. In addition to economic information, data is provided on personal characteristics of the population, such as age, sex, race, marital status, occupation, and educational background. The principal advantage imposed by the displaced worker survey data is earnings comparison on the "lost job" to earnings on a new job. Additionally, current enrollment in a group health insurance plan can be compared to health insurance coverage prior to displacement. In summary, the use of the 1988 January Supplement to the CPS

will enable the major hypotheses of this study to be evaluated in an empirically effectual manner. Refer to Tables 1, 2, and 3 in Appendix B for more information regarding weighting of the CPS.

SAMPLE SELECTION AND DESCRIPTION OF SAMPLE

For a statistical profile of today's midlife and older displaced worker, a variety of sources tend to use different age spans. Because this study is designed to identify and measure the income effect of midlife and older displaced workers, it is necessary to subdivide the sample into three cohorts: 1) midlife displaced workers 45 to 54 years of age; 2) late midlife displaced workers 55 to 64 years of age; and 3) older displaced workers 65 years and over.

The sample is limited to persons who lost jobs during 1983-1988 due to (1) the closing or relocation of a plant or company, (2) slack work, or (3) the discontinuation of the job, position, or shift. A further requirement for inclusion among displaced workers for the purpose of this study is that the displaced worker have a minimum of three years tenure on the lost job and employed full-time. Full-time employment is defined as working 35 hours or more a week. The study does not include workers with job losses resulting from the ending of seasonal or temporary employment, failure of self-employment businesses, or other reasons.

Data are provided on industrial sector and occupational classification of the former job, group health insurance

coverage, job tenure, weekly earnings and reasons for job displacement. Additional data refer to periods of unemployment as well as number of jobs held, whether residence was relocated to enable the displaced worker to seek or obtain employment in another area, current weekly earnings on the new job and whether the displaced worker presently has group health insurance coverage.

From the original survey of 4,739 respondents in the January supplemental displaced worker survey of the CPS, a sample of displaced workers 45 years and older was obtained for this research. The sample of workers 45 years and over represents 1188 respondents displaced from jobs. From the sample of 1188 displaced workers, respondents were deleted that did not have three years or more tenure on the lost job. Additionally, those unemployed for reasons other than a plant or company relocation or closing, slack work, or abolishment of the workers' positions or shifts and those who were not employed full-time at lost jobs were deleted from the sample.

After the deletion process, the new sample consisted of 847 displaced workers. Seven individuals were dropped from the analyses due to missing responses, resulting in a final sample of N = 840. Refer to Table 4, Appendix B for eligibility criteria to Create the Sample.

For comparative analysis the sample of 840 midlife, and older displaced workers was subdivided into three age groups: (1) Midlife displaced workers 45-54 years of age,

(2) Late midlife displaced workers 55-64, and (3) Older displaced workers 65 years and older. The number of displaced workers within each age group was 471, 306, and 63, respectively. Sixty-three percent of the sample of midlife, late midlife, and older displaced workers were males and 38 percent were females. Eighty-eight percent of the sample were white and 12 percent were nonwhite. High school graduates experienced the highest rate of displacement at 41 percent, 19 percent of the displaced workers had some college, 16 percent of the sample of displaced workers were college graduates, 14 percent had some high school, and the lowest concentration, 11 percent have an eighth grade education or less. The greatest concentration of displaced workers in the sample was in the south with 32 percent, followed by the northeast region with 31 percent, 27 percent were in the north central region, and the lowest concentration, 11 percent, were located in the west.

VARIABLES OF INTEREST

The variables in this analyses come from a more comprehensive list of variables surveyed in the January 1988 CPS Displaced Worker Supplement and identified in the literature [7]. The identified independent variables are classified into the categories of displaced worker, human capital, economic, and socioeconomic characteristics. All of the variables represent the impact of job displacement on midlife, late midlife, and older displaced workers. Control

variables include gender, race, marital status, and age cohort. Refer to Appendix B, Table 5-B, for summary variables of displaced worker sample.

Data is analyzed on each of the following categories of variables:

Displaced Worker	Specific Reason Displaced Duration of Unemployment Relocated Since Displacement for Reemployment Expected a Layoff Number of Jobs Since Layoff Hours Worked on New Job Since Layoff
Human Capital	Education Years Worked at Lost Job Years of Continuous Work at Predisplacement Worksite Occupation
Economic	Annual Family Income (in dollars before deductions) Predisplacement Weekly Earnings of Displaced Worker (in dollars before deductions) New Weekly Earnings in Dollars of Reemployed Displaced Worker (before deductions) Unemployment Benefits Home Ownership of Displaced Worker Group Health Insurance Coverage On Lost Job Displaced Worker Presently Covered by Group Health Insurance
Socioeconomic	Marital Status Gender Age Race Region of United States

It is hypothesized that human capital variables of education influence the income effect of displaced workers. Displaced workers with less than high school education are hypothesized to experience more and longer periods of displacement than those with advanced education and

training. Furthermore, socioeconomic factors predict to a large extent the income effect upon certain segments of workers. In particular, nonwhite, late midlife (55-64) displaced workers are predicted to be vulnerable to chronic displacement. Literature concerning the income effect of displacement upon midlife and older displaced workers is only recently emerging, therefore, this study can contribute to the body of knowledge concerning displaced workers. Refer to Appendix B, Table 6 for detailed percentages of displaced worker sample.

METHOD OF ANALYSIS

The study is divided into three analytical phases. Phase one is descriptive analysis of sociodemographic characteristics and human capital factors using frequencies and percentages to describe the sample. These characteristics include: gender, age, race, education, and region in the United States.

The second phase involves inferential statistical analyses of the data. This phase involves identification of the direction and measuring the affects of displaced worker, human capital, economic, and socioeconomic factors on income for persons who are displaced from their jobs. The analysis is accomplished by identifying the statistical relationship in Model I (page 19) between the dependent variable: actual new weekly earnings in dollars before deductions.

The third phase involves logit analysis for estimating the likelihood of group health insurance coverage of

midlife, late midlife, and older displaced workers. The analysis is accomplished by identifying the statistical relationship in Model II (page 20) between the dependent variable: now covered by group health insurance coverage based on displaced worker, human capital, economic, and socioeconomic characteristics.

Many of the variables chosen for these two models have been linked by the literature as major factors that affect economic status of displaced workers. Other variables chosen for the models are done so by the researcher for exploratory purposes because information on the income effect of midlife and older displaced workers is limited.

Statistical Analyses of Models

Multiple regression is utilized to account for changes in the dependent variable: new earnings in Models I. In this study a single independent variable does not account for most of the change, in the dependent variable. Therefore, the author has determined that the dependent variable depends on two or more independent variables and polynomial regression is utilized. Through polynomial regression, variables in the model are squared to seek a better fit. Cross-products of the variables are analyzed to determine which variables and combination of variables best fit the model [8].

The cross-products are calculated using restricted models. The restricted model consists of (1) terms measuring interaction between the control variable and each

independent variable and (2) the independent variables. Interaction effects are analyzed as being statistically significant at both the 0.05, 0.01, and 0.001 level.

The general linear model (GLM) is utilized to estimate and test hypotheses about the linear models including the squared and cross-product variables. GLM is divided into four parts: (1) an overall analysis of variance table, (2) a section with the F Model, R-Square, coefficient of variation, standard deviation of the dependent variable, and the mean of the dependent variable, (3) the outcome of Type I and Type IV tests, and (4) a report on the parameter estimates [9].

Since many variables in this study may contribute to the way an independent variable reacts to the dependent variable, stepwise regression is utilized to further investigate the data. Stepwise regression determines the best model by bringing into the regression equation one by one the independent variables, the squared independent variables, and cross-products of the dependent and independent variables. Through the stepwise procedure, an R square is determined for prediction purposes for each model. Additionally, the best fitting model that predicts each dependent variable is determined [8] [9].

In Model II the dependent variable: presence of group health insurance coverage, will be analyzed. This model predicts the relationship between the dependent variable, presence of current health insurance coverage and displaced

worker, human capital, economic, and socioeconomic characteristics. Many midlife and older displaced workers no longer have health insurance, including some who subsequently become reemployed. As these workers advance in age, their economic resources often decline, therefore, a major illness could consume any or all available resources.

Bi-nominal logit analysis is utilized because it predicts from a dichotomous model: presence of group health insurance or no coverage of group health insurance [10]. In a dichotomous model it is expected that there will be yes or no responses. Stepwise logit is chosen for estimating likelihood of group health insurance coverage by midlife and older displaced workers. The following logit model examines empirically the relative influence of predictor variables upon the likelihood of midlife and older workers group health insurance coverage following displacement.

$$\log \frac{P_i}{1-P_i} = \alpha + \sum_{j=1}^{n} B_j X_{ij}$$

P_i equals the probability that the displaced worker will presently have group health insurance coverage; X_{ij} equals socioeconomic and human capital characteristics of displaced worker i; j equals coefficient of the jth characteristic; and alpha equals a constant term. The model estimates the likelihood (ratio of probabilities) that a midlife and older displaced worker will currently have group health insurance coverage.

The logit model specified in this study is estimated by making use of the nonlinear maximum likelihood estimation procedure which can be applied where categorical variables are used in the model [10]. With logit independent variables, squared independent variables, and cross-products of selected independent variables are established and compared to other groups of independent variables with different characteristics.

Logit ensures that the parameter estimates are consistent and tests of statistical significance can be performed. Statistical significance for stepwise logit is set at the 0.05 level.

The literature on older workers asserts that workers 45 years and older, who have given a lifetime of employment to a given career, may be more seriously affected by displacement than younger workers. Not only does society lose the output of the persons displaced, but involuntarily unemployed persons lose income from anticipated paid employment [11, 12].

Factors that may discourage midlife, late midlife, and older workers from seeking additional employment may be related to the benefits they received because of job seniority and advancement opportunities. Both factors increase the potential economic loss of midlife, late midlife, and older displaced workers.

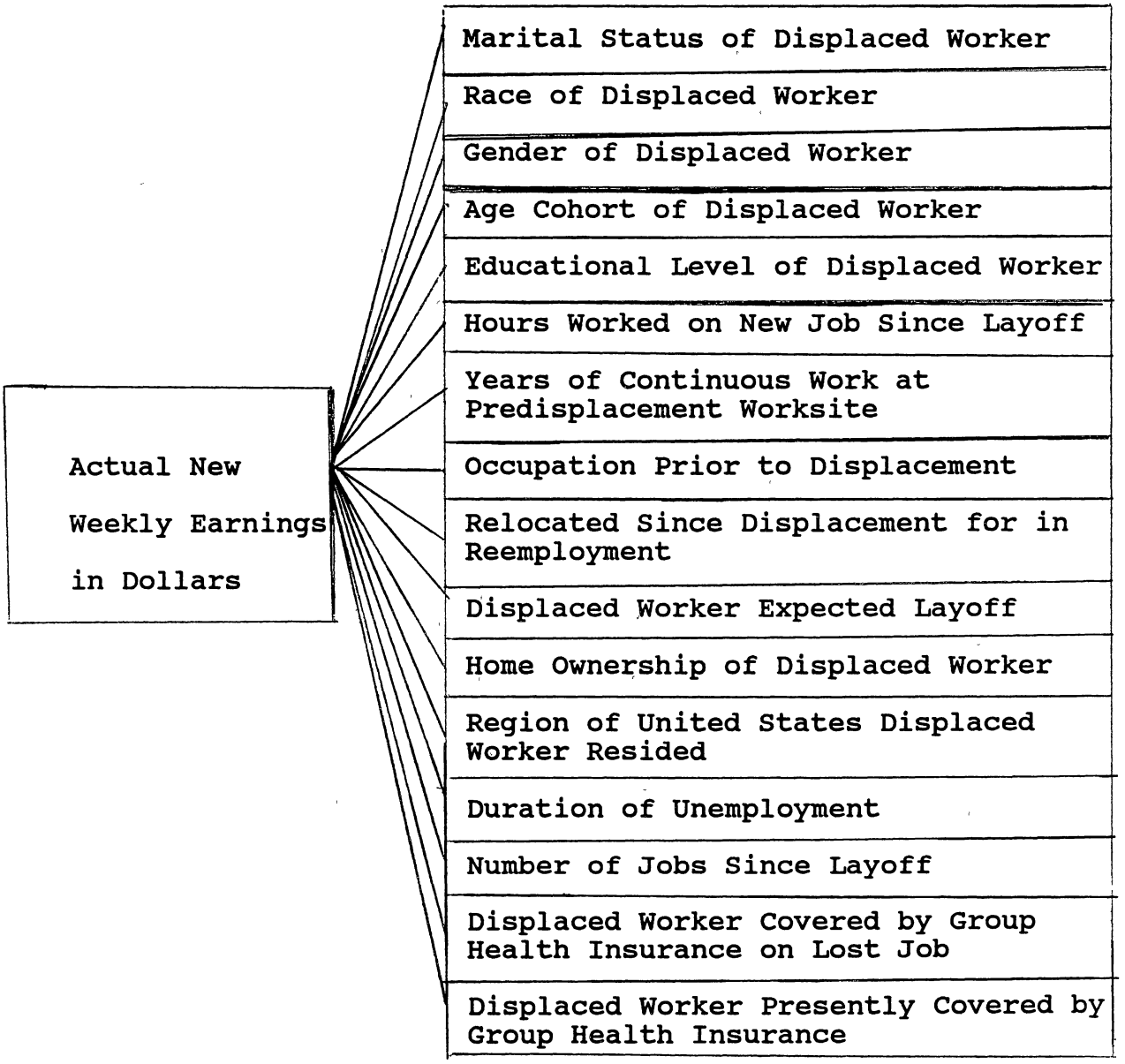
It is hypothesized in Model I that reduced earnings are usually the main factor associated with loss of individual

and family income. In addition, earnings are often expected to rise with length of job tenure. In Model II, since group health insurance coverage has monetary value to a worker, health insurance benefits are examined.

MODEL I
MIDLIFE AND OLDER DISPLACED WORKERS
(BETWEEN 1983-88)

Statistical Method: Stepwise Regression
The model predicts the effect of independent variables upon the dependent variable: Actual New Weekly Earnings in Dollars of Displaced Workers.

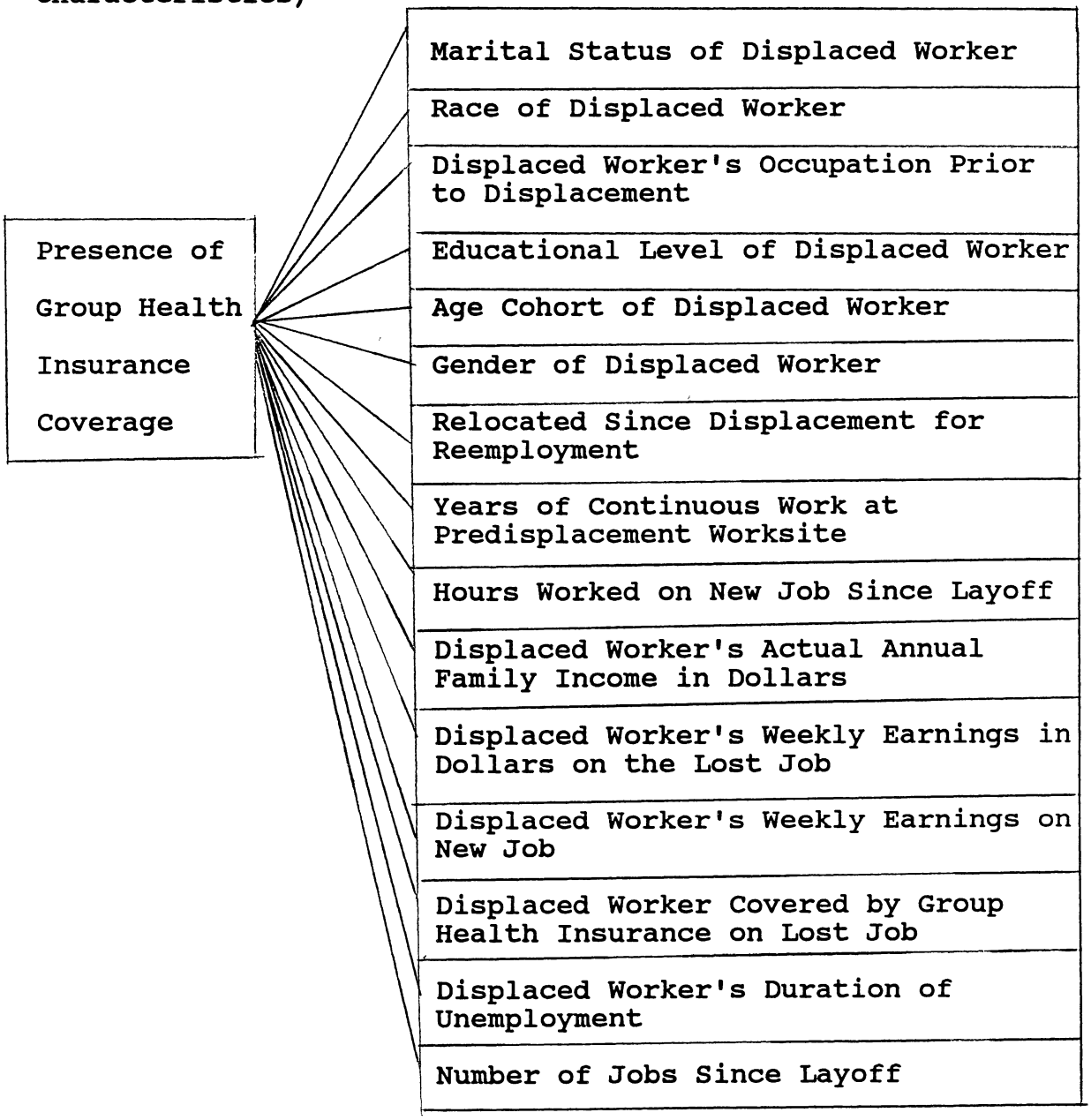
Actual New Weekly Earnings in Dollars of Displaced Workers = f (Displaced Worker, Human Capital, Economic, and Socioeconomic Characteristics)



MODEL II
MIDLIFE AND OLDER DISPLACED WORKERS
(BETWEEN 1983-88)

Statistical Method: Bi-nominal logit analysis estimates the likelihood of occurrence of the dependent variable, presence of group health insurance, identified for midlife, late midlife, and older displaced workers using the effect of selected independent variables.

Presence of Group Health Insurance Coverage= f (Displaced Worker, Human Capital, Economic, and Socioeconomic Characteristics)



Limitations

The sample in this study is derived from the January displaced CPS supplement for 1988 covering the years 1983-1988. It is limited to persons who lost jobs due to (1) the closing or moving of a plant or company, (2) slack work or (3) the discontinuation of their position or shift. The supplement does not include workers experiencing job losses resulting from seasonal or temporary employment, failure of self-employment businesses, or other reasons. The study has limited inclusion among the displaced workers to those who have at least three years tenure on the lost job.

In examining displaced workers who were unemployed in January 1988, it is important to note not all workers were continually unemployed since the reported job loss. Some displaced workers who reported job losses in previous surveys, may have held other jobs, only to be unemployed once again in January 1988.

The procedure in which the CPS survey is conducted is not with out limitations. Nonsampling errors can be caused by the interviewer's inability to obtain information about all cases in the sample, definitional difficulties, differences in the interpretation of questions, inability or unwillingness on the part of the persons surveyed to provide accurate information, inability to remember information, errors made in data collection such as in recording or coding the data, errors made in processing the data, errors

made in estimating values for missing data, and possible undercoverage of all units with the sample.

Furthermore, since CPS estimates are derived from a sample, they may differ slightly from figures directly from the census using the same questionnaires, instructions, and enumerators. Two kinds of errors are possible in an estimate based on a sample survey, sampling and nonsampling. The accuracy of a survey result depends on both types. Particular caution is warranted when interpreting figures based on a relatively small number of cases or on small differences between estimates, such as those displaced from the farming occupation or those belonging to unions, because the full extent of the nonsampling error is unknown.

Several limitations in the 1988 CPS questionnaire include the manner in which persons were asked if they were attending school. The only way that respondents could answer that they were enrolled in an educational system was if they were in school full-time during the survey week. Furthermore, even though trade or vocational schooling is included in the definition for persons attending school, there is not a separate category allocated for this kind of response.

The questionnaire does not address the role of early retirement as an option chosen by displaced workers. Earlier studies indicate that older displaced workers are more likely to take early retirement over unemployment status [2, 3]. Difficulty arose in this study in evaluating

the affect of early retirement upon displaced workers because of the wording of the CPS questions on retirement. The question, "Why did...leave that job?" had eight choices listed, including "retirement." The second question that included a retirement choice, "What was...doing most of last week (major activity)?" had seven responses with, "other (including retired)," as one of the choices. Therefore, because of the limitations of the retirement questions in the CPS, this study does not address how early retirees' incomes are affected by economic downturn.

When analyzing the second model, presence of group health insurance coverage, data was limited. Other forms of health care such as Medicaid, Medicare, and spouses' insurance plans were not provided. Even though the final limitation is difficult to avoid in this kind of survey, it is important to note that it involves underreporting on the part of persons interviewed. Underreporting can occur when questions that concern actual family income and earnings are addressed.

SUMMARY

This study uses data from a national representative data file, the 1988 January Current Population Survey, Displaced Worker Supplement. It investigates the influence of displaced worker, human capital, economic, and socioeconomic variables upon incomes and earnings, and presence of group health insurance coverage of midlife, late midlife, and older displaced workers.

In the first model, actual new weekly earnings in dollars for midlife, late midlife, and older displaced workers is examined. The primary focus of this analysis is to examine which collection of variables best predicts new earnings of these displaced workers. In the second model, binominal logit estimates the likelihood of group health insurance coverage of midlife, late midlife, and older displaced workers.

REFERENCES

1. "BLS Reports on Worker Displacement." News United States Department of Labor. Washington, D.C.: Bureau of Labor Statistics. (December 9, 1988): 1-10.

2. S. Bould. "Unemployment as a Factor in Early Retirement Decisions." American Journal of Economics and Sociology 39 (No. 2, 1980): 123-36.

3. R.L. Clark and D.T. Barker. Reversing the Trend Toward Early Retirement. Washington, D.C.: American Enterprise Institute for Public Policy Research, 1981.

4. D.D. Herz. "Employment Characteristics of Older Women." Monthly Labor Review 111 (September, 1988): 3-12.

5. Bureau of the Census. "Current Population Survey, January 1988: Displaced Workers" Bureau of Labor Statistics. Washington, D.C. 1988.

6. Congress of United States Office of Technology and Structural Unemployment. (OTA-ITE-250). Washington, D.C.: Government Printing Office, 1986.

7. Report of the Secretary of Labor's Task Force on Economic Adjustment and Worker Dislocation. Economic Adjustment and Worker Dislocation in a Competitive Society, 181-519/64211. Washington, D.C.: U.S. Government Printing Office, 1987.

8. John Neter, William Wasserman and Michael H. Kutner. Applied Linear Regression Models. Homewood, Illinois: Richard D. Irwin, 1983. Pp. 417-35.

9. _____. SAS User's Guide: Statistics, version 5 ed. Cary, North Carolina: SAS Institute, 1985. Pp. 3-39.

10. G.S. Maddala. Limited-Dependent and Qualitative Variables in Econometricts. Cambridge, New York: Cambridge University Press, 1987.

11. R.J. Ruffin and P.R. Gregory. Principles of Economics 2nd ed. Glenview, Illinois: Scott and Foresman, 1986.

12. M.C. Samuelson. Economics. 11th ed. New York: McGraw-Hill, 1980.

CHAPTER III

SOCIOECONOMIC AND HUMAN CAPITAL PREDICTORS OF NEW EARNINGS FOR MIDLIFE AND OLDER DISPLACED WORKERS

MANUSCRIPT FOR PUBLICATION

JOURNAL TITLE: JOURNAL OF HUMAN RESOURCES

SOCIOECONOMIC AND HUMAN CAPITAL PREDICTORS OF NEW EARNINGS FOR MIDLIFE AND OLDER DISPLACED WORKERS

ABSTRACT: Plant closings and layoffs pose significant concerns for educators, policy makers, and the private sector. The purpose of this study was to identify variables that predict new earnings of reemployed midlife and older displaced workers. A nationally representative longitudinal sample of displaced midlife (45-54 years); late midlife (55-64 years); and older (65 and older) workers was analyzed. Data was from the 1988 Current Population Survey, Displaced Worker Supplement covering the years 1983-1988. Stepwise regression results indicated that human capital factors such as higher educational levels of midlife and older displaced workers and displaced workers reemployed in new jobs, 35 or more hours per week, experienced positive impacts upon new earnings. However, displaced workers with extended years of continuous work at lost jobs and older less educated workers, experienced earning losses. Successful displaced worker adjustment programs are those where employers and workers are both involved in the design and delivery process. Displacement of American workers will continue to stifle the economy and negatively affect the human capital

of America's workers. It is imperative that a concerted effort of networking among agencies, educators, and policy makers transpire to assist with evolving issues stemming from worker displacement.

INTRODUCTION

Among recent employment concerns is that midlife and older workers, while protected by seniority against job loss, are often vulnerable to plant closings and layoffs resulting in job displacement. How do midlife and older workers who have employment terminated because of plant closings or layoffs fare upon subsequent reemployment and earnings from a new job? What is the affect of human capital and socioeconomic factors upon reemployment earnings of midlife and older displaced workers? These questions are addressed in this study by examining displaced worker, human capital, economic, and socioeconomic characteristics of midlife, late midlife, and older displaced workers.

Despite current literature plant closings, economic decline, and worker displacement [1, 2], research is needed to examine indicators of midlife and older displaced workers' earnings upon reemployment. While researchers indicate new earnings of displaced workers are affected by job displacement, few studies are written to predict how new earnings of midlife and older workers are impacted by human capital and socioeconomic factors.

This study provides insight into human capital and socioeconomic factors affecting new earnings of three

cohorts of displaced workers: midlife (45 to 54 years of age), late midlife (55 to 64 years of age), and older (65 and over) displaced workers. Utilizing a nationally representative longitudinal sample of midlife and older displaced workers, the research develops methodology to predict the impact of job lay offs on new earnings of three age cohorts of displaced workers (midlife, late midlife, and older). The collection of variables utilized in this study best describe positive and negative predictors of new earnings.

Displaced Workers

During 1983-1988, an estimated 4.7 million workers with three or more years of continuous work experience at the lost job became displaced as a result of plant closings or permanent layoffs according to the Bureau of Labor Statistics (BLS) [3]. Seventy-one percent of these displaced workers were reemployed by January 1988. Of the 3.2 million displaced workers reemployed, 2.6 million were in full-time wage and salary jobs before and following displacement. Around 28 percent increased earnings by at least 20 percent upon reemployment while 30 percent experienced a decrease of 20 percent or more of earnings upon reemployment.

The BLS conducts displaced worker surveys as supplements to the January Current Population Survey (CPS). Three such surveys were administered during 1984, 1986, and 1988. In the latest findings, job displacement declined in

the manufacturing industry that has the predominate percentage of displaced workers. However, there was an increase of managerial, professional speciality, technical, sales, and administrative support workers experiencing displacement. Displacement has substantially, increased in retail trade, finance, insurance and real estate segments in the southwest central region of the United States.

The purpose of this study is to identify variables that predict new earnings of midlife, late midlife, and older displaced workers and quantify the relative influence of the variables, while focusing on differences across race, age cohorts, and gender. Other variables analyzed include occupation previous to displacement, and years of continuous work at predisplacement worksite. Specifically, this paper addresses differences in human capital variables that predict new earnings of midlife and older displaced workers. The human capital variables being analyzed are: education, occupation and years of continuous work prior to displacement.

Organization of this study is as follows. The first section presents the model, with related research to support model identification and inclusion of variables of choice. The second section describes the study: data, variable creation, model equation, and statistical analysis of the model. Section three provides findings of the study. The paper concludes with summary and discussion of policy implications.

THE MODEL

Human capital theory is the basis for most labor studies and is based on the theory that earnings are affected by differences in productivity. The theory assumes that measurable employee characteristics alter work quality, therefore, production. Education, work experience, occupation, and labor force attachment can proxy as an indirect measure of productivity [4, 5, 6, 7, 8]. Workers that have little commitment to the labor market, lower levels of skills, service workers, females and workers who do not contribute greatly to family income, are more likely to experience lower earnings and longer unemployment durations following displacement. These human capital factors can serve as negative or positive worker traits to prospective new employers.

Persons most vulnerable to long term consequences of displacement are older workers, those with less education, less skills, minorities, and women [9]. Older workers and longer labor force attachment are identified as being highly correlated with earning losses of reemployed displaced workers according to a special report of the Secretary of Labor Economic Adjustment and Worker Dislocation [19]. Additionally, displaced workers with less education are likely to experience earning losses upon reemployment.

Devens [10] examination of the January 1984 CPS displaced worker survey confirms that high concentrations of older displaced workers tend to become discouraged workers

and drop out of the labor force or take early retirement. Absence from the labor force is more evident among white displaced workers and least among persons of Hispanic origin. Hispanics are more likely to become reemployed while blacks are more likely to move out of the labor force to becoming unemployed.

The 1988 CPS displaced worker survey depicts older displaced workers and minority displaced workers experiencing difficulties with obtaining reemployment. Results indicate males are reemployed more quickly than other groups of displaced workers followed by black males and white female displaced workers.

The BLS (1988) reports that the higher the skill level of displaced workers, the greater the likelihood of reemployment. Data from displaced worker surveys, 1984, 1986, and 1988 recognize that displaced workers with higher educational attainment are able to fare better with seeking and obtaining reemployment earnings comparable to those prior to displacement [11]. According to Love and Torrence [12], older aged groups of displaced workers from the 1984 CPS displaced worker survey experience longer spells of unemployment before reentering the labor force and earn less upon reemployment than younger workers. Swaim and Podgursky [11] find that losses in earnings per year of education ranges from three percent for male blue-collar workers up to five percent for female white-collar workers.

Eighty-percent of workers were covered by group health insurance prior to displacement according to Horvath [13]. Once reemployed, one in five displaced workers did not have group health insurance, a major benefit that also has monetary value. Additionally, 60 percent of workers that remained unemployed following displacement had no health insurance coverage.

Findings from Swaim and Podgursky [11] indicate displaced workers with higher educations are more likely to have group health insurance coverage. However, in recent years the arrangements of financing health care insurance in medium and large size firms has varied widely with an increased incidence of self-insured plans offered to employees. Reasons cited for self-insurance include reduced administrative costs and because some states charge a premium tax for insured plans. [14].

According to [15, 16] displaced workers with lower educational levels who have 15 to 25 years on the job achieved higher occupational status and higher earnings than co-workers with less seniority. These characteristics, often make it difficult for less educated displaced workers to obtain future employment [17, 18].

The proportion of persons following displacement that are notified or expect a layoff experience a marginal effect, 69 versus 64 percent chance of reemployment [13]. In the same study, Horvath findings report evidence that reemployed displaced workers experience a median of 13 weeks

without work. Approximately one of every three reemployed displaced workers experience less than five weeks out of the labor force. Displaced workers who do not become reemployed experience a median of 21 weeks duration of unemployment. Older displaced workers are more likely to report longer periods without work than younger displaced workers [19].

Reemployment rates for women lag behind those of men by 11.7 percent in 1988. The displacement rate for older women in the 1988 Current Population Survey, 55 to 64 years of age, is 38.7 percent compared to 32.2 percent of males of the same age category. As women age, their earnings decline as share of income when compared to other sources of income. Earnings from employment for women that remain in the labor force make up a large source of individual income [20].

Displaced workers that relocate experience significantly higher reemployment rates than those who do not relocate. Older displaced workers are less likely to move to a different location to obtain work because of strong family and community ties. Additionally, displaced workers with home ownership may experience difficulties with housing replacement costs associated with relocating a household [21].

The unemployment rate for men is higher than adult women in 1982, but this is not the case among married persons. The jobless rate for married women has been much higher than married men according to Klein [22]. Couchman [23] and Jones [4] find married midlife and older women are

not as likely as single women to be employed full-time for a wage or salary. The frequency with which workers change jobs after displacement affects reemployment opportunities [24] [25]. Recent findings [19] indicate three out of ten displaced workers are reemployed in two or more jobs following plant closings or layoffs and one-fourth of unemployed displaced workers are employed temporarily on another job following displacement.

THE STUDY

Data

Data are from the nationally representative Current Population Survey (CPS) and biennial January Displaced Worker Supplement. The Survey and Supplement are conducted and tabulated by the Bureau of Census for the Bureau of Labor Statistics.

The CPS data is weighted to represent displaced workers in the United States, excluding persons living on military installations. A total of 59,500 households completed interviews for the monthly Current Population Survey. The purpose of the January displaced worker supplementary survey to the CPS is to obtain information on the number and characteristics of workers 20 years of age and older who are displaced from jobs over the previous five years [26]. This survey covers the period 1983-1988 and updates previous supplements of displaced workers conducted in January 1984 and January 1986. A total of 4,739 displaced workers completed the 1988 CPS displaced worker supplement [3].

From the original survey of 4,739 displaced workers, a sample of displaced workers 45 years and older are obtained for this study. To determine predicted new earnings of displaced workers, the researcher has deleted from the study displaced workers who do not have three or more years tenure at full-time (35 or more hours per week) jobs. Persons unemployed for other reasons other than a plant or company relocation or closing, slack work, or abolishment of positions or shifts are also dropped from the study, resulting in a sample of N = 840. From the sample of 840 displaced midlife and older workers, 473 reported new earnings; 367 did not report new earnings. The resulting sample of displaced workers with earnings from new employment for this study is N = 473.

Creation of Variables

Variables utilized in the analysis are identified and defined in Table 1.

Insert Table 1 about here

Variables in this analysis come from a more comprehensive list of variables surveyed in the January 1988 CPS and Displaced Worker Supplement. Independent variables are classified as displaced worker, human capital, economic, and socioeconomic characteristics. These variables represent the affect of job displacement on new earnings of midlife, late midlife and older displaced workers.

The occupational classification variable is constructed by combining occupation titles used by the U.S. Bureau of the Census [4]. The remaining socioeconomic variables incorporated in the model include gender, race, marital status, and age cohort. The following equation predicts the effect of independent variables upon the dependent variable: Actual New Weekly Earnings in Dollars of Displaced Workers (see Table 1 for definitions).

Equation of the Model

$$\hat{NY} = \beta_0 + \beta_1 CW35 + \beta_2 CW610 + \beta_3 CW1119 + \beta_4 CW2029 + \beta_5 CW3039 + \beta_6 CW40OV + \beta_7 MARRIED + \beta_8 RACECAU + \beta_9 SEX + \beta_{10} AGE4554 + \beta_{11} AGE5564 + \beta_{12} AGE65OV + \beta_{13} WHITE + \beta_{14} FARM + \beta_{15} PROF + \beta_{16} PREC + \beta_{17} SERVICE + \beta_{18} BLUE + \beta_{19} MOVED + \beta_{20} EDUC8 + \beta_{21} SOMEHS + \beta_{22} HSGRAD + \beta_{23} SMCOL + \beta_{24} COLGRAD + \beta_{25} TENURE + \beta_{26} NUJBS + \beta_{27} REGION + \beta_{28} EXPECT + \beta_{29} GRPHLTJ + \beta_{30} NOWGHTI + \beta_{31} NEWJOB + \beta_{32} LS15 + \beta_{33} LS51 + \beta_{34} LS52OV + \epsilon$$

Variables chosen by the researcher for the model have been linked by the literature as major factors affecting new earnings of displaced workers. Additional variables were selected for exploratory purposes that will contribute to the body of literature on displaced workers.

Statistical Analysis

Multiple regression is utilized to account for changes in the dependent variable, actual new weekly earnings in dollars before deductions. The author has determined that

the dependent variable, actual new weekly earnings in dollars of displaced workers, depends on two or more independent variables and polynomial regression is utilized. Cross-products of variables are analyzed for interaction purposes to determine which group of variables and combination of variables best fit the predicted model.

The cross-products are calculated using restricted models. The restricted model consists of 1) terms measuring interaction between control variables and each independent variable and 2) the independent variables. The unrestricted model consists of only independent variables, one of which is the potential interaction variable such as sex or age. Interaction effects are analyzed as being statistically significant at P = 0.05, 0.01 and 0.001 level.

Stepwise regression determines the best model by bringing into the regression equation one by one the independent variables, the squared independent variables, and cross-products of independent variables [27]. After a variable is added, the stepwise method searches all variables already in the model and deletes any variable that does not produce an f statistic significant at the 0.1500 significance level. Through the stepwise procedure, R square is determined for prediction purposes for each model. Additionally, the best fitting model (collection of significant variables) predicts the impact of job displacement upon new earnings of displaced workers.

Because Caucasian male earnings tend to be the commonly accepted reference group in previous literature, the researcher chose to likewise reference Caucasian male earnings. Similarly, Caucasian race is referenced for this analysis.

A limitation of this study is that survey questions that relate to earnings are often underreported by interviewers. Another factor is that not all displaced workers in the sample have become reemployed, resulting in a large number of missing values associated with new earnings.

FINDINGS

The subsample of displaced workers with new earnings comprise 473 male and female displaced workers 45 years of age and older. Comparisons of midlife, late midlife, and older displaced persons who have new earnings indicate that 72 percent are married, 89 percent are Caucasian, and 62 percent are male.

Persons at all educational levels have experienced worker displacement. Forty-one percent of the sample are high school graduates, 20 percent have some college, 19 percent are college graduates, 13 percent have some high school education, and eight percent have an eighth grade education or less. Fourteen percent of the sample worked six to ten years at the job prior to displacement. Twenty-two percent worked three to five years, 20 percent worked eleven to nineteen years, 12 percent worked 20 to 29

years before displacement. The remainder (six percent) worked 30 or more years.

Thirty-five percent of displaced workers with new earnings previously experienced job losses from white collar occupations such as sales, clerical and technicians. Twenty-three percent were displaced from blue collar positions such as laborers and operators and 15 percent were professionals or managers. Fourteen percent of displaced workers were employed in precision occupations such as craft and repair, 12 percent were employed in the service sector such as child care and private household, and less than one percent were employed in farming. Refer to Table 2 for summary descriptions of displaced workers with earnings on the new job.

Insert Table 2 about here

While not all displaced workers have reentered the work force, 76 percent with new earnings reported full-time reemployment at the time of the interview. Twenty-four percent of new earners acquired less than $200 dollars a week at new employment, 35 percent earned between $200 and $399 a week, 21 percent earned between $400 and $599 a week, ten percent earned between $600 and $799 a week, and eleven percent earned $800 to $999 a week once reemployed. Refer to Table 3 for new earnings by each age cohort.

Insert Table 3 about here

Stepwise Results

Stepwise Regression is most helpful with exploratory studies because it aids with identification of relationships between independent variables and the dependent response. Numerous factors are statistically significant at the 0.001, 0.01, and 0.05 levels to predict an increase or decrease of earnings from new employment for displaced workers. Refer to Table 4 for the summary table of the stepwise unrestricted model, without controls for interaction.

Insert Table 4 about here

When examining the results without controlling for interaction, by utilizing the stepwise regression procedure, displaced workers between 45 and 54 years of age, employed in white collar and precision occupation categories prior to displacement, and persons indicating new jobs with 35 or more hours a week are significant positive predictors of new earnings. Moreover, displaced workers that have 30 to 39 years of continuous work experience at the displaced job, male gender, with some high school education or a high school graduate, own a home, and are now covered by group health insurance indicate significant negative impacts upon new earnings.

Controlling for interaction allows for differences in slopes for each race, gender, marital status, and age cohort of displaced workers. It is useful with closely identifying predictors of new earnings of displaced workers than without the intervention of interaction.

Significant results of the stepwise regression procedure indicate the following collection of variables best predicts positive effects upon new earnings of displaced workers: displaced workers that were professionals prior to displacement, college graduates that are married, males with some college, Caucasians with new jobs, persons age 45 to 54 years of age employed in white collar jobs, persons 45 to 54 years of age employed in the precision sector, males between the ages of 55 to 64, and persons with new jobs between 55 to 64 years of age. The analysis showed that persons with some high school, those covered with group health insurance, late midlife displaced workers (ages 55-64) that are married, males with home ownership, and late midlife displaced workers with 30 to 39 years continuous work at predisplacement job, experience significant negative affects upon new earnings. Refer to Table 5 for the restricted stepwise regression summary.

Insert Table 5 about here

SUMMARY AND IMPLICATIONS

Over the last decade, millions of American workers have lost jobs because of plant closings and layoffs stemming from structural changes in the United States and world economies. This study predicts the impact of job lay offs on new earnings of three age cohorts of displaced workers: midlife, late midlife, and older displaced workers. There are numerous implications for results presented in this study.

The researcher hypothesized that duration of unemployment would be a factor affecting new weekly earnings of displaced workers. However, it did not enter in as a factor in the new weekly earnings model. Additionally, displaced workers that expected a layoff did not appear to be a significant predictor of new earnings in the collection of variables chosen for the stepwise regression model. Three hundred sixty seven respondents did not report new earnings. However, 76 percent of displaced workers with new earnings were employed in full-time positions following displacement.

When comparing predictors of new earnings from the collection of independent variables in the stepwise model controlling for interaction, human capital variables are significant indicators of new earnings. Males with some college, workers that were employed in professional occupations, and married college graduates are positive predictors of new earnings of midlife, late midlife, and

older displaced workers. Farmers 55-64 years of age that became displaced experienced negative effects on new earnings.

The analysis of economic variables such as home ownership support earlier findings [21] that males who own homes or are in the process of purchasing homes, experience negative effects on new earnings. Additionally, displaced workers that presently are covered by group health insurance coverage, experience new earnings losses. The earning loss may be because employer sponsored group health insurance plans are decreasing [14] and there is an increase of employees paying the majority or all group health insurance premiums. According to Couchman [23] and Jones [4], women are employed in many traditional service sector jobs where few benefits are provided.

Socioeconomic variables such as marital status were significant predictors of new earnings. Displaced workers 55-64 years of age that were married and married college graduates were positive influences upon new earnings. Males, the designated reference group, were positive predictors of new earnings when combined with some college. Caucasian workers that were employed in the service sector experienced new earning losses. This wage loss can be explained because service jobs are often lower wage positions. The outcome of Caucasian workers employed at new jobs, 35 or more hours a week, were positive indicators of new earnings. Displaced workers ages 45-54 years of age and

previously employed in either precision or white collar occupations also experienced positive effects upon new earnings.

This study supports previous literature [21] that as persons age, new earnings decline. Secondly, displaced workers with extended years of continuous work at the lost job, experience negative impacts upon new earnings. Additionally, displaced workers with higher educational levels, experience positive affects upon new earnings [28]. Moreover, displaced workers reemployed full-time had a positive affect upon new earnings. Future research is needed to analyze the affects of old earnings and family income as predictors of new earnings of displaced workers.

During the 1990's futurists are predicting that the United States is expected to experience volatile economic uncertainties. Consequently, because of individual and societal costs, investment in human capital of the nation's work force is vital. Policy implications include providing life long job training and retraining opportunities for American workers. Presently, Title III of the Job Training Partnership Act (JTPA) is the largest and most important program specifically targeted for displaced workers. While some persons participate in community educational programs sponsored by JTPA, other persons are hesitant to enroll in job training programs. Workers are more likely to participate in educational programs if given encouragement

and incentives by management, labor, local educational institutions, and social services agencies.

Successful displaced worker assistance programs are those where employers and workers are both involved in the design and delivery process. Human capital development options to be considered include: federal, state, and local financial support for continual job skill training and education of workers, employer-supported training and education, worker accessibility to corporate training and education, tax incentives for employer-provided training programs, and public policy measures to encourage training and retraining of active employees.

The long run costs associated with building and maximizing human capital of American workers through retraining programs would be well worth the short run costs. Pay-offs would include higher earnings for the retrained workers, less financial and emotional hardships associated with displacement and unemployment, more state and federal taxes paid by workers, and less government assistance through transfer payments.

Coping and adapting to problems of worker displacement is a challenge for the household sector, labor and management, government and education providers. Networking of these entities and drawing on each sector's strength, is a strategy for improving employment security of midlife and older displaced workers.

It is imperative that the United States meet the challenge of upgrading skills of American work force by enabling workers opportunities to improve and maximize abilities. Investment in human capital is by far the most important factor accounting for American economic growth and productivity in this century and the next.

REFERENCES

1. Barry Bluestone and Bennett Harris. The Deindustrialization of America. New York: Basic Books, 1982.

2. Carolyn C. Perrucci, Robert Perrucci, Dena B. Targ and Harry R. Targ. Plant Closings. New York: Aldine DeGruyter, 1988.

3. "BLS Reports on Worker Displacement." News United States Department of Labor. Washington, D.C.: Bureau of Labor Statistics. (December 9, 1988): 1-10.

4. Joyce Edna Jones. "The Gender Gap: Wages and Wage Differentials." Doctoral dissertation. Oklahoma State University, 1987.

5. Jacob Mincer and Hirim Ofek. "Interrupted Work Careers: Depreciation and Restoration of Human Capital." The Journal of Human Resources 17 (Fall 1982): 3-24.

6. Gary Becker. Human Capital. New York: National Bureau of Economic Research, Columbia University Press, 1964.

7. Jacob Mincer. Schooling, Experience and Earnings. New York: National Bureau of Economic Research, Columbia University Press, 1974.

8. Theodore Schultz. "Investment in Human Capital." American Economic Review 51 (March 1961): 1-17.

9. Jeanne P. Gordus, Paul Jarley and Louis A. Ferman. Plant Closings and Economic Dislocation. Kalamazzo, Michigan: W.E. Upjohn Institute For Employment Research, 1981.

10. Richard M. Devens. "Displaced Workers: One Year Later." Monthly Labor Review 109 (No. 7, 1986): 40-43.

11. Paul Swaim and Michael Podgursky. "Do More-Educated Workers Fare Better Following Job Displacement?" Monthly Labor Review (August 1989): 43-46.

12. Douglas O. Love and William D. Torrence. "The Impact of Worker Age on Unemployment and Earnings After Plant Closings." Journal of Gerontology: Social Sciences 44 (No. 5 1989) S190-S195.

13. Francis W. Horvath. "The Pulse of Economic Change: Displaced Workers of 1981-85." Monthly Labor Review 110 (June 1987): 3-12.

14. United States Department of Labor Bureau of Labor Statistics. "Employee Benefits in Medium and Large Firms, 1988." Bulletin 2336 (August 1989: 1-43.

15. M.D. Hayward and W.J. Grady. "The Occupational Retention and Recruitment of Older Men: The Influence of Structural Characteristics of Work." Social Forces. 64 (No. 3 1986): 644-667.

16. Linda LeGrande. "Dislocated Workers: Outcome of Change." 98th Congress Congressional Research Service Review. 5 (May 1984) 11-16.

17. Randall S. Brown, Marilyn Moon and Barbara Z. Zoloth. "Incorporating Occupational Attainment in Studies of Male-Female Earnings Differentials." The Journal of Human Resources XV (Winter 1980): 3-27.

18. Christopher J. Ruhm. "Do Long-Tenure Workers Have Special Problems Following Job Displacement?" Economic Development Quarterly, 3 (November 1989): 320-326.

19. Report of the Secretary of Labor's Task Force on Economic Adjustment and Worker Dislocation. Economic Adjustment and Worker Dislocation in a Competitive Society. 181-519/64211 Washington, D.C.: U.S. Government Printing Office, 1987.

20. D.D. Herz. "Employment Characteristics of Older Women." Monthly Labor Review. 111 (No. 9, 1988) 3-12.

21. Congress of the United States Office of Technology Assessment. Technology and Structural Unemployment. (OTA-ITE-250). Washington, D.C.: Government Printing Office, 1986.

22. Deborah P. Klein. "Trends in Employment and Unemployment in Families." Monthly Labor Review (December 1983) 21-25.

23. Glennis M. Couchman. "Economics of Midlife Women: Employment and Retirement Issues." Doctoral dissertation, Oklahoma State University, 1986.

24. Lewis B. Siegel. "BLS Surveys Mass Layoffs and Plant Closings in 1986." Monthly Labor Review 110 (October 1987): 39-40.

25. _____. "Labor Month in Review: The Need for Training." Monthly Labor Review 112 (June 1989): 2.

26. Bureau of the Census. "Current Population Survey, January 1988: Displaced Workers." Bureau of Labor Statistics. Washington, D.C. 1988.

27. John Neter, William Wasserman and Michael H. Kutner. Applied Linear Regression Models. Homewood, Illinois. Richard D. Irwin, 1983. Pp. 417-35.

28. Nan Maxwell. "Labor Market Effects From Involuntary Job Losses in Layoffs, Plant Closings: The Role of Human Capital in Facilitating Reemployment and Reduced Wage Losses." The American Journal of Economics and Sociology. 48 (April, 1989): 129-141.

TABLE 1
SUMMARY OF VARIABLES

DEPENDENT VARIABLE

New Weekly Earnings of Displaced Worker (in dollars before deductions)

NY	1 = Earnings less than $200	0 = Other
	2 = Earnings $200-$399	0 = Other
	3 = Earnings $400-$599	0 = Other
	4 = Earnings $600-$799	0 = Other
	5 = Earnings $800-$999	0 = Other
	6 = Earnings $1000-$9998	0 = Other

DISPLACED WORKER VARIABLES

Duration of Unemployment

LS15	1 = Displaced worker unemployed less than 15 weeks	0 = Other
LS51	1 = Displaced worker unemployed less than 52 weeks	0 = Other
OV52	1 = Displaced worker unemployed 52 or more weeks	0 = Other

Relocated Since Displacement for Reemployment

MOVE	1 = Moved to a different city or county	
	0 = Did not relocate for additional work	

Expect a Layoff

EXPECT	1 = Expect a layoff or closing	0 = Other

Number of Jobs Since Layoff

NUJBS	1 = Zero jobs since layoff	0 = Other
	2 = One job since layoff	0 = Other
	3 = Two jobs since layoff	0 = Other
	4 = Three jobs since layoff	0 = Other
	5 = Four jobs since layoff	0 = Other
	6 = Five jobs since layoff	0 = Other

Hours Worked on New Job Since Layoff

NEWJOB	1 = Worked 35 or more hours the previous week of the survey	0 = Other

TABLE 1 continued

	HUMAN CAPITAL VARIABLES	
	Education	
EDUC8	1 = 8th grade education or less	0 = Other
SOMEHS	1 = Some high school	0 = Other
HSGRAD	1 = Completed high school	0 = Other
SMCOL	1 = Some College	0 = Other
COLGRAD	1 = College graduate	0 = Other
	Occupation	
PROF	1 = Managerial and professional, Executive, administrative and managerial Professional specialty	0 = Other
WHITE	1 = Technical, sales & admin. support Technicians & related support Sales, Administrative support, Including clerical	0 = Other
PREC	1 = Precision production, craft and repair	0 = Other
BLUE	1 = Operatives, fabricators & laborers Machine operators, assemblers & Inspectors Transportation & material moving Handlers, equipment cleaners, etc.	0 = Other
FARM	1 = Farming, forestry & fishing	0 = Other
SERVICE	1 = Service, private household Protective service Other service	0 = Other
	Years of Continuous Work at Predisplacement Worksite	
CW35	1 = Displaced worker employed 3-5 years at the lost job	0 = Other
CW610	1 = Displaced worker employed 6-10 years at the lost job	0 = Other
CW1119	1 = Displaced worker employed 11-19 years at the lost job	0 = Other
CW2029	1 = Displaced worker employed 20-29 years at the lost job	0 = Other
CW3039	1 = Displaced worker employed 30-39 years at the lost job	0 = Other
CW40OV	1 = Displaced worker employed 40 or more years at the lost job	0 = Other

TABLE 1 continued

ECONOMIC VARIABLES
Home Ownership of Displaced Worker

TENURE	1 = Tenure, home owned or being bought	0 = Other

Group Health Insurance Coverage on Lost Job

GRPHLTHJ	1 = Group health insurance coverage on the lost job	0 = Other

Displaced Worker Presently Covered by Group Health Insurance

NOWGHTHI	1 = Displaced worker now covered by group health insurance	0 = Other

SOCIOECONOMIC VARIABLES

Marital Status

MARRIED	1 = Married
	0 = Divorced, widowed, separated or never married

Gender

GENDER	1 = Male
	0 = Female

Age Cohort

AGE4554	1 = 45-54 years of age	0 = Other
AGE5564	1 = 55-64 years of age	0 = Other
AGE650V	1 = 65 and over	0 = Other

Race

RACECAU	1 = White
RACEOT	0 = Other

Region of United States

REGION	1 = Northeast	0 = Other
	2 = North Central	0 = Other
	3 = South	0 = Other
	4 = West	0 = Other

TABLE 1 continued

	CONTROL VARIABLES	
	Gender	
GENDER	1 = Male	
	0 = Female	
	Marital Status	
MARRIED	1 = Married	
DWSNM	0 = Divorced, Widowed, Single, Never Married	
	Race	
RACECAU	1 = White	
RACEOT	0 = Other	
	Age Cohort	
AGE4554	1 = 45-54 years of age	0 = Other
AGE5564	1 = 55-64 years of age	0 = Other
AGE650V	1 = 65 and over	0 = Other

TABLE 2

SUMMARY OF HUMAN CAPITAL, ECONOMIC, SOCIOECONOMIC VARIABLES PERCENTAGE DISTRIBUTION OF DISPLACED WORKERS WITH NEW EARNINGS

	All Displaced Workers %	Midlife Displaced Workers Ages 45-54 %	Late Midlife Displaced Workers Ages 55-64 %	Older Displaced Workers Ages 65 and Over %
Human Capital Variables				
Years of Continuous Work at Predisplacement Worksite				
3-5 years at lost job	22.4	23.0	20.5	29.4
6-10 years at lost job	13.5	13.1	13.3	23.5
11-19 years at lost job	20.1	23.0	16.6	-
20-29 years at lost job	12.1	11.5	13.3	11.8
30-39 years at lost job	4.7	2.0	10.6	-
40 or more years at lost job	1.1	0.3	2.0	5.9
Educational Level				
8th grade or less	8.3	6.9	11.9	-
Some high school	12.7	11.5	15.9	5.9
Completed high school	41.2	43.9	35.1	47.1
Some college	19.7	21.0	16.6	23.5
College graduate	18.2	16.7	20.5	23.5
Occupation Prior to Displacement				
Farm	0.4	0.3	0.7	-
Professional	15.4	14.4	16.6	23.5
White collar	34.5	36.4	29.8	41.2
Service	12.1	11.2	13.3	17.7
Precision	14.4	14.4	15.2	5.9
Blue collar	23.3	23.3	24.5	11.8
Economic Variables				
Home Ownership	81.2	77.8	88.0	82.4
Group Health Insurance on the Lost Job	80.1	79.8	83.2	56.3
Now Covered by Group Health Insurance on New Job	78.7	79.8	79.3	52.9
Socioeconomic Variables				
Marital Status				
Married	71.9	71.5	75.5	47.1
Divorced, widowed, single, never married	28.1	28.5	24.5	52.9
Gender				
Male	62.4	63.6	61.6	47.1
Female	37.6	36.4	38.4	52.9

TABLE 2 continued

	All Displaced Workers %	Midlife Displaced Workers Ages 45-54 %	Late Midlife Displaced Workers Ages 55-64 %	Older Displaced Workers Ages 65 and Over %
Race				
Caucasian	88.6	88.9	88.1	88.2
Other	11.4	11.2	11.9	11.8
Region of United States				
Northeast	29.2	27.2	34.4	17.7
North central	25.6	25.9	24.5	29.4
South	32.6	34.4	28.5	35.3
West	12.7	12.5	12.6	17.7
New Job				
Displaced workers reemployed full time	75.7	79.3	72.2	41.2
Relocated	10.6	16.2	10.7	5.9
Expected Layoff	54.5	52.5	57.00	70.6
Number of Jobs Since Layoff				
Zero	31.5	3.0	2.7	5.9
One	47.5	66.9	67.8	70.6
Two	14.3	19.0	22.2	23.5
Three	4.0	6.6	6.0	-
Four	1.9	3.6	0.7	-
Five	1.0	1.0	0.7	-
N*	473	305	151	17

* Missing data. Percentages based on those who responded to questions. Weighting of sample may cause percentages to vary slightly from 100 percent.

TABLE 3

SUMMARY DESCRIPTIONS OF DISPLACED WORKERS
WITH NEW EARNINGS BY AGE COHORT

New Weekly Earnings of Reemployed Displaced Workers (in dollars before deductions)	All Displaced Workers %	Midlife Displaced Workers Ages 45-54 %	Late Midlife Displaced Workers Ages 55-64 %	Older Displaced Workers Ages 65 and Over %
New earnings less than $200	23.5	19.3	28.4	52.9
New earnings $200-$399	35.3	35.4	36.4	23.5
New earnings $400-$599	20.9	23.6	16.6	11.8
New earnings $600-$799	9.7	10.8	7.3	11.8
New earnings $800-$999[a]	10.6	10.8	11.3	-
N*	473	305	151	17

* Missing data. Percentage based on those who responded to questions. Frequency missing = 367. Weighting of sample may cause percentages to vary slightly from 100 percent.

[a] There were no displaced workers with new weekly earnings over $999.00.

TABLE 4

SUMMARY OF STEPWISE UNRESTRICTED DISPLACED WORKER MODEL, WITHOUT CONTROLS FOR INTERACTION

Independent Variables	β Value
Predisplacement Continuous Work 30-39 years	-0.612** (0.225)
Gender Sex-male	-0.796*** (0.1065)
Age Cohort 45-54 years of age	0.174 (0.1004)
Occupation	
Farm	-1.36*** (0.708)
Professional	0.983*** (0.15)
White collar	0.456** (0.17)
Precision	0.411*** (0.150)
Education	
Some high school	-0.5501*** (0.164)
High school graduate	-0.238* (0.1061)
Displaced Worker Owns a Home	-0.293* (0.116)
Displaced Worker Reemployed Full time	0.497*** (0.117)
Displaced Worker Now Covered by Group Health Insurance	-0.5074*** (0.119)
R^2 = .39	

Notes. Standard errors are indicated in parentheses below the β value.

*p <.05 **p <.01 ***p <.001

TABLE 5

SUMMARY OF STEPWISE RESTRICTED DISPLACED WORKER MODEL, CONTROLLING FOR INTERACTION

Independent Variables	β Value
Presently Covered by Group Health Insurance Coverage NOWGHTI	-0.157*** (0.03902)
Occupation Professional	0.76*** (0.158)
Education Some high school	-0.462*** (0.149)
Ages 55-64 and Married AGE2MAR	-0.556*** (0.186)
Married College Graduate COLG2MAR	0.542*** (0.164)
Males with Some College SMCOLSX	0.212** (0.0806)
Males with Home Ownership TENSEX	-0.155*** (0.0177)
Caucasian Service Workers SER2RAC	-0.4023* (0.169)
Caucasians with New Jobs NEW2RAC	0.328** (0.112)
White Collar Displaced Workers Ages 45-54 years WHI2AGE1	0.388** (0.140)
Precision Displaced Workers Ages 45-54 years PRECAGE2	0.365* (0.178)
Displaced Workers with 3-5 Years Continuous Work at Lost Job Ages 55-64 WC35AGE2	0.681** (0.217)

TABLE 5 continued

Independent Variables	β Value
Displaced Workers with 6-10 Years Continuous Work at Lost Job Ages 55-64 W610AG2	0.4907 (0.256)
Displaced Workers with 20-29 Years Continuous Work at Lost Job Ages 55-64 WC2029A2	-0.551* (0.253)
Displaced Workers with 30-39 Years Continuous Work at Lost Job Ages 55-64 WC3039A2	-1.026*** (0.272)
Males Ages 55-64 SEXAGE2	0.354** (0.122)
Farmers Ages 55-64 FARMAGE2	-2.2906* (0.986)
Displaced Workers with New Jobs, Ages 55-64 NEW2AGE2	0.44* (0.194)
Displaced Workers that are College Graduates, Ages 65 and over CLG2AGE3	-0.933 (0.567)
R^2 = .44	

Notes. Standard errors are indicated in parentheses below β value.

*p <.05 **p <.01 ***p <.001

CHAPTER IV

MIDLIFE AND OLDER DISPLACED WORKERS: FACTORS THAT AFFECT PRESENCE OF GROUP HEALTH INSURANCE COVERAGE

MANUSCRIPT FOR PUBLICATION

JOURNAL TITLE: THE GERONTOLOGIST

Midlife and Older Displaced Workers: Factors That Affect Presence of Group Health Insurance Coverage

ABSTRACT: The likelihood of 567 midlife and older displaced workers from a national sample having group health insurance coverage following job layoffs was the purpose of this research. The logistic regression revealed that workers who had group health insurance coverages at lost jobs, family income of $20,000 or more, males with new weekly earnings and new full-time jobs were likely to have group health insurance following job displacement. Although reemployed full-time, there was a 19 percent decrease for likelihood of all midlife and older displaced workers having group health insurance coverage.

Key words: Displaced worker, Midlife, Gender, Group Health Insurance.

What happens to workers who have dedicated prime employment years to careers and then experience job displacement because of lay-offs? Are displaced workers covered by group health insurance following layoffs? These questions have stimulated recent research on the extent, consequences, and costs associated with worker displacement.

In 1984 the United States Department of Labor (DOL) attempted to quantify the consequences of job displacement upon workers in a biennial January Displaced Worker Supplement to the Current Population Survey (CPS). Three follow up surveys were conducted during the years, 1984, 1986, and 1988, each covering the previous five years.

Overview of Worker Displacement

According to Flaim and Sehgal (1985), the term displaced worker is referred to persons who loose jobs that require considerable investment of tenure and skill development. Because the nation's economy is constantly changing, technology advancements, and world economic interdependence, many workers are experiencing job layoffs and are finding it difficult to become reemployed in similar employment (Office of Technology Assessment, 1986). According to Horvath (1987) many job layoffs result from operational cutbacks that are permanent rather than cyclical occurrences.

During 1983-1988, 4.7 million workers with three or more years of job tenure at lost employment were displaced because of plant closings or layoffs according to the Bureau of Labor Statistics (BLS, 1988). For most displaced workers, the first few months following a layoff are minimized economically by unemployment insurance, supplementary unemployment benefits or severance pay from former employers. However, the combination of extended

unemployment and often lower earnings after reemployment can greatly reduce incomes of midlife and older displaced workers (Horvath, 1987; Love & Torrence, 1989).

Although there are similarities, problems of displaced workers are different from other workers who become unemployed. The Secretary of Labor's Task Force on Economic Adjustment and Worker Dislocation (1986) indicates displaced workers more often face longer durations of unemployment than other unemployed workers. Occupational mobility is higher for displaced workers than other unemployed persons and jobs are often lost that are perceived by workers as good jobs. According to Gordus et al. (1981) workers hardest hit by displacement are older, minorities and in many cases, women. In a recent literature review, (Herz, 1988; Couchman, 1986; Peck & Webster, 1985) conclude that women continue to be employed in female-dominated occupations that typically pay a low wage and have few or no employee benefits such as group health insurance coverage. These occupational groups according to Couchman (1986) are the white collar category which includes clerical and sales jobs and service sector jobs such as private household services, protection services, and other services such as child care occupations. Work patterns of women within the group of women 55 years and over indicate that most of women in late fifties often are employed full time across most job categories. However, older women in the 65 year old and

older category work part-time and are over represented in white collar and service jobs (Herz, 1988).

Data provided by the CPS indicate gender differences in earnings are more important than race differences. Caucasian and other races of older women continue to earn less than Caucasian and Other races of older males (Herz, 1988). Perrucci et al. (1988), identified longer periods of unemployment for female than male displaced workers.

Findings by the BLS (1988) indicate reemployment of all female displaced workers lags behind male displaced workers 11.7 percent. In many families, the economic setbacks of displacement may be cushioned by the earnings of other family members. Additionally, with the increase of women in the labor force, dual-earner families are common occurrence. Often, when a family member encounters unemployment, other family members sustain the flow of family income. However, when a family has only one earner such as an older single female, displacement may impose financial hardships (DOL, 1987). One area of special concern to midlife and older displaced workers is the possible loss of job benefits that have monetary value such as employer-sponsored health insurance, pension benefits, and life insurance (Ruhm, 1989).

This study examines 1988 CPS displaced worker data and will add to the body of literature addressing economic, socioeconomic and human capital predictors of group health insurance coverage of midlife and older displaced workers.

The findings in this study have major implications for policy makers and educators in assessing and addressing one of the major economic concerns of midlife and older displaced workers.

The purpose of this study is to predict the likelihood of group health insurance coverage of midlife (45-54 years of age), late midlife (55-64 years of age), and older (65 and older) displaced workers. The displaced workers in the study lost jobs because of plant closings, slack work, or relocations of plants or companies, and were employed in full-time positions (35 or more hours per week) for three or more years prior to displacement.

Loss of Health Insurance Benefits

Loss of a major job benefit such as employer paid group health insurance coverage is an economic hardship workers may encounter following displacement. Displaced workers often experience loss of health insurance benefits, because individual policies may not be affordable. The Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA) requires employers to continue health care benefits for a period of eighteen months for employees who are laid off, retired, or otherwise separated from employment. However, displaced workers may be charged a sizeable portion or all of the insurance premium payments (Podgursky & Swaim, 1987).

Findings from the United States Department of Labor (DOL, 1987) indicate almost 80 percent of displaced workers

surveyed in January 1986 were included in group health insurance plans prior to displacement. Displaced workers were more likely to replace group health insurance coverage upon reemployment. Moreover, displaced workers who remained unemployed were 60 percent more likely than reemployment counterparts to no longer have group health insurance coverage.

Podgursky and Swaim (1987 & 1989) find many displaced workers able to obtain group health insurance upon reemployment, but a substantial number become reemployed in jobs without employer-sponsored insurance. Additionally, in order to become reemployed, many midlife and older displaced workers must depend upon part-time positions that do not provide group health insurance coverage (Office of Technology Assessment, 1986).

Even though, employer paid health insurance comprised a large portion of employee health care compensation, employers have increasingly required employees to pay a large share of premium costs for health insurance coverage (U.S. House of Representatives, 1987). Economic uncertainties have caused some companies to aggressively reduce or eliminate health insurance programs for workers and retirees (Schulz, 1988). Cut backs of employer-paid health plans have occurred because of substantial administrative costs to the business and insurance premium tax charges by some states. Another reason is linked to the increase of persons taking early retirement as a result of

plant closings and lay-offs (U.S. Department of Labor, 1989). Unlike pension plans, almost no prefunding by employers of retiree health benefits has occurred, consequently, in the future if there are no changes in health care legislation, employers' health insurance expenditures will rise (Schulz, 1988).

Swaim and Podgursky (1989) findings from the January 1984 and 1986 CPS Displaced Worker Survey indicate more-educated displaced workers fare better than less educated workers obtaining reemployment with comparable earnings on the new job to predisplacement employment. Displaced workers with higher educational levels are more likely to replace employer-sponsored health care coverage at the predisplacement employment with an equivalent health benefit plan.

Because of a growing number of persons who are uninsured following a job loss there have been numerous legislative proposals to extend health insurance coverage of displaced workers. For example, the Consolidated Omnibus Budget Reconciliation Act of 1985 requires employers who maintain health insurance plans to continue insurance to terminated workers up to 18 months following termination. However, workers may be charged up to 102 percent of the premium cost (U. S. Department of Labor, 1989). Unfortunately, research is limited on factors affecting presence of group health insurance coverage for displaced workers. The main reason for the research limitations is

because it has only been since 1984 that the CPS provided data addressing health insurance coverage of displaced workers.

Existing data sources rarely fit exactly the empirical specification patterns of research models. For example, displaced workers who currently have group health insurance coverage may have coverage as a result of a spouse's employment. However, the question in the CPS concerning present coverage of group health insurance does not address this likelihood. As discussed in the literature, displaced workers may need to assume all or a substantial portion of the health plan cost rather than the employer paying a majority of the insurance premium fee. However, the CPS question on group health insurance coverage does not supply information about who is responsible for premium payments. Additionally, some displaced workers become discouraged workers and are no longer in the labor force. Therefore the impact of health insurance coverage or non coverage for discouraged workers is not available in the present survey.

It is assumed that virtually all respondents were able to provide reasonably reliable information pertaining to group health insurance coverage. However, it is not uncommon for respondents to under report or not report income and earnings related questions. Missing and inconsistent data presented no problem in the assessment of relationships between midlife and older displaced worker human capital, socioeconomic, and economic variables and for

the predictor variables used in the logistic model to estimate the likelihood of present coverage of group health insurance.

Method

Sampling Design

The sample was drawn from the January 1988, Current Population Displaced Worker Survey. Data from the sample is weighted by the CPS so that results may be generalized to the United States population of displaced workers. Eight hundred and forty displaced workers, comprised the sample of respondents 45 years and older that lost jobs because of layoffs due to plant-closings, relocations, slack work, or discontinuation of jobs, positions or shifts. Selection criteria to be included in the sample was that a worker had worked three or more years at a full-time predisplacement job. From the sample of 840 midlife and older displaced workers, 567 workers indicated presence of group health insurance following displacement.

A summary of the variables used in the empirical analyses is shown in Table 1. These variables represent displaced worker, human capital, economic, and socioeconomic variables identified in the literature.

Insert Table 1 about here

It is hypothesized that the human capital variable of education influences the presence of group health insurance for midlife and older displaced workers. Secondly, displaced workers with new full-time jobs are more likely to have group health insurance coverage. Thirdly, it is hypothesized that as displaced workers get older, the need for health care increases but coverage of group health insurance declines.

Sample Characteristics

For comparative analysis, the sample of displaced workers was further divided into three age groups: Midlife (ages 45-54), Late midlife (ages 55-64), and Older displaced workers (65 years and older). The number in each age group is 320, 210 and 37, respectively. Seventy-two percent of males and 63 percent of females had group health insurance coverage following displacement. Seventy-one percent of Caucasian's and 54 percent of other races were presently covered by group health insurance. Seventy-five percent of married displaced workers and 52 percent of divorced, widowed, single, and never married displaced workers had group health insurance at the time of the interview. Seventy-five percent of those displaced had group health insurance coverage at the predisplacement job compared to 69 percent following displacement. College graduates (75 percent) had the highest percentage, when compared to other educational levels that were presently covered by health

insurance, as did persons displaced from the professional occupational sector (78 percent). Refer to Table 2 for percentage distribution of summary characteristics for the sample of displaced workers with group health insurance coverage percentage.

Insert Table 2 about here

Analyses

The 1988 CPS displaced worker survey covered a broad range of displaced worker, human capital, socioeconomic, and economic factors. Focus of the analysis was the likelihood of displaced workers having group health insurance following a job layoff. Variables chosen by the researcher for the model have been linked by the literature as major factors affecting the presence of group health insurance of displaced workers. Additional variables were selected for exploratory purposes that will contribute to the body of literature on displaced midlife and older workers. It is necessary to determine significant interaction is present between gender, race, marital status, and age cohorts. In order to control for interaction, cross-products of each control variable and independent variables are entered into the equation. Additionally, each independent variable is squared to provide a better fit to the model. Cross-products of independent and each of the control variables

are calculated to determine if significances are at the 0.05 level.

The analysis consists of three stages. First, chi-square analysis is performed to test for statistically significant relationships between predictor variables and midlife and older displaced workers having group health insurance coverage. This statistical method is chosen in accordance with the nominal nature of the data. The test is used when the researcher is interested in the number of responses or people that fall in two or more categories. The chi-square statistic refers to whether a significant difference exists between an observed number and the expected number of responses of people falling in each category established by the study. The expected number is what the study expects by chance or according to a null hypothesis.

In the second stage stepwise regression is chosen to predict factors affecting presence of group health insurance coverage by midlife and older displaced workers. Since many variables in this study may contribute to the influence of the independent variables upon the dependent variable, stepwise regression is utilized to further investigate the data. Stepwise regression is utilized because it brings into the regression equation the best collection of variables for prediction purposes (Helwig, 1983). The following stepwise regression equation predicts the effect of independent variables upon the dependent variable:

presence of group health insurance of midlife and older displaced workers.

$$\widehat{NOWGHTHI} = \beta_0 + \beta_1 CW35 + \beta_2 CW610 + \beta_3 CW1119 + \beta_4 CW2029 + \beta_5 CW3039 + \beta_6 CW40OV + \beta_7 EDUC8 + \beta_8 SOMEHS + \beta_9 HSGRAD + \beta_{10} SMCOL + \beta_{11} COLGRAD + \beta_{12} PROF + \beta_{13} FARM + \beta_{14} WHITE + \beta_{15} SERVICE + \beta_{16} BLUE + \beta_{17} TENURE + \beta_{18} GRPHLTHJ + \beta_{19} YW + \beta_{20} NY + \beta_{21} CFAMILY + \beta_{22} MARRIED + \beta_{23} SEX + \beta_{24} RACECAU + \beta_{25} REGION + \beta_{26} NEWJOB + \beta_{27} MOVED + \beta_{28} NUJBS + \beta_{29} LS15 + \beta_{30} LS52 + \beta_{31} OV52 + \beta_{32} EXPECT + \varepsilon$$

The third analysis involves stepwise logistic (logit) regression. The dependent variable for the logit model has a dichotomous outcome. In a dichotomous model it is expected that there will be yes or no responses. For example, presence of group health insurance or no coverage of group health insurance represent a dichotomous outcome (Maddala, 1988).

The logit model specified in this study makes use of the maximum likelihood estimation procedure which can be applied where categorical and continuous variables are used in the same model (Hanushek and Jackson, 1977). The logit model examines empirically the relative influence of predictors upon the likelihood of workers having group health insurance coverage following displacement from jobs. Variables from the stepwise regression model that are significant at the 0.05 level are chosen to be entered into the stepwise logit model.

The following groups of independent variables are incorporated into the logit model: 1) displaced worker variables--reason displaced, duration of unemployment, relocated for reemployment, displaced worker expected layoff, number of jobs since layoff, new full-time job; 2) human capital variables--- education, occupation, years of continuous work; 3) economic variables--actual annual family income, predisplacement weekly earnings, new weekly earnings, unemployment benefits, home ownership, and group health insurance on lost job; and 4) socioeconomic variables--marital status, gender, race, and region of the United States. Stepwise logit identifies statistically significant independent variables at the 0.05 significance level.

The following logit model is used to examine empirically the relative influence of predictor variables upon the likelihood of midlife and older displaced workers presently having group health insurance coverage.

Logit Equation

$$\log \frac{P_i}{1-P_i} = \alpha + \sum_{j=1}^{n} B_j X_{ij}$$

P_i = the probability that displaced workers presently have group health insurance coverage; Xij = socioeconomic, human capital, displaced worker, and economic characteristics of displaced workers i; j = coefficient of the jth characteristics; and a constant term. The model estimates

the likelihood estimation procedure which can be applied where categorical variables are used in the model (Berstein, 1984).

Results

Chi-square

Summary chi-square and phi statistics to measure the relationship of displaced worker, human capital variables, economic variables, and socioeconomic variables to displaced workers presently covered by group health insurance are shown in Table 3. Results indicate statistically significant relationships between male displaced workers with group health insurance coverage at lost jobs, male displaced workers with new weekly earnings, male displaced workers reemployed full-time (new jobs), family income of displaced workers, displaced workers with full-time (new jobs), male displaced workers, and displaced workers covered by group health insurance at lost jobs.

Insert Table 3 about here

Seventy-five percent of displaced workers who had group health insurance coverage at predisplacement jobs had group health insurance coverage at the time of the CPS interview. Of the displaced workers, 480 (expected frequency of 359) with prior group health insurance coverage are now covered by group health insurance. Eighty-nine percent of 328 males

presently covered by group health insurance at lost jobs presently have group health insurance coverage which is higher than the expected frequency of 316.

New weekly earnings of male displaced workers is a significant factor as to whether group health insurance is regained following displacement. For example, 251 displaced males with new earnings (68 percent of the sample) compared to 118 displaced females (32 percent) were covered by group health insurance at the time of the interview. Males with weekly earnings of $400 or more on the new job is a significant variable for having group health insurance coverage at the time of the interview.

Displaced workers with new jobs, with a frequency of 318 (expected frequency of 266) is highly significant to whether workers who were displaced from jobs presently have group health insurance coverage. Males with new jobs (full-time jobs with 35 or more hours per week) is statistically significant regarding now having group health insurance coverage. The observed frequency is 224 compared to the expected frequency of 210. Of displaced female worker with new jobs the frequency is 94 (the expected is 108).

Another significant factor of displaced workers having group health insurance following a layoff is the family income of displaced workers. When family income reaches $20,000 or more, the expected frequencies of the chi-square test are less than the frequency of displaced workers with group health insurance coverage. Chi-square results provide

insight and is useful in interpreting logit results, however the analysis does not control for other influences.

Stepwise Regression

Refer to Table 4, for the best collection of variables from the stepwise regression model that predicts the presence of group health insurance coverage of displaced workers at the time of the interview.

Insert Table 4 about here

The stepwise regression equation with variables entering at the 0.05 significance level is as follows.

NOWGHTHI = 1.19 -0.20 SEX -0.54 NEWJOB + 0.34 CW610MAR
+ 0.46 NEWSEX + 0.27 SHSSEX -0.24 CW610RAC
+ 0.16 HSGRAC + 0.12 SMCOLAG1
+ 0.0011 CFAMILY + 0.036 NYSEX
+ 0.0506 NYAGE2 -0.304 GRPHLTHJ

Where NOWGHTHI equals the probability of displaced workers having group health insurance coverage at the time of the CPS displaced worker interview. The following collection of variables are factors that have positive relationships to displaced midlife and older workers having group health insurance coverage: Married displaced workers with six to ten years of continuous years of work at the lost job (CW610MAR); males with new jobs, full-time employment (NEWSEX); males with some high school (SHSSEX);

Caucasian high school graduates (HSGRAC); displaced workers between 45-54 years of age with some college (SMCOLAG1); males with new earnings (NYSEX); displaced workers with total annual family income over $20,000 (CFAMILY), and displaced workers between ages 55-64 with new earnings (NYAGE2). Negative predictors for midlife and older displaced workers having group health insurance coverage were: workers with group health insurance previous to displacement (GRPHLTHJ); displaced workers with new jobs (NEWJOB), and Caucasians with six to ten years continuous employment previous to displacement (CW610RAC).

Logit Coefficients

The stepwise logit equation with variables entering if they meet the 0.05 significance level is as follows.

$$\log \frac{P_1}{1-P_1} = -1.21 + 0.29\ \text{GRPHLTHJ} + 0.16\ \text{FAMY7} + 0.19\ \text{FAMY8} + 0.24\ \text{FAMY9} + 0.33\ \text{FAMY10} + 0.34\ \text{FAMY11} + 0.41\ \text{FAMY12} + 0.34\ \text{FAMY13} - 0.19\ \text{NEWJOB} + 0.37\ \text{NEWSEX} + 0.37\ \text{NNYY1SX} + 0.41\ \text{NNYY2SX} + 0.38\ \text{NNYY3SX} + 0.62\ \text{NNYY4SX} + 0.57\ \text{NNYY5SX}$$

Where P_1 equals the probability of displaced worker presently having group health insurance coverage and $1-P_1$ equals the probability of not having group health insurance.

Sixty-nine percent of the sample presently have group health insurance coverage and 31 percent do not have coverage. The estimates of the likelihood of displaced

workers presently having group health insurance shown are the marginal effects of each variable evaluated at the mean. The marginal effects resulting from the logit procedure indicate the likelihood of selected independent variables as predictors of group health insurance coverage to all other groups of independent variables with different characteristics. See Table 5 for logit results.

Insert Table 5 about here

When analyzing logistic regression, economic factors such as family incomes (FAMY7) of $20,000 or more increases the likelihood of displaced workers having coverage of group health insurance. Additionally, new earnings of males (NNYY1SX-NNYY5SX) in all earnings categories increases the likelihood of group health insurance. Males with new full-time jobs (NEWSEX) following displacement were 37 percent more likely than other groups of displaced workers to have group health insurance. However, there is a 19 percent decrease for likelihood of having group health insurance coverage for male and female displaced workers with new jobs (NEWJOB). Finally, displaced workers with group health insurance previous to displacement are 29 percent more likely to presently have group health insurance coverage.

Discussion

The results from this study corroborated earlier findings from CPS displaced worker survey years 1984 and 1986 (Podgursky and Swaim, 1987 & 1989). The researchers find that midlife and older workers displaced from full-time nonagricultural jobs during 1983-1988 are more likely to lose health insurance coverage, even after reemployment. Moreover, a sizable number reported no group health insurance coverage. It has been postulated that some displaced workers may be able to rely upon health insurance coverages provided by employment-related group health insurance policies of spouses, Medicare, and or government assistance such as Medicaid. However, because of the nature of the CPS displaced worker questionnaire, these suppositions could not be substantiated.

This exploratory research demonstrates the importance of indepth analyses of economic, socioeconomic, and human capital influences for understanding the presence or nonpresence of group health insurance coverage of midlife and older displaced workers. Chi-square and stepwise regression analysis were conducted in order to establish the logit model. The stepwise regression model identified significant independent variables that were incorporated in the formulation stages of the logit regression equation. In this study, the researchers take the opportunity to limit discussion to the final stage of statistical analyses, logit analysis.

The logit analysis identifies midlife, and older displaced workers with family incomes of $20,000 or more as likely to have group health insurance coverage. As cited in the literature review (U. S. DOL, 1989), this may be because of dual earners contribution to total family income, often softening the economic consequences of job displacement.

The only negative predictor of displaced workers having group health insurance coverage was the independent variable indicating that displaced workers had a new full-time job. When comparing all displaced workers that have new jobs such as, females, Other races, older workers, and displaced workers with lower educational levels, this finding is not unexpected and supports current literature concerning the plight of the working poor.

Because women are traditionally employed in white collar and service sector occupations with lower earnings and fringe benefits such as group health insurance (Couchman, 1986; Peck & Webster, 1985), it is not surprising that males with new jobs and new earnings are more likely to have group health insurance coverage following job displacement than females. This may because males are more likely than females to be reemployed following displacement (BLS, 1988). Moreover, males generally earn more in wages than females (Herz, 1988). Future research is needed to evaluate the occupational sector in which displaced workers become reemployed. This research would contribute to reemployment behavior of displaced workers.

When the logistic model was formulated it was expected that group health insurance coverage prior to displacement would be negative as predicted by the stepwise regression analysis. However, the logit result of group health insurance coverage at the lost job was a positive predictor of displaced workers having group health insurance. There was also inconsistency in the stepwise and logit analyses estimating the affect of education levels on present coverage of displaced workers (refer to Table 4). However, none of the educational levels were significant predictors of the likelihood of group health insurance coverage in the logit findings.

Because of the nominal level of the dependent variable, present coverage of group health insurance of displaced workers, logistic regression appropriately models the impact of independent variables on the outcome of midlife and older displaced workers having group health insurance coverage. Logit regression is nonlinear in terms of predicting the proportion of displaced workers having group health insurance. Because stepwise regression is linear in predicting the proportion of displaced workers having group health insurance coverage following job layoffs, this test by itself may confound the results of the study. The analysis provided by stepwise regression underestimates the true effect of predictor variables.

An example of potential problems associated with stepwise regression is that predicted values may be outside

the (0, 1) range of the dependent variable, even though the probability of present insurance coverage must lie between zero and one. Additionally, estimated standard errors of the coefficients will be incorrect, leading to inappropriate conclusions concerning statistical significance of independent variables (Morgan and Teachman, 1988). It is the testing of stepwise regression and logit models that researchers should be concerned with when making predictions about the influence of independent variables upon likelihood of occurrence of a dichotomous dependent variable. Future research that analyzes survey data comparing results from stepwise regression and logit regression is needed, especially when estimating likelihood of occurrence of group health insurance coverage of displaced workers.

The findings from this research provide some explanation for why some midlife and older workers have group health insurance coverage following job displacement. It is predicted that in the future some of the current labor force patterns of midlife and older female workers may not be repeated. This is because females are assuming similar work patterns to those of males. However, the gap is expected to widen between persons employed as managers and executives in an occupational sector and low skilled, low pay employment in another sector. Typically women and minorities are employed in jobs with low skill level, low pay and limited benefits. Many of these low pay, limited benefit jobs are held by single female heads of households.

The problems associated with displacement of workers is seen as a structural problem that has permanent consequences rather than a cyclical event and one that can be very problematic for some workers such as the working poor.

Information regarding COBRA and other legislation allowing workers to continue their group health insurance coverage should be addressed in the future. Health care costs are projected to escalate in the next decade. The concern of affordable health care will continue to be a major issue of the 1990's and workable solutions should be addressed by private and public sectors.

The researchers of this study conclude that until health care policy issues improve, segments of displaced workers with out group health insurance coverage are at a disadvantage. The lack of affordable health care insurance coverage threatens the health status of displaced workers and their families. This study provides research data to substantiate the need for public policy measures that will enable more American workers to be covered by affordable group health insurance protection.

References

Bureau of Labor Statistics. (1988). BLS reports on worker displacement. News, USDL 88-611. Washington, D.C.

Couchman, G. M. (1986). Economics of midlife women: Employment and retirement issues. Doctoral Thesis. Oklahoma State University, Stillwater, Oklahoma.

Flaim, P. O., & Sehgal, E. (1985). Displaced workers of 1979-83; how well have they fared? Monthly Labor Review, 108, 3-16.

Gordus, J.P., Jarley, P. & Ferman, L. A. (1981). Plant closings and economic dislocation, The W.E. Upjohn Institute for Employment Research. The University of Michigan.

Hanushek, E. 7 Jackson, J. (1977). Statistical methods for social scientists. New York: Academic Press: 202-203.

Helwig, J. T. (1983). SAS introductory guide. Cary, NC: SAS Institute.

Herz, D. E. (1988). Employment characteristics of older women, 1987. Monthly Labor Review, 111, 3-12.

Horvath, F. W. (1987). Displaced workers, 1981-85. U.S. Department of Labor, Bureau of Labor Statistics. Bulletin 2289. U. S. Government Printing Office, Washington, D.C.

Love, D. O. & Torrence, W. D. (1989). The impact of worker age on unemployment and earnings after plant closings. Journal of Gerontology, 44, S190-195.

Maddala, G. S. (1988). Limited-dependent and qualitative variables in econometrics. New York: Cambridge University Press: 1-34.

Morgan, S. P. & Teachman, J. D. (1988). Logistic regression: Description, examples, and comparisons. Journal of Marriage and the Family, 50, 929-936.

Office of Technology Assessment (1986). Technology and structural unemployment: Reemploying displaced adults. Washington, D.C.

Peck, C. J. & Webster, G. (1985). Women and Pensions, Journal of Home Economics, 77, 10-15; 37.

Perrucci, C. C., Perrucci, R., Targ, D. B. & Targ, H. R. (1988). Plant closings. New York: Aldine De Gruyner.

Report of the Secretary of Labor's Task Force on Economic Adjustment and Worker Dislocation. (1986). Economic adjustment and worker dislocation in a competitive society. U. S. Government Printing Office: Washington, D.C.

Ruhm, C. J. (1989). Do long-tenure workers have special problems following job displacement? Economic Development Quarterly, 3, 320-326.

Schulz, J. H. The economics of aging (4th ed.) Dover, Massachusetts: Auburn House.

Swaim, P. & Podgursky, M. (1987). Health insurance loss: the case of the displaced worker. Monthly Labor Review, 110, 30-33.

Swaim, P. & Podgursky, M. (1989). Do more-educated workers fare better following job displacement? Monthly Labor Review, 112, 43-46.

U. S. Department of Labor, Bureau of Labor Statistics (1987). Linking employment problems to economic status. Bulletin 2282. U. S. Government Printing Office, Washington, D.C. 1-6.

U. S. Department of Labor, Bureau of Labor Statistics (1989). Employee benefits in medium and large firms, 1988. Bulletin 2336. U. S. Government Printing Office, Washington, D.C. 1-46.

U. S. House of Representatives (1987). Retirement income for an aging population. Committee on Ways and Means. WMCP: 100-2. U. S. Government Printing Office, Washington, D.C.

Table 1. Summary of Variables

	DEPENDENT VARIABLES	
	Presence of Group Health Insurance Coverage	
NOWGHTHI	1 = Now covered by group health insurance plan	
	0 = Not covered by group health insurance plan	
	DISPLACED WORKER VARIABLES	
	Reason Displaced	
WHYNOJB	1 = Plant or company closed or moved Plant or company operating but lost job because of: Slack work Position or shift abolished	0 = Other
	Duration of Unemployment	
LS15	1 = Displaced worker unemployed less than 15 weeks	0 = Other
LS51	1 = Displaced worker unemployed less than 52 weeks	0 = Other
OV52	1 = Displaced worker unemployed 52 or more weeks	0 = Other
	Relocated Since Displacement for Reemployment	
MOVE	1 = Moved to a different city or county	
	0 = Did not relocate for additional work	
	Expect a Layoff	
EXPECT	1 = Expect a layoff or closing	0 = Other
	Number of Jobs Since Layoff	
NUJBS1	Zero jobs since layoff	0 = Other
NUJBS2	One job since layoff	0 = Other
NUJBS3	Two jobs since layoff	0 = Other
NUJBS4	Three jobs since layoff	0 = Other
NUJBS5	Four jobs since layoff	0 = Other
NUJBS6	Five jobs since layoff	0 = Other
	Hours Worked on New Job Since Layoff	
NEWJOB	1 = Worked 35 or more hours the previous week of the survey	0 = Other

Table 1. Continued

HUMAN CAPITAL VARIABLES		
Education		
EDUC8	1 = 8th grade education or less	0 = Other
SOMEHS	1 = Some high school	0 = Other
HSGRAD	1 = Completed high school	0 = Other
SMCOL	1 = Some college	0 = Other
COLGRAD	1 = College graduate	0 = Other
Occupation		
PROF	1 = Managerial and professional, Executive, administrative and managerial Professional specialty	0 = Other
WHITE	1 = Technical, sales & admin. support Technicians & related support Sales, Administrative support, Including clerical	0 = Other
PREC	1 = Precision production, craft and repair	0 = Other
BLUE	1 = Operatives, fabricators & laborers Machine operators, assemblers & Inspectors Transportation & material moving Handlers, equipment cleaners, etc.	0 = Other
FARM	1 = Farming, forestry & fishing	0 = Other
SERVICE	1 = Service, private household Protective service Other service	0 = Other
Years Worked at Lost Job		
LOSTJB	1 = Lost job since January 1983	0 = Other
FULLJB	1 = Worked full-time on lost job	0 = Other
Years of Continuous Work at Predisplacement Worksite		
CW35	1 = Displaced worker employed 3-5 years at the lost job	0 = Other
CW610	1 = Displaced worker employed 6-10 years at the lost job	0 = Other
CW1119	1 = Displaced worker employed 11-19 years at the lost job	0 = Other
CW2029	1 = Displaced worker employed 20-29 years at the lost job	0 = Other
CW3039	1 = Displaced worker employed 30-39 years at the lost job	0 = Other
CW40OV	1 = Displaced worker employed 40 or more years at the lost job	0 = Other

Table 1. Continued

	ECONOMIC VARIABLES	
	Actual Annual Family Income (in dollars before deductions)	
FAMY1	Total family income $5000-$7499	0 = Other
FAMY2	Total family income $7500-$9999	0 = Other
FAMY3	Total family income $10000-$12499	0 = Other
FAMY4	Total family income $12500-$14999	0 = Other
FAMY5	Total family income $15000-$17499	0 = Other
FAMY6	Total family income $17500-$19999	0 = Other
FAMY7	Total family income $20000-$24999	0 = Other
FAMY8	Total family income $25000-$29999	0 = Other
FAMY9	Total family income $30000-$34999	0 = Other
FAMY10	Total family income $35000-$39999	0 = Other
FAMY11	Total family income $40000-$49999	0 = Other
FAMY12	Total family income $50000-$74999	0 = Other
FAMY13	Total family income $75000 +	0 = Other
	Predisplacement Weekly Earnings (in dollars of displaced worker)	
YYWW1	Earnings less than $200	0 = Other
YYWW2	Earnings $200-$399	0 = Other
YYWW3	Earnings $400-$599	0 = Other
YYWW4	Earnings $600-$799	0 = Other
YYWW5	Earnings $800-$999	0 = Other
YYWW6	Earnings $1000-$9997	0 = Other
	New Weekly Earnings of Displaced Worker (in dollars before deductions)	
NNYY1	Earnings less than $200	0 = Other
NNYY2	Earnings $200-$399	0 = Other
NNYY3	Earnings $400-$599	0 = Other
NNYY4	Earnings $600-$799	0 = Other
NNYY5	Earnings $800-$999	0 = Other
NNYY6	Earnings $1000-$9998	0 = Other
	Unemployment Benefits	
UNEMPBNF	1 = Displaced worker received unemployment benefits	0 = Other
	Home Ownership of Displaced Worker	
TENURE	1 = Tenure, home ownership or being purchased	0 = Other

Table 1. Continued

Group Health Insurance Coverage on Lost Job		
GRPHLTHJ	1 = Group health insurance coverage on the lost job	0 = Other
SOCIOECONOMIC VARIABLES		
Marital Status		
MARRIED	1 = Married 0 = Divorced, Widowed, Single or Never Married	
Gender		
GENDER	1 = Male 0 = Female	
Age Cohort		
AGE4554	1 = 45-54 years of age	0 = Other
AGE5564	1 = 55-64 years of age	0 = Other
AGE650V	1 = 65 and over	0 = Other
Race		
RACECAU	1 = White	
RACEOT	0 = Other	
Region of United States		
REGNE1	Northeast	0 = Other
REGNC2	North Central	0 = Other
REGS3	South	0 = Other
REGW4	West	0 = Other
CONTROL VARIABLES		
Gender		
GENDER	1 = Male 0 = Female	
Marital Status		
MARRIED	1 = Married	
DWSNM	0 = Divorced, Widowed, Single, Never Married	

Table 1. Continued

	Race	
RACECAU	1 = White	
RACEOT	0 = Other	
	Age Cohort	
AGE4554	1 = 45-54 years of age	0 = Other
AGE5564	1 = 55-64 years of age	0 = Other
AGE650V	1 = 65 and over	0 = Other

Table 2. Summary of Characteristics of Displaced Workers with Present Group Health Coverage Percentage Distribution

	All Displaced Workers %	Midlife Displaced Workers 45-54 %	Late Midlife Displaced Workers 55-64 %	Older Displaced Workers 65 and Over %
Present Coverage of Group Health Insurance				
Yes	68.6	69.3	70.1	58.7
No	31.4	30.7	30.5	41.3
Human Capital Variables				
Continuous Work at Predisplacement Job				
3-5 years at lost job	66.7	69.2	63.8	55.6
6-10 years at lost job	60.8	66.7	55.8	42.9
11-19 years at lost job	70.5	74.5	63.3	72.7
20-29 years at lost job	86.2	85.4	93.9	69.2
30-39 years at lost job	72.4	60.0	87.5	33.3
40 or more years at lost job	73.3	40.0	81.0	100.0
Education of Displaced Workers				
8th grade or less	59.1	55.0	64.4	50.0
Some high school	64.0	64.9	62.2	66.6
Completed high school	69.6	72.5	66.9	41.6
Some college	69.4	69.8	70.5	60.0
College graduate	75.1	70.6	85.1	55.5
Occupation Prior to Displacement				
Farm	20.0	-	66.7	-
Professional	78.2	75.4	85.7	66.7
White collar	68.5	66.2	74.6	60.0
Precision	71.2	72.5	71.8	33.3
Blue collar	73.8	78.1	69.4	50.0
Service	60.0	65.9	51.7	60.0
Economic Variables				
Home Ownership	73.0	73.2	75.0	62.0
Group Health Insurance at Lost Job	75.4	75.9	76.5	65.2
Weekly Earnings at Lost Job				
Less than $200	46.3	47.5	50.0	33.3
$200-$399	61.8	65.5	57.3	58.8
$400-$599	74.6	74.4	76.1	70.6
$600-$799	81.5	76.1	90.3	75.0
$800-$999	81.6	85.0	82.4	-
$1000-$9997	88.9	81.8	100.0	100.0
New Weekly Earnings				
Less than $200	52.8	57.9	50.0	33.3
$200-$399	82.5	79.4	89.1	75.0
$400-$599	84.9	83.3	92.0	50.0
$600-$799	95.7	97.0	90.9	100.0
$800-$999	94.0	93.9	94.1	-
$1000-$9998	-	-	-	-

Table 2. Continued

	All Displaced Workers %	Midlife Displaced Workers 45-54 %	Late Midlife Displaced Workers 55-64 %	Older Displaced Workers 65 and Over %
Total Family Income				
$5000-$7499	35.9	37.5	50.0	-
$7500-$9999	47.8	50.0	40.0	54.6
$10000-$12499	51.5	50.0	54.6	42.9
$12500-$14999	55.8	54.6	55.6	66.7
$15000-$17499	68.1	65.7	69.0	80.0
$17500-$19999	57.1	66.7	42.9	50.0
$20000-$24999	74.0	71.8	74.3	100.0
$25000-$29999	75.0	75.6	75.6	66.7
$30000-$34999	72.9	75.0	68.4	75.0
$35000-$39999	85.7	81.0	95.2	75.0
$40000-$49999	88.1	82.1	100.0	100.0
$50000-$74999	90.4	94.9	83.9	75.0
$75000 and over	88.0	84.2	100.0	100.0
Socioeconomic Variables				
Marital Status				
Married	74.9	76.2	74.3	66.7
Divorced, widowed, single, never married	52.4	51.5	55.3	48.2
Gender				
Male	71.5	69.7	76.3	60.6
Female	63.5	68.5	58.0	39.4
Race				
Caucasian	70.6	71.0	71.5	63.2
Other	53.6	57.6	53.1	16.7
Region of United States				
Northeast	73.3	75.2	72.9	63.2
North Central	71.1	68.8	76.0	66.7
South	61.3	61.5	61.9	57.1
West	69.9	79.6	63.9	37.5
New Job: Following Displacement				
35+ hours a week	82.0	81.6	84.2	57.1
Less than 35 hours a week	56.7	53.2	59.9	58.9
Displaced Worker Relocated for Reemployment	74.2	75.0	70.8	100.0
Number of Jobs Since Layoff				
Zero	59.1	57.8	60.2	59.5
One	76.0	75.1	80.5	55.6
Two	69.8	69.0	72.1	60.0
Three	60.6	68.2	45.5	-
Four	62.5	66.7	-	-
Five	42.9	33.3	100.0	-
Duration of Unemployment				
Less than 15 weeks	46.3	44.4	48.2	-
Less than 52 weeks	48.4	47.4	54.6	100.0
Over 51 weeks	52.9	28.6	66.7	44.0

Table 2. Continued

	All Displaced Workers %	Midlife Displaced Workers 45-54 %	Late Midlife Displaced Workers 55-64 %	Older Displaced Workers 65 and Over %
Expected Layoff	72.7	73.2	74.6	61.5
Did Not Expected Layoff	63.6	64.7	63.5	54.2
Ages 45-54	69.2	-	-	-
Ages 55-64	69.5	-	-	-
Ages 65 and Over	58.7	-	-	-
N*	567	320	210	37

* Missing data. Percentages based on those who responded to questions. Weighting of sample may cause percentages to vary slightly from 100 percent.

Table 3. Selected Summary Statistics of Displaced Workers Presently Covered by Group Health Insurance

Presently Covered by Group Health Insurance	Chi-Square*	Phi
Males with Group Health Insurance at Lost Job	8.904	0.126
Males with New Weekly Earnings	50.070	0.368
Males with New Jobs (over 35 hours a week)	6.47	-0.107
Family Income of Displaced Workers	91.626	0.349
New Job (35 or more hours a week)	60.868	-0.271
Male Displaced Workers	5.742	0.083
Displaced Workers Covered by Group Health Insurance at Lost Jobs	56.347	0.263

* All chi-square statistics are statistically significant at .05 level.

Table 4. Summary of Stepwise Regression Model: Dependent Variable Displaced Worker Presently Covered by Group Health Insurance

Independent Variables	β Value
Sex: Males	-0.2023^{***} (0.0362)
New Job (35 or more hours)	-0.541^{***} (0.132)
Married and Continuous Work 6-10 Years	0.339^{**} (0.1015)
Males with New Jobs (35 or more hours)	0.456^{***} (0.086)
Males with Some High School	0.266^{*} (0.126)
Caucasians with Continuous Work 6-10 Years	-0.237^{*} (0.0932)
Caucasians that were High School Graduates	0.162^{**} (0.0426)
Displaced Workers with Some College Ages 45-54	0.123^{*} (0.0589)
Family Income	0.00114^{**} (0.000419)
Males with New Earnings	0.0358^{*} (0.0179)
Displaced Workers with New Earnings Ages 55-64	0.05067^{*} 0.0211
Group Health Insurance at the Old Job	-0.3042^{***} (0.0484)
R^2=.34	
No other variable met the 0.1500 significance level for entry into the model.	

Notes. Standard errors are indicated in parentheses below the β value.
$^{*}p < .05$ $^{**}p < .01$ $^{***}p < .001$

Table 5. Logit Equation Estimating Likelihood of Present Group Health Insurance Coverage of Midlife and Older Displaced Workers

Independent Variables	Logit Coefficient	Marginal Effects[a]
Intercept	-1.21	
Group Health Insurance Coverage at Lost Job GRPHLTHJ	1.27 (0.198)	0.29
Total Family Income (in dollars before deductions)		
FAMY7 ($20000-$24999)	0.748 (0.3035)	0.16
FAMY8 ($25000-$29999)	0.889 (0.299)	0.19
FAMY9 ($30000-$34999)	1.0972 (0.348)	0.24
FAMY10 ($35000-$39999)	1.434 (0.398)	0.33
FAMY11 ($40000-$49999)	1.150 (0.447)	0.34
FAMY12 ($50000-$74999)	1.8035 (0.4098)	0.41
FAMY13 ($75000+)	1.477 (0.682)	0.34
New Job (35 or more hours a week) NEWJOB	-2.0776 (0.691)	-0.19
New Job/Males NEWSEX	1.613 (0.4085)	0.37
New Weekly Earnings/Males		
NNYY1SX (less than $200)	0.843 (0.427)	0.37
NNYY2SX (Earnings $200-$399)	1.799 (0.4025)	0.41
NNYY3SX (Earnings $400-$599)	1.670 (0.462)	0.38
NNYY4SX (Earnings $600-$799)	2.958 (1.0728)	0.62
NNYY5SX (Earnings $800-$999)	2.589 (0.812)	0.57
N=560[b]		

[a] The marginal effect of a change in an independent variable, X_i, is $B_i [P(1-P)]$, where B_i is a logistic regression coefficient, and $[P(1-P)]$ is the average likelihood of participation. Actual calculation of the marginal effect of each independent variable on the likelihood of participation is $P_1 = \left[\frac{e^{a+B_i x}}{1+e^{a+B_i x}}\right] - \left[\frac{e^{a_0}}{1+e^{a_0}}\right]$

where $\left[P_1(1-P_1)\right] = \frac{e^{a_0}}{1+e^{a_0}} = 0.23$

[b] There were 28 missing responses. Standard errors are in parentheses.

CHAPTER V

UNANTICIPATED JOB LOSS: FAMILY POLICY IMPLICATIONS FOR MIDLIFE AND OLDER DISPLACED WORKERS

MANUSCRIPT FOR PUBLICATION

JOURNAL TITLE: JOURNAL OF HOME ECONOMICS

Unanticipated Job Loss: Family Policy Implications for Midlife and Older Displaced Workers

A look at displaced worker demographics, legislation and educational programs suggests that more can be done to serve midlife and older workers. Technological change and economic fluctuation is inevitable; however, for many midlife and older workers, the consequences can be quite painful.

For economic situations of displaced workers in midlife and older years to improve, families must be involved. This means that families need the ability to analyze public issues on the basis of credible facts and principles. The major role of family policy education in Home Economics is to help people effectively represent their families' interest in the formation of public policy (1). The restructuring of the American economy will be with us well into the turn of the century. These changes have major implications and thus need to be considered by all home economists and family policy makers.

Between January 1983 and January 1988, 4.7 million persons 20 years and older were permanently displaced from jobs. Many have been displaced following extended years of

plant closings, acquisitions, corporate mergers, or business failures (2).

Some midlife and older displaced workers drop out of the labor force following weeks of discouraging job hunting. Instead of saying they are unemployed, these discouraged workers may take retired status with or without retirement benefits (3).

This article discusses factors that influence current economic and employment situations that many midlife (45 to 54 years of age) and older workers (55 years and older) are facing as a result of job losses. It challenges the Home Economics profession and family policy makers to address avenues of aiding midlife and older persons affected by downturns in the economy. These avenues include research, higher education, vocational education, continuing education, and Cooperative Extension. Particular attention is given to family public policy issues and the impact on the welfare of the total family.

Economic Restructuring

Throughout the 1980's, the consequences of plant closings, mergers and hostile takeovers both successful and unsuccessful, has led directly to the elimination of jobs. For example, from 1981-1986 it is estimated that between 650,000 and one million workers lost jobs each year as a result of economic downturn and technological changes (4). As restructuring of the American economy continues, many

midlife and older workers face problems resulting from job displacement.

To better understand the consequences of job displacement upon workers with strong ties or seniority tenure to jobs, the Bureau of Labor Statistics (BLS) collects displaced workers data. This information has been gathered from Biennual January Displaced Worker Supplements to the Current Population Survey (CPS). The purpose of these surveys is to determine who is displaced from jobs with at least three years of tenure over the previous five years. Three such studies were conducted during 1984, 1986, and 1988.

Figure 1 illustrates that over 90 percent of men are employed for a wage up until age 45. We can also observe that women at 45 years and older drastically reduce their labor force attachment (5). According to Schulz (6), nearly 50 percent of men are already out of the labor force before they reach 65 years of age.

Insert Figure 1

Not only have many workers lost their jobs, but for those who have survived cutbacks and company mergers, the fate of their pension funds is uncertain (5, 6, 7). Jobs and benefits are often lost when companies have cut back operations and sold assets to take care of enormous debts that may have incurred as a result of hostile takeover

attempts. Promised benefits for surviving workers and their families can be jeopardized as implicit contracts are voided by corporations to pay off debts (7).

Characteristics of Displaced Workers

The problems usually associated with displacement as a whole are very different from others in the work force. To develop relevant policy and programs, it is necessary to understand the characteristics of displaced workers.

Job Tenure

Displaced workers are usually 40 to 55 years of age with continuous employment histories. These displaced workers have lost their jobs due to no fault of their own, and have a difficult time regaining equivalent employment. Typical displaced workers have had long periods of attachment to a single employer. Therefore, it is not uncommon for displaced workers to serve 15 to 25 years on the job. This job tenure often leads to more seniority, reflecting high earnings and occupational status (8).

Midlife and older workers with high seniority may find that they are some of the last employees laid off in a declining industry. Many of these displaced workers have been secure with a single employer throughout their work histories. Suddenly they find that they are in a highly competitive job market and discover that their skills do not match existing job openings, while others lack refined job search skills.

Gender

Studies show that women are underrepresented in the population of displaced workers. Herz (9) indicates male displaced workers are more likely to be remployed than female displaced workers.

Women have strikingly different work patterns than those of men. Labor force participation of women after World War II was discouraged, and employed women were limited to certain occupations, often paying lower wages with few or no benefits. Restricted employment opportunities of older women during their younger years has largely affected the types of jobs women 55 years and older are currently holding (10). Many midlife and older women are concentrated in the sterotypically female occupations of clerical, retail sales, and factory jobs.

Midlife and older women may be in need of work and seeking employment because they lack receipt of a pension income other than Social Security (11). Adequate income for aged women depends to a large extent on whether women are eligible for private pensions which is dependent on the nature of their employment in their middle years.

Occupations

Often occupational change requires job retraining but for many of the midlife and older displaced worker skills are limited. Displaced workers with low job skills experience difficulty with becoming reemployed. With the reduction in manufacturing jobs during the 1984 and 1986 CPS

survey, there was an increase in displacement of less skilled employees in the operator, fabricator, laborers and precision production, craft, and repair occupation areas. However, the updated 1988 CPS displaced worker supplemental survey shows a shift in displacement. A greater percentage of displacement is occurring among managerial, professional speciality, technical, sales, and administrative support workers (2).

Educational Level

The information gathered from the 1984, 1986, and 1988 CPS displaced worker supplements indicate that more highly educated persons are better able to readjust to the job market following displacement. Displaced workers with higher than a high school education spend less time seeking reemployment than displaced workers with less education. Additionally, more highly educated displaced workers are able to obtain employment that compares more positively with earnings and health benefits of the lost job. Table 1 illustrates the median earnings losses and number of weeks of joblessness following displacement, by education and occupation of displaced workers from the 1984, and 1986 CPS supplements (2).

Insert Table 1 about here

Research (12) supports the correlation between higher education and employment of workers. However, for midlife

and older employees, higher education alone is not enough to provide protection from the perils associated with technological changes and economic downturn.

Today younger women are seeking advanced education, but for midlife and older women, many are of a low educational status. Educational attainment of women has been a major predictor concerning the present and future income of women (12). It has also been a major factor cited for women becoming vulnerable to displacement.

Consequences of Displacement

Even though older persons are less likely than younger persons to become unemployed, they experience longer periods without employment. A joint effort by vocational, academic education, Cooperative Extension, and industry is needed to provide displaced workers with educational training to reduce the severity of job displacement.

Reemployment and Relocation

In areas saturated with economic distress, the only recourse may be relocation and/or retraining. For midlife and older displaced workers who have strong family and community ties, the financial and psychological costs of relocating may be too costly to pursue (9).

Displaced workers may discover that it is impossible to find work to commensurate with their abilities. In some instances, they may be forced to accept jobs that require few of their skills (13). Although they are working and thus not unemployed, they are working at jobs below their

capabilities. Underemployment is costly to society because human resources are not allocated to their best use.

By law, age discrimination is illegal, however it is difficult to prove. Age discrimination can also be seen in the way that many companies lay off workers and encourage early retirement. The 1984 CPS displaced worker survey shows that there are higher unemployment rates for workers 55 to 64 than for younger groups of workers.

Since older women change jobs less frequently than men, additional obstacles confront women who are seeking reemployment. For instance, many displaced midlife and older female workers who have strong family and community ties are less likely to see any positive advantages associated with relocating for employment's sake, thus, they elect not to move. Others have had little encouragement to seek additional training in order to secure comparable or better paying positions than the lost job.

The reemployment rates for women compared to those of men lag by about 10 percent in the 1986 CPS and 11.7 percent in the 1988 survey (11). The displacement rate for older women in the 1988 survey, 55 to 64 years of age is 38.7 percent and 32.2 percent for the men in this same age category (2). Studies indicate that as women age, their earnings decline as a share of income when compared to other sources of income (10, 11). But, for women who remain in the labor force, their earnings are a larger source of their income.

The 1988 January CPS supplement indicated that 4.7 million workers with three or more years of tenure have been displaced during the period of 1983-1988. The 4.7 million workers who have become displaced is an improvement over the 5.1 million for survey years 1984 and 1986. The 1988 survey indicates that 71 percent of these displaced workers have become reemployed (2). See (Table 2) for employment status of displaced workers and area of residence in January 1988.

Insert Table 2 about here

Earnings and Benefits

Wages and benefits on the new job are often less than earnings received from the job prior to displacement. Wages are usually the main factor associated with the loss of income. In addition, wages are often expected to rise with length of job experience, so future wages or earnings are jeopardized.

Fringe benefits have monetary value. For example, many employers in the past only provided retirement pensions to employees vested with the company. Displaced workers are less likely to save because of extensive unemployment which usually reflects in less retirement income (6).

There has been a steady decline of persons seeking reemployment following displacement. This decrease could result from lower earnings or the acceptance of part-time work (6, 14, 15). For example, in 1984, 25 percent sought

reemployment; 18 percent in 1986, and in 1988, 14 percent. Of the 71 percent displaced workers reemployed in the 1988 survey, 44 percent received a decrease in their pay (2).

The outcome for those who face job losses can range from depletion of savings, mortgage foreclosures to the reliance on social services (16). The loss of health insurance coverage is a major problem for persons who are no longer employed for a wage. An analysis of the 1984 CPS's January displaced worker survey concludes that displaced full-time nonagricultural workers between 1979 and 1983 are less likely to be covered by health insurance for an extended period of time following displacement. This occurs even if they are able to obtain additional employment. Some displaced workers rely upon health insurance coverage from other family members or government programs such as Medicaid. But for many, there is no report of any type of health insurance coverage (17).

Family Policy Issues

As the impact of technological, economic, and policy forces are felt throughout society, Home Economics will need to become more active in serving the needs of displaced workers. (See box). The displaced worker population is an opportunity for Home Economics and family policy educators to demonstrate their value in an ever changing society.

Insert Shaded Box Here. See page 110.

Family Policy Issues

Long term structural and technological change is displacing many midlife and older workers and is resulting in shortsighted human resource policies (18). While some national legislation has instituted progressive policies which support American workers, continued federal leadership is imperative. Home Economics and family policy is needed more than ever to address the current changes in the labor force as well as the future work force.

Worker Adjustment and Retraining Notification Act (WARN)

In 1986, eight percent of all businesses with 100 or more workers went bankrupt or filed for financial reorganization around the time of employee displacement. These bankruptcies and reorganizations ultimately resulted in the unemployment of eight percent of the affected workers. The 100th Congress passed legislation requiring that employers give workers advance notice in cases of plant closings or large-scale layoffs. This proposal was combined with a proposed $980 million program of dislocated worker assistance into Public Law 100-379 which was passed August 4, 1988 (19).

Known as the Worker Adjustment and Retraining Notification Act of 1988 (WARN), the law took effect on February 4, 1989. The law applies to employers of 100 or more workers or the hourly equivalent. WARN requires that large firms give workers and communities 60 days warning of plant closings or mass layoffs of longer than six months. If notice is not given, the employer is liable, with the inclusion of a number of exceptions, to pay a civil penalty of not more than $500 per day for every day of notice missed (19).

The WARN legislation does not apply to businesses hit by unforeseen circumstances or to firms with fewer than 100 employees. No notice is required if the plant closes or a mass layoff results from a natural disaster, such as a flood, hurricane, earthquake, etc. An employer need not

give notice if an offer to transfer the employee to a different site of employment within reasonable driving distance is arranged. No notice is required if there is a transfer of the employee to any other site of employment regardless of distance, with no more than a six month break in employment and the employee accepts within 30 days of the offer or plant closing, whichever is later (20).

It is important to publicize and educate the public about components of the new law. Research is also needed to test models that analyze effectiveness of legislation. In its present state, WARN is a compromise measure. Further legislation is needed to extend advance notice to all workers, regardless of the size of the firm employed.

Consolidated Omnibus Budget Reconciliation Act (COBRA)

The Consolidated Omnibus Budget Reconciliation Act of 1986 (COBRA) is designed to protect employees of businesses that employ 20 or more persons by extending health insurance coverage to employees, employee spouses, and eligible dependents. COBRA provides for continuation of company health coverage upon the employee's termination of employment. It is available to those who experience a reduction in hours or termination of employment for reasons other than personal misconduct. Displaced workers can continue group health insurance coverage on an individual basis up to 18 months if they are not covered by Medicare or another group plan.

However, COBRA does not benefit employees who experience a break in their insurance coverage and need health insurance coverage. Insurance coverage, while available to displaced workers, may not be affordable to these workers and retirees. Moreover, with employers implementing cost-cutting strategies by limiting health insurance benefits, the costs of health coverage has increased. Unfortunately, this places an encumbrance of affordability for needed health coverage upon employees and retirees (21 & 22).

Public policy, related to displaced workers, is not one for industry, or labor, or government, alone. Rather it is the concern of every citizen. Protecting the United States' interests in human resources ensures a more productive, employed society, as well as financial security for families and individuals.

Educational Network

Within recent years federal and state legislation through Comprehensive Employment and Training Act (CETA), Job Training Partnership Act (JTPA), vocational education, and individual state legislation are funding education programs for displaced workers. The challenge to federal and state programs is to expand and modify existing adult and continuing education programs to accommodate the needs and learning styles of midlife and older workers.

Vocational Education

Vocational education serves the needs of special populations and endorses innovative employment education. In 1984 the Congress enacted the Carl D. Perkins Vocational Education Act (Public Law 98-524). This law expands vocational opportunities to include workers displaced by technological change or in need of training for the purpose of remaining employed. The law authorizes states to use federal funds to support employers in training and retraining with special attention directed towards basic skill education. State vocational education plans are to coordinate efforts with the JTPA, and the Adult Education Act (13).

The Carl D. Perkins Act was amended in 1988 to meet the present needs of training, retraining and employment development of adults, including workers 55 years of age and older. The 1988 amendments were intended to enable adults to obtain competencies and skills needed for productive labor force participation. Provisions ensure that programs are relevant to current and future labor market needs and accessible to all segments of society.

Grants to states under Carl D. Perkins Vocational Education Act are awarded to educational institutions and service providers under the JTPA. These grants are awarded to those who link up with one or more private companies in order to train midlife and older workers for jobs in high growth fields. Grants are limited to 50 percent of the

training program costs. The remaining costs must come from the private sector in either cash or related equipment and services which are equivalent to the federal grant.

Many older workers need retraining following displacement while others need basic education (24). Efforts to expand vocational education to serve the needs of older workers has often been futile. Flexible time schedules, location, and job targeted training is necessary to meet the needs of the midlife and older worker. Moreover, there is a need for cooperation and networking among various educational systems and industry to serve midlife and older displaced workers.

Cooperative Extension Service

From its beginning, Cooperative Extension Service has had as its mission to provide research-based information that people can use to improve their daily lives. Public policy education has been supported and mandated by Congress, the U. S. Department of Agriculture (USDA), the Extension Committee on Organization and Policy (ECOP), the Farm Foundation, and the National Association of State Universities and Land Grant Colleges.

Education, through investing in human capital, is a critical challenge for Cooperative Extension Service. Through nonformal education, Extension has identified under the national priority, Building Human Capital, to facilitate career preparation and transition of adults. Specific goals include: enabling adults to make informed occupational

choices, update skills for the workplace, and expand entrepreneurship opportunities (25).

As public policy educators, Extension personnel can provide an accurate and unbiased evaluation of proposed legislation that will strengthen existing pension laws thus facilitating informed decision making on the part of individuals and families (1). Extension educators can not only serve midlife and older workers through informal teaching methods and media, but also by networking with other adult education agencies. Furthermore, Extension is a national educational delivery system already in place in every county and parish in the United States. Cooperative Extension in each state needs to consider reallocation of monies to provide more funding for innovative, progressive programs that support human capital maximization.

Summary and Implications

To help ensure job mobility, job security, and financial security for experienced workers, improved adult basic educational training and updated vocational training is vital. To accomplish this goal of helping midlife and older displaced workers against unanticipated job loss, public policy and educational strategies suggested include the following priority measures.

1. Establish federal and state provisions so adult basic education has equal priority as youth education.

2. Identify and provide research on the social benefits as well as the economic benefits of adult education and reeducation.
3. Investigation and serious consideration by federal and state governments of tax incentives for retraining purposes, while persons are still employed.
4. There is a need to increase state government and private sector involvement in adult education. Presently adult education is operating in many local school districts and is in a position to assume a larger role in assisting efforts of organizations and agencies for retraining of displaced midlife and older workers. However, funding from the state and local levels is needed.

The Home Economics Challenge

The challenge to Home Economics is to improve employment security of midlife and older displaced workers. Home economists need to address the following questions.

1. Do Home Economics programs offer studies of life cycle planning concepts? Lifelong learning? Specific job related skills? Career development opportunities? and Economic and social development for all age groups?
2. Is Home Economics programming flexible to meet the needs of an older work force?
3. Can Cooperative Extension provide the necessary intervention and innovative educational support

programs needed by the growing number of midlife and older displaced employees and early retirees?

4. Can life cycle learning be incorporated in the present curriculums?
5. Are Home Economics programs affectively targeting the job specific skills of older students?
6. Do family and consumer economics educators provide basic financial survival skills and incorporate life cycle financial planning?
7. Is Home Economics providing retirement education in ways that can be utilized in the workplace as well as for those who chose to remain home?

Advanced training and education does not entirely alleviate the costs both financially or psychologically that midlife and older employees and their families endure. Investment in human resources is a life long process. If economic recovery is to take place, we must invest for the long-term in human capital maximization and this includes strategies of investing in midlife and older persons.

In the 1987 AHEA Commemorative Lecture, Deacon (26) challenged Home Economists to heed Burn's economic perspective. She states that rather than families and households assuming reactive roles to changes in society we must be active participants. Researchers and educators maintain that the midlife and older worker issue is primarily a long-term structural problem (2, 16, 17). The issue of worker displacement requires a new look at human

resource development and family policy by increasing state, public, and private involvement.

Home Economics emphasizes aiding individuals and families with achieving a higher quality of life. Can we meet the challenge of aiding midlife and older workers in Home Economics, Vocational Home Economics, and Cooperative Extension Service?

Family policy makers and educators are in an unique position to support and document policy improvements for reducing the waste of human resources. Human resource loss includes the social and psychological wastes and the imbalance and depreciation of human capital caused by the cost of unemployment or underemployment. Home Economists must continue to initiate programming that strengthens the quality of life for all, including midlife and older workers.

References

1. Report of the Task Force on Public Policy Education in Home Economics, Subcommittee on Home Economics, Extension Committee on Organization and Policy. Public Policy Education in Extension Home Economics. New York, 1984.

2. U. S. Department of Labor, Bureau of Labor Statistics. BLS Reports on Worker Displacement USDL 88-611. 1988.

3. Bould, S. "Unemployment as a Factor in Early Retirement Decisions." American Journal of Economics and Sociology 9 (1980), 123-36.

4. Congressional Record-House, S.2527. Plant Closing Legislation. Washington, DC: Congressional Research Service, 1988.

5. Committee On Ways and Means, U.S. House of Representatives, 100th Congress, 1st Session. Retirement Income For an Aging Population. A Report, WMCP: 100-22, (1987), 143.

6. Schulz, J. H. The Economics of Aging. 4th ed. Dover, Massachusetts: Auburn House, 1988.

7. Committee on Banking, Housing and Urban Affairs United States Senate. Tender Offer Disclosure and Fairness Act of 1987. (Report 100-265 to accompany S. 1323). Washington, DC: U.S. Government Printing Office, 1987.

8. McKenzie, R. B. Plant Closings: Public or Private Choices? Washington, DC, 1984.

9. Congress of the U. S. Office of Technology Assessment. Plant Closing: Advance Notice and Rapid Response. Special Report (OTA-ITE321). Washington, DC: U.S. Government Printing Office, 1986.

10. Peck, C. J. and Webster, G. "Women and Pensions." Journal of Home Economics 77:1 (1985), 10-15, 37.

11. Herz, D. D. "Employment Characteristics of Older Women." Monthly Labor Review 111:9 (1988), 3-12.

12. Couchman, G. M., and Peck, C. J. "Midlife Employment: Marketing Home Economics." Journal of Home Economics. (Winter 1988), 17-23.

13. Congress of the U.S. Office of Technology Assessment. Technology and Structural Unemployment: Re-employing Displaced Adults. OTA-ITE-250. Washington, DC: U.S. Government Printing Office, 1986.

14. Swaim, P. and Podgursky, M. "Do More-Educated Workers Fare Better Following Job Displacement?" Monthly Labor Review 112:8 (1989), 43-46.

15. Spar, K. "Retraining and Other Proposals For Dislocated Workers." Congressional Research Service Review 5:5 (1984), 14-16.

16. Bluestone, B. and Harrison, B. The Deindustrialization of America. New York: Basic Books, 1982.

17. Flaim, P. O., and Sehgal, E. "Displaced Workers of 1979-83: How Well Have They Fared?" Monthly Labor Review 108:6 (1985), 3-16.

18. Clark, D. M. Displaced Workers: A Challenge for Voc Ed. The National Center for Research in Vocational Education, The Ohio State University. ED229 579 National Center Publications, Information Series No. 255, 1983.

19. Congressional Record, House, S.2527 Congressional Research Service Issue Brief. Plant Closing Legislation. Publication No. IP 406P, Washington, DC: Library of Congress, Congressional Research Service, 1988.

20. United States Department of Labor. News: Labor Department Issues Interim Rule on Plant Closing Law. USDL:88-606, Washington, DC: Employment and Training Administration, 1988.

21. American Council of Life Insurance Health Insurance Association of America. Consumer Notes--Group Health Insurance, D 326.

22. Report of the Secretary of Labor's Task Force on Economic Adjustment and Worker Dislocation. Economic Adjustment and Worker Dislocation in a Competitive Society. No. 181-519/64211. Washington, DC: Government Printing Office, 1987.

23. Ippolito, R.A. "A Study of the Regulatory Effect of the Employee Retirement Income Security Act." Labor Law Journal 35:9 (1988), 85-125.

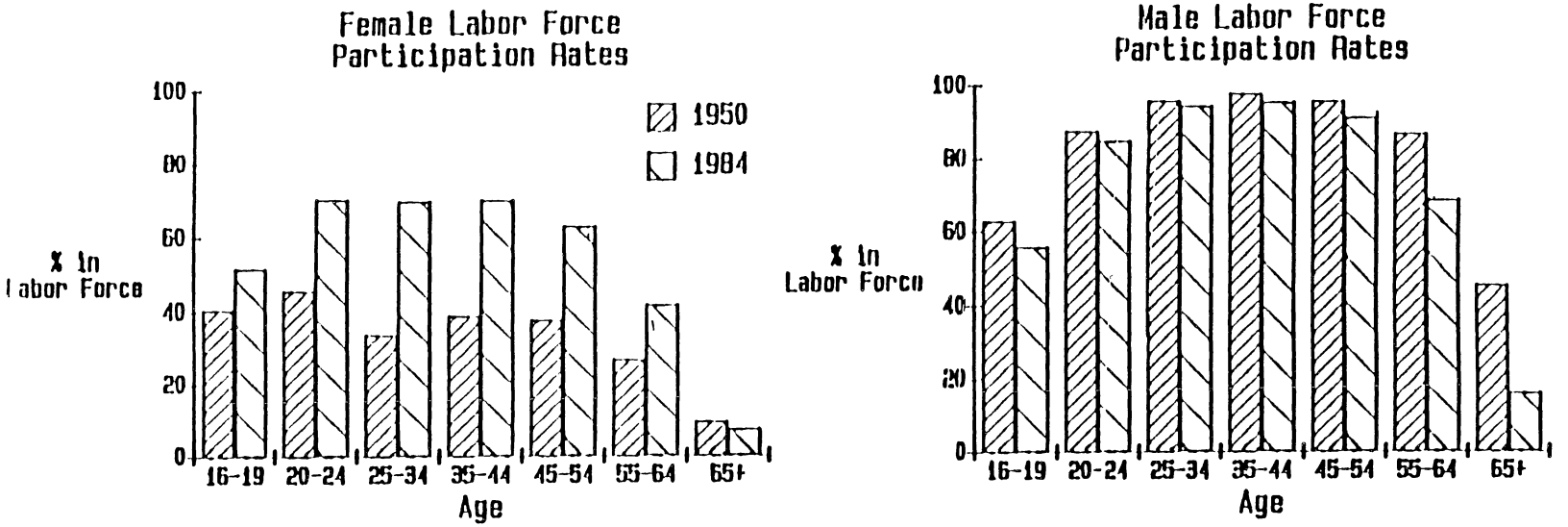
24. Redmond, R.X. "The Training Needs of Older Workers." Vocational Educational Journal 61:7 (1986), 38-40.

25. Cooperative Extension System National Initiatives. Focus on Issues. United States Department of Agriculture Extension Service, January 1988.

26. Deacon, R.E. "Visions For the 21st Century 1987 AHEA Commemorative Lecture." Journal of Home Economics 79:3 (1987), 62-70.

Figure 1

Changes in Labor Force Participation Rates
by Age and Sex: 1950 to 1984



Adapted from Retirement Income for an Aging Population. A Report, Congressional Research Service, Library of Congress, with analytic support from the Congressional Budget Office, August 25, 1987 143

Table 1

Median earnings losses and number of weeks of joblessness following displacement, by educational attainment and occupation.

Occupation on former job	Years of schooling completed			
	11 or fewer	12	13 to 15	16 or more
All displaced workers [1]				
Percent earnings loss	16 1	10 2	8 4	2 0
Number of weeks jobless	39	24	15	12
Operatives				
Percent earnings loss	16 1	12 8	14 0	5 2
Number of weeks jobless	52	26	17	20
Craft and precision				
Percent earnings loss	17 2	8 4	13 3	4 1
Number of weeks jobless	26	20	16	15
Laborers				
Percent earnings loss	14 7	10 9	13 6	[2]
Number of weeks jobless	51	24	24	[2]
Clerical				
Percent earnings loss	17 5	9 5	6 1	1 6
Number of weeks jobless	36	26	16	12
Managerial				
Percent earnings loss	[3]27 2	12 8	8 4	2 0
Number of weeks jobless	[3]30	12	12	9
Sales				
Percent earnings loss	9 5	8 4	6	0
Number of weeks jobless	24	12	12	12
Service				
Percent earnings loss	19 5	5 3	5 7	[3]–6 3
Number of weeks jobless	36	13	13	[3]12
Professional				
Percent earnings loss	[2]	11 2	3 8	2
Number of weeks jobless	[2]	20	8	10
Technical				
Percent earnings loss	[2]	12 0	9 2	1 9
Number of weeks jobless	[2]	16	13	8

[1] Workers ages 20 to 61 displaced from full time nonagricultural wage and salary jobs between January 1979 and January 1986 Earnings loss, which is only defined for workers reemployed on the survey date, is the percentage reduction in usual weekly earnings between the old job and the current job Earnings on the old job were adjusted for trend growth in occupational wages between the year of job loss and the date of the survey (as reported in various issues of the Bureau of Labor Statistics monthly publication *Employment and Earnings*) The tabulations of numbers of weeks jobless are for workers displaced at least 1 year prior to the survey Although some of these workers' jobless spells are right-censored (that is, still in progress on the survey date), the median spell durations are not biased because fewer than 50 percent of the workers in any cell experience a year or more without work

[2] Median value not reported because fewer than 26 observations were available

[3] Between 26 and 50 observations were available

Reprinted from Monthly Labor Review, August, 1989

Table 2

Employment status and area of residence in January 1988 of displaced workers by selected characteristics

(Numbers in thousands)

Characteristic	Total[1]	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
WORKERS WHO LOST JOBS										
Total	4 739	204	667	889	371	620	311	680	328	669
Men	3 024	138	428	613	207	367	190	426	227	428
Women	1 715	66	239	276	164	253	122	254	101	241
REASON FOR JOB LOSS										
Plant or company closed down or moved	2 758	132	381	528	202	397	208	361	172	377
Slack work	1 289	42	191	239	91	144	71	229	101	180
Position or shift abolished	692	30	95	122	79	79	32	90	55	111
INDUSTRY OF LOST JOB										
Construction	407	12	36	66	20	52	28	100	52	41
Manufacturing	1 834	119	332	403	115	239	145	185	64	233
Durable goods	1 257	78	217	319	64	135	89	117	54	184
Nondurable goods	578	41	114	84	51	104	56	68	10	49
Transportation and public utilities	305	19	27	64	26	40	17	33	27	52
Wholesale and retail trade	949	21	124	190	108	133	54	125	73	120
Finance, insurance, and real estate	253	2	23	31	29	25	7	66	17	52
Services	680	30	102	97	43	94	38	83	52	141
Professional services	346	16	42	56	32	48	18	33	25	77
Other service industries	334	14	60	41	11	46	19	50	28	64
Public administration	32	1	3	6	2	5	-	5	4	6
Other industries[2]	280	0	20	32	28	32	23	83	39	22
EMPLOYMENT STATUS IN JANUARY 1988										
Employed	3 382	150	451	605	282	453	212	493	237	498
Unemployed	661	29	91	157	33	60	53	96	44	97
Percent less than 5 weeks	27 3	(3)	28 4	22 5	(3)	(3)	(3)	29 1	(3)	18 9
Percent 27 weeks or more	22 1	(3)	19 7	23 3	(3)	(3)	(3)	36 2	(3)	15 1
Not in the labor force	697	25	125	127	56	107	46	91	47	73

[1] Data refer to persons with tenure of 3 years or more who lost or left a job between January 1983 and January 1988 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

[2] Includes a small number who did not report industry.

[3] Data not shown where base is less than 75 000.

NOTE: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont compose the New England Division; New Jersey, New York, and Pennsylvania compose the Middle Atlantic Division; Illinois, Indiana, Michigan, Ohio, and Wisconsin compose the East North Central Division; Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota compose the West North Central Division; Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia compose the South Atlantic Division; Alabama, Kentucky, Mississippi, and Tennessee compose the East South Central Division; Arkansas, Louisiana, Oklahoma, and Texas compose the West South Central Division; Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming compose the Mountain Division; Alaska, California, Hawaii, Oregon, and Washington compose the Pacific Division.

Reprinted from News, US Department of Labor, Bureau of Labor Statistics, Washington, DC, December 9, 1988

APPENDICES

APPENDIX A

SUPPORT DATA FOR CHAPTER I

DEFINITIONS

Age. Age classification is based on age of the person at his/her last birthday. The sample for this study consists of persons 45 years of age and older.

Displaced Workers. Displaced worker is a term that describes workers who have put in years of service and acquired specific skills, only to find that these skills or jobs are no longer in demand. Structural unemployment displaces workers from jobs that are often terminated. Persons in this study are considered displaced if unemployed due to merger, closing or relocation of a plant or company, or, experience a layoff due to slack work.

Displaced workers often experience prolonged unemployment, and frequently reenter the work force at lower pay, status, and security. Other displaced workers might give up looking for work altogether, believing that there are no suitable jobs available (Office of Technology Assessment, 1986).

Duration of Unemployment. Duration of unemployment represents the length of time (through the current survey week) during which persons classified as unemployed are continuously looking for work. For persons on layoff, duration of unemployment represents the number of full weeks since termination of most recent employment. A period of two weeks or more during which a person is employed or ceased looking for work is considered to break the continuity of the present period of seeking work. Average duration is an arithmetic mean computed from a distribution by single weeks of unemployment.

Early Retirement. Early retirement is a phrase describing different detachments from the labor force of individuals at ages earlier than once arbitrarily determined as normal, that is 65 years of age.

Employed. Employed persons comprise all civilians who, during the survey week, do any work at all as paid employees or in their own business or profession, or on their own farm, or who work 15 hours or more as unpaid workers on a farm, or in a business operated by a member of the family; and all those who have jobs but who are not working because of illness, bad weather, vacation, or labor-management dispute, or because they are taking time off for personal reasons.

Family. A family is a group of two persons or more (one of whom is the householder) residing together and related by birth, marriage, or adoption. All such persons (including related subfamily members) are considered as members of one family.

Family Household. A family household is a household maintained by a family (as defined above), and may include among the household members any unrelated persons (unrelated subfamily members and or secondary individuals) who may be residing there. The number of family households is equal to the number of families. The count of family household members differs from the count of family members, however, in that the family household members include all persons living in the household, where as family members include only the householder and his/her relatives.

Full-Time Worker. Persons on full-time schedules include persons working 35 hours or more for a wage or salary.

Group Health Insurance Coverage. Civilian persons who worked in 1986 and who participated in group health insurance plans provided by the employer or union were asked whether part or all of the health insurance premiums were paid for by the union or employer and the extent of persons covered. Additional questions were asked to determine if sample persons were covered by continuing employer provided coverage and persons who purchased coverage on their own.

Household. A household consists of all the persons who occupy a house, an apartment, or other group of rooms, or a room, which constitutes a housing unit. A group of rooms or a single room is regarded as a housing unit when it is occupied as separate living quarters; that is, when the occupants do not live and eat with any other person in the structure, and when there is direct access from the outside or through a common hall. The count of households excludes persons living in group quarters, such as rooming houses, military barracks, and institutions. Inmates of institutions/mental hospitals, rest homes, correctional institutions, etc. are not included in the sample.

Householder. The householder refers to the person or one of the persons in whose name the housing unit is owned or rented or, if there is no such person, any adult member, excluding roomers, boarders, or paid employees. If the house is owned or rented jointly by a married couple, the householder may be either the husband or the wife. The person designated as the householder is the "reference person" to whom the relationship of all other household members, if any, is recorded.

Income. Income statistics refer to receipts during the preceding year. The income of the household does not include amounts received by persons who are members of the household during all or part of the income year if these persons no longer resided with the household at the time of enumeration. On the other hand, household income includes amounts reported by persons who did not reside with the

household during the income year but who were members of the household at the time enumeration.

Data on consumer income collected in the CPS by the Bureau of the Census cover money income received (exclusive of certain money receipts such as capital gains) before payments for personal income taxes, Social Security, union dues, Medicare deductions, etc. Also, money income does not reflect the fact that some households receive part of their income in the form of nonmoney transfers such as food stamps, health insurance benefits, subsidized housing, and energy assistance; that many farm; or that nonmoney income is received by some nonfarm residents that often takes the form of the use of business transportation and facilities, or full or partial contributions for retirement programs, medical and educational expenses, etc. Moreover, there is a tendency in household surveys for respondents to under report their income.

Involuntary Retirement. Involuntary retirement may result from health/disability or a response to unemployment, therefore, it can result whenever an employee has not "planned" to retire at the time he/ she becomes retired.

Layoff. A person who is unemployed but expects to be called back to a specific job. If he/she expects to be called back within 30 days, it is considered a temporary layoff; otherwise, it is an indefinite layoff.

Not in Labor Force. All of the sample who are not classified as employed or unemployed. These persons are further classified as major activity: keeping house, going to school, unable to work because of long-term physical or mental illness, and other. The "other" group includes, for the most part, retired persons. Persons who report doing unpaid work in a family farm or business for less than 15 hours are also classified as not in the labor force.

Part-Time, Economic Reasons. The item includes slack work, material shortages, repairs to plant or equipment, start or termination of job during the week, and inability to find full-time work.

Race. The population is divided into two groups on the basis of race: Caucasian and Other races. The last category includes Indians, Japanese, Chinese, Blacks and any other race except Caucasian.

Unemployed. Unemployed persons are those civilians who, during the survey week, have no employment but are available for work,and (1) have engaged in any specific job seeking activity within the past 4 weeks such as registering at a public or private employment office, meeting with prospective employers, checking with friends or relatives,

placing or answering advertisements, writing letters of application, or being on a union or professional register; (2) are waiting to be called back to a job from which they had been laid off; or (3) are waiting to report to a new wage or salary job within 30 days.

Regional Concepts

Regions. There are four regions of the country described in this study: Northeast, Midwest, West, and South. Regions are presented below.

Northeast Region: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, New Jersey, New York, and Pennsylvania.

Midwest Region: Illinois, Indiana, Michigan, Ohio, Wisconsin, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota.

West Region: Arizona, Colorado, Idaho, Montana, Nevada, Utah, Wyoming, Alaska, California, Hawaii, Oregon, Washington.

South Region: Alabama, Kentucky, Mississippi, Tennessee, Arkansas, Louisiana, Oklahoma, Texas.

TABLE 1
DISPLACED WORKERS BY AGE, SEX, RACE, HISPANIC ORIGIN, AND EMPLOYMENT STATUS, IN JANUARY 1988

Age, sex, race, and Hispanic origin	Total[1] (thousands)	Percent distribution by employment status			
		Total	Employed	Unemployed	Not in the labor force
TOTAL					
Total, 20 years and over	4,739	100.0	71.4	13.9	14.7
20 to 24 years	153	100.0	77.7	15.6	6.8
25 to 54 years	3,700	100.0	77.1	14.1	8.8
55 to 64 years	696	100.0	50.7	14.6	34.7
65 years and over	190	100.0	30.4	6.6	63.0
Men					
Total, 20 years and over	3,024	100.0	74.2	15.4	10.5
20 to 24 years	101	100.0	80.1	16.5	3.4
25 to 54 years	2,421	100.0	79.3	15.3	5.4
55 to 64 years	427	100.0	51.9	15.9	32.2
65 years and over	74	100.0	27.6	11.2	61.3
Women					
Total, 20 years and over	1,715	100.0	66.4	11.4	22.2
20 to 24 years	52	100.0	73.0	13.7	13.3
25 to 54 years	1,279	100.0	72.9	11.8	15.3
55 to 64 years	269	100.0	48.8	12.5	38.7
65 years and over	116	100.0	32.2	3 7	64.2
WHITE					
Total, 20 years and over	4,112	100.0	72.4	12.8	14.8
Men	2,639	100.0	75.1	14.5	10.4
Women	1,473	100.0	67.6	9.7	22.6
BLACK					
Total, 20 years and over	509	100.0	65.0	20.7	14.3
Men	305	100.0	68.3	21.5	10.2
Women	204	100.0	60 1	19.5	20.4
HISPANIC ORIGIN					
Total, 20 years and over	364	100.0	66.6	18.8	14.6
Men	243	100.0	65.3	22.3	12.4
Women	121	100.0	69.2	11.7	19.1

[1] Data refer to persons with tenure of 3 years or more who lost or left a job between January 1983 and January 1988 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

Source: Bureau of Labor Statistics (BLS), News, December 9, 1988.

TABLE 2
DISPLACED WORKERS BY AGE, SEX, RACE, HISPANIC ORIGIN, AND REASON FOR JOB LOSS, IN JANUARY 1988

Age, sex, race, and Hispanic origin	Total[1] (thousands)	Percent distribution by reason for job loss			
		Total	Plant or Company Closed Down or Moved	Slack Work	Position or Shift Abolished
TOTAL					
Total, 20 years and over	4,739	100.0	58.2	27.2	14.6
20 to 24 years	153	100.0	54.3	38.5	7.2
25 to 54 years	3,700	100.0	56.7	29.0	14.3
55 to 64 years	696	100.0	64.6	18.1	17.3
65 years and over	190	100.0	66.8	17.2	16.0
Men					
Total, 20 years and over	3,024	100.0	56.8	30.6	12.6
20 to 24 years	101	100.0	50.7	46.5	2.8
25 to 54 years	2,421	100.0	55.8	32.1	12.0
55 to 64 years	427	100.0	63.5	19.4	17.1
65 years and over	74	100.0	56.8	23.0	20.2
Women					
Total, 20 years and over	1,715	100.0	60.7	21.2	18.1
20 to 24 years	52	100.0	61.3	22.9	15.8
25 to 54 years	1,279	100.0	58.4	23.0	18.7
55 to 64 years	269	100.0	66.4	16.0	17.6
65 years and over	116	100.0	73.2	13.5	13.3
WHITE					
Total, 20 years and over	4,112	100.0	58.3	26.9	14.8
Men	2,639	100.0	56.9	30.4	12.7
Women	1,473	100.0	60.8	20.8	18.4
BLACK					
Total, 20 years and over	509	100.0	58 0	29.8	12.2
Men	305	100.0	55.5	34.2	10.3
Women	204	100.0	61 8	23 3	15.0
HISPANIC ORIGIN					
Total, 20 years and over	364	100.0	53.0	34.3	12.7
Men	243	100.0	48.8	38.3	12.9
Women	121	100.0	61.5	26.3	12.2

1 Data refer to persons with tenure of 3 years or more who lost or left a job between January 1983 and January 1988 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

Source: Bureau of Labor Statistics (BLS), News, December 9, 1988.

TABLE 3
DISPLACED WORKERS BY WHETHER THEY RECEIVED ADVANCE NOTICE OR EXPECTED LAYOFF, REASON FOR JOB LOSS, AND EMPLOYMENT STATUS IN JANUARY 1988

Characteristic	Total[1] (thousands)	Percent distribution by employment status			
		Total	Employed	Unemployed	Not in the labor force
TOTAL					
Total, 20 years and over[2]	4,739	100.0	71.4	13.9	14.7
Received advance notice or expected layoff	2,730	100.0	72.7	13.3	14.0
Received written advance notice	940	100.0	73.7	12.8	13.5
Did not receive advance notice or expect layoff	1,994	100.0	69.6	14.7	15.7
PLANT OR COMPANY CLOSED DOWN OR MOVED					
Total, 20 years and over[2]	2,758	100.0	71.9	11.6	16.5
Received advance notice or expected layoff	1,717	100.0	73.3	12.0	14.7
Received written advance notice	589	100.0	74.1	12.2	13.7
Did not receive advance notice or expect layoff	1,035	100.0	69.6	10.8	19.5
SLACK WORK					
Total, 20 years and over[2]	1,289	100.0	71.0	19.1	9.9
Received advance notice or expected layoff	667	100.0	72.1	17 5	10.4
Received written advance notice	195	100.0	77.1	14.0	8.9
Did not receive advance notice or expect layoff	613	100.0	70 0	20 5	9 5
POSITION OR SHIFT ABOLISHED					
Total, 20 years and over[2]	692	100.0	69.8	13.7	16.4
Received advance notice or expected layoff	346	100.0	71.0	11.4	17.6
Received written advance notice	156	100.0	67.9	13.7	18.4
Did not receive advance notice or expect layoff	346	100.0	68.7	16.0	15.3

[1] Data refer to persons with tenure of 3 years or more who lost or left a job between January 1983 and January 1988 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

[2] Includes a small number who did not report information on advance notice.

Source: Bureau of Labor Statistics (BLS), News, December 9, 1988.

TABLE 4
DISPLACED WORKERS BY INDUSTRY AND CLASS OF WORKER OF LOST JOB EMPLOYMENT STATUS IN JANUARY 1988

Industry and Class of Worker of Lost Job	Total[1] (thousands)	Percent distribution by employment status			
		Total	Employed	Unemployed	Not in the labor force
Total, 20 years and over[2]	4,739	100 0	71.4	13 9	14 7
Nonagricultural private wage and salary workers	4,546	100 0	71 3	13 9	14 8
Mining	230	100.0	67.7	14.2	18 1
Construction	403	100.0	69.4	22.5	8 1
Manufacturing	1,829	100.0	69 4	15 9	14 6
Durable goods	1,253	100.0	69.7	15 9	14 3
Lumber and wood products	70	100.0	68 6	12 2	19 2
Furniture and fixtures	49	100.0	([3])	([3])	([3])
Stone, clay, glass products	32	100.0	([3])	([3])	([3])
Primary metal industries	145	100.0	65.0	10 6	24 3
Fabricated metal products	160	100.0	66.7	14 6	18 7
Machinery, except electrical	301	100.0	79 2	12.2	8 7
Electrical machinery	201	100.0	69 8	14 1	16 1
Transportation equipment	204	100.0	61.4	30 2	8 4
Automobiles	122	100.0	53.3	38 4	8 3
Other transportation equipment	82	100.0	73 3	18 1	8 5
Professional & photographic equip	51	100 0	([3])	([3])	([3])
Other durable goods industries	40	100 0	([3])	([3])	([3])
Nondurable goods	576	100 0	68 7	16 0	15 3
Food and kindred products	138	100.0	70 9	19 4	9 7
Textile mill products	52	100 0	([3])	([3])	([3])
Apparel and other finished textile products	129	100 0	70 0	8 6	21 3
Paper and allied products	36	100.0	([3])	([3])	([3])
Printing and publishing	52	100 0	([3])	([3])	([3])
Chemical and allied products	73	100 0	([3])	([3])	([3])
Rubber and miscellaneous plastics products	42	100.0	([3])	([3])	([3])
Other nondurable goods industries	55	100.0	([3])	([3])	([3])
Transportation and public utilities	295	100.0	73 4	14 4	12.2
Transportation	231	100.0	72.6	13.3	14.1
Communication and other public utilities	64	100.0	([3])	([3])	([3])
Wholesale and retail trade	945	100.0	73.2	7 7	19 1
Wholesale trade	235	100.0	78 4	9 5	12 1
Retail trade	710	100.0	71.5	7.1	21.4
Finance, insurance, and real estate	250	100.0	78.1	6 5	15.4
Services	594	100.0	72.7	14.1	13.2
Professional services	262	100.0	72.7	11.1	16.2
Other service industries	332	100.0	72.7	16 6	10.8
Agricultural wage and salary workers	50	100.0	([3])	([3])	([3])
Government workers	140	100.0	71.4	14 1	14 5
Self-employed and unpaid family workers	4	100.0	([3])	([3])	([3])

1 Data refer to persons with tenure of 3 years or more who lost or left a job between January 1983 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

2 Includes a small number who did not report industry or class of worker

3 Data not shown where base is less than 75,000.

Source Bureau of Labor Statistics (BLS), News, December 9, 1988

TABLE 5
DISPLACED WORKERS BY OCCUPATION OF LOST JOB AND EMPLOYMENT STATUS IN JANUARY 1988

Occupation of lost job	Total[1] (thousands)	Total	Employed	Unemployed	Not in the labor force
Total, 20 years and over[2]	4,732	100 0	71 4	13 9	14.7
Managerial and professional speciality	823	100.0	78.0	11.3	10.7
Executive, administrative, managerial	527	100.0	75.2	11.9	12.9
Professional specialty	296	100.0	82.8	10.3	6.8
Technical, sales, administrative support	1,341	100.0	71.9	9.7	18.4
Technicians and related support	171	100.0	76.4	10.3	13.4
Sales occupations	515	100.0	73.9	9.2	16.9
Administrative support, including clerical	655	100.0	69.1	10.0	20.8
Service occupations	319	100.0	65.1	16.1	18.8
Precision production, craft and repair	856	100.0	71.4	17.8	10.9
Mechanics and repairers	197	100.0	70.9	16.8	12.3
Construction trades	280	100.0	69.7	25.9	4.4
Other precision production, craft, and repair	379	100.0	72 8	12.2	14 9
Operators, fabricators, and laborers	1,346	100.0	68 2	16.6	15.3
Machine operators, assemblers, and inspectors	768	100.0	65.2	18.7	16.1
Transportation and material moving occupations	331	100.0	71 9	12.8	15.2
Handlers, equipment cleaners, helpers, and laborers	248	100 0	72 4	14 9	12 6
Farming, forestry, and fishing	54	100.0	([3])	([3])	([3])

1 Data refer to persons with tenure of 3 years or more who lost or left a job between January 1983 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

2 Includes a small number who did not report occupation.

3 Data not shown where base is less than 75,000.

Source: Bureau of Labor Statistics (BLS), News, December 9, 1988.

TABLE 6
EMPLOYMENT STATUS AND AREA OF RESIDENCE IN JANUARY 1988 OF DISPLACED WORKERS BY SELECTED CHARACTERISTICS

(Numbers in thousands)

Characteristic	Total[1]	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
WORKERS WHO LOST JOBS										
Total	4,739	204	667	889	371	620	311	680	328	669
Men	3,024	138	428	613	207	367	190	426	227	428
Women	1,715	66	239	276	164	253	122	254	101	241
REASON FOR JOB LOSS										
Plant or company closed down or moved	2,758	132	381	528	202	397	208	361	172	377
Slack work	1,289	42	191	239	91	144	71	229	101	180
Position or shift abolished	692	30	95	122	79	79	32	90	55	111
INDUSTRY OF LOST JOB										
Construction	407	12	36	66	20	52	28	100	52	41
Manufacturing	1,834	119	332	403	115	239	145	185	64	233
Durable goods	1,257	78	217	319	64	135	89	117	54	184
Nondurable goods	578	41	114	84	51	104	56	68	10	49
Transportation and public utilities	305	19	27	64	26	40	17	33	27	52
Wholesale and retail trade	949	21	124	190	108	133	54	125	73	120
Finance, insurance, and real estate	253	2	23	31	29	25	7	66	17	52
Services	680	30	102	97	43	94	38	83	52	141
Professional services	346	16	42	56	32	48	18	33	25	77
Other service industries	334	14	60	41	11	46	19	50	28	64
Public administration	32	1	3	6	2	5	-	5	4	6
Other industries[2]	280	0	20	32	28	32	23	83	39	22
EMPLOYMENT STATUS IN JANUARY 1988										
Employed	3,382	150	451	605	282	453	212	493	237	498
Unemployed	661	29	91	157	33	60	53	96	44	97
Percent less than 5 weeks	27.3	([3])	28.4	22.5	([3])	([3])	([3])	29.1	([3])	18.9
Percent 27 weeks or more	22.1	([3])	19 7	23.3	([3])	([3])	([3])	36.2	([3])	15 1
Not in the labor force	697	25	125	127	56	107	46	91	47	73

1 Data refer to persons with tenure of 3 years or more who lost or left a job between January 1983 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

2 Includes a small number who did not report industry

3 Data not shown where base is less than 75,000

NOTE: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont compose the New England Division; New Jersey, New York, and Pennsylvania compose the Middle Atlantic Division, Illinois, Indiana, Michigan, Ohio, and Wisconsin compose the East North Central Division; Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota compose the West North Central Division; Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia compose the South Atlantic Division; Alabama, Kentucky, Mississippi, and Tennessee compose the East South Central Division; Arkansas, Louisiana, Oklahoma, and Texas compose the West South Central Division; Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming compose the Mountain Division; Alaska, California, Hawaii, Oregon, and Washington compose the Pacific Division

Source Bureau of Labor Statistics (BLS), News, December 9, 1988.

TABLE 7
DISPLACED WORKERS WHO LOST FULL-TIME WAGE AND SALARY JOBS[1] AND WERE REEMPLOYED IN JANUARY 1988 BY INDUSTRY OF LOST JOB AND CHARACTERISTICS OF NEW JOB

(In thousands)

	Total reemployed January 1988	Part-time job	Full-time wage and salary job					Self employment or other full-time job
			Total	Earnings relative to those of lost job				
				20 percent or more below	Below, but within 20 percent	Equal or above, but within 20 percent	20 percent or more above	
Total who lost full-time wage and salary jobs	3,152	306	2,616	724	328	665	671	230
Construction	273	23	220	61	23	73	48	29
Manufacturing	1,252	77	1,092	286	163	289	265	82
Durable goods	861	48	758	210	108	210	163	55
Primary metal industries	92	15	75	32	8	5	18	3
Steel[3]	67	13	52	21	4	4	14	2
Other primary metals	26	2	23	11	3	1	3	1
Fabricated metal products	107	3	97	42	7	21	27	6
Machinery, except electrical	231	10	200	38	41	65	37	22
Electrical machinery	138	10	117	17	16	50	27	11
Transportation equipment	127	5	122	46	18	29	20	-
Automobiles	63	2	61	20	7	19	7	-
Other transportation equipment	64	3	60	26	11	10	12	-
Nondurable goods	391	29	335	76	55	79	101	27
Transportation and public utilities	219	26	183	70	12	47	32	10
Wholesale and retail trade	596	83	485	152	55	94	135	29
Finance, insurance, and real estate	185	25	146	30	15	36	49	14
Services	423	59	324	62	39	85	107	40
Professional services	209	29	161	33	21	48	43	19
Other service industries	214	30	162	29	19	37	64	21
Public administration	19	5	13	-	4	6	4	1
Other industries[4]	187	8	153	63	17	34	32	25

[1] Data refer to persons with tenure of 3 years or more who lost or left a job between January 1983 an January 1988 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

[2] Includes 228,000 persons who did not report earnings on lost job.

[3] Includes blast furnaces, steelworks, rolling and finishing mills, and iron and steel furnaces.

[4] Includes a small number who did not report industry.

Source: Bureau of Labor Statistics (BLS), News, December 9, 1988.

APPENDIX B

SUPPORT DATA FOR CHAPTER II

CPS WEIGHTING OF THE SAMPLE

The procedure to calculate estimates for this survey involves the inflation of weighted sample results to independent estimates of the total civilian noninstitutional population of the United States by age, race, sex and Hispanic/non-Hispanic categories. These independent estimates are based on statistics from the decennial censuses of population; statistics on births, deaths, immigration and emigration; and statistics on the strength of the Armed Forces.

Sampling Variability

Sampling variability is variation that occurred by chance because a sample rather than the entire population was surveyed. The standard errors given in the following tables are measures of sampling variability.

Although standard errors are the accepted measure of sampling variability, these standard errors also include the effect of some nonsampling errors in responses and enumeration but do not measure any systematic biases in the dat. Bias is the difference, averaged over all possible samples, between the estimate and the desired value.

Standard errors are used to determine the reliability of survey estimates. They are used to evaluate the statistical validity of conclusions made about the data.

Confidence interval estimation and hypothesis testing are both procedures that use standard errors to test for statistical validity. The confidence interval is a range

about the sample estimate constructed so that, if the survey were to be repeated a large number of times under the same general circumstances, the confidence intervals would include the average result of all possible samples with a known probability. For example, if one were to construct an interval from 1.6 standard errors below the estimate to 1.6 standard errors above the estimate about 90 percent of these intervals would include the average result of all possible samples. Although a particular interval computed for an actual estimate may not contain the average result, one can reason with 90 percent confidence that it does contain the average result.

Hypothesis testing is a procedure for distinguishing between population parameters using sample estimates. One common type of hypothesis is that population parameters are different, for example comparing male and female displaced workers.

Standard Error Tables and Use

To derive, at a moderate cost, standard errors that apply to many estimates, a number of approximations are required. Generalized sets of standard errors are provided for various types of characteristics in the tables. The sets of standard errors give an indication of the order of magnitude of the standard error of an estimate rather than the precise standard error.

The figures in Tables B-2 and B-3 are approximations to the standard errors of various estimates for persons. To

obtain the approximate standard error for a specific characteristic, multiply the appropriate standard error in Tables B-2 and B-3 by the factor for that characteristic given in Table B-1. These factors adjust the generalized standard errors for the combined effect of the sample design and the estimating procedure on value of the characteristic. Use linear interpolation to obtain standard errors for intermediate values not shown in the tables.

TABLE 1-B

PARAMETERS AND FACTORS FOR COMPUTING APPROXIMATE STANDARD ERRORS
OF ESTIMATED NUMBERS, PERCENTAGES, AND LABOR FORCE PARTICIPATION RATES FOR ESTIMATES
OF CPS LABOR FORCE DATA

Type of Characteristic	a	b	f[1]
Agricultural Employment			
All Races	-0.000028	3,702	1.26
Hispanic Origin	-0.000141	1,753	0.87
All labor Force Data other than Unemployment and Agriculture Employment Data			
Total	-0.000016	2.327	1.00
Nonblack	-0.000018	2,327	1.00
Black	-0.000144	2,327	1.00
Hispanic Origin	-0.000109	1,241	0.73
Teenage (16-19)	-0.000183	2,327	1.00
Nonblack Teenage (16-19)	-0.000214	2,327	1.00
Black Teenage (16-19)	-0.001262	2,327	1.00
Hispanic Origin Teenage (16-19)	-0.000799	1,241	0.73
Male	-0.000025	2,013	0.93
Male 20+ or Nonblack Male	-0.000027	2,013	0.93
Black Male	-0.000243	2,013	0.93
Hispanic Origin Male	-0.000222	1,241	0.73
Nonblack Male 20+	-0.000030	2,013	0.93
Black Male 20+	-0.000278	2,013	0.93
Female, Total or Nonblack	-0.000019	1,725	0.86
Female 20+, Total or Nonblack	-0.000021	1,725	0.86
Black Female or Black Female 20+	-0.000164	1,725	0.86
Hispanic Origin Female	-0.000213	1,241	0.73
Unemployment			
Total or Nonblack	-0.000015	2,206	0.97
Black	-0.000151	2,536	1.04
Hispanic Origin	-0.000094	1,075	0.681

[1] These factors are to be applied to the standard errors in Tables 2-B and 3-B to compute standard errors for the given type of characteristic.

Source: Bureau of the Census. "Current Population Survey, January 1988: Displaced Workers." Bureau of Labor Statistics. Washington, D.C. 1988.

TABLE 2-B

STANDARD ERRORS OF ESTIMATED NUMBERS FOR DISPLACED WORKERS (NUMBER IN THOUSANDS)

Size of Estimate	Standard error[1] Total Employed Population
10	5
25	8
50	11
100	15
250	24
500	34
1,000	48
2,500	76
5,000	106
7,500	129
10,000	147
15,000	177
20,000	200
30,000	235
40,000	260
50,000	276
70,000	291
100,000	270

[1] To obtain standard errors for the characteristic of interest multiply these values by the appropriate factor provided in Table 1-B.

Source: Bureau of the Census. "Current Population Survey, January 1988: Displaced Workers." Bureau of Labor Statistics. Washington, D.C. 1988.

TABLE 3-B

STANDARD ERRORS OF ESTIMATED PERCENTAGES
FOR DISPLACED WORKERS (TOTAL EMPLOYED POPULATION)

75	1.8	2.5	3.8	5.3	6.3	7.6	8.8
100	1.5	2.1	3.3	4.6	5.4	6.6	7.6
250	1.0	1.4	2.1	2.9	3.4	4.2	4.8
500	0.7	1.0	1.5	2.0	2.4	3.0	3.4
1,000	0.5	0.7	1.1	1.4	1.7	2.1	2.4
2,500	0.3	0.4	0.7	0.9	1.1	1.3	1.5
5,000	0.2	0.3	0.5	0.6	0.8	0.9	1.1
7,500	0.2	0.2	0.4	0.5	0.6	0.8	0.9
12,000	0.14	0.2	0.3	0.4	0.5	0.6	0.7
25,000	0.10	0.14	0.2	0.3	0.3	0.4	0.5
50,000	0.07	0.10	0.15	0.2	0.2	0.3	0.3
100,000	0.05	0.07	0.11	0.14	0.2	0.2	0.2

[1]To obtain standard errors for the characteristic of interest multiply these values by the appropriate factor provided in Table 1.

Source: Bureau of the Census. "Current Population Survey, January 1988: Displaced Workers." Bureau of Labor Statistics. Washington, D.C. 1988.

TABLE 4-B

ELIGIBILITY CRITERIA TO CREATE THE SAMPLE

	Marginal Loss of Sample Size	Resulting Sample Size
Total Weighted Sample Displaced Workers 20 years and older N=4,739		
1. Identifying workers 45 years and over who lost jobs N=1,188		
2. Identifying displaced workers with (1) Three years tenure at lost job (2) Jobs terminated due to plant closure or move, or layoff because of slack work or position or shift abolished (3) Displaced from full-time jobs (35 or more hours a week)	341	847
3. Identifying displaced worker variable Missing value information on the following displaced worker question: Why no job?	7	840

TABLE 5-B
SUMMARY OF VARIABLES

DEPENDENT VARIABLES

Income

NY	xxx = Actual new weekly earnings before deductions of displaced worker

Presence of Group Health Insurance Coverage

NOWGHTHI	1 = Now covered by group health insurance plan 0 = Not covered by group health insurance plan

DISPLACED WORKER VARIABLES

Reason Displaced

WHYNOJB	1 = Plant or company closed or moved Plant or company operating but lost job because of: Slack work Position or shift abolished	0 = Other

Duration of Unemployment

LS15	1 = Displaced worker unemployed less than 15 weeks	0 = Other
LS51	1 = Displaced worker unemployed less than 52 weeks	0 = Other
OV52	1 = Displaced worker unemployed 52 or more weeks	0 = Other

Relocated Since Displacement for Reemployment

MOVE	1 = Moved to a different city or county 0 = Did not relocate for additional work

Expect a Layoff

EXPECT	1 = Expect a layoff or closing	0 = Other

TABLE 5-B Continued

	Number of Jobs Since Layoff	
NUJBS	1 = One job since layoff	0 = Other
	2 = Two jobs since layoff	0 = Other
	3 = Three jobs since layoff	0 = Other
	4 = Four jobs since layoff	0 = Other
	5 = Five jobs since layoff	0 = Other
	Hours Worked on New Job Since Layoff	
NEWJOB	1 = Worked 35 or more hours the previous week of the survey	0 = Other
	HUMAN CAPITAL VARIABLES	
	Education	
EDUC8	1 = 8th grade education or less	0 = Other
SOMEHS	1 = Some high school	0 = Other
HSGRAD	1 = Completed high school	0 = Other
SMCOL	1 = Some college	0 = Other
COLGRAD	1 = College graduate	0 = Other
	Occupation	
PROF	1 = Managerial and professional, Executive, administrative and managerial Professional specialty	0 = Other
WHITE	1 = Technical, sales & admin support Technicians & related support Sales, Administrative support, Including clerical	0 = Other
PREC	1 = Precision production, craft and repair	0 = Other
BLUE	1 = Operatives, fabricators & laborers Machine operators, assemblers & Inspectors Transportation & material moving Handlers, equipment cleaners, etc.	0 = Other
FARM	1 = Farming, forestry & fishing	0 = Other
SERVICE	1 = Service, private household Protective service Other service	0 = Other

TABLE 5-B Continued

	Years Worked at Lost Job	
LOSTJB	1 = Lost job since January 1983	0 = Other
FULLJB	1 = Worked full-time on lost job	0 = Other
	Years of Continuous Work at Predisplacement Worksite	
CW35	1 = Displaced worker employed 3-5 years at the lost job	0 = Other
CW610	1 = Displaced worker employed 6-10 years at the lost job	0 = Other
CW1119	1 = Displaced worker employed 11-19 years at the lost job	0 = Other
CW2029	1 = Displaced worker employed 20-29 years at the lost job	0 = Other
CW3039	1 = Displaced worker employed 30-39 years at the lost job	0 = Other
CW40OV	1 = Displaced worker employed 40 or more years at the lost job	0 = Other
	ECONOMIC VARIABLES	
	Actual Annual Family Income (in dollars before deductions)	
CFAMILY	1 = Total family income $5000-$7499	0 = Other
	2 = Total family income $7500-$9999	0 = Other
	3 = Total family income $10000-$12499	0 = Other
	4 = Total family income $12500-$14999	0 = Other
	5 = Total family income $15000-$17499	0 = Other
	6 = Total family income $17500-$19999	0 = Other
	7 = Total family income $20000-$24999	0 = Other
	8 = Total family income $25000-$29999	0 = Other
	9 = Total family income $30000-$34999	0 = Other
	10 = Total family income $35000-$39999	0 = Other
	11 = Total family income $40000-$49999	0 = Other
	12 = Total family income $50000-$74999	0 = Other
	13 = Total family income $75000 +	0 = Other
	Predisplacement Weekly Earnings (in dollars of displaced worker)	
YW	1 = Earnings less than $200	0 = Other
	2 = Earnings $200-$399	0 = Other
	3 = Earnings $400-$599	0 = Other
	4 = Earnings $600-$799	0 = Other
	5 = Earnings $800-$999	0 = Other
	6 = Earnings $1000-9997	0 = Other

TABLE 5-B Continued

	New Weekly Earnings of Displaced Worker (in dollars before deductions)	
NY	1 = Earnings less than $200	0 = Other
	2 = Earnings $200-$399	0 = Other
	3 = Earnings $400-$599	0 = Other
	4 = Earnings $600-$799	0 = Other
	5 = Earnings $800-$999	0 = Other
	6 = Earnings $1000-9998	0 = Other
	Unemployment Benefits	
UNEMPBNF	1 = Displaced worker received unemployment benefits	0 = Other
	Home Ownership of Displaced Worker	
TENURE	1 = Tenure, home owned or being bought	0 = Other
	Group Health Insurance Coverage on Lost Job	
GRPHLTHJ	1 = Group health insurance coverage on the lost job	0 = Other
	Displaced Worker Presently Covered by Group Health Insurance	
NOWGHTHI	1 = Displaced worker now covered by group health insurance	0 = Other
	SOCIOECONOMIC VARIABLES	
	Marital Status	
MARRIED	1 = Married	
	0 = Divorced, widowed, separated or never married	
	Gender	
GENDER	1 = Male	
	0 = Female	
	Age Cohort	
AGE4554	1 = 45-54 years of age	0 = Other
AGE5564	1 = 55-64 years of age	0 = Other
AGE650V	1 = 65 and over	0 = Other

TABLE 5-B Continued

	Race		
RACECAU	1 = White		
RACEOT	0 = Other		
	Region of United States		
REGION	1 = Northeast		0 = Other
	2 = North Central		0 = Other
	3 = South		0 = Other
	4 = West		0 = Other
DIVISION	1 = New England	Region 1	0 = Other
	2 = Middle Atlantic	"	0 = Other
	3 = East North Central	Region 2	0 = Other
	4 = West North Central	"	0 = Other
	5 = South Atlantic	"	0 = Other
	6 = East South Central	Region 3	0 = Other
	7 = West South Central	"	0 = Other
	8 = Mountain	Region 4	0 = Other
	9 = Pacific	"	0 = Other
	CONTROL VARIABLES		
	Gender		
GENDER	1 = Male		
	0 = Female		
	Marital Status		
MARRIED	1 = Married		
DWSNM	0 = Divorced, Widowed, Single, Never Married		
	Race		
RACECAU	1 = White		
RACEOT	0 = Other		
	Age Cohort		
AGE4554	1 = 45-54 years of age		0 = Other
AGE5564	1 = 55-64 years of age		0 = Other
AGE650V	1 = 65 and over		0 = Other

TABLE 6-B
SUMMARY OF DISPLACED WORKER, HUMAN CAPITAL,
ECONOMIC AND SOCIOECONOMIC VARIABLES
PERCENTAGE DISTRIBUTION

	All Displaced Workers %	Midlife Displaced Workers Ages 45-54 %	Late Midlife Displaced Workers Ages 55-64 %	Older Displaced Workers Ages 65-over %
Displaced Worker Variables				
Why No Job				
1. Plant closing or move	58.7	58.2	58.8	61.9
2. Slack work	25.0	26.8	22.9	22.2
3. Position or shift ended	16.3	15.1	18.3	15.9
Duration of Unemployment				
Less than 15 weeks	89.0	12.5	9.5	1.6
Less than 52 weeks	33.0	4.2	3.9	1.6
Unemployed 52 or more weeks	17.0	1.5	2.9	1.6
Relocated Since Displacement	10.6	13.6	7.9	1.6
Expected a Layoff	54.5	53.5	54.6	61.9
Number of Jobs Since Layoffs				
0 Jobs	31.3	22.8	38.5	61.7
1 Jobs	47.5	52.7	42.9	30.0
2 Jobs	14.3	15.1	14.3	8.3
3 Jobs	4.0	4.7	3.7	-
4 Jobs	1.9	3.2	0.3	-
5 Jobs	1.0	1.5	0.3	-
Hours Worked on New Job				
Worked 35 or more hours	46.4	55.8	39.2	11.1
Human Capital Variables				
Education				
8th grade or less	11.1	8.5	14.7	12.7
Some high school	13.8	12.3	15.0	19.0
Completed high school	40.5	42.7	37.6	38.1
Some college	18.6	20.2	16.7	15.9
College graduate	16.1	16.3	16.0	14.3
Occupation				
Professional	13.3	15.1	11.4	9.5
White collar	25.8	29.3	22.5	15.9
Precision	13.5	14.9	13.1	4.8
Blue collar	19.8	20.8	20.3	9.5
Farm	1.2	1.5	1.0	-
Service	9.3	9.1	9.8	7.9

TABLE 6-B continued

	All Displaced Workers %	Midlife Displaced Workers Ages 45-54 %	Late Midlife Displaced Workers Ages 55-64 %	Older Displaced Workers Ages 65-over %
Continuous Work at Lost Job				
3-5 years	18.2	20.4	15.7	14.3
6-10 years	14.9	14.0	17.0	11.1
11-19 years	20.8	21.9	19.9	17.5
20-29 years	11.4	10.4	11.1	20.6
30-39 years	6.9	2.1	13.7	9.5
40 or more years	2.0	1.3	2.9	3.2
Economic Variables				
Annual Family Income				
Total Family Income				
1. $5,000-$7,499	5.2	5.6	4.0	8.8
2. $7,500-$9,999	6.3	5.1	5.4	19.3
3. $10,000-$12,499	8.9	6.5	11.9	12.3
4. $12,500-$14,999	5.8	5.4	6.5	5.3
5. $15,000-$17,499	9.3	8.4	10.8	8.8
6. $17,500-$19,999	2.9	3.0	2.5	3.5
7. $20,000-$24,999	10.1	9.1	12.6	5.3
8. $25,500-$29,999	11.1	10.5	12.3	10.5
9. $30,000-$34,999	7.7	8.4	6.9	7.0
10. $35,000-$39,999	8.8	9.8	7.6	7.0
11. $40,000-$49,999	7.9	9.3	6.5	3.5
12. $50,000-$74,999	12.6	14.2	11.2	7.0
13. $75,000 & over	3.4	4.7	1.8	1.8
Predisplacement Earnings				
1. Less than $200	14.8	14.4	13.1	26.8
2. $200-$399 weekly	36.4	34.8	40.1	30.4
3. $400-$599 weekly	28.2	30.1	24.8	30.4
4. $600-$799 weekly	10.7	10.8	11.3	7.1
5. $800-$999 weekly	5.0	4.7	6.2	1.8
6. Over $1,000 weekly	4.8	5.2	4.4	3.6
New Weekly Earnings				
1. Less than $200	23.5	19.3	28.5	52.9
2. $200-$399	35.3	35.4	36.4	23.5
3. $400-$599	20.9	23.6	16.6	11.8
4. $600-$799	9.7	10.8	7.3	11.8
5. $800-$999[a]	10.6	10.8	11.3	-
Unemployment Benefits Received benefits	65.7	63.2	71.9	54.8
Home Ownership	78.6	75.8	82.6	79.4
Group Health Insurance Coverage at Predisplacement Job	78.3	77.5	81.1	70.5
Presently Covered by Group Health Insurance	68.6	69.3	69.5	58.7

TABLE 6-B continued

	All Displaced Workers %	Midlife Displaced Workers Ages 45-54 %	Late Midlife Displaced Workers Ages 55-64 %	Older Displaced Workers Ages 65-over %
Socioeconomic Variables				
Marital Status				
Married	71.8	71.8	74.8	57.1
Divorced, Widowed, Single Never Married	28.2	28.2	25.2	42.9
Gender				
Male	63.2	64.8	63.1	52.4
Female = 0 or 2	36.8	35.2	36.9	47.6
Age Cohort				
Age 45-54	56.1	-	-	-
Age 55-64	36.4	-	-	-
Age 65 & over	7.5	-	-	-
Race				
Caucasian	88.0	87.0	88.9	90.5
Other	12.0	13.0	11.1	9.5
Region of United States				
1. Northeast	30.5	27.6	35.0	30.2
2. North Central	26.5	27.8	25.2	23.8
3. South	31.8	34.0	28.1	33.3
4. West	11.2	10.6	11.8	12.7
N*	840	471	306	63

* Missing data. Percentage based on those who responded to questions. Weighting of sample may cause percentages to vary slightly from 100 percent.

[a] No displaced workers had new weekly earnings more than $999.00.

APPENDIX C

SUPPORT DATA FOR CHAPTER III

TABLE 1-C
CROSS-TABULATION OF EDUCATIONAL LEVEL BY SEX AND DISPLACED WORKER NEW WEEKLY EARNINGS

Educational Level	Displaced Worker, New Weekly Earnings: Less than $200 Male %	Less than $200 Female %	$200-399 Male %	$200-399 Female %	$400-599 Male %	$400-599 Female %	$600-799 Male %	$600-799 Female %	$800-999[a] Male %	$800-999[a] Female %
8th grade or less N=27 Males N=12 Females	22.22	66.67	33.33	25.00	29.63	8.33	3.70	-	11.11	-
Some high school N=38 Males N=22 Females	31.58	59.09	39.47	40.91	15.79	-	13.16	-	-	-
Completed high school N=108 Males N=87 Females	10.19	47.13	40.74	36.78	25.93	13.79	12.96	2.30	10.19	-
Some college N=54 Males N=39 Females	5.56	12.82	27.78	51.28	33.33	25.64	24.07	5.13	9.26	5.13
College graduate N=68 Males N=18 Females	7.35	38.89	22.06	27.78	19.12	16.67	11.76	5.56	39.71	11.11

Total N=473
*N=295 Males
*N=178 Females
*Missing data. Percentages based on those who responded to questions.

[a] No displaced workers earned more than $999 in new weekly earnings.

TABLE 2-C
CROSS-TABULATION OF AGE COHORTS BY SEX AND DISPLACED WORKER NEW WEEKLY EARNINGS

Age Cohorts	Displaced Worker, New Weekly Earnings									
	Less than $200		$200-399		$400-599		$600-799		$800-999[a]	
	Male %	Female %	Male %	Female %	Male %	Female %	Male %	Female %	Male %	Female %
Midlife (45-54) N=194 Males N=111 Females	8.76	37.84	33.51	38.74	26.80	18.02	15.46	2.70	15.46	2.70
Late Midlife (55-64) N=93 Males N=58 Females	20.43	41.38	32.26	43.10	20.43	10.34	9.68	3.45	17.20	1.72
Older (65 and over) N=8 Males N=9 Females	12.50	88.89	37.50	11.11	25.00	-	25.00	-	-	-

Total N=473
*N=295 Males
*N=178 Females
*Missing data. Percentages based on those who responded to questions.

[a] No displaced workers earned more than $999 in new weekly earnings.

TABLE 3-C
CROSS-TABULATION OF OCCUPATION BY SEX AND DISPLACED WORKER NEW WEEKLY EARNINGS

Occupational Groups	Displaced Worker, New Weekly Earnings: Less than $200 Male %	Less than $200 Female %	$200-399 Male %	$200-399 Female %	$400-599 Male %	$400-599 Female %	$600-799 Male %	$600-799 Female %	$800-999[a] Male %	$800-999[a] Female %
Professionals N=57 Males N=16 Females	5.26	31.25	14.04	18.75	21.05	25.00	21.05	6.25	38.60	18.75
Farm N=2 Males N=0 Females	100.00	-	-	-	-	-	-	-	-	-
Blue Collar N=75 Males N=35 Females	16.00	45.71	42.67	37.14	26.67	17.14	9.33	-	5.33	-
White Collar N=72 Males N=91 Females	9.72	39.56	31.94	38.46	25.00	16.48	12.50	4.40	20.83	1.10
Precision N=57 Males N=11 Females	5.26	27.27	33.33	63.64	33.33	9.09	19.30	-	8.77	-
Service N=32 Males N=25 Females	31.25	56.00	50.00	44.00	12.50	-	6.25	-	-	-

Total N=473
*N=295 Males
*N=178 Females
*Missing data. Percentages based on those who responded to questions.

[a] No displaced workers earned more than $999 in new weekly earnings.

TABLE 4-C
CROSS-TABULATION OF HOME OWNERSHIP BY SEX AND DISPLACED WORKER NEW WEEKLY EARNINGS

Home Ownership	Displaced Worker, New Weekly Earnings: Less than $200 Male %	Less than $200 Female %	$200-399 Male %	$200-399 Female %	$400-599 Male %	$400-599 Female %	$600-799 Male %	$600-799 Female %	$800-999[a] Male %	$800-999[a] Female %
Purchasing/Paid for a home N=243 Males N=138 Females	12.76	39.86	30.45	38.41	25.51	15.94	14.40	3.62	16.87	2.17

Total N=473
*N=295 Males
*N=178 Females
*Missing data. Percentages based on those who responded to questions.

[a] No displaced workers earned more than $999 in new weekly earnings.

TABLE 5-C
CROSS-TABULATION OF MARITAL STATUS BY SEX AND DISPLACED WORKER NEW WEEKLY EARNINGS

Marital Status	Displaced Worker, New Weekly Earnings									
	Less than $200		$200-399		$400-599		$600-799		$800-999[a]	
	Male %	Female %	Male %	Female %	Male %	Female %	Male %	Female %	Male %	Female %
Married N=239 Males N=101 Females	11.72	40.59	30.96	41.58	24.69	12.87	15.48	3.96	17.15	0.99
Divorced, Single, Widowed, Never Married N=56 Males N=77 Females	16.07	42.86	42.86	35.06	25.00	16.88	7.14	1.30	8.93	3.90

Total N=473
*N=295 Males
*N=178 Females
*Missing data. Percentages based on those who responded to questions.

[a] No displaced workers earned more than $999 in new weekly earnings.

TABLE 6-C
CROSS-TABULATION OF GROUP HEALTH INSURANCE COVERAGE BY AGE COHORT AND DISPLACED WORKER NEW WEEKLY EARNINGS

Group Health Insurance Coverage	Less than $200			$200-399		
	Midlife (45-54)	Late Midlife (55-64)	Older (65 & over)	Midlife (45-54)	Late Midlife (55-64)	Older (65 & over)
Presently covered by group health insurance coverage	13.69	17.65	33.33	35.27	41.18	33.33

	$400-599			$600-799	
Midlife (45-54)	Late Midlife (55-64)	Older (65 & over)	Midlife (45-54	Late Midlife (55-64)	Older (65 & over)
24.90	19.33	11.11	13.28	8.40	22.22

	$800-999[a]	
Midlife (45-54	Late Midlife (55-64)	Older (65 & over)
12.86	13.45	-

Total N=473
*N=241 Ages 45-54
*N=119 Ages 55-64
*N=9 Ages 65 and over
*Missing data. Percentages based on those who responded to questions.

[a] No displaced workers earned more than $999 in new weekly earnings.

TABLE 7-C
CROSS-TABULATION OF RACE BY SEX AND DISPLACED WORKER NEW WEEKLY EARNINGS

Race	Displaced Worker, New Weekly Earnings									
	Less than $200		$200-399		$400-599		$600-799		$800-999[a]	
	Male %	Female %	Male %	Female %	Male %	Female %	Male %	Female %	Male %	Female %
Caucasian N=261 Males N=158 Females	9.96	38.61	34.10	39.87	24.90	16.46	14.18	3.16	16.86	1.90
Other N=34 Males N=20 Females	32.35	65.00	26.47	30.00	23.53	-	11.76	-	5.88	5.00

Total N=473
*N=295 Males
*N=178 Females
*Missing data. Percentages based on those who responded to questions.

[a] No displaced workers earned more than $999 in new weekly earnings.

TABLE 8-C

CROSS-TABULATION OF CONTINUOUS YEARS OF WORK PREVIOUS TO DISPLACEMENT AT LOST JOB AND DISPLACED WORKER NEW WEEKLY EARNINGS

Continuous Years of Work Previous to Displacement At Lost Job	Displaced Worker, New Weekly Earnings: Less than $200 Male %	Less than $200 Female %	$200-399 Male %	$200-399 Female %	$400-599 Male %	$400-599 Female %	$600-799 Male %	$600-799 Female %	$800-999[a] Male %	$800-999[a] Female %
3-5 years N=57 Males N=49 Females	14.04	36.73	31.58	42.86	19.30	14.29	15.79	4.08	19.30	2.04
6-10 years N=31 Males N=39 Females	6.45	36.36	38.71	48.48	19.35	9.09	22.58	3.03	12.90	3.03
11-19 years N=57 Males N=38 Females	5.26	42.11	35.09	36.84	38.60	13.16	10.53	5.26	10.53	2.63
20-29 years N=43 Males N=14 Females	11.63	57.14	34.88	21.43	23.26	21.43	9.30	-	20.93	-
30-39 years N=21 Males N=1 Females	33.33	-	38.10	100.00	14.29	-	9.52	-	4.76	-
40 years and over N=3 Males N=2 Females	-	-	66.67	100.00	-	-	-	-	33.33	-

Total N=473
*N=295 Males
*N=178 Females
*Missing data. Percentages based on those who responded to questions.

[a] No displaced workers earned more than $999 in new weekly earnings.

TABLE 9-C

CROSS-TABULATION OF NEW WEEKLY EARNINGS OF DISPLACED WORKER BY AGE COHORT AND FULL-TIME REEMPLOYMENT OF DISPLACED WORKER

New Weekly Earnings in Dollars (before deductions)	Midlife Ages 45-54	Late Midlife Ages 55-64	Older Ages 65 and Over
Less than $200	12.81	19.27	28.57
$200-$399	36.36	35.78	28.57
$400-$599	25.62	20.18	28.57
$600-$799	12.40	9.17	14.29
$800-$999[a]	12.81	15.60	-
Total *N=473	N=242	N=109	N=7

* Missing data. Percentages based on those who responded to questions.

[a] No displaced workers earned more than $999 in new weekly earnings.

TABLE 10-C

GENERAL LINEAR MODEL PROCEDURE
DEPENDENT VARIABLE NEW EARNINGS OF
DISPLACED WORKERS WITHOUT
CONTROLLING FOR INTERACTION

	Estimate
Professional	1.0608***
	(0.2099)
College graduate	0.648**
	(0.2096)
Some college	0.596**
	(0.188)
Home ownership	-0.263*
	(0.129)
Continuous work 30-39 years at predisplacement job	-0.637**
	(0.24)
Now covered by group health insurance	-0.417**
	(0.129)
New job (35 or more hours per week) following displacement	0.465*
	(0.1206)
R^2 = .41	

Notes. Standard errors are indicated in parentheses below the estimate.

*p<.05. **p<.01. ***p<.001.

APPENDIX D

SUPPORT DATA FOR CHAPTER IV

TABLE 1-D

CROSS-TABULATION OF NEW JOB FOLLOWING DISPLACEMENT
BY GENDER AND DISPLACED WORKER NOW COVERED
BY GROUP HEALTH INSURANCE

New Job Following Displacement	Now Covered by Group Health Insurance Male	Female
Employed in Job, 35 or more hours per week N*=224	59.89	48.70
Employed in Job, Less than 35 hours per week N*=94	40.11	51.30

Chi Square = 6.47
df = 1
Phi = -0.107

* Missing data. Percentage based on those who responded to questions.

TABLE 2-D

CROSS-TABULATION OF GENDER BY DISPLACED WORKER NOW COVERED BY GROUP HEALTH INSURANCE

Gender of Displaced Worker	Displaced Worker Now Covered by Group Health Insurance Yes %	No %
Male Displaced Workers	71.5	28.5
N*=523		
Female Displaced Workers	63.5	36.5
N*=304		

Chi Square = 5.742
df = 1
Phi = -0.083

* Missing data. Percentage based on those who responded to questions.

TABLE 3-D

CROSS-TABULATION OF GROUP HEALTH INSURANCE COVERAGE PRIOR TO DISPLACEMENT BY DISPLACED WORKER PRESENTLY COVERED BY GROUP HEALTH INSURANCE

Group Health Insurance Prior to Displacement	Now Covered by Group Health Insurance Yes %	No %
Yes	75.4	24.7
N*=637		
No	45.7	54.3
N*=175		

Chi Square = 56.347
df = 1
Phi = -0.263

* Missing data. Percentage based on those who responded to questions.

TABLE 4-D

CROSS-TABULATION OF NEW JOB FOLLOWING DISPLACEMENT AND DISPLACED WORKER NOW COVERED BY GROUP HEALTH INSURANCE

New Job Following Displacement	Now Covered by Group Health Insurance Yes %	No %
New Job, Full-time (35 or more hours per week)	82.0	18.0
N*=388		
New Job, Part-time (less than 35 hours week)	56.7	43.3
N*=439		
N*=827		

Chi Square = 60.868
df = 1
Phi = -0.271

* Missing data. Percentage based on those who responded to questions.

TABLE 5-D

CROSS-TABULATION OF GROUP HEALTH INSURANCE COVERAGE PRIOR TO DISPLACEMENT BY GENDER AND DISPLACED WORKER NOW COVERED BY GROUP HEALTH INSURANCE

Group Health Insurance Coverage Prior to Displacement	Now Covered by Group Health Insurance Male %	Female %
Yes	88.89	79.58
N*=480		
No	11.11	20.42
N*=80		

Chi Square = 8.904
df = 1
Phi = 0.126

* Missing data. Percentage based on those who responded to questions.

TABLE 6-D

CROSS-TABULATION OF NEW WEEKLY EARNINGS BY GENDER AND DISPLACED WORKER NOW COVERED BY GROUP HEALTH INSURANCE

New Weekly Earnings of Displaced Worker	Now Covered by Group Health Insurance Male %	Female %
Less than $200 N*=57	9.56	27.97
$200-$399 N*=137	31.87	48.31
$400-$599 N*=84	25.10	17.80
$600-$799 N*=44	15.94	3.39
$800-$999 N*=47	17.53	2.54
$1000-$9998 N*=0	-	-
N*	251	118

Chi Square = 50.070
df = 4
Phi = 0.368

* Missing data. Percentage based on those who responded to questions.

TABLE 7-D

CROSS-TABULATION OF ANNUAL FAMILY INCOME OF DISPLACED WORKER AND NOW COVERED BY GROUP HEALTH INSURANCE

Annual Family Income Of Displaced Worker	Now Covered by Group Health Insurance Yes %	No %
Under $5,000	-	-
N*=0		
$5000-$7499	35.9	64.1
N*=39		
$7500-$9999	47.8	52.2
N*=46		
$10000-$12499	51.5	48.3
N*=68		
$12500-$14999	55.8	44.2
N*=43		
$15000-$17499	68.1	31.9
N*=69		
$17500-$19999	57.1	42.9
N*=21		
$20000-$24999	74.0	26.0
N*=77		
$25000-$29999	75.0	25.0
N*=84		
$30000-$34999	72.9	27.1
N*=59		

TABLE 7-D continued

Annual Family Income Of Displaced Worker	Now Covered by Group Health Insurance Yes %	No %
$35000-$39999	85.1	14.9
N*=67		
$40000-$49999	88.1	11.9
N*=59		
$50000-$74999	90.4	9.6
N*=94		
$75000 and over	88.0	12.0
N*=25		

Chi Square = 91.626
df = 12
Phi = 0.349

* Missing data. Percentage based on those who responded to questions.

VITA

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Doctor of Philosophy

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