CORRELATES OF PRESENT AND EXPECTED FUTURE WORK STATUS OF MARRIED WOMEN

by
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CHAPTER I

INTRODUCTION

> "At this juncture in our social history women are guided by two apparently conflicting aims. On the one hand they want like everybody else, to develop their personalities to the full and to take an active part in adult social and economic life within the limits of their interests and abilities. On the other hand, most women want a home and a family of their own. At a time when most social and economic life was carried on at home these aims did not conflict with each other. They appear to do so today." [1]

This study will have two main aims. The first will be to identify and to compare the relative importance of various economic, sociological and psychological factors which explain the current labor force status of married women. The second aim will be to perform a similar analysis of the factors which explain the strength of married women's labor force attachment as measured by their future work plans.

A. The Need for This Study

The need for this study arises from the growing realization among economists that manpower is one of the most important resources of a nation. The size and skills of the manpower of a nation provide a guide to the potential gross product of that country. Since the size of the labor force is an important resource, estimates of future labor force size are necessary for predictions of the size of national product, the potential growth in national product,

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1. Alva Myrdal and Viola Klein, Women's Two Roles, Home and Work (London: Routledge & Kegan Paul.Ltd.,1956),p.xii.

the potential growth in national product, and the needs for improving the quality of or increasing the quantity of manpower.

Long-run economic theory provides little guidance for the estimation of expected labor force size. One theory indicates that the size of the labor force is a simple function of the size of the adult population.[1] However, recent studies indicate that population change does not necessarily imply labor force change. For example, as Lebergott[2] points out, when DDT was brought to Ceylon after World War II sharp reductions in mortality and increases in population occurred without corresponding gains in labor force. Conversely, the labor force can rise without gains in population. During World War II the labor force increased tremendously in this country without changes in population size. Because of social and economic customs some people never enter the labor force, while others defer their entrance in order to acquire job skills. Furthermore, these customs change over time and with changes in current events, so that it is often very difficult to forecast the size of the labor

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1. Richard A. Lester, Economics of Labor (New York: Macmillan, 1945), p. 105.
2. Stanley Lebergott, "Population and Labor Force Relationships", Preliminary paper presented at the Conference on the Interrelation of Demographic and Economic Change, Princeton, December 5-7, 1958, issued by the National Bureau of Economic Research, p. 1.

force in a particular year. Therefore, simple population estimates provide inadequate guides to the prediction of future labor force.

Using a more refined type of analysis economists have predicted the size of the labor force by estimates based on the labor force participation of different age, sex and marital status groups. Essentially they have extrapolated the present labor force behavior of each of these groups for expected future populations. They have found that the labor force participation of married women is particularly difficult to forecast. In this society it is accepted that as soon as he is of age and has finished his education the man of the household must provide for himself and his family. Although length of schooling and age at retirement, and number of jobs held may vary, the understanding and hence the prediction of male labor force participation is a relatively simple matter.

Similarly today most of the women who remain single will probably work in order to support themselves. Married women,however, have a real decision to make about whether they will work. This situation has not always existed in this country and, therefore, a married woman's decision to work is not only a decision which must be more thoroughly understood, but it is a decision about which we have little data and previous experience.

In the late nineteenth and early twentieth century it was commonly understood that a native white married woman did not work. There were few decisions that married women

made about working. Understanding of married women's labor force behavior was in this era a relatively simple matter. The signs of the social change which has taken place in the past half century can be observed in Chart I. In the fifty years from 1890 to 1940 the percent of married women in the labor force increased from 5 to 15. Then in the following decade, 1940-1950, the participation of married women in the labor force increased from 15 to 24%, an increase of 62% over the 1940 level. By March of 1957 approximately 30% of married women were in the labor force.[1]

In 1956 there were 22 million women in the labor force, which was 13% higher than the figure for 1944, the peak year of World War II. Over half of these 22 million women were married women whose husbands were present in the household.[2] An estimate based on the data from the Growth of American Families Study[3] for married women of childbearing age (18-39) in 1955, indicates that 69% of these women have worked at some time during their married lives. Thus the problem of explaining the labor force participation of married women is important in terms of magnitude alone. Women comprise 1/3 of the labor force and married women are 1/6 of the labor force in the United

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1. U.S. Dept. of Commerce, Bureau of Census, Current Population Reports, Labor Force. "Family Characteristics of Working Wives: March 1957", (Washington: U.S. Govt. Printing Office) Series P-50, No. 81, p. 1.
2. U.S. Dept. of Labor, Women's Bureau, "What's new . . . about women workers a few facts", Leaflet 18, Revised June 1957.
3. Ronald Freedman, Pascal K. Whelpton and Arthur Campbell. Family Planning, Sterility and Population Growth. (New York: McGraw Hill, 1959). The sampling and interviewing process are described on pps. 10-16.

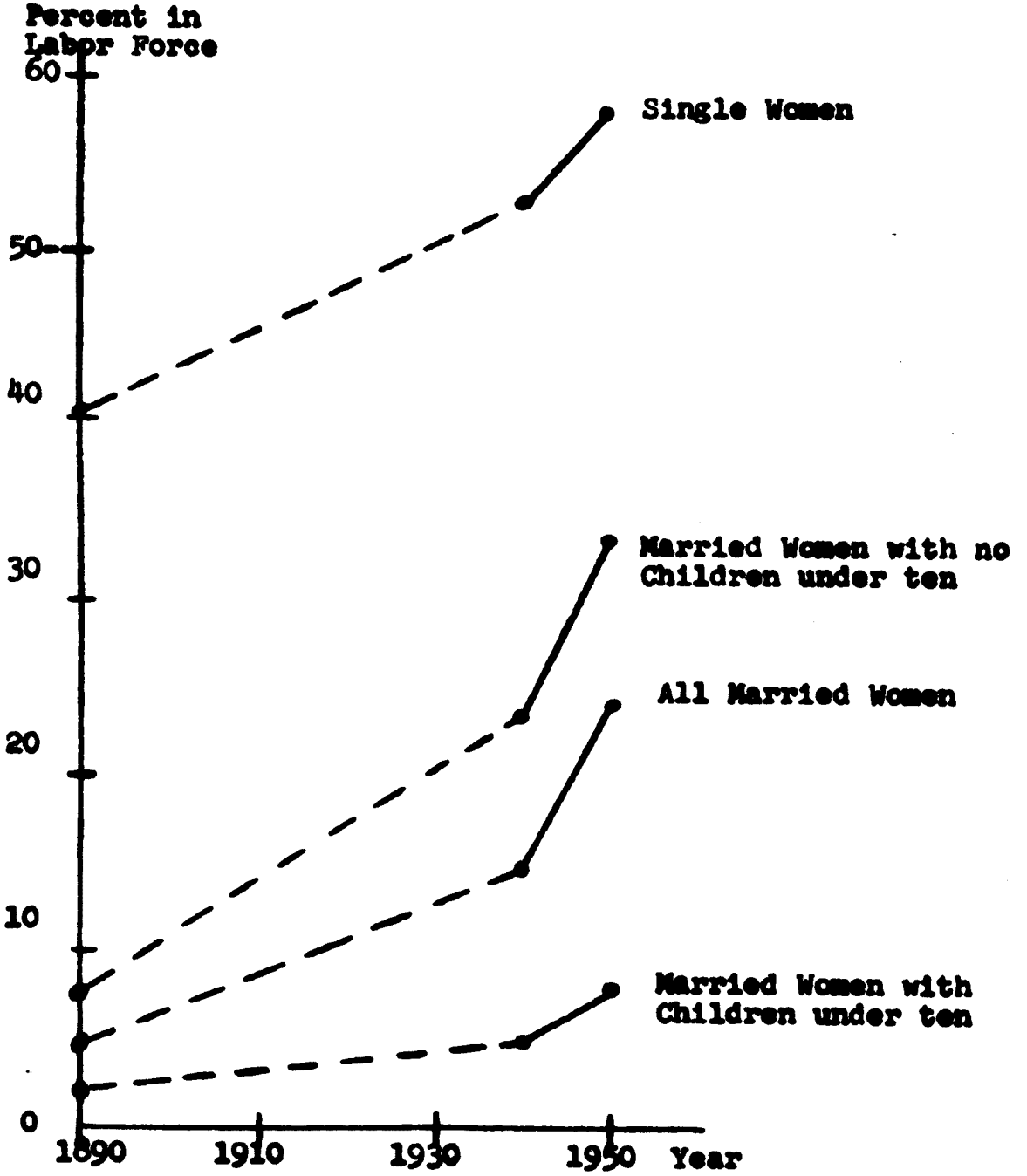


CHART 1.1 WOMEN AGED 16 AND OLDER IN THE LABOR FORCE BY MARITAL AND CHILD STATUS, U.S.,1890,1940,1950.

Source: Appendix A: Sixteenth Census of the United States, 1940, Population, 1940, Employment and Family Characteristics of Women, pp. 9-10; 1950, Current Population Report, Labor Force, Series P-50, No. 29, p. 8.See note b. This is an abbreviated chart presentation of a table presented in Clarence D. Long, The Labor Force Under Changing Income and Employment. (Princeton: Princeton University Press, 1950) p. 115.

States today.[1]

Understanding of the labor force participation of married women is especially important in predicting variations in the size of the labor force. During the course of the year many married women move in and out of the labor force. Seasonal occupations and part-time work seem to be very attractive to married women. The layoff period provides a chance to "catch up with household chores" and often a possibility of receiving small remuneration in the form of unemployment compensation payments. The percent of married women who are in the labor force at a particular time is usually a very large underestimate of the percent of married women who have worked throughout the year.

Using Census data, Lebergott estimated that while only 17% of married women with children under six years of age were atwork in March 1957, approximately 31% of these women had worked at some time during 1956. Similarly for married women without children who are younger than six, 36% were working in March 1957 while 46% had worked at wome time during 1956.[2]

Since married women constitute a sizeable portion of the labor force and since they are responsible for much

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1. In light of the high percentage of these young married women who have worked since marriage, Myrdal's suggestion (op.cit..p.88) that we investigate why married women without family responsibilities do not work is a reasonable research goal.
2. Lebergott, op. cit.. p. 16.

of the variation in the labor force, the economist is especially interested in understanding and predicting their labor force decisions. What are the factors that influence these decisions? Are these factors primarily demographic or do they include economic and social motives? What are the factors which influence the future work plans of married women? What is the relative importance of these factors?

If the answers to these questions can be found, it will be possible to use them to predict married women's labor force participation. For example, if the level of a woman's education is an important factor in determining her labor force attachment, then changes in the level of education for women in this country can be used to predict changes in married women's labor force participation. If their husbands' incomes are an important factor in the determination of wives' labor force status, then as husbands' incomes change over the course of the business cycle it may be possible to predict changes in labor force attachment of married women. The factors, economic, demographic, sociological and psychological, which are related to wives' labor force participation, are the focus of this study.

B. Method of Analysis Used in This Study

Chapter II discusses previous studies of the labor force participation of married women and shows how this study will attempt to fill the gaps left by previous studies. Chapter III analyzes the factors

which are related to the current work status of married women. First each of the factors studied, as, for example, wives' education and husbands' income, is related to current work status in the Ford Foundation Re-interview Study (described in Appendix A) to see if any significant relationship exists. If a significant relationship is present, then these factors are tested simultaneously for their relationship to current work status by means of a multiple regression equation. The multiple regression equations are based on data from the Growth of American Families Study. Testing the hypotheses on different data allows for an additional evaluation of the relationship between these variables and current work status. The standardized regression coefficients obtained from these multiple regression analyses are then used as guides to the importance of each of these variables in the regression equation in explaining the current work status of married women.[1]

In the third and final stage of the analysis variables which could not be included in the multiple regression equation are studied. Only variables that are

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1. The comparative size of these standardized regression coefficients should be used only as estimates of the relative importance of each independent variable in the multiple regression equation. A more exact measure of the relative importance of each independent variable could be obtained by use of the coefficients of partial correlation. However, since for an analysis of an equation which contains 14 independent variables one would have to compute 14 regression equations, this type of analysis is not economical.

thought to influence work status but which are not likely to be influenced by work status are included in the multiple regression equations. It is not certain, for example, how life satisfaction is related to current work status. Do women work because they are dissatisfied or are they dissatisfied because they have to work? Since this thesis is focussed about an explanation of why women work rather than what are the results of their working, all variables which might be influenced by work status are excluded from the multiple regression equations.

The variables that are not included in the multiple regression equations are studied by means of analyzing their effects on predictions from the multiple regression equations. Variables whose inclusion would have appreciably improved the predictions of the multiple regression equations are considered to be significantly related to the dependent variable. This method is described in detail in Appendix A, pp. 170-181.

Since strength of attachment to the labor force is a function of future work plans as well as current work status the second section of this paper, presented in Chapter IV, analyzes the factors which are related to future work plans. Chapter IV uses the same methods as were outlined above for Chapter III. In the initial stage, where each variable is related to future work plans separately, a special study of reasons for work has been included.

A careful reading of the interviews of women who had recently started or stopped working indicated that

there were six major reasons why these women were working. These reasons were then related to future work plans. The hypotheses implied in this case study are then tested in the context of the multiple regression equation (the second stage of the analysis). In the third and final stage variables which cannot be included in these multiple regression equations are studied by analyzing their effects on the predictions from the multiple regression equations.

The types of variables chosen for analysis, the methods of analysis,and the results are presented in Chapters III and IV. Chapter V reviews and summarizes these results and offers suggestions for future work which arise from the findings of this study.

CHAPTER II

RELATIONSHIP OF THIS ANALYSIS TO PREVIOUS STUDIES IN THE AREA

The present investigation will try to fill the gaps in previous analyses by investigating a wide variety of demographic, economic, psychological and attitudinal factors which are related to married women's labor force attachment. These factors will be investigated by means of a multivariate analysis from which it will be possible to determine the relative importance of each of these variables.

A number of <u>new factors</u> will be considered in addition to the economic and demographic variables which have been covered by others (husband's income, family status and length of marriage). These new factors will include such economic variables as wife's occupation, previous family income history, five year income expectations and local labor market conditions. Additional demographic factors such as future family plans, effects of divorce and remarriage, and effects of current pregnancy will be considered. Preliminary tests based on the relation of these variables separately to wife's work status showed that these variables were related to either wife's current work status or her future work plans.

Psychological and attitudinal factors have been ignored in previous quantitative studies of married women's work behavior. Variables such as reasons for work, satisfaction with life, satisfaction with standard of housing

have rarely been studied. In this analysis all of these factors will be included.

Almost all of the previous studies have been devoted to an analysis of wives' current labor force status. While current labor force participation provides an important guide to the factors which predict labor force participation of married women, it gives no indication of strength of labor force attachment. Possibly some women who are not currently working are quite strongly attached to the labor force, but cannot work at present because of heavy family obligations. Similarly women who are currently working may be planning to work for only a short time and then to retire permanently from the labor force. Current labor force participation alone does not provide an adequate basis for a study of the factors which are related to married women's labor force participation. Therefore another unique feature of this study will be the presentation of an analysis of the factors which are related to future work plans.

Although this study will in some respects parallel previous work in this area it presents three uniquely different features. (1) It considers a wider variety of factors than have previously been covered. Economic, demographic, psychological and attitudinal variables have been included. (2) It uses a multivariate analysis which enables the author to make conclusions regarding the relative importance of each variable studies. Multivariate

analysis has been used previously in this area, but not on such a wide variety of variables. (3) It relates these economic, demographic, psychological and attitudinal variables both to wives' present work status and their future work plans. This chapter will briefly review recent studies of married women in the labor force and will point out the gaps in these studies that will be filled in this analysis.

Most of the recent economic studies of women's labor force participation can be divided into two groups. In the first category are studies which attempt to describe the married and single women who are working. In the second category are studies which attempt to predict the number of women who will be in the labor force at a given date.

The studies which describe married women in the labor force have analyzed demographic characteristics such as age, education and family status. In addition, studies such as Womanpower[1] and the reports of the Women's Bureau[2,3] have pointed out the occupations which these women

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1. National Manpower Council, Womanpower (New York: Columbia University Press, 1957).
2. U.S., Dept. of Labor, Women's Bureau, "Women Workers and Their Dependents", Bulletin 239, 1951.
3. U.S., Dept. of Labor, Women's Bureau, "Handbook of Facts on Women Workers", Bulletin 237, 1950.

fill and their family support responsibilities. Long's[1] study related women's work to family income, age of children, rural-urban residence and child status. These investigations have provided a picture of who working wives are, where they come from, what their family finances are and what types of jobs they fill. The analyses have related work status to one or two variables at a time, rather than observing the simultaneous effects of these variables on women's labor force participation.

Predictions of future labor force participation of women have usually been arrived at by extrapolating the characteristics which were found in the descriptive studies to be significantly related to the labor force participation of women. Two important works in this area are those of Garfinkle[2] and Durand[3].

Durand's 1948 study used a wide variety of demographic and economic factors in order to predict the labor force of females by age groups for 1950, 1955 and 1960. Garfinkle used only a few demographic variables to calculate work life expectancy for women in various age groups.

Taking into account marital status and the presence of children, which he considered to be the most influential

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1. Clarence D. Long, The Labor Force Under Changing Income and Employment, op. cit..
2. U.S., Dept. of Labor, Bureau of Labor Statistics, "Tables of Working Life for Women", prepared by Stuart H. Garfinkle, Bulletin 1204, 1950.
3. John D. Durand, The Labor Force in the United States, 1890-1960 (New York: Social Science Research Council, 1948).

factors determining women's labor force status, Garfinkle in 1956 computed work life expectancy for women in each age group. In making these estimates he assumed . . . "that each age group in the female population will experience during the remaining years of life, the labor force participation rates shown for each age at a particular time."[1]

Garfinkle suggests that if his calculations are made using work rates for two succeeding decades, the difference in expected work life due to these differing work rates can be observed. Since these estimates are extrapolations of present behavior they do not predict changes. If, for example, the increasing level of education for females were the crucial factor which has led to the increase in female labor force participation, then Garfinkle's analysis of work life expectancy, which does not account for changes in education levels, might seriously underestimate labor force expectancy. If each age cohort behaves differently from the preceding one at the same stage of life, labor force expectancy figures which do not anticipate these changes will provide inadequate predictions of the work life of women.

In light of the change in married women's labor force behavior in the past few decades it would seem that the extrapolation of changes in age distribution, marital and child status are <u>not sufficient guides</u> to the prediction

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1. U.S., Dept. of Labor, <u>op. cit.</u> p. 7.

of changes in married women's labor force participation. Perhaps the addition of the effects of such crucial factors as education and occupation to Garfinkle's criteria for prediction might improve his estimates. A decision about which factors to utilize in predicting work life expectancy emphasizes the need for a comprehensive study of all the factors which are significantly related to women's labor force participation.

Durand predicted the labor force of females by accounting for such factors as population growth and farm-nonfarm residence. In addition he considered changes in color-nativity, age distribution, marital and fertility status and changes due to the war era. Durand's projections were calculated from Census data in terms of the future population estimates on the assumptions of "medium" fertility and mortality trends with immigration at the rate of 100,000 per year, as worked out by the Scripps Foundation and the Bureau of Census. Even with these allowances, as Rosett[1] points out, Durand's predictions for 1950 and 1955 were not very accurate for the various age cohort groups. The predictions were too high for women aged 20-34 and too low for women aged 35-64.

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1. Richard Rosett, "Working Wives: An Econometric Study", Cowles Foundation Discussion Paper No. 35, 1957, p. 5.

Prediction of women's labor force participation, even on the basis of the many factors which Durand considered, is susceptible to error. Probably Durand did not consider sufficient factors in his attempt to predict married women's labor force participation. For example, he might have included allowances for the increase in the average level of women's education which has taken place in the past decade. Or he might have accounted for changes in women's work experience prior to marriage. A decision about the factors which are most important to account for in a predictive study should be based on tests of the relationship between these factors and women's labor force attachment.

Cross-section studies which relate a particular woman's labor force behavior to her family status and other variables are ideally suited for the exploration of the factors most closely related to labor force attachment. By this method the individual's work behavior can be related to sociological, economic and psychological factors.

Several recent cross-section studies have related married women's work status to factors other than age, place of residence and child status. Clare[1] in a dissertation based upon data from the Growth of American Families Study related non-familial activities to fertility

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1. Jean Elizabeth Clare, "The Relationship of Non-Familial Activities to Fertility Behavior", Unpublished doctoral dissertation presented to the University of Michigan, Sociology Department, 1957.

behavior. She found that although observed differences in expected family size are small (most families desire between 2 and 4 children), a woman's labor force participation is a good predictor of whether any additional children will be born. Thus it seems that women who wish to work are more successful at limiting their family size than those who do not work. Child status may be a result rather than the cause of the desire to work. This finding indicates the necessity for studying why married women work since the relationship of family to work may not necessarily be in one direction.

Another cross-section study, presented by Rosett[1], took into account simultaneously both economic and demographic variables in order to understand the extent of wives' labor force participation. Using Consumer Finances data for 1954, he measured the "extent of wives' labor force participation" by comparing the wife's work income with the husband's work income. He then related "extent of wives' labor force participation" to such economic variables as husband's wage rate, liquid assets, number of liquid assets, property income, mortgage and personal debt.

Rosett also used the following demographic variables: age of youngest child under six, presence of children younger than six, family size in terms of the number of

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1. Rosett, op. cit..

children and adults in the spending unit, education of husband and number of years married. He found that most of the demographic and economic variables that he had studied, with the exception of liquid assets and number of assets are significantly related to wives' current labor force participation. Mortgage and personal debt are the least powerful of the statistically significant explanatory variables.

Rosett established the importance of economic as well as demographic factors in the determination of the extent of wives' labor force participation. However because of the limitations of his data Rosett could not consider such factors as future work plans, expressed reasons for working, local labor market conditions, and attitudinal variables such as life and housing satisfaction. Furthermore he did not have enough information to relate a family's expected child status to women's current and future work status as Clare had done.

In summary, most of the current predictive studies have not taken enough different factors into account to be able to make good predictions either of married women's labor force participation or of their work life expectancy. Clare's study which relates women's work history, current work status and future work plans to her child status and future family plans is <u>not sufficiently multivariate</u>. She relates one or two variables at a time to current work status. It is, therefore, difficult to determine the relative importance of each of these variables because it is not possible

to determine to what extent the effects of these factors overlap each other. Moreover she does not consider a sufficiently wide variety of factors.

Rosett, who does present a multivariate analysis which enables one to determine the relative importance of each variable in the determination of married women's current labor force attachment, does not have sufficient information to study all the variables which should be related to wives' labor force participation. He must omit such factors as wife's education, work experience prior to marriage, reasons for work, occupation and local labor market conditions.

Finally none of these studies offer a multivariate analysis of factors which are related to strength of labor force attachment, as measured by both current and expected future labor force status. These are the gaps which this analysis will attempt to fill.

CHAPTER III

CURRENT WORK PARTICIPATION OF MARRIED WOMEN

This chapter investigates the factors that are important in the determination of whether a married woman is working. Chapter IV explores the factors that influence wives' future work plans. The variables which are related to current and expected future labor force participation are chosen primarily on the basis of a theory of the wife's simultaneous consideration of enabling, facilitating and precipitating factors in determining whether to work.

This chapter begins with a brief review of the results of the chapter. Section A describes the data used for this analysis. Section B presents the theory of the factors which motivate work decisions. This section includes a description of the types of factors studied, the expected relationship between these factors and current work status, and the relation of the variables actually measured to theoretical motivating factors. Section C describes the four regression equations which are used to analyze current work status and discusses the gain obtained by studying these subgroups. Sections D and E present the numerical results of these equations and a brief discussion of the possibilities of interaction effects. Finally, Section F reviews the results of the chapter.

The results of the first analysis section (section D) of this chapter indicate the importance of a simultaneous study of the many factors related to work decisions. Financial considerations, especially husband's income, are very important in the determination of wives' current labor force status. Local labor demand, which seems to be unrelated to a married woman's current work status, takes on new importance when it is examined in conjunction with her family status. Work experience prior to marriage is third in importance in the prediction of the current work status of married women (husband's income and family status come first). Attitudinal variables are difficult to relate to current work status, however life satisfaction seems to be of some importance in a study of wife's current labor force participation. Thus family finances, local labor market conditions, a wife's previous training and experience, family status and attitudinal factors all play important roles in the determination of wives' labor market behavior.

Section E is devoted to the analysis of the current work status of pregnant women. Although all five of the above-mentioned classes of variables are studied in this context, only husband's income and the number of months pregnant appear to be important in the determination of pregnant wives' current work status.

A. Description of the Data Used in this Analysis

Two surveys which contain information about wives' present work status and future work plans are utilized in

this paper. Both of these surveys were carried out by the Survey Research Center of the Institute for Social Research, University of Michigan between 1954 and 1957. The first is a re-interview study designed by Professor George Katona to analyze "the origin and effect of attitudes". This study, sponsored by the Ford Foundation, consisted of five interviews with the same urban families. The dates of these interviews were: June and December 1954, June and December 1955 and March 1957. At the beginning of the re-interview study the sample contained 1,153 families and at the end of the three year re-interview period this number was reduced to 707 families. This study contained questions about family finances, family purchase plans, family structure, wives' education, wives' work status, wives' future work plans and changes in the number of workers in the family. In addition there was much information in 'thumbnail sketches' (short notes written at the end of the interview by the interviewer describing any special problems or situations that had not been fully described in the interview).

The second source of information for this analysis is "A Study of the Growth of American Families" (GAF) conducted by the Survey Research Center in January to March of 1955, by Professors Ronald Freedman and P.K. Whelpton.[1] This study was sponsored by the Scripps

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1. Ronald Freedman, P.K. Whelpton and Arthur Campbell, op. cit., pps. 10-16.

Foundation. The study contained 2,713 interviews with married white women of child-bearing age (18-39). Since the interviews were obtained in early 1955, they overlap the time period of the Ford Re-interview Study. These GAF interviews contained full information on family size and future family plans. In addition they included questions on wives' incomes, husbands' incomes, wives' work history prior to and after marriage, wives' reasons for work and wives' present and expected future work status.

It would have been possible to have combined the interviews from these two studies since there is little evidence that the re-interview study after five rounds of interviewing is significantly biased.[1] Allowance could have been made for the fact that the re-interview study was based only on an urban sample, by "weighting up" the rural segment of the GAF Study.

Since each study contained slightly different information, and since the GAF Study was sufficiently large to make reasonable reliable estimates, each study is used as a separate set of observations. In this way it is possible to formulate hypotheses on the basis of one study and to test them on the basis of the other.

The Ford Re-interview Study is used for the exploratory stage of this analysis because a series of five

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1. Marion G. Sobol, "Panel Mortality and Panel Bias", Journal of the American Statistical Association, Vol. 54 (March, 1959), p. 65.

interviews with the same family offers a chance of obtaining more information per family than would a single interview. Further, a re-interview study permits the observation of the line of causation in wives' labor force behavior. The time sequence of a re-interview study helps to clarify such question as whether the wife starts working when family income begins to fall. A single interview might conceal this information since family income might appear level because the wife starts to work as soon as she learns that her husband's income will fall. It is usually possible to tell from a re-interview study when the husband's income starts to fall and when the wife begins to work.

Instead of combining data from two studies, where not all of the information was of the same nature, each study was used separately to its best advantage. The re-interview study is used for the exploratory analysis, while the OAF Study, which offered a much larger sample and which contained more information on the wife's work history, occupation and reasons for work, is reserved for the regression analysis.

B. A Theory of the Factors Which Influence Work Decisions

Wives' current decisions to work as well as their future work plans usually involve a variety of considerations. These range from simple enabling conditions, such as freedom from major household responsibilities, which afford time to work, to emergency circumstances, such as severe financial need, which "push" wives" into the job

market. It is a rare wife who must give thought to only one circumstance in choosing whether or not to work. Usually a wide variety of economic, sociological and demographic factors must be considered simultaneously in arriving at a decision to work.

A classification of the main types of motivating factors related to work decisions is presented in Chart 3.1. The major types of variables which are related to these motivating factors are grouped below the motivating factors.

CHART 3.1
FACTORS INFLUENCING WIVES' WORK DECISIONS

Enabling Conditions (family status)	Facilitating Conditions (ease in obtaining work)	Precipitating Conditions (relative dissatisfaction)
FAMILY STATUS 1. Possession of children 2. Age of children 3. Future child expectations 4. Current pregnancy	PREVIOUS EXPERIENCE AND TRAINING 1. Wife's education 2. Work prior to marriage LOCAL LABOR MARKET DEMAND 1. Place of residence 2. Local labor demand conditions	FINANCIAL FACTORS 1. Husband's Income ATTITUDINAL FACTORS 1. Life satisfaction 2. Housing satisfaction 3. Needs for accomplishment or time occupation

Family conditions are a vital consideration for a married woman considering a work career. The younger her children the more difficult it is for her to work. Similarly the more children she expects the less likely she will be to consider a work career.

Although family status plays an important role in the determination of wives' job status it, by itself, is not an adequate explanation of their labor force behavior. As we have seen in Chapter I, during 1956 approximately 31% of the women with children under 6 years of age worked for some part of the year.

Other important elements which enter into wives' work decisions are ease in obtaining employment (facilitating conditions) and need for a job (precipitating conditions). If a woman finds it easy to obtain a rewarding job she may be motivated to find adequate arrangements for child care. Two basic factors are related to ease in finding work. They are previous experience and training and local demand for workers.

Previous work experience is important in obtaining a job since it provides both training and job contacts. One would expect that work prior to marriage or since marriage would be positively related to current and expected future work status. Training, as measured by level of education obtained, should improve a woman's chance of finding remunerative work. Therefore, one would expect education level to be positively related to current and expected future work status.

Ease in obtaining a job is dependent not only on the quality of workers available but on the number of jobs available. On the basis of job availability alone one would expect more women to work in areas where jobs are plentiful than in areas of job scarcity. Therefore, wives should be more likely to work in urban areas and in areas of high employment than in other regions.

Family status conditions and ease in obtaining employment do not cover all the factors influencing wives' work decisions. Often there are precipitating circumstances, such as a sudden drop in family income or a general feeling of dissatisfaction with living conditions,that may "push" a woman into the labor market. Often these different types of factors may work in opposing directions. Although ease in obtaining employment may make it more attractive for a woman to work, relatively more women may work in areas of high unemployment because of family financial problems. Finally the way in which a woman feels she can satisfy her needs for accomplishment and "to keep busy" will be factors that will push her into the labor market.

Chart 3.2 lists the variables related to wives' current work status which were chosen for this analysis. The right side of the chart represents the direction in which it was thought that these variables would affect current work status. Since a decision to work takes all these factors into account at one time they should

CHART 3.2

VARIABLES RELATED TO CURRENT WORK STATUS OF MARRIED WOMEN

Variable	Expected Relationship
1. FINANCIAL FACTORS	
a. Husband's income	negatively related
*b. Past Family Income history	negatively related
2. LOCAL LABOR DEMAND FACTORS	
*a. Local labor market conditions	negatively related (the higher the unemployment the more women who work)
*b. Place of residence	more women work in cities
3. PAST EXPERIENCE AND TRAINING	
a. Work history prior to marriage	positively related
b. Wife's education	positively related
4. FAMILY STATUS	
a. Children	
1. Children under 6	negatively related
2. Children 6 and older	negatively related (relationship not as strong as that for young children)
b. Marital status	
1. Number of times married	negatively related
2. Length of marrieage	negatively related
5. ATTITUDINAL FACTORS	
*a. Life satisfaction	women who are more dissatisfied are more likely to be working
*b. Housing satisfaction	

* Variables designated with asterisks are analyzed by observing their effects upon predictions from the multiple regression analysis.

be simultaneously related to current work status, if we wish to observe their relative importance. A multiple regression analysis has been used for this study since it permits one to determine the relative importance of one variable while all other variables are taken into account (Appendix A).

We now have a set of five categories of factors (Chart 3.2) which are theoretically important in the determination of married womens' work careers. In order to relate these motivating factors to work decisions we must seek variables which measure these motives. How closely do the variables listed under each of these factors in Chart 3.2 measure motivating forces?

For a particular woman, local labor market conditions are not always direct measures of ease in finding a job. Often in areas of widespread unemployment there is high demand for certain types of workers. Ideally one would like to know the availability of jobs for which a particular woman might qualify. We do not have this information, and therefore, local labor market conditions have been used as rough measures of job opportunity.

Similarly when we examine income as a "precipitating factor" which "pushes" women into the labor force we are faced with the realization that the same level of income that is perfectly satisfactory in one family may be deemed completely inadequate in another. For this reason income satisfaction as well as actual income level has been related to married women's work participation.

Most of the other variables, such as those classified under family status and previous experience and training, represent relatively good measures of the enabling, facilitating or precipitating factors which tie wives to the labor market. The variables used in the multiple regression analysis were selected because of their assumed roles as motivating factors in married women's labor force decisions. In addition the variables used in the regressions were pre-judged by two other criteria. These were (1) importance in explaining present and expected future work status as shown in a preliminary investigation of data from the Ford Re-interview Study[1], (2) significance in the previous studies of Rosett[2] and Long[3].

C. Multiple Regression Equations for the Current Work Status of Married Women

The remainder of this chapter will analyze the results of four multiple regression equations where the dependent variable represents the wife's current work status and the independent variables are listed in Chart 3.2. The relationship between each of these independent variables and current work status will be studied for each equation in the order in which these variables are presented in Chart 3.2. The multiple regression equations (which are presented in Table 3.1) are as follows:

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1. See pp. 24-25.
2. Rosett, op. cit..
3. Long, op. cit..

(1) Equation 001: Current Work Status for All Women, Who Are Not Currently Pregnant. (2,294 women)

(2) Equation 001A: Current Work Status for All Women, Who Are Not Currently Pregnant and Who Have Children Who are Younger than Six. (1,399 women)

(3) Equation 001B: Current Work Status for All Women, Who Are Not Currently Pregnant and Who Do Not Have Children Who are Younger than Six. (896 women)

(4) Equation 002: Current Work Status for All Women, Who Are Currently Pregnant. (293 women)

Why is it necessary to compute four equations to study wives' current work status? Originally two equations had been planned for the study of wives' current labor force participation, one for pregnant women and one for non-pregnant women. Since very little multivariate analysis of current work status of pregnant women has been carried out, it was desirable to study pregnant wives' work status intensively. In particular, it was important to relate the number of months pregnant to current work status. Thus one can analyze when these women retire and what factors are related to their retirement. Because pregnant women constitute less than one-tenth of the sample any information about pregnant women might have been obscured by the predominance of non-pregnant women in the analysis. To overcome this difficulty the current labor force status of pregnant women was analyzed separately.

Why are Equations 001A and 001B utilized? When Equation 001 was computed it was found that the possession of children who were younger than six was far more

important than any other factor in the determination of wives' current work status. If predicted values of working are computed for each person in the sample by substitution in the regression equations, these predictions form a bi-modal distribution (Figure C.1, Appendix C). The first peak which occurs at a lower estimated probability of working is composed primarily of women with children under six, while the second peak with higher estimates of working is composed primarily of women with no young children. As far as the work behavior of married women is concerned, there seem to be two distinctly different populations.

If we now divide the population into two subgroups on the basis of the possession of children who are younger than six, we can ascertain the influence of each of the independent variables on work status when the overwhelming effects of this child status variable are eliminated. The value of separate study of these subgroups is illustrated below.

By computing the separate regression equations for each of these subgroups (001A for women with children younger than six and 001B for women with no children younger than six) we can observe some interesting effects with regard to the relationship betweenawife's education and her work status. For all non-pregnant women (Equation 001) education is significantly related to current work status. The higher the wife's education the more likely she is to work. For women with no young children,

however, there is no relation between a wife's education and her current work status. The analysis of the subgroups seems to show that only where there are strong deterrents to a wife's work career does a high level of education act as a positive force pushing a woman into the labor market.

The four multiple regression equations used in this analysis are presented in Table 3.1, page 35. From these equations it is possible to examine the direction and degree of relationship between each independent variable and current work status. The sign of the regression coefficient indicates the direction of this relationship.

It is also possible to examine the relative importance of each variable in the regression equation. For example, is husband's income more importantly related to current work status than wife's education? Before the relative importance of each independent variable can be ascertained, allowance must be made for differences in the scaling of each independent variable. In order to accomplish this β coefficients (standardized regression coefficients) are computed for each independent variable.[1]

Table 3.2 presents the β coefficients for each of

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1. Mordecai Ezekiel and Karl A. Fox, Methods of Correlation and Regression Analysis, Linear and Curvilinear. (New York, John Wiley and Sons, Inc: 1959) 3rd. ed. p. 148.

TABLE 3.1

MULTIPLE REGRESSION EQUATIONS FOR CURRENT WORK STATUS FOR MARRIED WOMEN

Equation	Constant	Husband's Income (HY)*	Wife's Education (E)	Worked Prior to Marriage (WP)	Has Children Under 6 (C)	Has Children 6 or Over (C_6)	Expects Additional Children (C_a)	Married More Than Once (M)	Year Married (YM)	Months Pregnant (MP)
001: Not Pregnant N=2,294 R^2= .16	.3669	-.0028	.0045	.0070	-.0332	-.0057	-.0016	.0015	.0033	
001A: Not Pregnant, has Children Under 6 N= 1,399 R^2 = .01	.2078	-.0020	.0040	.0036		-.0020			-.0013	
001B: Not Pregnant, has No Children Under 6 N= 896 R^2 =.07	.4188	-.0033	.0001	.0115		-.0136			.0036	
002: Pregnant Women N= 263 R^2 = .13	.1438	-.0019	.0029	.0063	-.0203	- .0005	-.0058	.0043	.0061	-.0027

* See definitions on page 37 for explanation of terminology.

TABLE 3.2

β COEFFICIENTS (STANDARDIZED REGRESSION COEFFICIENTS) FOR CURRENT WORK STATUS FOR MARRIED WOMEN

Equation	Husband's Income* (HY)	Wife's Education (E)	Worked Prior to Marriage (WP)	Has Children Under 6 (C)	Has Children 6 or Over (C_6)	Expects Additional Children (C_a)	Married More Than Once (M)	Year Married (YM)	Months Pregnant (MP)
001: Not Pregnant	-.0125 (.0020)	.0056 (.0020)	.0066 (.0020)	-.0368 (.0019)	-.0065 (.0024)	-.0019 (.0021)	.0010 (.0019)	.0041 (.0028)	
001A: Not Pregnant, has Children Under 6	-.0106 (.0028)	.0063 (.0028)	.0041 (.0027)		-.0030 (.0033)			-.0018 (.0034)	
001B: Not Pregnant, has no Children Under 6	-.0138 (.0031)	.0002 (.0031)	.0101 (.0033)		-.0135 (.0033)			.0046 (.0040)	
002: Pregnant Women	-.0111 (.0064)	.0041 (.0064)	.0068 (.0060)	-.0273 (.0061)	.0007 (.0082)	-.0079 (.0066)	.0031 (.0064)	.0084 (.0092)	-.0171 (.0060)

* See definitions on page 37 for explanation of terminology.

DEFINITION OF VARIABLES

(HY) Husband's Annual Income

0. None
1. $1-$999
2. $1000-$1999
3. $2000-$2999
4. $3000-$3999
5. $4000-$4999
6. $5000-$5999
7. $6000-$6999
8. $7000-$7999
9. $8000 or more

(WY) Wife's Annual Income

0. $1 - $999
1. $1000-1999
2. $2000-$2999
3. $3000-$3999
4. $4000-$4999
5. $5000 or more

(E) Wife's Education

0. Grade school or less
1. Some high school, completed high school
2. Some college, completed college

(WP) Worked Prior to Marriage

0. Did not work prior to marriage
1. Did work prior to marriage

(C) Children under 6

0. Has no children under 6
1. Has children under 6

(C_6) Children 6 or older

0. Has no children 6 or older
1. Has children 6 or older

(C_a) Expects Additional Children

0. Does not expect additional children
1. Expects additional children

(M) Married More than Once

0. Married once
1. Married more than once

(YM) Year Married

Last two digits of year married

(MP) Months Pregnant

Number of months pregnant

(W) Working Now--Dependent Variable

0. Is not currently working
1. Is currently working

the independent variables in the four multiple regression equations. This table should be used to compare the relative importance of the independent variables. The numbers in brackets in Table 3.2 represent the standard error of the coefficients. Generally a coefficient is considered to be significant at the 5% level if it is greater than two standard errors.[1]

The variables designated with asterisks in Chart 3.2 are not included in the multiple regression equations for two reasons: lack of information and the possibility of two-way interaction between dependent and independent variables. It is very difficult to scale variables where information is not available for a number of cases, therefore, these variables are omitted from the multiple regression analysis. Secondly the regression equation is designed to explain rather than merely to predict. Consequently the only variables which can be included in the regression equation are those which can affect the dependent variable but which can not be affected by the dependent variable. A variable like life satisfaction should be excluded from a regression equation which seeks to explain current work status, because it is not clear whether women who tend to be more dissatisfied tend to work or whether because women work they tend to become

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1. This is the criterion for acceptance at the 5% level for a simple random sample. Because of the effects of clustering and stratification in this sample it may be necessary to use from two to three standard errors for acceptance at the 5% level. See Appendix A for a discussion of the effects of clustering.

more dissatisfied with the course of their lives. Those variables which are not included in the regression equations are analyzed by means of a test based upon the predicted value of labor force participation given by equations 001, 001A, 001B and 002[1]. This method is described in detail in Appendix A.

D. Analysis of Multiple Regression Equations for Women Who Are Not Currently Pregnant

1. Financial Factors

a. Husband's Income

The simple correlation of wives' labor force participation with husbands' income is -.126, a figure in substantial agreement with that obtained by Rosett.[2] When the husband's income is included in the multiple regression analysis it is found to be significant and negatively related to wife's labor force participation. The influence of the level of the husband's income is second only to that of child status. The inclusion of other variables in the regression equation does not diminish the relationship that is found when the husband's income only is related to the wife's work status.

Equation 001A, for women with young children, uses only the independent variables which are found to be

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1. For the variables with asterisks only tests based on estimated values from Equations 001A and 001B will be presented, since estimates from Equation 001 form two distinct groups and can not be tested by the method described in Appendix A.
2. Rosett, op. cit., p. 31.

significant in Equation 001. The result is a correlation coefficient that is not significant at the 5% level. In Equation 001B (for women whose children are older than six, or who have no children) husbands' income is among the most important factors related to present work status of wives'. The higher the husband's income the less likely that the wife is working.

b. Past Income History

Past income history is a difficult variable to relate to wives' labor force participation. It would seem that if family income has been declining or erratic the wife would work. However the question asked in the GAF Study, is not "when" the wife started working, but "whether" she is working. If she is working and has been for some time, it is likely that family income is steady or rising. Hence there may seem to be no correlation between erratic or declining family income and the wife's labor force participation. If information were available on the husband's income history instead of family income history, then it would be possible to include past income history in regression equations that seek to show causal relationship between low family income and wives' labor force status.

Consideration of the relation of family income history and wives' labor force status have,therfore, been omitted from the regression equations. The relationship between past income history and the wife's labor force status can be studied within the context of the Ford Re-interview Study. An analysis of the effects of past income

history on the extreme predictions from the regression equations (for a discussion of this method see AppendixA) can be used to test the importance of this variable in the GAF Study. The results of these two analyses will now be presented.

Table 3.3 which indicates the relation of family income history from 1954-1957 to wives' labor force behavior from 1955-1957 was constructed from the Ford Re-interview Study. This table indicates that the wife is most likely to start working when family incomes starts to fall. However, if we examine the relation between wives' current labor force participation and the history of family income up to the present time, it seems more likely that the wife will be working in a family where income has been steady than in one where income has been falling (Table 3.4). When family income starts to decline the wife begins to work, but the very fact of her working may then keep family income steady or cause it to increase. Therefore, when the relation between past income history and wife's current work status is tested on the basis of predictions from Equations 001A and 001B it is not surprising to find that the relationship is not significant at the 5% level.

Since a wife is more likely to start working when the husband's income has been falling it seems probable that more married women would work in times of recession than in times of boom or normalcy. The next section (local labor demand factors) will relate wives' work status to local labor market conditions.

TABLE 3.3

RELATION OF STEADINESS OF FAMILY INCOME PRIOR TO 1954, AND WIVES' LABOR FORCE PARTICIPATION FROM 1954-1956.

Current Work Status* 1954-1956	All	History of Family Income Prior to 1954: Family Income Rising	Family Income Steady	Family Income Falling	Family Income Fluctuated
Wife not working	67%	67%	73%	58%	64%
Wife working	18	20	16	15	25
Wife started working	7	7	6	19	5
Wife stopped working	3	4	3	2	2
Wife started and stopped or stopped and started	3	2	2	6	4
Percent of cases	100%	100%	100%	100%	100%
Number of cases	879	272	432	53	122

Source: The Ford Re-interview Study
The question was: "Has your family income been quite steady during the past few years, or has it been going up, or going down, or changed from time to time?"

*Each of these categories is mutually exclusive. Thus "wife not working" refers to women who never worked throughout the period from 1954-1956. Similarly "wife started working" refers to women who started working at some time during 1954-1956, and have continued working from that time until the time of the last interview (1956).

TABLE 3.4

RELATION OF STEADINESS OF FAMILY INCOME AND WIVES' CURRENT WORK STATUS, 1955

Current Work Status 1955	All	History of Family Income, 1955 and Prior: Family Income Increased	Family Income Steady	Family Income Falling	Family Income Fluctuated
Wife working	23%	23%	33%	17%	25%
Wife not working	77	77	67	83	75
Percent of cases	100%	100%	100%	100%	100%
Number of cases	2675	1259	1155	189	72

Source: GAF Study
The question was: "Since your marriage, has your family income changed up and then down at different times, or have the changes all been increases or all decreases?

2. Local Labor Demand Factors

a. Local Labor Market Conditions

1. Previous investigations

Most of the variables used in the regression equations describe the supply of married women to the labor force. Since the ability to find a job may be an important factor in the determination of whether or not a married woman will work this analysis will relate labor supply to local labor market conditions. There have been many significant economic studies of the relation between local labor demand and labor supply. Therefore, a brief summary of these works is in order as a preface to this section on the influence of local labor market conditions on wives' work participation.

In the recent literature several opposing theories of the relation between labor demand and labor force participation have been offered. Woytinsky has argued that the size of the labor force increases in bad times because "additional workers" are forced into the labor market when the head of the family becomes unemployed or must take a lower paying job.[1] Pierson, on the other hand, has claimed that the more jobs that are available the more tempted people will be to enter the labor force.[2] Keynes suggests that the labor force follows differing behavior patterns in depression and in normal times. Under full

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1. W.S. Woytinsky, Three Aspects of Labor Dynamics (Washington, Committee on Social Security, Social Science Research Council: 1942), pps. 105-106.
2. Pierson, as quoted in Long, op. cit.. p. 181n.

employment labor supply reacts only to real wages, while at less than full employment labor supply varies directly with money wages, rather than inversely with real income.[1]

Long and Douglas have related labor supply to labor demand in two ways. Douglas related percent of people in the labor force to wage rates in various communities in the United States and found that labor supply is negatively sloped with respect to income.[2] In a similar type of study Long corroborated Douglas' findings for 1900-1940, but for 1950 there appeared to be no association between labor force and wage rates among individual age and sex groups.[3]

One difficulty with this method, as Schoenberg and Douglas pointed out, is that if we presume that labor is paid the value of its marginal value product, and if we hold to the law of diminishing returns, then the marginal value product of labor would decrease as labor supply expands. If this is true, then an increased supply of labor could lead to lower wage rates rather than the lower wage rates leading to a larger labor supply.[4]

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1. John Maynard Keynes, The General Theory of Employment Interest and Money (New York; Harcourt Brace and Co.:1935) p. 291.
2. Paul H. Douglas, The Theory of Wages (New York: MacMillan Co., 1934) p. 275.
3. Long, op. cit., p. 61.
4. Erika Schoenberg and Paul H. Douglas, "Studies in the Supply Curve of Labor: The Relation in 1929 between Average Earnings in American Cities and the Proportions Seeking Employment", Journal of Political Economy, Vol. XLV (December-February 1937) pps. 45-79.

When Long compared labor force participation and degree of unemployment (instead of wage rate) in various cities, he found that for all white women except those aged 20-24 the more men who are unemployed the smaller is the size of the female labor force. His results were opposite for colored women.

These analyses of Long and Douglas compare aggregate figures for different cities. The cross-section study used in this thesis yields two advantages over the previous aggregate methods.

First it permits the exploration of the labor market behavior of wives, while data used in other studies permit only the examination of the labor force[1] behavior of women. It is quite possible that the behavior of married and single women may be diametrically opposite under conditions of high unemployment. Possibly the labor force of women is constant under all types of labor market conditions because wives go to work in bad times to bolster family finances while single women remain unemployed and withdraw from the labor force to continue with their schooling or to be supported by their parents until it is easier to find a job.

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1. The labor force as defined by the Census Bureau includes both women who are working and those who are actively seeking work. It would have been preferrable to relate labor force participation to current local labor market conditions but information about which women were actively seeking work was not available for the cross-section studies used. Therefore, only women who are currently working either full or part-time are considered to be workers in this study.

The second advantage of a cross-section study is that it allows one to account simultaneously for demographic, family financial and other variables as well as local labor market conditions. Two methods have been used to study the effects of local labor market conditions on wives' work status. First local labor market conditions are compared to the percent of women who are currently working. Then the effect of local labor market conditions is observed when all the variables used in the regression equation are taken into account.

It should be noted that the ideal type of labor market variable to use would be a particular women's estimate of her own job opportunities. It has been shown that subjective estimates of job opportunities differ from actual job possibilities.[1] One would expect action according to perceived job opportunities rather than ac-

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1. "A second conclusion which workers draw from their experience is that good jobs are scarce and hard to find. It seems curious that this view should have been widespread even in a year of peak employment such as 1947. Throughout 1947 there were never less than one thousand unfilled jobs listed at the local office of the State Employment Service and there must have been many more which were not listed. It must be remembered, however, that workers have no way of knowing this. They only know about vacancies which occur in the immediate vicinity of their own job, or which are mentioned to them by friends and acquaintances. Moreover, many of the vacancies which they hear about do not meet their standards of a good job. Good vacancies are likely to be filled quickly by people who hear about them "by the grapevine", and jobs which remain unfilled are usually undesirable for one reason or another. Again, many vacancies which a man hears about are not vacancies for him, because he lacks the training, experience, and other qualifications for the job. A high demand for Grade A machinists is of no importance to a low-skilled machine operative." Lloyd G. Reynolds and Joseph Shister, Job Horizons, A Study of Job Satisfaction and Labor Mobility, (New York: Harper Bros., 1949) pps. 85-86.

cording to actual job opportunities. Since no data about each woman's perceived job chances are available an attempt is made to substitute the Bureau of Employment Security's estimate of local labor market conditions as a measure of job opportunities.

2. Estimated Effect of Local Labor Market Conditions Based on the Present Study

To analyze the effect of local labor market conditions on wives' labor market status each of the 66 sampling points in the GAF Study was classified by labor market conditions at the time of interview. The bulk of the interviews were taken in January-February of 1955. For the country as a whole this was an era of relative prosperity although there were a few areas such as Burlington, Vermont and Lawrence, Masachusetts which were experiencing severe unemployment. The labor market classification used in this analysis is based primarily[1]

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1. Since the Bureau of Employment Security classifies only major production centers and the GAF Study is a clustered random sample of the entire non-institutional population of the United States, it was necessary to classify some areas that the Bureau of Employment Security had not mentioned in its reports. This was done by two methods. First, letters were written to individual State Employment Security Agencies asking them for labor market information for January 1955 for the areas in which interviews had been conducted. More than half of these local agencies replied that the area in question was not a local labor market area of sufficient size to be classified. In cases where the local agency could give no information, if the area was within forty miles (the author's assumption of maximum commuting distance) of a classified area, it was given the classification of this area. When all these (continued on p.49)

upon the January 1955 classification of the Bureau of Employment Security.[1] This Bureau of Employment Security classification had been formulated in the following manner:

> "Every two months, the Bureau of Employment Security rates or "classifies" 149 of the Nation's leading production and employment centers and a number of smaller areas, according to the relative adequacy of local labor supply.
>
> The area classifications represent a synthesis of a number of key elements which reflect the area's labor market conditions in relation to labor market conditions in other areas in the country. The level of local unemployment is an important factor in the classification of each area, but consideration is also given to recent changes in employment and unemployment fluctuations, to the relationship between local labor demand and supply and to the area's employment and unemployment outlook, as reflected by the employer estimates of their future manpower requirements." [2]

Table 3.5, which is a simple comparison of local labor market conditions and percent of women who work based on GAF data, shows that the percent of married women working under different types of local labor market conditions does not vary significantly. This is not consistent with Long's observation that the labor force of white women declines with unfavorable local labor market conditions.

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methods were used, 18 communities, or 29% of the points sampled could not be classified. However, since most of the communities which could not be classified were very small towns and rural areas, a total of 80% of the women in the GAF Study could be given a local labor market classification rating for January 1955.

1. U.S. Dept. of Labor, Bureau of Employment Security, Labor Market and Employment Security (Washington: U.S. Government Printing Office, February 1955) pps. 57-64.
2. U.S. Dept. of Labor, Bureau of Employment Security in Cooperation with Affiliated State Employment Security Agencies, Area Manpower Guidebook (Washington: U.S. Government Printing Office, 1957) p. XXVII.

TABLE 3.5

RELATION BETWEEN PRESENT WORK STATUS, FUTURE WORK PLANS AND LOCAL LABOR MARKET CONDITIONS, JANUARY 1955

Work Status	All	Local Labor Market Conditions: Balanced Labor Supply	Moderate Labor Surplus	Substantial Labor Surplus	Very Substantial Labor Surplus	Not Classified
A. Current Work Status for All Married Women						
Current Work Status						
Working now	23%	22%	25%	28%	21%	23%
Not working now	77	78	75	72	79	77
Percent of cases	100%	100%	100%	100%	100%	100%
Number of cases	2712	210	1582	293	57	570
B. Future Work Plans for Those Working Now						
Future Work Plans						
Will work permanently or will retire and return	59%	70%	60%	51%	*	55%
Will retire and not return	41	30	40	49		45
Percent of cases	100%	100%	100%	100%		100%
Number of cases	634	42	370	77		125
C. Future Work Plans for Those Not Working Now						
Future Work Plans						
May or will work	39%	42%	43%	35%	44%	35%
Won't work	61	58	57	65	56	65
Percent of cases	100%	100%	100%	100%	100%	100%
Number of cases	1937	157	1028	198	41	413

Source: GAF Study

1. Totals for columns B and C do not add to A because all women with uncertain plans and with any other information missing were eliminated from Groups B and C.

* Group too small for proper estimation.

However, when an attempt is made to see whether the use of local labor demand conditions would significantly improve the predictions made on the basis of regression equations 001A and 001B there is a definite relationship between wives' work participation and local labor market conditions. If the influence of all the variables in these equations is accounted for, the following relationships are observed. For women with young children (under six) the influence of local labor market conditions on present work status is insignificant. However, women with no young children are more likely to be working in areas of high labor surplus than in areas of balanced labor supply. This information combined with the knowledge that women are most likely to begin working when family income begins to fall (page 180) lends support to Woytinsky's "additional worker theory".

b. Place of Residence

Other studies have indicated that women's employment is related to the type of community in which they live.[1] Place of residence usually affects labor demand through its influence on the type and quantity of jobs available for women. Farm women are generally less likely to work away from home than women who live in urban communities.[1]

When a simple analysis of the relation of plane and employment is attempted on the basis of the GAF Study, these differences are evident. The data in Table 3.6

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1. Womanpower, op. cit., p. 81.

TABLE 3.6

EMPLOYMENT BY PLACE OF RESIDENCE, JANUARY 1955

Wife's Current Employment Status	All	Place of Residence: Cities Metro. Areas Central Cities	Cities Metro. Areas Suburbs 50,000 or more	Small Suburbs Rural Areas	Cities 50,000 and over	Cities 2,500 to 50,000	Rural Areas: Rural Towns Rural Blocks	Rural Areas: Open Country
Working	23%	31%		20%	25%	28%	24%	14%
Not working	77	79		80	75	72	76	86
Percent of Cases	100%	100%		100%	100%	100%	100%	100%
Number of Cases	2713	399		318	446	564	671	295

Source: GAF Study

agree with Census Bureau findings that urban women are twice as likely to be in the labor force as farm women. It may be that cities provide easier opportunities to obtain paid employment. Probably many farm women help with chores but do not consider this as employment.

Place is not inserted in the multiple regression analysis because it is difficult to scale and of less importance than some of the other variables used. The effects of place of residence are analyzed in the manner described in Appendix A. There is some indication that if the regression equations had distinguished between farm and non-farm residence they would have yielded slightly better predictions. Fewer women would have been predicted to work in farm communities and slightly more women would have been correctly predicted to work in urban communities. Therefore, knowledge of place of residence does contribute to correct prediction of wives' current work status.

3. Past Experience and Training

a. Work History Prior to Marriage

An effective way of predicting what people will do in the future or what they are currently doing is to extrapolate what they have done in the past. This principle has proven useful in the prediction of national income and the course of the business cycle. A similar principle should prove helpful in predicting married women's work behavior. Table 3.7A for example, indicates that a woman who has worked prior to marriage is far more likely to work

TABLE 3.7A
RELATION BETWEEN WORK PRIOR TO MARRIAGE AND WORK AFTER MARRIAGE BY AGE COHORTS

Year of Birth	Percent Who Worked After Marriage: Didn't Work Before Marriage	Did Work Before Marriage
All age cohorts	55%	73%
1914 - 1919	57%	73%
1920 - 1924	55	73
1925 - 1929	51	74
1930 and later	54	75

Source: GAF Study

TABLE 3.7B
LABOR FORCE PARTICIPATION PRIOR TO MARRIAGE, BY AGE COHORTS, BY AGE AT TIME OF MARRIAGE

Year of Birth	Percent Who Worked Prior to Marriage: Age at Time of Marriage 15-17	18-19	20 and older	Number of Cases
All age cohorts	40%	65%	86%	2689
1914- 1919	35%	55%	77%	803
1920- 1924	30	65	91	736
1925- 1929	50	68	92	698
1930 and later	55	80	89	452

Source: GAF Study

after marriage than a woman who has never worked prior to marriage. Seventy-three percent of the women who worked prior to marriage worked after marriage, while only 55% of the women who did not work prior to marriage worked after marriage.

When work experience prior to marriage is included in the regression equation (Eq. 001) the standardized regression coefficient associated with this variable is higher than that for either education or possession of children who are six or older.[1] For women who have no young children (Eq. 001B) work experience prior to marriage is third in importance. For these women husband's income and possession of children who are six or older are more closely related to current work status than work experience prior to marriage.

Why is work experience prior to marriage important in the prediction of work experience after marriage? A woman who has worked prior to marriage has better contacts and work experience which enable her to find a job easily or she may even retain the job she had prior to marriage.

This relationship between work prior to marriage and work after marriage is valuable for dynamic analysis and prediction of labor force participation of married women. If it is true that working prior to marriage predisposes one to work after marriage, then as the number of single

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1. Rosett suggests that previous work history may be a useful variable to study in analyzing married women's labor force status. Rosett, op. cit., p. 49.

women who work prior to marriage increases the number of women who will work after they are married will increase.

Therefore, work behavior of each age cohort prior to marriage is examined to see if there has been an increase in labor force participation prior to marriage. Using information from the GAF Study, women are divided into cohorts on the basis of year of birth. In order to allow for any differences amongst age cohorts in age at time of marriage, each cohort is divided into three groups according to age at time of marriage. Table 3.7B presents the history of labor force participation prior to marriage for the different cohorts. Table 3.7B shows that there has been an especially large increase in the labor force participation of girls who are younger than twenty when they marry. In view of the increase in the average level of education over the last twenty years,[1] this increase in labor force participation is particularly remarkable. This work experience prior to marriage may represent vacation and part-time jobs which are not revealed in labor force statistics.

From Table 3.7B we can see that for each succeeding cohort group there has been a rise in the percent of women working. For each age at marriage group the total increase from the 1914-1919 cohort to the 1930 and later

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1. From 1940-1957 the median school years completed for females in the U.S. rose from 10.2 to 12.1. U.S. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States (Washington: U.S. Government Printing Office, 1959) p. 109.

cohort ranges from 12 to 25 percentage points! If this increase in labor force participation were to continue, eventually it is reasonable that from 95 to 100% of all women will have had some work experience prior to marriage.

In each age group in the GAF Study a constant proportion of the women who worked prior to marriage worked after marriage, and a constant and smaller proportion of those women who did not work prior to marriage worked after marriage. This information may be useful in attempts to extrapolate future labor force behavior of married women.[1]

b. Wife's Education

In the previous section it has been mentioned that the level of education of women in this country has been rising. The multiple regression equations (001, 001A, 001B) indicate that the higher a married woman's education the more likely she is to work after marriage. However such factors as husband's income, possession of children and work prior to marriage are more closely related to work status in Equation 001 than education.

As we have noted above, education seems to be strongly

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1. For example a rise of 10% in women who have worked prior to marriage would lead to an 8% increase in the number of women who would have worked between the time they were married and the age of forty, since approximately 80% of those who worked prior to marriage will work after marriage. Since about 5% of these women would have worked anyway despite their previous work experience the net gain in married women workers due to a 10% increase in work participation prior to marriage would be an increase of 3% just on the basis of increasing work experience.

related to current work status for women with young children, while for women with no young children there appears to be no relation between education and current work status. Possibly this indicates that where there are no barriers to working for a married woman, education is not an important consideration, but where there are barriers to work (young children in the home) the more highly educated a woman is the more likely she is to work. Perhaps this ~~is~~ because only more highly educated mothers are in a position to earn enough to pay for adequate child care and still reap financial rewards from their work. There was no information from which relative wage rates could be computed.

There were over 300 women (11%) in the GAF Study who had never worked either before or after they were married. Since occupational data was not available for the entire sample occupation was not analyzed. The effect of occupation on future work plans for women who were working at the time of interview is studied in Chapter IV.

4. Family Status

Equation 001 indicates that if the family has children younger than six it is unlikely that the wife will work. This relationship is more important than that of any other variable in the equation. This result is substantially in agreement with other analyses.[1,2,3]

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1. Rosett, op. cit..
2. Long, op. cit..
3. Garfinkle, op. cit..

Children who are six years or older usually attend school, therefore, they are not as great a deterrent to their mothers' work plans as younger children are. Possession of children age six or older is negatively related to labor force participation, however this factor has approximately one-sixth as much importance as having children of five or less.

It might be argued that expectation of additional children would discourage a woman from embarking upon a work career after marriage. All women who were not currently pregnant (pregnant women are analyzed separately in Equation 002) were asked whether they hoped or planned to have any (any more) children. The regression equation (001) indicates that the expectation of additional children does not act as a deterrent to present labor force participation.

The year married is related to the wife's age (hence age is not included in the regression equation) and is an indicator of the duration of marriage. Since the error term is so large there appears to be no significant relation between year married and wives' current work status.

Finally, the regression equation indicates that the number of times married is positively related to present work status but once again the size of the error term indicates that this finding is not acceptable at the 5% level of significance. Other studies have indicated that a woman who is remarried is more likely to work than a woman with

similar family who is not remarried.

The lack of relationship between remarriage and current work participation may be the result of two countervailing forces. On the one hand a condition of remarriage may often be that the wife contribute to the support of her children by her former husband. Also she may have had work experience between marriages which facilitate her work career. On the other hand those women who may be most likely to remarry are those who wish to resume their family role and who do not relish working outside the home to support their children. Since all the women studied here were of childbearing age, it is likely that they are already raising a family or expect to raise a family with their new husbands. Perhaps the relation between work status and remarriage only holds true for older women who remarry. In any event there is no confirmation in this study for the hypothesis that women who have remarried are as a group more likely to work than other women, other things being equal.

5. Attitudinal Factors

a. Life satisfaction

There are two remaining variables that are not independent of work status and yet that might be significantly enough related to be of importance in this analysis. These are variables which express satisfaction with housing and with the course of one's life.

Since the women in the GAF Study had been asked the following questions, it is possible to correlate their responses (indicating their satisfaction with the course of

their lives) with their work behavior and future work plans.

> "Some people feel that their lives have worked out just the way they wanted. Others feel that they've really had bad breaks. How do you feel about the way your life is turning out? How do you mean?"

Table 3.8 indicates little difference in life satisfaction between working and non-working wives. Women who are currently working are slightly more inclined to be dissatisfied with the course of their lives. When the effect of this variable is tested in the context of the predictions from the regression equation there is some evidence that women with children who are working are more dissatisfied with their lives than women with children who are not currently working.

These results are somewhat difficult to interpret. The women who have young children and work may be dissatisfied with their lives because they have to work even though they have young children. Unless life satisfaction is used in the context of a re-interview study where subsequent behavior can be observed after finding out about life satisfaction, it would seem that it is not a suitable variable for an analysis of the labor force status of married women.

b. Housing Satisfaction

Chapter IV indicates that one of the prime reasons for working, in terms of the number of women who offered this reason, was to acquire assets. Today more than 55% of American families own their own homes, therefore it

TABLE 3.8

RELATION BETWEEN LIFE SATISFACTION AND PRESENT AND EXPECTED FUTURE WORK STATUS

A. Present Work Status

Life Satisfaction	All	Working Now	Not Working
Satisfied	83%	80%	84%
Dissatisfied	12	11	12
Not ascertained	5	9	4
Percent of cases	100%	100%	100%
Number of cases	2712	645	2037

B. Future Work Plans for Women Who Are Working Now

	All	Will Work	Won't Work
Satisfied	83%	80%	88%
Dissatisfied	12	14	9
Not ascertained	5	6	3
Percent of cases	100%	100%	100%
Number of cases	610	354	356

C. Future Work Plans for Women Who Are Not Working Now

	All	Will Work	Won't Work
Satisfied	83%	80%	88%
Dissatisfied	12	13	8
Not ascertained	5	7	4
Percent of cases	100%	100%	100%
Number of cases	1920	784	1136

Source: GAF Study

interesting to observe if the wife is working to help finance this home purchase.[1] From available data we can not determine directly whether wives are working to finance their homes. However in the GAF Study women were asked, "would you say that your present house (apartment) is satisfactory for the needs of your family, or unsatisfactory, or what?"

There is little difference in the satisfaction with housing amongst women who are and are not working (Table 3.9). Possibly this is due to the fact that working women are able as a result of their work to pay for adequate housing. When housing satisfaction is studied in the context of the regression equation by the observation of its effects on the extreme predictions, there is no relation between housing satisfaction and current work status. Because of the uncertainty about the direction of any relation between housing satisfaction and current work status, it seemed appropriate to estimate such relationships on the basis of the re-interview study, as well as the GAF Study. If women were working in order to purchase a home, more women would be expected to start working when the family had house purchase plans. Table 3.10 based on the Ford Re-interview Study indicates that there is no difference in wives' labor market behavior in families which do and those which do not plan to buy a home.

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1. 1958 Survey of Consumer Finances

TABLE 3.9

RELATION BETWEEN HOUSING SATISFACTION AND CURRENT AND EXPECTED FUTURE WORK STATUS

	All	Housing Satisfaction: Satisfied	Satisfied Qualified	Dissatisfied, Dissatisfied Qualified
A. Current Work Status for All Married Women				
Current Work Status				
Working now	23%	24%	23%	21%
Not working now	77	76	77	79
Percent of cases	100%	100%	100%	100%
Number of cases	2119[1]	1135	299	685
B. Future Work Plans for Those Working Now				
Future Work Plans				
Will work permanently or will retire and return	54%	53%	50%	57%
Will retire and not return	46	47	50	43
Percent of cases	100%	100%	100%	100%
Number of cases	459	258	64	137
C. Future Work Plans for Those Not Working Now				
Future Work Plans				
May or will work	39%	38%	40%	40%
Won't work	61	62	60	60
Percent of cases	100%	100%	100%	100%
Number of cases	1631	860	231	540

Source: GAF Study

1. The number of cases here is less than the entire sample because the question was not asked of women who definitely could have no more children.

TABLE 3.10

RELATION BETWEEN 1954 HOUSE PURCHASE PLANS AND WIVES' LABOR FORCE STATUS 1954- 1956

1954-1956 Labor Force Status *	All	1954 House Purchase Plans: May or Will Buy a House	1954 House Purchase Plans: Won't Buy a House
Wife not working	69%	68%	69%
Wife working *	19	19	19
Wife started working	7	6	7
Wife stopped working	3	4	3
Wife started and stopped or stopped and started	2	3	2
Percent of cases	100%	100%	100%
Number of cases	821	109	712

Source: Ford Re-interview Study
*Each of these categories is mutually exclusive. Thus "wife not working' refers to women who never worked throughout the period from 1954-1956. Similarly "wife started working" refers to women who started working at some time during 1954-1956, and have continued working from that time until the time of the last interview.

Further study is needed linking actual purchase and wives' employment status. However, on the basis of this data, it would appear that wives are not working primarily to purchase homes.

E. Analysis of Multiple Regression Equation for Women Who Are Currently Pregnant

None of the previous analyses of labor force participation of married women have separated pregnant women from all other married women. A separate analysis should prove valuable for a number of reasons. First, it enables one to trace the labor force participation of these women throughout their pregnancy. One can analyze when these women retire and what factors influence the date of their retirement from the labor force. Secondly one would expect the labor force status of pregnant women to depend on different factors than that of other married women. A separate equation can be used to investigate this possibility.

The work behavior of pregnant women is in some respects much easier to predict than that of other women and in other respects more difficult to handle. It is evident on one hand that they will have to withdraw from the labor force at the time of their confinement. But when will they withdraw and what determines when they will return to the labor market? Since the GAF Study asked many questions about pregnancy and how long women had been pregnant, this study offers an unparalleled nationwide sample of pregnant white women between the ages of 18-39. This data is first analyzed taking one or two variables

into account at one time. Then all the seemingly relevant variables are included at once in the multiple regression equation in order to determine the influence of all these variables working simultaneously.

Of the 295 pregnant women in the GAF Study there were only 72 who had no children. Thirty-two percent of these pregnant women without children were working at the time of interview, while only 12% of women whose youngest child was of school age or older worked. Amongst pregnant women with young children (under six) even fewer women were working.

Fifty-eight percent of all women aged 18-39, who had no children and were not pregnant, were working at the time of interview, while 55% of women who had no children and were pregnant from one to three months were working. Thus the first three months of pregnancy do not seem to hamper a women's labor force activity. As the pregnancy progresses women start to drop out of the labor market. Amongst women who were four to six months pregnant (and who had no children) only 32% were working. In the seventh and eighth months of pregnancy very few (9%) of these women without children were working. The average pregnant woman, therefore, leaves the labor force during the sixth month of pregnancy.

This average time of retirement from the labor force is affected by the husband s income and the age of the wife. The husband's income is negatively related to retirement up to the sixth month of pregnancy. After that there appears to be no relationship between the husband s income and the

time of retirement. Education, year married and religious preference have no bearing upon the labor force status of pregnant women.

The preceding paragraphs have dealt with the relationship of pregnancy, work behavior and other variables taken two at a time. In order to observe the full effect of all variables acting simultaneously a multiple regression equation is constructed similar to that for non-pregnant women (001). This equation uses the same variables as those used in Equation 001 with two exceptions. The variable "expects additional children" used in the equation for pregnant women (Equation 002) refers to additional children after the one presently expected.[1] Secondly since the analysis above indicates that the number of months pregnant is important in estimating labor force participation, this variable is included in the multiple regression analysis.

The correlation coefficient for Equation 002 is significant but the number of variables that are significant at the 5% level is sharply reduced as compared to the regression equation for non-pregnant women (Equation 001). The husband's income (HY) again is negatively related to working but it is somewhat less significant

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1. If this change had not been made all pregnant women would have been expecting additional children and the variable would have been useless in understanding the present behavior of pregnant women.

than it is in the equation for non-pregnant women. The wife's education and her work experience prior to marriage are not significant. The previous two-variable analysis showed that if a pregnant woman already has young children it is highly unlikely that she will work. The regression equation confirms this finding. The most important deterrent to current labor force participation of pregnant women is the possession of young children.

Plans to have additional children in the future, number of times married and year married are not significant factors in the estimation of whether a pregnant woman is working. Only number of months pregnant, possession of children who are younger than six, and possibly husband's income have an important influence on pregnant women's current labor force status.

The relationships in Equations 001, 001A, 001B and 002 cannot be completely analyzed on the basis of the results of these multiple regression equations alone. Even though independent variables which are highly correlated have been eliminated from the multiple regression equations there are still possibilities of interaction effects. For example, age might affect wives' future work plans through its effect on the level of husbands' incomes even though age and income are not highly correlated. Similarly the level of a wife's education might affect her current work status via the relationship between a wife's education, satisfaction with her standard of living and the level of her husband's income.

Some interactions between independent variables have

been accounted for in the two-way analysis. The effect of age at marriage has been held constant in analyzing the relation between work prior to marriage and current and expected future work status. Similarly child status has been held constant in the analysis in Chapter IV of the effects of the husband's veteran status on wives' current and expected future labor force participation.

However interpretation of results based only on the multiple regression equations and the two-way studies provides only a stepping stone to a complete study of the factors and patterns of factors related to women's labor force behavior. In subsequent studies multiple regression analysis combined with analysis of variance could be used to determine some of these interaction effects. Interactions between a wife's education and occupation, between a wife's education, her satisfaction with her standard of living and her husband's income, between education and reasons for work, and current and future work status are important areas for future study.

F. Summary

1. Financial Factors

The husband's income ranks second in importance to the possession of young children in the determination of whether a wife is currently working. A wife is more likely to start working where income has been falling than in a family where income has been constant or rising. However, past family income history is not related to wives' current work status. Possibly families where the wife is already working are likely to have had a steady income history because of the wife's financial contribution.

2. Local Labor Demand Factors

This section provides an ideal illustration of the value of a multivariate analysis in studying the factors affecting married women's labor force status. In a simple comparison of local labor market conditions and wives' current work status, local labor market conditions do not appear to influence the percent of married women who are currently working. When more variables are taken into account, local labor market conditions do influence the behavior of certain women. Women who have no young children are more likely to work in areas of high unemployment than in areas of relatively low unemployment. Local labor market conditions on the other hand do not influence the current work status of women with young children. A new factor which should be included in future estimates of married women's labor force participation under differing conditions of labor demand has been uncovered by this multivariate

analysis. Another factor which affects labor demand is place of residence. Married women in this study are less likely to be working in rural than in urban communities.

3. Past Experience and Training

Work experience prior to marriage, a variable which has not been considered in previous studies, was found to be very importantly related to work status after marriage. Work experience prior to marriage is positively related to current work status and it is third in importance amongst the variables related to current work status. More women are now working prior to marriage despite the trends toward higher education and earlier marriage. This increase in work participation prior to marriage augurs an increase in the size of the labor force of married women in the coming years on the basis of the relationship between experience prior to marriage and work after marriage.

Education is positively related to work after marriage but it is of less importance than either child status, husband's income or labor force participation prior to marriage. Since the level of education is rising in this country, further increases in the labor force participation of married women because of their superior job training are to be expected.

4. Family Status

The possession of a child who is less than six years old is the most important factor related to wives' current work status. Possession of children who are six

or older is about one-sixth as important as having younger children. Expectation of additional children is not related to the current work participation of married women.

The duration of marriage, which is measured by the year married, is not significantly related to wives' current work status. Re-marriage does not affect the work behavior of married women.

When separate regression equations were formed to distinguish between women with young children (under six) and women with no young children, it was found that the multiple correlation coefficient for women with young children is not significant at the 5% level. This confirms the finding in Equation 001 that the presence of young children in the home is the strongest deterrent to the employment of married women.

5. Attitudinal factors

There was no evidence from the Ford Re-interview Study that more wives started working in families that intended to purchase homes in the near future. Satisfaction with housing is not related to present work status when it is studied in the context of all the variables in the multiple regression analysis. It would seem that if the wife is working to enable the family to "buy things" she is probably working to pay for things other than the family home.

Life satisfaction is a difficult variable to relate to wives' current work status. Women who work, especially those with young children, are more likely to be dissatisfied

than women who do not work. Since the re-interview study has shown that women are most likely to start working when family incomes start to decline, it is possible that these women enter the labor force because they are dissatisfied with the financial aspects of their lives. However, it is impossible to tell definitely from this information whether these women work because they are dissatisfied or whether they are dissatisfied because they dislike working.

6. Current Work Status of Pregnant Women

Previous studies of married women who work have not considered pregnant women. The equation for pregnant women indicates that only the husband's income, the number of months pregnant and whether a woman has other young children are important in the determination of whether pregnant women are working. The average pregnant woman retires from the labor force between the fourth and sixth month of pregnancy. The husband's income appears to be an important factor in the determination of when a pregnant woman will retire from the labor force.

CHAPTER IV

FUTURE WORK PLANS OF MARRIED WOMEN

Current work status alone does not provide an adequate picture of a married women's labor force attachment. Many women who are currently working may plan to retire permanently in the near future. Others who do not work at present may plan to work for very long periods of time in the future. A thorough investigation of married women's labor force attachment must include an analysis of past labor force experience, present work status, and future work plans. Since this paper is directed at determining the factors which are related to labor force attachment and which can be used to predict labor force attachment, past work experience will be included in the multiple regression equation to determine its importance in the prediction of current work status and future work plans.

The factors which explain current work participation were analyzed in Chapter III. This chapter will answer such questions as: Do the same factors which explain current work participation predict future work status? If not, what factors do influence labor force attachment? How are these factors related to future labor force attachment? What is the relative importance of each of these factors in explaining future labor force participation? Does the additional information on occupation and reasons for work which is available for women who are currently working improve predictions of future work plans?

The theory advanced in Chapter III of the enabling, facilitating and precipitating factors which influence wives' current labor force participation has been used in this chapter to help select factors related to future work plans. Since information on occupation, wives' incomes and reasons for working is only available for women who were currently working, separate regression equations will be computed for working and non-working women. These equations will relate future work plans to various independent variables. The wife's income, occupation and reasons for work as well as the variables studied in connection with current work status are related to future work plans for women who are currently working. For women who are not currently working, work experience since marriage in addition to the variables studied in the equations on current work status are related to future work plans. In this way full use of the additional data which was available for working women is made.

This chapter will begin with a brief summary of findings. Section A will discuss the value of using future work plans as guides to labor force attachment. The multiple regression equation for wives who are currently working will be analyzed in Section B. This section will include a special discussion of reasons for working. Section C will present a revised form of the multiple regression equation used in Section B. The revised equation will thoroughly explore reasons for

working. Section D will present a multiple regression equation relating economic, demographic and other variables to future work plans, for women who were not working at the time of the interview. Section E will summarize the results of Sections B, C and D.

The study of factors related to the future work plans of women who are currently working indicates that certain reasons for working are important in the determination of future labor force attachment. "Need for accomplishment" and "need to occupy time" are more closely related to future work plans than either financial, local labor demand, family status or previous experience and training factors.

For women who are not currently working the most important determinant of future work plans is whether the wife has ever worked during her married life. Next in importance are year married and the husband's current income. Since previous work experience is closely related to future work plans, the current increase in married women's labor force participation should lead to increased work participation in the future.

A. Future Work Plans as Guides to Labor Force Attachment

There are three ways to explore the factors related to future behavior. One method is to question people at one point in time and then to follow them at some later date to ascertain what they have done. Or in an ex post sense, people who have recently been involved in some type of decision or action can be questioned to see what

factors might have been related to their decisions. Consumer purchases have been studied by these methods. Still another way to examine the factors which relate to future behavior is to ask what a person intends to do and then to correlate other factors with these plans. This is the method used in the present study. Implicit in this last approach is the assumption that the person's stated plans provide relatively valid guides to their future behavior.

Before analyzing the relationship of the independent variables to future work plans the validity of future work plans should be explored. Will the women who say they will work in the future actually carry out the plans which they envision? From the standpoint of strength of attachment to the labor force this question may not need exploration. One might assume that plans to work in the future indicate strong labor force attachment at present, even if these plans are never fulfilled. However, the value of the independent variable for predictive study is enhanced if one has some notion of whether women can be expected to carry out their stated future work plans. Tests of whether stated plans to purchase durables are carried out have been made on the basis of either aggregative tests" or "reinterview tests". In the "aggregative test", time series based upon stated future intentions are constructed. These series are then compared to time series for aggregative behavior at some later date. These tests have shown that there is a positive relationship

between consumer buying plans and purchases.[1]

An "aggregative test" of the feasibility of using women's intentions to work as guides to actual future work behavior can be made on the basis of a study of women workers in ten war production areas in 1944.[2] On the average, 75% of the wartime employed women in these ten areas expected to be a part of the postwar labor force. While some labor experts[3] pointed out that there would be a smaller withdrawal of women from the labor force than that commonly expected, most of the numerical predictions of women's post-war labor force behavior used exceedingly conservative estimates of the effect of war work on women's post-war labor force status.

Haber and Welch[3] in July of 1944, pointed out that the wartime situation had caused approximately 3 million women who would not normally have been working to enter the labor force. They felt that the women who had been working in munitions plants might withdraw from the

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1. George Katona and Eva Mueller, Consumer Attitudes and Demand 1950-1952 (Survey Research Center, University of Michigan, 1953).
_____, Consumer Expectations 1953-1956 (Survey Research Center, University of Michigan, 1957).
2. U.S., Dept. of Labor, Women's Bureau, "Women Workers in Ten War Production Areas and Their Postwar Employment Plans", Bulletin 209, (Washington: U.S. Government Printing Office, 1946).
3. William Haber and Emmett Welch, "The Labor Force During Reconversion," Review of Economic Statistics, Vol. 26; Nov. 1944, pps. 194-205.

labor force. However, they expected that the bulk of women who were not employed in munitions plants would tend to continue working.

Most of the other predictions of postwar labor force ignored the possibility of serious change in women's labor force attachment due to the war. These predictions consistently under-estimated the number of women who would work after the war. Durand, for example, used two estimates of the effect of the war on women's labor force participation. In a conservative estimate he allowed for 500,000 additional women who would remain in the labor force as a result of the war. In a more liberal estimate he assumed that 1 million would remain.[1]

In an estimate for a later period, Hagen and Kirkpatrick felt that the 1950 labor force would contain 1 million extra workers who had been drawn into the labor force by prosperity or the war. Their estimate included both men and women.[2] An estimate for two years after the end of the war, which was offered in Fortune Magazine, assumed that there would be "one and a third million workers who are assumed to have found factories and offices more congenial than kitchens.[3]

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1. John D. Durand, "The Postwar Employment of Women in the United States: A Statistical Forecast," International Labour Review, Vol. 48, Dec. 1944, pps. 695-713.
2. Everett E. Hagen and Nora Kirkpatrick, "The National Output at Full Employment in 1950," American Economic Review, Vol. 34, September 1944, pps. 472-500.
3. (Fortune) "Transition to Peace," Fortune, Vol. 29: pps. 84-86, 184-197, Jan. 1944.

From the stated future work expectations of women in the war production areas two to two and a quarter million women, who would not have been in the labor force before the war would have been expected to remain in the labor force in the period immediately following the war. Durand's estimate of the female labor force for 1946 (which allowed for 500,000 extra women workers as a result of wartime participation) was 2.1 million too low.[1] Certainly a higher estimate of the effects of wartime participation on postwar labor force status of women, that could have been predicted from the Women's Bureau study of women's future work plans, would have improved Durand's estimate. From the standpoint of aggregate figures of women's postwar labor force participation it appears that future work plans provide good guides to women's future labor force behavior.

We have shown that "aggregate tests" can be used to prove the validity of some future purchase plans and of future work plans. However, the best method of testing future plans is to ascertain whether each person interviewed actually carried out the plans which he stated. This type of study requires that the same people be re-interviewed at a later date.

A recent study[2] which tested the relation between plans and actual behavior by this method was carried out at the Survey Research Center. By means of multiple

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1. John D. Durand, The Labor Force in the United States 1890-1960, op. cit., p. 154.
2. Eva Mueller, "Effects of Consumer Attitudes on Purchases", American Economic Review, Dec. 1957, p. 959.

correlation it was found that buying intentions and actual purchases are correlated. Further, buying intentions were more closely related to actual purchases than any other variable.

This does not necessarily mean that all plans to do anything provide good guides to future behavior. Probably short range plans are more likely to be fulfilled than long range plans because subsequent events may tend to prevent the fulfillment of long range plans. Plans to work in the future are generally long range plans. However, plans to work certainly would seem to measure attachment to the labor force better than any other variable which might be used for this purpose. Therefore in this study future work plans have been used as guides to the degree of labor force attachment manifested by married women as well as a guide to the type of factors that will probably influence married women's work participation in the years to come.

B. Analysis of Multiple Regression Equation for Married Women Who Are Currently Working

The problem of this section is to determine the factors which are most closely related to expected labor force attachment for wives who are currently working and the relative importance of these factors.

In the GAF Study all working wives were asked questions about their expected future work plans which are used to tract the factors related to their labor market attachment. These questions were:

"Do you plan to work permanently or only temporarily? How long do you plan to work? (If temporarily) Do you expect to go back to work sometime later on?"

The answers of the 672 working wives in this study were distributed as follows:

TABLE 4.1

FUTURE WORK PLANS FOR WOMEN WHO ARE CURRENTLY WORKING

Will Work Permanently	37%
Will Retire, but Plans to Return	18
Will Retire and Won't Return	38
Uncertain about Future Plans	7
Total	100%
Number of Cases	672

Source: GAF Study

Answers to the questions about future work plans were divided into two groups. Group 1-strong attachment, consisted of all women who said they planned to work permanently or who said that they would temporarily retire but would definitely return to work at some later date. Group 0 - weak labor force attachment, consisted of women who said that they would stop working and might or would not return to the labor force at some later date. Most of the women who said that they planned to stop working intended to stop within three years of the date of interview.

The variables that were predicted to relate to these future work plans are divided in Chart 4.1 into categories similar to those used for present work status equations (Chapter III). They will be analyzed in the

CHART 4.1
VARIABLES RELATED TO FUTURE WORK PLANS FOR MARRIED WOMEN WHO ARE WORKING

Variable	Expected Relationship
1. FINANCIAL FACTORS	
a. Husband's income	negatively related
b. Wife's income	positively related
* c. Past family income history	
* d. Five year income expectations	
2. LOCAL LABOR DEMAND FACTORS	
* a. Local labor market conditions	negatively related (the higher the unemployment the more women who will expect to work:
* b. Place of residence	more women work in cities
3. PAST EXPERIENCE AND TRAINING	
a. Work history prior to marriage	positively related
b. Wife's education	positively related
c. Occupation	
1. professional	positively related
2. clerical and sales	positively related not as strong as 1
3. operative	negatively related
4. FAMILY STATUS	
a. Children	
1. children under 6	negatively related
2. children 6 and older	negatively related not as strong as 1
3. expectation of additional children	negatively related
4. pregnant now	negatively related
b. Marital Status	
1. number of times married	positively related
2. length of marriage	negatively related
5. ATTITUDINAL FACTORS	
a. Reasons for working	
1. financial --chronic and temporary	
2. financial --acquisition of assets	
3. quasi-financial --helping family business	
4. non-financial --need for achievement	
5. non-financial --need to occupy time	
Scale of attachment to labor force from strongest to weakest--predicted order 4,5,3, 2,1.	
* b. Life satisfaction	
* c. Housing satisfaction	

*Variables designated with asterisks are analysed by observing their effects upon predictions from the multiple regression analysis.

order in which they are listed.

1. Financial Factors

a. Husband's income

The results of Chapter III and of past studies indicated that the husband's income is significantly negatively related to the wife's present labor force behavior. It seems probable that the husband's income at present would be related negatively to the wife's plans for future work. However, when the simple correlation coefficient between wives' future work plans and husbands' incomes is computed, (Appendix B, Table B.6) it is not significant. Further when the husband's present income is included in the multiple regression equation (Equation 003) for future work plans of all women who are currently working, it is negatively related but its coefficient is not significant. (Tables 4.2 and 4.3) The husband's future income expectations would provide a better guide to wives' work plans, but this information was not available.

b. Wife's income

One would expect that the higher the wife's income the more likely she would be to continue work since the higher her income the more valuable the "rewards" of her work. Wife's income shows very little correlation with future work plans. (Appendix B, Table B.5). When the wife's present income is examined in the contest of the 12 independent variables in the multiple regression equation it is found to have no significant effect on

TABLE 4.2
MULTIPLE REGRESSION EQUATIONS FOR FUTURE WORK PLANS FOR MARRIED WOMEN

Equation	Constant	HY*	WY	E	WP	C	C_6	Ca	Pr
003: Women who are currently working N= 627, R^2 =.10	.8657	-.0013	.0009	-.0069	-.0010	.0077	.0035	-.0048	-.0152
003A: Revised form for women who are currently working N = 627, R^2 = .11	.5985			-.0080					-.0179
004: Women who are not currently working N=1939, R^2 = .06	-.1014	-.0024		.0034	.0050	-.0044	.0077	-.0063	-.0083

M	YM	P	SC	Op	A	OT	Bus	F	AA	WS
.0004	-.0045	.0026	.0044	-.0109	.0184	.0229				
		.0017	.0044	-.0135	.0208	.0233	.0327	.0105	.0032	
.0021	.0098									.0176

* For definition of terms see page 88 of this chapter and page 37 of Chapter III.

TABLE 4.3

β COEFFICIENTS (STANDARDIZED REGRESSION COEFFICIENTS) FOR FUTURE WORK PLANS FOR MARRIED WOMEN

Equation	HY*	WY	E	WP	C	C_6	Ca	Pr
003: Future work plans for women who are currently working	-.0046 (.0041)	.0024 (.0043)	-.0071 (.0044)	-.0007 (.0040)	.0074 (.0040)	.0035 (.0052)	-.0049 (.0046)	-.0100 (.0040)
003A: Revised-future work plans for women who are currently working			-.0083 (.0043)					-.0119 (.0038)
004: Future work plans for women who are not currently working	-.0099 (.0024)		.0038 (.0024)	.0043 (.0023)	-.0041 (.0023)	.0079 (.0028)	-.0065 (.0024)	-.0066 (.0023)

M	YM	P	SC	Op	A	OT	Bus	F	AA	WS
.0002 (.0040)	-.0055 (.0062)	.0019 (.0058)	.0039 (.0061)	-.0110 (.0065)	.0149 (.0040)	.0142 (.0038)				
		.0012 (.0057)	.0040 (.0058)	-.0136 (.0063)	.0168 (.0041)	.0144 (.0039)	.0119 (.0040)	.0105 (.0051)	.0039 (.0051)	
.0012 (.0023)	.0108 (.0032)									.0177 (.0022)

* For definition of terms see page 88 of this chapter and page 37 of Chapter III.

DEFINITION OF VARIABLES

(Pr) Currently Pregnant

0. Is not pregnant now
1. Is pregnant now

(P) Professional

0. Is not a professional
1. Is a professional

(SC) Sales and Clerical Occupations

0. Is not employed in sales or clerical occupations
1. Is employed in sales or clerical occupations

(Op) Operative

0. Is not an operative
1. Is an operative

(OT) Need to Occupy Time

0. Does not work to occupy time
1. Does work to occupy time

(Bus) Helps in Family Business

0. Does not help in family business
1. Does help in family business

(F) Financial Reasons (Chronic and Temporary)

0. Does not work for financial reasons
1. Does work for financial reasons

(AA) Aquisition of Assets

0. Does not work to acquire assets
1. Does work to acquire assets

(A) Need to Accomplish

0. Does not work because of need to accomplish
1. Works because of need to accomplish

(WS) Worked since Marriage

0. Has not worked since marriage
1. Has worked since marriage

(FW) Future Work Plans --Dependent Variable

0. Expects to retire in future or will not work in the future
1. Expects to work in the future (or will retire and return to work)

For the definition of the other variables used in Tables 4.2 and 4.3 see page 37, Chapter III.

future work plans! (Table 4.3)

c. Past income history

The question which was used to study past income history was:

> "Since your marriage, has your family income changed up and then down at different times, or have the changes all been increases or decreases?"

When the relation of past income history and the wife's future work plans is explored in terms of the effects of past income history on extreme predictions about future work, past income history is not significantly related to future work plans.

d. Five year income expectations

All the women who were interviewed were asked the following questions:

> "Looking ahead five years, would you think that your and your family will have a better position and income than now, or will you be in about the same situation, or in a less satisfactory one?"

Three-quarters of the women expected to be in a better position while only 2% expected to be in a worse situation. Of the women who expected to be worse off, a much larger percentage was currently working than amongst the optimists. (Table 4.4) As far as future work plans were concerned wives who expected to be worse off in five years were most likely to expect to work in the future. Since there are only 32 wives (Table 4.4) who expect to be worse off this variable cannot be analyzed in terms of its effects on extreme predictions from the multiple regression equations. In summary past, present and future income seems to bear little

TABLE 4.4

RELATION OF FIVE YEAR INCOME EXPECTATIONS TO PRESENT WORK STATUS AND FUTURE WORK PLANS

		Five Year Income Expectations		
	All	Better Off	Same	Worse Off
A. Current Work Status				
Wife working now	23%	25%	23%	37%
Wife not working now	77	75	77	63
Percent of cases	100%	100%	100%	100%
Number of cases	2429	1794	584	51
B. Future Work Plans for Women Who Are Not Working Now				
May or will work	39%	39%	35%	62%
Won't work	61	61	65	38
Percent of cases	100%	100%	100%	100%
Number of cases	1825	1348	445	32

Source: GAF Study

relation to the future work plans of wives who are currently working.

2. Local Labor Demand Factors

a. Local labor market conditions

Table 3.5 in Chapter III indicates that for women who are currently working, more women expect to work permanently in areas of balanced labor supply then in areas of substantial labor surplus. An analysis of the effects of local labor market conditions on the extreme predictions from the regression equation indicates that there is no relationship between wives' future work plans and current labor market conditions. (Appendix F) Thus in order to predict future work plans from local labor market conditions one must know <u>future</u> rather than present labor market conditions.

b. Place of residence

Place of residence has no effect on future work plans of married women who are currently working. Probably this is because most of the women who are currently working live in urban communities and hence rural-urban residence is of no consequence in this analysis.

3. Past Experience and Training

a. Work history prior to marriage

The multiple regression equation for present work status indicated the importance of work experience prior to marriage. For women who are currently working, however, work experience prior to marriage is not related to future work plans.

When work experience prior to marriage is included in the multiple regression equation it is not significant at the 5% level. Why doesn't work experience prior to marriage affect future work plans? Since all women in this group are working at present, it seems likely that the most recent work experience is most important in the determination of future work plans.

b. Wife's education

Similarly the wife's education seems to have no effect on future work plans. Possibly the effect of education is obviated by that of occupation. Information on occupation was available for all women who were currently working and is studied in Equations 003 and 003A.

c. Occupation

Since it is difficult to convert occupation to a linear scale, a few significant occupational categories were chosen for study. The occupations were chosen on the basis of their signficance in terms of possible future trends. Professional, technical and kindred work is fourth in numerical importance amongst women's occupations. Over 2 million women were employed in these fields in 1956. (See Chart 4.1.) The chief types of professional fields were teaching and nursing. These two fields accounted for 77% of professional women workers in 1950. It was predicted that women in professional and technical occupations would be more likely than others to consider future attachment to the labor market because of the attractiveness of their work. Table B.5, Appendix B,

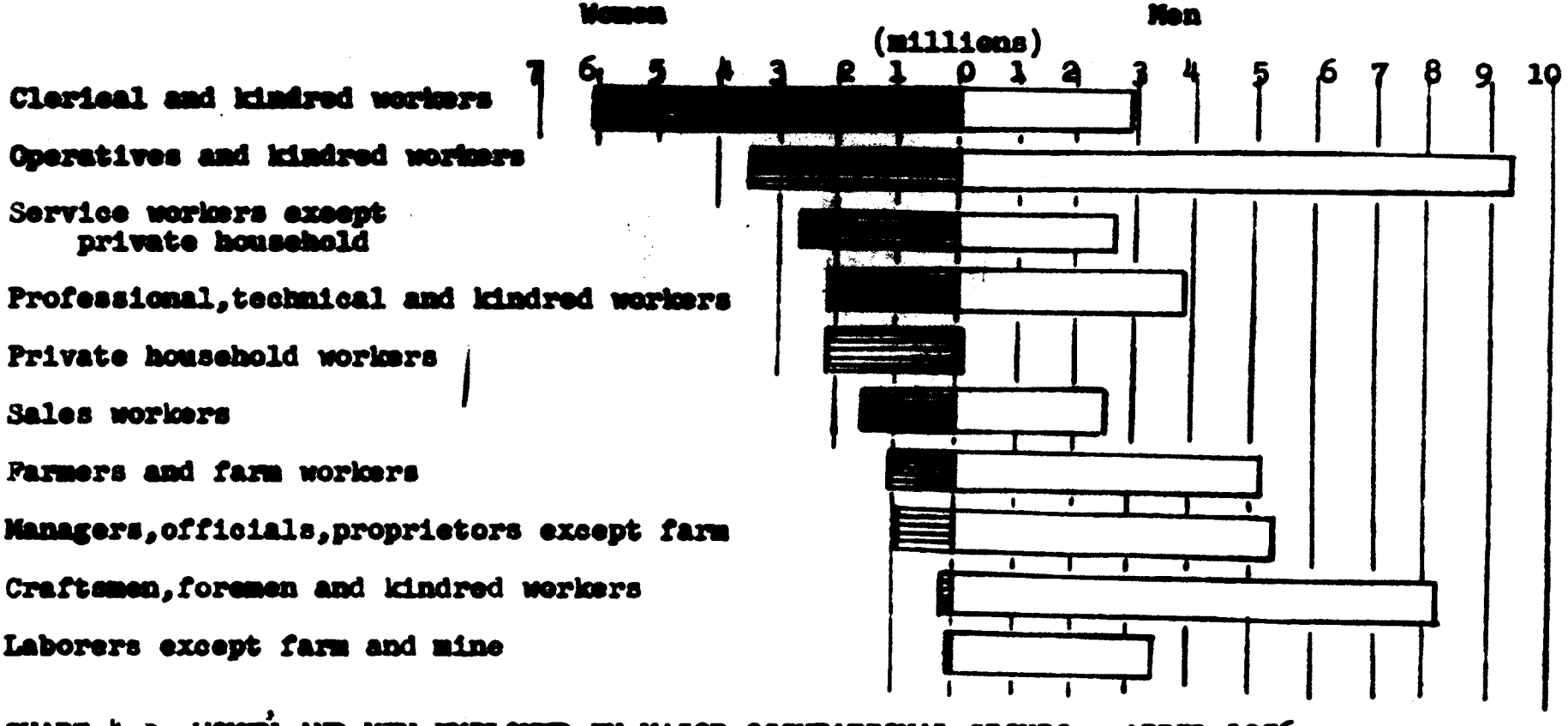


CHART 4.2 WOMEN AND MEN EMPLOYED IN MAJOR OCCUPATIONAL GROUPS, APRIL 1956.

Source: Womanpower, op. cit., p. 61. (based upon data from the U.S. Bureau of Census)

shows that being a professional worker is positively related to future work plans but that the relationship is small ($r^2 = 0.07$). When this factor is included in the multiple regression equation its coefficient is insignificant.

The second occupational category chosen for study was a combination of clerical and sales and kindred work. These occupation employ more than half of the women in the labor force. It was predicted here that these occupations would be positively related to future work plans but that they would be less highly related than professional occupations.[1] Sales and clerical work are socially acceptable but possibly not as intrinsically rewarding or as lucrative as professional occupations.[2] When sales and clerical occupations were correlated with future work plans they were found to be more strongly positively related than professional occupations! ($r^2 = 0.11$). When sales and clerical occupations are included in the multiple regression equation they are found to be positively related but the correlation coefficient is not significant at the 5% level.

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1. Professional occupations for women include nurses, teachers, accountants and auditors, dentists, lawyers, judges, physicians, surgeons and engineers.
2. Although ..."occupational designation is at once a major indicator of general social position,and a source of such other social indicators as income,honorific esteem,group participation and ecological location,the system is neither unequivocal nor generally recognized,nor unitary." Nevertheless most professional jobs were ranked above white collar and sales jobs, and operative jobs,in terms of responsibility,formal education, training,authority,class attributes,income and behavioral control. Theodore Caplow, The Sociology of Work (Minneapolis, University of Minnesota Press: 1954) pps. 30-58.

The second most important occupational category in terms of percent of women workers employed is "operatives and kindred workers" (see Chart 4.1). The most important areas of manufacturing in which these women are employed are apparel and other fabricationg, textile manufacturing, textile mill manufacturing, manufacturing in food and kindred products, electrical machinery equipment and supplies manufacturing.[1] It was predicted on the basis of Caplow's study that this type of work would be less attractive than either clerical and sales or professional work and would be negatively related to future work plans.

The correlation coefficient between employment as an operative and future work plans is $r^2 = -0.17$. Thus operatives are less likely than others to consider long term labor force attachment. The addition of this term to the multiple regression equation results in a coefficient which is just slightly below the 5% level of significance.

In summary, while occupation groups do differ somewhat in their relation to individual work plans, when the influence of other variables is taken into account (in a multiple regression equation) the influence of occupational variables is negligible.

4. Family Status

a. Children

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1. Womanpower, op. cit., p. 58.

The relation of child status to future work plans is not quite as clear as that of child status to present work status. Children definitely prevent many mothers from working, however, the older the child the less of a deterrent he is to his mother's labor force activity. The possession of young children at present may not be a deterrent to future work plans. In fact many women who are considered as permanently attached to the labor force stated their intention to temporarily retire, have children and then to return to work when their children were older or in school.

Women were classified in four ways with respect to child status. First, a woman may or may not have children under six at present. Second, a woman may or may not have a child who is six years or older. Third, a woman may or may not expect additional children (or a first child). Fourth, a woman may or may not have stated that she was pregnant at the time of interview. These groups are not mutually exclusive. For example, a woman might have a child of three and a child of seven and she might expect two additional children in addition to the child expected from her current pregnancy. In this case she would receive a "1" for each of these variables. (These are all 0 - 1 variables as explained in Appendix A.)

For women who are currently working the possession of young children seems to be positively related to future work plans! This is evident in both the two variable analysis (Appendix B, Table B.5) and in the multiple regression analysis. The coefficient of (C) in the multiple regression

equation is slightly less than significant at the 5% level. Evidently working women who have young children are quite strongly attached to the labor force.

Possession of children who are six years or older and expectation of children (or additional children) are not significantly related to future work plans in the multiple regression equation (Equation 003). Current pregnancy is however, strongly negatively related to future work plans. The influence of pregnancy as a deterrent to future work plans is evident in both the two-variable and the multiple regression analysis.

It seems that none of the child status variables which were so important in explaining wives' current work status are valuable in predicting their future labor force attachment. Upon reflection this result does not seem surprising. These women are currently working so that any children that they have at present have provided no deterrent to their present work status. There is little likelihood that as these children mature and are better able to care for themselves they will impose any additional barriers to the working careers of their mothers. As far as additional children are concerned it is possible that these working mothers will use the same methods of care for these children that they have already used for their other children. Since the classification "plans to work in the future" includes women who plan to temporarily retire and then return to the labor force, it is likely that these working women plan some form of temporary retirement when these additional children arrive.

Women who are currently pregnant are, however, very likely to expect to retire permanently in the future. Why do the work plans of women who are currently pregnant differ so widely from those of women who expect to have children in the more distant future? Since most pregnant women who have children are not working (Chapter III) it is quite likely that these pregnant working women are about to have their first child. Probably these women, who are about to have their first child, do not feel that they can formulate any future work plans. Hence they say they expect to retire; while women who are working, even though they have children, have become familiar with adequate systems of child care which will enable them to work after the birth of additional children.

b. Marital status

Neither "year married" (YM) nor remarriage (M) are significantly related to future work plans for married women who are currently working. (Table 4.3)

5. Attitudinal Variables

Thus far financial, local labor market, past experience and training and most family status variables have not seemed to have any important effect on the future work plans of working wives. Now the importance of attitudinal variables will be investigated. For those women who are currently working information about reasons for work is available. It seems quite likely that reasons for work should be importantly related to future work plans. Therefore, in addition to a consideration of the attitudinal variables discussed in the previous chapter (housing and life satisfaction), reasons for

working will be studied in this section,

a. Reasons for working

Since the study of the previously unexplored relation between reasons for working and labor force attachment in this paper is far more complex and intensive than the study of all other variables, a brief outline of the order of presentation may be helpful at this point. There are three major steps in this analysis.

1. Classification of reasons for work into meaningful groups.

By reading interviews a number of representative categories of reasons for working are found. A case history illustrating each type of reason for work category and commenting on the probable labor force attachment of women in each of these categories is presented.

2. Study of the simple relation between each reason for work category and future work plans.

When the various reasons for work have been classified, the percent of women who plan to work in the future is calculated for each category. These categories are ranked according to the percent of women who expect to work.

3. Multiple correlation between future work plans, reasons for work and other variables.

Reasons for work are correlated with future work plans while the effects of economic, family status and previous training and experience variables are taken into consideration. The coefficients from the regression equation are used to rank each of these reasons for work categories according to

calculated probabilities of future work. This final step presents the relative importance of each of the various types of reasons for work in the determination of future work status when other variables are considered.

1. Classification of Reasons for Work into Meaningful Categories

Cross-section studies are ideally suited to the exploration of the relation between reasons for work and future work plans since they permit one to gain a complete picture of family demographic and economic status as well as the wife's reasons for working. Two cross-section studies that had been carried out by the Survey Research Center during the same time period were fitted together in order to study the relation between attitudes toward work and the future work plans of married women.

The first study, a re-interview study, sponsored by the Ford Foundation contained a total of five interviews taken over a three year period starting in June 1954 for each of 707 urban families in the United States. The second study is the GAF Study which contained 2,713 interviews with married white women of childbearing age (18-39).

In order to get a clear picture of work behavior of married women it was decided to read Ford Re-interview Study cases where the woman had either started or stopped working within the time of the five interviews (1954-1957). Interviews where the wife worked throughout the interview period, or where she never worked are excluded since these interviews are not as likely to contain any additional information in

their thumbnail sketches about reasons for working or not working. Only cases exhibiting some form of change in the wife's labor market status during the period of interview were selected.

Out of the 707 families interviewed five times in the Ford Study, 58 were found where both husband and wife were present, and where the wife had moved into or out of the labor force for the period of the interviews. For each of these 58 women, five interviews were read for the 1954-1957 period.

The purpose of reading these interviews was to formulate a typology to describe the different categories of reasons for work and to obtain an understanding of the women who were in each category.[1] This typology is intended to be of value in a descriptive sense as well as to relate the various types of work motivation to future labor force attachment. The Ford Foundation Study was used to

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1. Brown used a similar method in analyzing patterns of college experience. He says, "The scheme is not an attempt to present all the logical or theoretically possible patterns of college experience which could be constructed by strictly automatic combinations of our variables in terms of some systematic position. Nor is it the result of exhaustive empirical analysis. Rather the scheme as presented here is the result of careful consideration of a set of empirical data. The attempt was made to find the smallest number of categories in which our variables clustered and which made sense in light of our experience. If these categories survive the empirical test to emerge from our correlation matrix, so much the better; in the meantime, the following description of the patterns seem to show that they tie together a large amount of information on our subjects and provide some interesting food for thought." Donald Brown, "Some Educational Patterns," Journal of Social Issues, Vol. XII, No. 4, p. 47.

formulate these hypotheses and the GAF Study was then used to test the relation of these reasons for working to future work plans in the context of a multiple regression analysis which already included financial and demographic variables. Thus the multiple regression analysis related the effects of motives to other variables as well as to future work plans.

In this section the major categories of reasons for work will be described and a typical case history for each type of reason will be presented. Then the author's expectation of the rank order of attachment to the labor force will be outlined. The reasons for working seemed from the case studies to fall into two main groups -- (1) Financial and (2) Non-Financial. In each of these groups there were three sub-categories.

The first financial reason is chronic financial problems. Chronic financial problems usually occur when the husband's income is low and it is expected that it will continue on this low level. Second amongst financial reasons are temporary financial problems, which arise because of some emergency such as fire illness or unemployment. The final financial category refers to families where the wife works so that the family can acquire assets. This "nest building" generally means that the wife is working to pay for appliances or furniture.

Chronic low income families, the first financial category, are not illustrated in this case study since the analysis was made only of families where the wife had started or stopped working. It is likely that if the family had chronic low

income the wife would have been working continuously and her interview would not have appeared among the cases selected for the case study. However, reading of other cases amongst other interviews did indicate that there were several families where the wife had been working continuously either because the husband had been ill for a number of years or because his salary was unusually low.

The second financial reason for work is to make up for a loss in assets or a loss in income due to some emergency. An example of a typical case in the second category, temporary financial problems is case A:

> Case A: The husband, age 33, is a carpenter. The wife is 26 years old. They have five children ranging in age from two to ten years. The husband has been employed steadily for the last ten years. At the time of the first interview the husband earns approximately $5000 a year. A year after that first interview a fire burns their home and destroys all they own. Three months after the fire the wife begins to work full time, although the husband is now earning $6500. She feels she must work in order to help the family recover the losses. She earns $2100 a year. A year later the husband has changed to a lower paying job because of his health. He earns $4000 and she earns $2100. The husband works in the daytime and the wife works at night. The wife expects to work for only one more year.

If one were to make a prediction of future labor market behavior, one would expect women who work because of chronic financial problems to work temporarily while women with temporary financial difficulties would only be expected to work until losses had been recouped.

Working to "acquire assets" is a motive characteristic of women in a different position. The husband's income is generally stable or rising in these cases. Furthermore,

there has been no loss in family assets. The length of the wife's work career would seem to be a function of the level of living to which the family aspires.[1] It would seem that these women would continue working until retirement since standards of aspiration seem to rise with the accomplishment of each preceding goal. A typical case in this category is Case B.

> Case B: This family recently came to the United States from Europe. There is one child who is less than school age. The wife starts working part-time waiting on tables and leaves the child with relatives. The husband's income rises each year but the wife has no plans to stop working in the immediate future.

The cases above illustrate financial reasons for working. However it seemed from reading the interviews that there were also important non-financial reasons for working. These are divided into three groupings. (a) need for accomplishment (b) need to occupy time and (c) helping in a family business. Reason (c) has some financial aspects since helping in a business is often necessary to get the business started, hence this would really be a quasi-financial reason.

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1. Evelyn Lomas Feldman points to a reason similar to this when she advances the notion that in the early years the wife's income enables young couples to live at the standard of living which eventually the husband's income alone, when it reaches the peak, will provide. Evelyn Lomas Feldman, "Supplementary Income Earned by Married Women," Work in the Lives of Married Women, Proceedings of the National Manpower Council Conference on Womanpower: October 1957. (New York: Columbia University Press, 1958) pps. 94-95.

Many working wives feel that, "when you work you accomplish something, whereas housework does not give you this feeling". The sense of accomplishment that these women derive from their jobs does not appear to arise from the fact that their jobs enable them to contribute to family finances. Rather they feel it is necessary to have a career or to do something important.

At this point the term "need to accomplish" as it will be used in this study should be clarified. "Need to accomplish" refers to a need to accomplish things outside the home. There are many women who can satisfy a need to accomplish by being excellent cooks and housekeepers. They feel that they accomplish when they excel in the performance of their household and family roles. The women referred to in the category "need to accomplish" in this study are those who feel that they accomplish things in their roles outside the home and who wish to accomplish in these areas.

It is difficult on the basis of the financial interviews in the Ford Study to identify the women who seem to work because it gives them a feeling of accomplishment. Several variables were used, however, for aids in identification. First of all, women who are active in many organizations even though they already have heavy family responsibilities would fit into this category. They seem to have a need to accomplish in areas other than the home. On the other hand it is dangerous to identify these

women on the basis of heavy involvement in club activity alone since they may be joining these clubs merely to get out of the home occasionally or to meet people. Women who are officers in a number of clubs are probably more likely to be "accomplishers" than those who are merely inactive members.[1]

A second indication of a need to accomplish outside of the home may be derived by examining the interviews of women who have a relatively high level of schooling. The same drive which pushes a woman toward higher education may push her into the labor market, even though she may already have many family care commitments.[2] The job gives her a feeling that she is an important productive member of the community. If education is used to identify these women, one should not neglect to mention the fact that because she has a high level of education she may be able to find a more rewarding job. It may not be her

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1. "The married woman who feels the need for achievement in a field other than her home may find optimum gratification in her roles of wife and mother but may need more for complete satisfaction. Many women derive this satisfaction from social contacts or civic activities. Many obtain it in paid work from which they return to the family stimulated and eager to be with the husband and children." Ibid., p. 113.

2. In a recent analysis of the social roles of American women, Weiss and Samelson point out that for working wives with children the higher the level of education the more likely the woman was to refer to her job as a basis for feelings of usefulness and importance. Robert S. Weiss and Nancy Morse Samelson, "Social Roles of American Women: Their Contribution to a Sense of Usefulness and Importance". Marriage and Family Living. Vol. 20, No. 4, 1958. p. 361.

need for accomplishment which pushes her into the labor market, but her superior job opportunities which pull her into the labor market.

However, the jobs held by most of the 'accomplishers" did not differ particularly from those held by other women. Thus it would seem that it was not the availability of extremely attractive jobs which had pulled these women into the labor force but rather it was their need for accomplishment that had pushed them into the labor force.

A further characteristic that distinguishes "accomplishers' from the financial groups is that the income of the husbands of "accomplishers" is usually above average and has been rising over the past few years. One might expect the husbands of well educated women to have high incomes since the husbands of well educated women are usually well educated themselves, and hence would probably earn above-average incomes. The financial contributions that these women make are, therefore, generally of secondary importance.[1]

It seems logical to predict that those women who work because of a need for accomplishment will continue working as long as possible. When these women are totally relieved of their family responsibilities (because their children have reached maturity) they would be more likely than

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1. Often women have several reasons for working which include financial as well as accomplishment motives. We are seeking here the motives most closely related to labor force attachment. See page 112, below.

others to continue working or to re-enter the labor market. Case C illustrates a typical woman in this category.

> Case C: Husband aged 30 is a conservation worker earning $5500. The wife has had one year of college. They have two children, the youngest of whom is two years old. In the second interview the wife earns $360 a year caring for a neighbor's child. The wife is head of the local PTA. She says she would like to get an outside job if they can get a car. In the last interview the wife is working part-time as a sales clerk. She plans to work indefinitely.

The second non-financial category includes women who work to "keep busy" or to enjoy the acquaintanceship of the people they work with. There are three chief ways in which this need to occupy time may arise. First, women with no children may feel lonely in a neighborhood where all their contemporaries have children. Secondly, when a woman's youngest child has reached school age she may feel that she has spare time. Finally, when the children have matured and married, the mother may find her lack of family responsibility gives her time which she would like to fill.

Some women who are faced with a reduction in responsibilities have no desire to work. Hence it is not possible to classify women with no children or with older children automatically in this category. In some sense, too, all women are faced with the problem of increasing free time since the invention of time saving devices and appliances and the manufacture of food and clothing outside of the home has saved up to 105 work years per 1,000 women per year[1]

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1. Clarence D. Long, op. cit., pp. 120, 122-123.

as compared to 1890. In order to be placed in this category a woman must indicate that she wishes to work to fill spare time or to meet people. An example of a woman in this category is Case D.

> Case D: Husband and wife are both between 35 and 44 years old. The husband sells real estate and earns $5500 per year. They have two children, the younger is seven years old and the elder is 16. About a year later the wife starts to work; she earns $2400 a year and the husband now earns $8000. She says she works to keep busy. A year later the elder child, who is now 18, has married and left the home. The husband now earns $7900 and his wife earns $2400. The wife says she is working full-time and she plans to continue as long as she feels like it.

This type of woman does not seem to be as strongly attached to the labor market as the woman who works because of a "need for accomplishment". However, since there are no barriers to her work, she will probably work until she finds some other way to occupy her time. It seems that she is more strongly attached to the labor market than the woman who works to recoup financial loss but less strongly attached than the "accomplisher".

The final reason for work has some financial and some non-financial aspects. This is working to help in a family business. This situation differs from the others in that a woman has less difficulty in finding working hours that are convenient. Further working with one's husband in the family enterprise provides bonds of common goals and work experience, which help to tie a husband and wife together. Then, too, in some businesses it may be absolutely imperative that the wife help out in

order to get the business started. Thus convenience of working, bonds of common enterprise, and need for extra help at the beginning are conducive to a wife's working in the family enterprise. Case E illustrates a case where the wife has had training which probably would have enabled her to obtain a job paying her as much or more than she gets in the family business. Yet she chose to work only when the husband purchased a store.

> Case E: At the time of the first interview the husband, who is 43, is managing an appliance store. His wife, who is 42, is not working. Family income ranges between $6000-7500. There are three children the youngest of whom is seven. The wife is a graduate nurse but is not working. In the second interview the husband mentions that he has purchased the appliance store in which he had formerly worked. As soon as the husband purchases the store the wife starts working part-time. She helps with the clerical work in the store. The wife continues working for the following two years, but states that she has no definite work plans for the future.

The prediction of future labor force behavior for women in this category is difficult. On the one hand the wife might retire once the business had been firmly established. On the other hand, perhaps both the wife and husband would become accustomed to the wife's participation in the business, and these women might continue working as long as the family retained the business. Because of these two countervailing influences it was thought that women working in a family enterprise are less closely attached to the labor force than those who work because of either "need to accomplish" or "need to occupy time".

2. Study of the Simple Relation between each Reason for Work Category and Future Work Plans

On the basis of wives' stated future work plans observed in the case studies an a-priori scale of degree of attachment to the labor force was constructed as follows. Ranging from strongest labor force attachment to weakest are (1) need for accomplishment (D), (2) need to occupy time (E), (3) help in a family business (F) (4) acquisition of assets (C) (5) temporary and chronic financial difficulties (B).

Data from the GAF Study was used to test how these motives are related to wives' future work plans and how these motivation categories compare to each other and to other variables in importance for future labor force attachment. The 672 working women in the American Family Study were grouped into five categories on the basis of their answers to the following question:

> "Women have different reasons for working after marriage, some work because they like to or want a career, some work because it helps to get extra income for extra things for the family, some because the family needs income. How is it in your case?"

Each woman was allowed to give two reasons for working. These reasons are divided into reasons for work categories in Chart 4.3.

Since about one-third of the 672 working women offered two reasons for working a problem in classification arose. It was difficult to decide whether people should be classified, in which case an individual would be placed in only one motivation category: or whether motives should be

CHART 4.3
CLASSIFICATION OF REASONS FOR WORKING
FOR ALL MARRIED WOMEN WHO ARE WORKING

Category of Reason	Specific Reason	Hypotheses Regarding Rank in Future Work Plans
1. Permanent and Temporary Low Income (A & B)	1. Family needs income to get along (292)[1] 2. To pay family debts (12) 3. To help while husband is in school or training (8) 4. To work while husband is in service (5)	5
2. Acquisition of Assets (C)	1. To help get started in married life (19) 2. To get extra or specific things for the family (296)	4
3. Need for Accomplishment (D)	1. To have a career (11) 2. To feel independent (4) 3. Feeling of self respect (3) 4. To do something important (118) 5. Likes work 6. Likes type of work or job	1
4. Need to Occupy Time or to Meet People (E)	1. To meet people or be with people (12) 2. To avoid loneliness 3. To avoid boredom 4. To keep busy (81) 5. To get out of the house 6. To avoid housework	2
5. Help in a Family Business (F)	1. To help husband or relative in a family business (26)	3
Order of Attachment Predicted	1. Need for Accomplishment (D) 2. Need to Occupy Time (E) 3. Help in Family Business (F) 4. Acquisition of Assets (C) 5. Financial Problems (A & B)	

1. Numbers in brackets refer to the number of women who cited each reason.
The question was: "Women have different reasons for working after marriage, some work because they like to or want a career, some work because it helps to get extra things for the family, some because the family needs income. How is it in your case?"

classified, in which case an individual might appear in two categories. In a preliminary investigation three methods of classification were tested. They were:

a. classification according to the first reason for work which is offered,

b. classification according to all reasons for work which are offered, (thus a particular woman might be simultaneously classified in two different categories)

c. classification according to all possible combinations of reasons. (thus a particular woman would fall into only one category but there were many more categories since all single reasons were categories and all combinations of reasons taken two at a time were categories. Examples of these different categories are: 1. works because of need to accomplish, 2. works because of temporary financial need and need to accomplish.)

The women who were working in the GAF Study were classified by these three different schemes. These classifications were then related to future work plans.

This analysis answered an important question. First of all since the women who mentioned non-financial reasons for working also frequently mentioned financial reasons, it had been suggested that the strong future labor force attachment of accomplishers might have been due to the effect of having <u>two reasons for working,</u> rather than the effect of the accomplishment motive. Classification by method C (all possible combinations of reasons) indicates that the opposite is true. Women who mention that they work for accomplishment (See Chart 4.3 for the reasons that are classified in this category) and who mention <u>no other reasons for work</u> are far more strongly attached

to the labor force than those who mention both financial and accomplishment reasons. Thus it is not the number of reasons which a woman offers which are the good clues to her labor force attachment, but rather it is the type of reason offered that is most important.

In the regression equation, therefore, motives have been classified rather than people since it is the difference in motives that seems to be importantly related to labor force attachment. The system described in (b) has been used. By this method a woman may fall into as many as two motivational categories.[1]

Chart 4.3 indicates the types of reasons which are placed in each motivational category. The numbers in parenthesis after the reasons for work indicate the number of women who have cited that reason. More than five-sixths of the women mention a financial reason (either A,B or C, or both reasons). Unfortunately these financial reasons could not be divided into chronic or temporary groups. Most women stated that "the family needs income to get along", and it was impossible to tell whether the wife thought this would be a temporary or a permanent situation. It was possible,however, to separate

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1. System (a) was not used since it was not clear that the first reason for work offered was necessarily the most important reason for working. Many women may have responded according to the order of the answers which was suggested by the question about reasons for work. Furthermore, since many women offered two reasons for work, to use the first reason only would have meant a serious loss of information.

the women who worked to acquire assets. They gave such reasons as "to help get started in married life", or "to get extra or specific things for the family". About 30 women gave reasons that could not be classified into any of these six groups. An example of an unclassified reason is "to have something to do in case something happened to my husband".

Even though five-sixths of the women advanced financial reasons for working (since two reasons for work were allowed) over a third of all women mentioned non-financial and quasi-financial reasons (D,E or F). In Table 4.5 women are grouped according to their reasons for work, and the percent who expect to work permanently or to retire and return to the labor force is shown for each group. A woman may be classified into two groups, on the basis of the two reasons for work that she offers.

If a scale of degree of attachment to the labor force were formed on the basis of future work plans, for women in each of these categories in Table 4.5 it would be:

(1) help in a family business (F)
(2) need for accomplishment (D)
(3) need to occupy time (E)
(4) temporary and chronic financial reasons (A & B)
(5) acquisition of assets (C).

The Spearman rank order correlation coefficient for this order and that predicted on page 111 on the basis of the case study is $r^2 = 0.65$. The relationship of reasons for work and future work plans seems to correlate fairly well with the predictions. However, future work plans should be considered when all other variables are taken

TABLE 4.5

672 WORKING WIVES CLASSIFIED BY REASONS FOR WORK

Future Work Plans	Financial		Non- Financial		Quasi-Financial
	Chronic and Temporary Problems	Acquisition of Assets	Need for Accomplishment	Need to Occupy Time	Help in a Family Business
Plans to work permanently or to retire and return to work	35%	33%	47%	37%	65%
Plans to retire and not to return to work	60	61	46	56	29
Plans not ascertained or uncertain	5	6	7	7	6
Percent of cases	100%	100%	100%	100%	100%
Number of cases*	307	302	134	93	26

* Number adds to more than 672 because each woman was allowed to give two choices and hence could be classified into two groups.

Source: GAF Study

into account since it is possible that their relationship to future work plans is merely due to their correlation with another variable which is related to future work, (for example, income or education).

3. Multiple Correlation between Future Work Plans Reasons for Work and Other Variables

As a first step toward a multivariate analysis two of the five reasons for work categories have been included in the multiple regression equation (Eq. 003). They are "need to accomplish" and "need to occupy time". These variables are used as"0 - 1"variables. If the wife mentions one of the reasons classified in these categories, she is assigned a one. If she mentions none of these reasons she is given a zero. It would be possible for a woman to mention reasons in each category and thus receive a one in each group. The classification into each of these reasons for work categories is based upon answers to the reasons for work question in the GAF Study. (Chart 4.3)

For these working wives, the "need to accomplish" turns out to be <u>more importantly related to future work plans than any other variable in the equation</u>! (See Table 4.3, Equation 003.) "Need for accomplishment" is positively related to future work plans and its coefficient is larger than that of either working as an operative or being currently pregnant! Similarly the "need to occupy time" is important in the multiple regression equation although its coefficient is not as high as that of "need

to accomplish". Still these two reasons for work are more important than occupation, financial and demographic variables.

Since the need for accomplishment and the need to occupy time were importantly related to future work plans, it was decided to test the other three major reasons for work within the context of the multiple regression equation. In this way the relative importance of each of the types of reasons for work could be observed from the multiple regression equation.

A new multiple regression equation (Equation 003A) is computed. This equation includes all the reasons for work categories and omits several of the less relevant variables used in Equation 003.

Since all the motivation categories are now used in the same equation, it is possible to rank them by their degree of relationship to future work plans in terms of the size of their coefficients in the regression equation. This order can then be compared to that postulated on page 111 on the basis of the case studies and that found in Table 4.5 on the basis of the relation of future work plans to the motivational categories without the presence of other variables.

Equation 003A relates future work plans for working wives to occupation, wife's education, pregnancy and the reasons wives give for working. The correlation coefficient is higher than that of Equation 003, and it is significant at the 1% level.

The wife's education is again negatively related to future work plans. The effect of occupation may have cancelled that of education. Education is just barely significant at the 5% level as it was in Equation 003. Women who are presently pregnant are less likely to work in the future than others.

The three chief occupational categories bear the same relationship to future work plans as they did in Equation 003. Again the relationship of sales and clerical positions is positive but not significant.

As far as reasons for working are concerned, the "need for accomplishment" (A) is most important of all the reasons and it is more strongly related to future work plans than any other variable. Second in importance amongst the reasons for working is the "need to occupy time"(OT). Working to help in a family business (Bus) is the third most important reason for working in terms of relation to future work plans.

Financial reasons for working are not as importantly related to future work plans as non-financial or quasi-financial reasons. Because of lack of information chronic and temporary financial problems are grouped together as indicated in Chart 4.3. These financial problems (F) are positively related to future work plans but they are less significant than non-financial reasons. When a woman worked in order to "acquire assets" (AA) for the home, her activity was not strongly related to future work plans.

the relationship was positive, but the co-efficient was not significant at the 5% level. In a two-variable correlation analysis the relation between future work plans and working to acquire assets is negative and significant ($r^2 = -0.10$, see Appendix B).

If these reasons for work categories are now placed in order in terms of their relation to future work plans in the multiple regression equation the order is as follows:

(1) need for accomplishment (D)
(2) need to occupy time (E)
(3) help in a family business (F)
(4) temporary and chronic financial reasons (A & B)
(5) acquisition of assets (C).

The Spearman rank order correlation coefficient between this order and the order postulated on the basis of the case studies is $r^2 = 0.90$. This ranking agrees with the postulated one completely, except that the order of financial problems and acquisition of assets is reversed. This may have occurred because financial problems included more chronic than temporary financial problems. When the income distribution of these groups is considered the financial problem cases do have lower incomes than the other groups (Table 4.6). We do not know, however, the husband's future income expectations.

The overwhelming importance of these non-financial reasons for work in the determination of the degree of labor force attachment for married women who are currently working gives rise to a number of interesting conclusions. First, since accomplishment is related to education and

TABLE 4.6

REASONS FOR WORK BY HUSBANDs' INCOMES

Husbands' Income	Reasons for Work: Financial: Chronic and Temporary	Financial: Acquisition of Assets	Non-Financial: Need for Accomplishment	Non-Financial: Need to Occupy Time	Quasi-Financial: Helping in a Family Business
Under $1000	8%	1%	2%	2%	5%
$1000-2999	32	19	19	11	5
$3000-4999	24	27	23	9	20
$5000-6999	30	39	35	39	26
$7000-9999	3	7	16	30	15
Over $10,000	0	1	0	2	10
Not ascertained	3	6	5	7	20
Percent of cases	100%	100%	100%	100%	100%
Number of cases	307	302	134	93	26

Source: GAF Study

since the level of education is rising in this country, one can predict an increase in the number of accomplishers amongst the married women who will work in the future. Further since accomplishment is closely related to labor force attachment, an increase in the strength of married women's attachment to the labor force can be expected.

On the other hand in recent years economists have been studying the idea that the wife works because the family chooses the income it would like to have. Generally income choice is accomplished by sending the wife to work or by the husband working at additional jobs. The relationship between reason for work and strength of wives' labor force attachment shows that financial reasons are less likely to be related to strong labor force attachment than need to accomplish or to occupy time. This would imply that family income choices are usually made on a short run basis. Possibly the family choses their income only in terms of certain items which they wish to purchase at a given moment of time. Therefore, if family income choices increase in importance at certain times in the future it is likely that the current work status of married women at these times will become even more difficult to predict since "income choosers" are constantly moving in and out of the labor force. Certainly the decisions about family income are an important topic for future investigation, since such a large number of women do mention financial reasons for working.

b. Life satisfaction

Women who are satisfied with their life situation may be just as likely to continue working as those who are dissatisfied because they like work or feel that they must continue to work in order to maintain their present standards of living. When life satisfaction is related to future work plans for women who are currently working there appears to be no relationship between these factors.

c. Housing satisfaction

When housing satisfaction is related to current work status of married women in Chapter III there is no relation between these two variables. Possibly women who were initially dissatisfied with their housing had entered the labor force. Then with their new earnings they had helped to finance suitable housing. Therefore, at present they would be satisfied with their housing arrangements. A better test of the relation between housing satisfaction and labor force participation can be performed by relating future work plans to housing satisfaction. Are women who are dissatisfied with their housing more likely than others to expect to work in the future? Again there are some problems of interdependence since those women who are currently working may be satisfied with their housing. In order to maintain their current housing standards it may be necessary that they continue working. There may appear to be no difference

between future work plans of those who are and are not satisfied with their housing conditions. A test of the effects of housing satisfaction on the extreme predictions from Equation 003A indicates that housing satisfaction is not significantly related to future work plans for married women who are currently working.

It is very difficult to interpret the relationship between housing and life satisfaction and future work status because of the complex inter-relationships of these variables. Therefore, no final conclusions can be drawn from this analysis about the relationship between these factors and labor force attachment.

6. Summary

Five different types of variables have been related to future work plans of married women who are currently working in order to measure the relationship between these variables and strength of attachment to the labor force. Attitudinal variables which now include reasons for work are found to be the most important factor in the determination of future labor force attachment. Financial and family status factors, which were most significantly related to current work status, do not seem to be as important as reasons for work in predicting length of labor force participation.

In order to complete the study of future labor force attachment of married women, it is now necessary to study the future work plans of women who were not working at

the time of interview.

C. Analysis of Multiple Regression Equation for Women Who Are Not Currently Working

All the women in the GAF Study who were not working were asked,

> "Do you expect to work at some time, if your husband is well and working? When might that be?"

Of 2,040 married women who were not working 24% indicated that they definitely would work in the future. Another 15% indicated that it would depend on when their children were older or in school. The remainder said that they did not expect to work in the future. What factors influence these future work decisions. Do these women differ in terms of education or income?

The future work plans of wives who are not currently working are especially interesting since those who intend to work will have to change their present behavior pattern. What are the forces which are related to this desire to change? While we cannot study how strong the degree of attachment of these women is to the labor force in terms of how many years they will work in the future, we are in a position to study how women who intend to work in the future differ from those who intend to remain at home. Can the same variables which explained the future work plans of women who were currently working be used to explain future work plans of those who are not currently working? Since reasons for work were not available

for women who were not currently working, we shall be forced to look to other variables for an explanation of future work plans for these women.

In this section the variables listed in Chart 4.4 will be related to future work plans by means of a multiple regression analysis. These variables were chosen on the basis of the motivating factors which were related to work decisions in Chapter III. They are the same variables as those used in predicting future work plans for women who were working (page 84), except that occupation and reasons for work are eliminated since they were not available for the women in this group who had never worked since marriage. Since past study had indicated the importance of work experience prior to marriage in estimating present work status, it was thought that work experience after marriage would be similarly useful in predicting future work plans.

These variables will be studied in Equation 004 in the order in which they are listed in Chart 4.4. It was considered that all women who indicated that they would or might go to work in the future were planning to work in the future. All other women were classified as not planning to work in the future. When all the cases where information on any of the variables used in the equation was lacking were omitted, the regression analysis was based upon 1939 cases.

CHART 4.4

VARIABLES RELATED TO FUTURE WORK PLANS FOR MARRIED WOMEN WHO ARE NOT WORKING

Variable	Expected Relationship
1. FINANCIAL FACTORS	
a. Husband's income	negatively related
* b. Past income history	
* c. Five year income expectations	
2. LOCAL LABOR DEMAND FACTORS	
* a. Local labor market conditions	negatively related (the higher the current unemployment the more women who will expect to work in the future
*b. Place of residence	more women expect to work in cities
3. PAST EXPERIENCE AND TRAINING	
a. Work history prior to marriage	positively related
b. Wife's education	positively related
c. Work experience since marriage	positively related
4. FAMILY STATUS	
a. Children	
1. children under 6	negatively related
2. children 6 and older	negatively related not as strong as 1
3. expectation of additional children	negatively related
4. pregnant now	negatively related
b. Marital Status	
1. number of times married	positively related
2. length of marriage	negatively related
5. ATTITUDINAL FACTORS	
* a. Life satisfaction	
* b. Housing satisfaction	

*Variables designated with asterisks are analyzed by observing their effects upon predictions from the multiple regression analysis.

1. Financial Factors

The husband's income is more important in the determination of future work plans of non-working than of working wives. Husband's income is negatively related to future work plans for non-working wives and it is the third most important factor in the multiple regression equation (Eq. 004).

Past income history is not related to work plans for women who are not currently working (Appendix E). It is more difficult to relate five year income expectations to future work plans since the wife's future work plans will obviously affect five year income expectations. When the effects of five year income expectations on the extreme predictions from Equation 004 are tested, no relationship is found between future work plans and five year income expectations. (Appendix E)

2. Past Experience and Training

While we do not have sufficient information to include occupation amongst the variables in this analysis, the wife's education is related to occupation. Equation 004 indicates that the wife's education is somewhat related to future work plans but that its coefficient is not significant at the 5% level.

A woman who worked prior to her marriage is more likely to work in the future than one who did not work prior to marriage. This result is just at the 5% level

of significance. A variable that is more closely related to future work plans than work prior to marriage is work after marriage. Work since marriage is the most important variable related to future work plans for wives who are not currently working.

Work since marriage is probably more closely related to future work plans than work prior to marriage because a more recent experience is more valuable in retaining job skills and job contacts. Secondly, if a woman has worked since marriage it is possible that she is aware of her ability to combine her roles as homemaker and worker. Finally the fact that she has worked since she was married may indicate that her husband has given his approval to her work career.

The cumulative effect of previous work experience on future work plans is examined in Table 4.7 by cohort groups. This table was constructed to show (1) what the effect of work experience prior to and after marriage is on future work plans (2) whether there has been any change in the pattern of wives' behavior over the generations.

Table 4.7 shows that each additional work experience adds to the probability of planning to work in the future, but the effect of work after marriage far outweighs that of work prior to marriage. Table 4.8 indicates that younger women are slightly more likely to work during their married life than their older counterparts.

TABLE 4.7

FUTURE WORK PLANS RELATED TO PREVIOUS WORK EXPERIENCE, BY AGE COHORT GROUPS

Age Groups	Percent Who Definitely Expect to Work in the Future: Never Worked	Worked Prior to Marriage Has Not Worked Since	Did not Work Prior to Marriage, Has Worked Since	Worked Prior to Marriage Has Worked Since
All Age Groups	11%	17%	26%	31%
Number of Cases	(256)	(562)	(190)	(1027)
Born: 1914- 1920	8%	15%	29%	30%
number of cases	(85)	(165)	(63)	(262)
1921- 1925	10%	21%	8%	33%
number of cases	(69)	(160)	(50)	(31)
1926 -1930	12%	14%	26%	29%
number of cases	(50)	(152)	(35)	(302)
1931 and later	13%	26%	31%	33%
number of cases	(52)	(85)	(42)	(152)

Source: GAF Study

TABLE 4.8

PERCENT OF WOMEN WHO WILL WORK AT SOME TIME[1] DURING THEIR MARRIED LIFE, BY AGE GROUPS

	Age Groups			
Work history	20-24	25-29	30-34	35- 39
Will work during married life[1]	77%	75%	74%	72%
May work	3	4	3	3
Will not work	20	21	23	25
Percent of cases	100%	100%	100%	100%
Number of cases	401	697	753	798

Source: GAF Study

1. In this table the percent of married women in each age cohort who would ever work during their married lives was calculated. All women who had already worked, or who were currently working or who definitely expected to work were included in the groups will work during married life".

The trend toward increased labor force participation after marriage in recent years that can be observed from these data may be understated since women who are older and have been married longer have had a greater opportunity to work than younger women. Moreover, older women may be more likely to state future work plans since their plans are more developed than those of younger women. This is because older women are closer to the time when work is possible. Finally, time series data for the past decade points to a continuous increase in the percent of women who work after marriage.

This trend toward increased labor force participation after marriage amongst the younger cohort groups is consistent with the finding in Chapter III that there has been an increase in work participation prior to marriage amongst younger women. Since working prior to marriage is positively related to work after marriage one would expect an increase in post-marital labor force participation amongst younger cohort groups.

Before completing this assessment of the changes in labor force behavior between cohort groups it would be worthwhile to note whether there were any unusual events that may have contributed to these changes. For example, if the younger women went to work because their husbands were serving in the armed forces it might be possible that these women tended to remain in the labor force. Hence the present labor force of married women

might be unusually large due to the continued participation of these veterans' wives. Possibly then the recent increase in wives' labor force participation will fall off, as these women retire and there are no similar influences causing their successors to work.

When the work experience of married women who were married prior to World War II (1941 and earlier) whose husbands were veterans is compared with that of wives whose husbands did not serve in World War II, a significantly higher percentage of veteran's wives report that they have had work experience. For women who were married prior to World War II, 72% of veteran's wives have worked while only 59% of non-veteran's wives have worked. For the women who were married during World War II, 71% of veteran's wives have worked, while only 54% of non-veterans wives have worked.

In addition the average years of work experience of veteran's wives is higher than that of non-veteran's wives, holding number of children and years married constant. The war experience, the need for money, the feeling of patriotic obligation and probably the high level of labor demand for factory workers during the war did add to the work experience of women.

There is a significant difference in the past labor force behavior of veteran's wives as compared to non-veteran's wives. The further question arises, has this experience had any effects on the present work status and

the future work plans of these women?

In the group of women married in 1941 and earlier, 28% of veterans wives are currently working while 25% of non-veteran's wives are currently working. These women at the time of interview ranged in age from 31-38 (the 1914-19 and the 1920-1924 cohorts). Thus they were in the age group in which there is supposed to have been a marked increase in labor force participation. Since these differences in current work status are not significant the increase in labor force participation in these age cohorts cannot be attributed to the fact that there are many women in this age group who are veteran's wives.

Similarly when future work plans of veterans and non-veterans wives in these cohorts (women who were married in 1941 and prior) are compared there is no difference in the plans of either of these groups. Hence it can hardly be expected that future labor market changes will arise as a result of the fact that these women are or are not veteran's wives.

On the other hand, for couples <u>married during the war</u> as opposed to those married prior to World War II, the present and future outlook is different. (See Tables 4.9 and 4.10.) Veteran's wives are more likely to be currently working (25%) than non-veteran's wives (17%). Since these wives are more likely to have young children than women married in 1941 and prior it is interesting to note that in all family size groups veteran's wives

TABLE 4. 9

RELATION BETWEEN HUSBAND'S VETERAN STATUS AND WIFE'S CURRENT AND EXPECTED FUTURE WORK PLANS, BY YEARS MARRIED AND NUMBER OF CHILDREN

	Number of Children						
	none	one	two	three	four	five or more	all
GROUP A: MARRIED 1941 AND PRIOR							
I. Percent ever working							
Husband served in WW II	92%* (12)	85% (39)	74% (84)	66% (50)	63% (24)	50% (16)	72% (225)
Husband did not serve in WW II	69% (36)	76% (66)	67% (99)	53% (81)	51% (47)	37% (71)	59% (400)
II. Average Number of Years Worked							
Husband served in WW II	8.1	5.7	3.6	3.2	1.9	1.9	
Husband did not serve in WW II	5.5	5.3	3.3	1.9	1.8	1.0	
III. Percent of Wives Currently Working							
Husband served in WW II	42%	41%	23%	32%	17%	19%	28%
Husband did not serve in WW II	33	36	28	19	26	11	25
GROUP B: MARRIED DURING WW II (1942-1945)							
I. Percent ever working							
Husband served in WW II	91% (22)*	93% (96)	67% (115)	60% (75)	71% (24)	59% (22)	71% (304)
Husband did not serve in WW II	54% (13)	75% (12)	62% (45)	49% (35)	43% (14)	33% (12)	54% (131)
II. Average number of years Worked							
Husband served in WW II	7.6	4.3	2.3	1.4	1.6	1.9	
Husband did not serve in WW II	3.7	4.3	2.3	1.8	1.0	0.5	
III. Percent of Wives Currently Working							
Husband served in WW II	68%	46%	23%	11%	13%	14%	25%
Husband did notserve in WW II	54%	33%	9%	14%	7%	8%	17%

* Refers to the number of cases in each group.

TABLE 4.10

RELATION BETWEEN FUTURE WORK PLANS AND HUSBANDS' VETERAN STATUS

GROUP A: MARRIED PRIOR TO WORLD WAR II

Future Work Plans	Husband's Veteran Status: Served in WW II	Husband's Veteran Status: Didn't Serve in WW II
Will definitely work	21%	16%
Will work permanently	15	13
May work	9	11
Won't work	54	56
Not ascertained	1	4
Percent of cases	100%	100%
Number of cases	223	399

GROUP B: MARRIED DURING WORLD WAR II

Will definitely work	22%	19%
Will work permanently	11	9
May work	14	12
Won't work	49	56
Not ascertained	4	4
Percent of cases	100%	100%
Number of cases	303	130

Source: GAF Study

Footnote on method for Tables 4.9 and 4.10: In order to obtain this data all women now in their second marriage were excluded since they might have had unusual work experience due to their broken marital status rather than to their husband's war service. In addition all women whose husbands served in any wars other than World War II were excluded so as to obtain a group that had approximately 10 years of marriage after the war, and that were married during at least part of the time when the husband was in the service.

are more likely than non-veteran's wives to be currently employed. (See Table 4.9.) A higher percentage of the younger veteran's wives are working than of older women. As for future work plans more veteran's wives in this war marriage group expect to work in the future than do non-veteran's wives (See Table 4.10.).

What is the story that can be pieced together from this information? First the husband's veterans status does affect the work history of his wife (if he served at some time during their marriage. Secondly, since previous work experience is positively related to future work plans, veterans wives would be working at present more often than their non-veteran's wives contemporaries. This assumption is true for women who were married during the war but not for women who were married prior to the war. A possible sociological explanation is that those who were married prior to the war had work patterns and ideas that they returned to after the war. Those who were married during the war, had never experienced a marriage under conditions where it was expected that a wife would <u>not</u> work. Hence at the end of the war, wives of servicemen, who had been married during the war had fewer fixed notions about a wife's work role.

What does this mean for the future? If more men are drafted in the early years of their marriage this should increase the wife's future labor force participation. If men are drafted and serve their entire term before getting

married or if men are drafted after several years of their marriage have elapsed the effect of the husband's service on the wife's labor force behavior should be negligible. Hence since most servicemen are single their veterans' status will play no role in their wives' future work plans.

3. Local Labor Demand Factors

An examination of the effect of differences in local labor market conditions on future work plans of women who are not currently working indicates no significant relationship between these variables.

4. Family Status

The possession of children who are less than six years old is a deterrent to future labor force plans, but the coefficient is just barely significant. On the other hand women who have children who are six years or older are more likely to plan to work in the future than women without children of this age. These women may be experiencing unaccustomed free time now that their children are of school age and may, therefore, be eager to work.

Expectation of children in the future and current pregnancy are negatively related to future work plans. The coefficients and the error terms for these variables are about the same.

Year married is positively related to future work plans indicating that younger women are more likely to expect to work in the future than older women. Remarriage

has no effect on future work plans.

5. Attitudinal Factors

Reasons for working were not available for women who were not currently working, therefore, only life satisfaction and housing satisfaction are studied in this section.

For women who are not working, there appears to be no relationship between current life satisfaction and future work plans. It does not, therefore, necessarily appear that only dissatisfied women plans to work in the future. Possibly life satisfaction and role satisfaction involve different considerations.

There appears to be no relationship between current housing satisfaction and future labor force attachment. (Appendix E).

D. Summary

In this chapter future work plans of married women are regarded as indicators of the strength of their labor force attachment and as guides to possible trends in future labor force participation. Women who are currently working are far more likely to expect to work in the future than women who are not working. Fifty-nine percent of those who were currently working expected to work permanently or to retire and return at some later date to the labor force. Thirty-seven percent of the women who were not currently working said that they have either definite or tentative plans to work in the future. Information on

occupation, wives' incomes and reasons for work, which was not available for working women. Therefore, future work plans of women who were and were not working are analyzed separately.

1. For married women who are currently working

a. The most important variable affecting a wife's future work plans are her reasons for working. The two non-financial reasons for work are more significantly related to future work plans than are the financial reasons for work. In order of strength of attachment to the labor fore, as measured by future work plans, reasons for working are ranked as follows:

(1)	need for accomplishment	strongest attachment
(2)	need to occupy time	
(3)	help in a family business	
(4)	chronic and temporary financial problems	
(5)	acquisition of assets	weakest attachment

b. Since the relative importance of non-financial reasons for working has been demonstrated it is not surprising to find that financial variables such as husband's income, past income history and five year income expectations are not significantly related to wives' future work plans.

c. The only occupational group for the wife which related significantly to future work plans was "operative". If a woman is an operative, it is likely that she does not plan to work in the future.

d. The only family status variable which is significantly related to future work plans is current pregnancy. This variable is negatively related to future work plans.

e. As far as the effect of local labor market conditions is concerned, current labor market conditions do not affect wives' future work plans.

f. Housing and life satisfaction are not significantly related to future work plans.

In summary, the overwhelming effects of non-financial aspects of work in attaching married women to the labor force are emphasized in this section. It is likely that in the future as levels of education for women rise there will be an increase in the sense of accomplishment derived from work outside the home. A more thorough study of "need to accomplish" and "need to occupy time" is indicated. The final chapter will discuss some possibilities in this area.

2. For Married Women Who Are Not Currently Working

a. Equation 004 relates future work plans for women who are not currently working to various financial and demographic factors. Work since marriage is the most important factor related to future work plans for these women. Second in importance is the year married and third is the husband's income. The latter is negatively related to future work plans.

b. Work experience after marriage is far more significantly related to future work plans than is work experience prior to marriage. In view of time series statistics, which indicate the increase in the number of married women who work, this relationship between future work plans and work since

marriage would seem to augur an increase in the percent of married women who will work in the future. The finding that the women who were married most recently are more likely than other women to work in the future indicates the possibility of an increase in labor force participation amongst married women in the future.

A brief study of the relation of the husband's veteran status to his wife's labor force participation indicates that a wife is more likely to expect to have a work career in the future if her husband served in the armed forces at the beginning of their marriage. Since most young husbands today have served in the army prior to their marriage it does not appear that husband's veteran status will be related to future labor force expectations for most young wives.

c. Housing and life satisfaction, past income history, five year income expectations, and local labor demand factors are not related to future work plans for wives who are not currently working.

CHAPTER V

CONCLUSIONS AND SUGGESTIONS FOR FUTURE RESEARCH

Since manpower is a most important resource in the determination of a nation's productive potential, estimates of future labor force participation are an invaluable aid to the economist and the planner. The work participation of married women is particularly difficult to estimate since it usually involves a complex decision. This study has been designed to analyze the factors which explain the labor force attachment of married women.

Previous analyses of married women in the labor force have related selected demographic and economic variables to wives' work participation. Most of these studies have been deficient in two areas. First they do not include a sufficient number of different types of variables to analyze adequately the many factors which influence a married woman's labor force decision. Secondly, these factors are generally related individually to married women's labor force participation. Therefore, they do not take into account the interaction between variables (for example income and education).

This study analyzes the relation between five major types of variables and wives' current and expected future work participation. First,each variable is related to the wife's work status on an individual basis. Then a multiple regression equation is constructed which shows the relationship between each variable and work status

while all the other variables in the equation are taken into account. This multiple approach approximates as closely as possible the actual decision process which a wife undergoes in determining whether she will work. This analysis combines the advantages of a study of a wide variety of factors which relate to work status and a multiple approach which allows all these factors to be taken into account at the same time.

A. Conclusions

The five major types of factors analyzed in this study are: (1) Financial Factors (2) Local Labor Demand Factors (3) Past Experience and Training (4) Family Status (5) Attitudinal Factors.

1. Financial Factors

Financial factors are second in importance to child status in the prediction of current work status of married women who are not pregnant. The lower the husband's income the more likely the wife is to work. The husband's current income is the most important factor in the prediction of future labor force attachment for women who are not currently working. Husband's income is negatively correlated with wives' expected future work plans. For women who are currently working, however, financial factors such as the husband's income and the wife's income are of minor help in the prediction of future work status. For these women additional information pertaining to reasons for work and occupation are of prime importance in

explaining future work plans.

(2) Local Labor Demand Factors

Local labor demand conditions are related to current labor force participation of married women. Women who live in cities are more likely to be working than women who live in rural communities. Women with no young children are more likely to work in areas of high unemployment than in areas of balanced labor supply. This tends to support Woytinsky's "additional worker theory", which states that more family members tend to enter the labor force when the husband is unemployed or takes a cut in salary. As far as the prediction of future work plans is concerned, present labor market conditions do not seem to affect married women's future work plans. Estimates of the number of women who are currently working can be made if current labor market conditions are known, but to utilize local labor demand conditions to made predictions about future labor force participation one must be able to predict local labor demand conditions. This analysis emphasizes that predictions about effects of local labor market conditions on wives' work participation must take into account family status variables.

(3) Past Experience and Training

The third most important variable in the prediction of wives' current work status is work experience prior to marriage. The effects of this variable, which have not been included in any previous studies of married women's labor force participation, are even stronger than those

of education. A woman who has worked prior to marriage is more likely to work after marriage than a woman who has not worked prior to marriage. Work prior to marriage is an easily observable population characteristic which can now be related to aggregate predictions of changes in the labor force participation of married women. For example, Table 4.7 indicates that the percent of women who have worked since marriage has increased for each age cohort since 1914. From this increase in labor force participation prior to marriage an increase in post-marital labor force participation can be extrapolated for future decades.

A study of the relationship between work prior to marriage and future labor force attachment as measured by wife's future work plans further reaffirms the positive relation between work prior to marriage and work after marriage. An even better predictor of wives' future labor force attachment for those women who are not currently working is work participation since marriage. In view of the increasing number of women who have worked prior to marriage an increasing number can be expected to work after their marriage. Further amongst women who are currently not working those who have worked after marriage are most likely to work in the future.

While a wife's education is not as importantly related to her work status as is her previous work experience it is nevertheless significantly related to her current

work status. Education is not significantly related to future work plans for women who are currently working. Possibly this is because employment in professional occupations and accomplishment reasons for working (which are related to future work plans) are to some extent related to education. Therefore, as the level of education increases for women in this country it will probably lead to increased labor force attachment for married women via the effect of education on the accomplishment motive.

4. Family Status

The most important variable related to current work status for all married women is whether they have children who are younger than school age. Children of all ages keep their mothers from working outside the home, but young children in particular are deterrents to their mother's labor force participation.

For women who are not currently working, child status questions are second in importance to the husband's income in the determination of the wife's future work plans. No doubt this reflects the expectation that eventually all family members will reach an age where they require minimal maternal care. For women who are currently working possession of young children is no deterrent to future work plans. If the mother has been able to find a way to work outside the home when her children are young, certainly as they mature they will

provide not additional child care problems. Similarly for these women who are currently working the expectation of additional children bears little relationship to future work plans. Thus child status, which is an excellent guide to wives' current work status, is not as valuable in predicting their future labor force attachment.

Other family status variables that are related to women's labor force participation are year married and number of times married. The expected increase in the labor force participation of married women in the decades to come is further reinforced by the relationship between year married and future work plans for women who are not currently working. The women who were married most recently, hence the younger women, are more likely to expect to work in the future than those who were married some time ago. Since even the oldest woman in this study are no older than 40, they would be expected to have many years left in which they could work. The fact that more younger women expect to work in the future seems to indicate different attitudes toward work amongst the different age cohorts. An estimate of those women who have worked or expect to work at some time during their entire married lives indicates that the younger women are slightly more likely to work than their older counterparts.

Remarriage is not significantly related to either

current or expected future work status.

(5) Attitudinal Variables

Variables reflecting life and housing satisfaction are difficult to relate to current labor market status because one cannot ascertain whether dissatisfaction with life (or housing) causes a woman to work or results from the fact that she has to work. There appears to be no relation of any sort between housing satisfaction and women's current work status and future work plans. This may confirm Lebergott's impression that the women who work are working to pay for things other than the family home. Women with young children are more likely than others to be dissatisfied with the course of their lives, if they are currently working. Life satisfaction, however, bears no relation to future work plans.

Reasons for work which were available only for women who were currently working provided some valuable insights into the nature of married women's labor force attachment. Indeed the most <u>important variables related to future work plans</u> of these women who are currently working are <u>reasons for work.</u> Women who work because the job makes them feel that they are accomplishing something are most likely to expect to continue working in the future. Women who work because the job occupies their time or helps them to meet people are next most likely to continue working.

A further analysis which excluded the less significant variables and which included more reasons for work

reaffirms this finding. All the reasons for work except "acquisition of assets" were significantly related to future work plans. Non-financial reasons, however, are more important predictors of future work careers than financial reasons. Working in a family business, a quasi-financial reason for work, stands mid-way between these financial and non-financial reasons in importance in predicting future work plans.

Women who work as operatives are most likely to expect to retire in the future. At the other extreme working in more desirable occupations such as professional, sales and clerical work bears no significant relation to future work plans. Possibly some of the effect of working as a professional is obscured by the importance of the "need to accomplish" which was already included in the regression equation. However, the relation between accomplishment and future work plans is much stronger than the relation between working in a professional occupation and future work plans.

These findings suggest that although most women work for financial reasons today, these reasons are not sufficiently important to them to keep them permanently attached to the labor force. Particularly women who are working to "buy things for the family" should be expected to leave the labor force more readily than others.

The "hard core" of married women workers appears to come from amongst those women who have satisfactions other than financial gains from their jobs. Women who work because

they like work, wish a career, or "feel important working" are most likely to remain permanently attached to the labor force.

The use of reasons for work in predictive analyses is more complicated than the introduction of a variable such as work history prior to marriage, which is an easily observable population characteristic. To some extent working for accomplishment is related to education and professional status. Therefore, as these latter variables increase in importance with the increase in education, job satisfaction and hence permanency of labor force attachment is likely to increase.

On the other hand if the relative importance of "income choosers" should increase amongst married women who work, there is a strong likelihood that the labor force attachment of married women will become increasingly difficult to predict. The analysis of the relation between financial motives and future work plans shows that women who work for financial motives are less likely to remain in the labor force permanently than women who work primarily for non-financial reasons. Therefore, if the percent of"income choosers" rises the percent of women who are constantly moving in and out of the labor force will increase.

The importance of these psychological considerations in the determination of future work plans should bring home to the economist interested in labor force analysis that financial and demographic considerations alone are

inadequate for studies of women's labor force careers. It will be important to note in the future any drastic changes which might take place in motives for work since these will undoubtedly affect the strength of labor force attachment.

In summary, this study has been directed towards an analysis of the major factors which influence married women's current work status and the strength of their labor force attachment. In addition to the husband's income and child status factors this analysis points to a number of variables which have not been heretofore studies and which should be included in any meaningful study and prediction of married women's labor force status. Among the most important of these factors are past work history both prior to and after marriage. Secondly, there is need for more emphasis upon motives for work in the prediction of the strength of labor force attachment. Changes in motives for work could lead to important changes in the labor force attachment of married women. This study also emphasizes a number of areas which need further exploration if the labor force participation of married women is to be fully understood.

B. Suggested Future Research

This analysis has shown clearly that factors other than demographic and financial are important in the prediction of future labor force status. Reasons for work, which are closely related to future work plans, need

further exploration. What are the personality traits which make a woman feel a "need to accomplish"? What is the future trend for these needs? For example it may be that the need to accomplish is a relative matter. Women may feel that they are accomplishing only if they manage to do more than most women in their peer group. It is possible, then, that as more women work outside the home it will be increasingly difficult to accomplish more than one's neighbor. On the other hand this "need to accomplish" may arise merely because women and modern society in general have placed a low value on the roles of wife and mother. Women may feel that they can only prove their worth to themselves and to their families by work outside the home. Or this "need for accomplishment"[1] may be only a rationalization for women who know that they must continue working indefinitely in order to keep a desired standard of living. Finally "need to accomplish" may be merely a manifestation of real interest in one's job. Thus as jobs for women become

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1. McClelland and Atkinson have done some interesting work recently relating need for achievement, need for affiliation and need for power to risk bearing. A study of the effects of these needs on the labor force participation of married women seems highly fruitful in terms of the findings of this study. McClelland and Atkinson's categories are based on answers to projective test questions. It would be interesting to correlate the results of these projective test answers and the answers about reasons for work that are given by married women. David C. McClelland (and others), The Achievement Motive (New York: Appleton-Century - Crofts, 1953).

more attractive more women will be permanently attached to the labor force.

When we explore what motivates the women who say they work "to occupy time" or to "meet people" similar problems arise. Why, for example, haven't these women turned toward club activity rather than labor force participation?

Another area of exploration connected with reasons for work is the likelihood of changes in the distribution of reasons for work in the near future. If more women start working because their family choses either temporarily or permanently to live on a higher income level and hence "need for accomplishment" becomes a relatively unimportant reason for working, then serious changes in labor force attachment should be expected. Studies of changes in motives will be valuable for predictive purposes.

Other factors of a sociological or psychological nature which have not been covered here because of lack of information are the husband's attitudes toward his wife's work and the work history of the husband and wife's parents. It may be that the 20% of women who will never work during their married lives feel this way because their husbands are very much opposed to their working outside the home.

A study of the work history of husband's and wife's mothers might reveal an interesting trend in women's labor

force participation. It is possible that men and women whose parents worked when they were children resolve that when they have children the mother will never work outside the home. On the other hand the increase in working mothers may be self-reinforcing. Children who felt no ill effects because their mother worked when they were young may eagerly follow their mother's example when they have children. This would tend further to increase married women's labor force participation in future generations. There is a possibility of a "seesaw"effect in the former case and a straight line increase in the latter case.

Another type of intergeneration problem is likely to arise in the future if the number of married women who work increases substantially. Many young mothers can currently work because it is convenient and inexpensive for grandmothers to help with baby sitting chores. If these working mothers become career women it is likely that when they have grandchildren they will not be available for child care duties. Study of child care provisions will be needed if an increased level of labor force participation is to be maintained in the future amongst mothers of young children.

The need for a complete life work history of working wives seems important on the basis of this analysis. By this method it would be possible to tell when and why married women start and stop working. Information of this

sort would be useful in constructing a comparison of age cohort groups. In this manner it would be possible to compare different age cohorts at the same stage of life to see if they followed similar behavior patterns.

While local labor market conditions are related to current labor force status in this study the nature of this relationship deserves further exploration. It is possible that in a general overall recession period, local labor market conditions might be more important than they are in this study. An examination of wives' work status and local labor market conditions during different stages of the business cycle would shed more light on the Pierson-Woytinsky controversy.

Although independent variables which were highly correlated were eliminated from the multiple regression equation there are still some possibilities of interaction effects. For example, the level of a wife's education might affect her current work status via the relationship between her education and her satisfaction with her standard of living and with her husband's income. A more intensive analysis of these interactions would provide a better understanding of the more complex issues involved in a decision to work.

As far as current problems are concerned this study points to the need for a better classification of the labor force status of women who help in family enterprises such as family farms and businesses. Undoubtedly many women who work in these family enterprises are not classified

as members of the labor force. In view of the relatively strong labor force attachment of women who work in a family enterprise a more careful effort to classify these women should be made.

APPENDIX A

METHODOLOGY

This analysis was carried on in three stages using two different cross-section surveys. The objective of the first or exploratory stage was to gain some insight into the factors associated with married women's work. From this insight and from the knowledge of previous empirical work in this area hypotheses were formulated. These hypotheses stated the relationship between each variable and current or expected future work participation. The exploratory analysis indicated that work decisions are related to many factors which take place simultaneously. In the second stage of analysis, therefore, a multiple regression equation was used to test these factors simultaneously for the direction and relative magnitude of their relationship to labor force status.

The final stage of the analysis considered variables which could not properly be included in the multiple regression equations. These included factors where the effect of the independent variable on the dependent variable was not unilateral, or where the independent variable was difficult to scale.

I. The Multiple Regression Analysis

A. Choice of the Multiple Regression Analysis

The results of the <u>two-variable</u> analysis of the Ford Re-interview Study and the OAF Study indicated that variables like family finances, family status, the wife's education, and reasons for work were all related to present

and expected future work status. Since work status is related to many variables some sort of multivariate analysis was necessary to study the importance of each of the factors when the other variables have been taken into account. This type of statistical study would approximate most closely the actual decision making process of a wife as she weighed the various considerations in determining whether to work. It would also be desirable to use some form of analysis from which it would be possible to predict whether an individual woman would be working. Finally, a method of estimating the effect of each of the independent variables studied on the dependent variable was desired.

Three methods of analysis are most common for studying multiple relationships. They are analysis of co-variance, multiple and partial correlation. Analysis of co-variance was eliminated because it becomes extremely complex when one is studying many variables simultaneously.[1] Partial correlation, which measures the degree of association between variables X_1 and X_2 when X_3 is held constant, was also eliminated. This method is used when variable X_3 is thought of as a disturbing factor whose effects are to be eliminated.[2]

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1. James N. Morgan, "Factors Related to Consumer Saving When It is Defined as a Net Worth Concept", Contributions of Survey Methods to Economics, (New York: Columbia University Press, 1954) p. 101.
2. Margaret J. Hagood and R. Price, Statistics for Sociologists. (New York: Henry Holt, 1952) Chapter 25.

By using multiple correlation we can study the relation between X_1 and other variables where the effects of the other variables, X_2, X_3, . . . X_n are considered simultaneously. By this method X_2 and X_3, etc., are all considered as giving useful additional information. Moreover, we can now make predictions for X_1 taking into account the simultaneous effects of all independent variables by substitution of values for the independent variables for each case in the multiple regression equation. Finally, with proper adjustments for differences in scaling of variables the coefficients of the multiple regression equation can be used to study the relative importance of each of the independent variables. For these reasons, multiple regression analysis was used for this study.

Multiple regression analysis does present some difficulties in application due to the assumptions upon which it is based. Five methodological problems [1] will be briefly discussed here: (1) the choice of the regression line (2) the problem of a dichotomous dependent variable (3) the method of scaling the independent

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1. The reader who would wish a thorough discussion of the problem of a dichotomous dependent variable should consult Maurice G. Kendall, The Advanced Theory of Statistics, Vol. II. (London, Charles Griffin & Co., Ltd.: 1948) pp. 341-8. In this section Kendall discusses the linear discriminant function.

variables and possibilities of measurement error. (4) the problem of the interaction of the independent variables (5) the problem of clustering and stratification.

(1) Choice of the Regression Line

Regression equations can be used for prediction or explanation. The method of computation is the same for these two aims but the questions put to the data and the interpretation of the data differ. As Wold states:

> " . . . In situation A (predictions) the regression is used to estimate an unknown variable in terms of one or more known variables and the primary concern is in making the estimate as accurate as possible. In situation B (explanation) the regression is used as a tool for subject matter analysis, serving to explain the variations in one variable as the effect of variations in one or more cause variables. Thus in case B the regression will form a hypothetical explanation of the effect variable, or in other words we try to establish the regression equation as a theoretical model for the phenomenon under analysis."[1]

In using experimental data it is easier than with non-experimental data to observe the line of cause and effect in selecting variables for a regression equation which seeks to explain rather than to predict. However, Wold suggests that it is possible to select these variables from non- experimental data.

> "Since experiments are not possible, the causal interpretation is not obvious from the mechanism of an experiment but has instead to be justified by considerations ad hoc. Generally speaking, the causal interpretation has to be inferred from subject matter considerations based on empirical evidence and economic theory."[2]

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1. Herman Wold and Lars Jureen, Demand Analysis. (New York: John Wiley, 1953) p. 30.
2. Ibid., p. 6.

In this analysis all variables that were thought to influence work status, but which would most probably not be influenced by work status, were included in the regression equations. Those variables, which would be influenced by the wife's work status (for example, family income history) were reserved for analysis by the method of testing their effects on "extreme predictions". (This method is explained in the second section of this chapter.) By including in the regression equations only variables which could affect the dependent variable but which could not be affected by the dependent variable regression equations were formulated so that they could be used to explain work behavior as well as to predict it.

(2) Problem of a Dichotomous Dependent Variable

The dependent variables for both sets of regression equations were variables of the type where only two answers were possible. For present work status the only alternatives were "working" or"not working". Similarly for future work plans the alternatives were "expects to work" or"does not expect to work".

The application of least squares to the analysis of a dichotomous dependent variable is often called a "linear probability function". This method has been used in many economic analyses of cross-section data. [1,2,3] Tobin,[4]

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1. John B. Lansing, E. Scott Maynes and Mordechai Kreinen, "Factors Associated with the Use of Consumer Credit," Consumer Instalment Credit, Part II, Vol. I. (Washington: U.S. Government Printing Office, 1957) pps. 487-520.

(footnotes continued on page 163)

however, claims that a "probit analysis" is more suitable for the study of a dichotomous dependent variable. The "probit analysis" fits the relationship to a curve limited by zero and one.

The computation of a "probit analysis" requires many more hours of machine time than that of a multiple regression equation since the former requires an iterative solution. A recent doctoral dissertation which contrasted these two methods indicated that the results do not differ greatly "when the equation estimated by the least squares regression fits the underlying data fairly well."[5] In view of the relative ease of computation and the probability of similarity in results, the linear regression method has been used in this analysis.

(3) Scaling the Independent Variables

To use an independent variable in a linear regression equation the independent variable should be linearly related to the dependent variable. Often the independent variables must be converted so that this linear relationship is obtained. Qualitative variables

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2. L.R. Klein and J.B. Lansing, "Decisions to Purchase Consumer Durable Goods", The Journal of Marketing, XX (October, 1955) pp. 109-132.
3. Miner, loc. cit..
4. James Tobin, "The Application of Multivariate Probit Analysis to Economic Survey Data". Unpublished Cowles Foundation Discussion Paper, No. 1, 1955.
5. Peter De Janosi "Factors Influencing the Demand for New Automobiles" (unpublished Ph.D. dissertation, Department of Economics, University of Michigan, 1956). pp. 55-67.

must also be converted into some form of linear scale so that they can be used in the regression analysis.

The data used in these equations is primarily qualitative. Variables such as occupation, reasons for working and expectation of additional children are not easy to quantify. Even quantitative information such as number of children must be scaled in order that there be a linear relationship between number of children and work participation.

Since high speed computation methods were available for this analysis, many variables could be used in a multiple regression equation. Hence "dummy variables" were used rather than any alternative type of scaling procedure. By this system occupation for example, was handled in the following manner:

R_1 = clerical and sales work

R_2 = professional work

R_3 = operatives and kindred work

R_4 = all other occupations.

R1 through R_4 handle all possible occupations for women. Because of considerations of determinacy one of the variables (in this case R_4) was eliminated from the regression equation. It now took three variables instead of one to handle occupation, but within limits this type of analysis was possible because of the availability of high speed computation programs. Although this method adds more terms to the regression equation it is preferrable since it presents less biased

estimates than could be obtained through some method of scaling.[1]

All independent variables with the exception of the husband's and the wife's income, number of years married and education were scaled by means of "dummy variables." The original quantitative form of husband's and wife's income was used since two-variable tables had indicated that these variables were linearly related to future work plans and present work status. Education was divided into three categories on the basis of Rosett's[2] findings. These variables were not used as "dummy variables" because it was thought desirable to distinguish between the effects of as many levels of education and income as possible. Retention of all nine income brackets by use of eight "dummy variables", for example, would have increased the number of independent variables in the regression equation to almost unmanageable proportions.

Even when variables are inserted in the regression equation by using this method of "dummy variables" it should be noted that the relative magnitude of relationships between variables may be distorted by measurement errors. For example, it is possible that in order to ascertain women's reasons for work one must do more than

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1. Daniel B. Suits, "Use of Dummy Variables in Regression Equations," Journal of the American Statistical Association. December 1957, Vol. 52, No. 280, p. 551.
2. Rosett, loc. cit..

consider answers to direct questions about reasons for work. If women tend to conceal certain motives for work it may be necessary to use projective tests to measure such motives.

(4) Problem of the Interaction of Independent Variables

Often two independent variables are closely related to each other. In this case the normal equations are indeterminate and no solution is possible. Because of this possibility, care was taken not to include any variables in the regression analysis which seemed to be highly correlated with one another. For example, it was known that the wife's age and the number of years she was married were highly correlated. Therefore, only the number of years married was included in the regression analysis. Furthermore, tables B.1 - B.7, Appendix B, which show the two-way correlation coefficients between the independent variables indicated that while many variables are correlated, there is no tendency toward high correlation between any of the independent variables used in the regression analysis. It should, however, be noted that this system cannot take account of <u>all</u> interaction effects. Thus age might affect future work plans through its effect on level of income, yet age and income might not be highly correlated.

(5) Problem of Clustering

The GAF Study data used for the calculation of the

regression equations and the standard error terms was based upon a sampling of 8,000 dwellings, 2,900 respondents (the other 5,100 dwellings contained no women of childbearing age) 2,000 segments in 250 places in 66 primary sampling units. Thus in addition to the complexities added by the possibilities of a non-normal distribution of a variable, problems arise due to this clustering.

It is possible to compute the "true variance" and errors by a method described by Kish.

> "Say that we need the variance of an estimate of u. We select half of the entire sample in a manner that reproduces the full complexity of the sample. For many designs this means selecting at random half of the "primary sampling units" from each of the strata comprising the entire sample. Then we compute the same estimate as above, but based on the half sample; call this estimate u_1. It turns out that $(u_1-u)^2$ is an unbiased estimate of the variance of u. Since it is subject to large sampling error, one may make the split repeatedly to obtain several estimates, and then use a central value among them as the estimate of the variance of u." [1]

The computation for the standard errors of the regression coefficient by this method requires a matrix inversion for each parameter estimate. This would be complicated in this study where there are as many as fifteen variables in each equation and where it is necessary to make repeated sample splits to obtain a central value for"u."

Estimates of the size of "u" have, therefore, been

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1. Leslie Kish, "Confidence Intervals for Clustered Samples," American Sociological Review, Vol. 22, No. 2 (April, 1957) p. 164.

based on information from two previous studies. A test of the effects of complexity of design on confidence intervals was performed by Kish on the data of the GAF Study.[1] Since data from the GAF Study were used in this paper, Kish's information about necessary confidence intervals may be used to estimate similar confidence intervals in this paper. Estimates of the ratio of true variance to simple random sample variance were made for means and proportions on population characteristics such as the number of actual and expected children, and family planning behavior.[2] Kish found in these estimates that the ratio of

$$\frac{\text{true variance}}{\text{simple random sample variance}}$$

ranged from 1 to 2.5. In order to compute confidence levels it might be necessary to use intervals as much as two or two and a half times as large as normally required for .05 confidence.

Table A.1 presents approximate sampling errors of percentages calculated by the Survey Research Center, Sampling Section for GAF data. The lower figure in each cell represents the simple random sample errors, while the larger figure allows for sampling errors due to clustering and stratification.[2]

These computations were for confidence levels for

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1. Ibid. p. 158.
2. Clare, op. cit..

TABLE A.1

APPROXIMATE SAMPLING ERRORS OF PERCENTAGES [1]

(Expressed in percentages)

Percent	Number of Interviews							
	2700	2000	1000	700	500	400	300	200
50	1.9-2.7	2.2-3.0	3.2-4.0	3.8-4.8	4.5-5.6	5.0-6.0	5.8-7.0	7.1-8.5
30 or 70	1.8-2.5	2.1-2.8	2.9-3.6	3.5-4.4	4.1-5.1	4.6-5.5	5.3-6.4	6.5-7.8
20 or 80	1.5-2.1	1.8-2.4	2.5-3.1	3.0-3.8	3.6-4.5	4.0-4.8	4.6-5.5	5.7-6.8
10 or 90	1.2-1.7	1.3-1.8	1.9-2.4	2.3-2.9	2.7-3.4	3.0-3.6	3.5-4.2	4.2-5.0
5 or 95	0.8-1.1	1.0-1.4	1.4-1.8	1.6-2.0	1.9-2.4	2.2-2.6	2.5-3.0	3.1-3.7

1. This table was prepared by the Sampling Section, Survey Research Center, University of Michigan, Ann Arbor, Michigan and is a condensed version of a table presented by Clare, op. cit..

The values shown are the differences required for significance (95% probability) in comparisons of percentages derived from two different subgroups of the same survey. Two values, low and high, are given for each cell. The lower values are based on the standard error formula for simple random samples. The higher values are based on extensive computations of individual sampling errors carried out on actual survey data and allow for the departure, such as stratification and clustering, from simple random sampling in the survey design.

means and proportions. This study is, however, primarily concerned with the effects of clustering upon regression coefficients. Miner[1] discusses the results of such estimates which were made in a recent study of voting behavior at the Survey Research Center. A sample somewhat similar to that used for the GAF Study was employed here. The findings indicated that the true standard errors were quite similar to simple random sample errors and that the average ratio of true to simple random sample variance for the regression coefficients was well under two.

Table A.2 shows the number of standard errors necessary for a given degree of probability should the ratio of true variance to standard error range from 1 to 5. Since it is probable that this ratio will vary from 1 to 2 for the type of data used in the regression equations, a two-tailed interval with a probability of 0.95 can be reached by using from two to three sigmas as estimates of the standard error.

II. Effects of Additional Variables as Measured by Their Effects on the "Extreme Predictions" from the Regression Equations

Certain types of variables, although they were judged important could not be included in the multiple regression analysis. Since it was desired that the regression line show causation, only unilateral variables: those which

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1. Miner, op. cit..p.67.

TABLE A.2

EFFECTS OF DISTORTED CONFIDENCE INTERVALS ON PROBABILITY STATEMENTS [1]

Amount of Distortion of Confidence Interval			Necessary Number of Standard Errors for Degree of Probability Two-tail Intervals		
True Variance / S.R.S. Variance	S.R.S. Std. Error / True Std. Error	Mult. Factor [2]	P = .95	P = .99	P = .999
1.0	1	1	1.96	2.58	3.3
1.5	.82	1.219	2.39	3.15	4.0
2.0	.71	1.408	2.76	3.63	4.6
3.0	.58	1.724	3.38	4.44	5.7
5.0	.45	2.220	4.36	5.72	7.3

1. This table is a condensed version of Table 1, page 70, J. Miner, op. cit., which is a slightly altered version of a table presented by Kish, op. cit., p. 156.

2. The multiplication factor is the reciprocal of the ratio of the S.R.S. Standard Error to the True Standard Error. This factor converts a simple random sample confidence interval into a "true" confidence interval assuming the stated ratio between the two.

affect the dependent variable, but which cannot be affected by it, were included in the regression equations. Variables such as family income history, five year income expectations, life satisfaction and housing satisfaction were not used therefore in the regression analysis. Secondly, variables where information was not available for the entire sample (such as local labor market conditions) were not used in the multiple regression equations.

Because the residuals were not normally distributed an analysis of mean residuals was not a suitable method of studying the relationship between these variables and wives' work status. An alternative method of testing, devised by Professor Suits, was used.

The values of each of the independent variables for each woman in the sample were substituted in the multiple regression equation, and the predicted value for working or not working was calculated for each woman. (Worksheet I illustrates the computation of a prediction for two women, based on a multiple regression equation with three independent variables and one dependent variable.)

A value near 0.0 is considered as a prediction that a woman will not be working, while a value near 1.0 is considered as a prediction that she will be working. What if the predicted value of working for a given woman on the basis of substitution in the regression equation is

WORKSHEET 1

Let us assume the regression equation:

$$X_1 = 0.036 + 0.600X_2 + 0.115X_3 - 0.010X_4.$$

where: X_1 = working or not working currently (1-0)

X_2 = worked or did not work prior to marriage (1-0)

X_3 = level of wife's education
- 2 = college
- 1 = high school
- 0 = grade school or less.

X_4 = level of husband's income — 10 point scale see p. 37.

Then the predicted value of current work status for a woman who worked prior to marriage (1), who attended college (2) and whose husband earned $5000 a year (4) would be:

	+0.036	constant
worked prior to marriage (1) x(+0600)	+0.600	
(2) x(+0115)	+0.230	college education
	+0.866	
(4) x(-0.010)	-0.040	husband's income
	+0.826	predicted value of working at present

Predicted to be currently working.

The predicted value of current work status for a woman who never worked prior to marriage (0), whose husband earned $5000 a year (4) and who had completed high school (1) would be:

	+0.036	constant
(0) x(+0.600)	+0.000	did not work prior to marriage
(1) x(+0.115)	+0.115	attended high school
	+0.151	
(4) x (-0.010)	-0.040	husband's income
	+0.111	predicted value of working at present

Predicted not to be currently working.

near 0.4, 0.5 or 0.6? It is really not clear here whether we can make a prediction about work status for this particular woman. To eliminate the problem of making predictions for women whose estimated values of working fell into these intermediate areas, only women for whom definite predictions about work status could be made from the regression equation were chosen for study.

To eliminate these women for whom the predictions were uncertain two frequency curves were plotted of predicted values of working for women who were and were not actually working. (See Chart A.1.) Then the middle half of the predictions (those in Quarters II and III in Chart A.1) were omitted. Thus if predictions had been made for 200 women, the predictions for the 100 women in the middle were omitted from the rest of the analysis. The predictions which are retained, those about which we are most certain, are called the "extreme predictions".

Now using these "extreme predictions" (the 100 women for whom we have definite predictions about current work status) we shall test whether a factor like local labor market conditions, for example, could have improved our predictions about current work status. In other words we are testing to find out whether we could have made more correct predictions if we had taken into account current labor market conditions than we made merely on

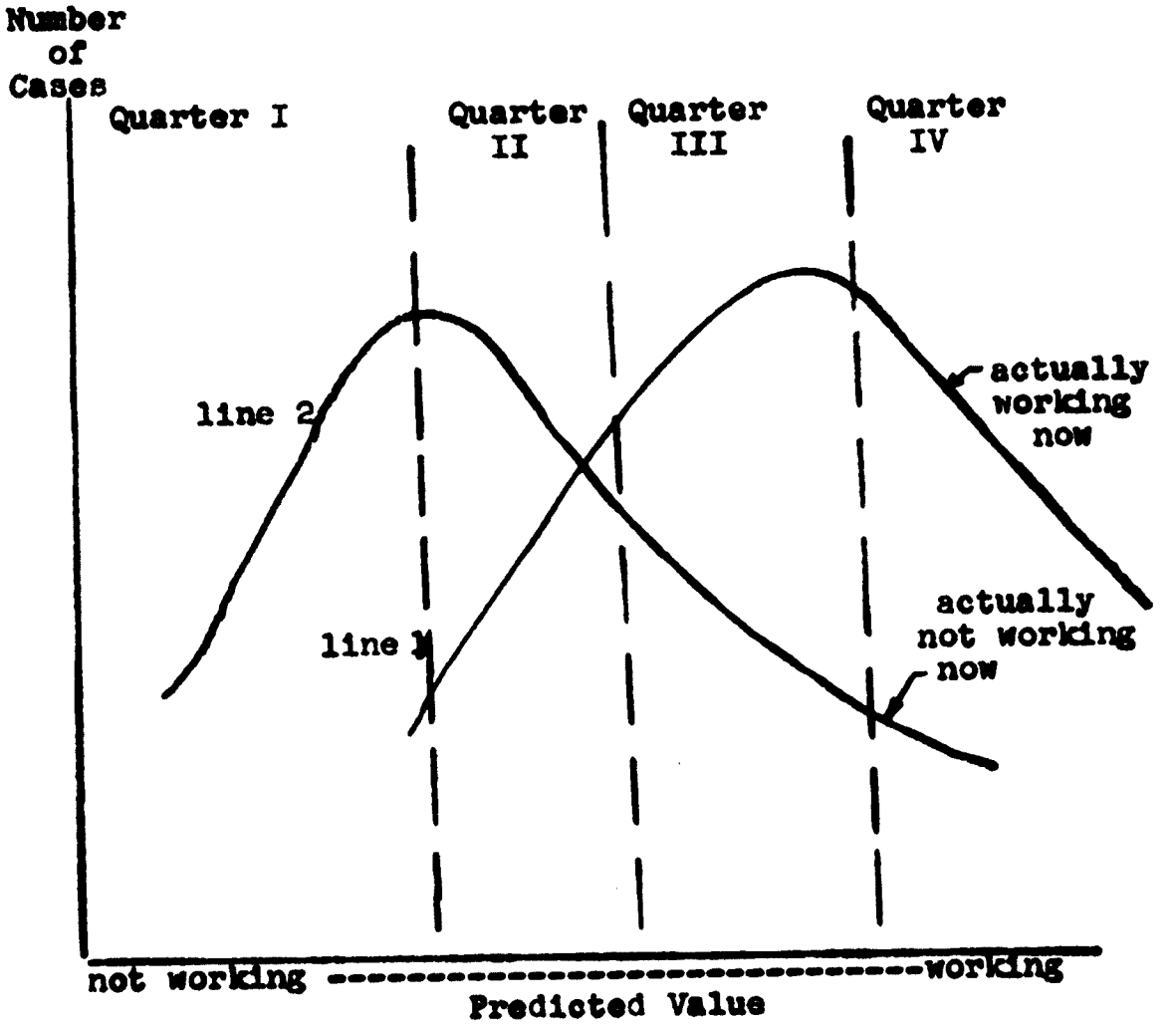


CHART A.1 PREDICTED PRESENT WORK STATUS FOR WOMEN WHO ACTUALLY ARE AND ARE NOT CURRENTLY WORKING

the basis of the variables included in the multiple regression equation.

In order to perform this test the women for whom we have made definite predictions ("extreme predictions") were separated into two groups those who were actually working and those who were not actually working. Then each of these groups separately was divided into the three major labor market categories. We now have six groups -- women who are actually working divided into three labor market groups and women who are actually not working divided into three labor market groups.

Now let us study just the women who were predicted to work. For each of the three labor market categories we have two groups. Women who are predicted to work and are actually working (correct predictions) and women who are predicted to work and are actually not working (incorrect predictions). If we find that for a particular labor market category we have made more correct predictions than could have been expected from the overall distribution of predictions (the totals column) then we can say that knowledge of local labor market conditions contributed to our power to predict work status and hence local labor market conditions are an important factor to be considered in the prediction of current labor force status.

Two numerical examples are presented below to demonstrate this procedure.

Example 1: The problem is to test whether local labor market conditions influence future work plans.

(1) The sample of married women was divided into two groups, those who actually said they expected to work and those who actually said they did not expect to work in the future. The predicted values of future work plans for each of these two groups were now plotted as separate curves (like lines 1 and 2 in Chart A.1).

(2) The graph was now divided into four equal quarters based upon the total number of cases in each quarter. The two intermediate quarters, which represent uncertain predictions (II and III) were eliminated. The "extreme predictions" (those from the two extreme quarters I and IV) were then designated as A,B,C or D as in Chart A.1.

(3) Then groups C and D (groups predicted to work in the future) were distributed according to local labor market conditions. Table A.3 illustrated this distribution. The numbers in brackets are the numbers of predicted (correctly or incorrectly) on the basis of the regression equation. The numbers in the brackets are the numbers of correct or incorrect predictions that one would expect on the basis of the overall distribution of predictions.

(4) By simple inspection one can see in Table A.3 that there is little difference between correct and incorrect predictions (numbers not in brackets) and predictions based on the total sample (numbers in

brackets) for each of the labor market categories. A chi-square test shows similarly that there is no relation between prediction error and local labor market conditions.

TABLE A.3

FUTURE WORK PLANS FOR WOMEN WHO ARE NOT CURRENTLY WORKING BY LOCAL LABOR MARKET CONDITIONS

Type of Prediction of Future Work Plans	Local Labor Market Conditions			
Predicted to Work on Basis of Regression Equation	Balanced Labor Supply	Moderate Labor Surplus	Substantial Very Substantial Labor Surplus	Total
Predicted Correctly Group C (predicted to work and actually said they would work	17 (15.6)	142 (141.0)	30 (32.6)	189
Predicted Incorrectly Group D (predicted to work and actually said they would not work)	12 (13.4)	120 (121.0)	30 (27.7)	162
Total	29	262	60	351

Example II: In Table A.4 below a similar test of the effect of local labor market conditions on current work status is performed. In this case there is some indication of relationship between local labor market conditions and current work status.

(1) The sample of married women is divided into two groups: those who are working currently and those who are not working currently. For each of these two groups separately the predicted values of current work status

(based upon predictions from the multiple regression equations) are plotted.

(2) The grid is now divided into four quarters based on the total number of cases in each quarter. The two intermediate quarters (II and III) which represent uncertain predictions) are eliminated. The "extreme predictions" are then designated as A,B,C and D as in Chart A.1.

(3) Then groups C and D (groups predicted to be currently working) are distributed according to local labor market conditions. Table A.4 illustrates this distribution. The numbers not in brackets are the numbers predicted correctly (for Group C) and incorrectly (for Group D) in each labor market category. (Correct or incorrect predictions are determined by comparing predictions based on the regression equation to actual current work status.) The numbers in brackets are the number of correct or incorrect predictions that one would expect to fall in each labor market category on the basis of the overall distribution of correct and incorrect predictions.

(4) Inspection here shows that in areas of substantial labor market surplus, <u>if labor market conditions had been taken into account</u>, more women would have been correctly predicted to be working (24 correct predictions as compared to 20 expected correct predictions). Similarly in areas of balanced labor supply 95 women

would have been expected to work on the basis of the overall distribution whereas actually only 91 had been correctly predicted to work. Knowledge of local labor market conditions, would have lead us to expect more women to be working in areas of substantial or very substantial labor surplus. The chi-square test shows that this difference is significant at the 5% level.

TABLE A.4

PRESENT WORK STATUS FOR ALL MARRIED WOMEN WHO ARE NOT CURRENTLY PREGNANT BY LOCAL LABOR MARKET CONDITIONS

Current Work Status	Local Labor Market Conditions		
Predicted to Work on the Basis of Multiple Regression Equation	Balanced Labor Supply or Moderate Labor Surplus	Substantial or Very Substantial Labor Surplus	Total
Predicted Correctly Group C	91 (95.1)	24 (19.9)	115
Predicted Incorrectly Group D	48 (43.9)	5 (9.1)	53
Total	139	29	168

$X^2 = 4.6$, significant at 5% level, d.f. = 1.

This method, like the method of analyzing mean residuals, provides a conservative test. The method of studying the effects of independent variables on "extreme predictions" assumes that the influence of all the variables in the regression equation will be accounted for at the same time that the effects of these new variables are tested. If these new variables are correlated with

variables already used in the regression analysis, part of their effect will have already been accounted for in the prediction made on the basis of the regression equation. Therefore, if these factors which are tested by the method of observing their effects on the "extreme predictions"[1] do not seem related, the hypothesis that they are not related to work status should not necessarily be rejected. On the other hand, any sign of relationship shown by this method is relevant.

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1. This method can only be used effectively if the predictions based on the multiple regression equations are significantly different than those that could be predicted by chance. In Appendix D, tests of the actual and extreme predictions and their relation to chance predictions are presented. These tests indicate that the predictions from the major regression equations are significantly (at the 1% level) better than those that could have been predicted by chance.

APPENDIX B

MATRIX OF CORRELATION COEFFICIENTS FOR EACH REGRESSION EQUATION

This section contains the matrices of correlation coefficients for each of the seven multiple regression equations described in Chapters III and IV. These coefficients show the relationship between the dependent variable and each of the independent variables (considered separately). In addition they show the relationship between any two of the independent variables. The IBM 650 computer was used to calculate these coefficients.

TABLE B.1
MATRIX OF CORRELATION COEFFICIENTS BETWEEN VARIABLES USED IN REGRESSION EQUATION 001
(CURRENT WORK STATUS FOR ALL WOMEN, WHO ARE NOT CURRENTLY PREGNANT)

	Working Currently (W)	Year Married (YM)	Married More Than Once (M)	Expects Additional Children (C_a)	Has Children 6 or Over (C_6)	Has Children 6 Under 6 (C)	Worked Prior to Marriage (WP)	Wife's Education (E)
Husband's Income (HY)	-.126	-.145	-.010	-.117	.116	.030	.070	.297
Wife's Education (E)	.029	.176	-.053	.061	-.092	.027	.131	
Worked Prior to Marriage (WP)	.049	.252	-.065	.097	-.088	.078		
Has Children Under 6 (C)	-.353	.236	-.086	.154	-.091			
Has Children 6 or Older (C_6)	-.075	-.605	.044	-.343				
Expects Additional Children (C_a)	-.010	.467	-.072					
Married More Than Once (M)	.025	-.231						
Year Married (YM)	.027							

TABLE B.2
MATRIX OF CORRELATION COEFFICIENTS BETWEEN VARIABLES USED IN REGRESSION EQUATION 001A
(CURRENT WORK STATUS, FOR ALL WOMEN WHO ARE NOT CURRENTLY PREGNANT AND WHO HAVE CHILDREN YOUNGER THAN 6)

	Working Now (W)	Year Married (YM)	Has Children 6 or Older (C_6)	Worked Prior to Marriage (WP)	Wife's Education (E)
Husband's Income (HY)	-.088	.124	.101	.072	.259
Wife's Education (E)	.040	.184	-.099	.117	
Worked Prior to Marriage (WP)	.040	.166	-.061		
Has Children 6 or Older (C_6)	-.038	-.627			
Year Married (YM)	.033				

TABLE B.3
MATRIX OF CORRELATION COEFFICIENTS BETWEEN VARIABLES USED IN REGRESSION EQUATION 001B
(CURRENT WORK STATUS, FOR ALL WOMEN WHO ARE NOT CURRENTLY PREGNANT AND WHO HAVE NO CHILDREN YOUNGER THAN 6)

	Working Now (W)	Year Married (YM)	Has Children 6 or Older (C_6)	Worked Prior to Marriage (WP)	Wife's Education (E)
Husband's Income (HY)	-.159	-.171	.148	.066	.118
Wife's Education (E)	-.007	-.112	-.070	.025	
Worked Prior to Marriage (WP)	.123	.337	-.115		
Has Children 6 or Older (C_6)	-.193	-.556			
Year Married (YM)	.179				

TABLE B.4

MATRIX OF CORRELATION COEFFICIENTS BETWEEN VARIABLES USED IN REGRESSION EQUATION 002 (CURRENT WORK STATUS FOR ALL WOMEN, WHO ARE CURRENTLY PREGNANT)

	Working Currently (W)	Number of Months Pregnant (MP)	Year Married (YM)	Married More Than Once (M)	Expects Additional Children (C_a)	Has Children 6 or Over (C_6)	Has Children Under 6 (C)	Worked Prior to Marriage (WP)	Wife's Education (E)
Husband's Income (HY)	-.121	.025	-.188	-.104	-.037	.143	.019	.040	.278
Wife's Education (E)	.041	.017	.220	-.023	.119	-.173	-.060	.146	
Worked Prior to Marriage (WP)	.068	-.064	.200	-.037	.088	-.173	.075		
Children Under 6 (C)	-.258	-.029	-.164	.059	-.261	.052			
Children 6 and Older (C_6)	-.092	.143	- .685	.091	-.364				
Expects Additional Children (C_a)	.052	-.101	.405	-.129					
Married More Than Once (M)	.020	-.070	-.300						
Year Married (YM)	.154	-.162							
Number of Months Pregnant (MP)	-.176								

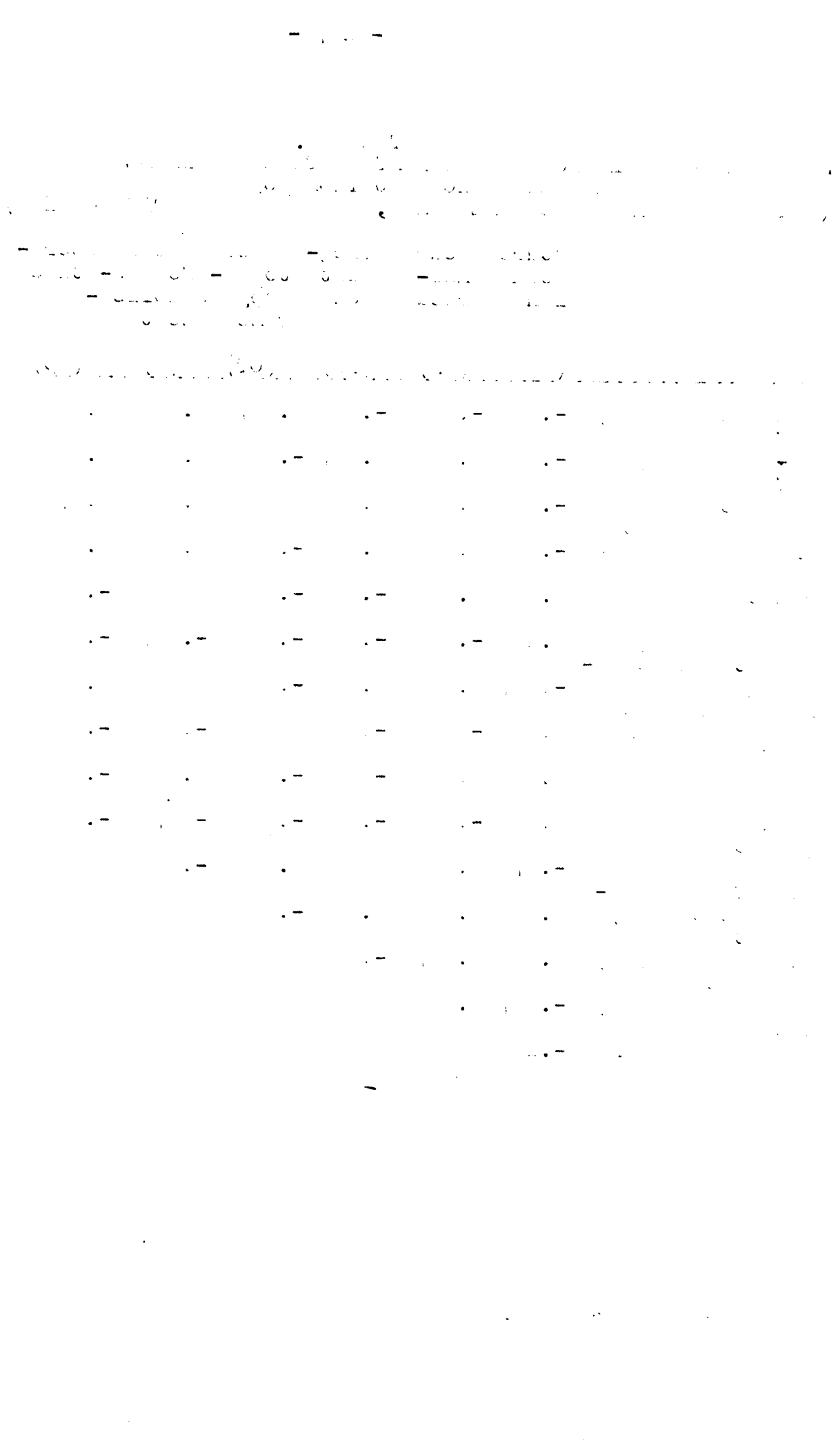


TABLE B.5
MATRIX OF CORRELATION COEFFICIENTS BETWEEN VARIABLES USED IN REGRESSION EQUATION 003
(FUTURE WORK PLANS FOR ALL WOMEN, WHO ARE CURRENTLY WORKING)

	Future Work Plans (FW)	Year Married (YM)	Pregnant Now (Pr)	Need to Occupy Time (OT)	Need for Accomplishment (A)	Operative (Op)
Husband's Income (HY)	-.028	-.131	-.086	.077	.082	.122
Wife's Income (WY)	-.026	.089	.047	-.002	.015	.115
Wife's Education (E)	-.091	.215	.054	.022	.238	.174
Worked Prior to Marriage (WP)	-.065	.314	.082	-.005	.077	.100
Has Children Under 6 (C)	.060	.089	-.026	-.101	.021	-.106
Has Children 6 and Over (C_6)	.108	-.649	-.201	-.000	-.067	-.082
Expects Additional Children (C_a)	-.127	.554	.204	-.063	.038	.088
Married More than Once (M)	.035	-.259	-.025	.043	-.021	-.008
Professional (P)	.067	.010	-.014	-.038	.278	-.393
Clerical and Sales (SC)	.106	-.091	-.063	-.084	-.179	-.564
Operative (Op)	-.172	.094	.045	.066	-.009	
Need for Accomplishment (A)	.114	.040	.062	-.026		
Need to Occupy Time (OT)	.118	.007	-.029			
Pregnant Now (Pr)	-.137	.288				
Year Married (YM)	-.143					

TABLE B.5 - Continued

Clerical and Sales (SC)	Professional (P)	Married More Than Once (M)	Expects Additional Children (C_a)	Has Children over 6 (C_6)	Has Children under 6 (C)	Worked Prior to Marriage (WP)	Wife's Education (E)	Wife's Income (WY)
-.188	.092	-.041	-.106	.052	.018	.106	.152	.052
.004	.039	-.089	.105	-.215	-.292	.062	.084	
-.330	.326	-.060	.125	-.144	.030	.172		
-.148	.029	-.135	.170	-.164	.045			
-.021	.092	-.027	.063	.002				
.064	-.047	.044	-.408					
-.053	.013	-.106						
-.030	-.034							
-.247								

TABLE B.6
MATRIX OF CORRELATION COEFFICIENTS BETWEEN VARIABLES USED IN REGRESSION EQUATION 003A
(FUTURE WORK PLANS, FOR ALL WOMEN WHO ARE CURRENTLY WORKING)

	Future Work Plans (FW)	Need to Acquire Assets (AA)	Chronic and Temporary Financial Problems (F)	Works in Family Business (B)	Wife's Education (E)	Pregnant Now (Pr)	Need to Occupy Time (OT)	Need for Accomplishment (A)	Operative (Op)	Clerical and Sales (SC)
Professional(P)	.068	-.096	-.095	.073	.324	-.016	-.037	.278	-.393	-.247
Clerical and Sales (SC)	.017	.019	.123	-.111	-.331	-.065	-.083	-.179	-.565	
Operatives (Op)	-.174	-.081	-.088	.072	.177	.049	.065	-.010		
Need for Accomplishment (A)	.115	-.136	-.073	-.071	.236	.059	-.026			
Need to Occupy Time (OT)	.118	-.076	-.070	-.005	.020	-.030				
Pregnant Now (Pr)	-.141	.101	-.083	-.069	.062					
Wife's Education (E)	-.094	.029	-.137	.001						
Works in Family Business (B)	.086	-.114	-.111							
Chronic and Temporary Financial Problems (F)	.087	-.603								
Need to Acquire Assets (AA)	-.104									

TABLE B. 7

MATRIX OF CORRELATION COEFFICIENTS BETWEEN VARIABLES USED IN REGRESSION EQUATION 004
(FUTURE WORK PLANS FOR ALL WOMEN, WHO ARE NOT CURRENTLY WORKING)

	Future Work Plans (FW)	Year Married (YM)	Worked Since Marriage (WS)	Pregnant Now (Pr)	Married More Than Once (M)	Expects Additional Children (C_a)	Has Children 6 or Over (C_6)	Has Children Under 6 (C)	Worked Prior to Marriage (WP)	Wife's Education (E)
Husband's Income (HY)	-.077	-.160	.010	-.032	-.007	-.123	.135	-.029	.065	.345
Wife's Education (E)	.024	.161	.063	.051	-.049	.028	-.082	.031	.120	
Worked Prior to Marriage (WP)	.080	.229	.190	.054	-.042	.068	-.078	.120		
Has Children Under 6 (C)	-.017	.275	.026	-.004	-.085	.121	-.149			
Has Children 6 and Over (C_6)	.020	-.615	-.083	-.233	.055	-.313				
Expects Additional Children (C_a)	-.047	.418	-.037	.107	-.076					
Married More Than Once (M)	.012	-.228	.077	-.030						
Pregnant Now(Pr)	-.052	.271	.013							
Worked Since Marriage (WS)	.185	-.037								
Year Married (YM)	.040									

APPENDIX C

PREDICTED VALUES OF CURRENT WORK STATUS PLOTTED FOR THOSE WHO ARE AND ARE NOT CURRENTLY WORKING AND PREDICTED VALUES FOR EXPECTED FUTURE WORK STATUS PLOTTED FOR THOSE WHO WILL AND WILL NOT WORK, FOR THE MAJOR REGRESSION EQUATIONS

This section contains graphs which show the distribution of estimated values of current work status separately for women who are and are not currently working. The vertical line on the left of the graphs separates the extreme quarter of those who are predicted not to work. The vertical line on the right of the graphs separates the extreme quarter of those who are predicted to work. Zone A represents women who were correctly predicted not to work. Zone B represents women who were incorrectly predicted not to work. Zone C represents women who were incorrectly predicted to work. Zone D represents women who were correctly predicted to work. Similar analysis is presented for future work plans.

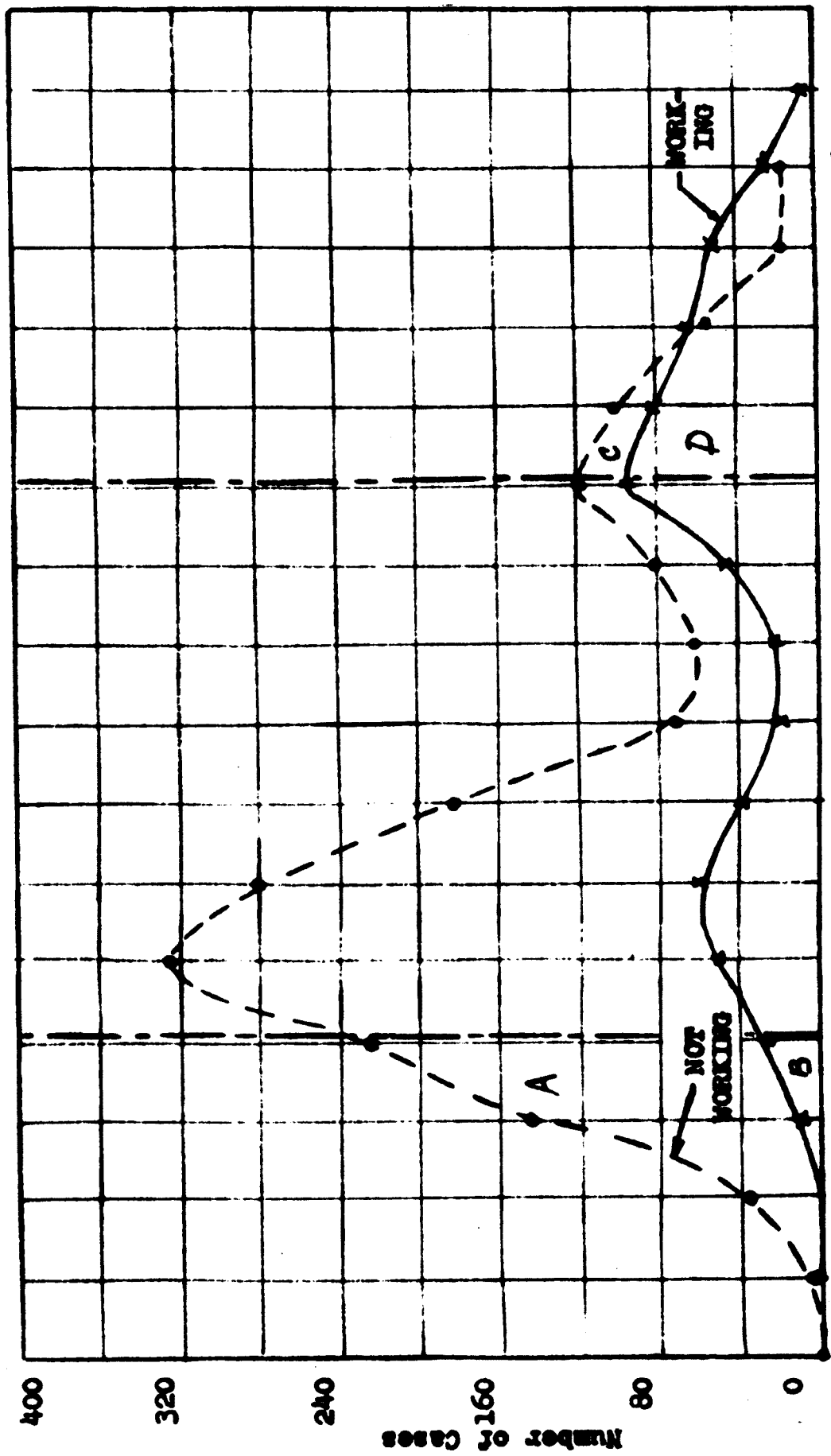


CHART C.1 PREDICTED VALUES FOR CURRENT WORK STATUS FOR ALL NON-PREGNANT WOMEN (Eq.091).

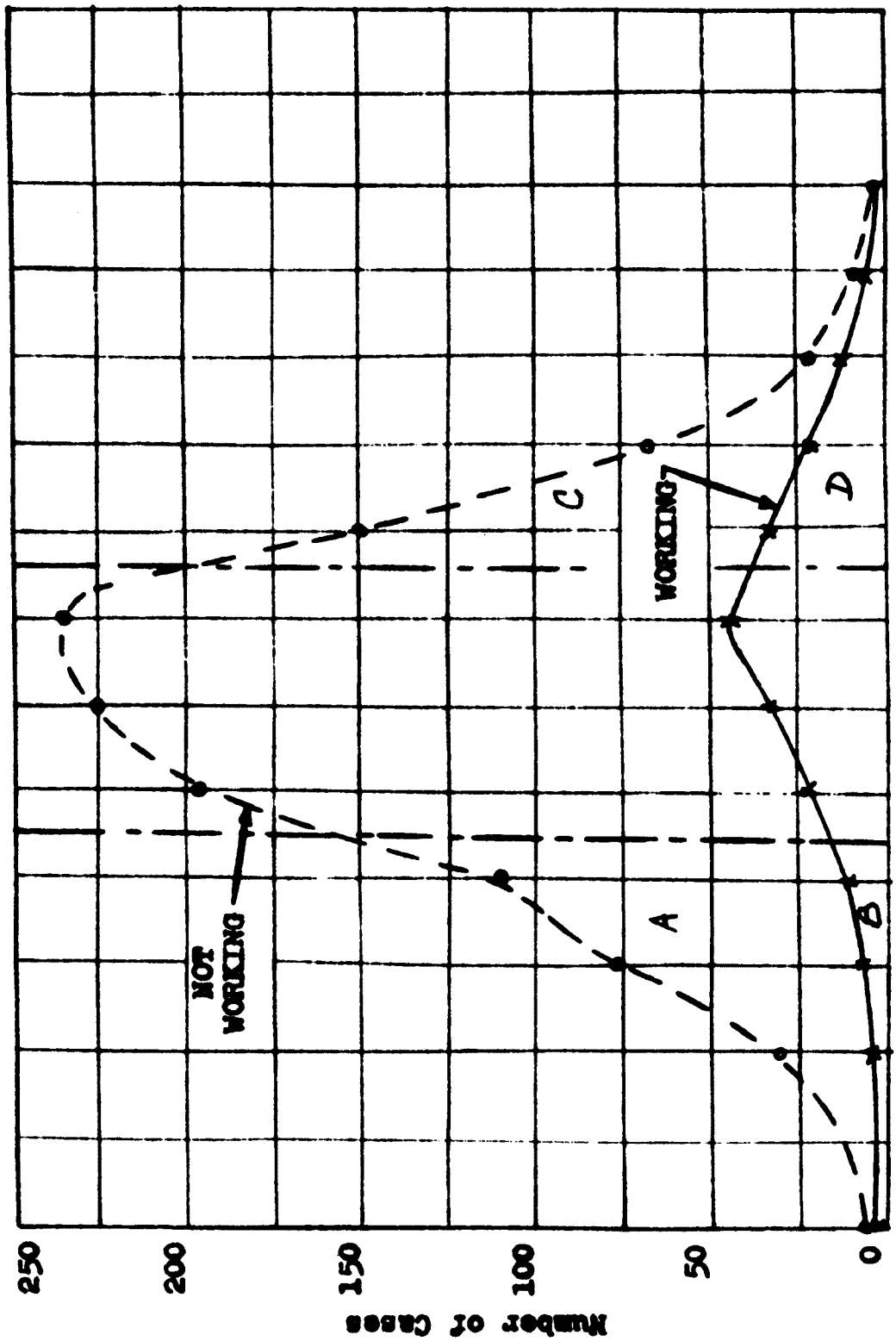


CHART C.2 PREDICTED VALUES FOR CURRENT WORK STATUS FOR NON-PREGNANT WOMEN WITH CHILDREN UNDER SIX YEARS (Eq. OCLA)

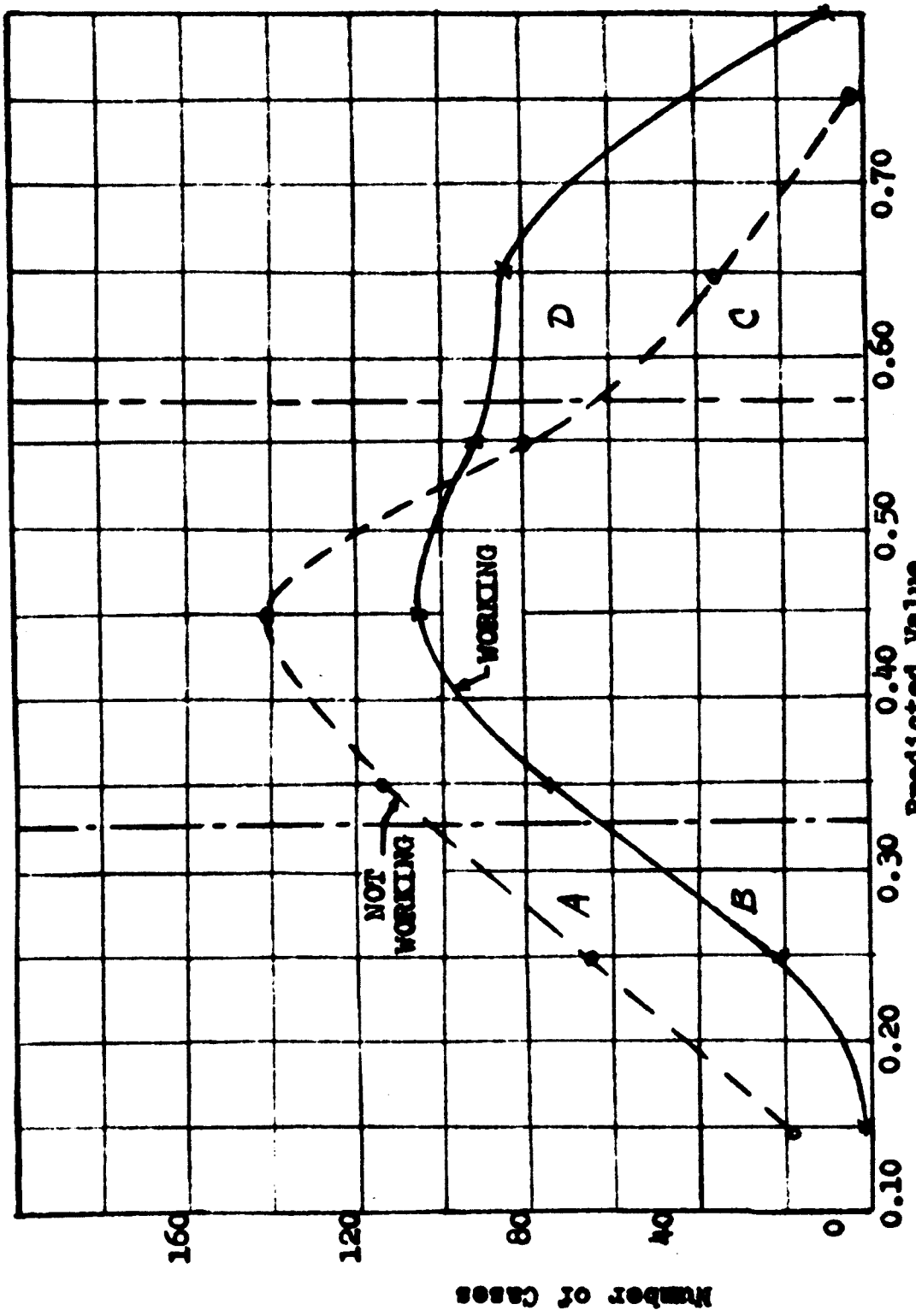


CHART C.3 PREDICTED VALUE FOR CURRENT WORK STATUS FOR WOMEN WITH NO CHILDREN UNDER SIX (Eq. 001B).

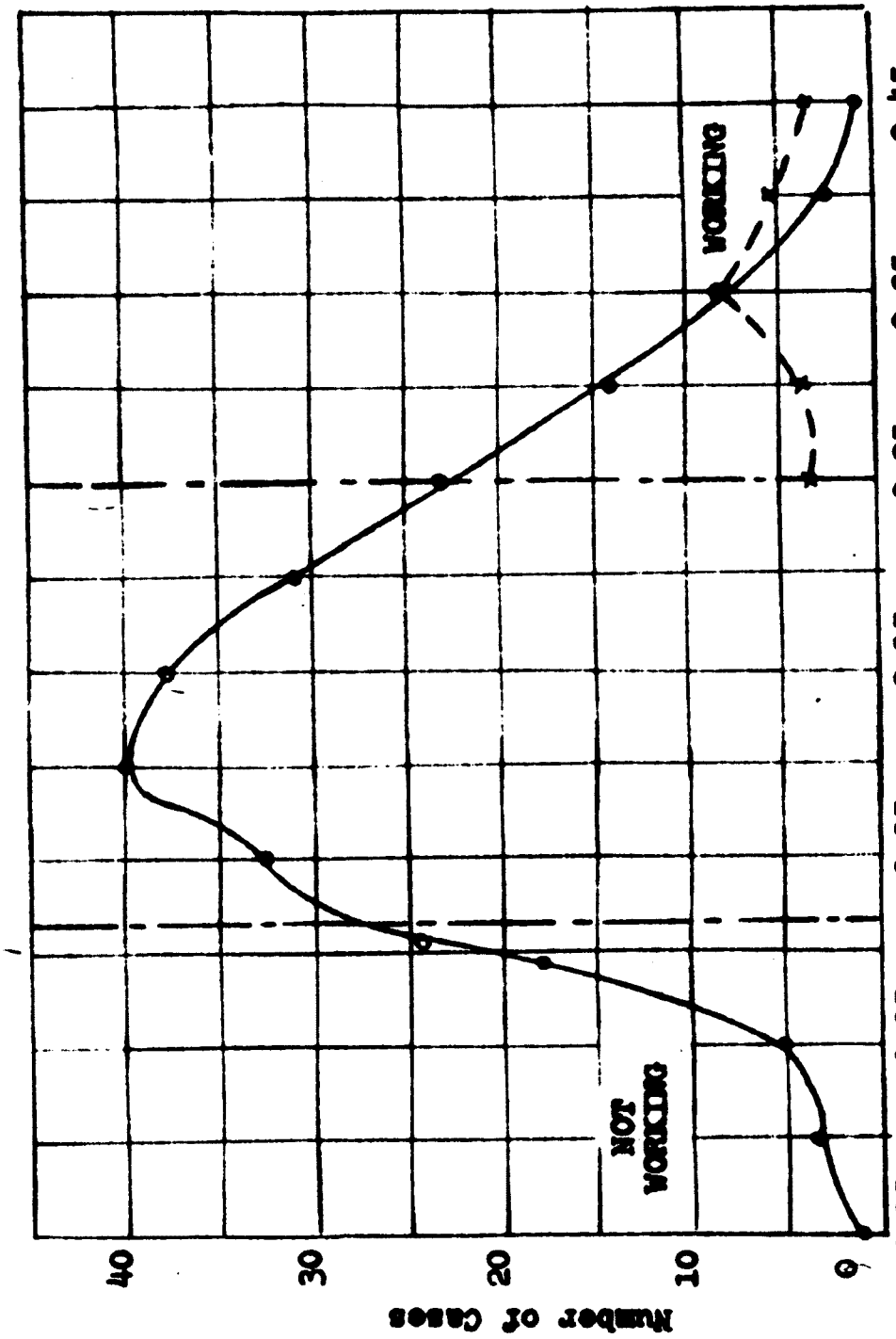


CHART C.4 PREDICTED VALUES FOR CURRENT WORK STATUS OF PREGNANT WOMEN (Eq.002)

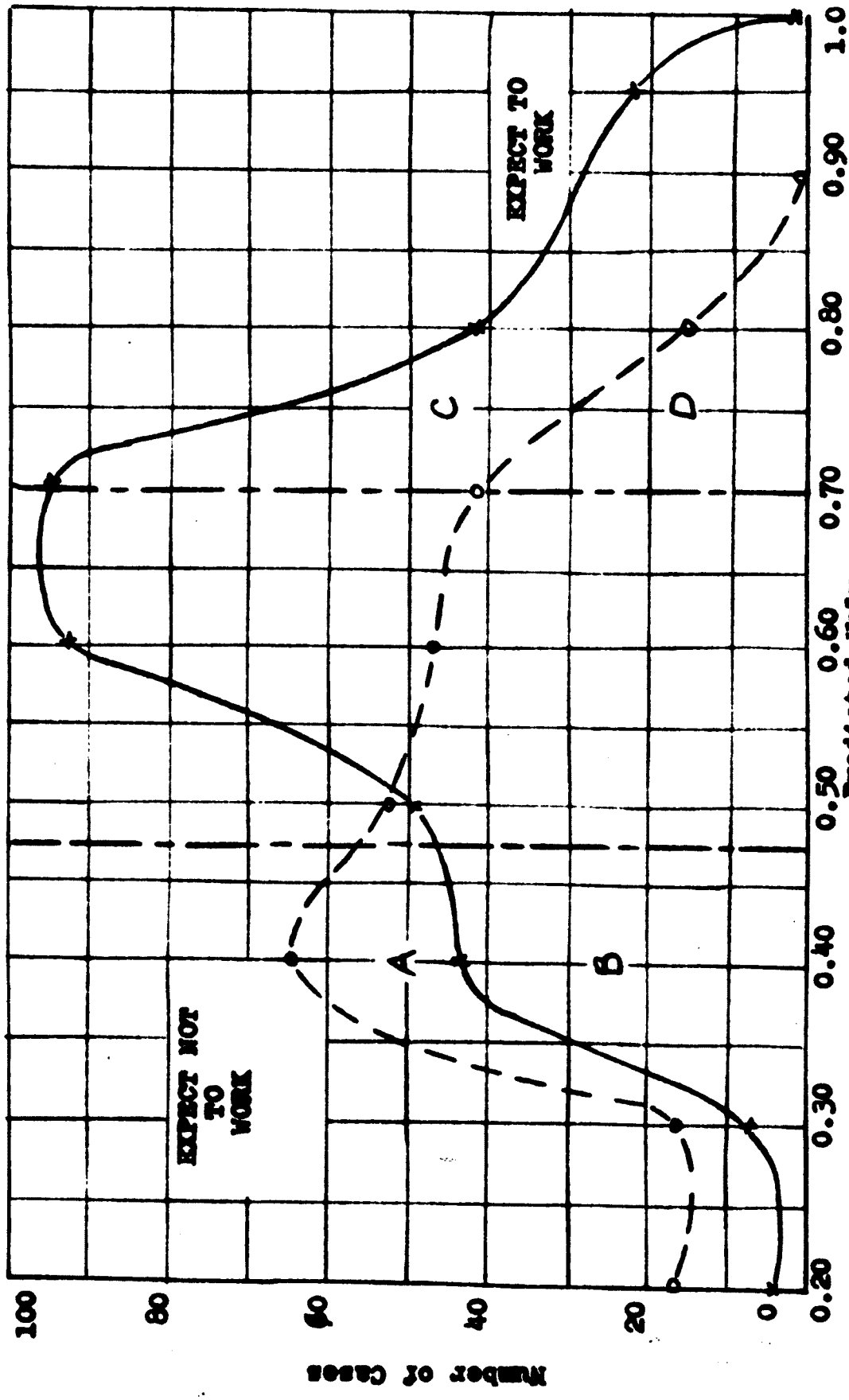


CHART C.5 PREDICTED VALUES OF FUTURE WORK PLANS FOR WOMEN WHO ARE WORKING (Eq.003A).

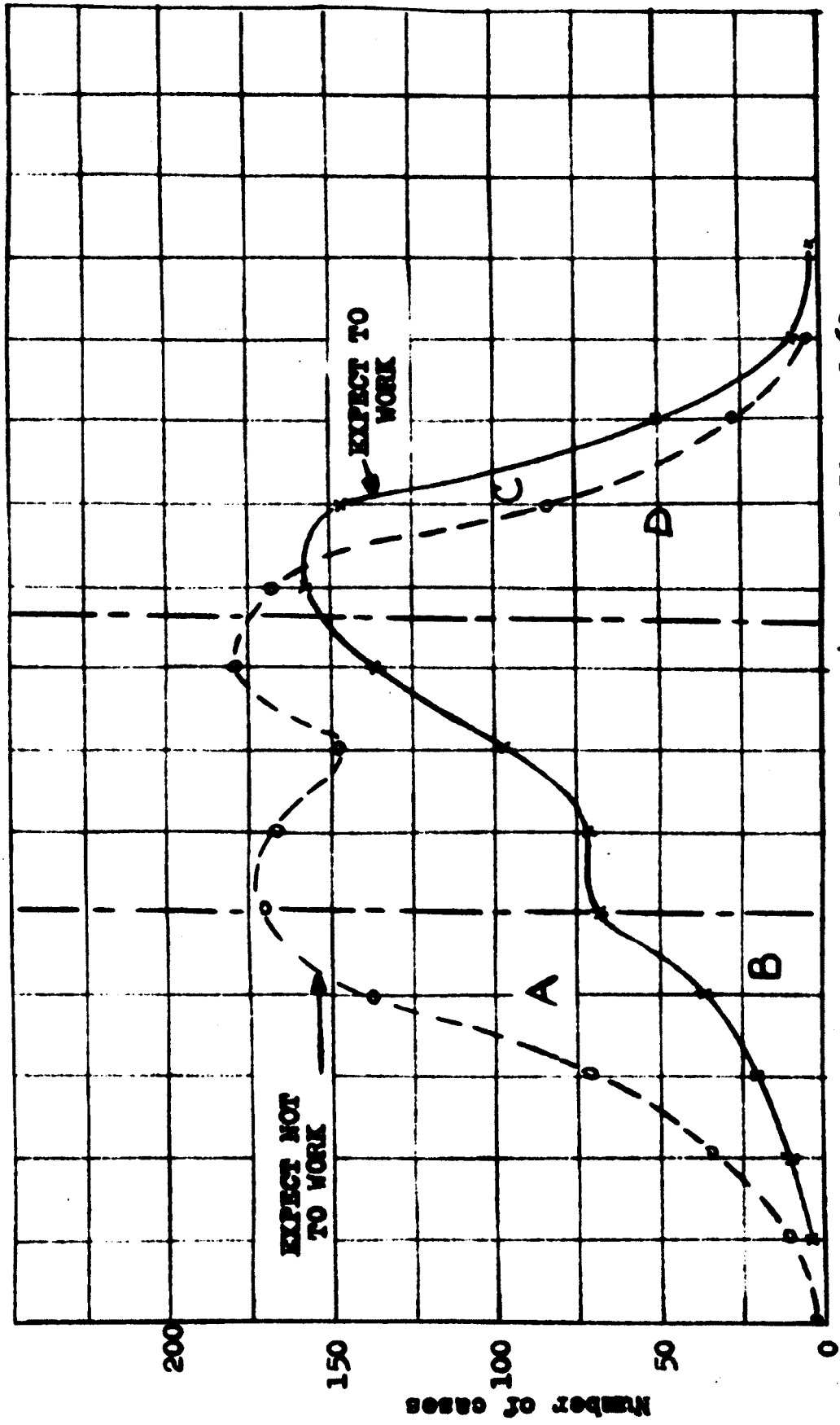


CHART C.6 PREDICTED VALUES FOR FUTURE WORK PLANS OF WOMEN NOT WORKING NOW (Eq. 004)

APPENDIX D

CHI-SQUARE TESTS ON ACTUAL PREDICTIONS AND EXTREME PREDICTIONS

This section contains chi-square tests which were designed to study whether the predictions made on the basis of the multiple regression equations were significantly different from those that could have been made by chance. Similarly predictions based on values for the two extreme quarters (high predictions to work and low predictions not to work) were tested to see if they were significantly different than those which could be made by chance. All predictions were found to be significant at the 1% level.

TABLE D.1

CHI-SQUARE MATRICES FOR PREDICTIONS AND ACTUAL VALUES BASED ON ENTIRE SAMPLE

A. Future Work Plans

For Women Who Are Currently Working

Actual Value	Prediction: Won't Work	Prediction: Will Work	Total
Won't Work	98	55	153
Will Work	156	305	461
	254	360	614

$X^2 = 43.21$

For Women Who Are Not Currently Working

Actual Value	Prediction: Won't Work	Prediction: Will Work	Total
Won't Work	988	501	1489
Will Work	241	206	447
	1229	707	1936

$X^2 = 22.94$

B. Current Work Status

For Women Who Have Children Younger Than Six

Actual Value	Prediction: Isn't Working	Prediction: Is Working	Total
Isn't Working	795	347	1142
Is Working	117	77	194
	912	424	1336

$X^2 = 6.63$

For Women Who Do Not Have Children Younger Than Six

Actual Value	Prediction: Isn't Working	Prediction: Is Working	Total
Isn't Working	324	140	464
Is Working	191	195	386
	515	335	850

$X^2 = 36.53$

TABLE D.2

CHI-SQUARE MATRICES FOR PREDICTIONS AND ACTUAL VALUES BASED ON PREDICTIONS FROM THE "EXTREME QUARTERS"

A. Future Work Plans

For Women Who Are Currently Working

Actual Value	Prediction: Won't Work	Prediction: Will Work	Total
Won't Work	99	41	130
Will Work	57	123	190
	156	164	320

$x^2 = 34.05$

For Women Who Are Not Currently Working

Actual Value	Prediction: Won't Work	Prediction: Will Work	Total
Won't Work	348	210	558
Will Work	106	245	351
	454	455	909

$x^2 = 89.18$

B. Current Work Status

For Women Who Have Children Younger Than Six

Actual Value	Prediction: Isn't Working	Prediction: Is Working	Total
Isn't Working	276	284	560
Is Working	12	41	53
	288	325	613

$x^2 = 14.02$

For Women Who Do Not Have Children Younger Than Six

Actual Value	Prediction: Isn't Working	Prediction: Is Working	Total
Isn't Working	152	72	224
Is Working	70	150	220
	222	222	444

$x^2 = 57.66$

APPENDIX E

RESULTS OF TESTS OF THE EFFECTS OF "ADDITIONAL VARIABLES" ON PREDICTIONS FROM THE MULTIPLE REGRESSION EQUATIONS

This section presents results of tests of the effects of six "additional variables" (variables which could not be included in the multiple regression analysis) on the predictions from the regression equations. The chi-square test was used to determine whether predictions based on the use of these variables would have proven more accurate than those based on the regression equation alone. If a prediction based upon an"additional variable"and the regression equation was a significant improvement, at the 5% level, over a prediction based on the regression equation alone then this"additional variable" was considered to have an important influence on wives' labor force participation.

TABLE E.1

RESULTS OF TESTS OF THE EFFECTS OF "ADDITIONAL VARIABLES" ON THE "EXTREME PREDICTIONS" FROM THE MULTIPLE REGRESSION EQUATIONS

	Variable Tested											
	Local Labor Market Conditions		Place of Residence		Future Income Expectations		Past Income History		Life Satisfaction		Housing Satisfaction	
	Prediction											
Equation *	Not Working	Working	Not Working	Working	Not Working	Working	Not Working	Working	Not Working	Working	Not Working	Working
001A: Current Work Status for Women with Children Younger Than Six	-	NSD	-	NSD	-	-	-	NSD	-	5%	-	NSD
001B: Current Work Status for Women with No Young Children	NSD	5%	NSD	NSD	NSD	NSD	NSD	NSD	NSD	NSD	NSD	NSD
003A: Future Work Plans for Women Who are Currently Working	NSD	NSD	NSD	NSD	NSD	NSD	NSD	NSD	NSD	NSD	NSD	NSD
004: Future Work Plans for Women Who are Not Working	NSD	NSD	NSD	NSD	NSD	NSD	NSD	NSD	NSD	NSD	NSD	NSD

* These calculations were not performed for Eq. 002 (current work status for pregnant women) because when the intermediate predictions were eliminated there were not enough cases to make statistically significant conclusions.

NSD --(no significant difference) predictions based on the use of this variable and those in the multiple regression equation do not differ significantly from predictions based on the multiple regression equation alone.

- chi-square test not performed because cell size too small.

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