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PROCEEDINGS

Agricultural Economics Seminar

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LABOR FORCE BEHAVIOR AND THE BUSINESS CYCLE*

By

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My remarks are organized into two parts. In the first part the problem to be analyzed is defined and some background information necessary for understanding the problem is provided. In the second part, I will talk about the way the problem is analyzed by economists and review their research findings. I conclude with a brief discussion of what these findings imply for the matters of public policy.

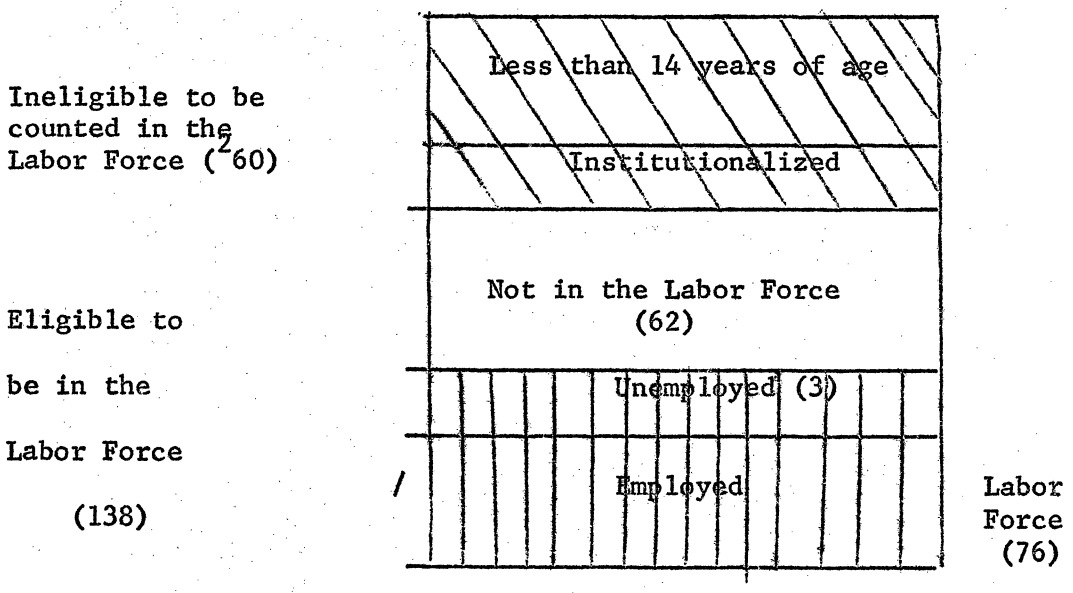
I. The Problem

In general germs the problem is one of assessing and measuring the effect of business conditions on labor force behavior. More specifically, the effect to be studied is that of unemployment on labor force participation, for unemployment rates are a measure of business conditions and labor force participation is a central concept in labor force behavior.

A. Some Background Materials

(1) Let us examine the concepts of unemployment and labor force participation. It will be helpful to look at the following diagram. The entire bar represents the population of the United States, and it is divided into mutually exclusive labor force categories. (Source reference A.4, see p.1)

Population of the U.S.



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Some Definitions:

Unemployed = able and willing to work but can't find a job

Employed = working full or part time for salary (plus some other categories)

Labor Force = the unemployed plus the employed

(2) We can now define two important rates, which will be used as the two key variables in the problem I have defined:

(a) Unemployment rate $= \frac{U}{U + E}$, (4%)

(b) Labor force participation rate $= \frac{U + E}{U + E + NLF}$, (56%)

The percentages in parentheses again refer to the entire population in the U.S. in March, 1966. There are also published unemployment rates and labor force participation rates for a large variety of sub-groups in the population---males, females, teen-agers, etc., and I will be using these data later on.

The unemployment rate is an excellent index of the state of the business cycle. When unemployment is high the business cycle is "down," i.e., recession, and when unemployment is low the business cycle is "up," i.e., prosperity.

Question: How dies the business cycle (unemployment) affect the size of the labor force--the movement of people across the boundary between NLF and LF? To answer the question adequately we need to develop two more concepts.

(3) Primary and Secondary Workers

For our purposes a rough distinction between the two types is all that is required.

(a) A primary worker is the main or sole earner in the household unit, which may be a one-person unit or a large-family unit. Adult males between the ages of 22 and 65 are usually primary workers, but there are a large number of females who are also heads of households and primary earners.

(b) Secondary workers commonly refer to workers in a family unit who are not the main earner and/or workers who, regardless of family status, have a casual or part-time commitment to

the labor force. The following categories more or less cover the secondary worker group, and the adjacent numbers (in millions) tell how many were in the labor force in March, 1966.

Married women, husband present	15.2
Single women, aged 55 and over	0.6
Single women, aged 14-19	2.3
Females of "other" marital status, aged 55 and over	2.2
Males, aged 65 and over	2.0
Males, aged 14-19	3.5

Two points of interest about these numbers are that (1) together these six categories comprise just over 33 percent of the total labor force, and (2) by this definition, wives make up about 60 percent of the total number of secondary workers.

(c) The reason that the distinction between primary and secondary workers is important in the problem I am analyzing is that primary workers are so firmly attached to the labor force that they will be in the labor force in good times or bad. They may and do move from the status of employed to unemployed and back again, but it takes exceptional circumstances to move them out of the labor force entirely.

The behavior of secondary workers is quite different. Unlike primary workers they very often have good or at least socially acceptable alternatives to working. Teen-agers can devote their time to school, wives and other females may stay at home for various homework activities, and elderly people can retire and also perform a variety of useful activities. Secondary workers, then, do move in and out of the labor force a great deal, and if there is to be any significant change in the size of the labor force, we should expect to observe it in the behavior of secondary workers.

And if we do see a systematic change in the size of the labor force in response to changes in business conditions, what does it mean? Why is it important?

B. Importance of the Problem

(1) Since the labor force is the most important resource of our economy, and a larger labor force means a larger Gross National Product (GNP), the response of the labor force to changes in business conditions is clearly an important macro-economic issue. We might be tempted to jump to the judgment that a large labor force is a "good thing," but let's refrain from deciding this issue for the time being.

(2) We can look upon changes in the size of the labor force as changes in the supply of labor, and an expanded supply means that the labor market can stay "looser," whereas a contracted supply means that the marget gets "tighter." These changes in turn imply lower or higher wages and prices, and thus the question of the size of the labor force has an influence on the inflationary pressures in the economy.

(3) From the standpoint of individual families, market work is both the necessary means (for most of Us) of getting along in material comfort and an activity for which we might like to substitute leisure, school, or other homework activities. These positive and negative aspects of work bring about some complicating consequences in analyzing the problem and in assessing the policy implications of the problem.

(4) We are inquiring into the response in labor force activity to changes in unemployment, and a feature of the problem which adds to its importance in a policy sense is that the rate of unemployment is to a large extent a policy variable over which we (at least, the managers of our monetary and fiscal policy) have some control. Now, unemployment is almost universally considered to be a "bad thing," but there are limits to how low it can be pushed, in the short run, and there are undesirable effects, such as inflation or onerous administrative controls, which in the short run become increasingly serious as unemployment is pushed lower. How serious these effects are and what offsetting desirable effects stem from reductions in unemployment rates are questions that are directly related to the problem we are examining.

II. The Analysis

A. The Model (or Theory) Used in the Analysis

The theory of labor force participation is part of the theory of labor supply. In the present context of looking at labor force participation for large groupings of the population over a short span of time the theory can be made relatively simple. We will focus on the effects on labor supply of two economic variables, income and prices (or wage rates) and how changes in unemployment affect these two variables.

Although a more complete theory of labor supply involves such factors as cultural values, individual tastes (or idiosyncracies), age factors, sex and marital status, numbers and ages of children in families, and other factors, these variables can be set to one side in the present context. Some of these factors are unimportant because they may be reasonably assumed to be constant over the short run. Other factors are unvarying over the aggregate groups we are examining. Finally, for some variables we can employ "statistical controls" in the empirical analysis of the model.

With this abbreviation of the model, let us summarize the theoretical underpinnings for an analysis of the effect of unemployment on labor supply. A high unemployment rate indicates that relatively large numbers of primary workers (or principal earners) are out of work or are working "short hours." Thus, the incomes of their families are reduced, although the reduction is usually looked upon as temporary rather than permanent. To make up this (hopefully) short term income loss, other adults in the family enter the labor force. These workers are, then, "added" to the labor force, and this effect of unemployment on the labor force has been referred to as the "additional worker effect."

At the same time, a high unemployment rate indicates an unfavorable market for the sellers of labor. A person entering the labor force is likely to wait and search longer for a job, or accept a less attractive job, or both. Some persons will leave the labor force and a larger number of others are simply discouraged from entering the labor force under these conditions. For this reason the size of the labor force declines, and this effect of unemployment has been termed the "discouraged worker effect." There are, then, plus and minus factors involved, and the net effect of unemployment is not known a priori.

How do these effects relate to the two principal economic variables, incomes and wage rates, upon which our theory of labor supply is based? We have just seen that both family incomes and "wage rates" (a general term used here to stand for the whole package of terms and conditions of employment) are affected by unemployment. What are the effects of changes in income and in wage rates on labor supply? These are old and much researched questions in economics, and both the theory and empirical evidence are by now quite firm.

(1) The income effect. Theory and empirical evidence tell us that if a person (or family) experiences an increase in income, he will increase his "purchases" of leisure--which means, of course, that increases in income bring about a decision by the person to decrease his time spent at work. Over the long run these decisions get manifested in fewer work hours per day (including more time for coffee breaks), fewer days per week (including more holidays), longer vacations, a later age at entrance into the labor force and an earlier age

of retirement. The effect of income upon labor supply is, in a word, negative. But this means that the reductions in income which occur during unemployment will have a positive effect on labor force participation. Actually, the short run or cyclical setting of the problem is likely to accentuate this effect of income changes, since the family is faced with a sudden drop in wage goods and a sudden increase in leisure, and the family will seek to restore its balance between goods and leisure by seeking more work. If the primary worker has been rendered unemployed, other family members are likely to be candidates for employment.

(2) The wage effect. Imagine an experiment in which wage rates are increased for workers and all other factors (including the wealth statuses of the workers) are kept the same. We would expect under these circumstances to see an increase in the amount of work offered. Conversely, we expect a decrease in wages--or more precisely, in the net attractiveness of a job offering--to bring about a decrease in labor supply. The effect of wages on labor supply is positive, and this means that unemployment's depressing effect on wages will decrease labor force participation.

To recapitulate, our model says that labor force participation will be related in specific ways to changes in income and wages, and that since unemployment brings about changes in these variables, labor force participation will be affected by unemployment. On theoretical grounds, however, both positive and negative effects on labor supply are expected to be associated with unemployment, so we can only determine the net effect of unemployment on empirical grounds.

B. The Data

There are three forms in which we find data to test our models and measure the effects we postulate. The most familiar source of data about unemployment and labor force participation is the time series published on an annual or monthly basis by the Department of Labor. Unemployment rates and labor force participation rates are given for the population as a whole (based on sample evidence, of course) and for a variety of sub-groups in the population.

Another way in which data are available for analysis is with observations recorded at a moment-in-time (rather than for a number of different points in time). We may have by this method a cross-section of individual households. Or we may have a cross-section of grouped observations, like a number of cities in which we would be talking about the labor force participation rate of males or of wives or of some other group of interest for each city. These labor force participation rates could then be related to the unemployment rate in each city.

All three types of data sources have been used by economists who have done research on the effect of unemployment on labor force

participation. The research itself tends to be rather technical, and I will skip over a discussion of the statistical methods used and give a brief resume of the results of the research. Anyone who is interested in the original research studies might refer to the list of references at the end of this paper.

C. Some Results of Research on the Effect of Unemployment on Labor Force Participation

(1) Among families where the head of the household--usually the husband--is unemployed, the labor force participation of other family members does tend to be higher than among families where the head is employed. Families do attempt to maintain their accustomed living standards by supplementing family income with the earnings of secondary workers. The added worker effect is a real phenomenon. To anticipate a point which will come up later, we should expect the added worker effect to be stronger among poorer and younger families, because these families would find it difficult to borrow money or draw down on their savings to get them over their financial stress. They have few alternatives except supplementing their earnings. Evan Clague, former Commissioner of Labor Statistics, once observed after examining a survey of families with the head unemployed for five weeks or more in 1961 that:

> Additional workers in the family constitute the greatest single bulwark against poverty through unemployment----Most of these families had some nonwage income, but the amounts were small in relation to the wage and salary incomes of family workers.

(2) The second conclusion which has received the most attention in recent discussions is that across all families the discouraged worker effect of unemployment predominates over the added worker effect, so that the net effect of unemployment is to reduce labor force participation rates. This relation is most evident among secondary workers, although there is some evidence that it holds even among primary workers. (See reference B.1.) Within the secondary worker group, the labor force participation rates of teen-age boys and older males seem strongly affected by unemployment, but the largest inpact on the labor force stems from the "discouragement" of married woman, husband present.

(3) The net negative effoect of unemployment is evident in both cross-sections and the time series. If, for example, you examine the labor force participation rates and unemployment rates across a group of cities at a moment-in-time, say at the time of the 1960 census, a

negative relation is observed. And if you plot unemployment rates against labor force participation rates in the years from 1947 to 1966, the negative relation is observed once again. (In both contexts great care is usually devoted by investigators to control statistically for a number of factors affecting labor force behavior to permit isolating the net effect of unemployment.) The quantitative measures of the effects of unemployment appear smaller in the time series than in cross-sections, and there is currently a good deal of technical research which attempts to reconcile these results and refine the quantitative measures. (See reference B.3.)

(4) There is currently some controversy about whether the negative effect that unemployment has on labor force participation is stronger or weaker among Negroes compared to whites, or a related issue--among the poor compared to the nonpoor. My own judgment is that the negative effect is more powerful among white secondary workers. The evidence is strongest in the case of wives. Increases in umemployment bring about sharper declines in labor force participation among whites and decreases in unemployment are accompanied by relatively larger inflows into the labor force among whites. In other words, the discouraged worker effect is stronger (relative to the added worker effect) among whites. I have already mentioned a reason why the added worker effect might be expected to be stronger among poor families--namely that the earnings of secondary workers are their only real alternative to maintain living standards during a period of unemployment of the main bread-winner in the family. Furthermore, I believe the empirical evidence for both cross-sections and time series supports the contention that the negative effect on labor force participation of unemployment is stronger among whites.

D. Conclusions

What lessons or policy implications can we draw from the research findings discussed above? Some are straightforward and others are more subtle.

(1) It is clear that [I] the conclusion of [/] a net negative effect of unemployment on labor supply has important implications for macro-economic policy. Professor Rees makes the point in the following terms:

> ...The reduction in output caused by a recession is larger than would be expected from the unemployment rate alone, and the number of new jobs needed to restore full employment will be consistently larger than the excess of unemployed persons over a normal level.

(2) There is little doubt that the "discouraged worker" phenomenon works a special hardship among families in depressed areas. Here, the actual incidence of unemployment understates the total amount of unemployment by not counting the "discouraged workers" who are reported not-in-the-labor force, but who would be engaged in labor force activity if business conditions were normal.

(3) If my views are correct on the differential effect of unemployment on whites and Negroes, then we face a situation in which for Negro families the route to higher earnings from increased labor force participation in the tight labor markets may not be so important--not at least, as far as the labor force participation of wives is concerned. (I suspect the situation is a little different for teen-age boys and girls.) This does not mean, of course, that reductions in unemployment are not of major significance for improving the economic well-being of Negroes. For, as Professor Tobin has forcefully pointed out, the effects of tight labor markets in getting unemployed Negroes back to work and in getting employed Negroes into better jobs are so important that a low level of unemployment may well be the essential macroeconomic policy objective for improving the economic status of Negroes.

(4) Finally, the focus on secondary workers has presented us with a group that does shift in and out of the labor force. We should recognize that these shifts are to a large extent a consequence of the presence of relatively good substitutes to labor force activity in the allocation of the secondary worker's time. The teen-ager has school as an alternative, the wife has homework and the care of children, and so on. We economists, above all, should reject the view that any activity which does not contribute to GNP is a "waste." The problem of reduced labor force participation in response to unemployment is a serious problem, and we do not have to exaggerate it by overemphasizing labor market activity at the expense of other activities.

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