# THE DISCOURAGED WORKERS' EFFECT AS MEASURED THROUGH THE CURRENT POPULATION SURVEY

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Until a couple of decades ago the many millions of working-age persons outside the labor force were of limited concern to the labor economists. The notion that many of these persons might have wanted work but were not seeking it because of a belief that their search would be fruitless was not widely entertained. It gradually became evident, however, that millions of persons shift in and out of the labor force each year, not only because of personal reasons, but also in apparent response to changing labor market conditions. Recognizing this, the President's Committee to Appraise Employment and Unemployment Statistics (more familiarly known as the Gordon Committee) concluded in 1962 that "the relatively simple dichotomy between those in and out of the labor force...(no longer provides)...a satisfactory measure of the labor supply." What was especially needed to construct a better measure, added the Committee, were data on the so-called "discouraged workers" or "hidden unemployed"--those persons who want work but who are not looking for a job because of a belief that their search would be in vain. (In so doing, it should be added, the Committee also recommended that those persons not be included in the unemployment count.)

As the Gordon Committee was issuing its recommendations, some labor economists were already grappling with the problem of estimating the extent to which the discouragement over job prospects was affecting the growth of the labor force. Notable among the early pioneers in this field of research were Alfred Tella 1/and Thomas Dernburg and Kenneth Strand 2/. Thereafter, other economists, using a variety of econometric techniques, also undertook similar research. Essentially, they all attempted to measure the elasticity of labor force participation rates in response to the intensity of the demand for labor as reflected by the unemployment rate, the wage rate, and other variables. Optimal participation rates, those consistent with conditions of "full employment," were then applied to the population to obtain a "full employment labor force." To the extent that the actual labor force, as measured through the Current Population Survey, failed to match this theoretical labor force, the gap would be ascribed to the discouraged workers' phenomenon or hidden unemployment.

While the various estimates of hidden unemployment emanating from these econometric exercises were being discussed, 3/ the Bureau of Labor Statistics was taking steps to measure the extent of hidden unemployment through the Current Population Survey (CPS). A special set of questions designed to elicit detailed information on the reasons for nonparticipation in the labor force was tested experimentally in the 1964-1966 period and was finally incorporated into the regular CPS questionnaire in January 1967. The data derived through this set of special questions have already shed new important light on the status and attitudes of persons outside the labor force. Although the availability of these relatively new data has evidently not been widely known, they have been published quarterly by the Bureau of Labor Statistics since 1969 in a special set of tables added to Employment and Earnings.

The early analyses of these new data were, by necessity, limited to cross-sectional examinations, done in snap shot fashion. 4/ No time-series analysis could have been undertaken until a sizeable number of observations had been accumulated. This paper is a step in that direction. Its purpose is not only to describe how these data are collected and what they show, but also to determine the extent to which their behavior has been influenced by the changes in the unemployment situation. Two variables will be of particular interest, (1) the number of so-called "discouraged workers" and (2) the number of workers leaving the labor force because of "slack work."

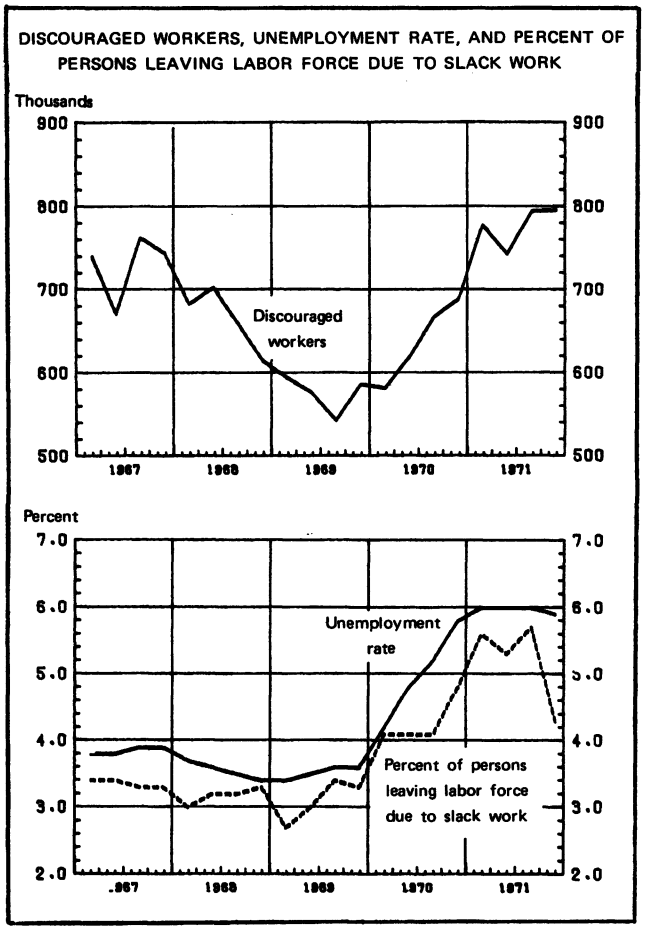
## An overview of the 1967-1971 trends

The early analyses of the new not-in-the-labor force data showed that less than one-tenth of the more than 50 million nonparticipants professed any desire to be holding a job. Even among these, only about 700,000 or less than one-fifth, were classified as "discouraged workers." The others who claimed they wanted a job turned out to be either in school, in poor physical conditions, or to be prevented from seeking work by a burden of home responsibilities (table 1). Furthermore, the ranks of the discouraged workers were found to contain relatively few men of prime working age--less than 200,000. The great majority consisted, instead, of teenagers, housewives and elderly persons. These findings seemed to fly in the face of the contentions that there were virtually millions of discouraged workers and that they included large numbers of men.

It should be noted, however, that the data being analyzed in the late 1960's had been collected in a period of unusually low unemployment, when the jobless rate was below 4 percent. Any conclusion drawn on the basis of data for such a period could not be applied rationally to the situation of the early 1960's, when unemployment had been much higher. It thus remained to be seen how the discouraged workers' series would behave when the unemployment rate rose to a much higher level.

Unfortunately, we did not have to wait long for such a setting. As we all know, unemployment rose substantially during 1970. This rise was also accompanied by at least a temporary slackening in labor force participation among some groups. The question is the extent to which this slackening in participation may have stemmed from a rise in discouragement over job prospects.

As can be discerned from the chart, there is,




indeed, some positive relationship between the unemployment rate and the number of discouraged workers. Both series trended downward, though in differing degrees, during the 1967-69 period; both rose substantially during 1970; and both can be said to have shown little distinct movement during 1971. Despite the positive relationship between unemployment and discouragement, the coefficient of correlation between these two variables, derived on the basis of seasonally adjusted monthly data for the 1967-1971 period, 5/ was a rather low 0.53. Nor was the coefficient raised when the relationship between the two series was tested on the basis of data disaggregated in terms of major age-sex-color components. By lagging the discouraged workers' variable, respectively, by 3 and 6 months behind the unemployment rate, the coefficient of correlation was raised somewhat--to 0.61 in both cases--but was still far from indicating a very close relationship between the two variables. (Table 2)

"Cyclical" vs. "structural" discouragement

A close examination of the disaggregated data on discouraged workers for the 1967-1971 period revealed a significant change in composition in terms of the specific reason cited by these persons for their belief that they could not obtain a job. Specifically, there was an increase in the proportion whose discouragement appears to have been directly related to the conditions of the job market. Conversely, there was a decline in both the number and proportion of persons attributing their discouragement to rather personal situations or deficiencies.

This change in composition is clearly shown in table 3, where the discouraged are grouped into two broad categories. The first category includes the workers reported as believing that there were no jobs in their line of work or area and those who had tried unsuccessfully to find a job and had then given up the search. The second category includes those thinking they wouldn't get a job due to their very young or very advanced age, those who saw their lack of education or training as the major obstacle, and those who cited other personal handicaps (i.e. language difficulties).

It would appear, given the different nature of the reasons for discouragement, that the first category of discouraged workers should be much more cyclically sensitive than the second. Discouragement among the second category appears to be more of a "structural" nature and thus not necessarily related to the tightness, or "looseness," of the job market. A glance at table 3 would tend to confirm this hypothesis. As shown, all of the 200,000 increase in the number of discouraged workers between 1969 and 1971 took place among those blaming their situation on job-market weaknesses.

Regression analysis also confirmed this hypothesis. Whereas, as noted above, the regression of the total number of discouraged workers against the overall unemployment rate yielded a coefficient of correlation of only 0.53, a regression of the number of persons discouraged because of job market reasons against the jobless rate yielded a much higher correlation coefficient--0.79. (Table 2) On the other hand, a regression against the unemployment rate of the number of persons whose discouragement hinged largely on personal factors yielded a negative relationship with a correlation coefficient of -0.47. There is no ready explanation for this negative relationship, but some possibilities may be raised. For example, the passage of legislation designed to reduce job discrimination because of age may have reduced the number of elderly workers who think that they could not get a job due to their advanced age. It may also be hypothesized that when unemployment rises some workers who had previously been attributing their discouragement to personal reasons may find it more respectable to point to the deteriorating job market.

Whatever the reasons for the behavior of the data for the second category of discouraged workers, it is clear that if we limit our comparison to the first category, that is, those who attribute their discouragement to the conditions of the job market, we find that their number did increase and decrease in line with the underlying movement of the unemployment rate during the 1967-1971 period. 6/

Who are the discouraged workers?

As was the case during the first years of availability of data on discouraged workers, the proportion of men of prime working age among them continues to be relatively small. Of the 775,000 persons classified as discouraged workers in 1971, only about 75,000, or one-tenth, were men 25 to 59 years of age. (See table 4) Evidently a man of prime working age who really wants a job is not easily discouraged from his search but perseveres even after repeated failures.

Negroes are even more over-represented among the discouraged workers than they are among the unemployed. Although they make up only one-tenth of all the persons of working age both inside and outside the labor force, they accounted for about one-fifth of the unemployed and for nearly one-third of the discouraged workers in 1971.

In terms of previous work history, about two-fifths of the discouraged workers had been out of the job market less than one year when interviewed. Only 14 percent had never worked before. There are, of course, large differences among age-sex-color groups in this respect. (See table 4)

Evidently most discouraged workers regard their status as only temporary. Although they do not deem it worthwhile to look for a job at the time of the interview, they are apparently more hopeful in terms of their future prospects. As also shown on table 4, nearly 80 percent were reported as planning to actively seek work within the next 12 months. It would thus be erroneous to assume that most discouraged workers have permanently given up on the job market.

Problems of measuring discouragement

Determining the extent of discouragement over job prospects is, admittedly, a very difficult task, inasmuch as it involves the measurement of what are essentially subjective phenomena, namely one's desire for work and one's perception of the conditions of the job market. These facts are by no means easy to get at even through a large survey such as the CPS. To begin with, the housewife is typically the only person interviewed in each CPS household. While she may be quite informed about the activity of the other household members in terms of working or seeking work, she is not the best judge of their attitudes in terms of "wanting" work or "intending" to seek a job. Secondly, not all persons who become discouraged over their failure to find a job may disclose their true reasons for leaving the labor force, even if interviewed individually. Even among those who may truly want work, some could prefer, for example, to attribute their nonparticipation status to ill health or other "socially accepted reasons" rather than to admit, in effect, that they regard themselves as failures in the job market. On the other hand, some other persons whose desire for work is, at best, of questionable intensity may deem it proper to report themselves as wanting a job and then explain their failure to look for one in terms of unavailability.

To get at the discouraged workers, the CPS interviewer asks first whether the persons not in the labor force "want a regular job now, either full or part time." If the answer is yes, or even a tentative yes, there is a follow-up question as to the reasons why they are not looking for work. In order to be classified as discouraged, a person's principal reasons for not looking for work must fall in one of the following 5 categories:

1. Believes no work available in line of work or area.
2. Had tried but couldn't find any work.
3. Lacks necessary schooling, training, skills, or experience.
4. Employers think too young or too old.
5. Other personal handicap in finding a job.

It may be argued that the requirement that a person must first be reported as wanting a job in order to be questioned about possible discouragement, yields a rather restrictive definition of hidden unemployment. What about those persons, one might ask, who, upon losing their job, may decide to return to school and who would then not want a job "now"? Should they not also be regarded as discouraged workers? In answer to this it must be noted that if the discouraged workers' data are to be useful as a measure of underutilization of manpower for policy purposes, they should hardly include persons who say they do not want a job--and whose activity may actually prevent them from taking a job.

It is also important to note that, even before inquiring about the nonparticipants' current desire for jobs, the interviewer asks when they last worked and why they left their last job. As we shall see below, the data thus obtained on the reasons why persons not in the labor force left their last job may be as valuable in terms of understanding the dynamics of the labor force under changing economic conditions as are the data on discouraged workers discussed above. 7/

Unexpected discontinuity

One of the most interesting, though unexpected, findings from the 5 years of experience in obtaining statistics on labor force nonparticipants is that it apparently makes quite a bit of difference whether the questions about their current desire for work and future job-seeking plans are asked in the first month in which they are visited by the CPS interviewer or in subsequent months.

Since a person's reasons for nonparticipation in the labor force are not likely to change from one month to another, this information is asked in only one of the four consecutive monthly

interviews conducted in households falling in the CPS sample. From 1967 through 1969, the questions were asked in the month in which a given household first entered the CPS sample and then again one year later when the same household reentered the sample for the second and final 4-month stint after an 8-month hiatus. In January 1970, the questions were switched from the first and fifth month-in-sample to the fourth and eighth. In effect, instead of being asked when a household enters or re-enters the sample, they are now being asked only when a household leaves the sample. 8/

This switch turned out to have a noticeable impact on the data for the persons not in the labor force. Following the switch, proportionately fewer persons, particularly among the housewives, were reported as either wanting a job at present or as planning to look for work in the near future. Possibly, having become increasingly more at ease with the interviewer with each passing month a respondent is less likely to exaggerate his (or her) attachment to the labor force in the fourth monthly interview than in the first one. This discontinuity in the data is a good illustration of the difficulties which arise in the measurement of what are essentially attitudes on the part of workers or potential workers. In this case, however, it appears that the data obtained since January 1970 are more realistic than those obtained in the 1967-1969 period.

## Examining flows out of labor force

Some appreciation of the extent to which cyclical changes in the employment situation may be affecting the dynamics of the labor force may also be obtained by simply examining the changes in the gross flows out of the labor force and in the reasons for these outflows.

At any given time, there are about 10 million persons outside the labor force who have left their last job within the previous 12 months. Through the special set of questions asked since 1967, it has been possible to group these persons according to their reasons for leaving their job, regardless of whether or not they want a job when interviewed. This information is presented in table 5. Of particular interest in terms of cyclical behavior are the data on the number of persons whose jobs have been terminated, either temporarily or permanently, because of economic reasons. Of the four categories under the "economic" heading, "slack work" appears to be the most cyclically sensitive. As also shown on the chart, the changes in this variable --being expressed as a percent of the total leaving the job market during the previous 12 months--are, indeed, closely related to the changes in the unemployment rate. In fact, the coefficient of correlation between the over-all unemployment rate and the number of persons reporting they had left the labor force after having lost their jobs due to "slack work" was 0.83 on the basis of monthly data for the 1967-71 period. The substitution of data on unemployment due to job loss for the over-all measurements of unemployment yielded coefficients of roughly similar magnitude. (See table 6).

## Summary and conclusion

After 5 years of experience in the collection of data on discouraged workers through the Current Population Survey, it appears that the survey is, indeed, a very viable vehicle for such a purpose. Although everyone might not agree with the definition of "discouragement" used for the purposes of the survey, the data gathered so far have shed important light both on the discouraged workers' phenomenon and other aspects of labor force dynamics.

Although the accumulated data are not yet sufficient to enable us to establish with any certainty the relationship between given variables, it can also now be said at least tentatively that changes in the number of discouraged workers are postively related to changes in the unemployment rate. The same can also be said for changes in the number of workers leaving the labor force because of slack work. To the extent that this is true, it would appear that we should take into account these variables, as well as the data on unemployment and underemployment, when assessing the waste of manpower which accompanies an economic recession.

## FOOTNOTES

1/ A. Tella, "The Relation of Labor Force to Employment," Industrial and Labor Relations Review, XVII (April 1964), pp. 454-469.

2/ T. Dernburg and K. Strand, "Cyclical Variation in Labor Force Participation," Review of Economics and Statistics, XLVI (November 1964), p. 378.

3/ For an analysis of these early estimates of "hidden unemployment," see Jacob Mincer, "Labor Force Participation and Unemployment: A Review of Recent Evidence" in R.A. Gordon and M.S. Gordon, Editors, Prosperity and Unemployment (New York, Wiley, 1966), p. 73.

4/See Robert L. Stein, "Reasons for Nonparticipation in Labor Force," Monthly Labor Review, July 1967, p. 22, and Paul O. Flaim, "Persons not in the Labor Force", Monthly Labor Review, July 1969, p. 3.

5/ Although the not-in-the-labor-force data are published only quarterly, they are tabulated monthly. They have also been seasonally adjusted experimentally, although not yet published in this form.

6/It would be useful at this point to compare the CPS data on discouraged workers with econometrically derived estimates. However, such comparisons are currently being prepared for publication by Joseph L. Gastwirth (currently at George Washington University).

7/The persons not in the labor force are also

queried about their plans to look for work. This information is published quarterly by the BLS, but its predictive value has yet to be evaluated.

8/The switch was an attempt to see if these questions had increased the rotation group bias in the unemployment figures. This refers to the higher incidence of joblessness in households entering or reentering the CPS sample than in households which have been in the sample for two or more consecutive months. This "first-month bias" became larger around 1967, and it was hypothesized that this was related to the introduction of the not-in-the-labor-force questions. The reduction in the reported incidence of unemployment for the first and fifth month-in-sample groups and the concomitant rise for the fourth and eighth following the January 1970 switch of the not-in-the-labor-force questions seems to have confirmed this hypothesis.

Table 1. Persons not in labor force by desire for jobs and reasons for nonparticipation, 1967-71
(In thousands)

| Reasons for nonparticipation | Annual averages | | | Quarterly averages, seasonally adjusted | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1970 | | | | 1971 | | | |
| | 1967 | 1968 | 1969 | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th |
| Total, not in labor force | 52,484 | 53,289 | 53,596 | 53,703 | 54,120 | 54,583 | 54,714 | 55,033 | 55,828 | 55,945 | 55,872 |
| Want job now | 4,698 | 4,478 | 4,459 | 3,811 | 3,670 | 4,108 | 4,015 | 4,428 | 4,443 | 4,508 | 4,363 |
| In school | 1,104 | 1,115 | 1,126 | 1,028 | 1,043 | 1,226 | 1,130 | 1,215 | 1,272 | 1,364 | 1,192 |
| Ill health, disability | 768 | 656 | 627 | 503 | 411 | 520 | 500 | 580 | 638 | 486 | 541 |
| Home responsibilities | 1,325 | 1,263 | 1,257 | 917 | 876 | 933 | 982 | 1,048 | 979 | 994 | 1,075 |
| Think cannot get a job | 732 | 667 | 574 | 582 | 621 | 668 | 689 | 778 | 743 | 795 | 796 |
| All other reasons | 769 | 777 | 875 | 781 | 719 | 761 | 714 | 807 | 811 | 869 | 759 |
| Do not want job now | 47,786 | 48,809 | 49,137 | 49,892 | 50,450 | 50,475 | 50,699 | 50,605 | 51,385 | 51,437 | 51,509 |
| In school | 5,641 | 5,892 | 5,958 | 6,056 | 6,122 | 5,580 | 6,161 | 6,141 | 6,634 | 6,660 | 6,378 |
| Ill health, disability | 3,741 | 3,684 | 3,826 | 3,749 | 4,037 | 3,980 | 3,828 | 4,047 | 4,090 | 4,036 | 4,119 |
| Home responsibilities | 31,239 | 31,667 | 31,384 | 31,910 | 32,259 | 32,246 | 32,227 | 31,977 | 32,351 | 32,269 | 32,221 |
| Retirement, old age | 5,313 | 5,540 | 5,795 | 5,791 | 5,766 | 6,217 | 5,961 | 6,004 | 5,788 | 6,108 | 6,352 |
| All other reasons | 1,853 | 2,027 | 2,174 | 2,386 | 2,266 | 2,452 | 2,522 | 2,436 | 2,522 | 2,364 | 2,439 |

Table 2. Regressions of selected categories of discouraged workers against various measurements of unemployment

| Variables | | | Regression results | | | | |
|---|---|---|---|---|---|---|---|
| Independent (X) | Dependent (Y) | Regression equation | r | $r^2$ | d ratio | t Durbin-Watson | |
| Unemployment rate, overall | Discouraged, total | Y = 472 + 47.0X (43.7) (10.0) | 0.53 | 0.28 | 77.8 | 4.70 | 0.88 |
| " " men 20+ | " | Y = 145.6 + 6.8X (11.8) (4.1) | 0.21 | 0.05 | 29.8 | 1.66 | 1.51 |
| " " women 20+ | " | Y = 257.4 + 31.7X (44.1) (9.9) | 0.39 | 0.15 | 62.2 | 3.18 | 1.31 |
| " " teens 16-19 | " | Y = -14.4 + 9.4X (31.9) (2.3) | 0.47 | 0.22 | 35.8 | 4.10 | 1.90 |
| " " overall | total lagged 3 months | Y = 432.7 + 57.5X (42.2) (9.9) | 0.61 | 0.36 | 72.7 | 5.80 | 1.02 |
| " " overall | total lagged 6 months | Y = 413.2 + 63.8X (44.9) (10.8) | 0.61 | 0.37 | 72.3 | 5.90 | 1.08 |
| Persons unemployed 15 weeks and over | total | Y = 368.1 + 142.3X (20.2) (26.4) | 0.58 | 0.34 | 74.5 | 5.41 | 0.98 |
| Average duration of unemployment | total | Y = 285.6 + 43.1X (65.6) (7.2) | 0.62 | 0.38 | 71.9 | 5.97 | 1.18 |
| Unemployment rate, overall | job market reasons | Y = 77.2 + 76.0X (33.8 (7.7) | 0.79 | 0.62 | 60.3 | 9.81 | 1.34 |
| " " " | personal reasons | Y = 387.8 - 27.1X (31.2) (7.1) | -0.45 | 0.20 | 55.5 | -3.80 | 0.67 |
| " " " | job market reasons lagged 3 months | Y = 58.6 + 82.4X (33.6) (7.9) | 0.81 | 0.65 | 58.0 | 10.41 | 1.73 |
| " " " | job market reasons lagged 6 months | Y = 44.1 + 88.1X (37.7) (9.1) | 0.79 | 0.62 | 60.7 | 9.70 | 1.61 |

Table 3. Composition of discouraged workers by reason for believing they cannot find a job, annual averages, 1967-71

(Numbers in thousands)

| Reason | 1967 | 1968 | 1969 | 1970 | 1971 |
|---|---|---|---|---|---|
| Total (in thousands) | 732 | 667 | 574 | 638 | 774 |
| Job-market factors | 383 | 371 | 311 | 437 | 537 |
| Had looked but could not find job | 168 | 161 | 161 | 244 | 300 |
| Thinks no job available | 215 | 210 | 150 | 193 | 237 |
| Personal factors | 349 | 297 | 263 | 201 | 236 |
| Employers think too young or too old | 216 | 171 | 139 | 105 | 112 |
| Lacks education, skills, training | 84 | 74 | 78 | 60 | 85 |
| Other personal handicap | 49 | 52 | 46 | 36 | 39 |
| Percent distribution | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Job-market factors | 52.3 | 55.5 | 54.2 | 68.5 | 69.5 |
| Had looked but could not find job | 23.0 | 24.1 | 28.0 | 38.2 | 38.8 |
| Thinks no job available | 29.4 | 31.4 | 26.1 | 30.3 | 30.7 |
| Personal factors | 47.7 | 44.5 | 45.8 | 31.5 | 30.5 |
| Employers think too young or old | 29.5 | 25.6 | 24.2 | 16.5 | 14.5 |
| Lacks education, skills, training | 11.5 | 11.1 | 13.6 | 9.4 | 11.0 |
| Other personal handicap | 6.7 | 7.8 | 8.0 | 5.6 | 5.0 |

Table 4. Discouraged workers by time elapsed since last job, intentions to seek work in future, and sex, age, and color, 1971 annual averages

| Sex, age, and color | Total discouraged (In thousands) | Percent distribution by time elapsed since last job | | | | | Percent who intend to seek work within 12 months |
|---|---|---|---|---|---|---|---|
| | | Total | Less than 1 year | 1 to 5 years | More than 5 years | Never worked | |
| Total, 16 years and over | 774 | 100.0 | 40.5 | 26.7 | 18.5 | 14.3 | 78.7 |
| Male, 16 years and over | 238 | 100.0 | 51.5 | 26.8 | 8.8 | 12.6 | 82.4 |
| 16-19 years | 59 | 100.0 | 49.2 | 11.9 | -- | 39.0 | 89.8 |
| 20-24 years | 34 | 100.0 | 65.6 | 18.8 | -- | 15.6 | 96.9 |
| 25-59 years | 73 | 100.0 | 58.7 | 29.3 | 9.3 | 2.7 | 84.9 |
| 60 years and over | 73 | 100.0 | 41.9 | 39.2 | 18.9 | - | 66.2 |
| Female, 16 years and over | 536 | 100.0 | 35.4 | 26.7 | 22.6 | 15.3 | 77.4 |
| 16-19 years | 80 | 100.0 | 40.5 | 8.9 | 1.3 | 49.4 | 86.3 |
| 20-24 years | 74 | 100.0 | 45.9 | 28.4 | 5.4 | 20.3 | 83.8 |
| 25-59 years | 308 | 100.0 | 34.3 | 27.9 | 29.9 | 8.1 | 79.5 |
| 60 years and over | 74 | 100.0 | 24.7 | 39.7 | 32.9 | 2.7 | 54.1 |
| White 1/ | 589 | 100.0 | -- | -- | -- | -- | -- |
| Negro and other races 1/ | 185 | 100.0 | -- | -- | -- | -- | -- |

1/ Breakdown of discouraged workers in terms of time elapsed since last job and future job-seeking intentions is not available separately for whites and Negroes.

Table 5. Persons not in labor force who stopped working during previous 12 months, by reason for leaving last job, 1967-71
(In thousands, not seasonally adjusted)

| Number leaving labor force by reason | Annual averages | | | Quarterly averages | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1970 | | | | 1971 | | | |
| | 1967 | 1968 | 1969 | 1st | 2nd | 3rd | 4th | 1st | 2nd | 3rd | 4th |
| Total: Left job previous 12 months .... | 9,327 | 9,752 | 10,175 | 10,944 | 9,761 | 9,514 | 10,302 | 11,091 | 9,869 | 9,468 | 9,965 |
| Percent distribution by reason ..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| School, home responsibilities ..... | 49.2 | 50.3 | 50.5 | 50.7 | 47.0 | 46.7 | 52.5 | 47.5 | 45.1 | 46.0 | 52.0 |
| Ill health, disability ..... | 9.5 | 9.2 | 9.6 | 7.8 | 8.9 | 10.9 | 8.4 | 8.5 | 8.2 | 9.3 | 8.9 |
| Retirement, old age ..... | 5.3 | 6.0 | 6.1 | 5.8 | 6.5 | 7.4 | 7.0 | 7.1 | 7.3 | 7.6 | 7.6 |
| Economic reasons ..... | 17.1 | 17.8 | 16.6 | 18.8 | 17.5 | 19.1 | 16.7 | 21.1 | 19.4 | 20.6 | 16.9 |
| End of seasonal job ..... | 9.2 | 9.1 | 8.5 | 9.1 | 7.8 | 8.6 | 7.1 | 9.6 | 8.0 | 7.8 | 8.5 |
| Slack work ..... | 3.3 | 3.1 | 3.1 | 4.4 | 4.2 | 4.1 | 4.3 | 6.0 | 5.4 | 5.7 | 3.9 |
| End of temporary job ..... | 4.6 | 5.6 | 5.1 | 5.3 | 5.6 | 6.4 | 5.4 | 5.5 | 6.1 | 7.1 | 4.5 |
| All other reasons ..... | 18.9 | 16.7 | 17.2 | 16.9 | 20.1 | 15.9 | 15.4 | 15.8 | 20.0 | 16.5 | 14.7 |



**Table 6. Regression of selected categories of workers leaving labor force against various measurements of unemployment**

| Variables | | Regression results | | | | | |
|---|---|---|---|---|---|---|---|
| Independent (X) | Dependent (Y) | Regression equation | r | $r^2$ | s | T ratio | Durbin-Watson |
| Unemployment rate..... | Total leaving due to economic reasons | Y = 1271.4 + 113.5X<br>(68.7) (15.7) | 0.69 | 0.47 | 122.3 | 7.21 | 1.17 |
| Unemployment rate..... | Left due to slack work | Y = 2.1 + 86.3X<br>(33.0) (7.6) | 0.83 | 0.69 | 58.8 | 11.4 | 1.92 |
| Number of unemployed who lost last job... | Left due to slack work | Y = 140.7 + 0.15X<br>(21.8) (1.46) | 0.82 | 0.67 | 60.6 | 10.9 | 1.88 |
| Job-losers rate..... | Left due to slack work as percent of total leaving labor force | Y = 1.4 + 1.3X<br>(0.2) (0.1) | 0.82 | 0.67 | 0.6 | 11.0 | 2.04 |