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CHAPTER 1

SUMMARY AND CONCLUSIONS

The Problem

WHY do people work? Some people work only to satisfy elemental needs, and lose much of their willingness to labor when their income is high enough to assure physical survival. Others toil for a wide variety of personal motives: one person to gratify an urge for consumption, display, or gambling; another to achieve wealth, rank, or social status; another to avoid criticism for being lazy; another out of habit, boredom, or loneliness; yet another out of altruism, or because he enjoys his work; and others for reasons such as earning social security benefits or forestalling the military draft by entering an essential occupation.

The external factors that may influence a person in his decision to work are even more manifold. They include the current level of remuneration; the incentive basis by which labor is paid (e.g. piece rates, over-time premium rates); the nonlabor income of labor; the hours and pace of a job; the jobs available in the neighborhood, occupation, or industry; the distribution of income among families and within families; the level and method of taxation; the amount of personal assets and their liquidity in time of need; the facilities for credit and the creditworthiness of the individual; the availability of social security and assistance payments for the aged, the sick, or the unemployed, or for other persons of marginal employability; the restrictions or penalties affecting the earnings of social security recipients; the presence of children and other dependents, which may compel some to work and tie others to the home so they cannot work; the living standard of the community; the individual's demographic characteristics, such as age, sex, color, nativity, marital status, and residence; physical and mental health; and the extent of sports, entertainment and hobbies that compete for a person's time.

Such a lengthy list suggests that economic factors cannot completely explain labor supply behavior, and challenges the simple postulate of the classical economists: that people work less as wages increase, because higher wages enable them to satisfy their needs with less effort.

Nevertheless, we begin with an examination of this postulate, partly because this simple motivation, if enough people are swayed by it, may overshadow the other and more complex influences, and partly because two important studies made by Professor (now Senator) Paul Douglas indicate that such a claim was borne out by empirical investigation.

The Douglas studies refer *only* to the association between labor

force and earnings among large cities and at a given time (the first study covered 1920 and the second, 1930).[1] They did not investigate whether a similar association would appear over time—notably during peacetime growth, war mobilization or demobilization, or economic depression and recovery. They did not investigate the connection between labor force and employment (or unemployment) at a moment of time, the three-cornered relationship between these and income, nor the relationship between income and labor force among states, urban and rural areas of states, or nations. And, lacking the rich storehouse of materials provided by the 1940 and 1950 censuses—which frees us from the need to rely exclusively on the crude unit of a large city—they could not examine the labor force participation of wives according to the income levels of their husbands. Nor did they explore a great list of other factors which may influence labor force participation, either directly or through its connection with earnings: marriage, the size of the family; child-care responsibilities; the use of household appliances, factory-produced food, clothing, and commercial laundries and other services for the home; school attendance; educational attainment; social security; private retirement systems; the length of the workweek; income tax; and many others.

This volume has undertaken to fill these gaps in our empirical knowledge of labor force behavior and at the same time to seek some unified explanation for that behavior. The central questions are: (1) Has labor force participation been influenced by changes in income and in employment, and, if so, how and under what circumstances? (2) Are these two influences powerful enough to stand out over other possible influences, or do they reveal themselves only when the effects of the others are removed (held equal)? (3) Does any one among the other possible influences furnish a fairly complete explanation of labor force behavior, or must we seek an explanation in some combination of social, demographic, and economic forces? [2]

It is not easy to isolate the impact of these various factors. Many of them are so closely intercorrelated that they can act only jointly. Then, too, data are often lacking, or not easily related to labor force behavior. Fortunately, the statistical materials for this study have been unusually rich and comprehensive, as a result of the vast censuses of population and current sampling surveys—materials permitting separate examination of the labor force by age, sex, color, nativity, military status, child-

[1] Paul H. Douglas, *The Theory of Wages*, Macmillan, 1934, Chapter XI; Erika H. Schoenberg and Paul H. Douglas, "Studies in the Supply Curve of Labor," *Journal of Political Economy*, February 1937, pp. 45–79.

[2] The foregoing section on *The Problem* is a summary of Chapter 2. The concepts, materials, and methods are set forth in detail in the Appendixes and are summarized in Chapter 3.

care responsibilities of women, rural and urban residence, the density of population and the size of cities, income, school attendance, the amount of education completed, the employment status of the wife by the income or employment status of the husband, and hours of work. They also make it possible to study the labor force among different cities, areas, and nations at a moment of time, as well as within the same nation over the long and short run; the records of four foreign countries, as well as the United States, contribute abundantly. And they permit the testing of labor force participation not only as people become richer over time, but also as they grow poorer (as a result of wars or depressions). Such data open inquiry into the sequence of experience in a way that is impossible when only data on the moment-of-time behavior among localities are available, as in Douglas' case.

The Findings

The substantive results of the study are introduced in Chapters 4 and 5, which examine labor force participation among different areas and income groups at a moment of time. These "cross-sectional" analyses yielded the following results.

THE LABOR FORCE AND INCOME AT A MOMENT OF TIME AMONG CITIES, STATES, AND NATIONS (CHAPTER 4).

1. In general the labor force seems to vary more among cities, states, and nations, than would be expected from differences in the size or composition of population.

2. As was discovered by Paul Douglas, the variations in the proportion of a city's population in the labor force, i.e. its participation rate, appear to be inversely associated with variations in its average income per equivalent adult-male worker. The results amplify his findings, as follows: among 38 large cities in the United States, each 1 per cent higher real earnings (for equivalent adult males) was associated with a labor force that was typically about one-sixth of 1 per cent smaller for both sexes, one-half of 1 per cent for females 14 and older, one-fourteenth of 1 per cent for males 14 and older, and about one-third of 1 per cent for men 65 and older. Little or no association was manifest for males aged 18–64 or for females aged 16–24. There was a wide range in the amount of these inverse associations among teen-age boys and girls, but for the whole labor force of both sexes and of males and females 14 and older, the association remained rather constant.

3. The inverse associations were not found in all comparisons. Although Douglas' findings for the 38 cities in 1920 and 1930 were supported by our studies of the same cities in 1900 and 1940, they were not supported for *all classes* (whites and colored combined) or among

the same 38 cities in 1950. Nor were they upheld among the 48 states taken as wholes in 1940 or 1950, although different results might have been encountered had it been possible to adjust state-wide earnings for the diversity in the cost of living. (They were, however, upheld in 1940 among urban areas of the 48 states).

4. The inverse associations were not the spurious result of concentration of colored persons in certain low-income cities. They still obtained when the participation of whites was separated from that of the colored and correlated for the years 1920, 1930, and 1940 with male earnings of *all classes* (data on the earnings of whites and Negroes separately were not available by city before 1950). In 1950 the inverse association disappeared for white persons (as it did for *all classes*), but it was still pronounced between the participation and the earnings of Negroes.

5. Taking account of differences in unemployment among the cities did not change Douglas' results for 1930, nor those for the 1940 study. It might help to explain further the behavior of the labor force in 1950, but there was no dependable association for any group in any of these three years between labor force and unemployment, holding earnings constant.

6. Females did not tend to have higher participation in localities where the workweek was shorter.

7. The participation of women did not vary in any consistent way from one area to another with the participation of younger people or older men.

8. Neither single females, nor wives not living with their husbands responded noticeably in their participation to variations in female earnings.

9. Significant inverse associations were again found between real income per worker (or per capita) and labor force participation among 16 nations around 1930 and among 12 nations around 1950.[3] Difficulties of comparing income and labor force among nations make these findings less reliable than those among the 38 cities.

10. Some of the results of the study among nations were close to those among the 38 cities. In 1930, 1 per cent higher income was associated with 0.12 per cent lower participation for both sexes 15 and older, and with 0.40 per cent for females 15 and older (compared with 0.13 and 0.35 per cent respectively among the cities in the same year). A notable *difference* was that in 1950 the inverse association persisted internationally (in 12 nations) but had disappeared, except for Ne-

[3] The selection of nations was determined by availability of data; 9 of the nations were common to both dates.

groes, in the 38 cities. Another was the lack of any significant association for males 15 and older or for elderly males.

11. Among 11 nations around 1950, elderly males in the labor force showed some inverse correlation with the proportion drawing old age benefits. This association could signify either cause or effect; however, it was a modest one. It may be concluded that—whether or not the proportion drawing social security benefits is considered—there was still no significant association between participation of elderly men and the level of real income per labor force member.

12. A further moment-of-time examination was made of five nations (whose income and labor force behavior over time are extensively analyzed in later chapters). Associations among these—observable in 3 around 1900 and 1920, and in all 5 around 1930, 1940, and 1950—offer the advantage of having been based on more solid data than those of the 12- and 16-nation studies. For both sexes, males, and females, associations are inverse in all the censuses, and significant in the 5 nations in 1930, 1940, and 1950 in spite of the small number of observations. They are similar, numerically, in each of the latter three censuses and, on the whole, resemble those among the 16 nations around 1930 and among the 38 cities during 1900–1940.

THE LABOR FORCE OF FEMALES AND THE EARNINGS OF MALES IN DIFFERENT INCOME GROUPS AT A GIVEN TIME (CHAPTER 5).

1. As noted earlier, the 1940 and 1950 censuses made available data on labor force participation of wives according to wage and salary earnings of their husbands. These data apply to different income groups within a city and are separately classified by age of wife, color of wife, and possession of children. They reveal that mothers of young children have much lower participation rates than wives without young children, but that—with or without young children—the more prosperous the husband, the less likely that the wife is in the labor force. The weighted average for all income levels was about ⅓ of 1 per cent smaller labor force of wives for each 1 per cent higher income group of husbands. The same results are found in both 1940 and 1951.

2. The hypothesis that female participation varies oppositely with male earnings is strongly supported by data on wives classified by income groups of husbands *within* a city or nation. The evidence is more convincing than that based on a heterogeneous unit such as a city or state without this classification (and it is therefore unfortunate that data are available only for wives according to their husbands' incomes).

3. Although wives of more prosperous husbands are less apt to be in the labor force regardless of age, color, or responsibilities for the

care of children, colored wives are more prone to work than white wives, even when they are of the same age, have the same child-care responsibilities, and have husbands in the same income group.

4. There is no convincing evidence that the higher female participation rate in some areas results from greater employment opportunities —at least as measured by unemployment of males. Even within each city the participation of wives of a particular age, color, or child status was inversely related to the income of husbands, despite the fact that similar employment opportunities are presumably available to all women in any given city, regardless of husbands' income. This finding does not mean that job opportunities have no effect in determining whether or not women will enter the labor force.

5. Although the labor force tendency of *wives* does not depend on size of city, density of rural population, or educational attainment (below college level), the participation and employment of *all females* seems closely related to the extent of their education—more closely, indeed, than to their age. Among females whose maximum education is the completion of grammar school, the tendency to seek employment is less closely related to the amount of education than is the case for males, but among women who have completed one or more years of high school or college, the reverse is true.

THE FEMALE LABOR FORCE OVER TIME (CHAPTER 6).

1. Female labor force participation has increased in all of the five countries studied. In the United States the increase per decade has averaged 17 per 1,000 females aged 14 and older—about the median for the five countries—and has been reasonably parallel as between rural and urban areas.

2. The rate of increase has been much greater since around 1930 than before that time.

3. The increase has not appeared to be associated in any regular way with that in real disposable income of equivalent adult males, whether computed *per worker* or *per capita.*

4. The increase in participation has occurred among females in most of the age groups, in most of the nations, and over most of the decades, but has been greatest among women 20–64. Decreases have occurred among females 14–19, elderly women 65 and over, and, in recent decades, among American colored females of almost all age groups.

5. Among colored females in the United States participation was very high in earlier years. Between 1930 and 1950 it declined greatly, though still remaining higher than that of white females. This decrease may represent a tendency to converge toward the participation level of native white females, as rising incomes permit more and more colored

women to adopt living and working patterns of the American middle class. (Rising incomes have not reduced the participation of native white females, but they may have reduced that of colored women whose incomes have been rising much more sharply than those of white women, thus enabling them to realize a long-suppressed desire to follow the pattern of native white women.)

6. The rates of participation of foreign-born females in the United States have increased less than those of native white females. The labor force behavior of American-born descendants of the foreign-born has been closer to that of native offspring of native-born parents than to that of the foreign-born themselves.

7. In the two countries with data affording comparisons over time, females aged 14–24 have tended to increase their participation—even while more of them have tended to marry or attend school. There has been a great decline in the proportion of "inactive" females, i.e., those who do not attend school, do not work, and are not married.

8. Participation of females has varied widely according to age, marital status, and period studied; nevertheless, increases have characterized the behavior of young and old and married and single females, and have occurred in recent as well as in earlier years. Standardizing for marital status has accentuated the increases. The per-decade increases in female participation, standardized for age and marital status, were typically between 20 and 30 per 1,000 females and older, and differed surprisingly little among the nations.

9. Comparisons among nations show that there has been no close relationship between general gains in well-being and the increasing participation of females—both married and single—in the labor force.

10. The change in the proportion of females who are mothers of young children seems not to have significantly affected the participation rate of all females. This does not mean that female participation is not greatly influenced by the number of children to be cared for, but merely that the shift in the distribution of the burden of motherhood does not seem to have had an important effect.

FURTHER ANALYSIS OF THE INCREASES IN FEMALE LABOR FORCE PARTICIPATION OVER TIME (CHAPTER 7).

1. During 1890–1950, real disposable personal income per equivalent adult male employed nearly tripled, rising from about $1,000 to about $2,700 (in 1929 dollars). According to the moment-of-time association among 38 American cities discussed in Chapter 4, one would then expect female participation to decrease from 199 per 1,000 females 14 and older in 1890 to approximately 124 in 1950. Instead, it rose from 199 to 284—standardized for age and rural-urban residence. Thus the

excess of actual over expected labor force was 160 per 1,000 females 14 and older in 1950 and totaled about 9 million, or more than half the entire 1950 female labor force.

2. Illustrative estimates of the possible saving of female labor by the increased use of household appliances, commercial services, and manufactured food and clothing suggest the first two may not have been very significant but the third could have been more important.

3. In combination, developments in "technology for the home" could have released a substantial amount of female labor for gainful employment. However, there was only the crudest information as to their extent or the ultimate effect of the saving in labor, which could just as likely have gone into a higher standard of housekeeping or more leisure for the housewife as into the labor force.

4. A more accountable release of females to the labor force, traceable mainly to the lower birth rate since 1890, may stem from the great decline in the number of persons for whom the average wife, mother, or helping relative must keep house. Also important is the longer life span of women due to many fewer deaths from childbirth and disease. Computations for rural and urban areas, and white and colored populations in the United States, as well as in Great Britain and Canada (similar computations could not be made for New Zealand and Germany), indicate that such factors could have been the source of the entire rise in female participation in these nations, areas, and groups. Even so, it is still necessary to consider the employment opportunities and other inducements which might have determined whether and when employable women would, in fact, enter the labor force.

5. The data on labor force and earnings presented in the study do not support the hypothesis that the increase in female labor force has been due to the rising ratio of female to male earnings, at least in recent decades.

6. Agriculture lost, and trade gained, in relative importance as employers of female workers; but in general the industries with high proportions of female workers were about the same in both 1890 and 1950. Among occupational groups, virtually the entire rise in the ratio of female to male employment between 1910 and 1950 took place in clerical occupations. The other major groups—notably professional services, skilled, and unskilled occupations—maintained their ratio of females to males at a fairly constant level.

7. There was a strong moment-of-time tendency in the 1940 and 1950 censuses for women with education above high school to have higher participation the more years of education they had achieved. And there was a marked rise over time in the ratio of education completed by females aged 20 and older to that completed by older men (who re-

ceived their schooling in years of less educational opportunities and shorter school terms). The increase in the educational advantage of young and middle-aged females may help to explain why women showed an increase in participation while older men showed a loss. However, the decade-to-decade relationship between these developments has not been particularly close.

8. The increase in female participation over time was fairly closely related in the various countries and areas to the shorter standard workweek in industry. Many housewives, who would otherwise not have had time both to work and to take care of their homes and their children, may have been able to take gainful work.

MALES IN THE LABOR FORCE OVER TIME (CHAPTER 8).

1. Male participation has declined since 1890 in all five of the countries studied. Decreases among males aged 14 and older have clustered for the most part between 10 and 30 per 1,000 per decade, and almost without exception have accelerated in recent decades.

2. The declines have occurred simultaneously with increases in income per adult-male worker in all five countries; the relationship is such, considering the statistical difficulties, as to be consistent with at least the possibility that the two movements were associated with each other. Except in Germany, for which any income comparisons are probably unreliable, the declines have been about 5 to 11 per 1,000 males 14 and older for each $100 increase, or 0.1 to 0.2 for each 1 per cent increase in real personal disposable income per equivalent adult-male employed worker. The results for the English-speaking countries do not differ significantly whether the income data belong to the year in which the labor force was enumerated or to the average of that year and the two preceding years. *Per capita* incomes showed less similarity in the relation between male participation and income than *per worker* incomes.

3. Although considerable changes in the age composition of the male population have occurred in all five countries, the changes have had little net effect on the over-all male participation rate: the decline in the relative number of young males has been balanced by the rise in the relative number of elderly men.

4. In the United States the extensive migration to urban areas has also had little net effect on the average participation of males aged 14 and older, since the age groups whose participation differed markedly between rural and urban areas contributed only minor numbers to the labor force.

5. From 1890 to 1930, participation rates of Negro and foreign-born males were higher than those of native white males. But in 1940 and

1950 they declined sharply in all age groups—so sharply that in 1950 a thousand Negro or foreign-born males contributed fewer persons to the labor force than did a thousand native white males. Nevertheless, the predominance of native whites was such that the decline in male participation of all classes differed slightly from that of native whites.

6. Boys and young men under 25 reduced their participation in all five of the nations studied, in both earlier and recent periods. The decline for boys 14–19 was sizable in all the countries except Germany, but it varied widely. It was generally greater in the foreign countries than in the United States and was most marked in Britain. In the United States it was especially heavy for foreign-born and Negro boys, and for boys in urban areas. Most of it occurred before 1930, although it showed concentration for Negro boys in the United States in the period since 1930, and for British and German boys since World War II. The decline in participation of young men 20–24 has been largely confined to the United States, where, since 1930, it has been sharper than that for teen-age boys.

7. These declines have shown little relation to changes in income, but have reflected fairly closely the rise of school attendance in the countries for which data were available. It is uncertain whether the growth of school attendance was the cause or the consequence of the decline in labor force. Both of these changes may have resulted, variously, from compulsory school laws, increased awareness of the value of education, and higher incomes permitting parents to dispense with their children's earnings and to pay higher school taxes.

8. Males aged 25 to 64—the primary labor force age group—have also reduced their participation in recent decades, in almost all of the five countries. The reductions among men aged 25 to 44 were small and were probably caused by the post-World War II rise in school attendance among war veterans aged 25 to 34. The decline in participation of men aged 45 to 64 was larger, and undoubtedly reflects earlier retirement. There was a slight tendency of this kind before 1930, and it has since become much more pronounced. The causes of the declining participation of men aged 45 to 64 are probably best understood in the light of the labor force behavior of men aged 65 and older.

OLDER WORKERS IN THE LABOR FORCE (CHAPTER 9).

1. With some exceptions, men aged 65 and older have reduced their participation far more than have young men or teen-age boys. The reductions have been greater in recent than in earlier decades, greater in foreign countries than in the United States, and in the United States greater among Negroes than among native whites or foreign-born. In the United States the decline per decade has amounted to 50 per 1,000

elderly men, in New Zealand to well over 100. As a result the latest censuses show the participation of elderly men to be lower in the foreign countries than in the United States. Declines in the foreign countries were greater also in relation to income changes.

2. The reduced participation of older men has not been the result of their longer life span. It has not, in this country, been the result of their migration from rural to urban areas or their changing composition as to color and nativity—although such developments have probably been greater here than in the other nations considered in the study.

3. The extension of pensions and social security and assistance benefits may have influenced the withdrawal of elderly men from the labor force, especially over the past two decades, but they could not have been the major factor. Benefits, generally, have been modest; times when they were relatively meager have sometimes been accompanied by withdrawals, and times when they were more ample, by increases for the group 65 and over; and men under 65, though not ordinarily qualified as recipients, have also left the labor force.

4. If the retirement of elderly men has been influenced by rising real earnings—which might permit them to save or enable their children to support them—this influence does not stand out very clearly.

5. There is no evidence that older men have reduced their participation because they have been physically less able to work in recent years than older men were in earlier years.

6. Company rules and practices that compel retirement are widespread and are certainly responsible in many cases for the nonparticipation of older workers, but evidence is lacking that (aside from those rules and practices which are tied to pensions) they are a larger factor now than they were a generation ago. Certainly they have been in some effect since the turn of the century.

7. Statistics do not support hypotheses that the declining participation of older persons has been forced by the rapid advance of technology, by a decrease in self-employment, or by an increase in the size of firms (even though larger firms seem to hire smaller proportions of older men than do smaller firms).

8. There does seem to be some relationship between the declining participation of elderly men and the male unemployment rate. Elderly men have dropped out in periods of *very high* unemployment, with exodus apparently largest in those industries in which unemployment was greatest. They have returned in periods of *very low* unemployment. But the relationship holds only in the short run and for large changes in unemployment. In the long run and for mild changes in unemployment, the decline has not been closely related to the general unemployment level.

9. In both the 1940 and 1950 censuses, men participated in close relation to their education, measured in number of equivalent full-time years of school completed. In fact, for men without high school education, years of school completed seemed more important than age in determining how large the proportion of men of a given age would be in the labor force.

10. The reluctance of employers to retain or hire older men may therefore be due in some degree to the better training of the younger men and women in relation to the pay which they require or which humane employers feel obliged to give them.

11. This hypothesis receives some support from the great decline over the past four decades in the ratio of years of school completed by elderly men to those completed by young men and women—scarcely more than four-tenths in 1950 from nearly eight-tenths in 1910. This ratio was not closely related, in detailed movement, to the ratio of participation of elderly men to that of younger women. But it showed enough similarity of movement to leave the impression that inferior education and training is a factor, if only one factor, in the displacement of older men by younger and middle-aged women.

12. If elderly men are being squeezed out by their deficiency in education and training, they will continue to be at a disadvantage in competing for jobs with young men and women so long as the educational system continues to be highly dynamic; for the benefits of improved training accrue in the first instance to the young, and reach the elderly only after a lag of decades.

THE LABOR FORCE IN DEEP DEPRESSIONS (CHAPTER 10).

1. There are various theories about the response of participation to changes in employment. One is that large numbers of dependents are pressed into the labor force by widespread joblessness of family breadwinners during depressions. Another is that many persons of borderline employability or inclination to work are drawn into the labor force by the good wages and other job attractions that prevail during high employment. A third is that additions occur in response to both very low and very high employment, with withdrawals occurring during times of balanced prosperity.

2. The theory that net additions to the labor force accompany depressions, however plausible, seems to gain little support from the record. Statistics overwhelmingly indicate that more people have been driven out of the labor force by the unavailability of jobs (or by the unrewarding and exacting nature of the only ones available to secondary workers) than have been driven into it by joblessness of family breadwinners.

3. The only empirical evidence of net additions in depressions was provided by the special Enumerative Check Census, conducted in November 1937 by postal employees. The tendency revealed by that so-called census cannot be attributed to differences in concept; but it stands alone and is directly centradicted by the regular United States census conducted two and a half years later (when unemployment was almost as great as in November 1937). Such special surveys may tend to magnify what they set out to measure (though no such tendency appears in the special state surveys).

4. Under great unemployment the decline in participation was not confined to the nation as a whole in 1940 compared to 1930 and 1950, but extended also to rural areas, urban areas, large cities, and the forty-eight states. It appeared not only in the over-all labor force, but extended to most male age groups. Rises in participation were manifested by some young and old groups in certain areas and by some central-age female groups in others, but no age-sex group showed a consistent tendency toward higher participation in time of depression.

5. In 1940—a year of severe unemployment—white wives of unemployed husbands, standardized for age and child status, were much more apt to be in the labor force than wives of employed husbands, but only in the United States as a whole and in metropolitan areas; in the smaller urban places and in rural areas, the opposite was true. Colored wives were less apt to work if their husbands were unemployed, regardless of locale, and whether or not they had young children. Materials in the same detail have not yet become available for 1950. Sample summary data suggest that, as in 1940, there was a tendency for white wives to have had higher, and colored wives lower participation if their husbands were unemployed.

6. Conceivably, many persons who wanted jobs but did not seek them, believing no work was to be had, may not have been counted in the labor force. However, the last two censuses provided for the inclusion of such persons and, beginning with the 1940 census, one may perhaps assume that people who *strongly* desired jobs would have been counted in the labor force even though not actively seeking employment.

7. The depression behavior of labor force has been observed so far in comparisons with employment and unemployment but not with income. Real income per labor force member was depressed well below trend in every country (in 1940 for the United States and in the early thirties for the four foreign countries studied), and real income per employed worker was depressed in every country, with the possible exception of Germany.

8. With income per worker depressed, the participation of both sexes

and of females generally was lower per 100 rise in the number of unemployed males among the five countries. But the associations among the countries were too mixed to suggest a systematic tendency for the relationship between labor force and unemployment to have been affected by the depression of income.

THE LABOR FORCE UNDER SHORT-RUN CHANGES: WAR MOBILIZATION AND DEMOBILIZATION (CHAPTER 11).

1. In five years of World War II up to April 1945 the equivalent of 25 million full-time workers moved into civilian and military employment in the United States, raising the number of equivalent jobholders from 45 to 70 million—more than three for every two workers occupied in the spring of 1940.

2. These additions increased civilian employment by 13 million persons, (nearly 30 per cent) while the armed forces called up 12 million men. Over 5 million of the equivalent of 25 million workers came from increases in hours, mostly through overtime; nearly 8 million came from re-employment of persons who were in the labor force in 1940 but unemployed; and 11.5 million, who represented additions to the labor force itself, were largely persons who had been attending school, engaged in housework, or retired.

3. During the five-year period, the number of employed persons, including civilian and military workers, increased 42 per cent in the United States, which was slightly more than in Canada, three times as much as in Britain, and four times as much as in Germany. (This is so even if active armed forces and 7 million foreigners are counted in the German work forces; in fact if only German citizens are counted, the number of additional Germans mobilized for civilian and military employment barely rose at all). Civilian employment increased a sixth in the United States and possibly a fifth in Canada. Britain and Germany were less fortunate in this respect. Britain, with slower population growth and less prewar unemployment than the two North American nations, had suffered an actual diminution in its civilian employment of about 4 per cent by 1943 and 8 per cent by 1945; it was only possible to make up the 4 per cent decline in 1943 by asking the average worker to put in 9 per cent more hours in each workweek. German civilian employment fell and by mid-1943 it was over a fifth below 1939; if foreigners are counted, civilian employment was only a fifteenth below mid-1943. In the case of Germany, compensating extensions in hours were minor, for its workweek was lengthened only 4 per cent in the first two years and it lost most of that increase by 1944.

4. Excluding these, however, the labor force rose 8.5 million in the United States, 1.8 million in Britain, and 0.6 million in Canada. In the

United States, the rise was from 54.1 per cent of the population 14 and older before the war to 62.3 per cent at the war peak, or 8.2 per cent compared with 6.8 in Canada and 4.7 per cent in Great Britain. In some degree, the comparison with prewar is unduly favorable to the United States and Canada and unfavorable to Great Britain, for the labor force participation rates of the United States and Canada were depressed in 1940 or 1939 whereas that of Britain was expanded somewhat in view of the war mobilization already partly in effect in 1939. Based on *postwar* (1947) labor force participation, the wartime excess is 6.4 per cent in United States, 5.4 per cent in Britain, and 5.1 per cent in Canada.

5. On any basis of comparison Germany made the poorest record for wartime additions. Its labor force lost native Germans, even aside from war deaths; counting foreigners in its labor force, the expansion was still much less than that in the United States. The relative failure of Germany to get more of its citizens to seek work cannot be attributed to emigration, Allied bombing, "high" birth rates, small reserves of women in the peacetime labor force, or a more complete labor force mobilization at the start of the war.

6. The inflows to the labor force in the various countries were dominated by the military draft. Until the armed forces were enlarged, labor force expansion was negligible. With demobilization of nine-tenths of the peak armed strength, the United States labor force shrank eight-tenths of its excess over prewar size (disregarding the population growth). An average for the war of about 70 persons was added to the United States labor force for every 100 men taken into the armed forces. However, the addition was not uniform from year to year. It was relatively large—between 70 and 119—early in the war and relatively small —about 50—in the last two years of war. The five-year average, 72, was almost the same as Canada's during 1939–1945. Labor force increase measured against the military draft was very different in Great Britain, where it was 47 during 1939–1943 and a substantial negative amount during the two last years, and in Germany, where it was zero or negative during 1939–1944.

7. In this country females accounted for slightly more than half the wartime addition to the labor force (including the part due to population growth); in Britain for eight-tenths. Excluding the part due to population rise, the United States added 35 females for every 100 females at work before the war, Britain 21, and Canada 19 (compared with 1941); Germany relinquished 1. For every hundred males at work before the war the United States added 9, Canada 6, Britain 2, and Germany 0.3.

8. Besides the increases in employment and hours worked, there were large transfers from less essential to more essential jobs. The major

shifts to war production in all four countries named above probably occurred *within* industries. Nevertheless, mobility *between* industries was not lacking. In the United States all industry groups except agriculture gained workers early in the war. By 1943, industrial employment had exceeded 1939 levels by about half. By 1945, transportation had expanded almost three-fourths over 1939; services (including government) over a fourth; trade, distribution, and finance remained about steady.

9. Great Britain's industrial employment decreased after 1942, and in 1945 was lower than in 1939; however, the fluctuations were never wide. Agriculture, services, and transportation changed little during the six years, and commerce, trade, and finance lost heavily between 1939 and 1943. Britain built up its war industries and agriculture by severely curtailing domestic services, construction, trade, distribution, finance, and the manufacture of clothes, food, and beverages.

10. The Germans were less ingenious or less determined than the British in restricting nonessentials. Throughout the war, domestic service, employing chiefly native Germans, was almost undisturbed. Agriculture and industry parted with workers at first, but by the war's end had about retrieved what they had lost at the war's start. Employment fell in most service industries, also in commerce, trade, and finance. Transportation made negligible gains.

11. In none of the countries was direct compulsion the major factor in recruiting wartime labor. The United States never required civilians to work. Germany had universal conscription on paper but did not thoroughly enforce it until after the Allied landing, when it was too late to use the extra labor effectively. Half of Britain's additions were made before the National Service Act. Even after that, its policy was still persuasion. Coercion was not relied upon extensively until the last two years, during which, paradoxically, the labor force as a whole and essential employment both declined.

12. Wartime movements into the labor force may have been influenced by four factors: (1) reserves of labor among students, housewives, and the elderly; (2) the extent to which care of families prevented girls and women from taking gainful work; (3) government allowances to dependents of fighting men; (4) the strength of enemy blows. These factors help to explain the large proportion added in the United States, which had a larger reservoir of females outside its peacetime labor force than either Britain or Germany. Allotments to dependents of fighting men in the United States, though by no means niggardly, were smaller relatively than in Germany or Canada, but were not reduced if the recipient worked for pay, though they were in the other two countries.

13. Most additions to the labor force during the war came when the enemy was hitting hardest. In Britain six in ten of the additions were made before the U.S.S.R. entered the war; in this country two in three came during the two years before the Italian surrender in mid-1943; in Germany the few additional native workers entered after the Stalingrad disaster. Canada, an auxiliary belligerent, distributed its expansion fairly evenly throughout the five years of the war.

14. The homeward-bound armed forces of the three English-speaking victors trailed the exodus of civilians. Civilian workers, so many of them women, quit war industries first, shifting into less essential sectors perhaps, and then leaving the labor force to return home and await the returning warriors. The entire shrinkage of the labor force in the United States occurred between March 1945 and May 1946; it took longer in Canada and Britain but was about complete by early 1947.

15. Aside from the wartime increase in labor force attributable to population growth, the great bulk of additions proved to be temporary in three countries. (No satisfactory postwar comparisons can be made for dismembered Germany.) In America postwar participation did not decrease to the 1940 level, a fact that misled many into believing it was still expanded from the war. This mistake arose from the failure to perceive that the labor force at the turn of the 1940's had been somewhat depressed, probably by the widespread unemployment.

16. In the Korean conflict, the labor force showed signs of retracing its early World War II pattern by rising as the armed forces expanded. However, the ratio of its increase to recruitments was much less than half that in 1941–1943, possibly because in April 1940 the labor force had been, proportionately, depressed. With the approaching end of the conflict the labor force proportion returned to near peacetime proportions without any appreciable demobilization of armed forces.

THE LABOR FORCE UNDER SHORT-RUN CHANGES (CHAPTER 11, concluded).

1. In time of peace the total labor force in the United States has been a relatively stable proportion of the total population 14 and older in the short run. Since 1946 the maximum fluctuation in participation, seasonally adjusted, has been well under 3 per cent of the working-age population. The labor force data are based on interviews conducted each month with a representative sample of the nation's households, and a good part of the range of fluctuation—perhaps all of it—could have been the result of errors in sampling or in interviewing. The fluctuation in Canada has been slightly greater than in the United States, partly perhaps because the data during much of the postwar period in that country were quarterly estimates instead of quarterly averages.

2. An analysis by means of partial correlation (holding unemployment and armed forces constant) suggests that during the World War II period (1940–1946) there may have been a significant inverse association between real income and participation for all groups except persons 65 and older, and a significant positive association between money hourly earnings and participation, the same group excepted. But during the postwar period (1946–1952) the correlations showed little agreement in sign either from one group to another or from war to postwar years. On the basis of this evidence it is not possible to claim a dependable association between participation and income or earnings during the period from 1940 to 1952.

3. The armed forces have had a clear-cut association in size with the labor force in the United States, but only when the number of men in uniform has varied on a grand scale, as in World War II. There are theoretical reasons for believing that the armed force changes caused the labor force changes. The small-scale changes in the armed forces during the period between the end of World War II and the beginning of the Korean conflict had some association with the labor force in both the United States and Canada, but the association was not strong in the United States and it was weaker in Canada—doubtless partly because the small labor force changes were obscured by sampling and interview error.

4. The peacetime labor force behavior has not been *fundamentally* different in the short run from the long run, or in periods of "full" employment from periods of less than full employment.

5. What information we have on "gross changes" in the labor force (the sum of persons who enter and leave in any month) suggests that they have occurred at a regular rate and have not been responsive to variations in income and unemployment.

6. Neither the total labor force nor the major age-sex groups behaved in the relatively mild recessions of 1949–1950 or 1953–1954 in a manner to confirm any theory that unemployment drives a net number of workers into or out of the labor force. The partial correlations between labor force and unemployment in the postwar period (holding armed forces and income or earnings constant) suggest a larger participation when unemployment was larger, but they are generally insignificant or only mildly significant. There was no dependable reaction of participation to unemployment in these recessions.

THE STABLE LABOR FORCE UNDER RISING INCOMES AND HIGH EMPLOYMENT (CHAPTER 12).

1. The over-all labor force participation rate has been rather impressively stable from one high-employment census year to another. The stability has held for the United States since 1890 and possibly

since 1820; for Great Britain since 1911 and possibly since 1841; for Canada since 1911; for New Zealand during 1896–1951; and for Germany during 1895–1939. In none of the countries or rural and urban areas has the average variation been more than 1.7 per cent of the total working-age population. In the United States during 1890–1950 the maximum fluctuation between successive high-employment census dates was less than the normal seasonal variation in any given year.

2. The labor force has been a stable proportion of the working-age population—adjusted or unadjusted for undercounts and overcounts at certain censuses, and standardized or unstandardized for changes in the composition of the population. However, the over-all participation rate has been especially stable in the United States when standardized with respect to age, sex, rural and urban residence, color, and nativity, and in the other four countries with respect to age and sex (other standardizations not being possible).

3. In the United States the stability has also extended to rural areas, urban areas, and large cities taken in the aggregate, though not individually. In Canada, it seems much less marked; but requisite data are available only for 1941 (a World War II year) and 1951, and it has not been possible to standardize directly within rural and urban Canada for changes in age and sex composition.

4. Labor force participation has remained relatively stable in all the five countries during periods of increase in real annual disposable income per adult-male equivalent worker, or per capita. All the countries except Germany where income changes were small and uncertain manifested substantial income increases over the long run and for almost every decade.

5. The stability for the United States has been due to the behavior of the native white population. Both colored and foreign-born have reduced their participation by impressive amounts; in the case of Negroes nearly all of the reduction has occurred since 1930. The foreign-born, the native-born children of the foreign-born, and Negroes have all tended in recent decades to align their participation to the same level as that of native whites.

6. The over-all participation rate has remained stable in spite of marked changes for major age and sex groups. In all five countries participation has decreased to some extent for every male age group and increased for most female groups. The *net* change in the over-all labor force has generally been only a small percentage of the *gross* change.

7. The over-all stability of participation has also been marked when compared with changes in unemployment, or with seasonal changes in the labor force itself.

8. The stability of the labor force has been measured without regard

to the fact that some persons hold more than one job. Sample data in the United States over the last decade indicate that dual job-holding has been rather small and (until recently) constant despite great changes in the labor market. Recently dual job-holding seems to have increased somewhat, though what appears to be an increase may be the result of improvements in measurement techniques. Much of it is actually sequential (meaning that a person gives up one job on Tuesday and takes another on Thursday, thus holding two jobs in the same week), or nominal (holding two jobs but working at only one of them).

9. The stability of participation that we find in the United States in 38 large cities, taken in the aggregate, has been less impressive in those same cities taken individually.

10. Individual cities did not have very stable participation rates for whites. For Negroes the rates were extremely unstable, declining in every city for both sexes, for males, and for females.

11. The changes for whites and Negroes in the individual cities were not associated dependably with changes in size of city, with change in male earnings or in levels of male earnings, or with variations in job opportunity as reflected in unemployment rates.

12. White participation showed some tendency to rise in cities having small proportions of foreign-born.

13. White female participation rose in most cities simultaneously with a general decrease in the relative number of white children to be cared for, but the sizes of these changes were not significantly correlated. Among Negro females, however, the decline in labor force participation was significantly associated with the rise in the relative number of children (the latter occurring in nearly all cities as a result of a higher rate of survival of Negro children).

14. Participation rates of Negroes tended to decrease most in those cities where they had been highest to begin with, and were more nearly equal among cities in 1950 than in 1920. No such development could be discovered among the whites.

OVER-ALL STABILITY VERSUS INTERNAL INSTABILITY IN A NATION'S LABOR FORCE PARTICIPATION (CHAPTER 13).

1. The fact that the over-all participation rate was stable in each of the five countries and in rural and urban areas of the United States, despite great internal changes, raises the question whether the stability has been due to some systematic tendency for the internal changes to offset each other.

2. There is, in fact, some statistical indication that in all the countries and areas participation rates of various female age groups have risen in a manner to offset the declines in male participation rates. The correlations between male and female participation have not been significant,

unless the data of war-torn Germany are excluded from the comparison, and in any case are not strong. Yet nearly all the coefficients are of the same inverse sign and, considering the element of randomness in the underlying data, seem to call for some explanation of how such a relationship could exist.

3. The hypothesis is advanced here that women may have both pushed and pulled young and elderly males from the labor force, to some extent seeking jobs that had been or were being sought by males, and to some extent being drawn into the labor force by the vacuum left by the exodus of males for other reasons.

4. The *source* of the influx of females could be their release from housework—as the result of the developing technology for the home, fewer children to be cared for, and the increased number of women surviving childbirth and disease. The *demand* could be explained by the expansion of clerical occupations which, with the great increase in educational attainment of the average female, opened new job opportunities to her. The *timing* could be reconciled with the shorter normal workweek in industry, which made it further possible for many females having household responsibilities to enter the labor force.

5. The hypothesis that the rising participation of females played a role in the declining participation of youths need not be discarded merely because that decline was reflected fairly closely in the rise of youths attending school. Some of those who entered school undoubtedly did so for cultural and legal reasons; as they left the labor force, a gap would have been created which women would have been called upon to fill. Others may have sought education because the good jobs were taken by the mature and better trained women. Many were able to remain in high school or college because working female relatives were contributing to family earnings.

6. The decline in the participation of older men—45 to 64, and 65 and older—has not been as easy to explain on independent grounds as that of the school-age males. No statistical evidence could be found, in either this or other studies, that the decline has been the immediate result of increases in real income, extension of pensions and social security, physical deterioration (compared with elderly men in earlier periods), or of changes in self-employment, the pace of industry, or the level of employment. Even if a tightening of company rules and practices against hiring and retaining older workers had been primarily responsible (there was no lack of such discrimination a half century ago), the reason for the tightening would need to be explained. Employers would surely have been less ready to part with this supply of labor had there not been available a new and better source—namely women.

7. It would seem plausible—in view of the close moment-of-time

relationship between education completed and participation, and of the great increase in the ratio of education completed by women to that completed by elderly men—that women displaced elderly men because of their better training for many clerical, personal service, and professional jobs in comparison to their relative wages. And financial assistance from a working daughter or wife—even her ability to support herself without help—doubtless aided many a sick or unemployed man to advance his retirement.

8. Over-all participation remained stable although the amount of leisure increased, the increase having taken the form of reductions in normal working hours for the average labor force member.

9. Reductions in the full-time workweek occurred in every one of the four nations for which standard hours data could be compiled, and they occurred between every census date, except in Hitler Germany between 1933 and 1939. The average reductions per decade were rather remarkably uniform among the four nations, but there were wide variations from one decade to the next. And there seemed to be no dependable association over the short run between reductions in hours and increases in income in the short run. Yet there was sufficient possibility that income increases played a long-run role (in the sense of inducing or enabling people to work less) to justify asking why reductions should have taken place in hours instead of in over-all participation.

10. There are grounds for believing that a reduction in hours offered a more convenient and more flexible device for distributing, among workers and over time, any increase in leisure that might be demanded as a result of rising incomes. The large rise in the number of households relative to the population has meant that a greater number of workers was needed merely to provide each household with a primary worker. The great majority of families had no more than one worker at the start and consequently could not have parted with a full-time labor force member—at least not permanently. Temporary or spasmodic periods away from work may jeopardize a person's job and in any case may result in an uneven distribution of leisure over the year.

11. If people have sought more leisure as a result of rising incomes, it is likely that all the members of a family wish to share in this leisure by means of a shorter workweek for all—instead of having some members continue to work an undiminished week and others withdraw altogether from the labor force; a reduction in hours therefore seems a more equitable device for distributing leisure among individuals and groups.

12. This latter expectation is apparently contradicted by the fact that the decline in the participation of males and the rise in the participation of females have shifted much of the burden of work from

men to women. But if account is taken of the decline in the housekeeping responsibilities of women as a result of technological and demographic developments, and of the extent to which men have taken over many chores formerly done by women in the home, servants, and maintenance services, it may be that the decrease in work and the increase in leisure have been fairly evenly distributed after all.

13. Workers who desired a longer workweek so as to allow other members of the family to withdraw altogether from the labor force are not likely to have influenced the average workweek appreciably. Technical conditions of production press toward uniform hours throughout a factory or store, regardless of the wishes of a minority.

14. Once normal working hours had been reduced, all sorts of obstacles would have prevented their being raised again: a tendency for shorter hours to be frozen into maximum hours, union agreements, factory shift schedules, commuting arrangements, and pace of work.

15. In the future, unions will probably play a leading role in initiating and furthering reductions in the full-time workweek, even if their role in the past has not been the dominant one. Unions are, of course, far more powerful now than during the years when most reductions in working hours occurred. And a curtailment in the workweek is likely to be more acceptable to unions than a reduction in the labor force, if only as a device for spreading work among as many workers as possible in a time of declining employment. It should not be surprising if reductions in the labor supply continue to take the form of fewer hours, and perhaps less effort per hour, rather than of reduced participation, nor if the over-all labor force continues to stay rather close to its present and past percentages of working-age population.

16. The decline in participation of the foreign-born and Negroes in the United States raises the question of why the native whites or the *all classes* did not also show declines. The explanation may be that these minority groups—as their more sharply rising incomes converged toward those of the native whites—tended to adopt the working habits of the latter. This view is supported by the fact that among the various cities participation rates of female Negroes tended to become not only more like those of native whites, but also more like those of other female Negroes in other cities. As the remaining barriers to equal participation in the economic life of the nation break down, the Negro may aspire in an increasing degree to live and work like other Americans of the same income group.

17. Participation rates have not been stable in individual cities over time even for whites, nor in cities where the instability could not be attributed to the presence of large numbers of foreign-born.

18. This lack of stability may occur because persons already com-

mitted to the labor force tend to migrate to cities of high pay and good job opportunities, but this explanation does not seem to have strong statistical support, and we are obliged to let the instability in individual cities stand as an unexplained exception to the stability we have found for over-all labor force participation over time.

Concluding Observations on the Main Question: Is the Labor Force Influenced by Changes in Income and Employment?

At the start of this investigation, we posed three central questions: (1) Has labor force participation been influenced by changes in income and employment? (2) Has the influence, if effective, been powerful enough to stand out over other possible forces? (3) Of these other possible forces, have there been any which account for that part of labor force behavior not explained by income or employment?

It is unfortunate that a detailed and protracted search into an unusually rich and varied lode of statistical material has left our answers incomplete. For all the economic, social, and demographic forces analyzed in this study, many others had to be neglected, among them some likely to be influential.[4]

Differences in family characteristics. Large and small families may have very different participation rates, as may families with high and low incomes per member—and differences remain after standardization for age, sex, color, or other demographic differences, or after taking into account the income of the head of the family. Unfortunately the census, while it has given a great deal of family information on both labor force and population, has never classified the data for computing participation rates of families; yet many of the decisions to enter or leave the labor force are family decisions.

Changing community attitudes. The family and the community have greatly altered their attitudes toward the question of whether wives and children should work. Is the change in attitudes the cause, or the effect, of the increased participation of females and the decreased participation of children? Possibly, both attitudes and participation changes gradually molded each other or both were shaped more or less simultaneously by still other social forces.

Differences in social class. A powerful motivating force in Western societies is the aspiration to advance oneself and one's children to a

[4] This study has omitted the analysis of the effects of income tax on labor force participation. However, the writer has presented such an analysis in a paper to a subcommittee of Congress: Clarence D. Long, "Impact of Federal Income Tax on Labor Force Participation," *Papers Submitted by Panelists Appearing before the Subcommittee on Tax Policy*, Joint Committee on the Economic Report, 84th Cong., 1st sess., Nov. 9, 1955, pp. 153–166.

higher social class. This aspiration may be realized by working harder, by a wife's gainful employment, by restricting the size of the family, and by sustaining children in school longer before they enter the labor force. Social aspiration may be more powerful than any of the tangible influences, but there are no statistics by which to measure its impact, and we can only derive insights through observation.[5]

Social life and the job. The growth of large cities and the increasing anonymity of urban life may have caused women and older people to depend more on their jobs for companionship or marriage opportunities. The impact of this development would be all the greater, of course, as the social conditions of work became more agreeable.

Changing conditions of work. The last half century has seen a distinct improvement in working conditions—cleaner surroundings, abundance of rest-room facilities, and safety measures, as well as the courtesy of supervisors, fairness of grievance procedures, seniority protection, and coffee breaks and adequate lunch periods, to name some—which may well have persuaded many women to enter or to remain in gainful employment.

Intensity of effort required of the employee. It seems impossible to say quantitatively that there has been a decline in the intensity of effort in an hour of work; at least one British observer has concluded that the pace of work is slower in Britain than it was in the nineteenth century,[6] but such judgments must rest largely on qualitative observations because of the tremendous difficulty of measuring personal effort. Participation would surely be affected to some extent by the ability or inability of women, older persons, children, and partially disabled persons to maintain the pace of work set by industry, and by the variations in physical and mental capability of individuals at different times and in different places. Almost nothing is known statistically about such variations and their relation to participation.

Changes in technology and machinery, improvement in lighting and air conditioning, greater subdivision of tasks, and so forth, should have influence on the degree of intensity of effort called for. The time required to travel to and from work might be included in intensity—or in the length of the working day.

Increases in supplementary or "fringe" benefits. Substantial increases

[5] The 1951 census of Britain offers a labor force classification by five social class groups, but does not accompany it with any similar classification of population that would enable us to compute labor force participation rates by social class. In any case "the grading is no more than a convenient rearrangement of occupational unit groups and must not be considered as if it were a separate classification of individuals." *Census of 1951*, Great Britain, Part I, p. XVIII.

[6] P. J. D. Wiles, "Notes on the Efficiency of Labour," Oxford, *Oxford Economic Papers*, June 1951, pp. 158–174.

in various benefits to employees have involved expenditures by employers that are not accounted for in straight-time wage rates. These include pensions and social security contributions by employers; paid sickness and hospitalization benefits; paid holidays; premium payments for holiday, overtime, and night shift work; unemployment compensation; and annual employment or wage guarantees. A recent pilot study of a very small number of manufacturing firms has been made on this question by the Bureau of Labor Statistics.[7] But we do not know how much these benefits have increased over time, to what extent they are available to the whole labor force, and what their effect may have been on labor force participation.

Changes in unionization. During most of the sixty-year period covered in the United States, union strength comprised less than a tenth of the labor force and consisted mainly of adult males who would have been in the labor force in any case. Unions could not, therefore, have had much effect on participation in this country in the earlier years. Their role may have been greater in the other nations, and, in the recent period, in this country; for between 1935 and 1947, unions grew to about a fourth of the United States labor force and have since stayed at approximately that level. They conceivably restrict job opportunities for women and children through qualifications and apprenticeship requirements and through rules on equal pay. Also they impose a "tax" on earnings in the form of union dues, although these are not high for most members. Influence of unions on labor force participation would be difficult to measure, and probably is confined to affecting which occupations and industries women and children enter. It is noteworthy that the accelerated influx of women into the labor force since 1930 could occur in the face of the greatest increase of unionization this country has experienced.

Changes in the distribution of income. In addition to increases in average real income in recent decades, there probably has been a considerable redistribution of income, before and after taxes. The structure of income distribution has many theoretical consequences for labor force—a notable one is its effect on rivalries in respect to living standards, and the need to work in order to keep up with (or ahead of) the Joneses. Materials for an investigation of these aspects exist, but it would be a considerable undertaking. Related to the income distribution among families is income distribution *within* families. Some wives may have entered the labor force because their husbands were unwilling, especially during inflation, to supplement fixed household allow-

[7] *Problems in Measurement of Expenditures on Selected Items of Supplementary Employee Remuneration, Manufacturing Establishments,* 1953, Bulletin 1186, Bureau of Labor Statistics, January 1956. The report was prepared by J. W. Bloch.

ances which may have lagged behind the prices of food and clothing, and even behind wages. It will be some time before there will be adequate statistics on family budgets for the study of such a factor.

Changing burdens of credit. Any change in the ease with which people can buy clothes, appliances, cars, and houses on the installment plan could influence participation. Heavy commitments of future income in order to buy durable consumer goods could easily oblige wives to enter or stay in the labor force. Here again, lacking information, we can only theorize from personal observation.

Changes in wealth and liquid assets. Whether an older worker, an unemployed worker, a partially injured worker, or an expectant mother can leave the labor force very likely depends to some extent upon past savings or any net wealth accumulated in other ways, and upon the liquidity of the assets. But there are no data through which to discover the nature or amount of the relationship to labor force participation.

Changes in leisure-time activities. The last half century has seen a great increase in the types and variety of non-gainful activities of the average person: the widening interest in sports; the popularization of movies, radio, and television; the use of automobiles for holiday and vacation trips; the development of summer camps for teen-agers; the extension of hobbies. All these have influenced participation, partly because they compete for a person's time, and thus may reduce participation; and partly because they may call for higher income, thereby increasing participation. Comment on the nature of this influence would be worth little in the absence of quantitative information.

Without systematic knowledge of the foregoing factors and many other elements of the problem, our answers to the central questions of this investigation are incomplete, hesitant, and speculative. Do changes in income influence labor force? Probably yes—provided other things do not change very much. Under comparatively static conditions, the higher the income the lower the participation, with rather great changes in income required to bring about moderate changes in the over-all participation rate.

There is, of course, the theoretical possibility that what we have seen, rather, is a reverse influence of labor force on income; i.e. a large labor supply might depress the level of wages. But such a reverse effect could scarcely amount to much. For one thing, the significance of a large or small labor supply depends much more on its size relative to the quantity of land, capital, management, and technique than on its size relative to population. For another, labor force size is only one dimension of labor supply—the others being hours, effort, and labor force quality—so that changes in labor force size are only one supply

factor influencing wages. For still another, even if labor supply affects the level of wages, it would probably influence mainly the share of labor in the total income and would have only a small impact on the absolute level of earnings per worker; in view of the smallness of labor force changes relative to income changes, such a reverse effect would be a case of a small tail wagging a large dog. Finally, it is scarcely likely that, say, the high participation of a wife could be the cause of low earnings of the husband—unless one makes much of the occasional husband who relaxes his effeorts greatly because his spouse has taken over some of the breadwinner's responsibility.

There is the theoretical possibility that both labor force and income are jointly influenced by some third force. But what could it be? Age? Sex? Color? Nativity? Child-care responsibilities of women? All these have been taken fairly well into account by standardization. Employment opportunities? They may well affect participation, but they cannot explain away the inverse relationship between labor force and income; for that has been upheld *within* the same metropolitan areas, where the industrial and occupational structure is the same to poor and well-to-do alike. Education? A three-cornered relationship of education, income, and participation has been found for females; but since good education goes with both high income and high participation, it cannot explain away the inverse relationship between the last two. Thus, although we do not rule out the possibility that the inverse association between labor force and income at a moment of time has been the joint result of outside forces, we cannot easily imagine what those outside forces could be.

Is the labor force influenced by changes in employment? Probably yes, in the case of severe or great depressions, of the kind experienced during the 1930's—with, however, a very large increase in unemployment required to cause a small net decrease in the over-all labor force participation rate. Probably no, in the case of employment changes which are moderate and not associated with great changes in the size of the armed forces. Inasmuch as the violent unemployment fluctuation of the 1930's and early 1940's has been unique in our recorded history,[8] it would seem that, except under unusual circumstances, the labor force is not influenced by the *quantity* of employment opportunities, i.e. the per cent of those in the labor force who are able to find jobs. Whether labor force is influenced by the quality of employment opportunity is another matter. Many more women might be in the labor force if there were an abundance of physically light, clerical jobs, than if opportunities were confined to heavy, manual labor.

[8] Stanley Lebergott, "Annual Estimates of Unemployment in the United States, 1900–1954," in *The Measurement and Behavior of Unemployment*, Princeton University Press for the National Bureau of Economic Research, 1957.

If participation is explained only feebly or not at all by dynamic changes in income and employment, what does explain its behavior? What explains the rather generally declining participation of young and old people; the generally increasing participation of females (especially wives); and the generally stable participation of the whole working-age population, during both long- and short-run periods of peacetime and moderately high employment? What explanation will also fit the great increases in labor force during World War II and the decreases at the war's end—as well as the fact that, in the United States, the stability of over-all participation has been confined to native whites, with the participation of Negroes and foreign-born generally declining in recent decades?

No single factor or small number of factors could entirely explain such behavior in a complex and rapidly moving economy. In any case, it would be impossible to isolate the effects empirically, for some of the forces might well act jointly, and others send out waves of influence in all directions, waves which may eventually break upon the labor force after a considerable lag and as if deriving from other sources. Nevertheless, it may be possible to single out a few dynamic forces that are capable of explaining important elements of labor force behavior.

One of these may be the growing redundancy of working-age females as a result of the declining birth rate and the rising survival rate of women—which reduced the relative need for women in own home housework. The effect of these demographic developments was probably accentuated by the advancing technology for the home. Together, these reductions in the home housekeeping burden may account for the great secular increase in the availability of females for gainful work. And housekeeping responsibilities of women were further reduced temporarily during World War II by substantial amounts, as a result of the immense draft of men into the armed forces; this temporary reduction provides a possibly important contributing explanation for the large temporary influx of women into the labor force.

A second dynamic force was the dramatic increase in education of the average woman, both absolute and relative to that of older men. In conjunction with the growing need for clerical and service labor, this probably gave women a comparative advantage over the less well-trained and frequently overpaid older worker and the untrained child; and it may account for ability of the market to absorb the increased supply of women.

The increase of female workers may in turn have forced the exodus of the young and older males. Women—better trained and better suited for the jobs, and often willing to work for less—may well have outcompeted males in the job market and made employers ready to pass rules against older workers (which to so many have appeared to be

the real force in compelling earlier retirement). In addition, the earnings of the women could have helped finance longer schooling for the young males and earlier retirement for the older ones. This pressure exerted by women does not exclude independent reasons for the withdrawal of males—growing incomes and cultural and institutional changes undoubtedly played their parts, and the males who departed for these reasons left a vacuum which helped draw women into the labor force. But it is our hypothesis that the prime mover was the influx of female workers, and that their displacement of the male worker helps to explain the stability in over-all participation.

A third force would seem to have been the substantial reduction in the hours normally worked by the average labor force member, which occurred in greater or less degree in all the four nations with hours data. This reduction surely enabled many wives and mothers of school-age children to work and still have time to shop, cook, and do a minimum of house cleaning, rest a bit, provide husbands with some companionship, and partake of some occasional amusements. It would also help explain why the over-all participation of the whole working-age population has remained relatively stable, instead of declining as incomes doubled or tripled; for hours reductions were probably a more convenient, flexible, and equitable means of spreading leisure than were reductions in participation. A now powerful union movement will very likely find hours reductions the most acceptable way of effecting any future decreases in labor supply—whether those decreases represent rising demands for leisure, as incomes rise secularly, or a falling demand for labor, as employment declines in depressions. Union agreements—as well as maximum hour laws, factory shift arrangements, and growing suburbanization calling for longer commuting—would freeze at the lower levels any hours changes that have been made for other reasons. The demand for leisure has thus probably been definitely and irrevocably shunted onto the track toward fewer hours, so that any reductions in labor supply will continue to take the form mainly or wholly of fewer hours and less effort per hour, with the labor force staying close to its present and past percentages of working-age population.

These three main forces—the release of females from home housework and child care, the increase in the relative education of women, and the reduction in the normal workweek—may furnish a major part of the explanation of why participation rose for females, declined for young and older males, and remained stable for the whole working-age population, despite our expectation that rising income should have led all of them to decline. That interpretation is not inconsistent with our explanation of why foreign-born and Negroes tended to reduce

their over-all participation: for these minority groups were doubtless bringing their labor force tendencies into line with those of the dominant native whites. The breaking down of occupational barriers may have been partly due to rising incomes of the native whites, who could be expected to offer less resistance to the competition of minority groups for jobs when their own prosperity was relatively high—thus making increasingly feasible the adoption by minority groups of the living and working habits of the native whites.

The three dynamic factors emphasized do not explain all the labor force behavior our study has revealed; especially they do not explain the instability over time of the labor force participation of individual cities. And rarely do they furnish a "tight" explanation of any labor force development.

But this should not be surprising: many of the statistics used here were less than satisfactory in either concept or measurement, and data for the study of many factors were lacking altogether. Nor should it be surprising if income turned out to play a larger role in the dynamic behavior of labor force than our statistics could discover. Economic forces may exert their influence mainly through social or institutional channels, which wind in much the same way as do those of a great river to sea. While the general course is there, its direction or rapidity of movement at any one time or place depends on the terrain, in a manner hidden from a lone, pedestrian explorer, able to follow its meanderings for only a comparatively short part of the way.