

NBER WORKING PAPER SERIES
ON
HISTORICAL FACTORS IN LONG RUN GROWTH

THE TREND IN THE RATE OF LABOR FORCE
PARTICIPATION OF OLDER MEN, 1870-1930:
A REVIEW OF THE EVIDENCE

Roger L. Ransom

Richard Sutch

Working Paper No. 3

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
May, 1989

The data referred to in this article is archived at the Laboratory for Historical Research, University of California, Riverside, CA 92521. Charles Wetherell assisted with the computations and Eric Bales with the bibliographic citations. We are grateful to Susan Carter, Daniel Scott Smith, Thomas Weiss, and Samuel Williamson for helpful comments. We are also most grateful to Daniel Scott Smith and Janice Reiff for providing information on the sample of data they collected from the 1880 and 1900 manuscript censuses. Data tapes on several different samples (details below) were provided by the Inter-university Consortium for Political and Social Science Research. Financial support was provided by the Foundation de la Maison de Sciences de l'Homme, Paris, the John Simon Guggenheim Foundation, the Institute of Business and Economic Research and the Academic Senate of the University of California. This paper is part of NBER's research program in Development of the American Economy. Any opinions expressed are those of the authors not those of the National Bureau of Economic Research.

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ABSTRACT

We present new evidence to support our earlier finding that there was no appreciable trend in the rate of retirement for American men between 1870 and 1930. The data suggests that Jon Moen's claim that retirement increased appreciably during this period is mistaken. Moen's critique of our earlier paper is also examined point by point. We demonstrate that his doubts about our procedures are unnecessary.

Keywords: retirement, labor force participation, old age,
unemployment, census methods, life cycle

Roger L. Ransom
History of Saving Project
Institute of Business and Economic
Research
University of Berkeley
Berkeley, CA 94720

Richard Sutch
History of Saving Project
Institute of Business and Economic
Research
University of Berkeley
Berkeley, CA 94720
(415)642-4159

In the 1986 volume of This Journal we discussed the frequency of retirement and downward occupational mobility (on-the-job retirement) of older men in the United States at the end of the nineteenth century.¹ As we noted, study of retirement in the years before World War II is hampered by the lack of data on the labor force status of individuals. Indeed, until the concept of "gainful employment" was replaced by that of the "labor force" in 1940, the official census figures on occupations contain a large proportion of older men and women who by today's standard would be regarded as retired.² Our analysis was based, in part, on estimates of the 1900 labor force participation rates for males by age we constructed from a one-in-760 sample taken from the original manuscript returns of the population census.³

As far as we are aware, ours was the first direct attempt to measure the size of the labor force for a date before 1930. Previous interpretations were based on adjustments to "gainful employment" data reported by the census from 1890 through 1920 or on backward extrapolation of post-war data on labor force participation.⁴ The result of the direct estimation method we introduced is surprising, at least it surprised us. If our estimate of the labor force participation rate of men sixty and over in 1900 (66.1 percent) is accepted, it would imply that there was no significant trend in the participation rates of older men between 1900 and 1930 (64.5 percent).⁵ This finding stands in sharp contrast to the more common view that retirement was almost non-existent at the turn of the century and that the retirement rate began a steady upward trend sometime before 1890.⁶ Furthermore, if the published occupational returns from the 1870 and 1880 Censuses are accepted at face value, the stability of the national

retirement rate can be extended back to 1870. The percentage of men 60 and over with reported occupations in 1870 was 64.2 percent and in 1880 it was 64.3 percent.⁷

These unexpected findings deserve careful and critical testing and assessment before they are accepted. Recently both our calculation of the labor force in 1900 and our reinterpretation of the long-run trend in retirement were challenged by Jon Moen in these pages.⁸ His "Comment" raised two key issues:

- 1] Moen criticized our procedures for estimating labor force participation from the manuscript returns of the 1900 census. While he took issue with a number of points, his rejection of our procedures for handling those who were reported as unemployed during the census year has the greatest quantitative significance to the debate over retirement trends.
- 2] Moen questioned the accuracy of the published data for older men from the 1870 and 1880 censuses. He presented evidence to support his own claim that the employment of older men was much higher than reported by the census.

If Moen were correct on these points, our appraisal of the trend in retirement between 1870 and 1930 would be rendered less dramatic and less convincing.⁹ We think he raised important issues but did not prove his case. Here we would like to present new evidence on both of these points to dispute his conclusions and defend our original findings.

On the Reliability of the Estimate for 1900

In 1900 the Census Bureau undertook to record the customary occupation of every enumerated person over the age of nine whether or not the individual was actually working at the time of the enumeration.¹⁰ The concept of occupation then in use, "gainful occupation," had been introduced in 1890 and was based upon the enumerated individual's source of income.¹¹ Individuals who were recorded with gainful occupations in 1900 can be divided into three groups: (1) those who were productively employed for pay or profit at the time the census was taken, (2) those who reported a "customary" profession, trade, or occupation but who were unemployed at the time of the census, and (3) those who had a source of income (interest from bank accounts, rents from real estate, dividends from stocks and bonds) but who were not productively employed at the time of the census.

Those in group 1 should unquestionably be included in the labor force since they were employed or self-employed. Those in group 3 were retired and living off their accumulated wealth and therefore should be excluded from the labor force.¹² Those in group 2, the unemployed, can be subdivided into two groups: (2a) the "temporarily unemployed," who because of illness, lack of demand, or seasonal fluctuations in business were not working but cannot be said to have retired; and (2b) the "permanently unemployed," who were retired and living off their accumulated wealth, relatives, or charity. We consider group 2a to have been in the labor force (following as closely as

possible the modern conception of the labor force as including the temporarily unemployed), but group 2b to have been outside of the labor force (following Stanley Lebergott).¹³ We think that the officials responsible for the Census of 1900 would agree. They said under the heading "Reasonableness of the proportion of months unemployed shown in 1900":

Old age, illness, travel, bereavement, recreation, competence, a change of employers with interval between, tendency to idleness, and climatic conditions are a few of the causes which together result in a considerable proportion of persons who are without employment during some portion of a year for reasons wholly unconnected with ability or inability to secure employment.¹⁴

The inclusion of "old age" and "competence" in this list suggests that the Census officials knew that some retired individuals were included in group 2; that is, they were reported as gainfully occupied.¹⁵ The issue, then, is not whether a number of retired individuals were included among the gainfully occupied, but how many.

As far as we can tell, Moen does not question our classification scheme for distinguishing between gainful occupation and labor force participation. He questions our technique for partitioning group 2 into the two components. Given the limited nature of the data available on labor force status collected during the census of 1900, the best that can be hoped for is an approximation. For this purpose, we made use of the data collected by the census on the number of months of non-employment reported

by each individual and simply excluded from the labor force all those who reported six months or more of unemployment during the census year.¹⁶

We chose the six-month cut off after examining the data illustrated in Figure 1. The Figure presents the percentage of men who reported some non-employment in the 1900 census sample by age. The percentages are calculated separately for short-term unemployment (less than six months) and long-term non-employment (six months or more).¹⁷ The striking feature of this data is that between the ages of 55 and 60 the percentage of men reporting long-term non-employment rises dramatically, while the percentage reporting less than six months of unemployment falls steadily from age 20 on. We believe that the sharp jump in long-term non-employment for men 60 and over reflects the fact that many of those reporting extended periods of non-employment had left the labor force and retired.

Admittedly, the break at six months is arbitrary. We might have chosen four months or eight months.¹⁸ We made our choice on two grounds. First, the percentage of men reporting exactly six months of unemployment was higher for older men than those in the prime-age group.¹⁹ That fact suggests that many of these men were actually retired. Second, this cut off implies an average unemployment rate for the period between June 1899 and May 1900 that seems reasonable.²⁰ The six-month dividing line between permanent and temporary unemployment produces an overall unemployment

rate for males of 3.9 percent and a profile of unemployment by age that seems plausible.²¹

The only reason Moen offers for rejecting our estimate for 1900 is that the retired permanently unemployed "were not excluded from earlier or later estimates of the labor force participation rates by the census, including the estimate for 1930."²² With regard to later estimates, this assertion is factually incorrect. The labor force estimates for 1930 made by the Census Bureau explicitly excluded "an estimate of 472,000 retired and disabled persons [370,000 males] who reported their former occupations at the 1930 census." Nearly 80 percent of those excluded had been recorded in the 1930 Census as unemployed.²³ Beginning with the 1940 Census all subsequent measurements of the labor force exclude retired persons by means of specific questions regarding activity during the census week. We are puzzled by Moen's assertion regarding dates earlier than 1900. As far as we are aware, the U.S. Census has made no estimates of labor force participation for any year before 1930. In any case, Moen's argument misses the point. Even if other estimates had by oversight included some of the retired in the labor force, that is no reason for us to repeat the error.

When we made our calculations for 1900 we attempted to produce the best possible estimates of the labor force participation of older men. Perhaps our reasons for defining permanent and temporary unemployment the way we have are inadequate to convince some skeptics. Clearly, they did not persuade Jon Moen. However, Moen

suggests no method for distinguishing the two categories of unemployment that he deems superior to ours and he has no alternative estimate of the labor force participation of men 60 and over in 1900 to offer. We stand by our original estimate.

For the reader who remains skeptical about the precise figures, we would like to stress a final point. An alternative procedure for handling individuals who reported non-employment in 1900 would have little impact on the essential issue of substance in our original article. If we reclassify some of the non-employed, moving them from "out of the labor force" to the unemployed category, it would not have a major impact on the percentage of older men who were employed. Several sets of illustrative figures are given in Table 1. Raising the cut off for the permanently unemployed from six months (as we would have it) to eight months or ten months (presumably closer to the range that Moen would prefer) increases the percentage employed by less than two points even though it more than doubles the percentage unemployed.

Given that our article under review addressed the economic and social problems facing older Americans in the years before 1930, it may not matter much whether the older non-employed men in 1900 are classified as retired or unemployed. In either case they were without a source of labor income and would have had to depend upon accumulated wealth or charity for support. Their joblessness, no matter what its explanation, would have been visible and would inspire younger workers to save and take other steps to secure their own wellbeing as they aged. The fact revealed in Figure

1 that older men who reported non-employment experienced very long average unemployment spells suggests that historians should not lightly dismiss their situation as due to "the seasonality or part-time nature of some occupations."²⁴

On the Reliability of the 1870 and 1880 Censuses

We used the published 1870 and 1880 census returns to extrapolate the trend in labor force participation back from our 1900 benchmark. Although there was some underenumeration of individuals (largely in the South) in 1870, the accuracy of the occupational information collected from those who were enumerated is regarded as quite high. We reported the employment rates for men 60 and over recorded in these census (64.2 and 64.3 percent respectively) and suggested they were roughly comparable to our estimate for 1900 because the census collected occupational data only for those with productive occupations in those years. In other words, we believe that men in Groups 2b and 3 were returned in 1870 and 1880 as having no occupation.

Moen questions this, asserting that the definitions of occupation in use in 1870 and 1880 were essentially the same as in 1900.²⁵ We believe he is wrong. Indeed, we find the instructions to the enumerators and the interpretation of the tabulated results by census officials at the time are reasonably clear on this point. In 1870 and 1880 the question elicited the "profession, occupation, or trade of each person."²⁶ Nowhere in the instructions to the enumerators or in the published reports is the term "gainful occupation" used. Nowhere is a hint that retired individuals or those earning property

income as their only means of support were included in the tabulations of occupations. Indeed, the published volumes explicitly state that they are excluded.²⁷ The instructions to the enumerators on recording occupations in 1870 and 1880 suggest that the test in doubtful cases was to be the productiveness of the occupation:

You are under no obligation to give any man's occupation just as he expresses it. If you can not tell intelligibly what it is, found out what he does, and characterize his profession accordingly.

The inquiry as to occupation will not be asked in respect to infants or children too young to take part in production.

If a boy or girl, whatever the age, is earning money regularly by labor, contributing to the family support, or appreciably assisting in mechanical or agricultural industry, the occupation should be stated.²⁸

The term "gainful occupation" was first used in 1890 and the definition of occupation provided departed from the earlier concept of productive employment:

A person's occupation is the profession, trade, or branch of work upon which he chiefly depends for support.

Secure for each person enumerated, properly descriptive designations of the service rendered or work done by way of occupation and as the means of gaining a livelihood.²⁹

The incorporation of the various means of gaining a livelihood other than by productive labor into the occupational concept was made even more explicit in the instructions for 1900 (which are the instructions relevant to our own 1900 estimate):

Many a person who does not follow any occupation still has an income. In that case indicate the source of income.³⁰

As we have already mentioned, the commentary accompanying the 1900 census tabulations explicitly asserts that many retired individuals were included in the tabulations of the gainfully occupied that year.

We cannot discern from his discussion why Moen believes that the retired were recorded by the Census the same way in 1870 and 1880 as they were in 1900 in light of the clear and compelling evidence to the contrary. Therefore, we reject this claim. However, suppose, for the sake of argument, that Moen were correct and that the Censuses of 1870 and 1880 included some retired individuals in the tabulation of occupations. If so, the 1870 and 1880 labor force participation rates we reported would be too high. Yet, paradoxically, Moen claims that the reported employment rates for older men are "probably too low."³¹ He might be suggesting, in company with W. Andrew Achenbaum, that there was an incomplete enumeration of occupational status in those years.³² But Moen specifically asserts that Achenbaum is wrong.³³ Indeed, Moen accepts the accuracy of the occupational enumerations in those years, since he relies uncritically upon a small sample collected from the 1880 census manuscript for his own analysis. Although he offers no explanation for why the published tabulations we rely upon should be in error when the underlying enumeration was accurate,³⁴ Moen must believe either there was a failure to fully tabulate the census results or that the enumerators' manuscripts were edited in some inappropriate fashion once they were returned to Washington.

Moen offers his own estimate of the participation of older men in the labor force in 1880 based on a sample of 740 older men drawn from the census manuscripts for that year. This sample was collected under the direction of Daniel Scott Smith as an adjunct to a larger project on the social history of old age in 1900 conducted by the Newberry Library and financed by the National Institute on Aging.³⁵ Unfortunately, because the Newberry sample included only men 65 and over, the labor force participation rates estimated from this data cannot be compared directly with the published tabulations for men 60 and over. Nevertheless, the differences between the labor force participation rate of older men based on the Newberry sample and those reported by the Census are striking.

Moen estimates that 78 percent of the men 65 and over included in the Newberry sample were in the labor force in 1880, while the census reported only 64.3 percent of the men 60 and over were productively employed that year.³⁶ It is implausible that the labor force participation rate should be higher for men over 64 than for those over 60.³⁷ Moreover, if we accept an 1880 rate of 78 percent for men 65 and over, it would imply that a dramatic fall occurred in the labor force participation rate for that group between 1880 and 1900, since -- even by Moen's reckoning -- the 1900 rate for men 65 and over is only 65.4 percent.³⁸ A drop of such magnitude would be entirely at odds with what social and economic historians would expect. Indeed, Daniel Scott Smith reported that the 1880 sample he collected was intentionally kept small because "relatively little

change in the household arrangements of old people was expected between 1880 and 1900".³⁹

What could explain the dramatic divergence between the Newberry sample and the published tabulations for 1880? Moen offers no explanation nor does he report any attempt to explain the anomaly. We find this oversight puzzling, since the usual presumption would be in favor of the published figures unless a convincing explanation can be offered for rejecting them. To the contrary, there are several reasons for doubting the usefulness of the Newberry sample; we discuss four.

1] Census officials edited non-occupational titles before tabulation. Editing of this type was standard Census Office practice of the time, and the manuscripts show evidence of such editing.⁴⁰ We believe those who were returned as retired, as in "retired lawyer" or "retired carpenter," and those with non-occupational designations, such as "pauper," "gambler," and "gentleman," were edited from the manuscript reports before they were tallied. Smith and his associates, however, initially recorded the occupational designations exactly as reported by the enumerators without attempting to replicate the editing process. Because of the idiosyncracies of the terminology of occupation, the occupational designations reported in the manuscripts were later recoded by Smith and his associates into a condensed set of occupation codes and the original information was removed from the data tape. A variable termed "peculiarity of occupation" was added to record anomalies.⁴¹ Moen used this variable, rather than the original occupational

designation or the Newberry occupation code, to calculate labor force participation. When the code indicated "no peculiarity of occupation," Moen assumed the individual was in the labor force. Since persons with occupational titles indicating they were retired were given a different code, Moen's procedure will properly exclude individuals who were recorded as retired or who reported no occupation, but it would still include individuals who were permanently unemployed or who reported non-occupational titles. We excluded both groups from our estimate of the labor force in 1900. With the assistance of Smith we were able to examine the original occupational data (fortunately, it had not been discarded) and identified three individuals who were not excluded from the labor force by the Newberry "peculiarity of occupation" variable even though their status clearly identified them as not in the labor force under the modern definition.⁴² Table 2 presents our estimate of labor force participation for men 65 and over in 1880 calculated with a methodology exactly comparable to that used in our estimate from the 1900 public use sample. Our estimate of 74.6 percent is lower than Moen's unadjusted estimate of 78 percent, but it is still surprisingly high.⁴³

2] The Newberry sample is drawn from the non-institutionalized population.

Since the Newberry project was studying the social position of old people within the family and household, Smith intentionally included only the population living in households.⁴⁴ Individuals residing in hospitals, old-age homes, or other institutions were omitted. The absence of these people (none of whom would be in the labor force) will

impart an upward bias to an estimate of labor force participation. While published data from the 1880 census does not allow us to estimate the size of this error, we can gain some idea of its order of magnitude by examining the size of the institutionalized population in 1900. Table 3 displays the estimated labor force participation rate for older men for three different populations in 1900: the non-institutionalized, the institutionalized, and the total national population. The proportion of older men who were institutionalized in 1900 was about three percent and the impact on the estimated labor force participation rate is about two percentage points. We suspect that the fraction of the old population that was institutionalized in hospitals, poor houses, and asylums in 1880 was higher than in 1900; certainly there is no basis for believing that it was smaller.⁴⁵ We use the 1900 figure to adjust the 1880 estimate based on the Newberry sample. By increasing the base population for men 65 and over in Table 2 by 3.4 percent, we obtain a revised labor force participation rate for 1880 of 72.1 percent.

3] The Newberry sample over-represents rural districts and the urban places of the South. Both were areas of higher than average labor force participation for men over 65. In an effort to accurately reflect the population of each state, Smith and his collaborators designed a stratified cluster sample drawn from 65 selected counties. An average of 23 old people were selected from each of the designated counties.⁴⁶ Smith recognized that this procedure could not guarantee that the sample would replicate the

urban-rural distribution of the population, but suggested that it would be a simple matter to weight the urban and rural fractions of each state by their true proportions in the population.⁴⁷ By itself, a reweighting of the sample reduce the labor force participation rate reported in Table 2 to 71.2 percent.

Moen's estimate of labor force participation in 1880 made no attempt to correct for these three problems. Table 4 summarizes the combined effects of our suggested corrections: an adjustment to make the 1880 estimate consistent with our 1900 definition of occupations in Table 2; an adjustment for the urban-rural bias in the Newberry sample; and a correction for the omission of the institutional population. The cumulative effect of the adjustments is to lower the estimate of labor force participation from the 78.0 percent suggested by Moen to 68.9 percent; a reduction of over 11 percent. This revised estimate of labor force participation for men 65 and over is still higher than the published figure of 64.3 percent for men 60 and over, and is well above our estimate of 58.6 percent for men 65 and over in 1900. A substantial discrepancy between the published rates and the results from the sample remains unexplained.

4] Rates calculated from a stratified sample of 740 will be imprecise estimates for the population as a whole due to the inherently high sampling variance. As we noted above, the Newberry sample is quite small, and its sampling error is therefore substantial. If it were a random sample, estimates of the labor force participation rate

would have a sampling error of approximately plus or minus 3.5 percentage points.⁴⁸ However, the Newberry data is a cluster sample and thus will have a larger sampling error. Unfortunately, the sampling method used in this case is sufficiently complex that calculation of the sampling error cannot be precise. While we know that the small size of the Newberry sample will generate a considerable degree of imprecision in the estimates of labor force participation, the divergence between the sample and the published census is too large to be explained away entirely on this ground.

Are the Published Tabulations in Error?

A defect in the tabulations is the a remaining possibility that might help explain the divergence between the Newberry sample and the published tabulations. Carelessness or lack of attention on the part of the tabulators might account for a low tally of occupations for older men. However, a tabulating error due to carelessness seems unlikely since low employment rates for men 60 and over are reported in both 1870 and 1880 and appear uniformly across all states and occupations at both dates.⁴⁹ Moreover, the employment rates for men 15 to 59 are uniformly very high. We can think of no reason why carelessness should distort the tabulations of occupations for men 60 and over but not for those in the prime working ages.

We noted above that the enumerator's returns were edited in Washington for accuracy and consistency in occupational definitions. It is possible that, in addition to removing those occupations not included in the definition of "productive employment,"

the clerks removed legitimate occupations reported by older men. However, this explanation would raise new and serious questions. What the motive for such adjustments might be, why the anomaly appears in both 1870 and 1880, why it effected only the older men, and why no discussion of such deletions accompanies the census, would remain without answers. In the absence of further information, we can only conclude that there is no support for the suggestion the tabulation of the census omitted intentionally or otherwise the occupations of correctly enumerated individuals. It is worth repeating an observation we made in our original report on the 1870 and 1880 censuses:

It is noteworthy that no concern was expressed by census officials or commentators at the time of the 1870 and 1880 censuses over the completeness of the enumeration of occupations for the eldest group of males, although deficiencies in the enumeration of working women and children were admitted. In fact, the census office asserted in 1870 that the occupations of "the adult males of the country are as fully accounted for as could be expected" and the low participation rate of older men was explained by the "number of persons retired from active pursuits by reason of an acquired competence, of support secured from grown children, or of advanced age." Census officials expressed even more confidence in their occupational tabulations for 1880. "The explanation of the number of persons 60 years of age and upward returned without occupation is so manifest as not to require to be even alluded to."⁵⁰

Finally, it is possible that the discrepancy between sample and published results in 1880 were the result of systematic mistabulation. In correspondence with us, Daniel Scott Smith offers an interesting conjecture along these lines. Suppose that a number of the productively occupied men 60 and over had their occupation mistakenly recorded on

the tally sheets under the column intended for recording the occupations of men 16 to 59. A large number of such mistakes would artificially depress the labor force participation rate for older men substantially but would increase the rate for men 16 to 59 only slightly since the number of 16 to 59 year-olds is so much larger than the number of older men. If the number of men 60 and over with no occupations were not tallied, but instead calculated as a residual, the error might have escaped detection in the census office.

Smith's conjecture is exactly that. We know of no direct test -- short of a retabulation of the 1880 Census returns -- that would establish that the ages of substantial number of individuals were misclassified during the tallies. While we admit the possibility, we remain skeptical. First, if Smith's suggestion were intended to explain the entire gap between his sample and the census, the clerks would have had to err 18 percent of the time when recording the occupation of a man over 59 -- an enormous error rate. The problem of tallying occupations by age is really no different than the many other tallying jobs performed by the clerks of the 1870 and 1880 census. In other tabulations where direct checks of the accuracy are possible, the work of the census office has been established to be remarkably accurate.

Second, we would remain puzzled why the supposed mistabulation appears uniformly across states in both the 1870 and 1880 censuses; we would expect some talliers to have been more careful than others. Figure 2 presents the reported labor force

participation rate of men 60 and over for each state in a scatter diagram that correlates the 1870 value with the 1880 value.⁵¹ Two features are noteworthy. First, every state's participation rate exhibits stability between 1870 and 1880. Second, the states with a high labor force participation rate for older men are all southern states (Alabama, North Carolina, Mississippi, Georgia, South Carolina, Arkansas, Tennessee, Florida, Virginia, and Kentucky). Neither of these patterns is likely to have been produced by clerical error. Both patterns are quite explicable if we are willing to accept the published figures from these two censuses at face value. We believe that to be the appropriate decision, despite the puzzling evidence from the Newberry sample.

We are prepared to believe that the true labor force participation of men 60 and over was higher in 1870 and 1880 than the published census reported and higher than our benchmark estimate for 1900. Nevertheless, we do not feel that Moen's use of the Newberry sample has provided a superior estimate for 1880 than the published reports. Our own examination of that sample has produced more questions than answers. Until additional work is done on this issue, we reject Moen's contention that our earlier article is misleading about the trend in labor force participation between 1870 and 1930.

TABLE 1
ILLUSTRATIVE ESTIMATES OF THE LABOR FORCE STATUS
OF MEN AGE 60 AND OVER
EMPLOYING ALTERNATIVE DEFINITIONS
OF PERMANENT UNEMPLOYMENT, 1900

Permanently Unemployed Defined as those Reporting Months of Non-Employment of	<u>Implied Percent of the Population</u>		
	Employed	Temporarily Unemployed	Out of the Labor Force
Four or More	61.8	0.8	37.4
Six or More	64.1	2.0	33.9
Eight or More	65.6	3.6	30.8
Ten or More	65.9	4.4	29.6
Twelve or More	66.0	4.8	29.2

Source: Authors' calculations based on the 1900 Census Sample.

TABLE 2
LABOR FORCE PARTICIPATION OF MEN, AGE 65 AND OVER
SAMPLE OF OLDER AMERICANS IN 1880

Occupation Classification	Number	Percent
Sample Size*	739	
No Occupation	164	22.2
No Occupation Reported	112	15.2
Non-Occupational Titles	3	0.4
Retired	49	6.6
Landlords	0	
Capitalists	0	
Inmates	—	
Total With Occupations	575	77.8
Permanently Unemployed	24	3.2
Total in the Labor Force	551	74.6
Employed	546	73.9
Temporarily Unemployed	5	0.7
Unemployment Rate		0.9

Notes:

— There were no inmates of institutions because the Newberry Sample included only the non-institutionalized population.

* There were 741 men included in the Newberry Sample. However, one man was excluded because he was younger than 65 and one man was excluded because his occupational information was missing.

Source: Sample of Older Americans in 1880. For a discussion of definitions see Roger L. Ransom and Richard Sutch, "The Labor of Older Americans: Retirement of Men On and Off the Job, 1870-1937," This Journal 66 (March 1986), pp. 9-11.

TABLE 3
LABOR FORCE PARTICIPATION RATES, OLDER MALES, 1900

	Non- Institutional Population	Institutional Population	Total Population
Males, 60 and Over	68.0	0.0	66.1
Males, 65 and Over	60.4	0.0	58.4
Sample Size, 60 and Over	3,089 (97.2%)	90 (2.8%)	3,179 (100%)
Sample Size, 65 and Over	1,959 (96.6%)	68 (3.4%)	2,027 (100%)

Note: Percentages are given in parentheses.

Source: 1900 Census Sample.

TABLE 4
SEQUENTIAL CORRECTION OF THE ESTIMATE OF
THE LABOR FORCE PARTICIPATION RATE
OF MALES OVER AGE 65 IN 1880

Reason for Correction	Adjustment (Percent)	Labor Force Participation Rate
Moen -- Unadjusted Estimate		78.0
Correction for Permanently Unemployed	-4.4	74.6
Correction for Urban/Rural Bias	-4.6	71.2
Correction for Institutionalized Population	-3.2	68.9
Total Effect of Corrections	-11.7	

Source: Authors' calculation based on the Newberry Sample. The correction for the permanently unemployed is reported in Table 2. This correction also includes a minor adjustment for those with non-occupational titles.

1. Roger L. Ransom and Richard Sutch, "The Labor of Older Americans: Retirement of Men On and Off the Job, 1870-1937," This Journal 46 (March 1986): 1-30.
2. The explanation for this is two fold. First, gainful occupation included anyone with a source of income, including property income, while the labor force excludes retired persons who receive only property income. Second, the occupation designated for each individual was their "customary occupation" whether or not the individual was employed at that occupation at the time of the census. Thus it appears that many retired individuals were enumerated with their former occupations. See the discussion of this in U.S. Bureau of the Census, 1900, Occupations, pp. ccxxv, ccxxxiii, and John D. Durand, "Development of the Labor Force Concept, 1930-40," Louis J. Ducoff and Margaret Hagood, Labor Force Definition and Measurement, Social Science Research Council Bulletin 55, 1947: 80-90, p. 81.
3. This "public-use sample" of the 1900 census was collected by the Center for Studies in Demography and Ecology at the University of Washington under the direction of Samuel Preston. The sample is available on computer tape from the Inter-university Consortium for Political and Social Research. The data on labor force participation are reported in Roger L. Ransom and Richard Sutch, "The Decline of Retirement in the Years Before Social Security: U.S. Retirement Patterns, 1870-1940," Rita Ricardo-Campbell and Edward P. Lazear, editors, Issues in Contemporary Retirement, Hoover Institution Press, 1988: 3-37; Appendix Table.

4. S. J. Mushkin and Alan Berman, "Factors Influencing Trends in Employment of the Aged," Social Security Bulletin 10 (August 1947). John D. Durand, Labor Force in the United States, 1890-1960 (Social Science Research Council, 1948). Domenico Gagliardo, American Social Insurance (revised edition, Harper and Brothers, 1955). Clarence Long, The Labor Force Under Changing Income and Employment, (National Bureau of Economic Research, 1958). As an alternative to adjusting gainful occupation to estimate labor force, Jon Moen has adjusted the post-war census data on labor force to extend the gainful occupation data beyond the 1930 census; "Essays on the Labor Force and Labor Force Participation Rates: The United States from 1860 through 1950," Unpublished Ph.D. Dissertation, Economics, University of Chicago, 1987. Since many retired individuals were gainfully occupied this measure of work rates is inappropriate for the subject at hand.

5. The first year for which there exists an official estimate of the labor force by age is 1930. The 1930 estimates of the labor force were made in the 1940s by John D. Durand and Edwin Goldfield, U.S. Bureau of the Census, Sixteenth Census, 1940, Population: Estimates of the Labor Force, Employment, and Unemployment in the United States, 1940 and 1930 (Government Printing Office, 1944). More detail is given in footnote 12 of Ransom and Sutch, "Labor of Older Americans," p. 6.

6. The conventional view can be attributed to John Durand, Labor Force in the U.S. Durand estimated that the retirement rate of men 65 and over (not 60 and over) was

63.2 percent in 1900 and increased 45 percent between 1890 and 1930; Table A-6, p. 208.

7. See Ransom and Sutch, "Labor of Older Americans," for a discussion of these earlier census returns and Table 2, p. 14, of that article for the citations to the census volumes.

8. Jon Moen, "The Labor of Older Men: A Comment," This Journal 47 (September 1987): 761-767.

9. There is no dispute about the trends in labor force participation after 1940. The labor force concept was introduced in 1937 and has been used as the conceptual framework for the routine data collection procedures of the Bureau of the Census and the Bureau of Labor Statistics since the Census of 1940. For a discussion of the trends since 1940 see Nancy Brandon Tuma and Gary D. Sandefur, "Trends in the Labor Force Activity of the Elderly in the United States, 1940-1980," Rita Ricardo-Campbell and Edward P. Lazear, editors, Issues in Contemporary Retirement (Hoover Institution Press, 1988): 38-83.

10. U.S. Bureau of the Census, Twenty Censuses: Population and Housing Questions, 1790-1980 (U.S. Government Printing Office, 1978), pp. 35-37.

11. Moen disputes our statement that the concept of gainful occupation was introduced in 1890 replacing the concept of "productive employment" used in 1870 and 1880;

"Comment," p. 761. He suggests that the 1870 and 1880 censuses also used a gainful employment concept, although he provides no citations to support this claim. We find the discussion of the definitions of occupation in the published census volumes and the instructions to the enumerators which we cited in "Labor of Older Americans" clear on this point and we are at a loss to understand why Moen finds the distinction "difficult to discern." In any case, this point is not critical to the issue at hand (the meaning of "gainful employment") although it does bear on the proper interpretation of the 1870 and 1880 data so we shall return to it in the next section.

12. It is possible to identify individuals in group 3 from the manuscript census returns of 1900. They were recorded with occupational designations such as "capitalist," "landlord," or "retired." Moen is incorrect when he suggests that group 3 individuals were excluded from the gainfully occupied in 1900. He correctly notes that the published tabulations for 1900 did not list capitalists or landlord separately; Moen, "Comment," p. 763. But it can be established from the sample drawn from the manuscript returns that when the occupations were tabulated in 1900, capitalists were combined with and reported as bankers and landlords were combined with real estate agents.

13. Lebergott argues that a proportion of men recorded with months of non-employment by the 1900 census should be considered as out of the labor force;

Manpower in Economic Growth: The American Record Since 1800 (McGraw-Hill Book Company, 1964); pp. 403-405.

14. U.S. Bureau of the Census, Twelfth Census, Occupations at the Twelfth Census (U.S. Government Printing Office, 1904), p. ccxxxiii.

15. The word "competence" in this context means the ownership of assets sufficient to finance the necessities and conveniences of life without the need to work.

16. The census inquiry about the number of "months not employed" was accompanied by the following instructions issued enumerators:

The object of this question is to get the number of months (or parts of months) in the census year (June 1, 1899, to May 31, 1900) during which each person having a gainful occupation was not employed. For those who have no gainful occupation, leave the column blank. The law does not contemplate that this question shall apply solely to the principal occupation in which the person may have been engaged during the year, but it is the intent to find out the number of months (or parts of months) during which a person ordinarily engaged in gainful labor was not employed at all. A return is required in columns 19 [occupation] and 20 [months unemployed] for each and every person 10 years of age and over who was engaged in gainful labor during any part of the census year (June 1, 1899, to May 31, 1900, inclusive), or who is ordinarily occupied in remunerative work but during the census year was unable to secure work of any kind. In the latter case enter his customary occupation, as carpenter, bricklayer, etc., in column 19 and the figure "12" in column 20 to show that, although he had an occupation or trade, he was not employed at all during the year at that or any other kind of work.

U.S. Census, Twenty Censuses, p. 37. The insertions in parenthesis are in the original while those in square brackets have been interpolated for clarity.

17. The data graphed are smoothed by presenting a moving average for five-year cohorts to eliminate some of the jaggedness produced by age heaping. Notice that the rates presented are not unemployment rates as conventionally defined (unemployment as a percentage of the labor force); they are instead population rates. Also note that the months of non-employment collected by the 1900 Census measures the total amount of unemployment experienced any time during the census year and will be higher than the contemporaneous unemployment rate.

18. A four-month cut off was used by the Census Bureau to make the 1930 estimate of the labor force; Durand and Goldfield, "Estimates of Labor Force," p. 11.

19. For men 60 and over, 2.77 percent reported exactly six months of non-employment, while for men under 60 only 1.98 percent reported six months.

20. Not all those reporting months of non-employment were unemployed during the census week. The total number of months of unemployment over the preceding year was recorded whether or not the individual was unemployed at the time. To calculate an estimate of the number of individuals who were temporarily unemployed during a typical week we divided the total number of months of unemployment during the previous year reported by men in the labor force by 12.

21. The profile of unemployment rates by age is reproduced as Figure 1.9 in Ransom and Sutch, "U.S. Retirement Patterns," p. 21.

22. Moen, "Comment," p. 764.
23. Durand and Goldfield, "Estimates of Labor Force," pp. 2 and 11.
24. Moen, "Comment," p. 764.
25. Moen, "Comment," p. 762.
26. U.S. Bureau of the Census, "Twenty Censuses," pp. 18 and 20.
27. The published tabulations excluded "persons retired from active pursuits by reason of an acquired competence, of support secured from grown children, or of advanced age;" U.S. Census Office, Ninth Census [1870], Statistics of Wealth and Industry of the United States, III (U.S. Government Printing Office, 1872); p. 798.
28. The instructions were identical in 1870 and 1880; U.S. Bureau of the Census, "Twenty Censuses," pp. 19 and 22.
29. U.S. Bureau of the Census, "Twenty Censuses," p. 29.
30. U.S. Bureau of the Census, "Twenty Censuses," p. 35.
31. Moen, "Comment," p. 766. Moen misstates our position on this issue. He suggests that we claim the permanently unemployed were recorded with occupations by the enumerators but removed from the 1870 and 1880 lists of occupations when the manuscripts were edited in Washington. He asserts that we justified removing the

permanently unemployed from our 1900 estimate of the labor force in an attempt to achieve comparability with the earlier edited tabulations. He says such a procedure would be incorrect. "Because information on months of unemployment was not available in 1870 and 1880, these permanently unemployed individuals could not have been excluded from the occupation tables of those censuses;" p. 764. However, he misunderstands us. Our method of estimating the permanently unemployed in 1900 was our own device and was not patterned after a method employed in 1880. For the reasons stated both here and earlier, we believe that individuals who can be classified in group 2b, the so-called "permanently unemployed," were simply not recorded with an occupation in 1870 and 1880 but that many were in 1900. Incidentally, Moen is wrong when he claims that the 1880 census did not collect the months of unemployment, it did, in column 14 of the census form; U.S. Census, Twenty Censuses, p. 20. All experts agree, however, that Group 2a was probably under reported in that year.

32. Achenbaum rejected the published tabulation because he suspected an underenumeration of occupations of the elderly by the enumerators; Old Age in the New Land: The American Experience Since 1790, (Johns Hopkins University Press, 1978), p. 179.

33. Moen, "Comment," p. 766. We agree with Moen that Achenbaum is wrong; Ransom and Sutch, "Labor of Older Americans," p. 7. Daniel Scott Smith has also judged the occupational enumerations for the older population in 1880 to be reliable;

Daniel Scott Smith, "A Community-Based Sample of the Older Population From the 1880 and 1900 United States Manuscript Census," Historical Methods 11 (Spring 1978).

34. Moen confines himself to the comment "how the Census Office arrived at the published estimates is still not clear," Moen, "Comment," p. 766. Here again Moen seems confused. The Census Office was not reporting "estimates" but complete tabulations of the enumerators' returns.

35. The sample is mentioned, but described only in passing, in Daniel Scott Smith, "A Community-Based Sample." A codebook provides more information; Richard Jensen, Daniel Scott Smith, Mark W. Friedberger, Michel R. Dahlin, and Janice Reiff, "Old Age in the United States, 1880," Inter-university Consortium for Political and Social Research 8427 (First edition, Winter 1985). The data are available in machine-readable format from the Inter-university Consortium.

36. Moen, "Comment," Table 3, p. 765.

37. If both percentages were correct, they would imply a labor force participation rate for men 60 to 64 of only 44 percent. This would be dramatically lower than the 80 percent rate for this group of men reported for 1900.

38. Moen, "Essays," Table 3, p. 29. We believe Moen's estimate, based on gainful

occupation, is substantially in error; our estimate of labor force participation for men 65 and older in 1900 is 56.8 percent.

39. Smith, "Community-Based Sample," p. 67.

40. We have found cases where non-occupational titles were ruled over with a different pen than the enumerator's. Elsewhere small checkmarks appear next to proper occupations, but the non-occupational titles were not marked off.

41. The "peculiarity of occupation" variable in the Newberry tape included codes for: "no peculiarity of occupation;" "no occupation reported" (which meant the space was left blank); "retired" or "pensioner;" "institutionalized;" or occupation reported as "sick," "old," "lame," etc; Jensen, et al, "Old Age," p. 4.

42. The fact that we found relatively few people with non-occupational titles in the 1880 data (and no one reported as a capitalist or landlord) reinforces our contention that the census enumerators followed a definition of productive occupation consistent with modern labor force definitions. Presumably, such individuals -- many of whom were listed with gainful occupations in 1900 -- were explicitly entered as "retired" or were not recorded with occupations in 1880 and 1870. The original occupation data were made available to us through the assistance of Daniel Scott Smith and Janice Reiff.

43. Most of the difference in the two estimates is due to the exclusion of the

"permanently unemployed." We suspect that our adjustment remains incomplete, since it seems likely that the unemployment variable was not completely reported in 1880; see U.S. Census Office, 1900, Occupations, p. ccxxvii. The Newberry sample suggests an unemployment rate for men 65 and over of less than one percent. Forty of the 65 sampling units contained no individuals that reported unemployment.

44. Smith, "Community-Based Sample," pp. 67 and 73.

45. At the earlier date institutionalization was a common "solution" for the problem of the aged, particularly the infirm and dependent. The progressive reform movement that gained headway in the late-nineteenth century sought to prevent the reliance on these institutions as dumping grounds for the elderly. Also, the expansion of savings banks, tontine life insurance (an early form of self-financed pensions), and government pensions for Civil War veterans during this period probably meant that more older men had sufficient resources to avoid the need to resort to public charity in their old age than twenty years earlier. See Roger L. Ransom and Richard Sutch, "Tontine Insurance and the Armstrong Investigation: A Case of Stifled Innovation, 1868-1905," This Journal 47 (June 1987): 379-390.

46. The procedure was to choose every old person whose name appeared on every n-th page (50 names to a page). The value of n was chosen to obtain approximately 30 people. Smith, "Community-Based Sample," describes the procedures used.

47. When he reported results for the larger sample he drew from the 1900 Census, Smith employed such a weighting scheme. We adjusted the urban and rural components of each state represented in the sample using population weights taken from the published census; U.S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970 (Washington: Government Printing Office, 1975); Series A202-203, pp. 25-37.

48. The sampling error is taken as twice the standard error. This gives a 95 percent confidence interval. The standard error for a random sample is calculated as the square root of pq/n ; where p is the estimate of labor force participation, q is equal to $1-p$, and n is the sample size (740).

49. The labor force participation rates of older men for each state in 1870 and 1880 are discussed below and displayed in Figure 2. The proportion of older men working at selected occupations was reported in Ransom and Sutch, "Labor of Older Americans," Table 6, p. 22. When referring to that Table, note the similarity between the age structures of those with various occupations exhibited in 1870 and 1890 with that in 1880. This suggests that it is very unlikely that an unsystematic failure to fully tabulate the results for older men can explain the divergence between the Newberry sample and the published results.

50. Ransom and Sutch, "Labor of Older Americans," pp. 7-8.

51. A two-letter abbreviation is used to plot the position of each state on the diagram. The code "WE" at the lower left signifies the Western region defined to include the states and territories of Washington, Oregon, California, Idaho, Montana, Nevada, Utah, Wyoming, Colorado, Arizona, New Mexico, Dakota, and Nebraska. Washington, D.C., is included in Maryland. Illinois and New York occupy the same point on the diagram designated by the letters "NY." The state of Louisiana is omitted from the diagram because of an obvious error in the number of male farm laborers 60 and over reported in 1880. The published figures report more older men with occupations in that state than the total number of men 60 and over. The data for 1870 are taken from U.S. Census Office, Ninth Census [1870], The Statistics of the Population of the United States I (U.S. Government Printing Office, 1872), Table XVIII, p. 698, and Table XXX, p. 736; and The Vital Statistics of the United States II (U.S. Government Printing Office, 1873), Table XXXIII, pp. 560-574. The data for 1880 are from U.S. Census Office, Tenth Census [1880], Statistics of Population at the Tenth Census (U.S. Government Printing Office, 1882), Table XXI, pp. 548-645, Table XXX, p. 714, XXXIV, p. 825.

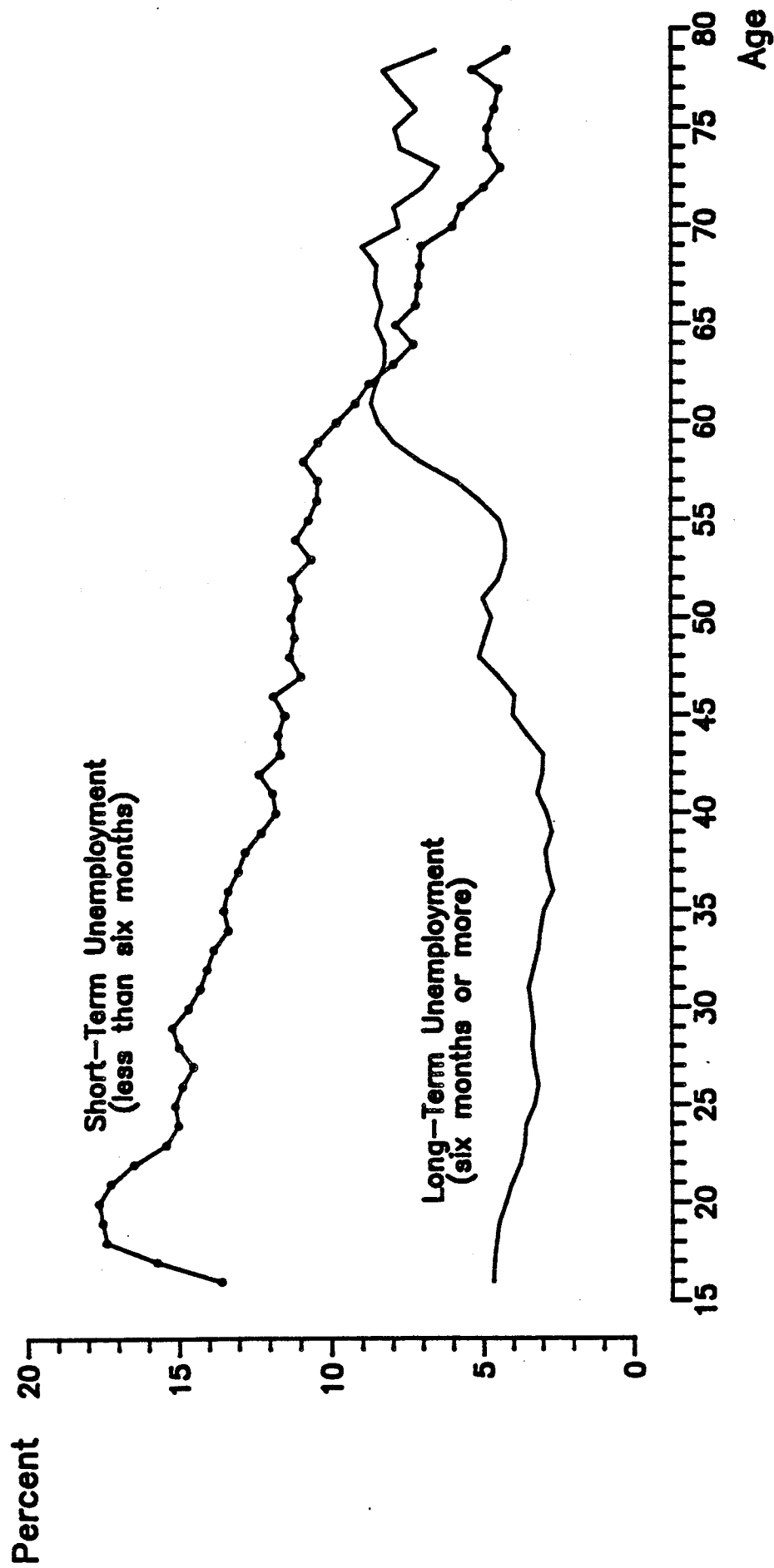


Figure 1
Percent of Men Reporting Non-employment in 1900
By Age and Duration of Unemployment

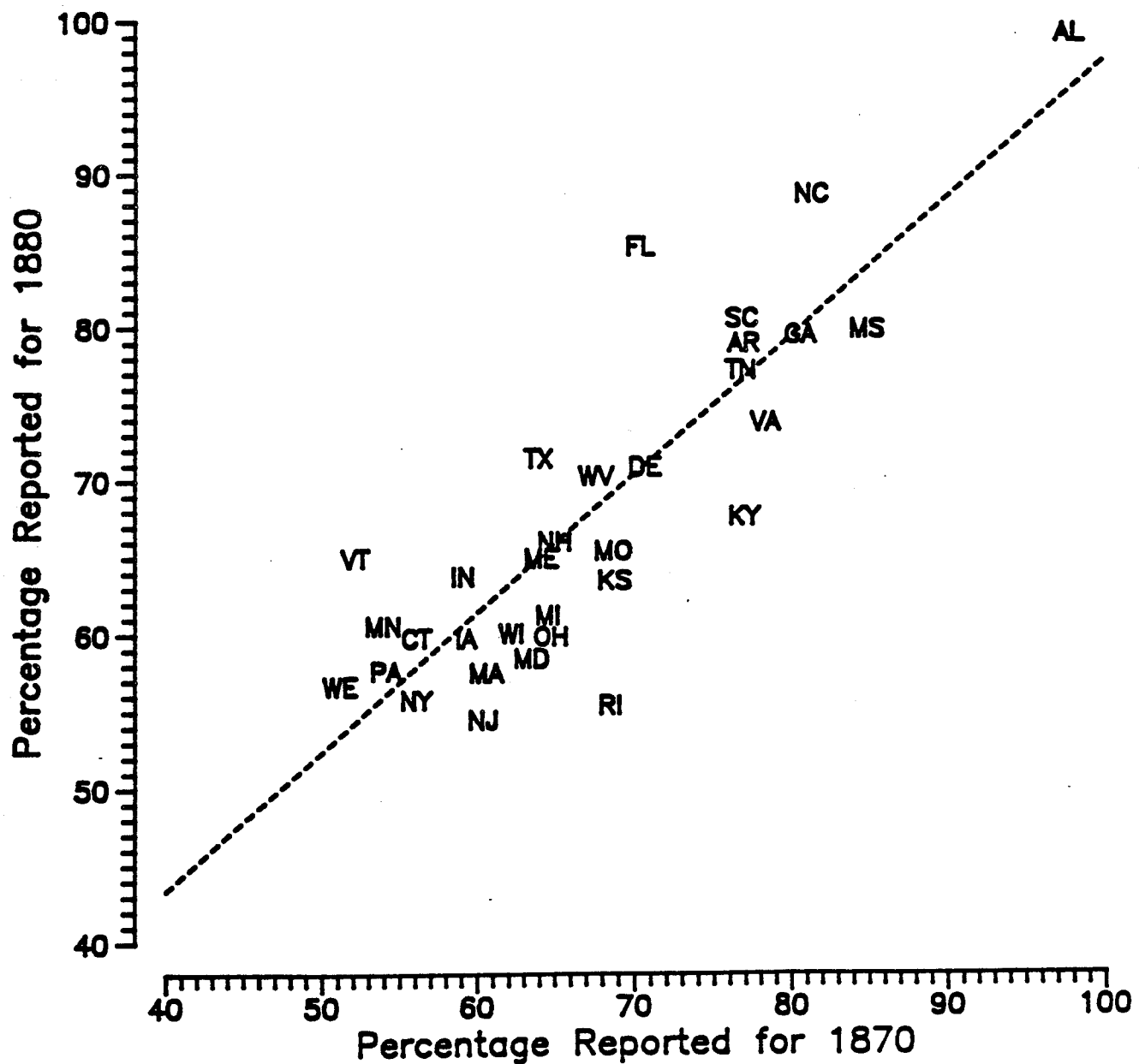


Figure 2
Labor Force Participation Rates for Men 60 and Over
Published Census Data for 45 States, 1870 and 1880