

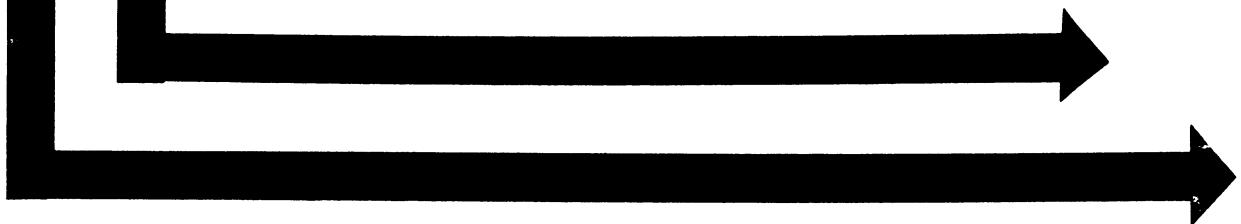
California. University.

WORKING PAPER SERIES - No. 41

PRODUCTIVITY, LABOR FORCE, AND EMPLOYMENT
IN HISTORICAL PERSPECTIVE

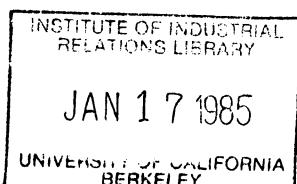
by

Michael R. Darby*



*Department of Economics, U.C.L.A.
Institute of Industrial Relations, U.C.L.A. (Los Angeles),
National Bureau of Economic Research

Los Angeles, April 1982



PRODUCTIVITY, LABOR FORCE, AND EMPLOYMENT
IN HISTORICAL PERSPECTIVE

by Michael R. Darby*
Department of Economics, U.C.L.A.
Institute of Industrial Relations, U.C.L.A.
National Bureau of Economic Research

One of the lasting products of the WPA was the development of the procedures and concepts upon which our current labor force statistics rest. The basic surveys began shortly prior to American entry into World War II and essentially complete data series exist beginning in 1947 and 1948. These data series provide the basis for the bulk of analyses of American productivity growth. This paper constructs continuous data series extending back at least to 1900 and in many cases to 1889. From the perspective of the entire twentieth century, recent productivity trends seem much less worrisome. In particular post-1965 productivity growth appears very similar to that in 1900-1929 when labor market conditions were similar in terms of the growth of new, relatively unskilled entrants.

The new estimates of labor force, employment, and productivity are presented first in Section I. Most of the details are presented in footnotes to the data tables, but an overview of the strengths and weaknesses of the series is necessary before advancing hypotheses on recent productivity trends. Trends in labor, employment, and productivity growth are examined in Section II. The results are summarized and future research proposed in the concluding Section III.

I. The Historical Estimates

The guiding principle used in constructing the estimates reported here was to create long series directly linked to current, publicly available, and maintained series. The series can be divided into two types: The first, described in Part A of this section, deals with the labor force and employment, both civilian and total, by age and sex; supplementary estimates of private employment by age and sex are also reported. The second type, reported in Part B, comprises data on total and average weekly hours and on output as measured by both real gross national product and real gross private product.

A. Labor Force and Employment

Estimates have been developed for labor force and employment, both total and civilian, by sex and age group. Given the assumptions required to fill in numerous missing data points (primarily between the pre-World-War-II census years) the age breakdown is limited to under 25 ("young") and over 24 ("old"). These data are believed in general to accurately reflect both broad trends and major cyclical movements, but an exception must be made for years affected by World War I and World War II. In particular the age-sex breakdowns may be misleading for 1917-1918 and 1941-1946 as detailed below.

To obtain reasonably consistent labor force estimates for 1890-1980, it was necessary to work back and forth between available data on the total and civilian labor force and the military. We started with the basic Bureau of Labor Statistics data set on both labor force concepts for 1947-1979 as contained in Bureau of Labor Statistics (1980, pp. 5-9, 10-12).

Much more detailed breakdowns by age are available in that data set, but age cells were combined to obtain the data for 16-24 and 25 and over reported in Tables 1 and 2. The values for 1980 were completed from current sources as noted. The differences between the two series imply the age-sex breakdown of the armed forces for 1947-1980 (Table 5) which can be added to civilian employment (Table 4) to obtain total employment (Table 3). For 1929-1946 we use the B.L.S. data on total and civilian employment with the addition of the Emergency Workers reported in Darby (1976); Lebergott's data are used for the same series for 1890-1928. The difference between these two series gives us our data for total armed forces. Civilian labor force before 1947 is obtained similarly from the B.L.S. and Lebergott sources with total labor force from the B.L.S. data for 1929-1946 and from the sum of civilian labor force and armed forces for 1890-1928. It should be noted that age eligibility for the labor force data increased from 14 to 16 in 1947.

Thus we have complete age-sex breakdowns after 1946 and complete data on the aggregate concepts before 1947. Total labor force age-sex shares were computed from annual 1940-1946 and (Durand's) census data for 1890, 1900, 1920, and 1930. Linear interpolations were used to fill in the shares for the missing years. These shares were then used to complete the age-sex breakdown in Table 1.

Before 1947 we assumed that the armed forces were all male and that the share of young males was equal to the 1947-1979 average. This will cause significant problems in the sex distribution only during 1942-1946.¹ We suspect but cannot show that there may be some significant errors in the male age distribution during 1898, 1917-1919, and 1940-1946, but otherwise

the armed forces were so small relative to the labor force that we believe this approximation will serve to permit us to form reasonable age-sex breakdowns of the civilian labor force by subtraction from the total labor force.

Total employment is broken down by age and sex by using the previously computed total labor force shares. This implicitly assumes the same distribution of unemployment by age and sex as of employment. While not an entirely satisfactory assumption, it is more acceptable in this earlier period with relatively ineffective or nonexistent minimum wage laws than it would be in the post-war period. Civilian employment by age and sex for 1890-1946 is again derived by subtraction of the corresponding armed forces data.

In conclusion, the data in Tables 1 through 5 appear to be reasonably consistent for 1890-1980, but the age-sex breakdowns are only best estimates. These estimates would seem quite adequate to support statements concerning longer term trends, but must be used with caution for short period analysis, before 1947, and particularly during war years.

Estimates of private employment were also obtained by subtracting from civilian employment total civilian government employment. No age-sex breakdown of the latter was available so we simply assumed that the private and government age-sex proportions were identical. This introduces another source of error into the data in Table 7 which applies to the whole period 1900-1980.

B. Hours, Output, and Productivity

Six distinct concepts of hours are reported in Table 8. One distinction is between hours worked and hours paid for. Since 1965 average

hours worked by employed civilians is taken from the Current Population Survey data. Before that Kendrick's data was used. These average hours are applied to the data for civilian and total employment to obtain estimates of total hours worked.² Kendrick data for total private hours worked is used before 1966 while the total hours paid data after 1965 are adjusted for movements in average hours worked relative to those paid for. All early data are adjusted for a sharp break in reporting practices which occurred in 1934 as explained in note a to Table 8.³

Total hours paid of all persons in the private business sector is the standard hours concept in productivity studies. The current series is extended back to 1909 by BLS establishment data and before that by Kendrick data. The average hours paid for production and nonsupervisory employees is extended back to 1909 by use of the ratio of hours paid to hours worked. Before then only average hours worked was available. While these methods should provide reasonably consistent series for analysis of productivity trends, they are obviously far from perfect.

It was straightforward to obtain continuous gross national product and gross private product series from 1889 to 1980. These were used to obtain four measures of productivity corresponding to the four measures of total hours. The first two, which divide GNP by total hours worked in the total and civilian economy, respectively, are subject to the usual criticisms of the difficulties in measuring government output. As a result the indexes of GPP to measures of total private hours are more attractive for many problems. As mentioned before the ratio of GPP to total hours paid has been a standard yardstick in the productivity literature, but the index

based on total hours worked in the private economy also has its attractions. The former is biased by movements in hours paid versus hours worked while the latter is biased by movements in average private versus civilian hours worked. There seems to be no a priori basis for knowing which source of measurement error would be more important.

II. Trends in Labor, Employment, and Productivity Growth

The discussion in this section is limited to 1900-1978.⁴ We first note that labor force and employment growth is divided into three distinct eras by 1929 when the national origin quotas first became effective and by 1965 when these quotas were replaced by much looser limits and the postwar baby boom began to enter the labor market.⁵ Growth rates for five measures of the labor force and employment are reported in Table 10 for the whole period, the three main subperiods, and relevant sub-sub-periods. By any measure the 1929-1965 subperiod is one of considerably slower growth than either 1900-1929 or 1965-1978, and this is especially true for private employment which is the measure of greatest interest in analyzing productivity trends. Although many analysts have analyzed postwar productivity growth in terms of 1948-1965, 1965-1973, and 1973-1978, such finer divisions of the major subperiods would not be suggested by anything in the labor growth data. We note that most of the above average growth in the 1900-1929 period seems to be related to the period of massive immigration prior to America's entry in World War I.

The growth in average hours reported in Table 11 appears extremely stable by comparison, especially so for the civilian average hours worked measure. There has, however, been a small increase in the rate of decline in the two average hours paid measures in the 1965-1978 period.⁶ The pattern of growth of average hours within the 1900-1929 cannot be known with any great degree of confidence. The relatively stable rates of decline reported for AHW and AHPN appear most nearly correct while the variation in the implied growth of AHP appears to be an artifact of divergences between our early estimates of private employment and those used by our source for

total private hours.⁷ Certainly the dominant factor determining the variation in the growth of total hours across various subperiods is the variation in the previously reported measures of employment.

Four measures of total hours are analyzed in Table 12. Using the standard private hours paid concept for example, we note that average growth was nearly 1 percentage point lower during 1929-1965 than during 1900-1929 and 1965-1978. Since GPP growth falls during the middle period by only about $\frac{1}{2}$ percentage point, the corresponding measure of productivity growth is about $\frac{1}{2}$ percentage point higher in the middle period than in 1900-1929 and 1965-1978 (see Table 13). Similar statements could be made about the alternative measures of total hours and their corresponding productivity measures.

Note, however, the sharp contrast between the stability of the labor force and hours growth within the 1929-1965 and 1965-1978 periods and the variation in gross product and hence productivity measures.⁸ Across the major subperiods, the variation in growth of hours is much greater than output, but just the opposite is true within these subperiods. This fact leads us to some conclusions about recent fluctuations in productivity growth and the type of approach needed to explain them.

III. Conclusions and Implications for Future Research

A historical perspective suggests that separate explanations are required to understand on the one hand secular effects on productivity growth associated with secular movements in hours growth and on the other hand movements in output and productivity growth within periods of stable growth in total hours. We see that in secular terms post-1965 productivity growth has been very similar to that in the 1900-1929 period when growth in total hours was also similar. One hypothesis which would explain the higher secular productivity growth in 1929-1965 is that the slowdown in growth in total hours is overstated in efficiency units because of the importance as a source of growth in total hours of immigrants in 1900-1929 and immigrants and young people in the post-1965 period.

Separate forces appear to be determining the movements within the periods of stable total-hours growth. For example, slower productivity growth in 1929-1948 than in 1948-1965 may be due to very slow capital accumulation during 1929-1948 followed by rapid postwar recovery in the capital-labor ratio. In future research, the author will investigate the extent to which more rapid growth in 1965-1973 versus post 1973 can be attributed on the one hand to the OPEC shock and on the other to over-reporting of 1973 real income due to general price controls.⁹

In conclusion, a historical perspective suggests that recent movements in productivity growth are neither unprecedented nor cause for precipitant policy response. Indeed apparently reasonable hypotheses would not associate these recent variations with any substantial secular slowdown in total or labor productivity growth.

REFERENCES

- Darby, Michael R., "Three-and-a-Half Million U.S. Employees Have Been Mislaid: Or, an Explanation of Unemployment, 1934-1941," Journal of Political Economy, February 1976, 84: 1-16.
- _____, "The Price of Oil and World Inflation and Recession," American Economic Review, September 1982, 72: in press.
- Godson, Susan W., "The Waves in World War II," U.S. Naval Institute Proceedings, December 1981, 107 (12): 46-51.
- Kendrick, John W., Productivity Trends in the United States, Princeton: Princeton University Press for the N.B.E.R., 1961.
- Lebergott, Stanley, Manpower in Economic Growth: The American Record Since 1800, New York: McGraw-Hill Book Co., 1964.
- Treadwell, Mattie E., The Women's Army Corps, United States Army in World War II, Special Studies, Washington: U.S. Government Printing Office, 1953.
- U.S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, 2 Volumes, Washington: U.S. Government Printing Office, 1975.
- U.S. Bureau of Economic Analysis, Long Term Economic Growth, 1860-1970, Washington: U.S. Government Printing Office, 1973.
- U.S. Bureau of Labor Statistics, Handbook of Labor Statistics, 1979, Washington: U.S. Government Printing Office, 1980.
- U.S. Council of Economic Advisers, Economic Report of the President, 1981, Washington: U.S. Government Printing Office, 1981.
- U.S. Department of Defense, Selected Manpower Statistics, FY 1979, Washington: Dept. of Defense, 1980.

U.S. Naval Military Personnel Command, Women in the Navy Information Book,
Washington, Department of the Navy, 1979.

FOOTNOTES

*The author's research was supported in large part by the Institute of Industrial Relations at University of California, Los Angeles. Charles S. Morris provided above research assistance. Any opinions expressed are those of the author and not necessarily those of the organizations with which he is affiliated.

¹That is, male civilian employment will be overstated and female civilian employment understated by the number of women in the armed forces. At peak strength (May 31, 1945) this amounted to 266,256 women of whom 14,458 (approximately half nurses) were still in uniform on June 30, 1946. [U.S. Department of Defense (1980, p. 112)]. The Women's Reserve of the U.S. Naval Reserve was established on June 30, 1942. Before that and with isolated exceptions the only women who were full members of the armed forces were some 13,000 total (peak strength 11,275) Yeomen (F) enlisted by the Navy during World War I. The Army Nurse Corps (established 1901) and Navy Nurse Corps (1908) were not granted full military status until 1944. Members of the Women's Army Auxiliary Corps (established May 16, 1942) were not in the Army. The Women's Army Corps (July 1, 1943) brought women into the Army, but not all WAACs elected to become WACs. [Godson (1981), Treadwell (1953), U.S. Naval Military Personnel Command (1979).] It appears to be a major research project to develop a consistent series on female members of the armed forces and that effort is left to the future.

²Note that this assumes the military average hours are the same as civilians.

³It is clear that a large number of firms ceased to report lunch and other break time as hours worked or paid from 1934 on. For details, see Darby (1976, pp. 9-11).

⁴In large part these limits were suggested by a larger analysis of productivity trends of which the current paper is a start. The year 1900 is the start of the century, the beginning of the private employment data, and a year of roughly normal (5%) unemployment. The year 1978 is another year of normal (6%) unemployment if allowance is made for intervening changes in age-sex composition. It is of course convenient and therefore popular to measure trends between such "normal" years so that no adjustments need be made to allow for cyclical factors.

⁵Sanford M. Jacoby has observed that the decrease in immigration around 1929 started with the 1925 imposition of an aggregate quota which applied through 1929 and that the Great Depression and World War II were other important factors limiting movement into the United States.

⁶The reason is not known for the difference between the household survey data on average hours worked per employed person and the establishment data on average hours paid for per production on other nonsupervisory employees. It might reflect increased moonlighting (higher hours per person but less hours per employee). The growth in average private hours paid per person employed in the private sector is computed as the growth rate of the ratio of total private hours paid for (all employees, private business sector, establishment data) to private employment. The deceleration

in this AHP measure is less than in the AHPN measure either due to increased moonlighting or less negative growth in average supervisory hours. The remaining 0.2% discrepancy between the growth rates of the AHW and AHP measures could be attributed to shifts in the government/private employment mix and to less negative growth in average hours worked per government employee, but data is lacking to demonstrate this. Another possibility is a yet unidentified change in reporting procedures for the establishment data -- such a change occurred in 1934 with the introduction of the N.I.R.A. codes and minimum wages, but the hours data were adjusted for that.

⁷Kendrick (1961, pp. 306-307) used a private persons-engaged definition instead of our private employment. His definition had average annual growth rates of 1.84%, 2.36%, and 1.21%, for 1900-1929, 1900-1916, and 1916-1929, respectively. Thus, while growth over the longer period 1900-1929 is nearly identical to that in our estimates (1.77%); he records more variable growth within the period. This certainly suggests that the pre-1929 data should be used cautiously in making comparisons over shorter periods.

⁸The 1900-1929 period is not considered here for reasons discussed in note 7 above.

⁹Darby (1982) presents substantial evidence that the effects of the oil shocks of 1973-1974 and 1979-1980 are statistically insignificant in equations which allow for reporting biases due to price controls.

TABLE 1
Total Labor Force by Sex and Age
1890-1980

Year	Total ^a TLF	Males			Females		
		Total ^a TLF M.	Young ^a TLF MY	Old TLF MO	Total ^a TLF F.	Young ^a TLF FY	Old TLF FO
1889							
1890	23487.0	19502.4	5199.1	14303.2	3984.6	2067.6	1917.0
1891	24072.9	19961.9	5330.3	14631.5	4111.0	2117.1	1993.9
1892	24658.6	20420.0	5461.6	14958.4	4238.6	2166.4	2072.2
1893	25244.9	20877.1	5593.1	15284.1	4367.7	2215.7	2152.0
1894	25831.0	21332.9	5724.6	15608.4	4498.1	2264.9	2233.2
1895	26416.7	21787.0	5856.0	15931.0	4629.7	2313.9	2315.7
1896	27001.6	22239.1	5987.4	16251.7	4762.5	2362.8	2399.6
1897	27587.4	22690.7	6119.1	16571.6	4896.7	2411.7	2485.1
1898	28173.4	23141.1	6250.8	16890.3	5032.3	2460.4	2571.9
1899	28758.9	23589.7	6382.6	17207.2	5169.1	2509.0	2660.1
1900	29344.7	24037.4	6514.4	17522.9	5307.3	2557.6	2749.7
1901	30135.4	24649.8	6618.3	18031.4	5485.6	2623.3	2862.3
1902	30901.4	25240.1	6713.1	18527.1	5661.2	2686.7	2974.6
1903	31716.9	25869.1	6814.8	19054.3	5847.8	2754.2	3093.6
1904	32483.0	26455.9	6902.2	19553.7	6027.1	2817.3	3209.8
1905	33368.4	27138.0	7011.0	20127.0	6230.5	2890.5	3340.0
1906	34308.3	27862.2	7126.9	20735.3	6446.1	2968.3	3477.9
1907	35311.2	28635.3	7251.3	21384.0	6675.9	3051.3	3624.7
1908	36077.6	29214.5	7322.9	21891.6	6863.1	3113.6	3749.4
1909	36917.6	29851.5	7405.6	22445.9	7066.1	3182.2	3883.9
1910	37942.2	30635.5	7520.9	23114.6	7306.6	3266.5	4040.2
1911	38738.1	31232.8	7586.6	23646.2	7505.3	3330.9	4174.4
1912	39209.6	31567.0	7585.7	23981.3	7642.6	3367.2	4275.3
1913	39982.8	32142.7	7640.2	24502.5	7840.1	3429.4	4410.7
1914	40736.8	32701.1	7687.5	25013.7	8035.6	3489.7	4545.9
1915	40953.0	32826.8	7630.9	25195.9	8126.3	3503.9	4622.4
1916	41430.6	33161.0	7621.4	25539.6	8269.5	3540.3	4729.2
1917	41950.0	33527.6	7617.2	25910.4	8422.4	3580.2	4842.1
1918	43226.6	34497.3	7746.2	26751.1	8729.3	3684.6	5044.7
1919	42462.3	33837.6	7508.3	26329.3	8624.7	3614.9	5009.8
1920	42956.7	34181.3	7493.6	26687.7	8775.4	3652.4	5123.0
1921	43596.5	34624.9	7538.3	27086.6	8971.6	3695.5	5276.1
1922	44039.9	34910.9	7547.4	27363.5	9129.0	3721.6	5407.4
1923	44994.0	35599.6	7641.8	27957.8	9394.4	3790.5	5603.9
1924	45821.0	36185.1	7712.0	28473.1	9635.9	3848.2	5787.7
1925	46535.2	36679.2	7760.8	28918.4	9855.9	3896.0	5959.9
1926	47244.7	37167.5	7806.6	29360.9	10077.2	3943.1	6134.1
1927	48016.0	37702.2	7860.4	29841.8	10313.8	3995.0	6318.8
1928	48770.8	38221.6	7909.1	30312.5	10549.2	4045.1	6504.1
1929	49440.0	38671.8	7941.8	30730.0	10768.2	4087.7	6680.5
1930	50080.0	39097.2	7967.7	31129.4	10982.8	4127.6	6855.3
1931	50680.0	39397.8	8049.1	31348.6	11282.2	4174.9	7107.3
1932	51250.0	39671.3	8125.5	31545.8	11578.7	4219.7	7359.1
1933	51840.0	39956.4	8204.6	31751.7	11883.6	4266.0	7617.6
1934	52490.0	40283.7	8293.0	31990.7	12206.3	4317.3	7889.0
1935	53140.0	40606.6	8380.9	32225.7	12533.4	4368.5	8164.9
1936	53740.0	40887.2	8460.7	32426.5	12852.8	4415.6	8437.2
1937	54320.0	41148.7	8536.9	32611.8	13171.3	4460.9	8710.4
1938	54950.0	41444.1	8620.7	32823.4	13505.9	4510.3	8995.6
1939	55600.0	41750.3	8707.2	33043.0	13849.7	4561.4	9288.4
1940	56180.0	41999.8	8782.5	33217.3	14180.2	4606.6	9573.6
1941	57530.0	42938.2	9349.1	33589.1	14591.8	4624.1	9767.7
1942	60380.0	44236.6	9768.1	34468.5	16143.4	5284.4	10859.0
1943	64560.0	45793.9	10653.7	35140.3	18766.1	6089.2	12676.8
1944	66040.0	46731.9	10963.5	35768.3	19308.1	6213.7	13094.5
1945	65300.0	46265.3	10316.2	35949.0	19034.7	5947.1	13087.6
1946	60970.0	48007.6	8561.8	35445.8	16962.8	5006.1	11956.3
1947	60941.0	44258.0	8147.0	36109.0	16683.0	4560.0	12123.0
1948	62080.0	44729.0	8119.0	36611.0	17351.0	4556.0	12796.0
1949	62903.0	45097.0	8097.0	36998.0	17806.0	4475.0	13333.0
1950	63858.0	45446.0	8045.0	37401.0	18412.0	4395.0	14018.0
1951	65117.0	46063.0	8132.0	37930.0	19054.0	4433.0	14621.0
1952	65730.0	46416.0	8035.0	38381.0	19314.0	4277.0	15038.0
1953	66560.0	47131.0	7861.0	39273.0	19429.0	4160.0	15266.0
1954	66993.0	47275.0	7685.0	39593.0	19718.0	4129.0	15593.0
1955	68072.0	47488.0	7663.0	39825.0	20584.0	4187.0	16395.0

TABLE 1 (Continued)

Year	TLF	TLF _{M.}	TLF _{MY}	TLF _{MO}	TLF _{F.}	TLF _{FY}	TLF _{FO}
1956	69409.0	47914.0	7761.0	40157.0	21495.0	4335.0	17159.0
1957	69729.0	47964.0	7766.0	40198.0	21765.0	4319.0	17446.0
1958	70275.0	48126.0	7800.0	40325.0	22149.0	4348.0	17802.0
1959	70921.0	48605.0	8029.0	40375.0	22516.0	4386.0	18130.0
1960	72142.0	48870.0	8273.0	40596.0	23272.0	4652.0	18621.0
1961	73031.0	49193.0	8416.0	40779.0	23838.0	4856.0	18981.0
1962	73442.0	49395.0	8524.0	40871.0	24047.0	4966.0	19082.0
1963	74571.0	49835.0	8877.0	40961.0	24736.0	5208.0	19527.0
1964	75830.0	50387.0	9279.0	41106.0	25443.0	5541.0	19900.0
1965	77178.0	50946.0	9757.0	41187.0	26232.0	5894.0	20337.0
1966	78893.0	51560.0	10262.0	41299.0	27333.0	6481.0	20852.0
1967	80793.0	52398.0	10760.0	41640.0	28395.0	6878.0	21519.0
1968	82272.0	53030.0	10983.0	42046.0	29242.0	7199.0	22042.0
1969	84240.0	53688.0	11370.0	42316.0	30551.0	7724.0	22827.0
1970	85903.0	54343.0	11773.0	42570.0	31560.0	8143.0	23417.0
1971	86929.0	54797.0	12097.0	42700.0	32132.0	8391.0	23741.0
1972	88991.0	55671.0	12586.0	43085.0	33320.0	8913.0	24407.0
1973	91040.0	56879.0	13060.0	43419.0	34561.0	9427.0	25134.0
1974	93240.0	57349.0	13294.0	44055.0	35892.0	9872.0	26020.0
1975	94793.0	57706.0	13313.0	44393.0	37087.0	10175.0	26912.0
1976	96917.0	58397.0	13599.0	44798.0	38520.0	10498.0	28022.0
1977	99534.0	59467.0	13938.0	45529.0	40067.0	10905.0	29162.0
1978	102537.0	60535.0	14194.0	46341.0	42002.0	11408.0	30594.0
1979	104996.0	61466.0	14292.0	47174.0	43531.0	11604.0	31927.0
1980	106821.0	62088.0	14213.0	47875.0	44733.0	11528.0	33205.0

Units: Thousands of persons.

Sources: All Series

1947-1979: U.S. Bureau of Labor Statistics (1980), Tables 1 and 2, pp. 5-9, with age cells combined.

1980: Employment and Earnings, January 1981, 28 (no. 1): 162, 164-165, Tables 1, 3, with age cells combined.

TLF only

1929-1946: U.S. Bureau of Economic Analysis (1973), Series A108 [BLS], pp. 200-201.

1890-1928: Civilian Labor Force (CLF) from Table 2 below + Armed Forces (AF) from Table 5 below.

Other Series

1890-1946: Product of TLF and corresponding shares from Table 6 below.

Notes: a. Age-eligibility for inclusion in the labor force was 14 or older for 1890-1946 and 16 or older for 1947-1980.

TABLE 2
Civilian Labor Force by Sex and Age
1890-1980

Year	Total ^a	Males			Females		
		Total ^a	Young ^a	Old	Total ^a	Young ^a	Old
		CLF	CLF M.	CLF MY	CLF F.	CLF FY	CLF FO
1889							
1890	23450.5	19465.9	5177.2	14288.7	3984.6	2067.6	1917.0
1891	24037.5	19926.5	5309.1	14617.5	4111.0	2117.1	1993.9
1892	24622.4	20383.8	5439.8	14944.0	4238.6	2166.4	2072.2
1893	25208.4	20840.7	5571.1	15269.6	4367.7	2215.7	2152.0
1894	25791.3	21293.2	5700.6	15592.5	4498.1	2264.9	2233.2
1895	26377.2	21747.5	5832.3	15915.2	4629.7	2313.9	2315.7
1896	26962.1	22199.7	5963.7	16236.0	4762.5	2362.8	2399.6
1897	27546.0	22649.3	6094.1	16555.2	4896.7	2411.7	2485.1
1898	27934.3	22902.0	6106.8	16795.1	5032.3	2460.4	2571.9
1899	28660.3	23491.2	6323.2	17168.0	5169.1	2509.0	2660.1
1900	29221.5	23914.2	6440.3	17473.9	5307.3	2557.6	2749.7
1901	30021.7	24536.1	6549.8	17986.2	5485.6	2623.3	2862.3
1902	30795.0	25133.8	6649.0	18484.8	5661.2	2686.7	2978.6
1903	31612.7	25764.9	6752.1	19012.8	5847.8	2754.2	3093.6
1904	32377.8	26350.8	6838.9	19511.9	6027.1	2817.3	3209.8
1905	33261.4	27031.0	6946.6	20084.4	6230.5	2890.5	3340.0
1906	34201.6	27755.5	7062.7	20692.8	6446.1	2968.3	3477.9
1907	35201.5	28525.6	7185.2	21340.4	6675.9	3051.3	3624.7
1908	35956.4	29093.3	7249.9	21843.4	6863.1	3113.6	3749.4
1909	36785.4	29719.3	7326.0	22393.3	7066.1	3182.2	3883.9
1910	37802.8	30496.2	7437.0	23059.2	7306.6	3266.5	4040.2
1911	38594.7	31089.4	7500.3	23589.2	7505.3	3330.9	4174.4
1912	39062.2	31419.7	7497.0	23922.7	7642.6	3367.2	4275.3
1913	39827.4	31987.3	7546.7	24440.6	7840.1	3429.4	4410.7
1914	40575.0	32539.4	7590.1	24949.3	8035.6	3489.7	4545.9
1915	40779.9	32653.7	7526.7	25127.0	8126.3	3503.9	4622.4
1916	41250.6	32981.0	7513.0	25468.0	8269.5	3540.3	4729.2
1917	41215.6	32793.2	7174.9	25618.2	8422.4	3580.2	4842.1
1918	40240.3	31511.0	5948.0	25563.0	8729.3	3684.6	5044.7
1919	40878.8	32254.1	6554.8	25699.3	8624.7	3614.9	5009.8
1920	42571.8	33796.4	7261.8	26534.6	8775.4	3652.4	5123.0
1921	43229.8	34258.2	7317.5	26940.7	8971.6	3695.5	5276.1
1922	43762.2	34633.3	7380.2	27253.0	9129.0	3721.6	5407.4
1923	44738.5	35344.1	7488.0	27856.1	9394.4	3790.5	5603.9
1924	45553.1	35917.2	7550.7	28366.5	9635.9	3848.2	5787.7
1925	46518.9	36658.9	7748.6	28910.4	9855.9	3896.0	5959.9
1926	46988.6	36911.4	7652.4	29259.0	10077.2	3943.1	6134.1
1927	47756.8	37443.0	7704.3	29738.6	10313.8	3995.0	6318.8
1928	48508.6	37959.4	7751.2	30208.1	10549.2	4045.1	6504.1
1929	49180.0	38411.8	7785.2	30626.5	10768.2	4087.7	6680.5
1930	49820.0	38837.2	7811.2	31025.9	10982.8	4127.6	6855.3
1931	50420.0	39137.8	7892.6	31245.2	11282.2	4174.9	7107.3
1932	51000.0	39421.3	7974.9	31446.3	11578.7	4219.7	7359.1
1933	51590.0	39706.4	8054.1	31652.3	11883.6	4266.0	7617.6
1934	52230.0	40023.7	8136.4	31887.2	12206.3	4317.3	7889.0
1935	52870.0	40336.6	8218.3	32118.2	12533.4	4368.5	8164.9
1936	53440.0	40587.2	8280.0	32307.2	12852.8	4415.6	8437.2
1937	54000.0	40828.7	8344.2	32484.5	13171.3	4460.9	8710.4
1938	54610.0	41104.1	8416.0	32688.1	13505.9	4510.3	8995.6
1939	55230.0	41380.3	8484.5	32895.8	13849.7	4561.4	9288.4
1940	55640.0	41459.8	8457.3	33002.5	14180.2	4606.6	9573.6
1941	55910.0	41318.2	8373.6	32944.5	14591.8	4824.1	9767.7
1942	56410.0	40266.6	7377.6	32889.1	16143.4	5284.4	10859.0
1943	55540.0	36773.9	5222.4	31551.6	18766.1	6089.2	12676.8
1944	54630.0	35321.9	4093.1	31228.8	19308.1	6213.7	13094.5
1945	53860.0	34825.3	3427.7	31397.6	19034.7	5947.1	13087.6
1946	57520.0	40557.6	6484.4	34073.2	16962.4	5006.1	11956.3
1947	59350.0	42686.0	7117.0	35569.0	16664.0	4551.0	12114.0
1948	60621.0	43286.0	7274.0	36013.0	17335.0	4554.0	12783.0
1949	61286.0	43498.0	7158.0	36342.0	17788.0	4470.0	13319.0
1950	62208.0	43819.0	7136.0	36685.0	18389.0	4387.0	14003.0
1951	62017.0	43001.0	6281.0	36720.0	19016.0	4416.0	14601.0
1952	62138.0	42869.0	5649.0	37221.0	19269.0	4254.0	15016.0
1953	63015.0	43633.0	5373.0	38261.0	19382.0	4134.0	15245.0
1954	63643.0	43965.0	5349.0	38618.0	19678.0	4106.0	15573.0
1955	65023.0	44475.0	5590.0	38887.0	20548.0	4169.0	16381.0

TABLE 2 (Continued)

Year	CLF	CLF _{M*}	CLF _{MY}	CLF _{MO}	CLF _F	CLF _{FY}	CLF _{FO}
1956	66552.0	45091.0	5919.0	39173.0	21461.0	4318.0	17143.0
1957	66929.0	45197.0	6043.0	39155.0	21732.0	4302.0	17430.0
1958	67639.0	45521.0	6199.0	39321.0	22118.0	4332.0	17786.0
1959	68369.0	45886.0	6538.0	39349.0	22483.0	4369.0	18116.0
1960	69628.0	46388.0	6909.0	39480.0	23240.0	4635.0	18605.0
1961	70459.0	46653.0	7048.0	39605.0	23806.0	4839.0	18966.0
1962	70614.0	46600.0	7048.0	39552.0	24014.0	4949.0	19067.0
1963	71833.0	47129.0	7421.0	39707.0	24704.0	5190.0	19514.0
1964	73091.0	47679.0	7828.0	39849.0	25412.0	5524.0	19887.0
1965	74455.0	48255.0	8291.0	39962.0	26200.0	5877.0	20324.0
1966	75770.0	48471.0	8504.0	39967.0	27299.0	6462.0	20837.0
1967	77347.0	48987.0	8677.0	40312.0	28360.0	6854.0	21509.0
1968	78737.0	49533.0	8751.0	40777.0	29204.0	7173.0	22031.0
1969	80734.0	50221.0	9153.0	41071.0	30513.0	7697.0	22815.0
1970	82715.0	51195.0	9714.0	41480.0	31520.0	8115.0	23405.0
1971	84113.0	52021.0	10355.0	41667.0	32091.0	8363.0	23728.0
1972	86542.0	53265.0	11152.0	42113.0	33277.0	8881.0	24397.0
1973	88714.0	54203.0	11745.0	42460.0	34510.0	9389.0	25121.0
1974	91011.0	55186.0	12075.0	43111.0	35825.0	9821.0	26004.0
1975	92613.0	55615.0	12158.0	43456.0	36998.0	10108.0	26891.0
1976	94773.0	56359.0	12498.0	43861.0	38414.0	10418.0	27995.0
1977	97401.0	57449.0	12862.0	44586.0	39952.0	10823.0	29129.0
1978	100420.0	58542.0	13141.0	45402.0	41878.0	11322.0	30556.0
1979	102908.0	59517.0	13270.0	46248.0	43391.0	11510.0	31881.0
1980	104719.0	60145.0	13199.0	46946.0	44574.0	11424.0	33150.0

Units: Thousands of persons.

Sources: All Series

1947-1979: U.S. Bureau of Labor Statistics (1980), Tables 1 and 3, pp. 5-6, 10-12, with age cells combined.

1980: Employment and Earnings, January 1981, 28 (no. 1): 162, 164-165, Tables 1, 3, with age cells combined.

CLF only

1929-1946: U.S. Bureau of Economic Analysis (1973), Series A110 [BLS], pp. 200-201.

1890-1928: U.S. Bureau of Economic Analysis (1973), Series A109 [Lebergott], pp. 200-201, linked by 1929 ratio splice.

Other Series

1890-1946: Difference between corresponding data for total labor force and armed forces from Tables 1 above and 5 below.

Notes: a. Age-eligibility for inclusion in the labor force was 14 or older for 1890-1946 and 16 or older for 1947-1980.

TABLE 3
Total Employment by Sex and Age
1890-1980

Year	Total	Males			Females		
		Total TE TE _M	Young TE _{MY}	Old TE _{MO}	Total TE _F	Young TE _{FY}	Old TE _{FO}
1889	22577.9	18747.5	4997.9	13749.6	3830.4	1987.6	1842.8
1890	22792.2	18900.0	5046.8	13532.2	3892.3	2004.4	1887.8
1891	23932.1	19818.4	5300.7	14517.6	4113.8	2102.6	2011.2
1892	22321.3	18459.4	4955.3	13514.0	3861.9	1959.1	1902.8
1893	21102.0	17427.4	4676.5	12750.9	3674.6	1850.3	1824.3
1894	22824.2	18824.1	5053.7	13764.5	4000.1	1999.3	2000.8
1895	23129.3	19049.8	5128.8	13921.0	4079.5	2024.0	2055.5
1896	23604.4	19414.6	5235.6	14179.0	4189.7	2063.5	2126.3
1897	24746.3	20326.1	5490.5	14835.7	4420.2	2161.1	2259.0
1898	26911.7	22074.6	5972.6	16132.0	4837.1	2347.9	2489.2
1899	27909.3	22861.6	6195.8	16665.8	5047.7	2432.5	2615.2
1900	28922.4	23657.6	6351.9	17305.7	5264.8	2517.7	2747.1
1901	29803.5	24340.9	6473.9	17867.0	5459.6	2591.0	2868.6
1902	30506.5	24881.8	6554.7	18327.1	5624.6	2649.1	2975.5
1903	30771.3	25061.8	6538.5	18523.3	5709.5	2668.8	3040.7
1904	31977.2	26006.5	6718.7	19287.8	5970.7	2770.0	3200.7
1905	33749.8	27408.6	7010.9	20397.7	6341.2	2919.9	3421.3
1906	34371.3	27873.1	7058.3	20814.8	6498.2	2970.0	3528.2
1907	33246.9	26922.3	6748.3	20174.0	6324.6	2869.3	3455.2
1908	35073.2	28360.1	7335.6	21324.5	6713.1	3023.2	3689.8
1909	35762.6	28875.7	7088.9	21786.8	6686.9	3078.8	3806.1
1910	36180.1	29170.4	7085.6	22084.8	7009.7	3110.9	3896.7
1911	37434.3	30137.8	7242.3	22695.5	7296.5	3214.8	4061.7
1912	38299.0	30789.1	7318.5	23470.6	7509.9	3285.0	4225.0
1913	37560.1	30151.0	7088.0	23063.1	7409.0	3217.6	4191.4
1914	37511.6	30068.2	6989.7	23078.6	7443.4	3219.4	4234.0
1915	39364.7	31507.5	7241.3	24266.1	7857.2	3363.8	4493.4
1916	40285.1	32037.1	7278.6	24758.6	8047.9	3421.1	4626.9
1917	42713.2	34087.6	7654.2	26433.4	8625.6	3640.8	4984.8
1918	41939.2	33420.8	7415.8	26005.0	8518.4	3570.4	4948.0
1919	40830.3	32465.4	7117.4	25348.0	8334.9	3469.1	4865.8
1920	38569.0	30632.0	6669.0	23963.0	7937.0	3269.3	4667.7
1921	41135.3	32608.4	7049.6	25558.8	8526.9	3476.1	5050.8
1922	43956.1	34778.5	7465.6	27312.9	9177.7	3703.0	5474.6
1923	43607.8	34437.3	7339.5	27097.8	9170.4	3662.3	5508.1
1924	45082.6	35534.3	7518.5	28015.7	9548.3	3774.4	5773.9
1925	46464.6	36553.8	7677.7	28876.1	9910.8	3878.0	6022.8
1926	46496.6	36509.1	7611.7	28697.5	9987.5	3863.6	6118.9
1927	46774.9	36657.4	7585.4	29071.9	10117.5	3879.5	6238.0
1928	47890.0	37459.4	7692.8	29766.5	10430.6	3959.5	6471.1
1929	45760.0	35724.6	7280.4	28444.1	10035.4	3771.5	6263.9
1930	42959.0	33395.6	6822.9	26572.7	9563.4	3538.8	6024.5
1931	39782.0	30794.2	6307.3	24486.9	8987.8	3275.4	5712.4
1932	41205.0	31759.3	6521.4	25237.9	9445.7	3390.9	6054.8
1933	44124.0	33863.1	6971.2	26891.9	10260.9	3629.2	6631.7
1934	45617.0	34858.0	7194.4	27663.5	10759.0	3750.1	7009.0
1935	48454.0	36865.5	7628.4	29237.0	11588.5	3981.2	7617.3
1936	49383.0	37408.8	7761.0	29647.8	11974.2	4055.5	7918.7
1937	48151.0	36316.2	7554.0	28762.1	11834.8	3952.3	7882.6
1938	49375.0	37075.9	7732.4	29343.5	12299.1	4050.7	8248.5
1939	50890.0	38045.3	7955.5	30089.5	12845.0	4172.8	8672.2
1940	54179.0	40437.1	8804.6	31632.6	13741.9	4543.1	9198.8
1941	58634.0	42957.4	9485.6	33471.8	15676.6	5131.6	10545.0
1942	63575.0	45095.3	10491.2	34604.1	18479.7	5996.3	12483.4
1943	65370.0	46257.8	10852.3	35405.5	19112.2	6150.6	12961.6
1944	64260.0	45528.4	10151.9	35376.5	18731.6	5852.4	12879.2
1945	58700.0	42369.1	8243.0	34126.1	16330.9	4619.7	11511.1
1946	58630.0	42567.0	7486.0	35078.0	16064.0	4291.0	11771.0
1947	59803.0	43168.0	7540.0	35631.0	16633.0	4272.0	12361.0
1948	59266.0	42524.0	7259.0	35262.0	16741.0	4056.0	12697.0
1949	60573.0	43205.0	7350.0	35855.0	17363.0	4316.0	13347.0
1950	63062.0	44842.0	7787.0	37056.0	18219.0	4169.0	14049.0
1951	63846.0	45229.0	7674.0	37556.0	18613.0	4024.0	14590.0
1952	64726.0	45928.0	7525.0	38406.0	18796.0	3934.0	14861.0
1953	63460.0	44929.0	7045.0	37885.0	18530.0	3760.0	14772.0
1954	65220.0	45634.0	7142.0	38492.0	19587.0	3863.0	15719.0

TABLE 3 (Continued)

Year	TE	TE _{M+}	TE _{MY}	TE _{MO}	TE _{F+}	TE _{FY}	TE _{FO}
1956	66659.0	46202.0	7252.0	38954.0	20453.0	3971.0	16482.0
1957	66871.0	46124.0	7183.0	38939.0	20747.0	3975.0	16771.0
1958	65672.0	45028.0	6906.0	38121.0	20644.0	3863.0	16782.0
1959	67182.0	45985.0	7286.0	38697.0	21197.0	3930.0	17264.0
1960	68292.0	46386.0	7478.0	38935.0	21926.0	4152.0	17754.0
1961	68318.0	46196.0	7480.0	38718.0	22122.0	4243.0	17877.0
1962	69531.0	46972.0	7736.0	39235.0	22558.0	4398.0	18160.0
1963	70503.0	47363.0	7980.0	39389.0	23137.0	4564.0	18574.0
1964	72044.0	48182.0	8408.0	39773.0	23862.0	4880.0	18983.0
1965	73811.0	49031.0	8967.0	40064.0	24780.0	5254.0	19525.0
1966	76018.0	50108.0	9609.0	40401.0	26010.0	5852.0	20158.0
1967	77818.0	50890.0	10078.0	40216.0	26928.0	6211.0	20719.0
1968	79455.0	51611.0	10299.0	41316.0	27845.0	6501.0	21342.0
1969	81408.0	52285.0	10659.0	41621.0	29122.0	7020.0	22102.0
1970	81815.0	52108.0	13696.0	41413.0	29707.0	7251.0	22456.0
1971	81936.0	52021.0	10771.0	41248.0	29916.0	7338.0	22577.0
1972	84151.0	53036.0	11260.0	41776.0	31115.0	7822.0	23292.0
1973	86735.0	54239.0	11898.0	42339.0	32457.0	8377.0	24121.0
1974	88164.0	54682.0	11915.0	42767.0	33484.0	8661.0	24823.0
1975	86963.0	53321.0	11298.0	42024.0	33642.0	8629.0	25031.0
1976	89629.0	54429.0	11747.0	42681.0	35201.0	8979.0	26223.0
1977	92679.0	55879.0	12231.0	43650.0	36800.0	9392.0	27409.0
1978	96490.0	57484.0	12662.0	44622.0	39006.0	9956.0	29050.0
1979	99033.0	58446.0	12792.0	45655.0	40586.0	10230.0	30386.0
1980	99372.0	57931.0	12284.0	45647.0	41442.0	10051.0	31391.0

Units: Thousands of persons.

Sources: All Series

1947-1980: Sum of corresponding concepts for civilian employment and armed forces in Tables 4 and 5 below.

TE only

1929-1946: U.S. Bureau of Economic Analysis (1973), Series A77 [BLS], pp. 194-195, plus Emergency Workers for 1930-1943 from Darby (1976), p. 7.

1890-1928: U.S. Bureau of Economic Analysis (1973), Series A76 [Lebergott], pp. 194-195, linked by 1929 ratio splice.

Other Series

1890-1946: Product of corresponding total labor force shares and TE.

TABLE 4
Civilian Employment by Sex and Age
1890-1980

Year	Total	Males			Females		
		Total CE	CE M.	Young CE MY	Old CE MO	Total CE F.	Young CE FY
1890	22541.5	18711.1	4976.0	13735.1	3830.4	1987.6	1842.8
1891	22756.9	18864.6	5025.5	13839.1	3892.3	2034.4	1887.8
1892	23895.9	19782.2	5278.9	14503.2	4113.8	2102.6	2011.2
1893	22284.8	18422.9	4923.4	13499.5	3861.9	1959.1	1922.8
1894	21062.3	17387.7	4652.6	12735.0	3674.6	1850.3	1824.3
1895	22784.7	18784.6	5335.9	13748.7	4000.1	1999.3	2000.8
1896	23089.8	19010.4	5105.0	13905.3	4079.5	2024.0	2055.5
1897	23563.0	19373.2	5210.7	14162.6	4189.7	2063.5	2126.3
1898	24507.2	20087.0	5346.5	14740.5	4420.2	2161.1	2259.0
1899	26813.1	21976.0	5913.2	16062.7	4837.1	2347.9	2489.2
1900	27786.1	22738.4	6121.6	16t 16.8	5047.7	2432.5	2615.2
1901	28809.7	23543.9	6283.5	17261.4	5264.8	2517.7	2747.1
1902	29694.1	24234.6	6409.3	17824.7	5459.6	2591.0	2868.6
1903	30432.3	24777.7	6492.0	18285.7	5624.6	2649.1	2975.5
1904	30666.2	24956.7	6475.2	18481.5	5709.5	2668.8	3040.7
1905	31870.2	25899.5	6654.3	19245.2	5970.7	2770.0	3200.7
1906	33643.1	27301.9	6946.6	20355.3	6341.2	2919.9	3421.3
1907	342t 1.6	27763.4	6992.2	20771.2	6498.2	2970.0	3528.2
1908	33125.7	26801.1	6675.3	20125.8	6324.6	2869.3	3455.2
1909	34940.9	28227.8	6956.0	21271.6	6713.1	3023.2	3689.8
1910	35623.3	28736.4	7005.0	21731.4	6886.9	3078.8	3808.1
1911	36036.6	29027.0	6999.3	22027.7	7009.7	3110.9	3898.7
1912	37287.0	29990.5	7153.5	22836.9	7296.5	3214.8	4081.7
1913	39143.6	30633.7	7224.9	23408.8	7539.9	3285.0	4225.0
1914	37393.3	29989.3	6990.6	22998.7	7409.0	3217.6	4191.4
1915	37333.5	29895.1	6885.4	23009.7	7443.4	3209.4	4234.0
1916	39184.7	31327.5	7133.0	24194.5	7857.2	3363.8	4493.4
1917	39350.6	31302.7	6836.3	24466.4	8047.9	3421.1	4626.9
1918	39726.9	31101.3	5856.0	25245.2	8625.6	3649.8	4984.6
1919	40355.7	31837.2	6462.3	25375.0	8518.4	3570.4	4948.0
1920	40415.5	32080.6	6885.7	25194.9	8334.9	3469.1	4865.8
1921	38202.3	30265.3	6448.2	23817.1	7937.0	3269.3	4667.7
1922	40857.7	32330.8	6882.4	25448.3	8526.9	3476.1	5150.8
1923	43700.6	34523.0	7311.7	27211.2	9177.7	3703.0	5474.6
1924	43339.8	34169.4	7178.2	26991.2	9170.4	3662.3	5518.1
1925	45062.3	35514.0	7506.3	28007.7	9548.3	3774.4	5773.9
1926	46208.5	36297.7	7523.5	28774.2	9910.8	3878.0	6332.8
1927	46237.4	36249.9	7455.6	28794.3	9987.5	3808.6	6118.9
1928	46512.6	36395.1	7427.5	28967.6	10117.5	3879.5	6238.0
1929	47630.0	37199.4	7536.2	29663.1	10430.6	3959.5	6471.1
1930	45501.0	35464.6	7123.9	28340.7	10035.4	3771.5	6263.9
1931	42699.0	33135.6	6666.3	26469.3	9563.4	3538.8	6024.5
1932	39532.0	30544.2	6156.7	24387.5	8987.8	3275.4	5712.4
1933	40955.0	31509.3	6370.9	25138.4	9445.7	3390.9	6054.8
1934	43864.0	33603.1	6814.6	26788.5	10260.9	3629.2	6631.7
1935	45347.0	34588.0	7031.9	27556.1	10759.0	3750.1	7009.0
1936	48154.0	36565.5	7447.8	29117.6	11588.5	3981.2	7607.3
1937	49063.0	37088.8	7568.3	29520.5	11974.2	4055.5	7918.7
1938	47811.0	35976.2	7349.3	28626.8	11834.8	3952.3	7882.6
1939	49005.0	36705.9	7509.6	29196.3	12299.1	4050.7	8248.5
1940	53353.0	37505.0	7630.4	29874.7	12845.0	4172.8	8672.2
1941	52559.0	38817.1	7829.1	30988.0	13741.9	4543.1	9198.8
1942	54664.0	38987.4	7095.1	31892.3	15676.6	5131.6	10545.0
1943	54555.0	36075.3	5059.8	31015.5	18479.7	5996.3	12483.4
1944	53960.0	34847.8	3981.8	30865.9	19112.2	6150.6	12961.6
1945	52820.0	34088.4	3263.4	30825.0	18731.6	5852.4	12879.2
1946	55250.0	38919.1	6165.6	32753.5	16330.9	4819.7	11511.1
1947	57038.0	40995.0	6456.0	34538.0	16045.0	4282.0	11762.0
1948	58343.0	41725.0	6695.0	35033.0	16617.0	4270.0	12348.0
1949	57651.0	40925.0	6320.0	34606.0	16723.0	4051.0	12683.0
1950	58918.0	41578.0	6441.0	35139.0	17340.0	4008.0	13332.0
1951	59961.0	41780.0	5936.0	35846.0	18181.0	4152.0	14029.0
1952	60250.0	41682.0	5288.0	36396.0	18568.0	4001.0	14568.0
1953	61179.0	42430.0	5037.0	37394.0	18749.0	3908.0	14840.0
1954	60109.0	41619.0	4709.0	36910.0	18490.0	3737.0	14752.0
1955	62170.0	42621.0	5069.0	37554.0	19551.0	3845.0	15705.0

TABLE 4 (Continued)

Year	CE	CE _{M+}	CE _{MY}	CE _{MO}	CE _{F+}	CE _{FT}	CE _{FO}
1956	63799.0	43379.0	5410.0	37970.0	20419.0	3954.0	16466.0
1957	64071.0	43357.0	5460.0	37896.0	20714.0	3958.0	16755.0
1958	63036.0	42423.0	5305.0	37117.0	20613.0	3847.0	16766.0
1959	64630.0	43466.0	5795.0	37671.0	21164.0	3913.0	17250.0
1960	65778.0	43904.0	6114.0	37789.0	21874.0	4135.0	17738.0
1961	65746.0	43656.0	6112.0	37544.0	22090.0	4226.0	17862.0
1962	66702.0	44177.0	6260.0	37916.0	22525.0	4381.0	18145.0
1963	67762.0	44657.0	6524.0	38135.0	23105.0	4546.0	18561.0
1964	69305.0	45474.0	6957.0	38516.0	23831.0	4863.0	18970.0
1965	71068.0	46340.0	7501.0	38839.0	24748.0	5237.0	19512.0
1966	72895.0	46919.0	7851.0	39069.0	25976.0	5833.0	20143.0
1967	74372.0	47479.0	7995.0	39488.0	26893.0	6187.0	20709.0
1968	75920.0	48114.0	8067.0	40047.0	27807.0	6475.0	21331.0
1969	77902.0	48818.0	8442.0	40376.0	29084.0	6993.0	22090.0
1970	78627.0	48960.0	8637.0	40323.0	29667.0	7223.0	22444.0
1971	79120.0	49245.0	9029.0	40215.0	29875.0	7310.0	22564.0
1972	81702.0	50630.0	9826.0	40804.0	31072.0	7790.0	23282.0
1973	84409.0	51963.0	10583.0	41380.0	32446.0	8339.0	24108.0
1974	85935.0	52519.0	10696.0	41623.0	33417.0	8610.0	24817.0
1975	84783.0	51230.0	10143.0	41087.0	33553.0	8542.0	25010.0
1976	87485.0	52391.0	10646.0	41744.0	35095.0	8899.0	26196.0
1977	90546.0	53861.0	11155.0	42707.0	36685.0	9310.0	27376.0
1978	94373.0	55491.0	11609.0	43883.0	38882.0	9670.0	29012.0
1979	96945.0	56499.0	11770.0	44729.0	40446.0	10106.0	30340.0
1980	97270.0	55988.0	11270.0	44718.0	41283.0	9947.0	31336.0

Units: Thousands of persons.

Sources: All Series

1947-1979: U.S. Bureau of Labor Statistics (1980), Table 18, pp. 40-44, with age cells combined and misprint for 1959 20-to-34-years females corrected from 4,846 to 3,846.

1980: Employment and Earnings, January 1981, 28 (no. 1): 162, 164-165, with age cells combined.

CE only

1929-1946: U.S. Bureau of Economic Analysis (1973), Series A79 [BLS], pp. 194-195 plus Emergency Workers for 1930-1943 from Darby (1976), p. 7.

1890-1928: U.S. Bureau of Economic Analysis (1973), Series A78 [Lebergott], pp. 194-195, linked by 1929 ratio splice.

Other Series

1890-1946: Difference between corresponding data for total employment and armed forces in Tables 3 above and 5 below.

TABLE 5
Armed Forces by Sex and Age
1890-1980

Year	Total	Males			Females		
		Total AF	Total AF M.	Young AF MY	Old AF MY	Total AF F.	Young AF FY
1889	.	.	.	.	.	0.0	0.0
1890	36.4	36.4	21.9	14.5	0.0	0.0	0.0
1891	35.4	35.4	21.3	14.1	0.0	0.0	0.0
1892	36.2	36.2	21.8	14.4	0.0	0.0	0.0
1893	36.5	36.5	22.0	14.5	0.0	0.0	0.0
1894	39.8	39.8	23.9	15.8	0.0	0.0	0.0
1895	39.5	39.5	23.8	15.7	0.0	0.0	0.0
1896	39.4	39.4	23.7	15.7	0.0	0.0	0.0
1897	41.4	41.4	24.9	16.5	0.0	0.0	0.0
1898	239.1	239.1	144.0	95.1	0.0	0.0	0.0
1899	98.6	98.6	59.4	39.2	0.0	0.0	0.0
1900	123.2	123.2	74.2	49.0	0.0	0.0	0.0
1901	113.7	113.7	68.5	45.2	0.0	0.0	0.0
1902	106.3	106.3	64.0	42.3	0.0	0.0	0.0
1903	104.2	104.2	62.7	41.4	0.0	0.0	0.0
1904	105.2	105.2	63.3	41.8	0.0	0.0	0.0
1905	107.0	107.0	64.4	42.6	0.0	0.0	0.0
1906	106.7	106.7	64.3	42.5	0.0	0.0	0.0
1907	109.7	109.7	66.1	43.6	0.0	0.0	0.0
1908	121.2	121.2	73.0	48.2	0.0	0.0	0.0
1909	132.3	132.3	79.6	52.6	0.0	0.0	0.0
1910	139.4	139.4	83.9	55.4	0.0	0.0	0.0
1911	143.4	143.4	86.4	57.1	0.0	0.0	0.0
1912	147.3	147.3	88.7	58.6	0.0	0.0	0.0
1913	155.4	155.4	93.6	61.8	0.0	0.0	0.0
1914	161.7	161.7	97.4	64.3	0.0	0.0	0.0
1915	173.1	173.1	104.2	68.9	0.0	0.0	0.0
1916	180.0	180.0	108.4	71.6	0.0	0.0	0.0
1917	734.4	734.4	442.2	292.2	0.0	0.0	0.0
1918	2986.3	2986.3	1798.2	1188.1	0.0	0.0	0.0
1919	1583.5	1583.5	953.5	630.0	0.0	0.0	0.0
1920	384.9	384.9	231.8	153.1	0.0	0.0	0.0
1921	366.7	366.7	220.8	145.9	0.0	0.0	0.0
1922	277.6	277.6	167.2	110.5	0.0	0.0	0.0
1923	255.5	255.5	153.9	101.7	0.0	0.0	0.0
1924	267.9	267.9	161.3	106.6	0.0	0.0	0.0
1925	20.3	20.3	12.2	8.1	0.0	0.0	0.0
1926	256.1	256.1	154.2	101.9	0.0	0.0	0.0
1927	259.2	259.2	156.1	103.1	0.0	0.0	0.0
1928	262.2	262.2	157.9	104.3	0.0	0.0	0.0
1929	260.0	260.0	156.6	103.4	0.0	0.0	0.0
1930	260.0	260.0	156.6	103.4	0.0	0.0	0.0
1931	260.0	260.0	156.6	103.4	0.0	0.0	0.0
1932	250.0	250.0	150.5	99.5	0.0	0.0	0.0
1933	250.0	250.0	150.5	99.5	0.0	0.0	0.0
1934	260.0	260.0	156.6	103.4	0.0	0.0	0.0
1935	270.0	270.0	162.6	107.4	0.0	0.0	0.0
1936	300.0	300.0	180.6	119.4	0.0	0.0	0.0
1937	320.0	320.0	192.7	127.3	0.0	0.0	0.0
1938	340.0	340.0	204.7	135.3	0.0	0.0	0.0
1939	370.0	370.0	222.8	147.2	0.0	0.0	0.0
1940	540.0	540.0	325.2	214.8	0.0	0.0	0.0
1941	1620.0	1620.0	975.5	644.5	0.0	0.0	0.0
1942	3970.0	3970.0	2390.5	1579.5	0.0	0.0	0.0
1943	9020.0	9020.0	5431.3	3588.7	0.0	0.0	0.0
1944	11410.0	11410.0	6870.5	4539.5	0.0	0.0	0.0
1945	11440.0	11440.0	6888.5	4551.5	0.0	0.0	0.0
1946	3450.0	3450.0	2077.4	1372.6	0.0	0.0	0.0
1947	1591.0	1572.0	1030.0	540.0	19.0	9.0	9.0
1948	1459.0	1443.0	845.0	598.0	16.0	2.0	13.0
1949	1617.0	1599.0	939.0	656.0	18.0	5.0	14.0
1950	1650.0	1627.0	909.0	716.0	23.0	8.0	15.0
1951	3100.0	3062.0	1851.0	1210.0	38.0	17.0	20.0
1952	3592.0	3547.0	2386.0	1160.0	45.0	23.0	22.0
1953	3545.0	3498.0	2488.0	1012.0	47.0	26.0	21.0
1954	3350.0	3310.0	2336.0	975.0	40.0	23.0	20.0
1955	3049.0	3013.0	2073.0	938.0	36.0	18.0	14.0

TABLE 5 (Continued)

Year	AF	AF _{M.}	AF _{MY}	AF _{MY}	AF _{F.}	AF _{FY}	AF _{FO}
1956	2857.0	2823.0	1842.0	984.0	34.0	17.0	16.0
1957	2800.0	2767.0	1723.0	1043.0	33.0	17.0	16.0
1958	2636.0	2605.0	1601.0	1004.0	31.0	16.0	16.0
1959	2552.0	2519.0	1491.0	1026.0	33.0	17.0	14.0
1960	2514.0	2482.0	1364.0	1116.0	32.0	17.0	16.0
1961	2572.0	2540.0	1368.0	1174.0	32.0	17.0	15.0
1962	2828.0	2795.0	1476.0	1319.0	33.0	17.0	15.0
1963	2738.0	2706.0	1456.0	1254.0	32.0	18.0	13.0
1964	2739.0	2708.0	1451.0	1257.0	31.0	17.0	13.0
1965	2723.0	2691.0	1466.0	1225.0	32.0	17.0	13.0
1966	3123.0	3089.0	1758.0	1332.0	34.0	19.0	15.0
1967	3446.0	3411.0	2083.0	1328.0	35.0	24.0	10.0
1968	3535.0	3497.0	2232.0	1269.0	38.0	26.0	11.0
1969	3506.0	3467.0	2217.0	1245.0	38.0	27.0	12.0
1970	3188.0	3148.0	2059.0	1090.0	40.0	28.0	12.0
1971	2816.0	2776.0	1742.0	1033.0	41.0	28.0	13.0
1972	2449.0	2406.0	1434.0	972.0	43.0	32.0	10.0
1973	2326.0	2276.0	1315.0	959.0	51.0	38.0	13.0
1974	2229.0	2163.0	1219.0	944.0	67.0	51.0	16.0
1975	2180.0	2091.0	1155.0	937.0	89.0	67.0	21.0
1976	2144.0	2038.0	1101.0	937.0	106.0	80.0	27.0
1977	2133.0	2018.0	1076.0	943.0	115.0	82.0	33.0
1978	2117.0	1993.0	1053.0	939.0	124.0	86.0	38.0
1979	2088.0	1949.0	1022.0	926.0	140.0	94.0	46.0
1980	2102.0	1943.0	1014.0	929.0	159.0	104.0	55.0

Units: Thousands of Persons.

Sources: All Series

1947-1980: Difference between corresponding concepts for total labor force and civilian labor force in Tables 1 and 2 above.

AF only

1890-1946: Difference between Total Employment (TE) and Civilian Employment (CE) in Tables 3 and 4 above.

Other Series1890-1946: Females, normally negligible in absolute number, assumed 0; warning: obvious bias in war years. Computed σ_{MY} as the ratio of the means of AF_{MY} and AF_{M.} for 1947-1979. Then AF_{MY} = σ_{MY} AF and AF_{M.} = $(1-\sigma_{MY})AF$.

TABLE 6
Total Labor Force Shares by Sex and Age
1890-1946

Year	Males			Females		
	Total TLFS _{M.}	Young TLFS _{MY}	Old TLFS _{MO}	Total TLFS _{F.}	Young TLFS _{FY}	Old TLFS _{FO}
1889	.	.	.	.	.	.
1890	0.830349	0.221362	0.608986	0.169651	0.088032	0.081620
1891	0.829228	0.221425	0.607802	0.170772	0.087944	0.082828
1892	0.828107	0.221489	0.606617	0.171893	0.087857	0.084037
1893	0.826986	0.221552	0.605433	0.173014	0.087769	0.085245
1894	0.825865	0.221616	0.604248	0.174135	0.087682	0.086454
1895	0.824744	0.221679	0.603064	0.175256	0.087594	0.087662
1896	0.823623	0.221743	0.601880	0.176377	0.087507	0.088871
1897	0.822502	0.221806	0.600695	0.177498	0.087419	0.090079
1898	0.821381	0.221870	0.599511	0.178619	0.087331	0.091288
1899	0.820260	0.221933	0.598326	0.179740	0.087244	0.092496
1900	0.819139	0.221997	0.597142	0.180861	0.087156	0.093705
1901	0.817968	0.219619	0.598348	0.182032	0.087050	0.094983
1902	0.816797	0.217242	0.599555	0.183203	0.086943	0.096260
1903	0.815625	0.214864	0.600761	0.184375	0.086837	0.097538
1904	0.814454	0.212487	0.601968	0.185546	0.086730	0.098816
1905	0.813283	0.210109	0.603174	0.186717	0.086624	0.100093
1906	0.812112	0.207731	0.604380	0.187888	0.086517	0.101371
1907	0.810941	0.205354	0.605587	0.189059	0.086411	0.102649
1908	0.809769	0.202976	0.606793	0.190231	0.086304	0.103926
1909	0.808598	0.200599	0.608000	0.191402	0.086197	0.105204
1910	0.807427	0.198221	0.609206	0.192573	0.086091	0.106482
1911	0.806256	0.195843	0.610412	0.193744	0.085984	0.107760
1912	0.805085	0.193466	0.611619	0.194915	0.085878	0.109037
1913	0.803913	0.191088	0.612825	0.196087	0.085771	0.110315
1914	0.802742	0.188711	0.614032	0.197258	0.085665	0.111593
1915	0.801571	0.186333	0.615238	0.198429	0.085558	0.112870
1916	0.800400	0.183955	0.616444	0.199600	0.085452	0.114148
1917	0.799229	0.181578	0.617651	0.200771	0.085345	0.115426
1918	0.798057	0.179200	0.618857	0.201943	0.085239	0.116704
1919	0.796886	0.176823	0.620064	0.203114	0.085132	0.117981
1920	0.795715	0.174445	0.621270	0.204285	0.085026	0.119259
1921	0.794213	0.172910	0.621302	0.205787	0.084765	0.121022
1922	0.792711	0.171376	0.621335	0.207289	0.084504	0.122785
1923	0.791209	0.169841	0.621367	0.208791	0.084244	0.124547
1924	0.789707	0.168307	0.621399	0.210293	0.083983	0.126310
1925	0.788204	0.166772	0.621431	0.211795	0.083722	0.128073
1926	0.786702	0.165238	0.621464	0.213298	0.083462	0.129836
1927	0.785200	0.163703	0.621496	0.214800	0.083201	0.131599
1928	0.783698	0.162169	0.621528	0.216302	0.082940	0.133361
1929	0.782196	0.160634	0.621561	0.217804	0.082680	0.135124
1930	0.780694	0.159100	0.621593	0.219306	0.082419	0.136887
1931	0.777384	0.158823	0.618560	0.222616	0.082377	0.140239
1932	0.774074	0.158546	0.615528	0.225926	0.082335	0.143592
1933	0.770764	0.158268	0.612495	0.229236	0.082292	0.146944
1934	0.767454	0.157991	0.609462	0.232546	0.082250	0.150296
1935	0.764144	0.157714	0.606429	0.235856	0.082208	0.153648
1936	0.760834	0.157437	0.603397	0.239166	0.082166	0.157001
1937	0.757524	0.157160	0.600364	0.242476	0.082123	0.160353
1938	0.754214	0.156882	0.597331	0.245786	0.082081	0.163705
1939	0.750904	0.156605	0.594299	0.249096	0.082039	0.167058
1940	0.747594	0.156328	0.591266	0.252406	0.081996	0.170410
1941	0.746362	0.162509	0.583853	0.253638	0.083853	0.169785
1942	0.732637	0.161777	0.570860	0.267363	0.087519	0.179844
1943	0.709324	0.165020	0.544304	0.290676	0.094319	0.196357
1944	0.707630	0.166013	0.541616	0.292370	0.094089	0.198281
1945	0.708503	0.157982	0.550521	0.291497	0.091074	0.200423
1946	0.721791	0.140426	0.581365	0.278209	0.082108	0.196101

Sources: 1940-1946: Computed from data in U.S. Bureau of the Census (1975), Series D29-41, pp. 131-132, with age cells combined and corrections of obvious fourth or fifth digit errors in total male labor force for 1941, total female labor force for 1941, 1942, and 1945, and total labor force in 1946.

1890, 1900,
1920, 1930: Computed from decennial census data reported in U.S. Bureau of the Census (1975), Series D29-41, pp. 131-132.

Other years: Linear interpolations between values above.

TABLE 7
Estimated Private Employment by Sex and Age
1900-1980

Year	Total	Males			Females		
		Total PE	Total PE _{M.}	Young PE _{MY}	Old PE _{MO}	Total PE _{F.}	Young PE _{FY}
1889	•	•	•	•	•	•	•
1890	•	•	•	•	•	•	•
1891	•	•	•	•	•	•	•
1892	•	•	•	•	•	•	•
1893	•	•	•	•	•	•	•
1894	•	•	•	•	•	•	•
1895	•	•	•	•	•	•	•
1896	•	•	•	•	•	•	•
1897	•	•	•	•	•	•	•
1898	•	•	•	•	•	•	•
1899	•	•	•	•	•	•	•
1900	26692.1	21843.2	5880.6	15962.6	4849.0	2336.7	2512.3
1901	27679.7	22621.2	6037.2	16584.0	5058.5	2419.0	2639.5
1902	28503.1	23262.6	6152.8	17109.8	5240.6	2487.0	2753.5
1903	29173.3	23776.1	6229.6	17546.5	5397.2	2542.0	2855.3
1904	29369.2	23917.4	6205.5	17711.9	5471.7	2557.7	2914.1
1905	30535.2	24814.6	6375.5	18439.1	5720.6	2653.9	3066.6
1906	32257.1	26177.2	6660.5	19516.7	6080.0	2793.6	3280.3
1907	32813.6	26590.0	6696.7	19893.3	6223.6	2844.5	3379.1
1908	31618.7	25581.8	6371.6	19210.2	6036.9	2738.8	3298.0
1909	33376.9	26964.3	6644.6	20319.7	6412.6	2887.9	3524.7
1910	33993.3	27421.5	6684.5	20737.0	6571.8	2938.0	3633.8
1911	34364.6	27680.2	6674.5	21005.7	6684.4	2966.6	3717.9
1912	35570.0	28609.5	6824.1	21785.3	6960.5	3066.7	3893.8
1913	36386.6	29222.6	6892.1	22330.5	7164.0	3133.6	4030.3
1914	35589.3	28538.7	6652.4	21886.2	7050.6	3061.9	3988.7
1915	35477.5	28405.1	6542.3	21862.9	7072.4	3049.5	4022.9
1916	37268.7	29795.7	6784.2	23011.5	7473.0	3199.3	4273.7
1917	37350.6	29711.7	6488.9	23222.9	7638.9	3247.2	4391.7
1918	37265.9	29174.6	5493.3	2381.4	8091.3	3415.3	4676.0
1919	37926.7	29905.2	6370.1	23835.1	8001.5	3353.7	4647.8
1920	38044.5	30198.5	6481.7	23716.8	7845.9	3265.6	4580.4
1921	35805.3	28366.3	6043.6	22322.7	7439.0	3064.2	4374.8
1922	38402.7	30388.1	6468.9	23919.2	8014.5	3267.2	4747.3
1923	41176.6	32529.0	6889.4	25639.6	8647.6	3489.2	5156.4
1924	40703.8	32091.2	6741.6	25349.6	8612.7	3439.6	5173.1
1925	42297.3	33334.9	7045.7	26289.1	8962.4	3542.8	5419.6
1926	43355.5	34056.6	7359.0	26997.6	9298.9	3638.6	5660.3
1927	43292.4	33941.1	6980.7	26960.3	9351.3	3622.2	5729.2
1928	43419.6	33974.9	6933.6	27041.3	9444.7	3621.5	5823.1
1929	44565.0	34805.6	7051.3	27754.3	9750.4	3704.7	6054.7
1930	42332.0	32995.3	6627.9	26367.4	9336.7	3508.9	5827.8
1931	39136.0	30370.6	6110.0	24260.6	8765.4	3243.5	5521.8
1932	35715.0	27595.0	5562.3	22032.7	8120.0	2959.2	5160.8
1933	35594.0	27384.8	5537.0	21847.8	8209.2	2947.0	5262.2
1934	37591.0	28797.5	5840.1	22957.4	8793.5	3110.2	5683.3
1935	38779.0	29578.3	6013.4	23564.9	9200.7	3206.9	5993.8
1936	40742.0	30937.2	6301.4	24635.8	9804.8	3368.4	6436.4
1937	42544.0	32160.8	6562.7	25598.1	10383.2	3516.6	6866.6
1938	40337.0	30352.2	6200.4	24151.8	9984.8	3334.4	6650.3
1939	41755.0	31275.5	6398.6	24876.9	10479.5	3451.4	7028.2
1940	43318.0	32267.0	6564.7	25702.3	11051.0	3590.0	7461.0
1941	45690.0	33744.1	6805.9	26938.2	11945.9	3949.3	7996.6
1942	48267.0	34425.0	6264.8	28160.2	13842.0	4531.1	9311.0
1943	48390.0	31998.6	4488.0	27510.5	16391.4	5318.7	11072.7
1944	47917.0	30945.1	3535.9	27409.2	16971.9	5461.8	11510.1
1945	46876.0	30252.3	2896.2	27356.2	16623.7	5193.8	11429.8
1946	49655.0	34977.9	5541.2	29436.7	14677.1	4331.7	10345.4
1947	51564.0	37060.7	5836.4	31223.3	14505.1	3871.1	10633.2
1948	52693.0	37684.3	6046.6	31640.4	15007.8	3856.5	11152.2
1949	51795.0	36768.0	5678.0	31090.8	15024.3	3639.5	11394.7
1950	52892.0	37325.5	5782.2	31545.1	15566.5	3598.1	11968.4
1951	53572.0	37328.2	5303.5	32026.5	16243.8	3709.6	12534.2
1952	53641.0	37109.8	4707.9	32403.6	16531.2	3562.1	12970.0
1953	54534.0	37821.4	4489.9	33332.4	16712.6	3483.5	13228.1
1954	53358.0	36944.7	4180.1	32764.5	16413.3	3317.3	13095.2
1955	55256.0	37881.1	4505.3	33377.6	17376.7	3417.4	13956.4

TABLE 7 (Continued)

Year	PE	PE _{M+}	PE _{MY}	PE _{MO}	PE _{F+}	PE _{FY}	PE _{FO}
1956	56521.0	38430.5	4792.8	33638.5	18089.7	3502.9	14587.6
1957	56455.7	38203.2	4811.0	33391.4	18251.8	3487.5	14763.4
1958	55197.0	37147.4	4645.3	32501.2	18049.6	3368.6	14681.0
1959	56547.0	38029.9	5070.2	32959.6	18517.1	3423.6	15092.6
1960	57425.0	38328.7	5337.6	32990.3	19096.3	3609.9	15485.5
1961	57152.0	37949.5	5313.1	32636.4	19202.5	3673.6	15527.2
1962	57812.0	38289.1	5425.7	32862.6	19522.9	3797.1	15726.6
1963	58537.0	38577.5	5635.8	32943.4	19959.5	3927.1	16034.1
1964	59709.0	39177.7	5993.7	33183.1	20531.3	4189.7	16343.4
1965	61014.0	39773.1	6438.0	33335.1	21242.9	4494.9	16746.9
1966	62111.0	39977.9	6689.5	33289.2	22133.1	4970.1	17163.1
1967	62981.0	40207.0	6770.5	33439.9	22774.0	5239.4	17537.2
1968	64081.0	40611.1	6809.0	33602.1	23470.8	5465.3	18004.6
1969	65717.0	41175.9	7120.5	34055.4	24531.1	5898.3	18632.0
1970	66073.0	41142.8	7258.0	33884.8	24930.2	6069.7	18860.5
1971	66239.0	41227.7	7559.0	33667.9	25011.3	6119.9	18890.5
1972	68368.0	42367.0	8222.4	34144.7	26001.0	6518.6	19482.3
1973	70677.0	43509.4	8861.3	34648.1	27167.6	6962.4	20186.0
1974	71765.0	43859.0	8932.3	34926.7	27906.8	7190.3	20716.5
1975	70097.0	42356.0	8386.0	33970.0	27741.0	7362.4	20677.8
1976	72614.0	43485.4	8836.4	34648.2	29129.4	7386.3	21743.1
1977	75419.0	44862.8	9291.4	35722.2	30556.2	7754.6	22802.4
1978	78701.0	46275.9	9681.2	36595.6	32425.1	8230.9	24194.1
1979	80998.0	47205.2	9833.9	37371.3	33792.8	8443.6	25349.2
1980	81021.0	46635.2	9387.3	37247.8	34386.7	8285.3	26101.3

Units: Thousands of persons.

Sources: PE only

1930-1980: Civilian employment (CE) from Table 4 above minus total [federal, state, and local] civilian government employment from Employment and Earnings, July 1981, p. 37. For 1930-1943, Emergency Workers from Darby (1976), p. 7, were also subtracted.

1900-1929: CE minus civilian government employees from Lebergott (1964), Table A-S, p. 514. [Lebergott's data for 1930-1955 match those in our source exactly.]

Other Series

1900-1980: PE/CE times the corresponding civilian employment data from Table 4 above.

TABLE 8
Average and Total Hours Data
1889-1980

Year	Hours Worked				Private Hours Paid For	
	Average Civilian	Total Private	Total Civilian	Total	Average Nonsup.	Total
	AHW	THWP	THWC	THWT	AHPN	THP
1889	49.6	45.8	.	.	47.2	41.3
1890	49.8	47.4	37.4	35.8	47.3	42.8
1891	49.8	48.6	37.7	36.1	47.3	43.9
1892	50.0	50.3	39.8	38.0	47.5	45.4
1893	49.6	49.7	36.8	35.2	47.2	44.9
1894	48.9	47.9	34.3	32.8	46.5	43.2
1895	49.3	50.9	37.4	35.8	46.9	46.0
1896	49.1	50.9	37.7	36.1	46.6	46.0
1897	49.1	52.5	36.5	36.9	46.7	47.4
1898	49.1	52.8	40.0	38.6	46.6	47.6
1899	49.5	56.6	44.2	42.4	47.1	51.1
1900	49.3	57.2	45.6	43.8	46.9	51.7
1901	49.4	59.7	47.4	45.5	47.0	53.9
1902	49.4	62.4	48.8	46.9	47.0	56.3
1903	49.4	64.1	50.0	48.0	47.0	57.9
1904	48.9	63.2	49.9	47.8	46.5	57.0
1905	49.1	66.3	52.0	49.9	46.6	59.8
1906	49.1	69.0	54.9	52.7	46.6	62.2
1907	49.1	70.5	55.9	53.6	46.6	63.6
1908	48.1	67.4	53.1	50.9	45.8	63.8
1909	48.2	71.2	56.1	53.8	45.8	64.2
1910	48.3	73.0	57.3	55.0	45.9	65.8
1911	48.5	74.4	58.2	55.8	46.1	67.1
1912	48.6	76.7	60.3	57.9	46.2	69.2
1913	48.3	77.3	61.3	58.9	45.8	69.6
1914	47.9	75.8	59.7	57.3	45.6	68.4
1915	47.4	75.2	58.9	56.5	45.1	67.9
1916	47.7	80.6	62.2	59.7	45.2	72.5
1917	47.8	82.3	62.5	60.9	45.3	74.1
1918	47.3	81.6	62.5	64.3	44.9	73.6
1919	45.8	79.0	61.5	61.1	43.5	71.2
1920	46.2	80.0	62.1	59.9	43.9	72.2
1921	44.0	72.1	55.9	53.9	41.8	65.1
1922	44.8	77.5	60.9	58.6	42.5	69.8
1923	45.4	83.6	66.1	63.5	43.1	75.2
1924	45.2	81.7	65.1	62.6	42.8	73.6
1925	45.5	84.6	68.3	65.3	43.2	76.2
1926	45.7	87.6	70.3	67.6	43.3	78.8
1927	45.4	87.1	69.9	67.2	43.0	78.2
1928	45.4	87.8	70.3	67.6	43.3	79.0
1929	45.2	89.6	71.6	68.8	42.7	80.4
1930	44.2	83.4	67.0	64.4	41.9	75.0
1931	43.5	76.5	61.8	59.4	41.3	69.0
1932	42.0	67.8	55.3	53.2	40.0	61.3
1933	41.7	67.0	56.9	54.7	39.8	60.7
1934	42.2	72.0	61.6	59.3	40.1	64.9
1935	43.1	75.9	65.1	62.6	40.9	68.4
1936	44.2	81.6	70.9	68.2	41.9	73.4
1937	45.1	86.7	73.6	70.8	42.7	78.0
1938	43.6	79.2	69.4	66.8	41.4	71.3
1939	44.3	83.3	72.3	69.6	42.0	74.9
1940	44.4	87.3	74.5	71.9	42.0	78.4
1941	45.0	94.7	78.6	77.5	42.4	84.8
1942	46.1	102.1	83.8	85.9	43.4	91.3
1943	47.2	105.8	85.7	95.4	44.4	94.6
1944	47.6	104.4	85.5	98.9	44.8	93.3
1945	46.3	98.7	81.3	94.6	43.5	88.2
1946	44.0	99.7	81.0	82.2	41.3	88.8
1947	43.0	101.8	81.7	80.2	40.3	90.5
1948	42.5	102.6	82.6	80.9	40.0	91.1
1949	42.3	98.8	81.2	79.8	39.4	88.1
1950	41.9	100.5	82.2	80.8	39.8	89.1
1951	41.7	104.0	83.2	83.7	39.9	91.7
1952	41.7	104.7	83.6	84.7	39.9	91.8
1953	41.2	104.9	83.9	84.8	39.6	92.8
1954	40.8	100.6	81.6	82.4	39.1	89.7
1955	41.2	104.1	85.3	85.5	39.6	93.1

TABLE 8 (Continued)

Year	AHW	THWP	THWC	THWT	AHPN	THP
1956	41.0	105.6	87.1	86.9	39.3	94.5
1957	40.4	104.2	86.1	85.9	38.8	93.1
1958	40.0	100.0	83.9	83.5	38.5	88.9
1959	40.4	103.3	86.9	86.3	39.0	92.4
1960	40.5	104.5	88.7	88.0	38.6	92.6
1961	40.2	102.8	88.0	87.3	38.6	91.2
1962	40.3	104.8	89.5	89.1	38.7	92.7
1963	40.3	105.6	90.9	90.4	38.8	93.2
1964	40.3	107.7	93.0	92.3	38.7	94.8
1965	40.5	111.1	95.8	95.1	38.8	97.8
1966	40.4	113.9	98.0	97.7	38.6	100.0
1967	40.4	115.7	100.0	100.0	38.0	100.0
1968	40.1	117.4	101.3	101.3	37.8	101.7
1969	39.9	120.2	103.5	103.3	37.7	104.4
1970	39.1	117.7	102.3	101.8	37.1	102.6
1971	39.3	118.2	113.5	102.4	36.9	102.0
1972	39.4	121.8	107.1	105.5	37.0	105.1
1973	39.3	126.6	110.4	108.4	36.9	109.2
1974	39.0	127.4	111.5	109.4	36.5	109.6
1975	38.7	122.6	109.2	107.0	36.1	105.1
1976	38.7	126.2	112.7	110.3	36.1	108.2
1977	38.8	132.1	116.9	114.4	36.0	112.6
1978	39.0	140.0	122.5	119.7	35.8	118.1
1979	38.9	145.1	125.5	122.5	35.6	122.0
1980	38.5	.	124.6	121.7	35.3	.

Sources: THP only

1947-1979: Index (1967 = 100) of hours of all persons in private business sector [primarily BLS establishment data] from Economic Report of the President, 1981, Table B-38, p. 276.

1934-1946: U.S. Bureau of Economic Analysis (1973), Series A69 [BLS establishment data], pp. 192-193, linked by 1947 ratio splice.

1909-1933: Same series as for 1934-1946 adjusted for change in reporting as described in note a below.

1889-1908: U.S. Bureau of Economic Analysis (1973), Series A68 [NBER, Kendrick], pp. 192-193 linked by 1909 ratio splice.

AHW only

1971-1980: "Average hours, total at work, all industries" [Current Population Survey data] from Employment and Earnings, January issues, 1972-1981, in tables titled "Persons at work by hours of work and industry" or like in section of "Household Data, Annual Averages."

1965-1970: U.S. Bureau of Economic Analysis (1973), Series B6 [BLS Current Population Survey data], pp. 212-213.

1934-1964: Average weekly hours worked in the civilian economy from U.S. Bureau of Economic Analysis (1973), Series B5 [NBER, Kendrick], pp. 212-213, linked by 1965 ratio splice.

1889-1933: Same series as for 1934-1964 adjusted for change in reporting as described in note a below.

AHPN only

1947-1980: Average weekly hours paid for in private nonagricultural establishments, production and nonsupervisory workers [BLS establishment data] from Economic Report of the President, 1981, Table B-36, p. 274.

TABLE 8 (Continued)

Sources:

1909-1946: Calculated as AHW times the ratio of Series A69 to Series A68 from U.S. Bureau of Economic Analysis (1973), pp. 192-193, and linked by 1947 ratio splice. These series are described under THP above and THWP below, respectively.

1889-1908: U.S. Bureau of Economic Analysis (1973), Series B5 [NBER, Kendrick], pp. 212-213, linked by 1909 ratio splice.^b

THWP only

1934-1965: Index (1958 = 100) of total private man hours from U.S. Bureau of Economic Analysis (1973), Series A68 [NBER, Kendrick], pp. 192-193.

1889-1933: Same series as for 1934-1965 adjusted for change in reporting as described in note a below.

1966-1979: Calculated as $(\text{THP} \cdot \text{AHW})/\text{AHPN}$, described above, and linked by a 1965 ratio splice.^c

THWC only

1890-1980: Index (1967 = 100) calculated as $\text{AHW} \cdot \text{CE}/30046.288$ where CE is civilian employment from Table 4.

THWT only

1890-1980: Index (1967 = 100) calculated as $\text{AHW} \cdot \text{TE}/31438.472$ where TE is total employment from Table 3.

Notes: a. As shown in Darby (1976, pp. 9-11), the introduction of the N.I.R.A. and minimum wage laws in 1934 induced a major change in reporting practices so that pre-1934 hours data is not comparable to post-1933 data. An adjustment for the reporting change is made in each series by multiplying the pre-1934 data by 0.9158726 (i.e., by allowing for an 8.4% downshift in reported hours in 1934 and thereafter). The adjustment factor is based on the regression:

$$\Delta \log \text{AWH} = -0.00216 - 0.00051 t + 0.1967 \Delta \log (\text{RGNP}) \\ (0.007635)(0.001051) \quad (0.044956) \\ -0.2830 \quad -0.4896 \quad 4.3755$$

$$+ 0.0037 \Delta \log (\text{RGNP}_{-1}) - 0.087878 D34 \\ (0.042749) \quad (0.012370) \\ 0.0867 \quad -7.1041$$

$$R^2 = 0.8998, S.E.E. = 0.01114, D-W = 2.0743, \text{ period} = 1929 \text{ to } 1941$$

where AWH is the unadjusted Kendrick series used for AHW, t is a time index, RGNP is real gross national product in 1958 dollars, and D34 is a dummy variable equal to 1 in 1934 and 0 otherwise. The coefficient -0.087878 of D34 is very significant and reasonably precisely estimated; the shift in reporting is computed as $e^{-0.087878} = 0.9158726$.

b. The Kendrick data are for hours worked, but he (1961, p. 261) reports that the difference from hours paid for is not important until about 1940. In fact from 1909-1939, the Kendrick index for total hours increased by a total of 7.207% versus 6.831% for the BLS index, a difference of only 0.01% per annum.

c. To extend the (1958 = 100) index of total hours worked in the private economy, extend AHW, AHPN, and THP from the published sources and use the formula $\text{THWP} = \frac{\text{AHW}}{\text{AHPN}} \cdot \text{THP} \cdot 1.0883082$.

TABLE 9
Output and Productivity Measures

Year	Real GNP		Productivity Measures (1967 = 100)					
	Total	Private	Total Economy		Private Economy			
			GNP	GPP	GNP/THWT	GNP/THWC	GPP/THWT	GPP/THP
1839	74.5	66.0					18.9	18.1
1840	80.0	71.2	22.1	21.2	19.6	18.8		
1841	83.6	74.4	22.9	21.9	20.0	19.2		
1842	91.7	81.7	23.8	22.8	21.3	20.4		
1843	87.3	77.6	24.5	23.5	20.4	19.6		
1844	84.8	75.1	25.6	24.5	20.5	19.7		
1845	95.0	84.5	26.2	25.1	21.7	20.8		
1846	93.0	82.6	25.5	24.4	21.2	20.3		
1847	131.8	90.8	27.3	26.1	22.7	21.7		
1848	104.1	92.3	26.7	25.7	22.9	21.9		
1849	113.5	101.0	26.5	25.4	23.4	22.4		
1850	116.7	103.7	26.4	25.3	23.7	22.7		
1851	130.1	115.8	28.3	27.1	25.4	24.3		
1852	131.3	116.9	27.7	26.6	24.5	23.5		
1853	137.8	122.7	28.4	27.2	25.1	24.0		
1854	136.1	121.0	28.1	27.0	25.1	24.0		
1855	146.2	130.0	29.0	27.8	25.7	24.6		
1856	163.2	145.4	30.6	29.4	27.6	26.4		
1857	165.7	147.6	30.6	29.3	27.4	26.2		
1858	152.1	134.7	29.5	28.3	26.2	25.1		
1859	177.3	151.6	32.6	31.3	27.9	26.7		
1860	192.3	153.0	32.8	31.5	27.4	26.3		
1861	197.0	158.0	33.1	31.8	27.8	26.6		
1862	197.6	165.5	33.8	32.4	28.3	27.1		
1863	199.4	172.1	33.5	32.2	29.1	28.0		
1864	190.6	158.0	32.9	31.6	27.3	26.1		
1865	185.0	162.3	33.0	31.7	28.3	27.1		
1866	203.8	185.7	33.8	32.4	30.2	29.0		
1867	219.2	178.4	33.3	32.4	28.4	27.2		
1868	230.4	185.8	35.5	36.4	29.8	28.6		
1869	222.2	193.4	36.0	35.7	32.0	30.7		
1870	212.5	195.2	35.1	33.8	31.9	30.6		
1871	194.0	191.7	35.6	34.3	34.6	33.2		
1872	224.6	201.9	37.9	36.5	34.1	32.7		
1873	251.8	229.8	39.2	37.7	36.0	34.6		
1874	251.2	236.6	39.6	38.1	37.9	36.4		
1875	272.3	242.1	41.2	39.4	37.5	36.0		
1876	288.4	258.3	42.2	40.6	39.6	37.1		
1877	289.2	260.5	42.4	40.8	39.2	37.7		
1878	283.7	263.4	42.4	40.7	39.3	37.8		
1879	309.0	279.7	44.4	42.7	41.9	39.4		
1880	278.5	249.2	42.8	41.1	39.1	37.6		
1881	257.0	228.3	42.8	41.1	39.1	37.4		
1882	218.9	191.9	40.7	39.2	37.1	35.4		
1883	214.8	186.8	38.8	37.3	36.5	34.8		
1884	234.2	202.6	39.1	37.6	36.8	35.3		
1885	257.3	223.3	40.6	39.1	38.5	36.9		
1886	292.9	253.6	42.5	40.8	40.7	39.1		
1887	308.4	270.0	43.1	41.4	40.8	39.2		
1888	292.8	252.9	43.3	41.7	41.8	40.1		
1889	317.8	276.5	45.1	43.4	43.5	41.8		
1890	344.8	301.2	47.4	45.8	45.2	43.5		
1891	410.2	346.7	51.1	50.3	47.9	46.3		
1892	452.0	377.0	52.0	53.3	48.3	46.7		
1893	511.6	399.7	53.0	59.1	49.5	47.8		
1894	548.4	420.4	54.8	63.4	52.7	51.0		
1895	539.1	413.9	56.4	65.5	54.9	53.1		
1896	474.4	403.1	57.0	57.9	52.9	51.4		
1897	470.3	412.3	58.0	56.9	53.0	51.6		
1898	489.6	431.5	59.8	58.6	55.1	53.6		
1899	492.1	429.8	61.0	59.9	57.0	55.2		
1900	534.8	470.0	65.5	64.3	61.2	59.7		
1901	579.3	500.4	68.5	68.8	63.0	61.7		
1902	601.8	515.3	70.1	71.0	64.4	63.5		
1903	623.5	538.5	72.7	73.5	67.2	65.7		
1904	616.0	531.8	73.9	74.6	69.2	67.1		
1905	657.5	572.9	76.0	76.2	72.1	69.6		

TABLE 9 (Continued)

Year	GNP	GPP	GNP/THWT	GNP/THWC	GPP/THWP	GPP/THP
1956	671.5	584.8	76.4	76.3	72.5	73.0
1957	683.8	594.7	78.7	78.5	74.7	72.3
1958	690.9	590.6	80.6	80.2	77.3	75.2
1959	721.7	629.5	82.7	82.1	79.8	77.1
1960	737.2	641.9	82.9	82.2	80.4	78.4
1961	756.6	657.8	85.6	85.1	83.8	81.6
1962	801.3	697.8	88.8	88.5	87.2	85.2
1963	832.5	727.3	91.1	90.6	90.2	88.3
1964	876.4	767.5	93.8	93.2	93.3	91.6
1965	929.3	816.6	96.6	95.9	96.2	94.5
1966	984.8	864.0	99.7	99.3	99.3	97.8
1967	1011.4	883.7	100.0	100.0	100.0	100.0
1968	1058.1	925.6	103.2	103.3	103.2	103.0
1969	1087.6	952.0	104.1	104.0	103.7	103.2
1970	1085.6	949.5	105.5	104.9	105.6	104.7
1971	1122.4	985.7	108.3	107.2	109.2	109.4
1972	1185.9	1048.1	111.2	109.4	112.7	112.8
1973	1255.0	1115.9	114.4	112.4	115.4	115.6
1974	1248.0	1105.6	112.8	110.6	113.6	114.2
1975	1233.8	1089.0	114.0	111.7	116.3	117.2
1976	1300.4	1154.1	116.5	114.1	119.7	120.7
1977	1371.6	1223.3	118.6	116.0	121.3	122.9
1978	1436.9	1285.0	118.7	116.0	120.2	123.1
1979	1483.0	1329.1	119.7	116.8	120.0	123.3
1980	1480.7	1325.4	120.3	117.5	*	*

Sources: GNP only

1947-1980: Gross National product in billions of 1972 dollars, Series GNP72 from Citibank Economic Database.

1889-1946: Bureau of the Census (1975), Series F3 [GNP in billions of 1958 dollars] linked by 1947 ratio splice.

GPP only

1947-1980: Gross private product in billions of 1972 dollars, Series GP72 from Citibank Economic Database.

1929-1946: Bureau of the Census (1975), Series F40 [GPP in billions of 1958 dollars], linked by 1947 ratio splice.

1889-1928: U.S. Bureau of Economic Analysis (1973), Series A13 [Gross private domestic product in billions of 1958 dollars -- NBER, Kendrick], linked by 1929 ratio splice.

Other Series

1889-1980: Ratio of indicated series from this table and Table 8 all divided by 0.01 * (1967 value) to obtain index with 1967 = 100 [divisors used are 0.101137 for GNP/THWT, 0.101137 for GNP/THWC, 0.0763757 for GPP/THWP, and 0.088370 for GPP/THP].

TABLE 10
Average Annual Growth Rates for Labor Force and Employment
1900-1978

Period	Labor Force		Employment			
	Total TLF	Civilian CLF	Total TE	Civilian CE	Private PE	
1900-1978	1.60%	1.58%	1.59%	1.57%		1.39%
1900-1929	1.80%	1.80%	1.86%	1.86%		1.77%
1900-1916	2.16%	2.15%	2.15%	2.15%		2.09%
1916-1929	1.34%	1.35%	1.51%	1.50%		1.38%
1929-1965	1.24%	1.15%	1.20%	1.11%		0.87%
1929-1948	1.20%	1.10%	1.17%	1.07%		0.88%
1948-1965	1.28%	1.21%	1.24%	1.16%		0.86%
1965-1978	2.19%	2.30%	2.06%	2.18%		1.96%
1965-1973	2.06%	2.19%	2.02%	2.15%		1.84%
1973-1978	2.38%	2.48%	2.13%	2.23%		2.15%

Units: Continuously compounded rates in percent per annum computed from the first to the last year of the period.

TABLE 11
Average Annual Growth Rates of Average Hours
1900-1978

Period	Average Hours		
	Civilian (Worked) AHP	Private (Paid For) ^a AHP	Private-Nonsupervisory (Paid For) AHPN
1900-1978	-0.30%	-0.33%	-0.35%
1900-1929	-0.30%	-0.25%	-0.32%
1900-1916	-0.21%	+0.02%	-0.23%
1916-1929	-0.41%	-0.58%	-0.44%
1929-1965	-0.30%	-0.32%	-0.27%
1929-1948	-0.32%	-0.22%	-0.34%
1948-1965	-0.29%	-0.44%	-0.18%
1965-1978	-0.29%	-0.51%	-0.62%
1965-1973	-0.38%	-0.46%	-0.63%
1973-1978	-0.15%	-0.58%	-0.61%

Units: Continuously compounded rates in percent per annum computed from the first to the last year of the period.

Note: a. Computed as the difference in the growth rates of total private hours paid for and private employment.

TABLE 12
Average Annual Growth Rates of Total Hours and Product
1900-1978

Period	Total Hours			Gross Product		
	Private Paid THP	Private Worked ^a THWP	Total Worked ^b THWT	Civilian Worked THWC	Private GPP	National GNP
1900-1978	1.06%	1.15%	1.29%	1.27%	3.23%	3.22%
1900-1929	1.52%	1.54%	1.56%	1.55%	3.42%	3.36%
1900-1916	2.11%	2.14%	1.94%	1.94%	3.64%	3.48%
1916-1929	0.80%	0.81%	1.09%	1.08%	3.15%	3.20%
1929-1965	0.55%	0.60%	0.90%	0.81%	2.98%	3.06%
1929-1948	0.66%	0.71%	0.85%	0.75%	2.28%	2.42%
1948-1965	0.42%	0.47%	0.95%	0.88%	3.75%	3.77%
1965-1978	1.45%	1.78%	1.77%	1.89%	3.49%	3.35%
1965-1973	1.38%	1.63%	1.64%	1.77%	3.90%	3.76%
1973-1978	1.57%	2.02%	1.98%	2.08%	2.82%	2.71%

Units: Continuously compounded rates in percent per annum computed from the first to the last year of the period.

Notes: a. This series is an index based on the average hours worked (AHW) in the civilian economy and private employment.

b. This series is an index based on the average hours worked (AHW) in the civilian economy and total employment.

TABLE 13
Average Annual Growth Rates of Productivity Measures
1900-1978

Period	Private Product Measures		CNP Measures	
	Private Hours Paid GPP/THP	Private Hours Worked GPP/THWP	Total Hours GNP/THWT	Civilian Hours GNP/THWC
1900-1978	2.17%	2.08%	1.93%	1.95%
1900-1929	1.90%	1.88%	1.80%	1.80%
1900-1916	1.53%	1.51%	1.54%	1.55%
1916-1929	2.36%	2.33%	2.10%	2.12%
1929-1965	2.43%	2.38%	2.16%	2.25%
1929-1948	1.62%	1.57%	1.57%	1.67%
1948-1965	3.33%	3.28%	2.82%	2.89%
1965-1978	2.04%	1.71%	1.58%	1.46%
1965-1973	2.53%	2.27%	2.11%	1.98%
1973-1978	1.26%	0.80%	0.73%	0.63%

Units: Continuously compounded rates in percent per annum computed from the first to the last year of the period.