

Challenge: November-December 1998

"The Age Adjusted Unemployment Rate:
An Alternative Measure"

Robert N. Horn

Philip S. Heap

Economics Program
James Madison University
Harrisonburg, VA 22807

540.568.3219
hornrn@jmu.edu

The authors would like to thank **Lynn Turgeon**, Hofstra University and **Ehsan Ahmed**, James Madison University for their useful comments on this paper.

The Age Adjusted Unemployment Rate: an alternative measure

The present state of the economy has led many economists and business writers to laud the "new economy" in which low and falling unemployment and low and falling inflation exist simultaneously.¹ Such pundits often cite the "globalization" of the economy, the relaxation of government regulations and the eroding power of unions as reasons for sustained low inflationary economic growth. While not all observers predict the end of business cycles, many (who should know better) support the notion that sharp cyclical downturns are a thing of the past and unemployment rates can remain low without kindling inflationary fires in the economy.

The U.S. unemployment rate, which fell below 5 percent toward the end of last year, is low by historical standards. Professional economists, politicians, and reporters often argue the unemployment rate is not an accurate measure of economic hardship or well-being since the rate reported by the Bureau of Labor Statistics (BLS) does not differentiate among voluntary and involuntary part time workers, multiple labor force participants in a household, under-employed workers and so on. This brief essay argues that there is yet another reason the official B.L.S. unemployment rate is not an accurate indicator of economic activity and ought to be called into question, and it presents an alternative measure of the unemployment rate.

The reported unemployment rate does not take into account the fact that the age and sex composition of the labor force changes over time. The surge of young workers (baby boomers) into the labor force during the 1970s and early 1980s swelled the young workers share of the labor force. Since young workers have consistently higher unemployment rates than do older workers, increases in the unemployment rate during this time may have been due more to changing population characteristics than flawed economic policy making. Similarly, the decline in the unemployment rate during the mid to late 1980s may be more attributable to the aging of the labor force than to the success of

¹ See for example, Stephen B. Shepard "The New Economy: What it Really Means" Business Week 11-17-1997.

supply side economics.² Perhaps the low reported unemployment rate we are currently experiencing warrants an alternative explanation as well.

This study uses an adjusted unemployment rate which "controls" for age and sex composition of the labor force by weighting the unemployment rate according to the respective sex and age share of the labor in 1970.³ The reported unemployment rate in 1970 was 4.9% - below many economists' notion of full employment. Between 1970 and 1997, the reported unemployment rate fell below 5% in only one other year, 1973. The labor force shares for 1970 and other selected years are presented in table 1.

Table 1
Age and Gender Distribution of the Civilian Labor Force

age	1970		1985		1995	
group	men	women	men	women	men	women
16-19	4.8	4.0	3.6	3.3	3.1	2.8
20-24	6.9	5.9	7.2	6.5	5.6	4.8
25-44	26.2	14.1	28.8	22.8	28.6	24.3
45-64	20.1	14.5	14.7	10.7	15.1	13.0
65 +	2.7	1.3	1.5	1.0	1.7	1.2

Table 1 shows that the composition of the labor force has changed significantly between 1970 and 1995. For example, in 1970, teenaged workers comprised 8.8 percent of the labor force. By 1985 the teenage share of the labor force had declined to 6.9 percent and by 1995 had fallen even further, to 5.9 percent. Men aged 45-64 were 20.1 percent of the workforce in 1970, but only 15.1 percent in 1995. Women aged 25-44 increased their share of the work force from 14.1 percent in 1970 to 24.3 percent in 1995. Since unemployment rates vary by age and, although to a lesser extent, by sex, changes in the relative importance of these groups in the labor force will impact measures of unemployment.

² Robert N. Horn "An Age-Adjusted Unemployment Rate" Challenge: The Magazine of Economic Affairs. July August 1988, pp. 56-58.

³ This is similar to the "demographically adjusted unemployment rate" mentioned in the 1997 Economic Report of the President (p.45). However, 1993 is used as the base year in their calculations. For reasons discussed above, we believe 1970 is a more appropriate base year.

In table 2, we present the results of "adjusting" the BLS unemployment rate and compare the adjusted unemployment rate with the reported unemployment rate.

Table 2 Civilian Unemployment Rates

year	adjusted	unadjusted BLS	difference
1980	6.8	7.1	-0.3
1981	7.4	7.6	-0.2
1982	9.5	9.7	-0.2
1983	9.5	9.6	-0.1
1984	7.5	7.5	0.0
1985	7.2	7.2	0.0
1986	7.0	7.0	0.0
1987	6.3	6.2	0.1
1988	5.6	5.5	0.1
1989	5.5	5.3	0.2
1990	5.8	5.6	0.3
1991	7.1	6.8	0.3
1992	7.9	7.5	0.4
1993	7.3	6.9	0.4
1994	6.5	6.1	0.4
1995	6.0	5.6	0.4
1996	5.8	5.4	0.4
1997	5.4	4.9	0.5

The adjusted rates were below the reported rates in the early 1980s. This is consistent with the influx of the baby boomers into the labor market during this time, increasing the unemployment rate above what it would have been if labor force shares remained constant. By the mid 80s young workers aged into prime low unemployment ages and unemployment rates of women fell relative to unemployment rates of men negating any difference between adjusted and unadjusted rates.

From the late 1980s onward, the continued aging of the work force and the disappearance of differentials between reported unemployment rates of adult men and women have contributed to a lower reported unemployment rate.⁴ The adjusted rate, which controls for changes in labor force shares, indicates that the unemployment rate in the 1990s would have been higher had the age structure of the work

⁴ From 1990 until 1997, the reported unemployment rates of adult men and women (20 and over) were 5.5 percent and 5.3 percent respectively.

force remained constant. In a sense, the aging of the work force results in an understated BLS unemployment rate. The gap between the BLS rate and the adjusted rate, which was 0.4 percentage points per year from 1992 through 1996, increased to 0.5 percentage points in 1997.

This is a significant finding. It tells us that had the age and sex distribution of the labor force *not* changed since the last time the economy operated at less than 5 percent unemployment, the unemployment rate would have been between 0.4 and 0.5 percentage points higher than it currently is. While this may seem quite small at first, the number of unemployed in 1997 was 6.7 million. If the unemployment rate had been 5.4%, the number of unemployed would have been 7.4 million or an increase of close to 7 hundred thousand additional unemployed workers, or a 10 percent increase in the reported unemployment rate.

The intent of this paper is not to dispute the strong performance of the US economy in recent years. The combination of low inflation and (seemingly) low unemployment has given the United States economic bragging rights relative to most European economies, which remain burdened with high unemployment rates. The objective is simply to maintain that the widely held view that the US economy is operating at an unemployment rate below full employment is flawed. The unemployment rate is low, in part, because those groups which have historically had below average unemployment rates are today a larger share of the work force than they were years ago. An aging population has contributed to the lowering of the unemployment rate.

Finally, our results cast some doubt on the widely held view that the economy is operating near the NAIRU⁵ (the rate of unemployment at which inflation remains constant or does not accelerate). If the age adjusted unemployment rate is a better indicator of labor market "slack" than the reported unemployment rate, there remains room for further economic expansion without fear of accelerating inflation. Thus Federal Reserve Board Chairman Greenspan's contention that an interest rate hike may be necessary to ward off any resurgent inflation is premature and unnecessary. Future discussions concerning the strengths and weaknesses of

⁵ The 1998 Economic Report of the President states "that a reasonable range for the NAIRU now has a midpoint of 5.4 percent

macroeconomic policy would be well advised not to overlook the importance of demographic changes on economic performance.