Population changes, the baby boom, and the unemployment rate

The influx of baby-boomers into the job market exerted considerable upward pressure on the unemployment rate during the 1960's and 1970's; the maturing of this large population group helped lower the rate in the 1980's and should do so again in the 1990's

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It is by now a fairly well-known fact that the post-World War II baby boom—which began with a sudden upsurge in births in 1946 and ended with a protracted decline in births in the 1960's—has had, and will continue to have, a profound impact on our society and economy. To cite but two areas in which this impact has been felt, our school facilities had to be expanded extensively during the 1950's and 1960's to take care of the educational needs of the baby-boomers in their early years, and our Social Security system is now having to be bolstered considerably in anticipation of meeting the basic financial needs of the "boomers" in their retirement years.

These population changes have also had a significant impact on the U. S. labor market and on the principal indicators of its health, particularly the unemployment rate. As millions of baby-boomers entered the world of work as teenagers and young adults in the late 1960's and throughout most of the 1970's, they swelled the ranks of a group which, mainly because of frequent entries into and exits from the labor force, has traditionally had a much higher incidence of unemployment than older workers. Thus, merely by expanding the proportion of youths in the labor force, the baby-boomers exerted considerable upward pressure on the Nation's overall jobless rate. By the end of the 1970's, this purely demographic effect had caused the overall unemployment rate to be *higher* than it had been at the end of the 1950's, even though the rates for most labor force groups had actually *declined* in the intervening years.

During the 1980's, however, the situation reversed itself. Inexorably, even the last of the baby-boomers—those born in the early 1960's—moved past their 25th birthday and joined the ranks of more mature and experienced workers, those who have traditionally had a very low incidence of joblessness. Behind the baby-boomers, the size of the teenage population and labor force continued to shrink—in *absolute* as well as in relative terms—reflecting the protracted decline in births during the 1960's and early 1970's. Together, these population changes helped significantly to lower the unemployment rate during the 1980's. In fact, they accounted for practically all of the 0.5-percentage-point difference between the rate for 1979 (5.8 percent) and that for 1989 (5.3 percent).

While much has already been written about the upward pressure that the young baby-boomers exerted on the Nation's unemployment rate during the 1960's and 1970's,[1] very little has appeared on the extent to which the maturing of these persons—indeed, the graying of many of them—has contributed to the decline in the rate during the 1980's. There has also been hardly

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any discussion of the effect that population changes might have on other key indicators of labor market activity, such as the labor force participation rate and the employment-population ratio. Accordingly, while focusing primarily on the unemployment rate, this article will also examine the possible impact of demographic changes on these other indicators.

Upward push on jobless rate

The extent to which the jobless rate was influenced by demographic changes during the 1960's and 1970's is shown in table 1, which was constructed by first disaggregating the labor force into 22 separate age-sex groupings.[2] Three components of the total change in the unemployment rate are identified: (1) that due exclusively to changes in the incidence of unemployment among the various age-sex groups making up the labor force; (2) that due exclusively to changes in the age-sex composition of the labor force, that is, changes in the relative weights of the age-sex groups; and (3) that attributable to the interaction between the two preceding factors—a variable that tends to indicate the extent to which unemployment among given groups may be affected by changes in the *size* of the groups.[3] Several interesting findings emerge from this table.

Table 1. **Changes in unemployment rate, decomposed into causal factors, 1959–79**

Year	Unemployment rate	Changes in rate relative to 1959—			
		Total	Due exclusively to changes in age-sex specific unemployment rates	Due exclusively to changes in age-sex specific labor force weights	Due to interaction ($B-(C+D)$)
	(A)	(B)	(C)	(D)	(E)
1959	5.47	0.00	0.00	0.00	0.00
1960	5.53	.06	.01	.05	.00
1961	6.69	1.22	1.16	.06	.01
1962	5.55	.08	.01	.06	.01
1963	5.66	.19	.08	.10	.02
1964	5.18	−.29	−.47	.14	.04
1965	4.52	−.95	−1.18	.21	.02
1966	3.80	−1.67	−1.95	.29	−.01
1967	3.85	−1.62	−1.94	.29	.02
1968	3.58	−1.89	−2.22	.31	.02
1969	3.51	−1.96	−2.34	.35	.03
1970	4.94	−.53	−1.02	.40	.10
1971	5.94	.47	−.15	.44	.19
1972	5.61	.14	−.57	.51	.19
1973	4.88	−.59	−1.31	.57	.15
1974	5.61	.14	−.71	.60	.24
1975	8.46	2.99	1.94	.60	.44
1976	7.70	2.23	1.21	.62	.40
1977	7.06	1.59	.57	.63	.38
1978	6.07	.60	−.37	.64	.33
1979	5.85	.38	−.54	.62	.30

NOTE: Because of rounding, sums of individual items may not equal totals.

The 1960's. As shown in the table, unemployment declined considerably during this decade. After an upward spurt in 1961, the rate drifted downward for the remainder of the decade. As shown in column *C*, the decline was accounted for solely by *actual* improvements in unemployment among the groups making up the labor force because compositional changes (column *D*) were working in the opposite direction, exerting some upward pressure on the rate. However, this pressure did not have a significant impact on the jobless rate until the mid-1960's, when the first wave of baby-boomers—those born in the late 1940's—began entering the labor force. After the mid-1960's, with youths flowing into the labor force in ever larger numbers—carrying with them unemployment rates several times higher than those of older workers—the upward push on the jobless rate by demographic changes increased steadily. In retrospect, this makes the decline of the jobless rate during the balance of the 1960's seem even more remarkable.

By 1969, with the Vietnam war having both limited the supply of and boosted the demand for labor, the unemployment rate (column *A*) had declined by nearly 2 percentage points relative to its level in 1959, reaching an annual average of 3.5 percent. This was an extremely low level by today's standards. Yet the improvement in unemployment among the individual groups—particularly adult groups—was even greater than indicated by the decline in the overall rate of unemployment.

As column *C* shows, the 1959–69 reductions in the incidence of unemployment among the various age-sex groups making up the labor force would, other things remaining equal, have lowered the overall rate by more than 2.3 percentage points. At the same time, the rapidly increasing proportion of the labor force made up of youths—whose unemployment rates, although also declining during this period, remained much higher than the rates for adults (table 2)—was pushing the overall rate upwards. As shown in column *D* of table 1, the youth effect offset a significant portion of the improvement in the overall rate, which was being brought about from reduced joblessness among the various individual labor force groups.

In hindsight, it can now be seen that in the late 1960's, the employment situation for spe-

cific groups had improved much more than was being indicated by the changes in the overall unemployment rate. As table 2 shows, joblessness among some groups had dropped to exceedingly low levels. For example, the rates for men ages 35 to 44 years and 45 to 54 years each dipped to only 1.5 percent. Because of the "youth effect," the course of the overall rate had understated these improvements.

The 1970's. After 1969, the Nation's jobless rate began to ratchet upward through the various business cycles, and by the end of the 1970's, it was holding at much higher levels than in the prior decade, even when economic conditions were generally buoyant. (See table 2.) In 1979, a very good year in terms of business conditions, the rate averaged 5.8 percent, 2.3 percentage points above the level reached in 1969. While actual increases in the incidence of unemployment among the various labor force groups were the primary reason for this upward drift, the gradual change in the composition of the population and labor force also contributed significantly to the trend, as shown by the numbers in column *D* and, to a lesser extent, column *E*.

Looking at the entire period from 1959 to 1979, we find from column *B* of table 1 that the overall jobless rate was about 0.4 percentage point *higher* at the end of this 20-year span than at the beginning. Remarkably, this occurred despite the fact that, on average, the incidence of unemployment among the various components of the labor force was *lower* in 1979 than 20 years earlier. In fact, as shown in column *C*, the actual improvement in the age-sex group unemployment rates between 1959 and 1979 was such that, had demographic factors not intervened, it would have lowered the overall jobless rate by more than one-half percentage point. At the same time, however, the continuing expansion of the youth group, with its stubbornly high unemployment, was exerting considerable upward pressure on the jobless rate. As shown by the numbers for 1979 in column *D*, this purely demographic effect more than offset the favorable impact on the rate brought about by the declining incidence of unemployment among most labor force groups (column *C*). In addition, the apparent impact of the growth of the youth group on the jobless rate for the group—an effect measured largely through the statistical interaction term (column *E*)—added more upward pressure on the overall rate of joblessness.

The "crowding" effect. It was not only through the sheer increase in their numbers that youths tended to push up the overall unemployment rate during the 1960's and 1970's: a slight rise in joblessness in this group during the 1970's added to the problem. Evidently, the jobless rates for youths did not benefit from the improving employment situation for older workers, whose rate dropped considerably. The following tabulation shows how the relative sizes of the youth and the adult labor forces changed between 1959 and 1979 and how the jobless rates for the two groups went in opposite directions:

	1959	*1979*
Percentage of labor force:		
Total	100.0	100.0
Persons ages 16–24	15.9	24.2
Persons age 25 and over	84.1	75.8
Unemployment rates:		
Total	5.5	5.8
Persons ages 16–24	11.0	11.8
Persons age 25 and over	4.4	3.9

Table 2. **Unemployment rates and composition of the labor force by sex and age, annual averages, selected years, 1959–89**

[Numbers in thousands]

Sex and age	1959	1969	1979	1989
Unemployment rates				
Total, 16 years and over	5.5	3.5	5.8	5.3
Men:				
16 to 19 years	15.3	11.4	15.9	15.9
20 to 24 years	8.7	5.1	8.7	8.8
25 to 34 years	4.7	1.9	4.3	4.8
35 to 44 years	3.7	1.5	2.9	3.7
45 to 54 years	4.1	1.5	2.7	3.2
55 to 64 years	4.5	1.8	2.7	3.5
65 years and over	4.8	2.2	3.4	2.4
Women:				
16 to 19 years	13.5	13.3	16.4	14.0
20 to 24 years	8.1	6.3	9.6	8.3
25 to 34 years	5.9	4.6	6.5	5.6
35 to 44 years	5.1	3.4	4.6	3.9
45 to 54 years	4.2	2.6	3.9	3.2
55 to 64 years	4.1	2.2	3.2	2.8
65 years and over	2.8	2.3	3.3	2.9
Composition of the labor force				
Total, 16 years and over	68,369	80,734	104,962	123,869
Percent	100.0	100.0	100.0	100.0
Men:				
16 to 19 years	3.8	4.8	4.9	3.3
20 to 24 years	5.8	6.5	8.1	6.0
25 to 34 years	15.1	13.6	15.6	16.1
35 to 44 years	15.9	13.1	11.0	13.4
45 to 54 years	13.8	12.8	9.5	8.8
55 to 64 years	9.3	8.7	6.9	5.5
65 years and over	3.4	2.7	1.9	1.6
Women:				
16 to 19 years	2.8	3.8	4.3	3.1
20 to 24 years	3.6	5.7	6.9	5.4
25 to 34 years	6.0	6.7	11.0	12.9
35 to 44 years	7.6	7.3	7.8	11.3
45 to 54 years	7.4	7.9	6.6	7.3
55 to 64 years	4.2	5.0	4.5	4.1
65 years and over	1.2	1.3	1.1	1.2

The divergence between the jobless rate for youths and that for older workers appears to be largely of demographic origin, reflecting the so-called crowding effect. That is, the most likely reason why the rate for youths was higher in 1979 than in 1959 was because the job market could not readily absorb the rapidly increasing *numbers* of youthful jobseekers. Short on skills and work experience, youths could not readily substitute for older workers and, apparently, did not profit much from the improving employment situation of the latter.[4]

The increase in the rate of joblessness among youths, combined with the rapid increase in their proportion of the labor force, is the primary explanation for the growing size of the "interaction term" in the last column of table 1. The numbers in this column quantify the extent to which the overall unemployment rate changed because of the combined effect of changes in the relative numbers—that is, weights—of the various labor force groups *and* changes in the particular unemployment rates of the groups. As shown in the tabulation, between 1959 and 1979, the combined effect of these changes—primarily the increase in the proportion of the youth labor force from 15.9 percent to 24.2 percent *and* the rise in the youth unemployment rate from 11.0 to 11.8 percent—added about three-tenths of a percentage point to the overall unemployment rate. This figure is over and above the increase in the rate attributable solely to changes in the composition of the labor force (with group unemployment rates held constant).

In sum, then, the higher overall unemployment rate in 1979 than in 1959 did not reflect a deterioration in the employment situation. In fact, as shown in table 2, the incidence of unemployment among most groups, and particularly among adult workers, had declined between these two years. Rather, it was the change in the relative sizes of the groups that caused the overall rate to be higher in 1979 than in 1959, despite the generally improving employment situation.

Reversing the trend in the 1980's

During the 1980's, much of what the demographic changes had done to the unemployment rate during the two previous decades began to reverse. The youth proportion of the labor force shrank steadily, an inevitable outcome of the protracted decline in the birth rate that began in the early 1960's. Eventually, this reversal of demographic trends applied considerable downward pressure on the unemployment rate. However, being gradual in nature, the new demographic trend could do little to limit the sharp increases in unemployment during the 1980 and 1981–82 recessions. Nonetheless, it certainly facilitated the decline of the jobless rate during the protracted economic expansion that followed. By the end of the 1980's, the substantial shrinking of the youthful proportion of the labor force, with its still stubbornly high incidence of joblessness, had played a significant role in the gradual descent of the Nation's jobless rate from the much higher levels reached at the start of the 1980's.

As table 3 shows, the 1980's closed with the national jobless rate averaging 5.3 percent, half a percentage point below its level a decade earlier. This difference, quantified in column *B*, is attributable *almost entirely* to changes in the composition of the labor force (column *D*). There was hardly any impact on the rate for 1989, relative to that for 1979, from actual changes in joblessness among the individual labor force groups (column *C*). Thus, the fact that the jobless rate was half a point lower in 1989 than in 1979 was due almost entirely to changing demographics, rather than to an increase in the demand for labor.

In short, the table confirms the hypothesis that the changes in the age makeup of the population and labor force play an important role in the long-term behavior of the jobless rate. While such changes may have little impact on the short-term cyclical movements of the rate, they should not be ignored in judging the long-term

Table 3. **Changes in unemployment rate, decomposed into causal factors, 1979–89**

Year	Unemployment rate	Changes in rate relative to 1979—			
		Total	Due exclusively to changes in age-sex specific unemployment rates	Due exclusively to changes in age-sex specific labor force weights	Due to interaction ($B-(C+D)$)
	(A)	*(B)*	*(C)*	*(D)*	*(E)*
1979	5.85	0.00	0.00	0.00	0.00
1980	7.14	1.29	1.34	−.04	.00
1981	7.61	1.77	1.87	−.09	−.02
1982	9.69	3.84	4.05	−.16	−.05
1983	9.61	3.76	4.03	−.21	−.06
1984	7.52	1.67	1.96	−.26	−.03
1985	7.20	1.35	1.68	−.29	−.03
1986	6.99	1.14	1.51	−.33	−.04
1987	6.19	.35	.73	−.37	−.02
1988	5.51	−.34	.05	−.41	.02
1989	5.27	−.58	−.13	−.46	.02

NOTE: Because of rounding, sums of individual items may not equal totals.

movements of the rate or in evaluating the efficacy of programs designed to alter its course.

What about the role of women?

Thus far, we have examined changes in the *age* composition of the labor force. One might also ask whether the changes in *sex* composition, that is, the sharp increase in the female proportion of the labor force, did not also have a large impact on the course of the unemployment rate in recent decades. The answer is that, while the female proportion of the labor force did indeed increase at a very rapid rate during most of this period, particularly after the mid-1960's, this development did not have much impact on the overall jobless rate.

As shown in the next tabulation, the proportion of the labor force accounted for by women 25 years of age and over increased substantially, from 26.5 percent to 36.7 percent, from 1959 to 1989. Intuitively, this increase might be expected also to have applied some upward pressure on the Nation's unemployment rate, because the incidence of joblessness among women has generally been higher than that among men. What is more important in this context, however, is that the unemployment rate for women age 25 and over was generally *lower* than the average rate for the entire labor force. Thus, an increase in the proportion of the labor force accounted for by these women could not, by definition, exert any upward pressure on the overall rate. The figures, in 10-year increments from 1959 to 1989, are as follows:

	1959	*1969*	*1979*	*1989*
Women age 25 and over:				
Percent of the civilian labor force	26.5	28.3	30.9	36.7
Unemployment rate	4.8	3.2	4.9	4.2
All civilian workers:				
Unemployment rate	5.5	3.5	5.8	5.3

The immateriality of the increase in the proportion of the labor force of women age 25 and over as regards exerting pressure on the unemployment rate is confirmed by the numbers in table 4. Here, that part of the change in the overall unemployment rate stemming from essentially demographic developments—that is, from the 1959–79 and 1979–89 changes in the age-sex composition of the labor force—is divided into two parts: the part due to *changes in the distribution of the population* and the part attributable to *changes in labor force participation* among the various population groups.

As shown, the changes in participation rates, which have been the driving force behind the large expansion of the women's share of the labor force, played only a minor role in the increase in the unemployment rate over the 1959–79 period. Instead, it was mostly the change in the distribution of the population—essentially, the increase in the youth component—that accounted for the bulk of the upward push of demographic factors on the jobless rate over the two decades. Likewise, it was the contraction of the youth component after 1979 that accounted for most of the downward pressure of demographic factors on the unemployment rate during the 1980's.

Table 4. **Effect on unemployment rate of changes in labor force participation and in composition of population, 1959–79 and 1979–89**

Period and year	Unemployment rate	Rate based on constant age-sex composition of labor force	Compositional effects—[1]		
			Total (*A* – *B*)	Due to changes in age-sex specific participation rates	Due to changes in age-sex composition of population
	(A)	*(B)*	*(C)*	*(D)*	*(E)*
1959–79 period:					
1959	5.47	5.47	0.00	0.00	0.00
1964	5.18	5.00	.18	–.02	.20
1969	3.51	3.13	.38	.10	.29
1974	5.61	4.76	.85	.30	.58
1979	5.85	4.93	.92	.38	.57
1979–89 period:					
1979	5.85	5.85	0.00	0.00	0.00
1984	7.52	7.81	–.29	–.06	–.21
1989	5.27	5.72	–.45	–.06	–.37

[1] Changes shown are in relation to the base year, that is, 1959 with regard to the data for the 1959–79 period and 1979 with regard to the data for the 1979–89 period.

NOTE: Because of rounding, sums of individual items may not equal totals.

Effect on other indicators

Did the entry of the baby-boomers into the labor force and their subsequent aging also affect the course of other labor market indicators over the past three decades? The answer is, very little. Two such indicators are illustrative.

Labor force participation rate. The overall rate of labor force participation has increased considerably since the late 1950's, but the rise has been driven largely by changes in the extent to which the persons within the various population groups offered their services in the labor market. The changes in the age structure of the population played only a rather minor role in this process. To the extent that they played any role, however, they acted as a brake against the

upward trend of the participation rate, especially during the 1959–79 period.

Over this 20-year span, the labor force participation rate for the entire population of working age rose by 4.4 percentage points—from 59.3 percent to 63.7 percent. (See table 5.) Over the same period, the changes in participation among the individual age-sex population groups were such that, had the distribution of the population remained constant, they would have brought about a somewhat greater increase in the participation rate—5.5 percentage points. The population of working age, however, was increasing most rapidly in the groups made up of teens and very young adults, who, mostly because of school attendance, have relatively low rates of labor force participation. The expansion of these groups over the 1959–79 period was such that, other things remaining equal, they would have *reduced* the overall rate of labor force participation by 1.4 percentage points.

During the 1980's, with the aging of the baby-boomers, the increase in the population was heavily concentrated in the 25- to 44-year-old age brackets. These are groups with relatively high participation rates, and their expansion imparted a small upward push to the overall rate. The net effect, however, was barely measurable. Even when combined with the interaction term (column *E*), this compositional factor accounted for little more than one-tenth of the 2.8-percentage-point rise in total participation during the 1980's.

Table 5. **Changes in labor force participation rate, decomposed into causal factors, 1959–79 and 1979–89**

Period and year	Labor force participation rate	Changes in participation rate—[1]			
		Total	Due exclusively to changes in age-sex specific participation rates	Due exclusively to changes in age-sex specific population weights	Due to interaction ($B-(C+D)$)
	(A)	(B)	(C)	(D)	(E)
1959–79 period:					
1959	59.28	0.00	0.00	0.00	0.00
1964	58.71	−.57	.21	−.73	−.04
1969	60.10	.82	2.02	−1.22	.01
1974	61.25	1.97	3.05	−1.29	.20
1979	63.67	4.38	5.53	−1.38	.24
1979–89 period:					
1979	63.67	0.00	0.00	0.00	0.00
1984	64.37	.71	.45	.13	.13
1989	66.46	2.79	2.40	.13	.26

[1] Changes shown are in relation to the base year, that is, 1959 with regard to the data for the 1959–79 period and 1979 with regard to the data for the 1979–89 period.

NOTE: Because of rounding, sums of individual items may not equal totals.

Employment-population ratio. The employment-population ratio was affected by compositional shifts in a manner similar to the labor force participation rate. As shown in table 6, from 1959 to 1979, as the employment ratio increased by 3.9 percentage points (from 56.0 to 59.9), the compositional shifts (column *D*) acted as a brake against this upward trend. In other words, the rise in the ratio over the 1960's and 1970's did not fully reflect the increases in the proportions of persons with jobs among the various population groups.

Here again, as in the case of the participation rate, the effect of demographics on the employment ratio was reversed during the 1980's. With the population now expanding faster in the central age groups, where the percentage of persons with jobs is very high, the net effect was to facilitate a rise in the employment ratio. And these trends are likely to continue in the coming years.

Glancing at the 1990's

Over the next 10 years, with the continuing aging of the baby-boomers, much of the increase in the population of working age will be concentrated in the 35- to 54-year-old groups. The persons in these groups have customarily exhibited the highest rates of labor force participation and the lowest rates of unemployment, and the expansion of their share of the population should bode well for the trends of the principal labor market indicators. However, just as it should be recognized that the course of these indicators was negatively affected by the demographic changes of the 1960's and 1970's, we should not fail to recognize that their course in the 1990's (as was the case in the 1980's) will, to some extent, reflect nothing more than the continuing restructuring of the population.

On balance, the increase in the "mature" population during the 1990's should facilitate a concomitant increase in the labor force participation rate (and in the employment-population ratio) and should apply some further downward pressure on the unemployment rate. Of course, this does not necessarily mean that the unemployment rate will decline below its recent levels. That eventuality will depend largely on the general course of the economy. What it does mean, however, is that, with these factors at work, it should be easier to achieve a reduction in the overall rate, or to limit an increase in it, than otherwise would be the case.

To quantify the possible effect of future demographic changes on the unemployment rate, a hypothetical rate for the year 2000 was computed by applying the actual age-sex specific unemployment rates of 1989 to a recently pro-

jected distribution of the labor force for the year 2000.[5] This exercise showed that, if the rates of unemployment among each age-sex group would be *exactly the same* in the year 2000 as they were in 1989, the overall unemployment rate at the millennium would be 5.0 percent, about three-tenths lower than it was in 1989.

There are, of course, many uncertainties when one attempts to project the future, and these arise even in projecting the size and configuration of the population of working age 10 years hence. The problem is that, while we are dealing with persons who have already been born and who, it might appear, should be easy to count, their actual number and age distribution 10 years hence could be affected by several factors, particularly immigration and emigration trends. And other uncertainties arise in translating population trends to labor force projections; for example, future trends in participation rates may not follow the paths that have been projected for them largely on the assumption of the continuation of recent trends. Thus, the makeup of the labor force in the year 2000 may not conform exactly to our current vision of it. Nevertheless, a further diminution of the proportion of youthful workers seems inevitable given the observed decline in the birth rate in recent decades.

Based on the theory that the competition for jobs is likely to lessen for the age groups that are shrinking in size, one might also expect the 1990's to bring some improvements in the unemployment rate for youths relative to that for older workers. At the same time, however, these improvements might be largely offset by the effects of changes in the racial and ethnic makeup of the youth labor force: the proportions of the labor force made up of blacks and Hispanics—groups that have customarily had particularly high unemployment rates—are projected to increase.

Given the roughly offsetting nature of these demographic developments, it may not be inappropriate to assume a continuation of the recent levels for the unemployment rates for youths and adults in trying to get a glimpse of the overall rate 10 years hence. And, as mentioned above, this exercise produces a rate for the year 2000 that—solely because of the projected demographic changes—is about three-tenths of a percentage point lower than the 1989 rate.

Table 6. **Changes in employment-population ratio, decomposed into causal factors, 1959–79 and 1979–89**

Period and year	Employment population ratio	Changes in employment-population ratios—[1]			
		Total	Due exclusively to changes in age-sex specific employment ratios	Due exclusively to changes in age-sex specific population weights	Due to interaction ($B-(C+D)$)
	(A)	(B)	(C)	(D)	(E)
1959–79 period:					
1959	56.04	0.00	0.00	0.00	0.00
1964	55.68	−.37	.49	−.79	−.06
1969	57.99	1.95	3.29	−1.33	−.01
1974	57.82	1.78	3.16	−1.47	.08
1979	59.94	3.90	5.35	−1.55	.10
1979–89 period:					
1979	59.94	0.00	0.00	0.00	0.00
1984	59.53	−.41	−.79	.26	.11
1989	62.95	3.01	2.39	.41	.20

[1] Changes shown are in relation to the base year, that is, 1959 with regard to the data for the 1959–79 period and 1979 with regard to the data for the 1979–89 period.

NOTE: Because of rounding, sums of individual items may not equal totals.

Summary and conclusions

Over the long term, the changes in the age structure of the population can have a significant impact on the various indicators of the health of the labor market. During the past three decades, for example, the course of the unemployment rate has been gradually altered by population changes. The large increase in the youthful proportion of the population applied gradually mounting upward pressure on the rate during the 1960's and 1970's. Correspondingly, the shrinking of the youth group accelerated the decline in the rate during the 1980's. The same population changes have also had some small effects on the course of the overall rate of labor force participation and the employment-population ratio. During the 1960's and 1970's, the rise in these indicators was curtailed a bit by the effects of the expanding young population; during the 1980's, the rise of these indicators was helped—if only slightly—by the "maturing" of the population. The latter trend should continue during the 1990's. □

Footnotes

[1] Among the first economists to recognize the importance of changing demographics on the unemployment rate was George L. Perry, who discussed the issue in a 1970 article, "Changing Labor Markets and Inflation," *Brookings Papers on Economic Activity*, No. 3, pp. 411–41. Michael L. Wachter addressed the topic in 1976 in "The Demographic

Impact on Unemployment: Past Experience and the Outlook for the Future," *Demographic Trends and Full Employment*, Special Report No. 12 (The National Commission for Manpower Policy, December 1976), pp. 27–99. For a later quantification of the phenomenon, see Paul O. Flaim, "The effect of demographic changes on the Nation's unemployment rate," *Monthly Labor Review*, March 1979, pp. 13–23.

[2] For this "standardization" exercise, the civilian labor force first was divided by sex and then, for each of the two sexes, was separated into 11 age groupings: 16–19 years, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, and 65 and over.

[3] In the computations underlying this analysis, the interaction term was arrived at by subtracting, from the total change in the unemployment rate, (1) the part stemming from changes in age-sex specific rates, with the weight of the age-sex specific components of the labor force held constant, and (2) the part stemming from changes in the weights of the age-sex components of the labor force, with the age-sex specific jobless rates held constant. Alternatively, the interaction term can be calculated as the sum of the changes in the jobless rates of each of the individual labor force groups multiplied by the changes in the weights of each of the respective labor force groups. That is, the interaction term, Ψ, can be calculated as $\Psi = \Sigma(\Delta U_i \bullet \Delta W_i)$, where U_i represents the ith group's unemployment rate and W_i represents the ith group's weight.

[4] Not only did the "crowding effect" result in a rise in the unemployment rate of youths relative to that of older workers; it also acted to hold down the earnings of young workers relative to those of older workers. For example, between 1967 and 1980, according to data from the Current Population Survey, the median weekly earnings of men age 25 years and over and of women of identical age working full time increased by 6.1 percent and 11.3 percent, respectively, in constant dollars. On the other hand, the earnings of young men and women ages 16 to 24 also working full time declined by 11.2 percent and 6.6 percent, respectively, in constant dollars. (See Paul O. Flaim, "Spendable earnings series: has it outlived its usefulness?" *Monthly Labor Review*, January 1982, pp. 3–9.) For a further discussion of the possible effects of "crowding" on the earnings of youths, see Finis Welch, "Effect of Cohort Size on Earnings: The Baby Boom Babies' Financial Bust," *Journal of Political Economy*, October 1979, Part 2, pp. 565–97; and Mark P. Berger, "The Effect of Cohort Size on Earnings Growth: A Reexamination of Evidence," *Journal of Political Economy*, June 1985, pp. 561–73. For a somewhat different interpretation of this phenomenon, see Marvin H. Kosters, "Schooling, Work Experience, and Wage Trends," *American Economic Review*, May 1990, pp. 308–12.

[5] See Howard N Fullerton, Jr. , "New labor force projections, spanning 1988 to 2000," *Monthly Labor Review*, November 1989, pp. 3–12.

Increasing expenditures on the elderly

The *ageing of the population*, which has been considerable in the past two decades, will continue at roughly the same rate up to the year 2000 and then accelerate to reach very high levels in about 2040. This means that the working population will have to bear a growing burden of contributions to finance the pensions of the retired. This trend will also be accompanied by an increase in the number of very old people, requiring the development of special social services and certain benefits in kind.

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"Non-contributory Old Age Pensions:
A Possible Solution in the OECD Countries,"
International Labour Review,
Vol. 128, No. 1, 1989, p. 14.