Growing Slowly, Getting Older:*
Demographic Trends in the Third District States

BY TIMOTHY SCHILLER

National trends such as slower population growth, an aging population, and immigrants as a larger component of the population are mirrored in the Third District states (Pennsylvania, New Jersey, and Delaware). These trends are likely to persist and perhaps even accelerate well into the future. In this article, Tim Schiller reviews these trends and their possible interaction with health-care and retirement benefit programs nationally and in the Third District states.

Since the last census in 2000, estimates suggest that U.S. population growth has slowed, the population has aged, and immigrants have become a larger component of the population. These national trends have also been evident in the three states of the Third Federal Reserve District: Pennsylvania, New Jersey, and Delaware. These trends are likely to persist — and even accelerate — well into the future. The major economic consequence of these demographic changes is a slowdown in the rate of employment growth. Coupled with an aging population, slow growth in the working population will present challenges for government budgets, particularly public retirement and health-care programs. The magnitude of these challenges cannot be determined exactly; it will depend on actual demographic developments and on how the benefit programs evolve. Nevertheless, estimates can be made based on current demographic trends and existing benefit programs. This article will review these trends and their possible interaction with benefit programs nationally and in the Third District states.

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THIRD DISTRICT POPULATION: SLOWER GROWTH AND OLDER

Population Growth Has Slowed. Annual estimates of the national population and the population of the Third District states indicate that growth since 2000 has been slower than growth between the census years 1990 and 2000.[1] As of 2007, the U.S. population was about 7 percent larger than it was in 2000, the result of an annual growth rate of about 1 percent. This was slower growth than the annual rate of about 1.2 percent between 1990 and 2000. In the region, the increase in population from 2000 to 2007 was 1.2 percent in Pennsylvania, 3.2 percent in New Jersey, and 10.4 percent in Delaware. Among the three states, only Delaware's population growth was faster than the nation's (Table 1). Delaware ranked 10th among the 50 states and the District of Columbia in population growth since 2000, and it was the only state in the northeastern region of the country to have population growth above the national rate.

Population growth in the nation is the result of two factors: natural increase (births minus deaths) and net international migration (people moving into the country minus people moving out). Since 2000, growth in the national population has been due to natural increase and net international migration in the same

*The views expressed here are those of the author and do not necessarily represent the views of the Federal Reserve Bank of Philadelphia or the Federal Reserve System.

[1] The Census Bureau makes annual estimates of the national and state populations. See the U. S. Bureau of the Census citation in the References for website information. The bureau's analysis of its estimates of current population and projections of future population indicates that both tend to be lower than actual population counts. Nevertheless, the estimates and projections give a fair picture of the trend in actual population over time, which is the subject of this article. For a discussion of the accuracy of projections, see the working paper by Ching-li Wang.

TABLE 1

Population Change 2000 - 2007

	Percent	Population 2007
Nevada	28.4	2,565,382
Arizona	23.5	6,338,755
Utah	18.5	2,645,330
Georgia	16.6	9,544,750
Idaho	15.9	1,499,402
Texas	14.6	23,904,380
Florida	14.2	18,251,243
Colorado	13.0	4,861,515
North Carolina	12.6	9,061,032
Delaware	10.4	864,764
South Carolina	9.9	4,407,709
Washington	9.7	6,468,424
Oregon	9.5	3,747,455
Alaska	9.0	683,478
Virginia	8.9	7,712,091
New Mexico	8.3	1,969,915
Tennessee	8.2	6,156,719
California	7.9	36,553,215
United States	7.2	301,621,157
New Hampshire	6.5	1,315,828
Montana	6.2	957,861
Maryland	6.1	5,618,344
Arkansas	6.0	2,834,797
Hawaii	5.9	1,283,388
Wyoming	5.9	522,830
Minnesota	5.7	5,197,621
South Dakota	5.5	796,214
Missouri	5.0	5,878,415
Kentucky	4.9	4,241,474
Oklahoma	4.8	3,617,316
Wisconsin	4.4	5,601,640
Indiana	4.4	6,345,289
Alabama	4.1	4,627,851
Nebraska	3.7	1,774,571
Illinois	3.5	12,852,548
Maine	3.3	1,317,207
Kansas	3.2	2,775,997
New Jersey	3.2	8,685,920
Connecticut	2.8	3,502,309
District of Columbia	2.8	588,292
Mississippi	2.6	2,918,785
Iowa	2.1	2,988,046
Vermont	2.0	621,254
New York	1.7	19,297,729
Massachusetts	1.6	6,449,755
Michigan	1.3	10,071,822
Pennsylvania	1.2	12,432,792
Ohio	1.0	11,466,917
Rhode Island	0.9	1,057,832
West Virginia	0.2	1,812,035
North Dakota	-0.4	639,715
Louisiana	-3.9	4,293,204

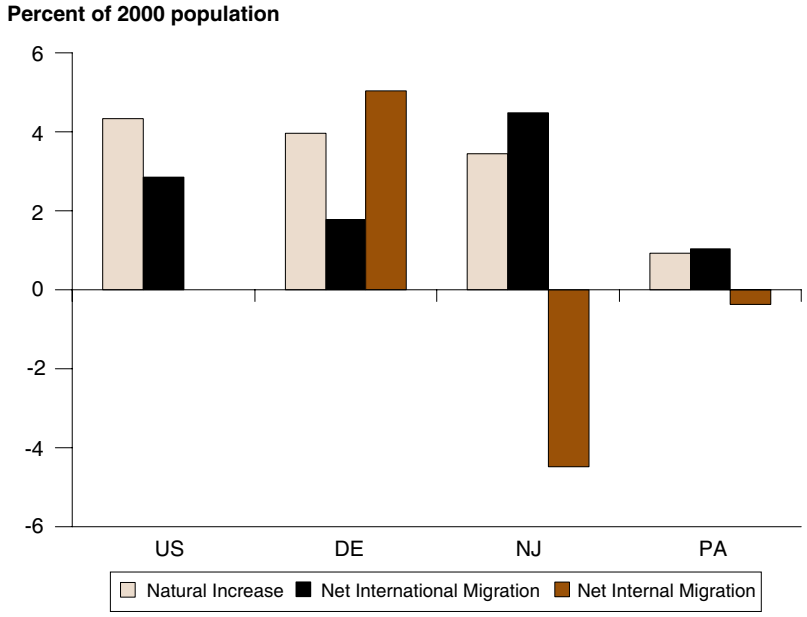
Source: U.S. Census Bureau.

proportions as growth from 1990 to 2000: 60 percent of the growth in population was from natural increase and 40 percent from net international migration. For the states, there is the additional component of population change: movement of people from one state to another, called internal migration.

A look at all of the components of population change since 2000 in the three Third District states reveals that natural increase has been an important factor, but the other factors have had different effects in each state. (See the Figure.) In Pennsylvania, net international migration was the component that contributed the most to growth. Natural increase was much less in the state than it was in the nation, but it contributed 75 percent of the total increase, a greater share than in the nation. Pennsylvania has the third lowest natural increase (among the 50 states and District of Columbia) in population; West Virginia had an actual decrease (deaths exceeded births); and Maine's natural increase was less than Pennsylvania's. The two components contributing to an increase in Pennsylvania's population — natural increase and net international migration — were offset

FIGURE

Components of Population Change 2000-2007



Source: U.S. Census Bureau

to some extent by negative net internal migration (more people moved out to other states than moved in), which subtracted from the state's population between 2000 and 2007. Another way to look at this effect is to note that net internal migration offset 33 percent of the total population growth from 2000 to 2007. For the years since 2000 compared with the 1990s, international migration became a more important positive factor and internal migration became a less important negative factor in Pennsylvania's population growth.

In New Jersey, net international migration added to the state's population between 2000 and 2007, but it was offset by a virtually equal amount of negative net internal migration (more people moved out to other states than moved in from other states). Consequently, on net, New Jersey's population growth was almost equivalent to its natural increase. The offsetting effects of international and internal migration in New Jersey for the years since 2000 were similar to their effects during the 1990s.

Delaware had a natural increase that nearly matched the nation's, net international migration that was less than the national gain, and significant net internal migration. Both net international and net internal migration have been somewhat more important for Delaware's population growth in the years since 2000 than they were in the 1990s. Compared with the average of other states, natural increase and net international migration contributed proportionately more to growth in Pennsylvania and New Jersey and less in Delaware. Net internal migration contributed proportionately more to growth in Delaware and subtracted from growth in Pennsylvania and New Jersey.

Increase in Foreign-Born Percentage of Population and an Older Population. The percentage of the population that is foreign-born has increased, and the population has gotten older. Both of these developments represent the continuation of long-term trends in the nation as well as in the Third District states. With international migration accounting for nearly half of the increase in the national population since 2000, it is not surprising that the foreign-born percentage of the national population increased to about 13 percent from 11 percent. The percentage-point increase was smaller in Pennsylvania (from 4.1 percent to 5.1 percent), which has long had a smaller percentage of foreign-born population than the nation. The percentage-point increase was somewhat larger in Delaware (from 5.7 percent to 8.1 percent). Like Pennsylvania, Delaware has long had a smaller percentage of foreign-born population than the nation, but also like Pennsylvania, Delaware has seen an increasing share of its population growth come from an increase in foreign-born residents. The percentage-point increase in the foreign-born population of New Jersey (from 17.5 percent to 20.1 percent) was greater than the national increase. New Jersey has long had a larger percentage of foreign-born population than the nation.

The national birth rate, which has been declining for many years, has continued to do so at a slow pace in the years since the start of this century. With the slowdown in the birth rate, the median age of the national population rose, as did the median age of the population in each of the Third District states. Although the median age of people immigrating into the country each year is younger than the median age of the current total population, the numbers of immigrants and the difference in

median age have not been sufficient to keep the median age from rising nationally or in the three states.

Since 2000, the median age nationally has increased from 35.3 to 36.6 (Table 2). The median age in each of the Third District states is above the national median. Among the three states, it is highest in Pennsylvania, 39.7 years, making the state the sixth highest for median age among all the states and the District of Columbia. The median age in New Jersey is 38.4 years (11th highest), and in Delaware it's 37.9 years (13th highest).

Another measure of the population's age is the percentage at or above certain ages. A common cutoff for this measure is 65. The percentage of the population 65 years and over in the nation has not changed much since 2000, rising from 12.4 percent to 12.6 percent. In the region, the percentage of the population 65 years and over has increased since 2000 in Delaware but declined slightly in Pennsylvania and New Jersey. Nevertheless, the percentage is greater in each state than in the nation (15.2 percent in Pennsylvania. 13.1 percent in New Jersey, and 13.6 percent in Delaware).

Besides the population age 65 and over as a share of the total population, another key measure of this age group's significance is its size in relation to the population age 20 to 64. This is because the 65 and over population is much more likely not to be in the workforce, while the 20 to 64 population largely makes up the workforce. The nonworking older population relies, in part, on the younger working population for its support. This is true to the extent that future social obligations toward the elderly — such as Social Security payments and public medical expenditures — are not fully funded by past savings. (It is mitigated to the extent that savings have been set aside either by the individual or on his or her behalf in public trust funds.) For this reason, the ratio of the population 65 and over to the population 20 to 64 is called the old-age dependency ratio. For the national population, this ratio has decreased slightly since 2000, from 21.1 percent to 20.9 percent. This decline is due, at least in part, to the rising immigrant population, which has added to the 20 to 64 population. Our region has seen a similar decline in the old-age dependency ratio. However, the ratio in each state remains above the national ratio (Table 3).

At the other end of the age spectrum, there is the youth-dependency ratio: the ratio of the population under 20 to the population 20 to 64. This ratio has also declined since 2000. The decline in the youth-dependency ratio is a consequence of a declining birth rate and of immigration of 20 to 64 year olds. In our region, the youth-dependency ratio declined in each state, and it has remained below the national ratio, reflecting the region's older population.

Labor Force Growth Slower in Nation, But Mixed in Region. Labor force growth in the nation since 2000 has been slower than it was in the 1990s, but in the region, the trends have been mixed. The labor force is the number of persons working or available for work. Although the age group most likely to be employed is the 20- to 64-year-old group, the labor force includes all workers or potential workers regardless of age. For the nation, labor force growth was 1.3 percent annually during the 1990s

TABLE 2

Age Measures

	Actual		Projected		
	2000	2007	2010	2020	2030
US					
Median age	35.3	36.6	37.0	38.0	39.0
Percent 65 and over	12.4	12.6	13.0	16.3	19.7
Pennsylvania					
Median age	38.0	39.7	40.0	40.6	42.1
Percent 65 and over	15.6	15.2	15.5	18.8	22.6
New Jersey					
Median age	36.7	38.4	38.9	39.6	40.8
Percent 65 and over	13.2	13.1	13.7	16.4	20.0
Delaware					
Median age	36.0	37.9	39.4	41.5	43.6
Percent 65 and over	13.0	13.6	14.1	18.3	23.5

Source: U.S. Census Bureau. 2000 Census, 2007 Population Estimates, and State Interim Population Projections

TABLE 3

Dependency Ratios

	Actual		Projected		
	2000	2007	2010	2020	2030
US					
Youth	48.5	45.4	44.9	46.2	48.3
Old Age	21.1	20.9	21.7	28.4	36.3
Pennsylvania					
Youth	46.1	35.9	41.1	42.0	44.8
Old Age	27.1	24.4	26.0	32.9	42.4
New Jersey					
Youth	45.5	37.6	42.2	42.2	43.8
Old Age	22.2	20.7	22.5	27.9	35.9
Delaware					
Youth	47.1	38.0	42.3	43.4	45.5
Old Age	21.9	21.7	23.4	32.1	44.7

Notes: Youth dependency ratio is population under 20 years old as a percent of population 20-64 years old. Old-age dependency ratio is population 65 years old and over as a percent of population 20-64 years old.

Source: U.S. Census Bureau

but only 1.0 percent in the years since 2000.[2] In Delaware, labor force growth has been slower since 2000 than in the 1990s: 0.9 percent versus 1.4 percent. In contrast, recent labor force growth in both Pennsylvania and New Jersey has been slightly faster than growth in the 1990s: 0.5 percent versus 0.4 percent in Pennsylvania, and 0.7 percent versus 0.5 percent in New Jersey. Nevertheless, these growth rates remain below those of Delaware and the nation.

However, many factors other than demography affect the size of the labor force, both nationally and in the states. These factors include public policies and economic developments that can have positive or negative effects on labor markets at the national, state, and local levels. Regardless of the origin of the factors influencing the size of the labor force, these factors have important implications, both nationally and at the state and local levels. Perhaps the most imperative of these is the effect of labor force size on government fiscal conditions because the size of the labor force relative to the total population is the major factor determining government revenues in relation to government spending capacity. This is why the dependency ratio, described above, is a demographic measure of significant interest. The implications of future labor force growth and changes in the dependency ratio for the Third District states are discussed below in light of demographic and economic projections.

POPULATION PROJECTIONS: EVEN SLOWER GROWTH AND MORE AGING

Slower Projected Population Growth in Nation and Region. The Census Bureau projects slower population growth in the nation and in the Third District states for the decades ahead, compared with population growth from 1990 to 2000. National population growth of around 1.3 percent annually in the 1990s has slowed to around 1 percent and is projected to slow to just under 1 percent for the 10 years to 2010 and to continue at around that rate until 2030, the horizon for the census projections.[3]

The Census Bureau projects that Pennsylvania's population will grow at around its current rate of 0.2 percent a year until 2020 and then at a slower rate from 2020 to 2030. Projections for New Jersey's rate of growth show that it will stay around its current rate of approximately 0.5 percent, or slightly faster, to 2030. Projections indicate that Delaware will continue to be the fastest-growing of the three states, although the Census Bureau projects that Delaware's current growth rate of around 1.5 percent a year will fall below 1 percent by 2030. Pennsylvania was the sixth most populous state in 2000 and is projected to still hold that rank in 2030. New Jersey is projected to move from ninth to 13th, and Delaware is projected to remain in 45th

[2] Labor force and employment data for the nation and the states are produced by the Bureau of Labor Statistics. See the U.S. Bureau of Labor Statistics website information in the References.

[3] See the U.S. Bureau of the Census website for projections. The website address is in the References. The website includes both national and state population projections.

place. States in the West and South are projected to be the fastest growing, as they were from 1990 to 2000.

Projections indicate that international immigration will continue to play a large role in the national population's increase and in the population growth of Pennsylvania and New Jersey. Delaware's population growth is projected to result mostly from natural increase and net inward internal migration. Pennsylvania and New Jersey are projected to experience net outward internal migration. While population projections made in the past have done fairly well in comparisons with eventual census counts, they have tended to under-predict growth, especially for fast-growing states.[4] For example, in the Third District, the population in 2000 was projected to be around 12.2 million in Pennsylvania and the actual census count was 12.3 million (an under-projection of around 0.6 percent); the New Jersey projection was around 8.2 million versus an actual count of 8.4 million (a 2.9 percent under-projection); and the Delaware projection was around 760,000 versus an actual count of around 780,000 (an under-projection of around 2.3 percent).[5]

Older Population Nationally and Third District States Among the Oldest. The national population is projected to get older, on average, and the Third District states are projected to be among those with the oldest populations. The national median age is projected to rise, and the percentage of the population 65 and older is projected to increase (Table 2). The old-age dependency ratio is projected to increase (Table 3). The median age in each of the Third District states is projected to increase through the 30 years from 2000 to 2030, and the percentage of the population 65 and older and the old-age dependency ratio will increase in each state. Delaware is projected to overtake Pennsylvania in measures of age. This will be at least partially the result of low international immigration into Delaware, since immigrants tend to be younger than the current population.

Economic Significance of Population Trends. The economic significance of the trends of slower population growth and an aging population will be seen in the effects those trends have on labor force growth, which is projected to be slower in the years immediately ahead than in the past. Demographic factors alone determine the dependency ratio, as described earlier, but other factors influence the actual size of the labor force. Taking all factors into consideration, the most recent Bureau of Labor Statistics (BLS) projections indicate that growth in the labor force from 2006 to 2016 will be slower than growth from 1996 to 2006 (a projected annual rate of 0.8 percent versus 1.2 percent).[6]

The slower projected labor force growth is primarily the result of the aging of the population, a process that will move more potential workers into the age groups that have had lower labor force participation rates historically.[7] Although the BLS projects an increase in the labor force participation rate of the older population, this will not be sufficient to offset the drop in the overall participation rate that occurs as potential workers move to and beyond the traditional retirement age of 65, when the participation rate is expected to fall by half (in 2016).

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With slower labor force growth ahead, employment growth will be slower as well, even if the economy is at full employment (as assumed for the purpose of the BLS projections). The BLS projects payroll employment growth of 1 percent a year from 2006 to 2016, slower than the 1.3 percent

[4] Census Bureau projections have tended to under-predict state population growth, especially in fast-growing states, because annual state population estimates have tended to be too low, and state-to-state migration has been greater than expected. For a discussion of the accuracy of projections, see the working paper by Ching-li Wang.

[5] The Census Bureau's high growth projections for each state were used to compute the percentage under-projection versus the actual count in each state.

[6] The Bureau of Labor Statistics makes national labor force and employment projections every two years. For the latest projections, consult the Bureau's *Monthly Labor Review*, November 2007. Projections are summarized in the article by James C. Franklin.

[7] The labor force participation rate is the number of people in a given age category who are in the labor force — as defined above — as a percent of the total number of people in that age category.

annual rate from 1996 to 2006.[8]

Employment growth in the three Third District states is also projected to be slower in the future. State labor departments project declines in the growth rate of employment.[9] For Pennsylvania, employment growth from 2004 to 2014 is projected to be 0.7 percent per year versus 0.8 percent a year from 1994 to 2004. For New Jersey, growth is projected to be 1 percent a year versus 1.2 percent. For Delaware, growth is projected to be 1.2 percent a year versus 1.8 percent.

Adverse Effects of Increased Dependency Ratio and Slower Labor Force Growth. Slower labor force and employment growth and an increasing old-age dependency ratio have adverse economic implications for the nation and for the states. The increase in the dependency ratio and the slowing labor force growth in the nation are the reasons that the currently projected level of Social Security benefits will soon outstrip the taxes required to pay them. (Social Security refers to the Federal Old-Age and Survivors Insurance — OASI—and the Federal Disability Insurance Trust Funds — DI — collectively referred to as OASDI.) It is projected that the annual cost of OASDI will exceed OASDI annual tax revenue beginning in 2017, after which the shortfall will be covered by redemptions of special obligations of the Treasury that make up the trust fund assets. The assets of the DI fund are projected to be exhausted in 2026 and the assets of the OASI fund in 2042.[10] Other federal government benefits, such as Medicare and Medicaid, are similarly in jeopardy. For example, the Federal Hospital Insurance Trust Fund is projected to be exhausted in 2019.[11] Other parts of the Medicare program (collectively known as Supplemental Medical Insurance) do not use trust funds; instead, this program requires that revenue be matched to costs annually. The cost of this portion of Medicare is also projected to increase rapidly. Consequently, total Medicare expenditures are projected to increase from 3 percent of GDP in 2006 to 11 percent by 2081. Thus, even aside from trust fund issues, federal social welfare programs are projected to become a much larger portion of the federal budget and to grow in relation to gross domestic product, portending an increasing burden on the economy regardless of whether these programs are financed by dedicated taxes or general revenues.

State government financial obligations vary, but many states also face future difficulties paying for benefits, especially state portions of Medicaid payments and payments for health-care benefits for state and local government employees and retirees.[12] For some states, government retiree pensions will also present fiscal challenges. The GAO projects the sum of all state and local government operating budgets to be in deficit by 2015. However, most states and local governments are required to maintain balanced budgets in most years, so future fiscal difficulties could necessitate urgent action at that time.

Among the Third District states, New Jersey appears to be the least prepared to make future payments, although none of the three states has fully funded future obligations. Analysis by the Pew Center on the States estimates that the New Jersey state employee pension system is slightly less than 80 percent funded (one of 20 states below that level) and

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[8] The projection for household survey employment is 0.8 percent from 2006 to 2016, slower than the 1.3 percent annual rate from 1996 to 2006. The household survey of employment includes farm workers and the self-employed. Employment among these groups is projected to grow more slowly than employment of workers at business firms, which is measured in the payroll survey.

[9] State employment projections are made by state labor and industry departments. These projections are made after the national projections are issued. Consequently, the most recent state projections do not extend as far as the most recent national projections. See the References for website information for projections for Pennsylvania, New Jersey, and Delaware.

[10] See the annual report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance.

[11] See the annual report of the Board of Trustees of the Federal Hospital Insurance and Federal Supplemental Medical Insurance.

[12] See the report by the Government Accountability Office (GAO).

that the provision for state employee-retiree health benefits is practically unfunded. Pennsylvania and Delaware state employee pension systems are estimated to have greater funding, but neither state has full funding for state employee-retiree health benefits.[13]

SUMMARY

Recent demographic trends are likely to continue and even accelerate in years after 2010. That means slower population growth, an older population, and an increasing percentage of foreign-born residents. Both slower population growth and an aging population will tend to limit employment growth in the future. Slower employment growth, in turn, will tend to limit economic growth.

While the issue is a national one, some regions, states, and local areas will face more difficulty than others. Future population growth is projected to be stronger in parts of the country that have already experienced relatively strong population growth, namely, the South and West, and less strong elsewhere. So regions in the North and East, including the three states of our region, are more likely than other parts of the country to face difficulty as a result of demographic trends.

Slower growth in the number of workers will necessitate faster growth in productivity per worker to maintain or improve the growth in total income that will be required to finance growing obligations. A key to higher productivity is greater human capital, which improves individual earning power and is important for regional economic improvement as well. Human capital appears to boost regional economic growth by attracting more and better-educated workers to areas that already have large concentrations of workers with higher-level educations.[14]

[13] See the report by the Pew Center on the States.

[14] See my *Business Review* article.

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