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Whither Maine's Population

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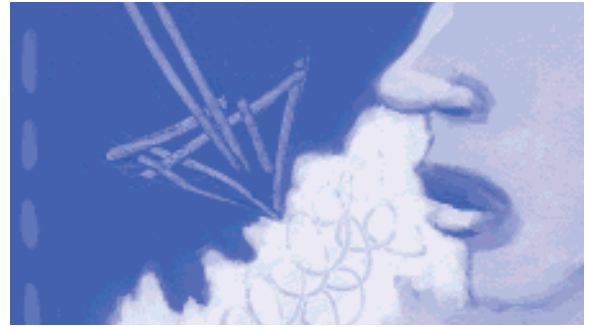
Demographic changes affect many aspects of a state's economic and community well-being. In this article, Mageean, AvRuskin and Sherwood describe some of the potential impacts of Maine's changing population. In particular, they note that Maine's population is aging, the percentage of Maine's youth is declining faster than in other New England states, and that rates of growth remain relatively slow throughout most counties in Maine. The authors describe each of these trends, and discuss the implications for Maine's labor force, education and health care systems. They also note that these trends will not be experienced similarly by all parts of the state. While some counties may be faced with school closures, others should begin planning now for school expansions. Similarly, in order to take care of the state's growing elderly population, rural, poorer areas may need to adopt different strategies from urban, more prosperous areas. ❧ *The authors caution readers to interpret their population predictions carefully. While predictions on births and deaths are reasonably stable, migration trends are notoriously sensitive to economic conditions. Hence, much depends on the economic health of Maine and the region in the years to come.*

INTRODUCTION

Demography may not be destiny but it exerts a powerful influence on our society. Demographic changes impact income, consumer expenditures, the labor force, the demand for education at all levels, the demand for human resources, and state revenues and costs—to name but a few of the areas affected. As such, it behooves us to understand how those forces are playing out in our state or town. As we begin the millennium we may well ask, "Whither Maine's population?" What are the major elements of population change in Maine and what are the implications of such change for business and policy leaders, and the people of the state?

Maine's population is continuously changing, albeit gradually. In common with all other states, its population is added to by births and immigration (both domestic and international), and is subtracted from by deaths and emigration. The population structure is affected by past events such as periods of heavy immigration or emigration, or periods of high- or of low-birth rates. Its structure also alters as population cohorts (such as the baby boomers) age and move through the life cycle. In the following sections we examine some of these demographic forces and their effects on the current and future population.

Located in the slowest growing region of the United States—the northeast—Maine grew in population between 1990 and 1998 by only 1.3%—an average of 2,040 people per year. This contrasts dramatically with the growth periods of the 1970s and 1980s, when population increased by an average of 10,400 residents per year. Over the three decades 1995-2025, the population is projected to grow by only 181,000 people, to 1.423 million. This slow growth will result in a drop in the proportion of the nation's population residing in Maine's from 0.5% in 1995 (ranked thirty-ninth largest among the fifty states and the District of Columbia) to 0.4% in 2025 (ranked forty-second). The implications of this slow growth are many and will be explored in this article. However, it is worth addressing at

this point one concern, namely reapportionment. The slow growth of Maine's population compared to rapid growth in other parts of the nation has led to speculation that Maine might lose a seat in the House of Representatives in the near future. In fact, the Census Bureau's most recent information on potential apportionment in 2000 and 2020 (based on population projections) shows no shift in House seats for Maine.

Population change and economic change are inextricably linked. The very slow growth rate of the last eight years is largely explained by a number of factors—the effects of the 1990 recession, the closing of Loring Air Force Base, reductions in defense procurement, and the aging of the population. However, there has been considerable variability between the different regions of the state as to growth, ranging from a 12.5% decrease in the population of Aroostook County to a 10.4% increase in Waldo (the state's fastest growing county). As can be seen in Table 1, six of the

Table 1:
Population Change by County (1990-1998)

| County	7-1-98 Estimate	4-1-90 Census Revised	Numeric Pop. Change 1990-1998	Percent Pop. Change 1990-1998
Androscoggin	101,280	105,259	-3,979	-3.78%
Aroostook	76,085	86,936	-10,851	-12.48%
Cumberland	253,582	243,135	10,447	4.30%
Franklin	28,933	29,008	-75	-0.26%
Hancock	49,932	46,948	2,984	6.36%
Kennebec	115,207	155,904	-697	-0.60%
Knox	37,847	36,310	1,537	4.23%
Lincoln	31,815	30,357	1,458	4.80%
Oxford	53,673	52,602	1,071	2.04%
Penobscot	142,323	146,601	-4,278	-2.92%
Piscataquis	18,282	18,653	-371	-1.99%
Sagadahoc	35,779	33,535	2,244	6.69%
Somerset	52,380	49,767	2,613	5.25%
Waldo	36,465	33,018	3,447	10.44%
Washington	35,502	35,308	194	0.55%
York	175,165	164,587	10,578	6.43%

Source: County Population Estimates, U.S. Bureau of the Census, 1999

sixteen counties—Androscoggin. Aroostook, Franklin, Kennebec, Penobscot, and Piscataquis—lost population over this period.

When assessing the economic and social implications of population change, it is important to realize that similar rates of growth or decrease can be brought about in different ways. The components of change—births, deaths and migration—play out differently in the respective counties, as they do in smaller geographical units. For example, Waldo County achieved its spectacular growth largely through migration into the county (Figure 1), while its rate of natural increase (excess of births over deaths) was rather similar to that of other counties. Lincoln and Knox likewise grew largely through in-migration. On the other hand, Cumberland experienced growth almost identical to

that of Knox (4.3% versus 4.2%), but did so through a higher-than-average rate of natural increase. Previous demographic experience is implicated in some of these patterns. Cumberland, for example, has had a history of steady in-migration of younger people whose subsequent fertility will result in a higher rate of natural increase than in counties without such an influx. Cumberland has also been the only county in the state to experience significant international migration, again typically of younger people. Piscataquis, the state's least populous county, was the one county that experienced natural decrease (more deaths than births) over this period. Compounding this decrease was a net out-migration of people, making the county a loser of people on two fronts. However, the phenomenon of natural decrease has been widespread in Maine: in

Figure 1:
Components of Population Growth (1990-1998)
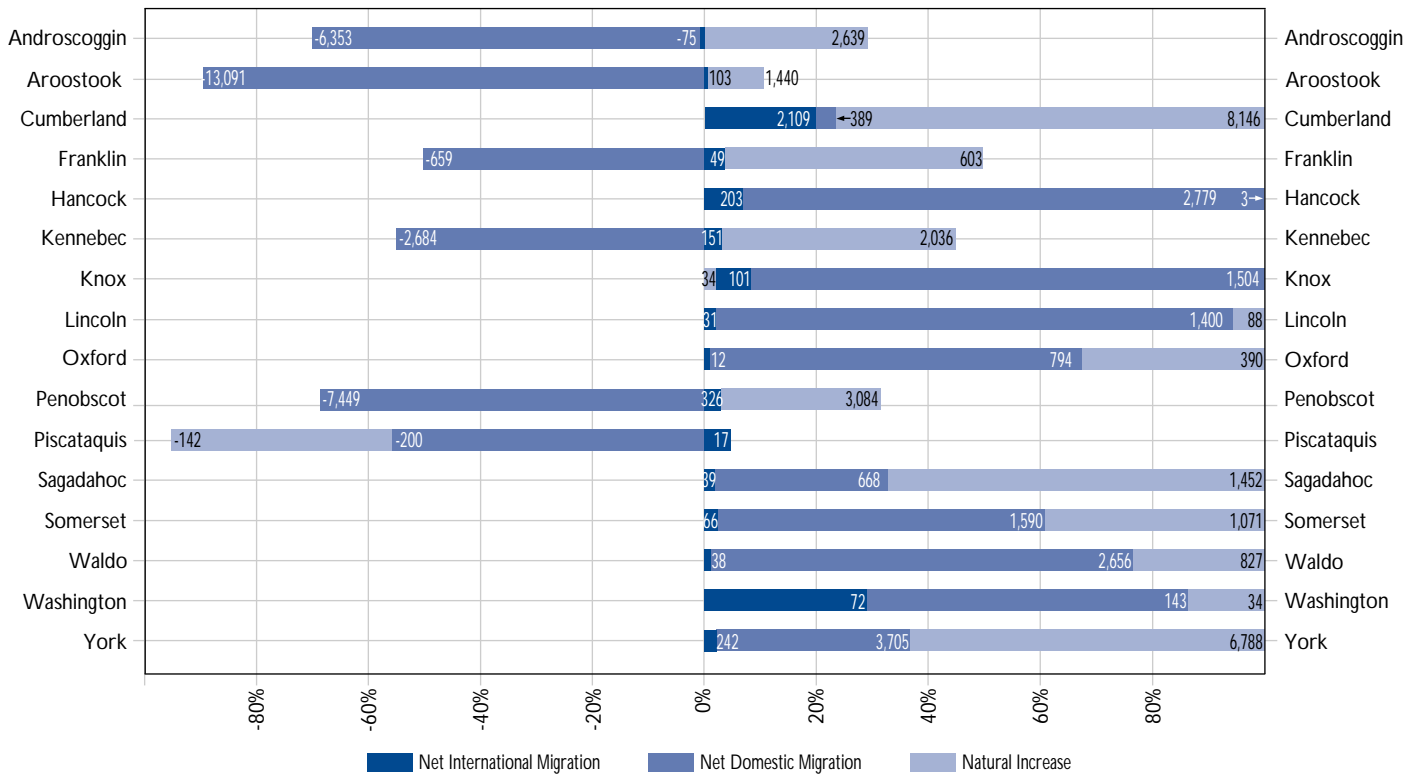
Source: County Population Estimates, U.S. Bureau of the Census, 1999

1997, for example, no fewer than seven Maine counties—Aroostook, Hancock, Knox, Lincoln, Oxford, Piscataquis, and Washington—saw the number of deaths equal or exceed the number of births.

Natural decrease, while less common than natural increase, is not unusual across the United States. In fact, since 1990 nearly 650 rural counties (out of a total of 2,305 such counties) in the country have had more deaths than births over 1991-1999. This is the greatest number of counties recorded simultaneously experiencing natural decrease in United States history. When a rural county such as Knox or Piscataquis experiences protracted losses of young people to urban areas or to other counties, the ranks of potential parents are depleted and the rate of natural increase consequently falls. When the loss is combined with a rising number of older people at greater risk of mortality, deaths soon exceed births.

Such sustained natural decrease has been rare in the northeast; only one other county, in Vermont, experienced such a phenomenon between 1990 and 1998. High fertility rates in rural counties, particularly in farming counties such as Aroostook, have historically offset the constant departure of young, working age people for job opportunities elsewhere. However, in the last two decades, birth rates have been falling as rural women have married later and had fewer children. For several years in the 1990s the expected completed childbearing of non-metro women 18-34 years (as measured by the Census Bureau) has been no higher than that of metro women. Fertility rates among rural women in the United States are now indistinguishable from their urban counterparts. Further, non-metro areas record higher crude death rates, a reflection of older population structure. As a result, some counties in the Plains states have registered such loss for a period of thirty years. It is too early to tell if some Maine counties are headed towards a similar trend. Such a trend would be of concern lest the absence of job opportunities, natural decrease and out-migration signal hard times for rural counties.

The rate of natural increase in the United States between 1990 and 1998 (5.7%) has slowed compared to earlier periods, but Maine's rate (2.3% between 1990 and 1998) has slowed even faster, reflecting the age composition of the state. Young populations have high birth rates and low death rates, making for high rates of natural increase. Conversely, older populations have low birth rates and high death rates and low rates of natural increase. The United States, in common with most developed countries, is aging, but even within the United States, Maine is an older and aging state. In 1997 we were the fourth oldest (by median age) state in the nation, behind Pennsylvania, Florida and New York. Our rank on the aging ladder has been creeping up steadily. In 1980 Maine had the twelfth oldest median age in the country and the tenth slowest rate of natural increase. By 1990 the state had the eighth oldest population and, between 1990 and 1998, the third rate of natural increase. Projections are for Maine's rate of natural increase to be the sixth slowest in the nation between 1998 and 2010.

The state's birth rate (Figure 2) has been steadily declining over the years (a 20% decrease since 1989), with a rate of 13.68 per thousand of population in 1997; the lowest since records began in 1892. Since the birth rate peaked in the 1950s and early 1960s, the ratio of live births to deaths has declined from more than two births to each death to slightly more than one birth per death in 1997. The underlying causes of the

Figure 2:
State of Maine Birth Rates (1970-1998)
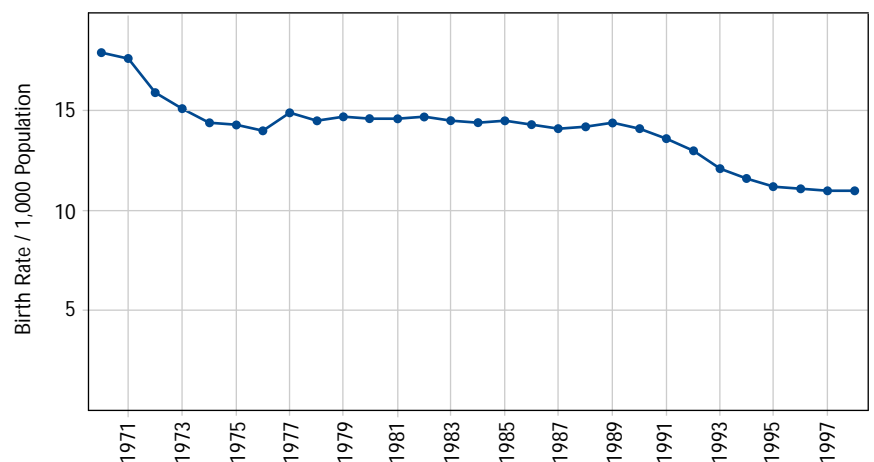
Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research & Vital Statistics

Figure 3a:
Population of Maine by Age Cohort and Sex (1960)

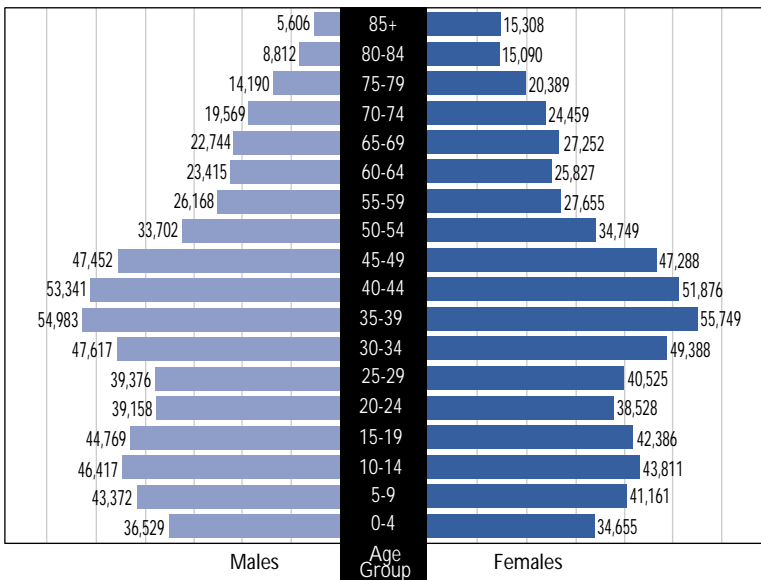| Males	Age Group	Females
2,956	85+	4,789
5,093	80-84	6,794
9,181	75-79	11,557
13,627	70-74	15,739
17,207	65-69	19,601
19,894	60-64	21,857
22,246	55-59	23,736
25,103	50-54	26,236
26,965	45-49	27,508
28,441	40-44	29,171
30,062	35-39	31,286
29,247	30-34	30,427
28,103	25-29	28,062
29,959	20-24	28,351
38,315	15-19	36,774
47,698	10-14	45,649
49,895	5-9	49,023
55,062	0-4	53,651
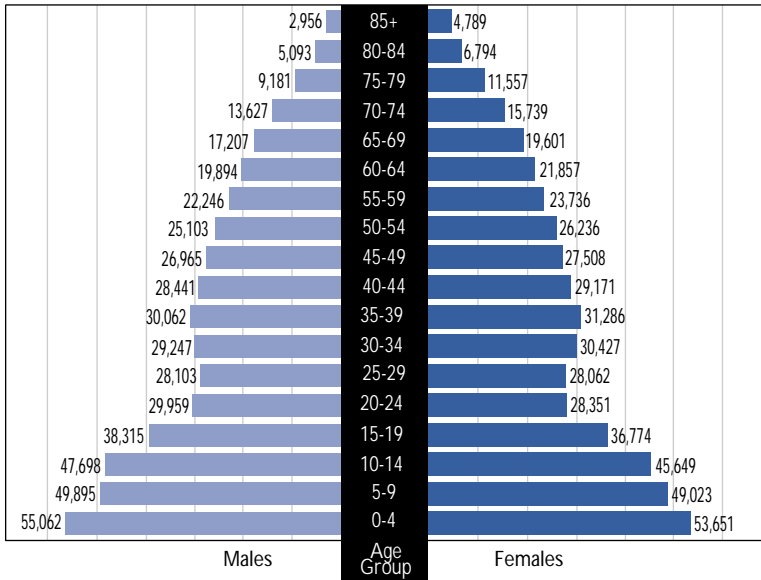
Source: 1990 U.S. Census of Population

Figure 3b:
Population of Maine by Age Cohort and Sex (1990)

Males	Age Group	Females
5,606	85+	15,308
8,812	80-84	15,090
14,190	75-79	20,389
19,569	70-74	24,459
22,744	65-69	27,252
23,415	60-64	25,827
26,168	55-59	27,655
33,702	50-54	34,749
47,452	45-49	47,288
53,341	40-44	51,876
54,983	35-39	55,749
47,617	30-34	49,388
39,376	25-29	40,525
39,158	20-24	38,528
44,769	15-19	42,386
46,417	10-14	43,811
43,372	5-9	41,161
36,529	0-4	34,655

Source: 1990 U.S. Census of Population

decline in births are twofold—a decrease in fertility and the aging of cohorts beyond their child-bearing years. The baby boom generation (those born between 1946 and 1964) is a well-known example of such a cohort. If low rates of fertility prevail, the population eventually fails to reproduce itself and has to rely on immigration to prevent a continuing decline. In the absence of sufficient in-migration our state will experience negative growth of the type in a number of older, industrial European countries, such as Germany and Italy.

THE STRUCTURE OF MAINE'S POPULATION

Figure 3 displays the population pyramids for Maine's population in 1960, 1990 and 2025 respectively. The population pyramid is the most commonly used device for depicting the age and sex distribution of a population. It visually displays the proportion of the population, male and female, in five-year cohorts. In Figures 3a and 3b we can contrast the "expansive" population pyramid of 1960, where the wider bottom bars of the pyramid reflect the high birth rates of the 1950s (part of the baby boom), with the more "constrictive" pyramid of 1990 which reflects lower birth rates and slower growth. The bars in Figure 3b, located between 30-44, represent the baby boomers, the first three bars in figure 3a. The baby boomers significantly outnumber those people in the 20-24 age group, part of the generation X or the "baby bust" generation born in the 1970s. The wider bars at the bottom of Figure 3b represent the "baby boomlet" or "baby boom echo" cohort born to baby boomers in the late 1970s and 1980s. Most states in the United States began to see the effect of the boomlet after 1980 but, unlike the baby boom, which was spread fairly evenly throughout the nation, the pattern of the baby boomlet varied widely across states. Maine experienced what is called an "abbreviated boomlet," namely substantial increases in births during 1980-84, followed by reduced increases between 1985-89. As we will see this abbreviation has implications for current and future school and college age populations.

Figure 3c displays the population as projected for 2025. By 2025, although the numbers of the baby boomers (now in their sixties through late seventies) have been reduced through attrition, the cohort is still
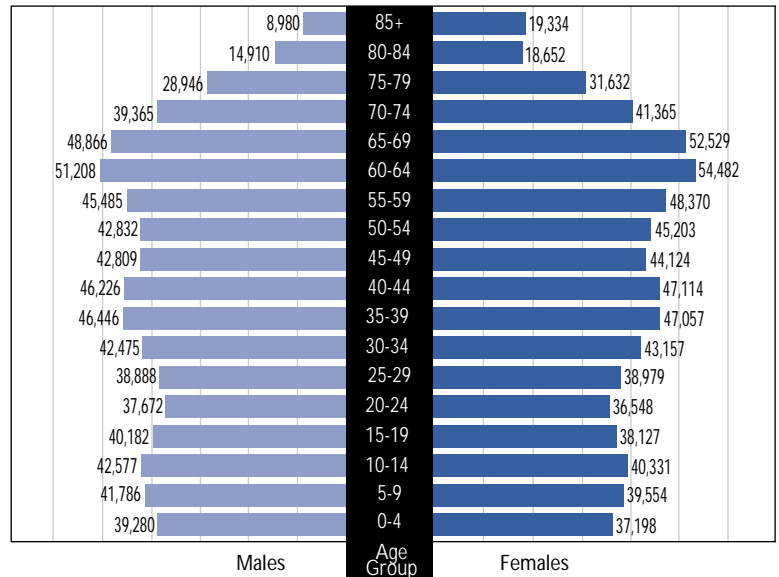
a dominant demographic force, swelling the ranks of the elderly. They outnumber the "baby bust" cohorts still in the working-age population. By this stage the children of the boomers have moved into the prime working-age population, thus reducing some of the tax burden of the baby bust cohorts.

THE AGING OF THE POPULATION

In the demographic history of Maine and the United States the aging of the population is one of the most extraordinary, significant and long-run population trends. Between 1870 and 1990, the growth in the older population has outpaced that of the United States population in general. By 1990 the population aged sixty-five and over was twenty-seven times larger than in 1870. One-in-eight Americans is old. Nationally, the years from 1995 through 2010 will be ones of comparatively slow growth in the older population. This is because the persons who will enter the older population during this period were born between 1930 and 1945—during the Great Depression and World War II—when birth rates were low. But, when the baby boom generation begins to turn sixty-five in 2011, the growth of the population sixty-five and over will accelerate rapidly. While the nation's elderly population is projected to grow only 15% from 1998 to 2010, it is projected to increase 57% between 2010 and 2025. Fourteen percent of Maine residents were elderly in 1998, and the same proportion is projected for 2010. After that, the elderly population is projected to increase to 21% by 2025. In 1998, Maine had the tenth largest proportion of elderly among the fifty states and, in 2025, it is projected to have the twelfth largest proportion.

The propensity for urban or rural lifestyles varies with age. Young adults and the very old are most likely to live in urban settings. People in their forties are least likely to do so. Figure 4 displays the U-shaped distribution that results when the ages of Maine adults (persons twenty and older) are plotted by the percentages living in urban areas in 1990. Fifty-seven percent of the population between the ages of twenty and twenty-four and a marginally larger propor-

Males	Age Group	Females
8,980	85+	19,334
14,910	80-84	18,652
28,946	75-79	31,632
39,365	70-74	41,365
48,866	65-69	52,529
51,208	60-64	54,482
45,485	55-59	48,370
42,832	50-54	45,203
42,809	45-49	44,124
46,226	40-44	47,114
46,446	35-39	47,057
42,475	30-34	43,157
38,888	25-29	38,979
37,672	20-24	36,548
40,182	15-19	38,127
42,577	10-14	40,331
41,786	5-9	39,554
39,280	0-4	37,198

Source: 1996 U.S. Census Bureau, Population Projections for States

Figure 4:
Maine Residents Age 20 and Older in 1990
Percent of Each Age Living in Urban Areas
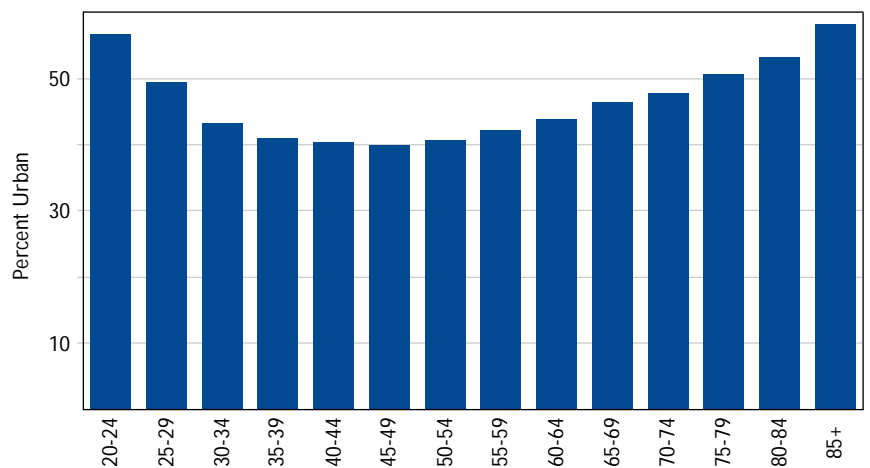
Source: 1990 U.S. Census of Population

tion—58%—of persons age eighty-five and older lived in urban areas. Only 40% of the population between the ages of forty-five and forty-nine lived in urban areas. The data for 1980 are similar. The average age of the baby boomers in 1998 was forty-three. This is close to the age which has the smallest percentage living in urban areas and the maximum percentage living in rural areas. If the baby boomers follow the pattern observed in Figure 4, then more than sixty-thousand will move from rural to urban areas over the forty years between 1998 and 2038. This poses challenges both to the areas that must accommodate them and the areas they will leave behind.

In 1990, 50% of Maine's elderly lived in rural areas—twice the national average. While half of Maine residents age sixty-five and older lived in urban areas in 1990, only 35% lived in metropolitan areas. This means that many older urban residents live in smaller cities outside easy commuting distance from the state's major centers. This can make problematic the seniors' access to the most sophisticated medical and health services.

A particular concern for policymakers is the fastest-growing segment of the elderly—the oldest old, those eighty-five and older. As Figure 5 shows, this age group will increase by almost 40% between 1997 and

Figure 5:
Maine Residents Age 85 and Older

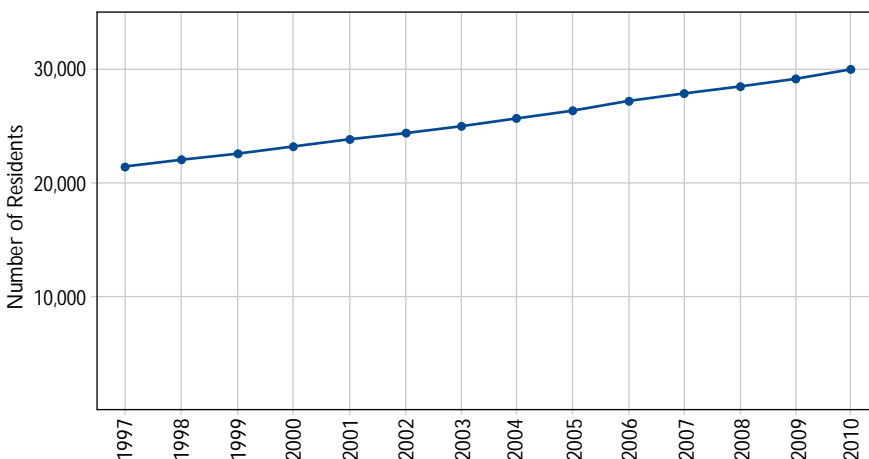Source: U.S. Bureau of the Census, Population Projections for States

2010 (26% if calculated for 1998-2010). It was noted above that a majority—58%—of the very old live in urban areas. Conversely, we might observe, a substantial minority—42%—live in rural areas. Many of these areas are especially challenged in providing services. With dispersed or isolated populations, low tax bases and substantial populations of the poor (and consequently less healthy) elderly, these areas face problems of providing adequate transportation, services and facilities.

Because of the greater number of federal programs for the elderly than for children, it is frequently the case that a population with a high proportion of elderly is not seen as great a "burden," as one which has a high proportion of children. However, in general the oldest old have the greatest need for long-term care services and not all are covered by federal programs. Medicare, for instance, provides considerable health insurance coverage, but offers only limited coverage of long-term health care services. Counties show a wider variation in the proportion of the older populations and in their statistical profile than do regions or states. The profile of the older population, and consequently their needs, can vary considerably depending on the migration experience of those areas. Thus, a farming and farm-dependent community, which has experienced aging in place and a continuous out-migration of young people, such as those in Aroostook, faces different challenges from a retirement community, such as those in coastal communities in Lincoln.

While no state experienced losses in their elderly populations, thirteen small metropolitan areas in the nation have shown declines. Among these was Lewiston which is losing younger, healthier elderly residents while retaining a disproportionate share of the very old (eighty and over), who, as a cohort, generally require special medical and social services.

Generally, migration rates slow after age sixty-five. The exception is among the very old, who often move to be near a child or other relative when their health becomes frail or their spouses die. Frequently, this is a reversal of an earlier move at the time of retirement;

for example, a Maine resident who retires to Florida may move back to Maine when she is in her eighties. The increased migration rate among the very old can be seen in the Maine data for the years between 1991 and 1996. In 1991, for every ten thousand Maine residents between the ages of sixty-five and seventy-nine, there was a net out-flow of only nine persons over the following five years. But, among those who were aged eighty or older, the migration rate was over eleven times greater—a net in-flow of 106 persons per ten thousand residents. A similar pattern was observed during the period from 1985 to 1990, except that the direction of the flows were reversed—a small net in-flow among those who were age sixty-five to seventy-nine in 1985 and an out-flow eight times greater among those who were age eighty and older.

One of the implications of the growth in the oldest old is the feminization of aging. There are five women for every two men in the population age eighty-five and over. Higher female life expectancy, along with the fact that men generally are older than their spouses, contributes to the higher proportion of elderly women living alone. This phenomenon places these older women at special risk for the problems associated with advanced old age such as poverty, frailty and institutionalization. As with the older population in general, those in isolated rural areas will face the greatest challenges. In 1990, 5% of all elderly in the United States lived in nursing homes. In Maine 6% were institutionalized. Nationally, most people in nursing homes were elderly (90%), and the biggest single group of residents was oldest-old women aged eighty-five and over. Accelerated growth of the eighty-five-and-over population, combined with an increasing labor force participation of women, who are most often the primary caretakers of elderly individuals, suggests that the proportion of elderly living in institutions may rise.

THE YOUNG

In a scenario of aging population, we can expect to see a decline in the proportion of youth (those under twenty years old). The percentage of Maine's popula-tion classified as youth is projected to decrease from 27.2% in 1995 to 22.4% in 2025. In 1995, Maine was ranked forty-second among the fifty states in its proportion of youth and, in 2025, it is expected to be ranked forty-ninth—almost dead last.

The effects of the decrease in Maine's youth will be felt most immediately in the education system. For the period 1997 to 2009, Maine is expected to experience a decrease of 9% in public school enroll-ment—the largest such decrease in the northeast region (Vermont's decrease is 6%; Massachusetts' is 1%, and New Hampshire's is 0.2%). Further, while public elementary school enrollment is expected to increase by less than 1% nationally, Maine is expected to show a decrease of 9% (Vermont's and Massachusetts' decrease is 4%, and New Hampshire's is 3%). Elementary school enrollment is particularly reflective of immigration and rising births, so it is not surprising to see the numbers decrease in a state that has experi-enced low birth rates, out-migration and little in-migra-tion. At the high school level, Maine's population is projected to decrease by 11%, whereas the northeast as a whole is projected to increase by 8%. Maine and Vermont will be the only states in the region to experi-ence a decrease. On the other hand, high growth states such as those in the west and some in the south are expected to increase by as much as 68%.

In Maine, the projected decrease in public high school enrollment (grades nine through twelve) between 1997 and 2009 will cause corresponding decreases in the number of public high school gradu-ates. While the number of graduates in the northeast is expected to increase 20% between 1996-97 and 2009, Maine is projected to decrease by 3%. During this peri-od the number of students graduating from Maine's public high schools will increase slowly up to 2002-03, and then will decrease in every subsequent year.

The changes in these cohorts will be registered at all levels—schools, colleges and the labor force; the public elementary and secondary school system will be the most severely impacted. While the decline in the number of high school graduates will affect colleges, these institutions can compensate by recruiting from out of state, expanding their missions (in ways already

Figure 6:
Dependency Ratios

Dependency Ratios

☐	66.1 - 72.0
☐	72.1 - 75.8
☐	75.9 - 80.0
☐	80.1 - 82
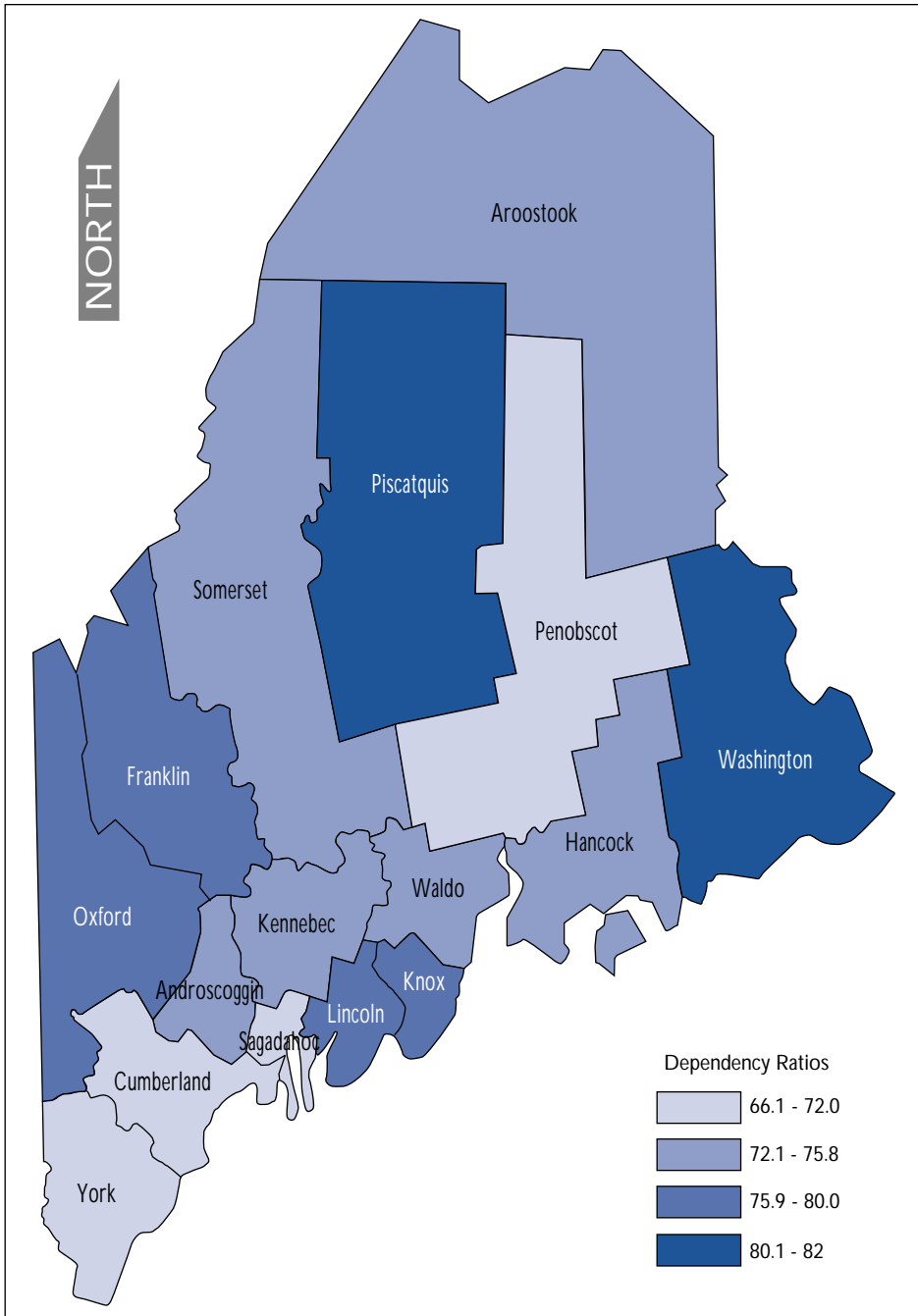
Source: U.S. Bureau of the Census. Estimates of the Population of Counties

being seen) such as emphasizing life-long learning and addressing the need for retraining (an important policy if labor force skills are to be enhanced). In Maine, where the rate of students going on to college is relatively low, improvement in the participation rate could offset decline in population.

On the other hand, the public school system cannot alter its rates of participation and, so, careful attention needs to be paid to matching the numbers of teachers, and the numbers being trained, to the projected school population. As part of that process we will need to examine not just the numbers currently being trained as teachers but also the numbers who will be retiring in the coming decade. Nationally, we are on the verge of a massive wave of retirements due, in large part, to the large numbers of teachers who were hired in the late 1960s and 1970s (to cope with the baby boom generation), and who are now beginning to retire. In Maine, 50% of teachers are over forty-five and 10% are over fifty-five. However, Maine's colleges and universities supply only two-thirds of teachers currently employed and have no control over the recruitment of teachers by school districts. Clearly, matching the supply of teachers to the predicted demand is a complex process.

THE DEPENDENT POPULATION

Sheer numbers of young and old are important for estimating and projecting needs such as schools, hospital beds and social services. However, their shares of the population better inform us of our capacity to pay for these needs. They also allow us to weigh the complex needs of the young, old and prime-age

population. The proportion of the population which can be classified as "old" or "young" is termed by demographers as the "dependent" population. They are so-called because they are not active in the labor force and, therefore, dependent upon those who are working—the "providers" so to speak. The dependency ratio—the number of youth and elderly there would be for every one hundred people of working ages (twenty to sixty-four years of age)—is a rough and crude measure of the "burden" of a given population age structure for the economy. Maine's dependency ratio could rise from 69.7 in 1995 to seventy-eight in 2025. The 1995 and 2025 ratios rank the state as the thirty-second largest and forty-second largest respectively, among the fifty states.

Given the differences in the components of change among Maine's counties, it is not surprising to find that there is considerable variation in the dependency among the counties, ranging from a low of 66.6 for Sagadahoc to a high of 81.8 for Washington (Figure 6). Of course, we have to bear in mind that this dependency ratio is comprised of both old and young. We can break the ratio down into its respective components to find out which has the greatest youth dependency burden and which the highest age dependency burden (see Table 2). In general, an older dependent population is more expensive than a younger one. However, both have implications in terms of taxes needed to provide for such things as schools, health facilities, and subsidized housing. Families and households are likewise affected. Monies spent on dependents are not available for savings. It is important to note that although an aging population can create a more dependent population overall, the ratio will not reach the levels attained during the 1950s and 1960s when the baby boomers were children.

The shifts in Maine's dependent population are easily seen in the population pyramids of Figure 3. Compared to 1960 and 2025, 1990 represents a period of relative generational balance. The growth in the elder population has been offset by a reduction in the number of children. By 2025 some of today's workers will be retirees and, compared to the 1990s, there will be fewer prime-age adults to financially support or look after the needs of the dependent population.

POPULATION AND THE LABOR FORCE

Both the reduction in youth and the increase in elderly have implications beyond the provision of services to these groups, such as education and health care. Population changes have a direct impact on the supply side of the economy through their effects on the labor force. Two significant effects on the labor force are an aging workforce and the shrinking of available labor, both of which affect a region's ability to generate output and income. Not only will the labor force age as the baby boom generation grows older, but it will shrink as they begin to exit the work force and join the ranks of the dependent population.

The New England region has a relatively slow-growing labor force—a consequence of its slower population growth. Over the past year, New England

Table 2:
Dependency Ratios of Counties

	Dependency Ratio	Under 20 Dependency Ratio	Over 65 Dependency Ratio
MAINE	72.21	48.19	24.02
Androscoggin County	75.79	50.88	24.91
Aroostook County	72.32	49.08	23.25
Cumberland County	67.27	44.27	23.00
Franklin County	76.48	53.49	22.99
Hancock County	73.27	45.66	27.62
Kennebec County	73.68	49.66	24.03
Knox County	77.58	46.05	31.54
Lincoln County	77.81	47.21	30.60
Oxford County	77.52	49.70	27.82
Penobscot County	69.81	49.03	20.78
Piscataquis County	80.57	50.31	30.26
Sagadahoc County	66.56	47.40	19.15
Somerset County	75.77	51.94	23.82
Waldo County	74.83	51.03	23.80
Washington County	81.79	51.15	30.64
York County	70.71	48.11	22.60

Source: Bureau of the Census, Estimates of the Population by Age, Sex, Race and Hispanic Origin, 1990-1997

has had no increase in its labor force, compared to 1% growth nationally. This "hitting the wall" with respect to labor availability has been cited as a factor in the region's slow economic growth. In Maine our labor participation rates have increased steadily since the 1980s, particularly among women. Still, in the past year Maine experienced a sizable slowdown in job growth, even though its unemployment was near 4%—the highest in the region. This rate may be affected by substantial structural unemployment in the rural areas, which serves to conceal very low unemployment in other parts of the state, such as York and Cumberland. (For instance, the not-seasonally-adjusted November employment rate for Maine was 3.6% But the rates for the respective counties ranged from 2.1% in

Cumberland County to 7.4% in Franklin County.)

In the absence of in-migration of skilled workers the labor force remains "tight," particularly in the southern counties of the state. Given this, economists suggest that we need to upgrade the skills of those already in the workforce in order to help the economy grow. Given the projected figures on high school graduates in Maine, this will be particularly important to the skilled labor force.

MIGRATION

Migration is a constant feature in most states, representing losses and gains of skills, educational levels and age cohorts. While the motives for migration

Figure 7:
Top 6 Destinations (by Age), 1985-1990
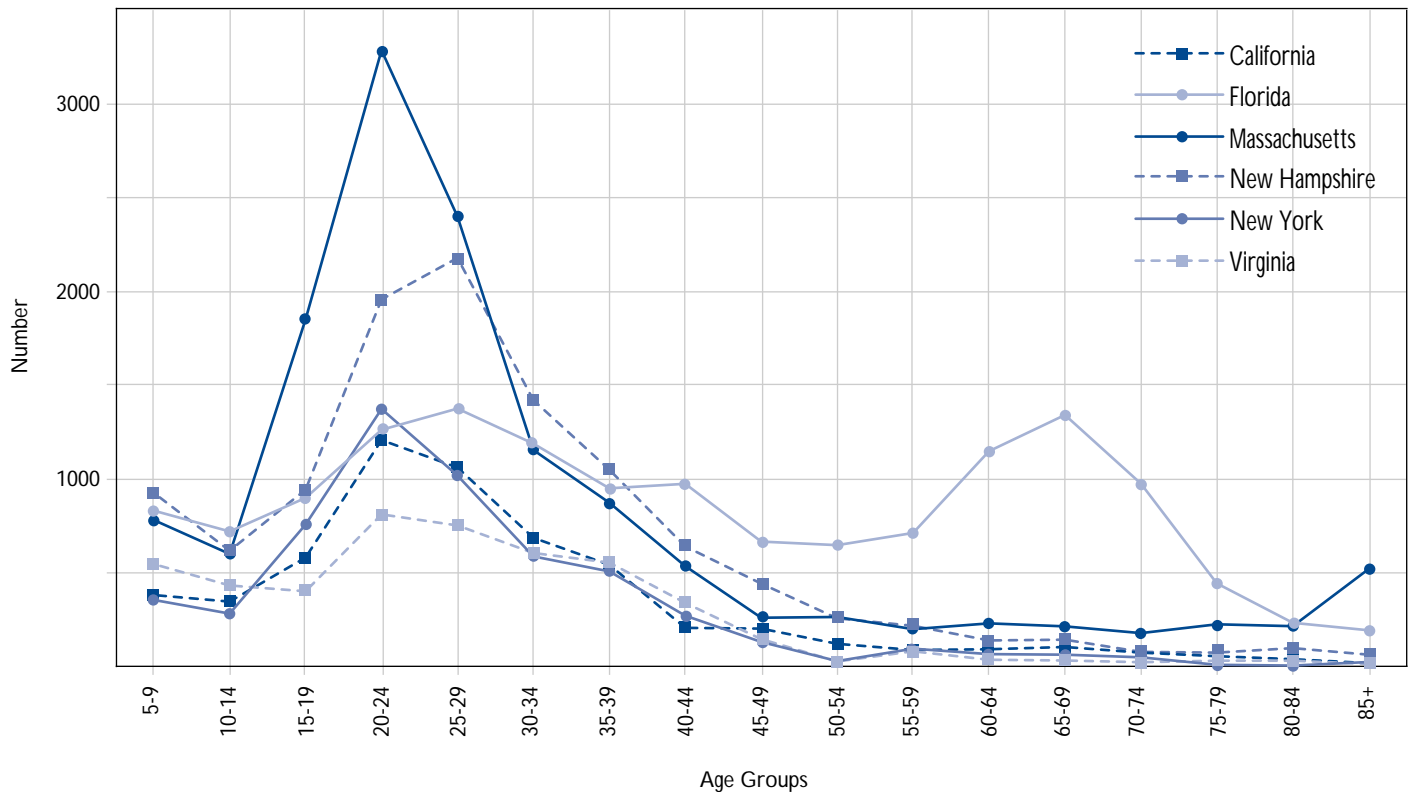
Source: U.S. Census of Population

are many—jobs, education, marriage, military service etc.—the primary forces behind migration are economic. The flow of people into and out of a county, state or region, generally reflect the economic vitality of the area. Thus, it is no surprise that during the economic boom of the late 1980s, Maine was a net recipient of migrants while the recession of the 1990s resulted in out-migration. Between 1990 and 1998 Maine experienced a net loss of 12,171 people. As the recession hit the region, Maine was not the only New England state to lose population through out-migration (Connecticut, Massachusetts, and Rhode Island registered significant losses), but it was the only one of the northern New England states to do so.

The peak period for migration into the state was July 1987 to July 1988, when the state was a net recipient of 13,834 people. Migration numbers remained in the positive until 1990, when the effects of the recession were first felt. Out-migration was experienced in every subsequent year until 1995-96. Since then the trend has been positive although, compared to the boom period of the late 1980s the numbers of in-migrants have been relatively small. Indeed, the net gain of 696 migrants in 1997-98 was the smallest number of in-migrants in the last eighteen years.

Even in good economic times people move out of state. For instance, during the years 1985-90, a period of relative prosperity, Maine lost 98,688 people, but this was offset by 142,779 people moving in. Detailed census information for this period reveals that the top destination for those moving out has been Florida, closely followed by Massachusetts and New Hampshire. Approximately half of those leaving were in the age group 20-34. In fact, even though Maine was a net gainer of migrants between 1985 and 1990, the state experienced a net loss of people in the 20-24 age bracket. Young people are usually the most mobile of all age groups. As can be seen in Figure 7 young people are the dominant group in all of the migration streams with the exception of Florida, whose migration flow peaks at both the 25-29 and 65-69 age groups. This is because Florida's growing economy pulls in young people as well as providing a retirement destination for Maine's older citizens.

Concerns are often expressed not only about the loss of young people but about a loss of skills. Figure 8 shows that among out-migrants in this period the most common educational levels were "some college or associate degree," followed by those without a high school diploma. The state lost some 22,818 college graduates during these years but this was offset by 32,731 in-migrants with college degrees. This net gain of college graduates probably reflects the job opportunities in the strong economy of that period. However, the numbers of this period need to be interpreted with some caution. For instance, the seemingly large numbers of migrants in and out of the state who are not high school graduates are mainly children who are part of families. The number of high school graduates leaving the state will contain young people leaving the state to pursue a college education.

Although we do not have detailed migration information for the 1990s of the sort presented for the years from 1985 to 1990 (unfortunately, such information is only available from the decennial census), we do have some information. As already noted, between 1990 and 1998, there was a net loss of

Figure 8:
Number of People by Education Level
Coming Into and Leaving Maine 1985-1990
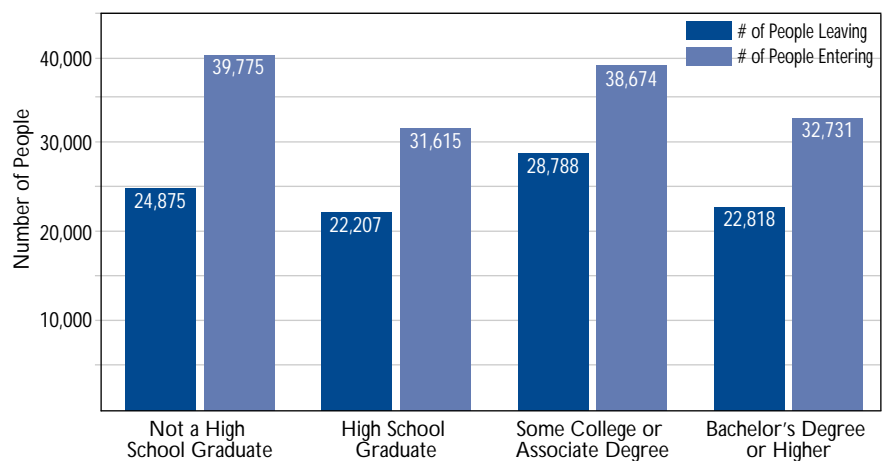
Source: U.S. Census of Population

In a recent poll, the majority of the over-fifty set indicated that they would like to retire to a small town or rural area. Whether Maine counties can offer the right mix to these potential retirees remains to be seen.

12,171 persons due to out-migration, but this reflects losses that occurred during the first half of the decade. After 1995, there was a reversal of migration with a net gain of 5,400 persons. Two-thirds of this increase resulted from the movement to Maine of people from other parts of the United States. One-third resulted from an influx of immigrants from abroad.

Seven of Maine's eight coastal counties gained population from in-migration between 1995 and 1998, while six of its eight inland counties lost population to out-migration during the same period. Washington was the only coastal county to lose population to out-migration. Oxford and Somerset were the only inland counties to gain from in-migration.

Maine has not benefitted extensively from the "rural rebound" of the past decade that has been observed across the fifty states. During this time Americans of all ages have been moving back to non-metro rural counties. More than 71% of all non-metropolitan counties gained population between 1990 and 1998; migration accounted for most of this rebound. The average growth rate of these counties for the years 1990-96 was 5.9%. The counties which have experienced the most spectacular growth were those whose economies are based on retirement and recreation. The counties that grew most, regardless of their economic base, were those that offered ideal climates— mountains and water. Virtually all of these were in the west. In the 1990s, across the country, aesthetics has translated into growth. Can Maine benefit from such a trend? The disproportionate growth in some Maine coastal counties suggests that it has to some extent already seen some of this type of in-migration.

However, Washington County, which was recently ranked the highest of Maine's counties on a rating scale which measured an area's attractiveness and migrant magnetism (McGranahan, 1999), has not.

Lincoln is one of 190 rural counties across the country classified by the United States Department of Agriculture as a Retirement Destination County. From 1980 to 1990, these counties experienced a 15% or more in-migration of persons sixty or older. Such an influx of retirees can help stabilize local economies and creates a range of jobs from a few highly skilled medical jobs to the more common unskilled service jobs. Retirement migration will become a significant force in the next decade as the baby boomers begin to retire (by the year 2005, about thirty-five million people will be in the 50-59 age group that is nearing retirement). As the elderly have become wealthier and more numerous, economic development officials, including those in Maine, have increasingly looked for ways to attract retirees. In a recent poll, the majority of the over-fifty set indicated that they would like to retire to a small town or rural area. Whether Maine counties can offer the right mix to these potential retirees remains to be seen.

In many ways migration is the key to Maine's demographic future. The Census Bureau projects that from 1995 to 2025 the population of Maine will grow by 181,000. Given the earlier discussion about the aging of Maine's population and the decline in fertility, it is not surprising that the Census Bureau predicts that most of that population growth will be achieved through migration (both interstate and international). In this respect we differ from our northern New England neighbors, Vermont and New Hampshire, which are predicted to grow proportionately more from natural increase. While we can feel reasonably comfortable about predictions on births and deaths, we need to be cautious about those on migration. Migration is notoriously sensitive to economic conditions so much will depend on the economic health of our state in particular and the region in general during the years to come. As the population of the country ages we can also expect mobility rates to slow down.

The growth in the west and southeast of the country is testimony to Americans' willingness to move

in search of better employment opportunities and a change in lifestyle. In general people tend to move to areas that are prospering and leave those that are not. Therefore, the key both to attracting more migrants and retaining Maine's young people is sustainable economic growth and employment which can provide high-quality jobs.

CONCLUSION

Population trends have profound implications for Maine's economy and society, the effects of which will be felt in both the private and public sectors. We cannot fully predict all population change. There is nothing to suggest that fertility or mortality rates will change dramatically but migration has the potential to alter rates of growth and to modify the population structure. Unfortunately, it is the least predictable. Further, even significant in-migration would not reverse the aging trend in the state.

This article has identified three related major forces which must be addressed—slow growth, a reduction in the number of young people, and the aging of the population. Education, health care, labor force and pensions are areas that will be particularly sensitive to these forces. As such they deserve special attention and careful planning. We need to carefully plan our investments in education, particularly K-12, hospitals and nursing homes as well as the training of those who will work in these areas. We need to ask how many teachers and how many health-care workers will be needed in the coming decades and, consequently, how this will affect programs that train and produce such workers. In addition to infrastructure and employment requirements in these areas, we need also to examine the delivery systems—the demands which will be made and the resources which will be available. Finally, we need to look at how our tax base will be affected by population change and how this will meet the demands which will be put on government services by an increasingly dependent population.

Not all population change will be experienced similarly by all parts of the state. In this, as in so many other things, Maine is not a homogeneous state. Some parts will be looking at school closures while others in economically growing areas will be struggling with large classes and over-crowding. Urban, more prosperous areas of the state will face different issues from rural, poorer areas in dealing with a growing elderly population. As Table 2 on the dependent population demonstrates, some counties have a much higher dependency burden than others, yet many of these may be the least able to provide services. If out-migration continues from these areas then the aging trend will only accelerate.

Unlike areas of rapid population growth in the country where governments are scrambling to deal with ever-increasing demands for schools and services, we have an opportunity to plan for the changes that our state is facing. However, now is the time to plan. We need to better analyze, assess and understand the changes that we face. As a result we will be better prepared and better able to meet the needs of Maine's citizens. ∽

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ENDNOTES:

1. The figures relating to public elementary and secondary enrollments are from the U.S. Department of Education, National Center for Education Statistics, Common Core of Data surveys and State Public Elementary And Secondary Enrollment Model, August 1998. The figures on public high school graduates are from the U.S. Department of Education Statistics, Common Core of Data surveys and State Public High School Graduates Model, July 1999.

2. Data are computed from State of Maine, Department of Education, Staff Information Systems Tape, 1998-99.

3. In fact during this period there was a net domestic migration flow of -14,808 but this was offset by international migration and the return of federal (mainly former military) employees to Maine.

4. The index of attractiveness was computed by David McGranahan of USDA's Economic Research Service. See "Natural Amenities Drive Rural Population Change," Research report, October 1999, Stock # ERS-AER-781. The data on Maine's counties were obtained from McGranahan's data file, courtesy of the author.

5. The prospects for the retirement industry in the State of Maine are outlined in the recently released report, "A Golden Opportunity 11: How Maine Can Enhance The Retirement Industry," Maine State Planning Office, Augusta, December 1999.