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Maine's Investment Imperative

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by Laurie G. Lachance

In the past two decades, Maine's per capita income ranking has not topped twenty-seventh, and in recent years, our relative position has dropped to thirty-sixth. More importantly, the gap between Maine and the United States has increased since 1990. Put quite simply, we are falling behind. In this article, Maine's State Economist Laurie Lachance outlays a long-term investment strategy for Maine that focuses on education, research and development, comprehensive tax reform, greater efficiencies in the delivery of state and local services, and limits on government spending. Lachance argues that choices must be made even in times of fiscal crisis. Failure to invest means failure, period.

FORWARD

For eight years, Maine's Economic Growth Council has been working to articulate a vision for Maine's future and to create a set of benchmarks against which to measure our progress. In its annual report, *Measures of Growth 2002,* the council states: "Our vision is a high quality of life for all Maine citizens" (Maine Development Foundation 2002).

While the vision itself is rather simple, straightforward, and widely accepted, defining the strategies to achieve the vision is anything but. After years of work, the council has identified three conditions as being absolutely essential to attaining our vision: Maine must have a vibrant and sustainable economy, vital communities and a healthy environment. Recognizing that all three elements are interrelated, and in no way meaning to diminish the importance of vital communities and a healthy environment, this paper will focus primarily on one element—creating a vibrant and sustainable economy.[1]

INTRODUCTION

Maine's economy is steeped in a rich history of natural resource-based industries and traditional manufacturing. For over a century these industries have defined who we are and how we sustain ourselves. But, as history has repeatedly shown us, there are huge forces that shape, propel and ultimately transform our economic underpinnings. And while change, particularly of this magnitude, is never painless, it offers opportunities to those who recognize, embrace and work to transition toward the new state.

We are in the midst of yet another transition, this time evolving from a service-based economy toward a knowledge-based economy, one based on scientific research, innovative engineering and the creation of new processes, substances and technologies. Our success in moving Maine toward that high quality of life we seek requires:

- an honest, self-assessment of where we are right now;
- an understanding of what is needed if we are to participate fully in the knowledge-based economy; and
- a set of strategies to position Maine to seize opportunities and to overcome barriers.

While a number of indicators will be examined in an effort to thoroughly assess the condition of Maine's economy, there is one indicator that serves as the best overall measure, and that is income. No other single indicator speaks to the relative condition of all aspects of our lives or to our ability and wherewithall to protect our environment and to strengthen our communities. A glance at the performance of our bellweather indicator forces a bit of a harsh reality on us.

As Figure 1 illustrates, in the past two decades, Maine's per capita income ranking has not topped twenty-seventh, and in recent years our relative position has deteriorated to thirty-sixth. More importantly, the gap that separates Maine from the United States has increased since 1990 (see Figure 2). In 2000, Maine's per capita income was $25,399, 14 percentage points below the national average ($29,451) and 35% below the New England average ($38,824). It's little wonder that our young people have been lured across the border to start their careers. Further, the fact that the Maine Economic Growth Council has given income, the most important measure of overall economic health, a "red flag" in four of the past five years should serve as a call to action for all Maine leaders. (A red flag is assigned by the Growth Council to indicators that have either a low national standing or are trending toward dramatic decline.)

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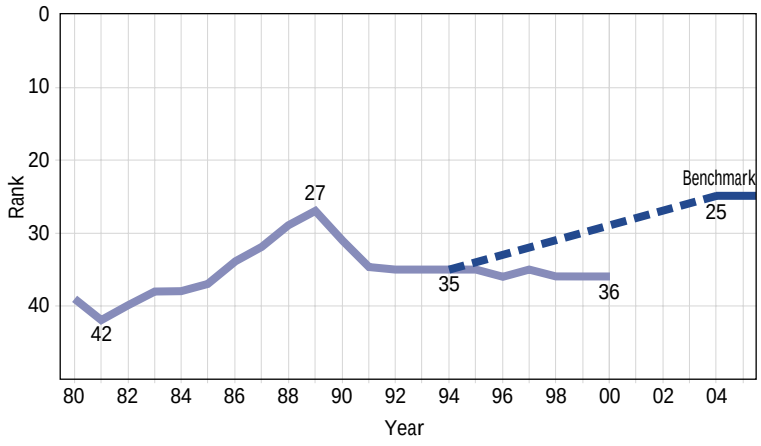
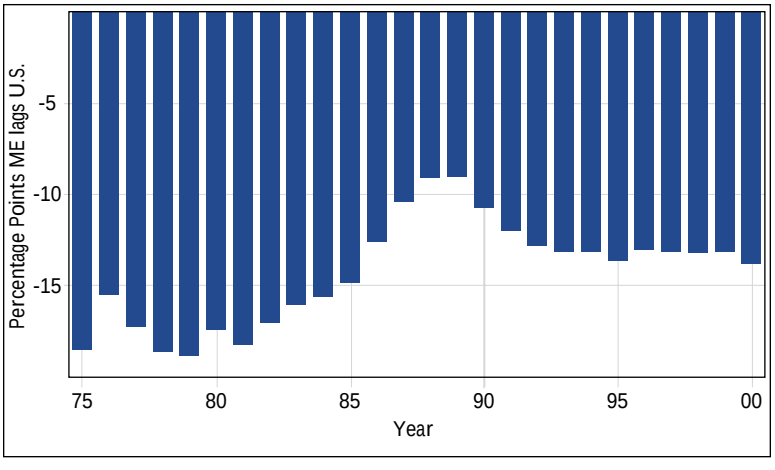
Figure 1: Maine's National Rank Among the 50 States on Per Capita Personal Income



Source: Published in Maine Development Foundation, "Measures of Growth 2002." Rankings compiled for the Maine Development Foundation by the Maine State Planning Office using data from the U.S. Department of Commerce, Bureau of Economic Analysis.

Figure 2: Per Capita Personal Income, Percentage Points Maine Lags U.S.



Source: Calculated by Maine State Planning Office using data from U.S. Department of Commerce, Bureau of Economic Analysis.

In his book, *The Competitive Advantage of Nations,* Michael Porter (1990) identifies one of the most critical determinants of a region's prosperity as being its capacity for innovation. Yet the Corporation for Enterprise Development, in its *Development Report Card for the States* gave Maine an "F" for innovative assets in 2001.[2] And in the January 2002 release of its "New Economy Index," the Milken Institute evaluated all 50 states on their relative ability to succeed in the new high-tech economy and assigned Maine a rank of forty-third.[3] Clearly, full participation in the knowledge-based economy will require an investment in Maine's innovative capacity that includes, at a minimum, state-of-the-art production capacity and technology, modern infrastructure and, above all, a skilled and educated workforce.

As we examine the opportunities and challenges facing Maine and start to develop strategies for moving Maine forward, it is hard to overstate the importance of investment. In any economic unit—household, small business, large corporation, government—there are a myriad of decisions that need to be made on how to best utilize limited resources. Obviously, day-to-day survival and operations require some significant portion of those funds. Still, as we plan for the longer term, choices must be made on a wise investment strategy. Whether it's households planning for college or retirement, businesses planning for expansion or modernization, or a government preparing to strengthen infrastructure, investment is the linchpin to long-term viability and prosperity. Failure to invest means failure, period.

In the same way, as we look toward our vision of a high quality of life for all citizens, attainment of that vision through the development of a strong, vibrant economy means putting a wise investment strategy in place and tenaciously sticking to the plan. As we have seen in every major, modern economic transformation, most notably Ireland's, both the investment plan and the commitment to stick to it are essential elements.

If our vision for Maine is a high quality of life and if a high quality of life is predicated on a strong, vibrant economy, then it is imperative that Maine invest in the innovative capacity of its people and economy, and that government support that investment strategy at every level.

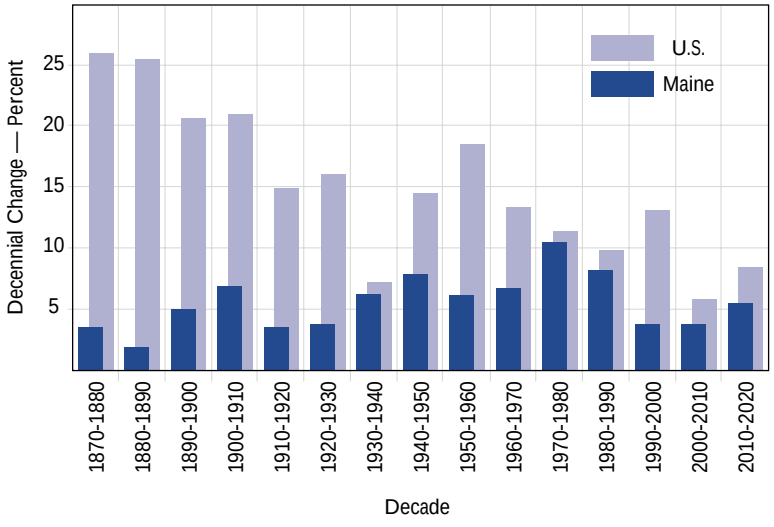
OUR PEOPLE

One of the major forces that is quietly—yet powerfully— shaping Maine's economic growth is population. Maine's population can be described as growing slowly, growing older, growing unevenly and growing expensively, and each of these descriptors has implications for overall economic vibrancy. In addition, the general makeup of our population lacks the diversity that tends to drive creativity and innovation.

Maine's population is growing slowly. As Figure 3 highlights, for 130 years we've grown more slowly than the United States as a whole. Our growth peaked in the seventies and eighties, averaging annual increases of nearly 1%. In the nineties, we suffered six years of out-migration and a decline in the number of babies born, giving us an overall growth of 0.4% annually. Absent some major shift in migration patterns, Maine's population is expected to grow 0.4% annually through 2010 and 0.6% through 2020.

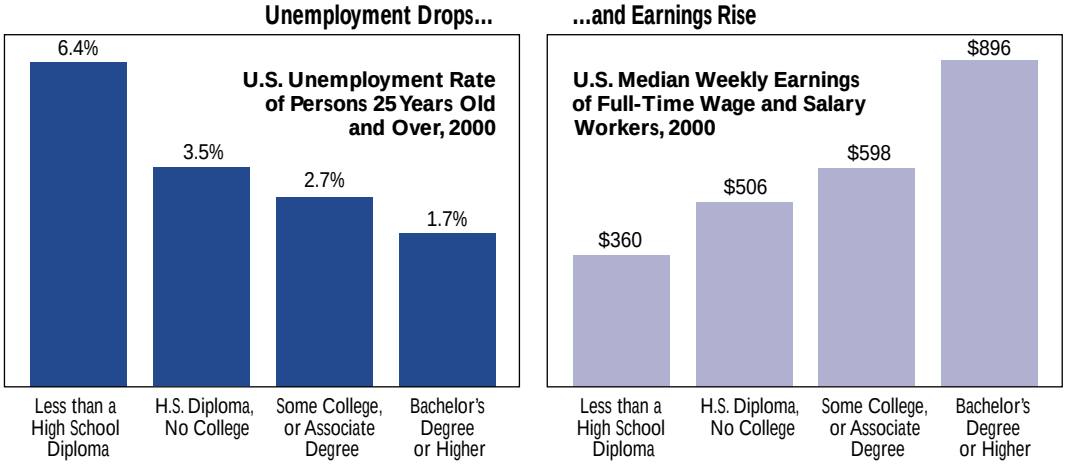
So, what does slow population growth mean for Maine and why is it an important issue? Slow population growth means that the vast majority of today's workforce will be the workforce next year and five and 10 years hence. If the team we're fielding today puts us in thirty-sixth place and we're not expecting many new players, then to successfully compete we must fundamentally upgrade the skill level and educational attainment of every workforce "team" member. Our challenge is to bring every Maine worker to his/her highest potential contribution and earnings. Further, slow population growth forces Maine businesses to make the best use of

Figure 3: Actual and Projected Decennial Population Increases, Maine and U.S., 1870-2020



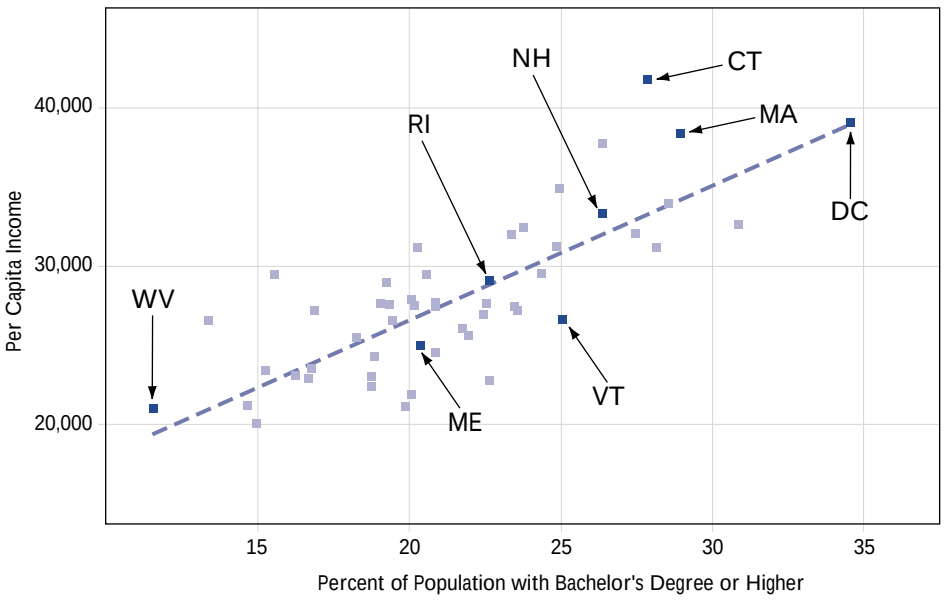
Source: Percent growth calculated by the Maine State Planning Office using data from the U.S. Census Bureau.

Figure 4: With Additional Education:



Source: U.S. Department of Labor, Bureau of Labor Statistics, "Labor Market Digest," July 2001.

Figure 5: Educational Attainment and Per Capita Income, 2000



Source: Percent of Residents over Age 25 with Bachelor's Degree from U.S. Department of Commerce, Bureau of the Census, 2000 Current Population Survey. Per Capita Personal Income in 2000 from U.S. Department of Commerce, Bureau of Economic Analysis.

limited resources, in this case human resources. In order to increase productivity and to compete effectively, businesses must not only invest in their workers but must invest in capital equipment and new technologies to stretch the output of those workers.

The Maine Economic Growth Council found that the long-term economic competitiveness of Maine is directly linked to skill and educational attainment, and the *Measures of Growth* report includes a number of benchmarks in this area. Figure 4 uses national figures to illustrate how each incremental step toward higher levels of education increases employment opportunities and earnings.

The post-secondary educational attainment of Maine's people is below average. This means that Maine's workforce is undereducated to meet the demands of a knowledge-based economy, placing Maine at a distinct competitive disadvantage.

Figure 5 highlights the strong correlation that exists between the percentage of the population holding a bachelor's degree and the level of per capita income in each of the 50 states. It is this correlation, in part, that became the basis of the King administration's *30 and 1,000* plan. The State Planning Office, in studying ten years of data on 50 states, found that there are two factors which go a long way in explaining the income differential that exists among the states, namely the percentage of adults with at least a four-year college degree and the dollars per employed worker spent on research and development. As of 1998, when the goals of this initiative were developed, 19% of Maine adults had college degrees and $255 per worker was invested in R&D, giving Maine a rank of forty-sixth and forty-fourth, respectively. The State Planning Office asserted that if Maine were to raise the portion of its population holding college degrees to 30% and increase the dollars spent per worker on R&D to $1,000, Maine's per capita income would increase to the national average, thus closing the gap that has existed for decades.

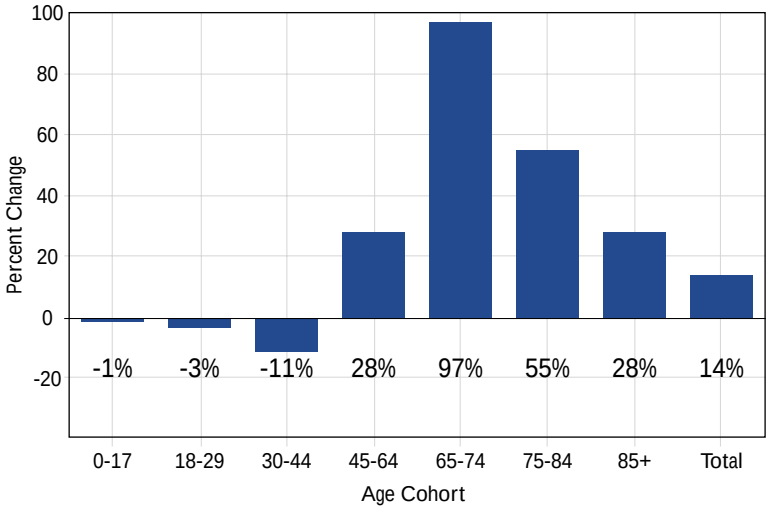
In terms of four-year degree attainment, the good news is that progress is being made. The most recent estimates show that the percent of the population with at least a bachelor's degree has risen from 19% to 24%, a significant step in the right direction. However, this is still well below attainment in New England that rose to 30.8%, suggesting there is more work to be done. In addition, estimates for 2000 suggest that the percentage of Maine's population holding either an associate degree or a graduate degree has slipped since 1990, leading the Maine Economic Growth Council to assign red flags to both of these indicators. In fact, it is noteworthy that five of the eight indicators in the Skilled and Educated Workers category of the *Measures of Growth* report were flagged as troublesome—a stark statement about the need to invest in our people.

While our K-12 system is unparalleled and progress has been made in developing a community

college system, Maine must recognize that full participation in a knowledge-based, technology-driven economy will require an even more comprehensive approach to education. Employers can and should be encouraged to play a meaningful role in fostering the professional growth of their employees, particularly as the percent of front-line employees attending employer-sponsored training fell from 35% in 1998 to 17% in 2000. In addition, the general citizenry has responsibility for lifelong learning. In 1996, 57% of those surveyed said they attended courses or programs. This figure has declined since that time, falling to 36% in 2001, nearly one-half the 70% target.[4]

If we truly want to lift each and every Maine worker to his/her highest potential contribution and earnings, we must understand that a world-class K-12 system, while essential and foundational, is no longer sufficient. The competitive pressures of the new world order demand a seamless K-16+ educational system enhanced by widespread, ongoing employer-sponsored programs and a culture of lifelong learning

Figure 6: Percent Population Change by Age Cohort, Maine, 1999-2025



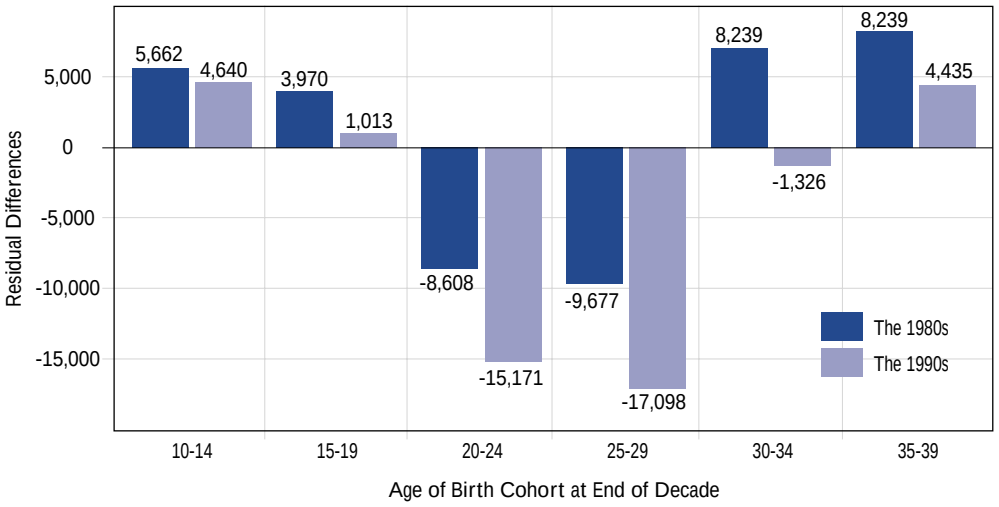
Source: Calculated by Maine State Planning Office using data from the U.S. Census.

Maine's population is growing older. There are tidal waves, then there are even larger tidal waves. But this trend is a tsunami. The baby boomers are driving this economy as they progress through every life stage. In the year 2000, there were 175,000 seniors, which was 14% of the population. By 2020, there will be an estimated 260,000 seniors, fully 21% of the population. Put another way, over the next two decades Maine's population will grow 10% and Maine's senior population will grow by 50%.

Even more striking when considering how the aging of our population will effect our economy is the projected change by cohort (see Figure 6). Maine's school-age population cohort is in decline as are those of college-age and young working-age. The number of people ages 65-74 are projected to double and ages 75-84 will grow by 55% by 2025. The implications of these figures alone are phenomenal. Think about the pressure an aging population places on the transportation system, health-care system, housing, labor supply and buying patterns. How do we reshape or restructure our institutions and companies to serve an older population? Further, who will pay for essential services and infrastructure? Maine currently ranks fourth-oldest in the nation. One major challenge that arises is that our institutions need to find more cost-effective ways to deliver infrastructure and critical services. This is imperative to stretch our limited resources.

But in challenge, there is always opportunity. Simply recognizing the issues that swirl around the aging of our population is an important first step toward preparing for these inevitable demographic shifts. Another major step is to fully understand and seize the opportunity that the retirement industry offers our state. Over 400,000 Americans choose to move in their retirement. These people tend to be of above-average means, active and healthy and can, in themselves, become a source of economic strength to the communities they choose as their new hometowns. Already, Maine is one of only 25 states seeing a net increase of retirees, and these individuals offer a tremendous resource in terms of skills and talents which can be used to relieve the immense pressure that labor force shortages exert, and to help fund critical infrastructure and services required by an aging population.

Figure 7: Residual Population Differences Between 1980 and 2000 in Selected Maine Birth Cohorts[5]



Source: Calculated by the Maine State Planning Office from: Numbers of Residents by Age, reported in the 1980, 1990 and 2000 U.S. Censuses; Numbers of Deaths by Age, reported for the period April 1980 through March 2000 by the Maine Department of Human Services, Bureau of Health, Office of Health Data and Program Management.

Maine is experiencing a significant out-migration of youth. Early estimates from research being done on the "brain drain" issue at the University of Southern Maine's Edmund S. Muskie School of Public Service show that out-migration of young people in the nineties has been particularly severe (Heminway 2002). Figure 7 highlights the fact that in both the eighties and the nineties, Maine experienced a loss of youth aged 20-29. However, it is interesting to note that the state experienced a net increase in the number of people in the 30-39 age bracket as well as the 10-19 year olds, likely young families with their children.

Reversing the out-migration of young working-age adults is a daunting issue that presents a bit of a conundrum: young workers are attracted to a vibrant economy where job/income opportunities abound. At the same time, the presence of young workers helps to create a vibrant economy as they inject fresh, new ideas, energy and approaches. An added issue for Maine is that the degree of youth out-migration varies fairly dramatically by region (see Figure 8). In both the eighties and the nineties, the rim counties (the four western mountain counties, Aroostook and Washington) suffered far more youth out-migration than the central inland counties (Androscoggin, Kennebec and Penobscot) or the seven southern and mid-coastal counties. In all regions of the state, the loss of youth was more severe in the decade of the nineties, when economic conditions were far less robust than the 1980s had been.

As with other issues, regardless of the degree of difficulty, the issue of youth out-migration must be addressed head-on.

Maine's population is growing unevenly. Figure 9 shows the wide disparity across Maine's counties. The coastal counties experienced red-hot growth, topped by York County, which grew by 13.5%, while five counties experienced population declines, with Aroostook suffering a 15% population loss through the decade.

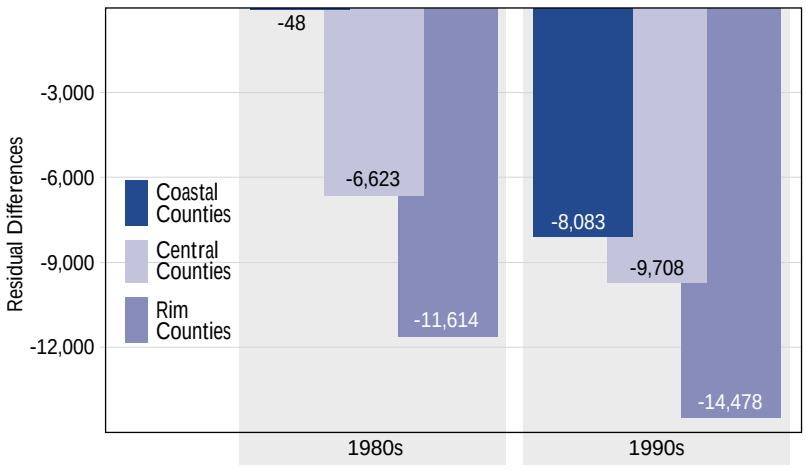
Why should Maine leaders be concerned with uneven population growth? Population growth and employment opportunities are inextricably linked. It becomes a vicious cycle and, frankly, a burden that must be shared across the state. Income opportunities erode and take us farther away from our vision for a high quality of life for all Maine citizens. In fact, in measuring the income per capita in Maine's four poorest counties as a percentage of income per capita in Maine's four wealthiest counties, the Maine Economic Growth Council found that the gap has widened over the past 15 years. Whereas in 1985 income in the four poorest counties was 72% of that in the four wealthiest, their position has now deteriorated through 1999 to 63%. One major issue that these inequities create is that a huge amount of time and resources are devoted to addressing the differences rather than investing to lift the entire state.

Maine is growing in an expensive manner.

The percent of the population living in suburban/rural areas has grown from 36% in 1960 to 56% in 2000. This type of growth, known as sprawl, has cost us dearly. The State Planning Office's report, *The Cost of Sprawl* (1997), speaks of the three invoices we must pay: fiscal, environmental and community character.

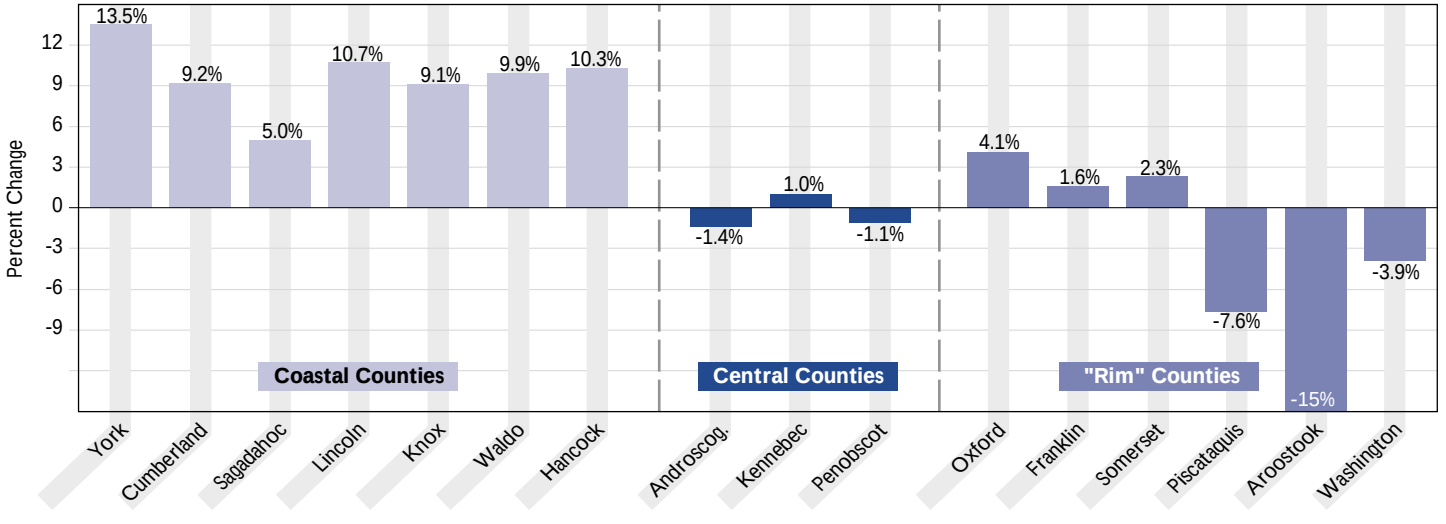
Focusing on the fiscal strain, the movement of Maine's population out of the more urban, service center communities to the small towns within relative commuting proximity has put immense pressure on all communities and the state as a whole. To meet the needs of a rapidly growing population, tax burdens of small towns have risen as the towns struggle to finance needed infrastructure and services. At the same time, our urban centers are forced to spread large, existing infrastructure costs across a declining population base, causing upward pressure on their tax burdens as well. And last but not least, the sprawling pattern of development has caused costs to spiral at the state level. Perhaps the most noteworthy is that

Figure 8: Residual Population Differences Between 1980 and 2000 in Selected Birth Cohorts in Three Regions of Maine[5]



Source: Calculated by the Maine State Planning Office from: Numbers of Residents by Age, reported in the 1980, 1990 and 2000 U.S. Censuses; Numbers of Deaths by Age, reported for the period April 1980 through March 2000 by the Maine Department of Human Services, Bureau of Health, Office of Health Data and Program Management.

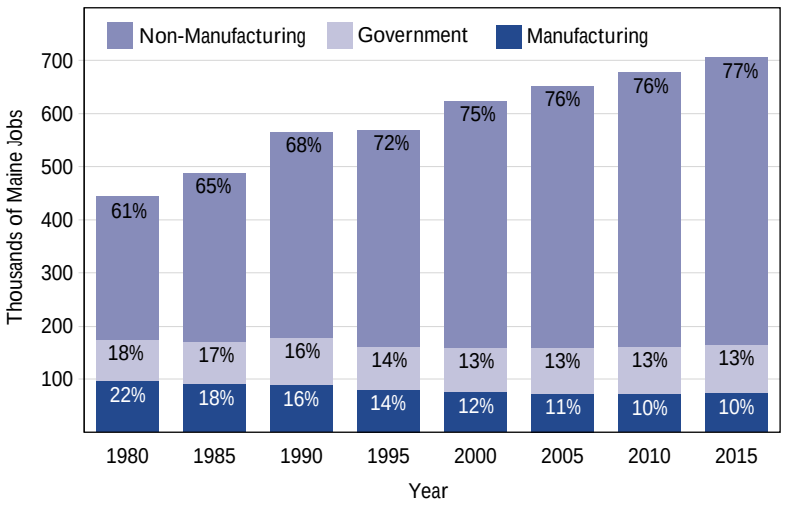
Figure 9: Population Change, Maine Counties, 1990-2000



Source: U.S. Census Bureau estimates

Figure 10: Changing Composition of Maine's Employment

Maine History and Forecast, 1980-2015.



Source: Regional Economic Models Inc.

from 1970 to 1995 there was a decrease in Maine's school-age population and yet the state spent $750 million on new school construction. Construction of new and often redundant infrastructure is costing an estimated $50-$75 million annually to the General Fund. In a state with limited resources, we can't afford to build redundant infrastructure, as every dollar spent on redundancy is a dollar diverted from more productive use or investment.

Maine's population is extremely homogeneous. In examining how the makeup and growth of our population shapes economic growth, another important issue is Maine's homogeneity. In 2000, 96.5% of Maine's population was Caucasian, making Maine the most homogeneous state in the nation. By comparison, only 69% of the U.S. population is non-Hispanic whites. Research shows that the most dynamic communities are those in which there is diversity among the people. Because Maine lacks the diversity of race, heritage, ethnicity, metropolitan and huge corporate experience, we are missing the opportunity to build on the unique strengths and perspectives that immigrants and people from other parts of the United States offer. The challenge this creates is that we must dig even deeper to be innovative. Remembering that innovative capacity is the most important determinant of prosperity, it is harder to think of new approaches when 96.5% of the population has a similar heritage and similar life experiences.

Huge demographic forces are exerting tremendous pressure on the economy, communities, institutions, and the environment. The fact that Maine's population is growing slowly demands that we invest in our people and in the technology and capital equipment that can enhance their productivity. The fact that Maine's population is relatively old and aging, is growing unevenly and is spreading out, all add pressure to the underlying cost structure and divert resources away from productive uses. Once again, if Maine is to secure its vision for a high quality of life for all citizens, it must begin in earnest to attack the upward spiral of costs and free up resources to be invested wisely. And if we are to create the skilled and educated workforce that we are growing to understand as being central to success in the new economy, we must heed the warning signs and embrace and support a comprehensive educational approach, cradle to grave.

OUR ECONOMY

> "We should realize the fact that Maine is rapidly advancing in prosperity. Consider the manufactures of woolen and cotton goods, of boots and shoes, her lumber, ice, granite, lime, slate and feldspar. The continuous and steady growth of these interests, and the fact that they have withstood business depression and hard times, prove that they are as permanent industries of our State as agriculture itself."
>
> Ira E. Getchell,
> *22nd Annual Report of the Secretary of the Maine Board of Agriculture for the Year 1877*

While Mr. Getchell's comments may seem a bit naïve to those of us who have the benefit of understanding the major economic transformation brought about by the completion of the industrial revolution, technological advances, globalization of world markets and the evolution of the knowledge-based economy, his words highlight the legacy of pride in Maine's

natural resource base and the life-sustaining industries built on this foundation. In truth, there are many in Maine today, 125 years later, who continue to see our state's economy and even persona as being rooted in and defined by natural resource-based industries and traditional manufacturing, despite the fact that enormous forces continue to reshape these sectors.

The difficulty in creating sound economic development policy comes in accepting that major changes in our economic base are inevitable and may not, necessarily, be bad. The degree of pain and economic dislocation that we endure will depend, in part, on our effectiveness in recognizing the change, identifying the opportunities that the change provides, and modifying our institutions, systems and investment choices to seize those opportunities.

As we create an investment strategy to position our state to fully reap the benefits of the emerging knowledge-based economy, we need to use great caution not to base our policy choices on a nostalgic view of Maine, half-truths or over-generalizations. We need to first take a hard look at the condition of our economic foundation and how that base is shifting, then consider how ongoing globalization and evolving technologies will shape our growth going forward, and, finally, develop a set of policies that enable us to make the transition and to prosper.

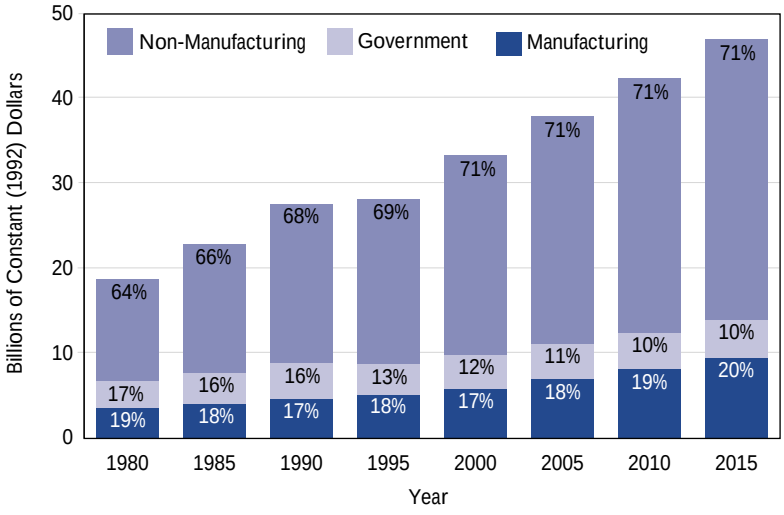
Maine, like the United States as a whole, has experienced dramatic changes in the composition of its job base. Whereas in 1950 one out of every two jobs both nationally and locally were in manufacturing, the ratio is closer to one in nine jobs today. As Figure 10 depicts, the structural transition from manufacturing toward services has continued in recent years through some sizable cyclical swings including the booming eighties, the severe regional downturn of the early nineties, and the lengthy expansion into 2001. Not only did manufacturing's relative contribution to total jobs diminish from 22% in 1980 to 12% in 2000, but actual employment levels in Maine's goods-producing sector fell through the period to under 100,000.

While it is true that employment in manufacturing has been in long-term decline, it is not an accurate statement to suggest that manufacturing is "dying" or somehow of less importance to our economy. In fact, as Figure 11 highlights, the wealth generated in our industrial sector has continued to grow in spite of the structural shifts in employment, and the overall contribution of manufacturing to total Gross State Product has remained in the 17%-19% range. This means that today's manufacturing sector is more productive than the sector of two decades ago, which is good news for Maine. Susan Schacht, in her summer 1992 article "Stuck on Productivity" in the *Regional Review,* noted: "Services account for a growing share of employment, sparking fears of deindustrialization. But the shift to services actually reflects great strides in manufacturing productivity." In other words, while employment levels in manufacturing may be a concern, the more important issue is the productivity of the jobs that remain.

A glance at Maine's productivity trends offers mixed messages. The good news is that Maine has been making real productivity gains over the past 30 years (Figure 12). Our gains, however, have not quite kept pace with national growth in the past decade and, as University of Maine's Dr. James Breece found, our output per worker remains at roughly 80% of the national average (1999). In addition, Maine's progress

Figure 11: Changing Composition of Maine's Gross State Product

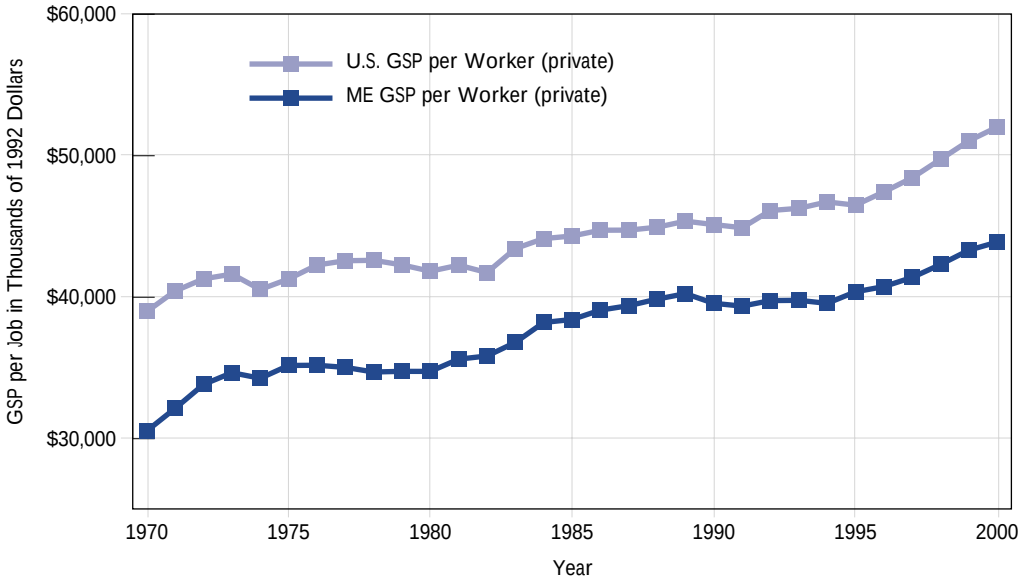
Maine History and Forecast, 1980-2015.



Source: Regional Economic Models Inc.

Figure 12: Productivity—Real GSP per Worker (Maine vs. U.S.)

Economic contribution per job in thousands of dollars of real GSP per year.



Source: Calculated by the Maine State Planning Office using data from the U.S. Department of Commerce, Bureau of Economic Analysis.

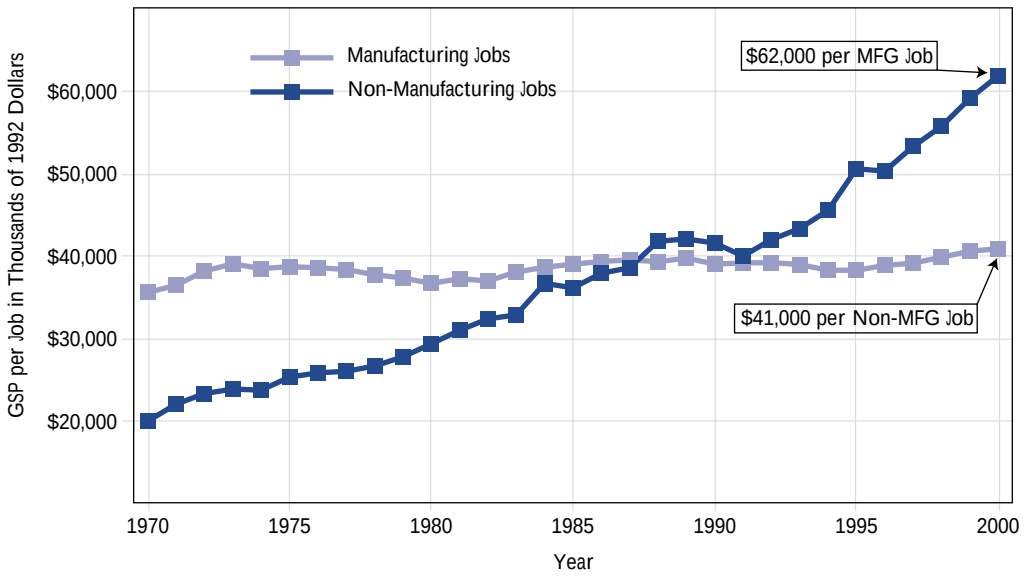
pales in comparison with the rest of New England, which recorded productivity growth that was twice Maine's pace through the last half of the nineties. If productivity is defined as the ability to make more and more with less and less effort, a fundamental question becomes: What are the other New England states doing differently than us that allows them to achieve such success? Have they invested in certain technologies or capital equipment that has allowed their workforce to be more productive? Do their tax structures encourage investment in productive capacity? Have they been able to contain costs, freeing up capital for investment? If well-known author and analyst Paul Krugman is correct that: "Productivity isn't everything, but in the long run it is almost everything," then to attain the prosperity we seek for our citizens, Maine must develop an investment strategy that increases our productive capacity (quoted in Schact 1992).

As we dig deeper into the data to determine which sector is driving the overall productivity trends, the vital importance of Maine's manufacturing sector becomes clear. Figure 13 shows that, while the productivity of each non-manufacturing worker has remained constant, the productivity of our industrial workers has tripled, and the rate of productivity growth has accelerated since 1995. To achieve such an acceleration, a spate of investment had to have taken place. Is it a mere coincidence that investment took off at about the same time that the Business Equipment Tax Reimbursement (BETR) program was established? Can Maine afford to hinder, in any way, the tremendous progress we've made in the past five years and risk stifling further gains? And what can be done to increase the productivity of our non-manufacturing workers who now hold three-quarters of all jobs in Maine?

Whatever the changes that evolve in Maine's economic base, our choices to invest Maine's limited resources should focus not on certain sectors, per se, but on high-quality jobs that offer Maine people the best opportunity for increasing their standard of living. Dr. David Birch, author, lecturer, and expert on American small business growth, warned Maine's political and business leaders to take the high road. He suggested that a strategy focused on low-end, low-skill industries or jobs would always lead us to failure because Americans can no longer compete with the labor costs of third-world countries (Birch 1997). Caution must again be exercised in determining what industries are worthy of investment. Whereas it would be a fatal error to develop policy based on the notion that manufacturing is dying an inevitable death, it would be equally dangerous to assume that all manufacturing jobs are good and all service sector jobs are bad. Table 1 shows there are high-end jobs across many sectors, and a few of our mainstay manufacturing industries actually offer below average wages.

Figure 13: Value of Each MFG and Non-MFG job in Maine's Economy

Direct economic contribution per job in thousands of dollars of real GSP per year.



Source: Calculated by Maine State Planning Office from data published by the U.S. Department of Commerce, Bureau of Economic Analysis.

Globalization of the marketplace has dramatically changed the structure of the Maine economy, providing growth in entirely new industries and hastening the decline in some of the state's core industries. To many, the term "globalization" simply means increased export opportunities to foreign countries around the globe. When examining this fairly narrow view, one can see that our state is moving in the right direction, as exports have been growing. But the lion's share of all Maine exports are in two industries—paper and computer chips—and exports as a percentage of total value-added remain at about 60% of the U.S. average. This means that Maine has underperformed relative to the United States in terms of seizing new market opportunities abroad, and there remains great opportunity for Maine to more fully participate in export markets.

One other note on international trade—as Maine's economic development policy is honed, we should recognize that export dollars flowing in from neighboring states or from service-related industries are every bit as valuable to the Maine economy as export dollars from manufacturing or from a foreign country. At a retreat in February 2002, Jonathan Speros of Price Waterhouse Coopers urged members of the Maine Chamber Board to focus economic development investments on companies who export, regardless of their industry, for it is the export activity that brings the greatest value to the Maine economy.

New markets for Maine products are one aspect of the evolution of the global marketplace, but the more important outcome of globalization is the tremendous pressure put on regions with higher cost structures. According to the Maine Economic Growth Council, as of 2000, the cost of doing business in Maine was 11.2 points higher than the U.S. average. Whereas relatively high energy prices, tax burdens, and workers' compensation costs may have had some influence historically on location and investment decisions, these very factors have become far more important in the current economy. Extra and excessive costs are simply not tolerated in the new world marketplace.

Over the past decade, Maine has worked extremely hard to drive down workers' compensation costs and to open energy markets so as to derive the benefits of greater competition. Recently, health-care expenditures have emerged as a major factor imposing excessive costs on our economy and draining off limited resources. A November 2000 report of the Blue Ribbon Commission on Health Care found that not only are health-care costs higher in Maine than elsewhere in the United States, but costs are rising faster.[6] In fact, from 1990 to 1998, health-care expenditures in Maine increased by 80%, the fastest rate of increase in the nation. In a state that is already known for excessive costs in many areas, we cannot afford to allow this to grow further out of line.

Table 1: Average Private, Covered Monthly Employment and Annual Wage, Maine 2000 Sectors, Sorted by Descending Average Annual Wage

Average Annual Wage	All Sectors	Average Monthly Employment	Percent of Total Employment
$27,322		493,258	100.0
$52,186	PAPER(26)	13,138	2.7%
$50,935	CREDIT & FIN(61,62,67)	6,221	1.3%
$49,448	PUBLIC UTILITIES(49)	3,525	0.7%
$46,074	CHEMICALS(28)	1,618	0.3%
$43,962	COMMUNICATION(48)	4,997	1.0%
$42,280	MISC PROF(81,87,89)	15,858	3.2%
$42,089	ELECT. EQUIPMENT(36)	7,526	1.5%
$41,578	INSURANCE(63,64)	11,059	2.2%
$39,598	PRIMARY METALS(33)	478	0.1%
$39,321	NON-ELEC MACHINE(35)	4,793	1.0%
$39,151	TRANSPORTATION EQUIPMENT(37)	10,124	2.1%
$37,691	PETRO PROD(29)	380	0.1%
$36,243	WHOLESALE(50,51)	27,507	5.6%
$32,998	RUBBER(30)	2,810	0.6%
$32,401	FABRICATED METAL(34)	3,555	0.7%
$31,695	MEDICAL(80)	57,878	11.7%
$31,258	CONSTRUCTION(15-17)	29,582	6.0%
$30,779	AIR TRANSP.(45)	2,269	0.5%
$30,640	TEXTILES(22)	3,153	0.6%
$30,595	BANKING(60)	9,474	1.9%
$29,057	PRINTING(27)	6,226	1.3%
$28,831	TRUCKING(42)	8,182	1.7%
$28,743	FURNITURE(25)	1,659	0.3%
$28,321	INSTRUMENTS(38)	1,079	0.2%
$27,982	FOOD(20)	7,055	1.4%
$27,912	OTHER TRSP(44,46,47)	2,512	0.5%
$27,689	EDUCATION(82)	8,310	1.7%
$27,193	STONE,CLAY, ETC.(32)	1,655	0.3%
$26,781	LUMBER(24)	10,700	2.2%
$25,305	REAL ESTATE(65)	3,951	0.8%
$25,249	LEATHER(31)	5,403	1.1%
$25,180	MINING(10,12-14)	93	0.0%
$23,816	MISC. BUSI. SERV(73)	25,376	5.1%
$23,214	AUTO REP/SERV(75)	4,963	1.0%
$22,945	AGRI/F/F SERV(07-09)	5,022	1.0%
$21,756	APPAREL(23)	2,389	0.5%
$21,443	MISC. MANUF.(39)	1,172	0.2%
$20,045	PER SERV/REPR(72,76)	5,534	1.1%
$19,139	RESTRETAIL(52-57,59)	85,767	17.4%
$17,993	NON-PROFIT(83,84,86)	29,982	6.1%
$16,067	PRIV. HOUSEHOLD(88)	2,029	0.4%
$14,833	HOTELS(70)	10,758	2.2%
$14,725	LOCAL/INTERURBAN(41)	2,088	0.4%
$14,543	MOTION PICTURES(78)	1,931	0.4%
$13,172	AMUSE&RECREATION(79)	6,550	1.3%
$11,271	EATING/DRINKING(58)	36,931	7.5%

Shaded Sectors are non-manufacturing industries.

Calculated from data provided by Maine Department of Labor

Although a number of business-related costs in Maine have historically been cited as being excessive and out-of-line with national averages, no other issue has been as widely viewed as our Achilles' heel than taxes.

Maine's tax burden is excessively high. This is simply an undeniable fact, and is certainly a major factor limiting both business growth in Maine and movement of new businesses into Maine. As Figure 14 highlights, in Fiscal 1999 Maine ranked second in state and local taxes as a percent of personal income, with slightly under 14% of all income going to support government spending. Neighboring New Hampshire, by stark comparison, ranks fiftieth with less than 9% of income being siphoned off. Even Massachusetts, the state long heralded as "Taxachusetts," has a below-average burden, closer to 10.5%. Maine's high tax burden is hindering the ability of Maine businesses to compete as precious resources are drained, leaving less to reinvest in the companies themselves.

Maine's tax structure is not conducive to capital investment. Henry George, in his classic book *Progress and Poverty,* suggested that an important principle of a good tax structure is that taxes should "bear as lightly as possible on production." The fact that most states either do not tax production machinery and equipment or tax it at much lower levels than does Maine puts Maine businesses, particularly manufacturing entities that tend to have much higher capital expenditures, at a distinct disadvantage. This issue is even more acute in cases where the Maine-based facility must compete with sister facilities in other states or even countries for limited investment dollars from the parent company. Fortunately, a recent tax competitiveness study completed by Price Waterhouse Coopers (2001) found that the tax/economic development programs put in place in Maine over the past five to seven years have helped to counteract the disincentives Maine businesses face.

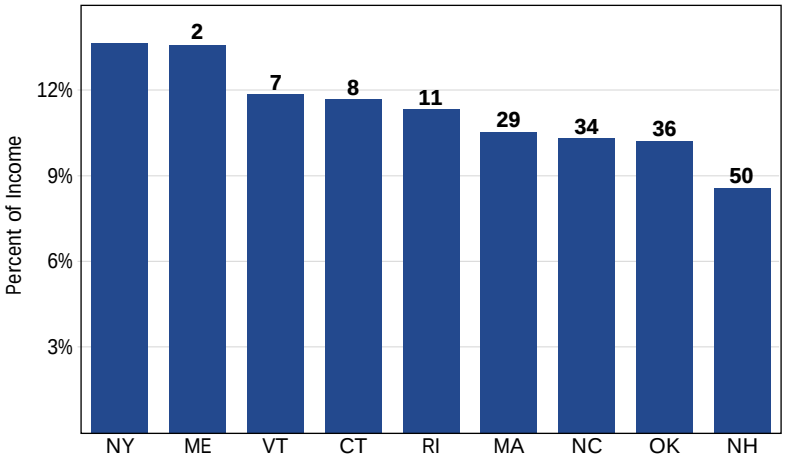
The Business Equipment Tax Reimbursement (BETR) program was put in place in 1995 in an attempt to level the playing field for Maine manufacturers and others making investment decisions that directly impact Maine's economic vitality. While bitter debates have arisen annually over funding these reim-

bursements, the fact remains that without these funds, Maine businesses would be at a significant disadvantage, and some portion of the investments made through the program would never have taken place. The term "corporate welfare," frequently used by opponents of the BETR program, is clearly a misnomer, and when the public is allowed to be misled into believing BETR is simply a donation to large companies, it is a true disservice to the state of Maine. The real villain is the personal property tax on machinery and equipment itself. Until Maine is able to take that bold but essential step to rid itself of this archaic, dysfunctional tax, the BETR program remains essential to securing critical investment in our businesses.

Maine's tax structure is extremely volatile. Three of the Tax Foundation's eight principles of a good tax system include: stability; taxes should be moderate and broad-based; and the tax system should not impede trade (taxes should not be out-of-line with other states/countries). On all three of these principles, Maine's tax structure needs vast improvement. Figure 15 illustrates the highly volatile nature of the tax structure as changes in economic activity bring about even more dramatic changes in tax collections. The primary culprits are the highly progressive income tax, which ramps Maine wage-earners up to the top bracket with extreme speed, and the very narrowly based sales tax in which the sales of automobiles and building supplies account for one-third of total sales taxes. In times of prosperity, when sales of big-ticket items rise and two-wage-earner families abound, tax collections skyrocket. When the economy cools, layoffs occur, spending drops, and tax collections fall precipitously—right when the need for government support programs increases.

Roller-coaster budgeting cycles hamper the state's ability to make wise investment decisions. When tax revenues pour in, there is tremendous pressure to add new programs and services that we may not be able to sustain for the long-term. When the economy contracts and immediate cuts must be made, we are put in the position of deciding between cutting a current service—one which has a face attached and will immediately have noticeable consequences—or cutting

Figure 14: Fiscal Year 1999 State and Local Taxes as a Percent of Personal Income



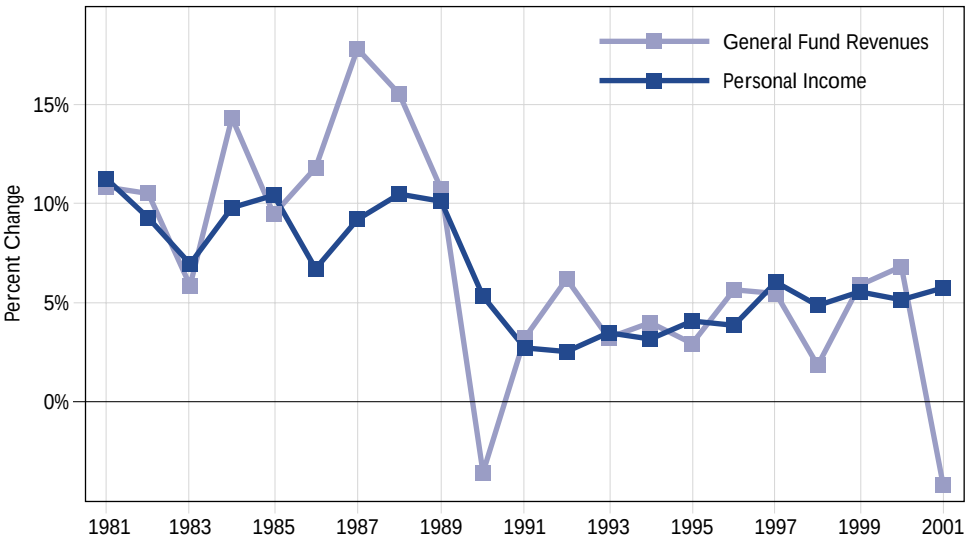
Source: Calculated by the Maine State Planning Office from tax data published by the U.S. Department of Commerce, Bureau of the Census and income data Published by the U.S. Department of Commerce, Bureau of Economic Analysis.

investment in a longer-term program or goal which has no immediate, measurable negative impact. The instability of our revenue stream leads to the unfortunate consequence of pitting short-term expenditures against long-term investments in such foundational items as education, infrastructure or technology, delaying or, worse, undermining our progress in these critical areas.

When underlying cost structures are out-of-line, whether due to workers compensation, health care, energy or taxes, a business' ability to compete effectively is greatly diminished and resources are diverted away from necessary long-term investments.

Maine's commercial and industrial workplaces have been revolutionized as new technologies have been developed and deployed. While we frequently think of firms such as National Semiconductor or Fairchild Semiconductor as being "technology driven," many of Maine's more traditional, mature industries secure their future prosperity through technology investments as well. One need only tour a modern paper-making facility to see how dramatically the papermaking process has changed. Bath Iron Works has dedicated

Figure 15: Maine Personal Income and General Fund Revenue Fiscal Year to Fiscal Year Percent Change



Source: Calculated by the Maine State Planning Office from: Personal Income, published by the U.S. Department of Commerce, Bureau of Economic Analysis; General Fund Revenues published by the Maine Department of Administration and Finance, Bureau of Accounts and Control 2001; General Fund Revenue provided by the Maine State Legislature, Office of Finance and Program Review.

a significant portion of its work to the creation of new technologies to improve the production or functioning of defense-related products. Guilford of Maine is an excellent example of a century-old textile manufacturer that invested in the newest technologies to boost productivity and remain competitive in a dying industry. Even blueberries and fish are now processed using state-of-the-art computers to weigh, cut, cull, freeze, package, etc., adding an essential quality control function that allows these companies to compete effectively. The productivity enhancements made possible through the utilization of new technologies have allowed firms to survive and prosper, even against some major odds, and have positioned these companies for long-term growth.

Maine State Government's leadership role in the area of telecommunications has been exemplary. Policies have been developed and government investments made to create a dynamic, robust telecommunications network to support a technology-driven economy. Our state-of-the-art telecommunication infrastructure has served us well as a whole new industry has developed and is currently thriving. Many of the benefits that we reap today evolved from wise investments made over the past 10-15 years.

As the November 1997 edition of *Maine Works* suggests: "Telecommunications is the modern mode of transporting goods and services, and Maine's telecommunications infrastructure has placed the state in the center of the global marketplace." Even a cursory examination of Maine's progress and standing as highlighted in the *Maine Works* publications is impressive:

Fact: 100% of Maine's telecommunications network is switched using digital technology, making it one of the first states in the nation with this distinction.

Fact: Maine has the first statewide ATM (Asynchronous Transfer Mode) fiber optic based network, one of the most technologically advanced networks available today.

Fact: 100% of Maine schools and libraries have Internet access (Evers 2001).

Fact: Maine State Government received kudos in January 2002 as Maine was awarded the distinction of being the fifth most digital state in the country, moving from thirty-fifth place in one year's time.[7]

Fact: Maine is one of the most Nexus-friendly states in the nation.

Fact: Based on FCC service quality data, Maine has some of the best service and reliability ratings in the country.

Fact: There are over 110,000 miles of fiber optic cable throughout Maine (Evers 2001).

The fact that the performance of virtually every company and institution in Maine has been or can be enhanced by the presence of this state-of-the-art infrastructure is a true testament to the benefits of wise investment working in concert with focused, bold public policy. Not only have telecommunications investments benefited existing companies, whole new industries have been created and flourished because of them. Over one short decade, several companies have either expanded into Maine or have been established in Maine to take advantage of our telecommunications infrastructure: MBNA, EnvisioNet (now bought out by Microdyne), ICT Group, Sitel Corporation, Talk America to name a few. These industries now provide employment to over 6,000 Maine workers, offering average annual wages of nearly $26,000. Employment levels in these so-called "call centers" now exceed employment in the leather industry, are 2.5 times larger than employment levels in apparel, and offer higher wages than either of these traditional industries (see Table 1).

Maine is a national leader in telecommunications, laying a strong foundation for the technology-driven economy. In the area of technology we must be extremely cautious not to rest on our laurels, as investment cycles are becoming more and more compressed. At both the state and the company level, technology investments are not a one-time proposition. Long-term viability requires ongoing investment to keep the infrastructure and the facilities modern and competitive. If Maine is to retain its advantage, it must continue to invest.

OUR FUTURE

The future of Maine is ours to shape. Although the challenges we face seem daunting, we should recognize that every generation of Mainers before us has found the courage, strength and ingenuity to work through the difficult transitions. Now it is our turn and everyone has a role to play.

Before summarizing the challenges that need our immediate attention, let's at least recognize the tremendous progress that has been made and the foundation that has been laid on which we can build a more prosperous future for Maine. Leadership and wise investments in the past have given us much to celebrate:

- Maine is already recognized as having one of the best primary education systems in the United States, made stronger by our commitment to Learning Results, our investment in connecting 100% of our schools and libraries to the Internet, and the bold Laptops for Education program.
- Several important steps have been made in strengthening the links to postsecondary education and training, including the formation of the virtual community college system; the build-out of distance learning capacity; investments in the Technical College System; the governor's Training Initiative, and the recently passed legislation forming the Higher Education Council.
- With over 110,000 miles of fiber optic cable and 100% digital switching, Maine has one of the most advanced telecommunications networks in the nation, a major attractant to technology-driven companies.
- Maine's commitment to R&D spending has increased dramatically, and critical relationships are being established between our state university system and the premiere research facilities located in Maine.
- The BETR program was developed to help ease the disincentive of investment in capital equipment caused by the personal property tax on machinery and equipment, and has led to multi-million dollar investments.
- We have created the Maine International Trade Center to better exploit trade opportunities.
- Maine now has access to natural gas through two new gas pipelines.
- Maine's large electricity consumers are beginning to reap the benefits of opening electricity markets.

- The workers' compensation reforms of the early nineties have brought costs down, providing essential relief to many of Maine's core industries.
- Maine now has an Economic Growth Council that has set a vision for Maine's economy and has created a set of indicators to measure performance annually (Maine Development Foundation 2002).

None of these accomplishments was accidental. All required vision, leadership and tenacity.

As has been highlighted throughout this paper, huge forces are shaping and propelling our economy, and if Maine hopes to attain its vision of a high quality of life for all citizens, it is absolutely essential that significant and sustained investment be made in our people and our economy. Our success in devising and implementing a wise investment strategy will determine how smoothly we transition to and how fully we participate in the knowledge-based, technology-driven economy.

While true economic vibrancy is derived from productive, competitive businesses that invest in their own future, government plays a vital supporting role in creating a climate that's conducive to private investment. There is a great deal Maine's political leaders can and must do to restore, enhance, and sustain economic performance.

Maine's government must invest in our people, our economy and our future by:

1. Creating and supporting a seamless K-16+ educational system that prepares Maine citizens to thrive in a knowledge-based economy.
2. Restructuring Maine's tax system to remove blatant disincentives to capital investment.
3. Seeking efficiencies in the delivery of state and local government services with the goal of lowering Maine's excessive tax burden.
4. Creating a stable flow of revenues so that foundational, long-term investments can be made.
5. Keeping growth in government spending at or below economic growth with the goal of reducing overall tax burden.
6. Working tenaciously to ensure that no backsliding occurs and to further cut areas where excessive costs hinder the ability of our businesses and industry to compete, such as workers' compensation, energy, telecommunications and health care.
7. Fostering strong public/private collaboration to induce significant investment in research and development.
8. Actively embracing the vision of the Maine Economic Growth Council and using the benchmarks to aggressively track progress toward critical goals.

Great progress has been made in so many areas. But to truly lift Maine up to reap the benefits that the new economy has to offer, bold, forceful steps must be made. The incremental approach has failed us. Further, it is important to recognize that no single entity can create the deep and lasting change needed to secure our vision. It is a long and arduous process requiring commitment to a common vision and hard work by all.

Since 1993, **Laurie Lachance** has served as Maine's state economist. She is responsible for managing all aspects of the economics and energy policy teams at the State Planning Office, and serves as an advisor to the director and state-agency department heads on the economic aspects of public policy formulation in Maine. Prior to 1993, Ms. Lachance worked as an economist for Central Maine Power Company.

ENDNOTES

1. I would like to give thanks to the following individuals who contributed to the research underlying this article: Richard Sherwood, Joyce Benson, Eric Von Magnus, Galen Rose, Sean Findlen, Michael Montagna, and Darcy Rollins. Further, I would like to credit former State Economist Stephen J. Adams, whose 1990 report, *The Productivity Imperative and the New Maine Economy,* inspired the title of this article. This article supports Mr. Adams' findings and takes a broader view of the economic pressures that now demand our attention and action. Unless otherwise noted, data in this paper are drawn from figures provided by the U.S. Census.
2. Maine's innovation assets' grade improved to a "C" in 2002. See Corporation for Enterprise Development Web site: http://drc.cfed.org/
3. See Milken Foundation Web site: http://www.milkeninstitute.org/ecoindex/index.html
4. Maine Development Foundation, Surveys of Maine Citizens and Businesses. Survey results do not reflect the views of the Maine Development Foundation. http://www.mdf.org/megc/survey/home.html
5. The residual population differences in Figures 7 and 8 are proxies for more direct measures of migration that are not yet available from the 2000 census. The residuals are differences from one decade to the next in the census counts of the selected cohorts after taking account of numbers of deaths. They are the combined effects of migration plus variations in the accuracy of the population counts from one decade to the next.
6. Report available on Maine Development Foundation Web site: http://mdf.org/chc/
7. From a White Paper, Maine Department of Administrative and Financial Services (2001).

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