"...to raise new ideas and improve policy debates through quality information and analysis on issues shaping New Hampshire's future."

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From Tailwind to Headwind: New Hampshire's Shifting Economic Trends

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Executive Summary

For several decades, New Hampshire has stood out as an economic anomaly in the Northeast. With a highly-educated workforce, high rates of in-migration and a high median per-capita income, New Hampshire boasted a strong, vibrant economy that gave it distinct advantages over its neighbors.

Here, as elsewhere in the country, the Great Recession has disrupted much of the state economy. But it is a mistake to assume that the recession is the sole reason for the recent slowdown in New Hampshire's economic engine, or that, once the impacts of the recession are behind us, New Hampshire will return to the pattern of steady, reliable growth of years past.

A more expansive analysis of the state's economic and demographic trends – with a time frame of decades, not months or years – shows that the forces that helped create New Hampshire's advantage have largely run their course. As a result, the model that defined the state's economy since the 1980s – consistent population growth, increased productivity, and a more resilient economy than our competitors – no longer holds. After benefiting from nearly three decades of economic tailwinds, New Hampshire now faces a strong headwind: net out-migration, an aging population and decreased labor productivity.

The outcomes of these changes may not necessarily all be negative. Slower population growth will likely mean less congestion and less pressure on natural resources. And some of the core advantages upon which New Hampshire's economy is founded – proximity to Boston and a beautiful natural environment, for example – are not disappearing any time soon. But, at the least, the shift outlined in this paper demands a recalibration of the assumptions upon which much state and local policy is based. In short, we can no longer assume that New Hampshire will continue along the economic trajectory it has for many years.

There is no single, simple response to this new set of circumstances; policymakers will have to weigh various options. These include investing in human capital (an area where we rank relatively high when you consider educational attainment), redesigning the state's tax structure (where New Hampshire enjoys one of the lowest per-capita tax collection rates in the country but maintains high corporate taxes), or investing in improved infrastructure and transportation (an area in which the state ranks relatively poorly). The likely return-on-investment of these and other options should be part of that decision-making process, as well.

In this analysis, we document long-term trends in various dimensions of New Hampshire's economy and outline some possible goals for the state's future economic development. A follow-up report will address in greater detail the potential policy responses in pursuit of these goals. It will also include an assessment model to help us better understand the forces at work in the state's economy, with a focus on how New Hampshire fares in relation to comparable states.

Maintaining New Hampshire's economic strength

Four years after the global economic collapse triggered the Great Recession, the Granite State continues to feel the impacts of this historic financial slump. Job growth across almost all sectors has slowed. Housing prices remain flat or continue to fall in some regions, even though sales have been increasing since the market's worst days. State revenues continue to lag and are well below pre-recession levels.[1]

Policymakers, economists and analysts have understandably focused on these and other direct impacts of the Great Recession. But there are other, long-term trends which suggest a general slowing of New Hampshire's economy. The record of expansion the state has grown accustomed to for several decades – steady growth in population, economic productivity and educational attainment – has given way to slower rates of growth in all three categories. In the case of migration, New Hampshire has actually seen several years of net out-migration for the first time in 20 years.

> The shift away from long-held assumptions of consistent growth will reshape the state's policies on job creation, land use, social service delivery and other policy areas.

Viewed this way, New Hampshire's economic advantages appear largely to be fueled by decades-old demographic trends that have run their course. Why is this important? New Hampshire often ranks among the top five states in the country in "livability" and "business friendliness." Many of the factors reviewed in these rankings and which contribute to the so-called "New Hampshire Advantage" – including a low crime rate, lower tax burdens, and high job creation, among others – are driven by the state's economic dynamism. Strong, steady economic growth over the past three decades has led to higher incomes, lower unemployment, stronger growth in state revenues, and continued increases in aggregate wealth compared to peer states.

The recession has disrupted local and state economies across the country, with many shared characteristics from state to state. But many of the trends driving New Hampshire's shift are unique to the state and New England in general. Many other parts of the country have not seen the types of changes in fundamental demographic shifts or changes in labor productivity that New Hampshire is now experiencing.

While the impact of the recession will eventually abate, New Hampshire will emerge from the downturn into a very different economic reality. The shift away from long-held assumptions of consistent growth will reshape the state's policies on job creation, land use, social services and other areas. This new economic reality will also impact state revenues and how they grow in a period in which demand for state services is likely to increase.

[1] For the 12 months ending April 2008, state revenues were $2,363.9 million. As of the 12 months ending August 2012 the comparable figure is $2,173.2 million.

Forecasting economic growth

In the long term, economic growth depends on a small handful of factors: the change in the size of the labor force, the skills possessed by those workers, and the amount of capital invested in the local economy.[2]

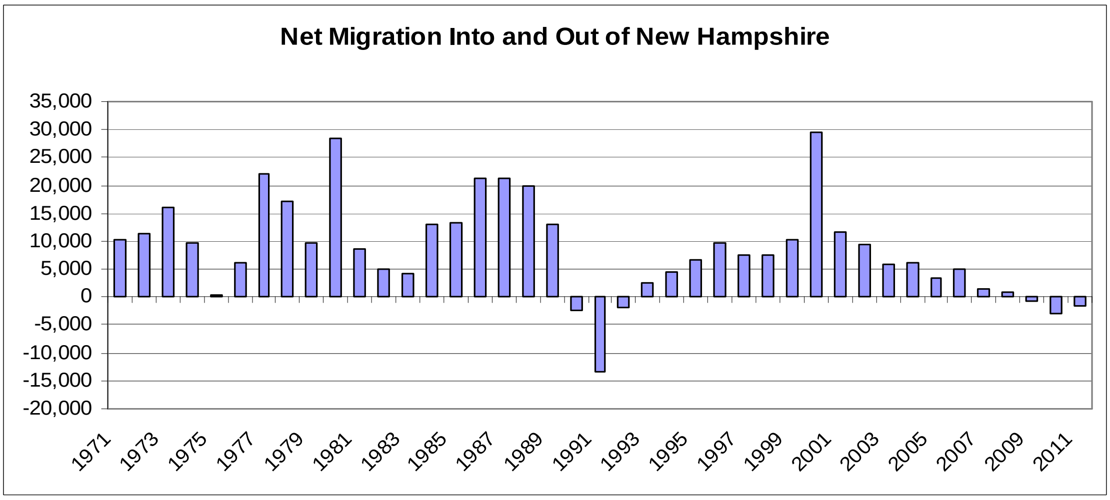
So, how has New Hampshire been faring on these factors of production, and what can we infer about the future?

Population growth and aging

Labor force growth is clearly dependent on population growth. Population growth in New Hampshire in the recent past came mostly from in-migration (people moving into New Hampshire from other states). While migration into New Hampshire did slow in the recession years of 1975 and 1991, in-migration always returned to pre-recession levels, and sometimes exceeded those pre-recession levels in the recovery.

As Figure 1 shows, migration into New Hampshire was already slowing considerably over the course of the last decade (2000 to 2010.) The Great Recession seems to have caused a sustained period of out-migration from New Hampshire, but the state's level of net in-migration was already declining well before the recession took hold.

Figure 1: Migration into New Hampshire has slowed over the past decade



That decline in in-migration has been accompanied by another worrisome demographic trend. New Hampshire's population is growing older and at a faster rate than the rest of the United States. While the state's median age, at 30.2, was nearly equal to the U.S. median in 1980, New Hampshire's median age rose to 41.1 by 2010, compared to the U.S. median of 37.2 in that year (See Figure 2.) Over the decade from 2000 to 2010, the vast majority of increase in New Hampshire's population came among those aged 45

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[2] A model for thinking about long term economic growth is often called the Solow model, named after economist Robert Solow. Economic growth can thus be modeled as a production function, which ascribes a relationship between inputs (capital and labor) and outputs (goods and services).

years and older (Figure 3.) An older population translates to an older workforce, and therefore a greater portion of residents approaching the traditional retirement age.

Figure 2: New Hampshire is aging faster than the U.S. as a whole

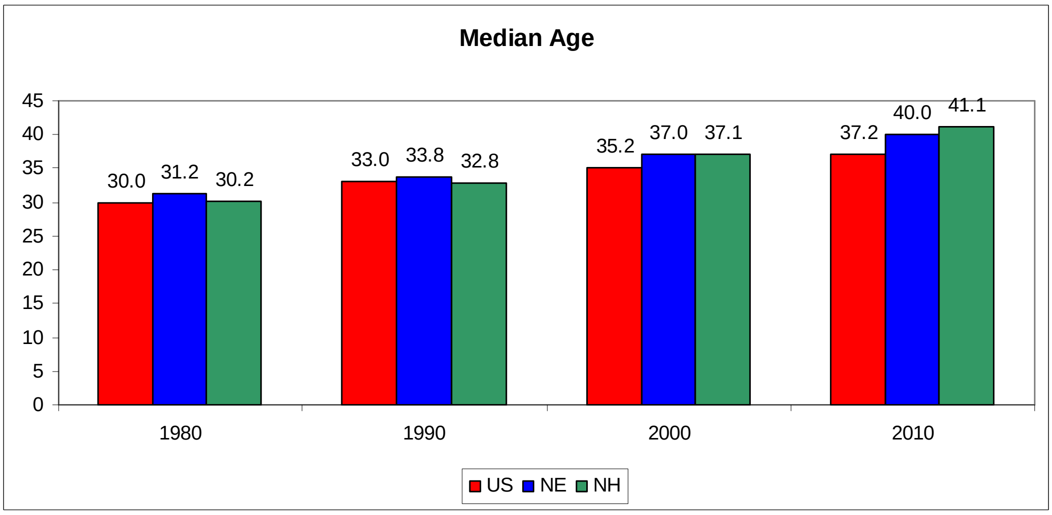
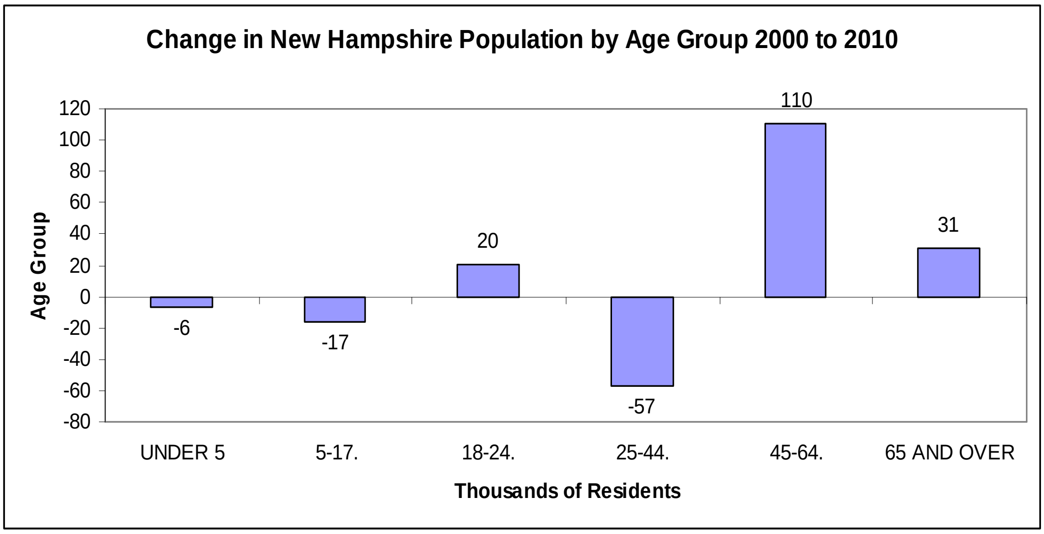


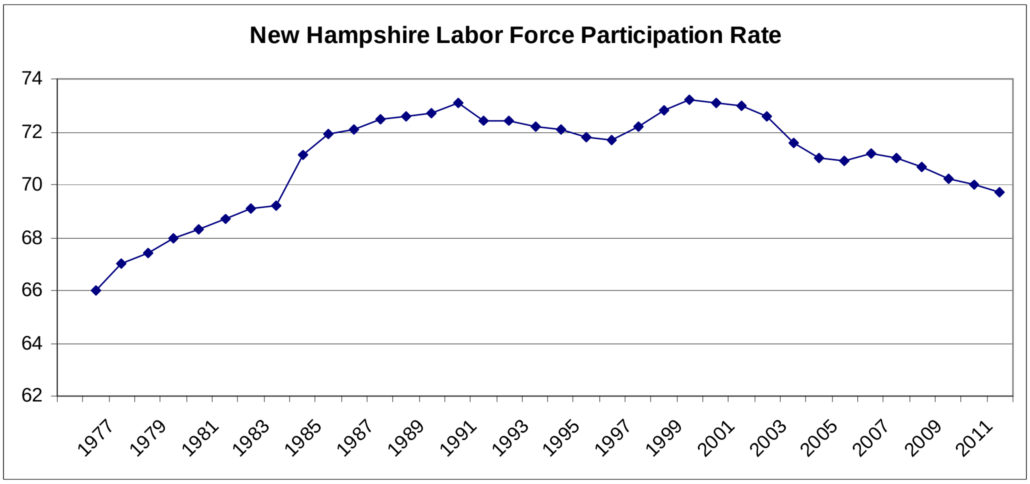
Figure 3: NH Population Growth by Age Group



The number of state residents participating in the workforce has actually declined, as shown in Figure 4. The New Hampshire labor force participation rate topped off at 73 percent in the early-2000's, and declined to less than 70 percent by 2011. Some of the decline in labor force participation is a result of the Great Recession, but this decline was underway before the downturn in the economy. Most of the decline can be attributed to the aging of the New Hampshire workforce.[3]

[3] In 2011, the labor force participation rate for the New Hampshire population aged 25 to 54 was about 86 percent, while the rate for those aged 55 to 64 was 72 percent.

Figure 4: Labor Force Participation has declined since the early 2000s

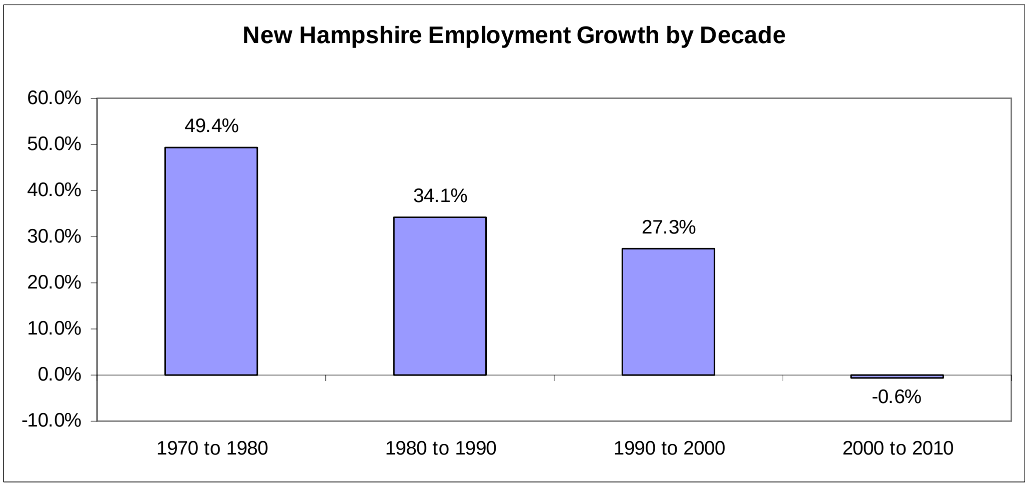


It is likely that the labor force to population ratio will decline in the future, as the population ages and a greater portion of New Hampshire residents enter their retirement years. Declining labor force participation is effectively a reduction in the total workforce. Without increases in capital investment and technology to offset these declines, they will likely be associated with a drop in economic output.

Job growth

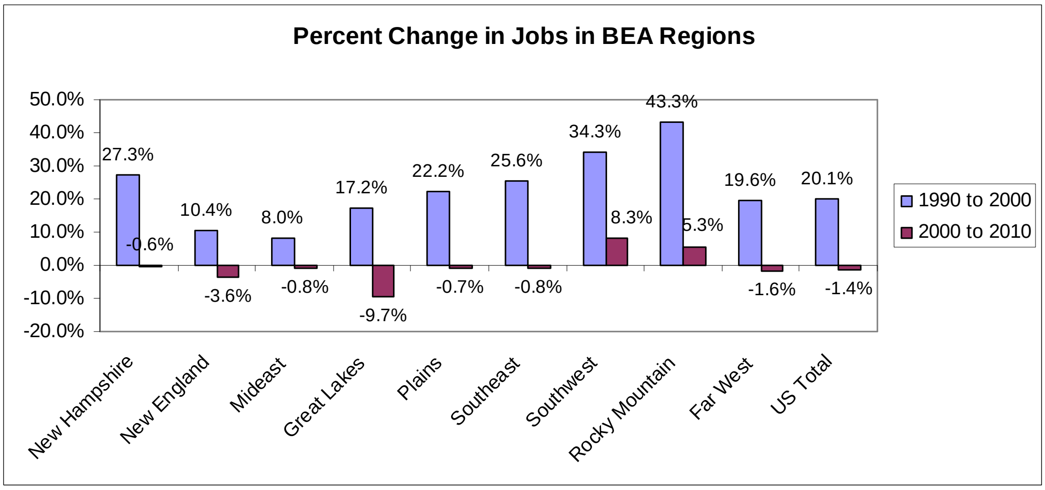
Figure 5 shows job growth in New Hampshire over the past four decades. While the number of jobs in New Hampshire increased by almost 50 percent from 1970 to 1980, New Hampshire saw a small decrease in jobs from 2000 to 2010.

Figure 5: Employment growth has declined sharply in New Hampshire



New Hampshire is not alone in this decline over that decade. As shown in Figure 5, job growth slowed everywhere in the United States between 2000 and 2010 compared to the previous decade, and New Hampshire's shrinkage was less than the national average. But some areas of the country – the Southwest and the Rocky Mountain region – managed to grow faster than New Hampshire.

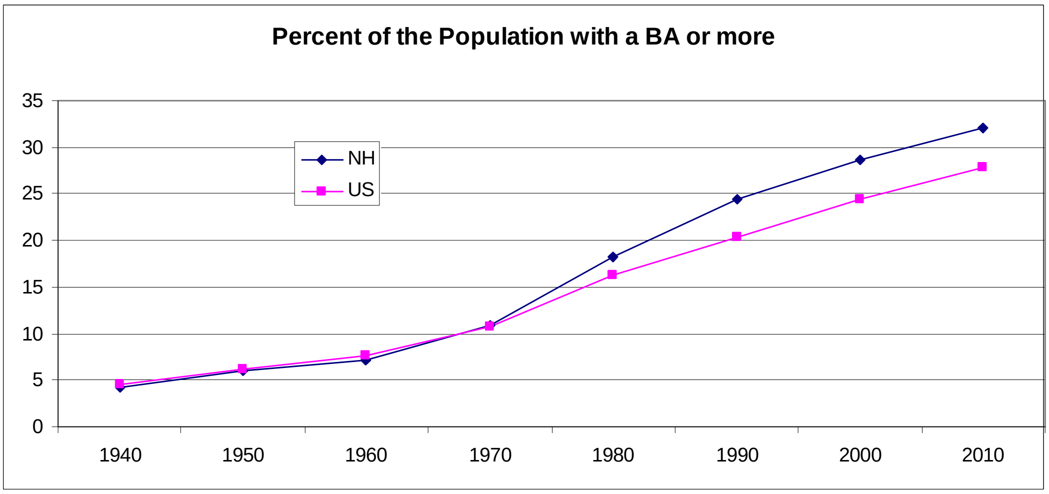
Figure 6: Some regions saw job growth over the past decade; NH did not. [4]



Skill of the workforce

One of the benefits of high levels of migration into New Hampshire was the increase in human capital, or the knowledge and skills of the workforce. Many of the people moving into the state were highly educated, allowing New Hampshire to make big gains in education attainment and race ahead much of the rest of the United States. Starting in 1970, New Hampshire began to diverge from the national average in educational attainment (Figure 7). In that year, New Hampshire stood at the national average in the percent of residents with a bachelor's degree: about 11 percent. By 2010, that figure had risen to 32 percent in New Hampshire, compared to about 28 percent for the country as a whole.

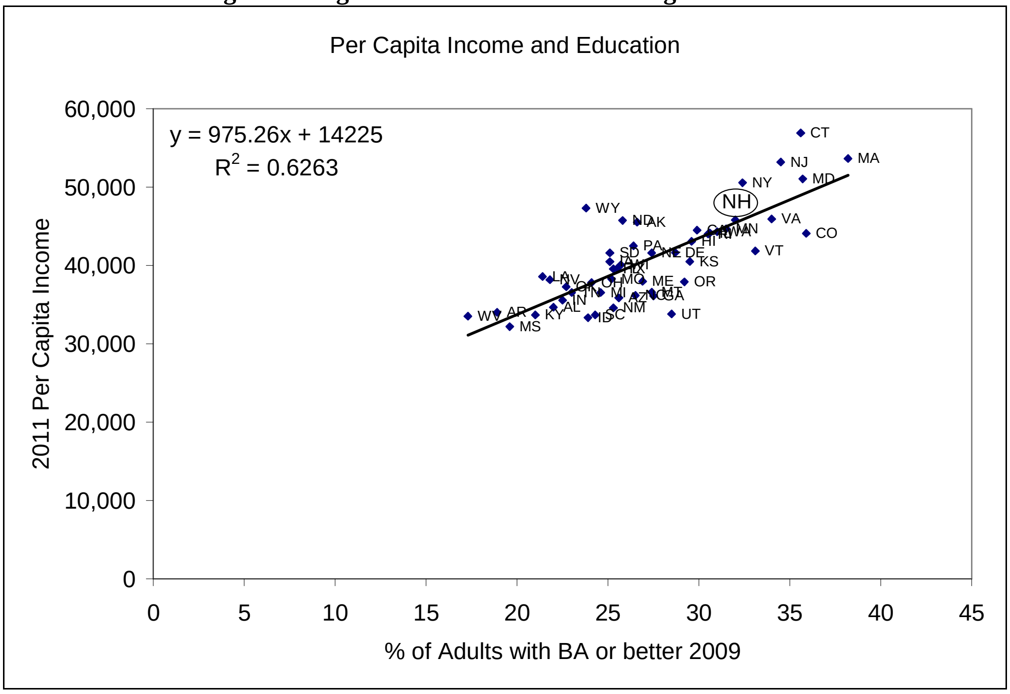
Figure 7: New Hampshire's level of educational attainment rose faster than for the U.S. as a whole



[4] Regions of the United States as defined by the Bureau of Economic Analysis (BEA)

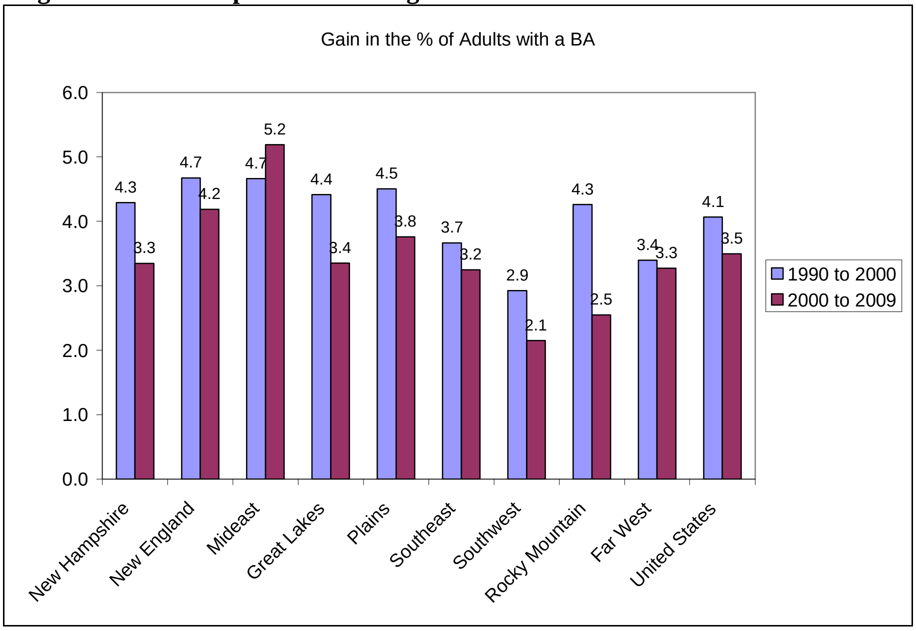
Looking across other states, we see a relationship between the skill of the workforce, as measured by educational attainment, and per capita income in that state (Figure 8). In short, states with more educated residents tend to be wealthier.

Figure 8: Higher education levels mean higher incomes



Although New Hampshire’s educational attainment is still higher than most areas of the country, the rate of improvement in educational attainment here is slowing, and slowing at a faster rate than many other parts of the country (Figure 9).

Figure 9: New Hampshire's rate of growth in educational attainment has slowed

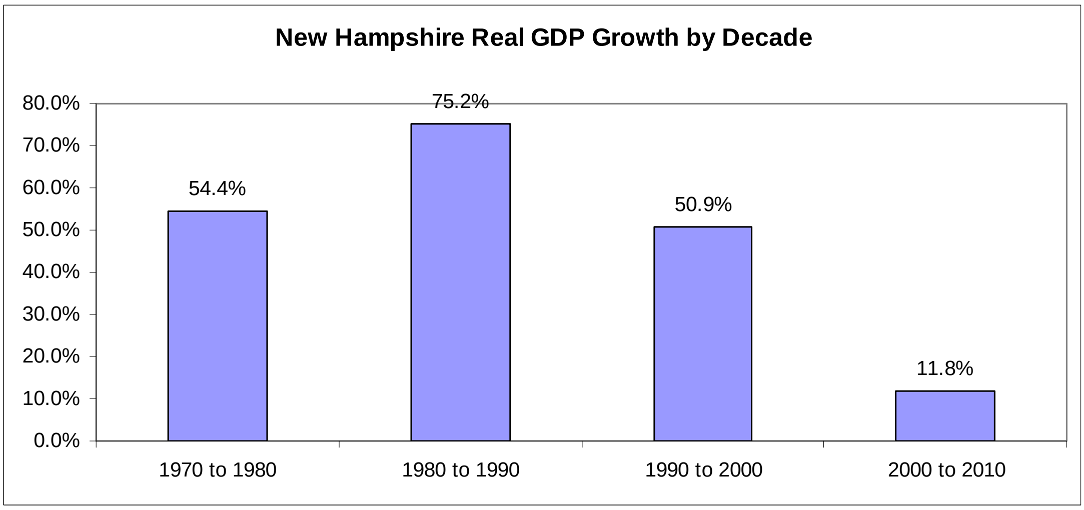


Between 1990 and 2000, New Hampshire saw its percent of residents with a bachelor's degree or higher grow slightly faster than the national rate – 4.3 percent compared to 4.1 percent. But between 2000 and 2009, New Hampshire's rate of increase in educational attainment slipped below the national rate – 3.3 percent in New Hampshire compared to 3.5 percent nationally.

The result: Slower economic growth

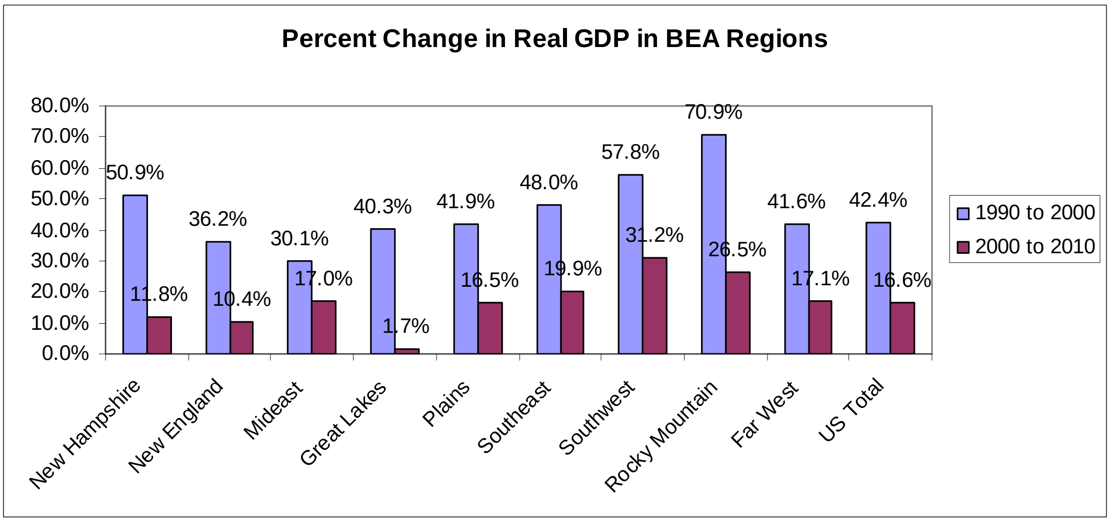
Taken together, the trends outlined above have helped result in a slowing rate of growth in the New Hampshire economy. As shown in Figure 10, between 2000 and 2010 New Hampshire saw a slower rate of growth in Gross Domestic Product (GDP) than in any period in the past 40 years.

Figure 10: New Hampshire's Economy - Slowing Growth



This is due, in large part, to the impact of the Great Recession. But even as the recession slowed economic growth across the country, many areas outperformed New Hampshire, seeing more buoyant job growth, higher productivity gains, and higher growth in the capital stock in those regions. New Hampshire also saw a greater drop-off in GDP growth between the 1990s and the 2000s than almost every region of the country (See Figure 11).

Figure 11: Growth in GDP has been higher across much of the U.S.



Responding to the new economic forces

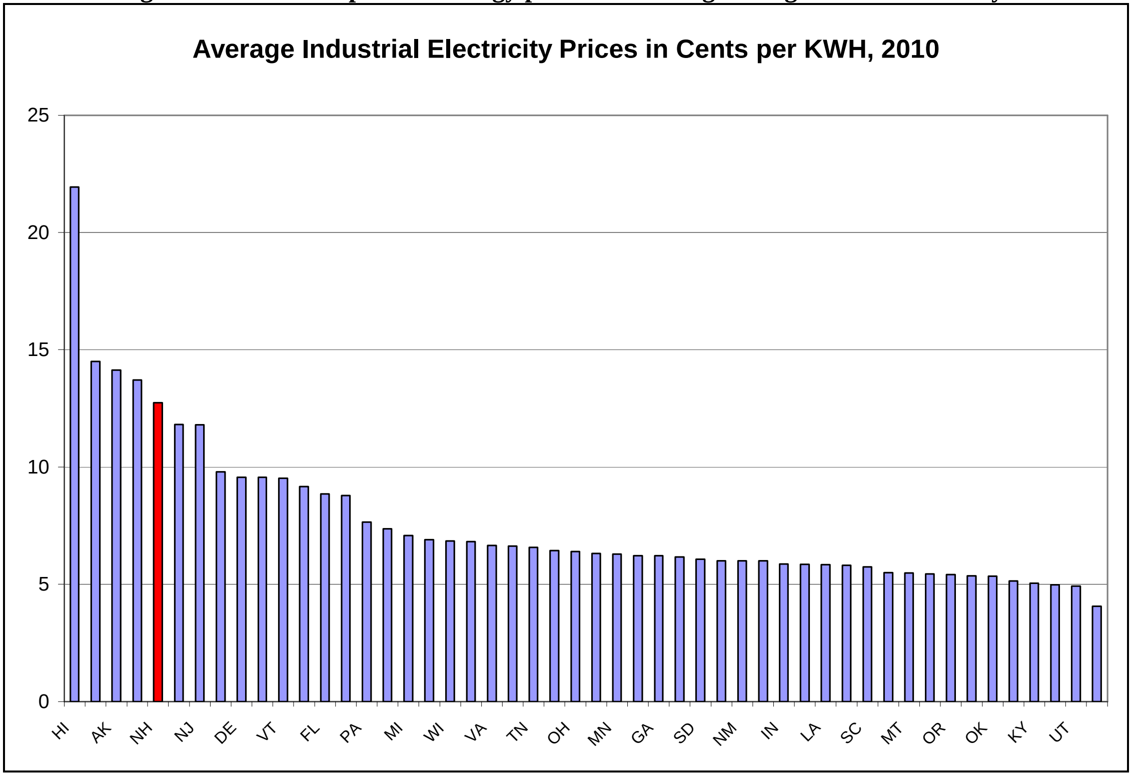
The trends outlined above – net out-migration or very slow population growth, a leveling off and potential decline in labor force participation, and lower growth in educational attainment – all point to a fundamental change in New Hampshire's economic model over the past 30 years. If New Hampshire can no longer depend on in-migration to increase the power of its workforce, how can it retain the economic momentum that has yielded the prosperity of recent decades? According to simple economic theory, there are three options:

First, policymakers and business leaders can look for ways to increase the **size of the workforce**. Second, policymakers can seek ways of increasing **labor productivity**, or the output per worker. Thirdly, policies which encourage **capital investment** could help increase overall economic productivity.

Labor: Attracting a workforce

New Hampshire businesses and policymakers will have to think carefully about what set of individual and joint actions will attract and support an increased pool of educated workers – a factor which has long been central to New Hampshire's economic dynamism. Such efforts might include attempts to lower the costs of living – including housing, energy and healthcare costs – which is typically higher in New Hampshire than the national average (see Figure 12) and/or increase the quality of life (which can offset a higher cost of living).

Figure 12: New Hampshire's energy prices are among the highest in the country.



In addition to increasing the size of the workforce, efforts could be devoted to increasing the educational attainment of the existing workforce, or investing in efforts to increase creativity and entrepreneurial activity.

Capital investment

Net capital stock is a measure of the level of investment in the economy. Capital stock refers to industrial plant, equipment and machinery used to assist labor in the production process. In this respect, one can think of capital investment as expenditures to replace worn out machines and equipment. Capital investment, however, includes not only building structures and machines and other infrastructure like broadband, but also intellectual capital like computer software.

An examination of the change in capital stock in New Hampshire since the 1970s (Figure 13) suggests that the pace of private business investment has slowed over several decades.[5] Moreover, much of the United States has been investing at a faster rate, growing capital stock more quickly than has New Hampshire (Figure 14).

[5] The Center has estimated Net Capital Stock in the states by apportioning the Bureau of Economic Analysis national estimates of private nonresidential fixed assets to each state based on the wage and salary component of personal income.

Figure 13: Capital stock growth in New Hampshire has declined

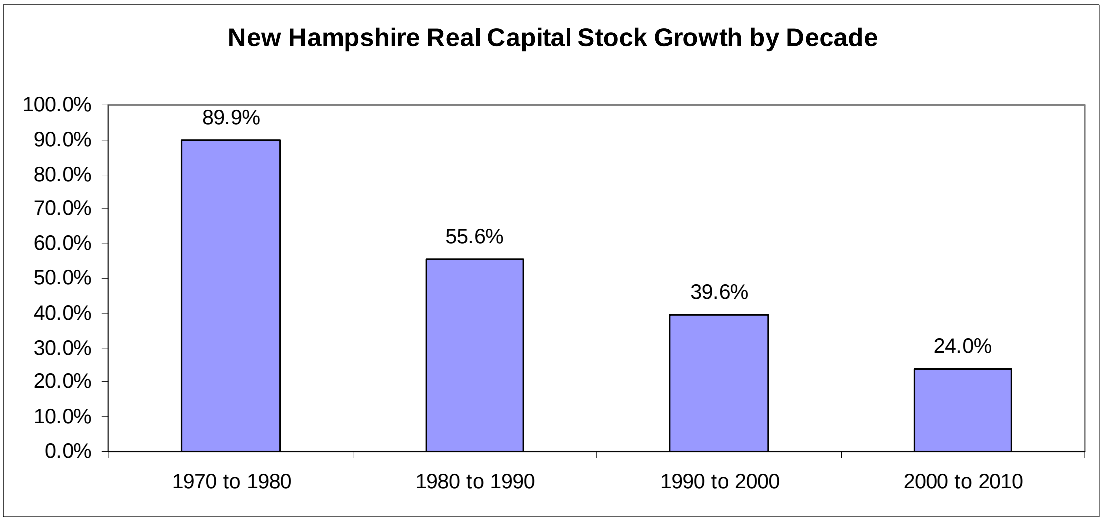
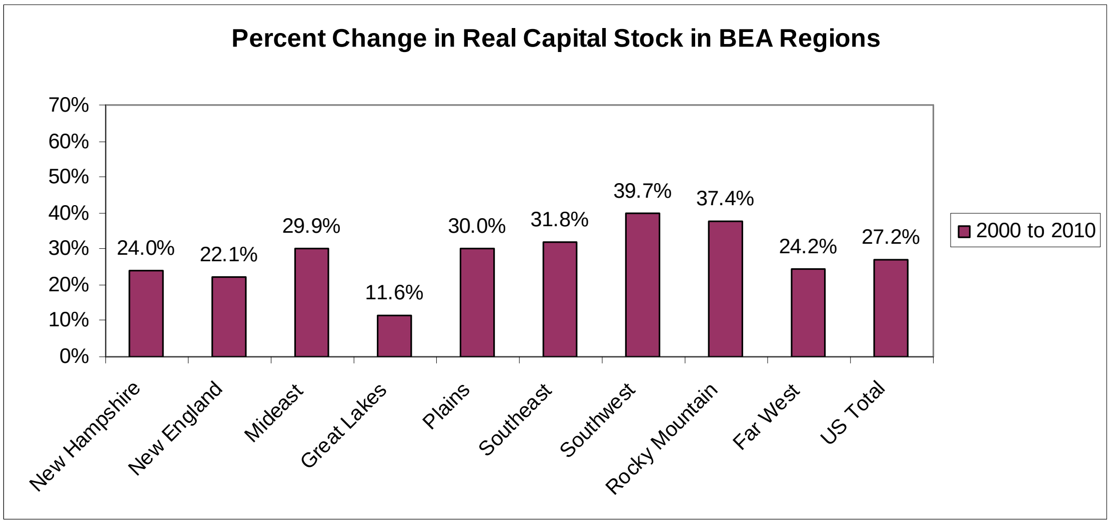
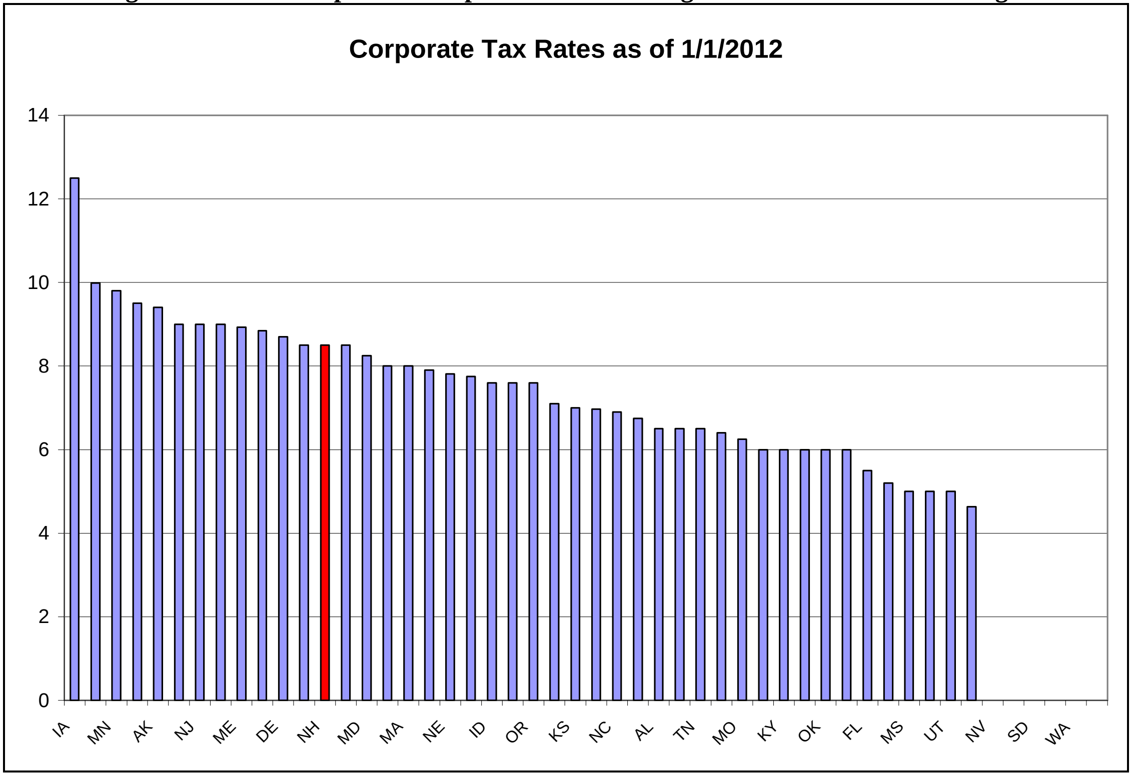


Figure 14: Several other regions are seeing faster growth in capital stock



There are several policies that might be pursued to address this decline in capital investment. Those include reconsidering the way the state taxes businesses, including tax credits for research and development activities, as well as the level of corporate taxation where New Hampshire is higher than much of the rest of the country (see Figure 15).

Figure 15: New Hampshire's corporate tax rate is higher than the national average.



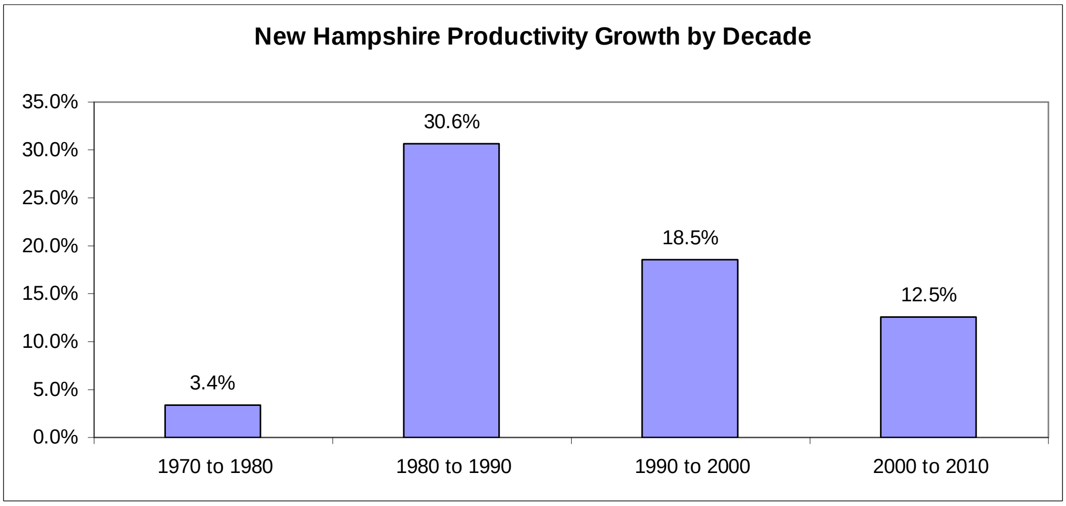
Productivity and technology

Finally, how does New Hampshire stack up in terms of worker productivity and technological development compared to the rest of the country?

To analyze worker productivity, which is a combination of technology and human capital, we look at Gross Domestic Product (GDP) per worker. GDP is the monetary value of all goods and services produced in a year. It is also a measure of production or the output of the economy and depends on the inputs previously discussed – capital and labor.

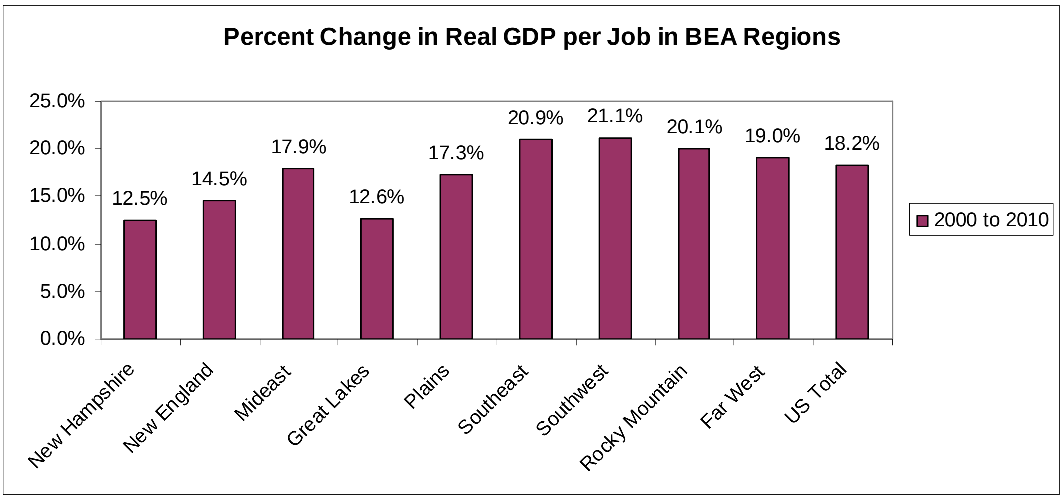
New Hampshire's productivity growth, as measured by GDP per worker is still positive, but the rate of growth has also slowed since the 1980s (See Figure 16).

Figure 16: Productivity growth has declined in New Hampshire



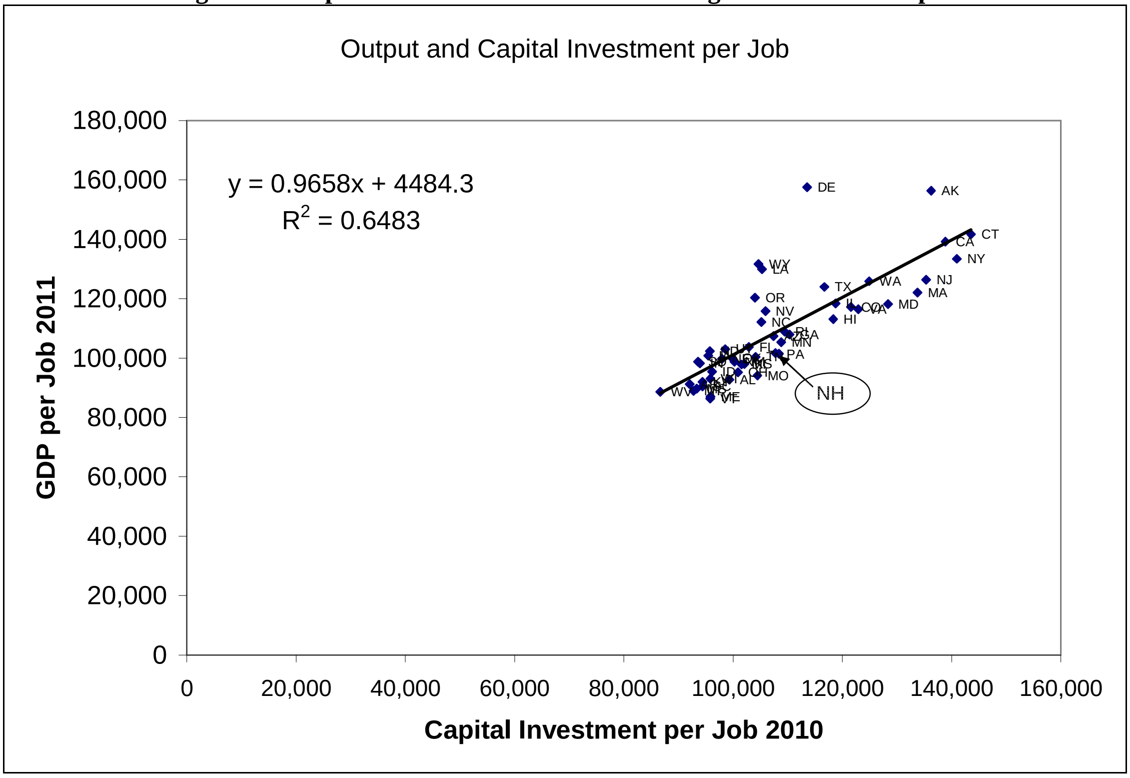
And perhaps more telling, New Hampshire's rate of productivity growth lags behind every region of the country (Figure 17).

Figure 17: Productivity growth is higher across much of the United States



States with high levels of capital investment also tend to have high levels of productivity in their workforce. As shown in Figure 18, states with high levels of output (GDP) per worker are also the states with higher levels of capital investment per worker.

Figure 18: Capital investment is associated with greater worker output



What can policymakers do?

Understanding and promoting economic growth is one of the most important public policy responsibilities of state and local government. Policies that encourage economic growth are thought to also improve the standard of living of all citizens.

States and regions other than New Hampshire are undertaking public policy initiatives to pursue more economic growth. These policies range from investing in post-secondary education and training[6] and research and development,[7] to targeting specific industries in recruitment strategies.[8]

[6] "Southern States Must Invest in Postsecondary Education and Training" (or be stuck in a "low-wage, low-skill" equilibrium) http://cew.georgetown.edu/south/

[7] In 2012 a handful of states increased spending or introduced new initiatives to support economic development efforts. Colorado lawmakers provided additional funds to attract new companies, Connecticut lawmakers expanded programs from last year's Jobs Bill, and in Virginia lawmakers accepted the governor's amendments to add funds for research and commercialization. http://www.ssti.org/Digest/digest.php?page=2012/062012#story1

[8] In 2012 Massachusetts Governor Deval Patrick announced the creation of the Massachusetts Big Data Initiative, a number of steps and initiatives that is intended to help turn the state into a world leader in big data. http://www.mass.gov/governor/pressoffice/pressreleases/2012/2012530-governor-announces-big-data-initiative.html

While it would be helpful to know the relative magnitude of the return on investment for various approaches – between, say, the development of human capital through educational initiatives, and new technologies through tax credits – the literature provides little guide in distinguishing the weight of the impacts on economic activity.

Most of the academic work combines investment in human capital, research-and-development efforts and financial investment, pointing out that all are related to each other. Better education means a more creative workforce, which leads to increases in R&D, and so on. Later academic research on productivity includes the idea of saving: If you consume all you have without investing in the future, long-term growth will decline.

But research suggests some specific, effective approaches to boost economic development. These studies suggest that a palette of economic policy that focuses on developing the skills and education levels of the workforce, improves physical infrastructure like schools and transportation networks, and makes communities attractive places for families and businesses to relocate represents an effective use of state resources.[9]

Perhaps most important is the recognition that a multi-pronged effort is likely the most useful approach. As part of the 2011-2012 Chair's Initiative on Growing State Economies, the National Governors Association (NGA) hosted four regional summits across the country. As a result of those summits the NGA issued the "Growing State Economies Initiative, 12 Actions" report in 2012. The NGA's 12 recommended actions fit into five themes:

Strategic and foundational
1. Create a competitive tax and regulatory environment.
2. Put entrepreneurial activity at the top of the state's economic agenda.
3. Distinguish among different kinds of entrepreneurs and businesses—and target policies and resources accordingly.

Focused on start-up companies
4. Cast a wide net to find entrepreneurs.
5. Teach entrepreneurship skills and attitudes at all education levels.
6. Build a startup environment and culture.

Focused on high-growth companies
7. Find the potential high-growth companies and help them grow.
8. Get your entrepreneurs to give back.

Focused on all companies
9. Help companies open doors to new customers—globally and locally.
10. Reward strong ties among universities, companies, and entrepreneurs.
11. Encourage entrepreneurs and companies, small and large, to build innovation clusters.
12. Build ecosystems, not programs.

[9] "Prioritizing Approaches To Economic Development In New England: Skills, Infrastructure, And Tax Incentives," Jeffrey Thompson, Political Economy Research Institute, University of Massachusetts, Amherst, August 2010

This is an important conversation, and it may lead to a reorganization of the state's policy priorities. In the past, New Hampshire has focused on those areas where we typically rank high in state-by-state surveys: the creation of a low-tax environment, with high quality of life measures, such as a clean environment, low poverty and low crime.

But in order to maintain a competitive advantage against other states, should policymakers here redirect their focus on areas where New Hampshire has typically fallen short – healthcare and energy costs, spending on infrastructure such as roads, bridges and rail, and spending on public higher education?

> New Hampshire has typically focused on those areas where we rank high in state-by-state surveys: tax policy, for instance. But in order to maintain a competitive advantage, should we redirect our attention to areas where we have fallen short, such as healthcare costs?

For instance, a recent survey of the business climate of the 50 states included a measure of "infrastructure & transportation." In this category, which examined the quality of roads, air travel and the value of goods shipped in and out of state, New Hampshire ranked fifth worst in the country. Though the survey's methodology is not entirely transparent, the fact that New Hampshire is perceived as deficient in this category should give pause to policymakers looking to improve the state's economic health.

Will investments in these or other areas yield better returns on economic growth? The answer, for now, is unclear. But what is clear is that New Hampshire can no longer rely on the demographic trends that have propelled it to economic prosperity over the past three decades.