

Issue Paper
Number 25

July 2006

New Jersey's New Economy Growth Challenges

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This research was supported by:

The Angelides Public Policy Research Initiative

of the Edward J. Bloustein School of Planning and Public Policy

Published by



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of Planning and Public Policy

Introduction

New Jersey now faces its most uncertain economic future since the Great Depression. Previous economic challenges that arose in the post-World War II period seemingly resolved themselves with minimal public policy direction, and prosperity ultimately reigned in every case. But there have been recent warning signs of a potential gathering economic storm. This is raising formidable challenges that until now have been obscured by the sheer momentum of the state's affluence. This time, the economy may no longer be able to fully self-adapt successfully, as it has in the past, because the state now faces unprecedented competition for high-quality economic growth. This new reality must stand front and center on the public policy agenda.

The first half-decade of the 2000s has produced a number of global, national, and regional forces that are threatening New Jersey's lofty economic position. After fully transforming and reinventing itself in the 1980-2000 period, the state is confronting a new economic reality: The advanced, leading-edge corporate investment and employment growth in America is largely taking place outside of New Jersey. One reason is the state's declining cost-competitiveness globally and nationally. This stems from New Jersey's business climate as well as broader forces at work that are driving a fundamental geographic realignment of the nation's economy. Globalization, deregulation, and accelerating technological change have been the predominant dynamics in the world economy of the new century. These forces, and aggressive investments in economic infrastructure growth by other states and nations, have reshaped New Jersey's competitive economic environment.

The center of gravity of America's new knowledge-based economy, as its manufacturing-based economy did a generation ago, appears to be shifting from the high-cost places of doing business of the Northeast to the lower-cost and more affordable states of the nation's Sunbelt. This marks a new dimension of America's economic geography. New Jersey and its

advanced new-economy peers—New York, Connecticut, and Massachusetts—have been experiencing employment declines in the post-2000 period in a number of important “new economy” sectors that historically were linked to their highly educated workforces. In contrast, states such as Maryland, Virginia, North Carolina, and Florida have experienced growth far in excess of the national averages in those very same sectors.

This repositioning parallels the earlier shift of manufacturing to the Sunbelt that started in earnest in the 1960s and 1970s. As international competition increasingly spurred the need to control costs, manufacturers found that they were not dependent exclusively on the highly skilled workforces of the Northeast and Midwest; instead, they could undertake efficient production in the low-cost Sunbelt. Now, as globalization places knowledge-based industries under equally severe cost imperatives, these leading industries of the new economy are expanding in states where the cost of doing business is far more favorable.

Thus, the impact of globalization appears to be twofold. First, new worldwide knowledge-based competitors have cost structures that are significantly below those of the United States. Accordingly, some of the high-end economic growth of New Jersey and its northeastern peer states is leaking to these new global competitors. Second, this same cost differential places the Northeast at a disadvantage within the United States, as corporate America must continually and aggressively cut costs to remain competitive in the face of unrelenting global pressures. The region's once-unique advantage in knowledge-based workers is fading under the stress of its high-cost environment. Labor, like capital, is mobile, and high-value-added service-sector economic activity can occur successfully in lower-cost, more affordable states of the Sunbelt. According to employment data covering the past 15 years, that is where the United States-based economic expansion is increasingly taking place. In this broader context, the advanced economy and standard of living that New Jersey historically enjoyed are now at considerable risk. The public policy imperative to focus on economic competitiveness has never been greater.

Executive Summary

New Jersey has always been positioned at the leading technological edge of the American economy. This has long been the foundation of the state's prosperity, its high standard of living, and its attractive quality of life. Initially, New Jersey was preeminent in advanced technology-based manufacturing; by the end of the twentieth century, however, the state had evolved into a postindustrial, information-based, knowledge-driven economic dynamo. Only by being on the frontiers of economic innovation—only by continually moving “up-market”—has New Jersey maintained its enviable position.

- However, recent years have seen signs of an erosion of New Jersey's once-unique advanced economic assets. There have also been subtle but significant shifts in the state's employment growth patterns signaling that the positive advances of the past two decades are beginning to retreat.
- Key parts of the core economy—including the state's unique concentrations of technology-based economic specializations—have not only stopped growing in the 2000s but, in a number of important areas, have started to contract.
- In New Jersey's 1992–2000 economic expansion, employment in the three high-paying service-providing sectors—information, financial activities, and professional and business services—grew by 243,700 jobs.¹ In the 2000–2005 period, it lost 18,700 jobs in these three sectors. At the same time, the state lost 98,900 high-paying manufacturing jobs.
- Consequently, in the 2000–2005 period, the state lost 117,600 high-paying advanced services and manufacturing jobs. The private service-providing job growth sectors in the 2000–2005 period were in
- the below-average-paying sectors of education and health services (+60,800 jobs), leisure and hospitality (+35,900 jobs), and other services (+16,500 jobs). Employment growth in these three low-paying sectors totaled 113,200 jobs.
- Overall, while the state lost 117,600 high-paying service and manufacturing jobs, it replaced them with 113,200 low-paying service jobs. The first half of the first decade of the 2000s has been characterized largely by the contraction of high-paying, private-sector office and manufacturing jobs, replaced by lower-paying private-sector employment and expanding public-sector, tax-dependent jobs.
- This pattern is not unique to New Jersey but is shared with its advanced-economy peers in the Northeast Region of the United States—New York in the Middle Atlantic Division of the Northeast, and Connecticut and Massachusetts in the New England Division.
- While the Northeast lost 204,000 jobs in information, professional and business services, and financial activities in the 2000–2005 period, the South Region of the United States gained 409,300 jobs in these industries. Similarly, while the Middle Atlantic Division of the Northeast lost 126,000 jobs, the South Atlantic Division of the South gained 302,400 jobs. At the state level, Connecticut, Massachusetts, New Jersey, and New York were losers, while the South Atlantic Division's Florida, Maryland, North Carolina, and Virginia were winners.
- In addition, there has been significant erosion of New Jersey's key technology-based economic assets. The loss of national employment share in technology-based industries has been steep and dramatic. New Jersey accounts for 3 percent of the nation's total employment base. That would be the

¹ Professional and business services include management of companies and enterprises (corporate headquarters), scientific and technical services, legal services, accounting services, engineering services, research and development services, and computer systems design and services, among others. Financial activities include finance, banking, securities investment and brokerage, and insurance, among others. Key components of the information sector are telecommunications and Internet-related activities. All of these employment categories are specified by the North American Industry Classification System (NAICS).

state's expected share in any specific employment sector if its representation were average.

- In 1990, New Jersey accounted for 5.2 percent of the nation's total high-technology employment base, reflecting a significant concentration in the state. But, by 2005, the state's share had dropped to 4.0 percent. While this still represents an above-average share, the scale of erosion is quite substantial. And it has affected every single high-technology sector.
- Pharmaceuticals are representative of this pattern. In 1990, New Jersey had 20.2 percent of the nation's total pharmaceutical jobs, slightly more than one out of five. By 2005, the state's share had declined to 13.7 percent. In 2004, California overtook New Jersey as the state with the most pharmaceutical jobs. For perspective, in 1990, California had only half the number of pharma jobs as New Jersey.
- One measure of the impact of all of the employment trends is the ratio of New Jersey's per capita income to that of the nation. Between 1980 and 2000, the state's per capita income grew from 16 percent higher than that of the nation to 29 percent higher, reflecting the full successful transformation to a knowledge-based economy. But between 2000 and 2005, the state's per capita income fell to 27 percent higher, reflecting the growth of lower-paying, consumption-based jobs.

These disturbing economic patterns make a compelling case that the economy and economic growth receive the highest public policy priority in New Jersey. This does not mean encouraging sprawl and uncontrolled real estate development, nor promoting consumption-based activities such as big-box, power-center retailing and new lifestyle centers—pedestrian-oriented outdoor shopping areas often called town centers. But what deserve intense focus are the export-based, wealth-creating, economic engines of the future. These are externally supported industries (businesses that produce goods, services, and/or knowledge and innovations) that leverage out-of-state

and out-of-nation resources into the state's economy. It is such externally generated resources that increase economic well-being and the quality of life within New Jersey.

The New Challenges

The current challenges facing the state and region were difficult to foresee. During the extraordinary final two decades of the twentieth century, New Jersey completely reinvented itself from a fading manufacturing dynamo to a leading-edge, knowledge-dependent, information-driven economy. By 2000, the state had become postindustrial "Corporate America Central." New Jersey developed powerful employment concentrations in financial activities, information, and high-end professional and business services. These are the core sectors of the new information-age economy. Thus, the state was seemingly well poised for an economically successful new decade, century, and millennium. Unfortunately, the economic reality so far has proven to be much different.

New Jersey now faces three key problems that define the economic policy challenges confronting the state's public and private leadership. First, since the 2001 national recession, corporate America has largely been directing its high-end investment outside of New Jersey, limiting the state's new employment growth to mainly below-average-pay job sectors. Second, New Jersey's once-unique core science and technology economic assets—and its once-preeminent research and development position—have started to erode, not only relatively, but absolutely as well. And third, a number of major New Jersey economic institutions have been acquired by out-of-state entities, resulting in losses of headquarters functions and the ceding of executive authority to other states.

Overall, the three problems have resulted in significant shifts in employment growth patterns that have caused the economic advances of the 1980s and 1990s to retreat. However, this emerging reality has been obscured by the momentum of a vast, still prosperous statewide economy that now totals more than 4 million jobs. To some degree, the state has been maintaining its standard of living the old-fashioned way: by

borrowing and living off of its core economic assets. New Jersey's long-term position at the nation's leading technological edge has been the foundation of the state's enviable affluence. This affluence, even as it erodes, will for a considerable time convey an image of economic health. But in the longer term, if these trends continue, the relative standard of living in New Jersey, as well as economic opportunity, will surely diminish.

A Successful but Unplanned Past

Over the past 150 years, New Jersey has experienced two major economic transformations, and each time successfully reinvented itself—by itself. At the end of the nineteenth century, the state awoke and found that its agricultural economy had become a powerful, technology-driven, urban-manufacturing economy. At the end of the twentieth century, the state reawakened to find that it had become a powerful, technology-driven, knowledge-based economy. However, these two monumental transformations took place in a virtual public policy vacuum. In fact, stimulating or shaping New Jersey's economic future has never been a state public policy priority, as potential long-term sustained public investments usually have succumbed to immediate political exigencies. While the state has often reacted quite successfully to specific economic crises or opportunities, sustained proactive efforts concentrating on investing in the long-term economic future of New Jersey have been lacking. Despite this, economic success still predominated. The New Jersey economy has always managed to maintain its leading-edge status—at least until now.

Perhaps luck, historical accident, entrepreneurial spirits, and geography ruled. New Jersey may have been so well positioned with its business structures and location in relation to key national and global markets that it was virtually impossible not to succeed. However, perpetual economic success is not the state's birthright. New Jersey may no longer be able to count on these once-propitious attributes to again lead it to future economic success.

The new millennium has brought with it new

dimensions of globalism that are reshaping the world economic order and are leading to a third monumental transformation, driven by globally wired supply and knowledge chains, and new competitive cost challenges. It is essential for New Jersey's future that it remain on the leading technological edge of this transformation—as it has done twice before—and not be left behind.

The First Transformation

In the decades after the Civil War, the business of the Garden State economy was transformed from strictly “growing things” to strictly “making things.” This was part of a broader national transformation. In the second half of the nineteenth century, manufacturing firms agglomerated in urban locations because of rail- and water-based transportation advantages, basic but unique economic infrastructure (roads, water supply, sewers, and energy availability), and pools of skilled and unskilled labor.

New Jersey's “big six” cities—Camden, Elizabeth, Jersey City, Newark, Paterson, and Trenton—all thrived and developed in the nineteenth century as urban manufacturing centers. Paterson became known as “Silk City USA.” “Trenton Makes, the World Takes,” and “On Camden Supplies, the World Relies” were not merely slogans but economic reality. New Jersey was a technology-driven, urban manufacturing dynamo by the time the twentieth century unfolded and was at the leading technological edge of global industrialization.

In the last part of the nineteenth century, Menlo Park, New Jersey, was home to what could be called one of the nation's first industrial research laboratories. There, Thomas Edison produced seminal innovations, such as the electric light and the phonograph, which transformed the nation and the world and generated enormous new industries and millions of jobs.

In the first half of the then new twentieth century, New Jersey could boast proudly of the mammoth Singer Sewing Machine plant in Elizabeth—the largest sewing machine manufacturing facility in the world which, at its peak, employed 10,000 workers; the RCA radio and Victrola factory in Camden—the largest of its type in the world; and Western Electric in Kearny—the world's leading telephone manufacturing complex.

All of these businesses, and many others, sold their outputs in national and world markets, bringing large revenue flows back to New Jersey. However, by the 1980s all these businesses were reduced to a historical memory.

Urban manufacturing dominated America's economic geography through the end of World War II, with New Jersey a model example. But the unique advantages of urban locations faded as new technologies, infrastructure, and workforces spread to suburban areas in the postwar decades. It was soon discovered that such "once frontier" territories had cost and efficiency advantages and quickly became the new locations of choice as postwar consumption and production boomed. Urban manufacturing then began its long slide.

But suburban manufacturing in the Northeast eventually lost its hegemony, as postwar reconstruction in Europe and Japan advanced, and as cost pressures intensified. First, less-sophisticated manufacturing moved to the South and overseas, followed by more advanced and then high-technology manufacturing. These new "once frontier" territories became the new location of choice, as their infrastructures and lower-cost labor forces became competitive and then surpassed those of an aging and expensive Northeast. Ultimately, as globalization intensified, even large sectors of southern and Midwestern U.S. manufacturing withered under the intense cost advantages of Asia.

The Second Transformation

By the 1970s, a second major technology-driven transformation was already well under way—the emergence of a postindustrial, knowledge-dependent, information-age economy. The opening of AT&T's Long Lines complex in Bedminster in 1976 and its global headquarters in Basking Ridge in 1977 quickly became powerful symbols of the state's postindustrial, high-technology future. New Jersey became nothing less than "global telecommunications central." These advanced-stage "teleco" facilities also legitimized once frontier rural sites as market-acceptable geographic locations for office development in New Jersey. Before that time, the region's office market was overwhelmingly centered in Manhattan.

The broader economy that emerged from the

second major economic transformation was mainly housed in office buildings—postindustrial "factory floors." A new national phenomenon was the emergence of "edge cities" and suburban growth corridors. This postindustrial suburban shift followed the pattern of manufacturing three decades earlier. By 1990, North-Central New Jersey had emerged as the fifth largest metropolitan office market in the country, with much of the new inventory located in freeway-oriented suburban growth corridors; 80 percent of all the office space ever built in the history of New Jersey went up in the 1980s. There was a national "buzz" about the emerging Route 1 Princeton Corridor—the "Zip" Strip—as well as the I-287 corridor and others.

Occupying the new suburban office inventories in the 1980s and 1990s were technology-dependent professional and business services, financial activities, and information services. These economic sectors were at the heart of the new economy, and New Jersey found itself at the leading technological edge of a second global economic reordering. Once again, New Jersey's economy had successfully reinvented itself—by itself.

A Third Transformation

New Jersey's two industrial transformations left the state not only in an enviable economic position but also with an unparalleled standard of living. However, a third transformation is now at hand—one that may yield different consequences. Internet-dependent global supply chains have already spatially rearranged the global manufacturing order. Internet-dependent innovation chains are capable of spatially rearranging the world's knowledge and advanced-services economy. An international economy with an abundance of low-cost, globally wired, highly educated, high-technology, service-sector workers is a challenge of unprecedented complexity and implications. Low-cost factories and high-technology production are being supplemented by low-cost laboratories and high-technology services at new emerging global locations.

Within the domestic United States, new cost-competitive factors have also gained in importance. In the last three decades of the twentieth century, New Jersey's once powerful manufacturing sector shifted to lower-cost Sunbelt states and migrated abroad because the state's business-cost structures were no longer

competitive. Under the new cost constraints stemming from globalization, the same thing may well be happening in the knowledge-based advanced services sector in the twenty-first century. New Jersey was once the most cost-efficient place for doing business in the tri-state area. This is no longer the case. The current decade has seen a decline in the state's business tax climate, with the Tax Foundation recently ranking New Jersey 49 among the 50 states. Only New York has a worse business climate than New Jersey.

We are no longer shocked to see the decaying remnants of the state's once-mighty manufacturing plants or their complete disappearance (such as the recent demolition of the Ford plant in Edison, the last vestige of the automobile industry in New Jersey). But it was newly unsettling to see powerful symbols of the state's postindustrial, high-technology future—such as the AT&T global headquarters in Basking Ridge—sitting vacant on the economic landscape in 2003 and 2004. What was once the 800-pound global telecommunications gorilla became a sitting duck with deregulation, rapid changes in technology, and the emergence of more nimble national and international competitors. Headquarters jobs once assumed to be New Jersey's proud birthright are now firmly ensconced in other states. Many other statewide economic sectors and institutions are facing similar challenges.

Will New Jersey's economy be able to successfully reinvent itself—by itself—a third time in the face of such unprecedented competitive forces and business cost handicaps?

The Troubling Signs

The urgency of this question is dramatically emphasized by a number of worrisome trends that emerged in the state in the post-2000 period—trends that suggest a loss of New Jersey's competitive position. The state has stopped gaining sophisticated, high-paying knowledge-based jobs; instead, employment growth has been clustered in low-paying sectors of the economy. At the same time, tax-supported state and local public-sector jobs have accounted for an unprecedented share of employment growth. Moreover, two of the state's crown economic jewels—

the pharmaceutical and telecommunications industries—are starting to lose national employment share at a rapid rate, while the growth of sophisticated financial activities and professional services jobs—mainstay sectors of the 1980s and 1990s—has stalled. As a result, the state's once lofty income position is steadily eroding.

Employment Growth Trends: High Pay to Low Pay

During the economic expansions of the 1980s and 1990s, the state's employment increases were dominated by higher-paying, knowledge-based industries: finance, information, and professional and business services. Interestingly, it was often asserted at the time that the state was losing high-paying manufacturing jobs and replacing them with minimum-wage hamburger-flipper jobs. That certainly was not the case. For example, while the state lost significant employment (-53,900 jobs) in high-paying manufacturing in the 1992-2000 expansion (table 1), this was more than compensated for by large employment increases in professional and business services (+186,200 jobs), financial activities (+43,000 jobs), and information (+14,500 jobs). Thus, the state was adding nearly five high-paying office jobs for every manufacturing job loss between 1992 and 2000. This pattern of growth reflected the successful shift to the new knowledge-based economy, and it was the foundation of the robust economic health of the state's office markets during the second half of the 1990s.

But significant changes occurred after 2000. The New Jersey manufacturing employment hemorrhage actually accelerated, with 98,900 jobs lost in the five-year 2000–2005 period, compared with a loss of 53,900 jobs in the previous eight-year 1992–2000 period. However, this time the lost manufacturing jobs were not replaced by high-paying service jobs. Instead, between 2000 and 2005, professional and business services lost 5,500 jobs and information lost 30,400 jobs, while financial activities gained only 17,200 jobs. These three private-service sectors together registered an aggregate employment loss of 18,700 jobs. When combined with manufacturing, these four high-paying sectors had a new millennium net employment loss of 117,600 jobs.

TABLE 1: New Jersey Nonfarm Payroll Employment Change and Average Annual Pay: May 1992–December 2000 versus December 2000–December 2005

	Employment Change		2004 Average Annual Pay
	1992–2000	2000–2005	
TOTAL NONFARM	576,300	40,500	\$48,042
TOTAL PRIVATE SECTOR	551,500	-7,900	\$47,608
GOODS-PRODUCING	-13,000	-79,300	\$55,959
Natural Resources and Mining	-500	-100	\$28,740
Construction	41,400	19,600	\$51,320
Manufacturing	-53,900	-98,900	\$59,134
PRIVATE SERVICE-PROVIDING	564,500	71,400	\$46,066
Trade, Transportation, and Utilities	129,500	-23,100	\$41,446
Information	14,500	-30,400	\$72,468
Financial Activities	43,000	17,200	\$74,789
Professional and Business Services	186,200	-5,500	\$58,018
Education and Health Services	119,800	60,800	\$41,065
Leisure and Hospitality	44,700	35,900	\$20,065
Other Services	26,800	16,500	\$30,565
GOVERNMENT	23,000	48,400	\$50,412
Federal	-11,400	-4,300	\$69,580
State	9,200	12,700	\$59,296
Local	25,600	40,100	\$46,997

Note: Numbers may not add due to rounding.
Government subsector employment figures do not sum due to individual seasonal adjustments.

Sources: New Jersey Department of Labor and Workforce Development; U.S. Bureau of Labor Statistics.

The private service-providing job-growth sectors in the 2000–2005 period were in the below-average-paying education and health services (+60,800 jobs), leisure and hospitality (+35,900 jobs), and other services (+16,500 jobs) sectors. Employment growth in these three low-paying sectors totaled 113,200 jobs. Thus, while the state lost 117,600 high-paying service jobs, it replaced them with 113,200 low-paying service jobs. In addition, government employment grew (+48,400 jobs), while total private-sector employment declined (-7,900 jobs) in the 2000–2005 period. By any measure, this was not a good trade-off.

Loss of Competitive Position

So, the first half of the 2000s has largely been characterized by the contraction of high-paying private-

sector office and manufacturing jobs, replaced by lower-paying private-sector employment and expanding public-sector, tax-dependent jobs. This does not mean that the state's economy is rapidly "dumbing down." The state still maintains a leading-edge economy. Unfortunately, the recent growth in the leading edge is taking place outside of New Jersey.

This may well be signaling a loss of economic competitiveness. One barometer is per capita income (table 2). In 1980, New Jersey's per capita income was 16 percent higher than that of the nation. By 2000, after two decades of "new economy" white-collar employment growth, the state's per capita income grew to 29 percent higher than that of the nation, a significant advance. But following the 2000 peak, this positive trend was reversed. The state's per capita

income fell to 27 percent higher in 2005, a figure bolstered by record, but one-time, Wall Street bonuses. New Jersey's relative economic well-being has been slowly but clearly eroding. Combined with the much higher costs of living in New Jersey, this erosion of relative income has become an increasingly crucial public policy issue facing the state.

The Regional Shift

The post-2000 economic performance of New Jersey is replicated in those of its advanced-economy peer states in the Northeast, and stands in marked contrast to the emerging peer states in the Sunbelt. This is detailed in table 3, which provides combined employment totals for information, professional and business services, and financial activities by geographic region, division, and selected states for 1990 to 2000 and 2000 to 2005. The broad pattern is that there was far more robust growth in these three sectors in the South and West during the decade of the 1990s. But in the 2000–2005 period, when growth in information, professional and business services, and financial activities slowed dramatically in the nation as a whole, the Northeast and Midwest slipped into actual decline, while growth continued in the South and West, except for California, which reflected the pattern of the Northeast and Midwest.

In the 1990–2000 period, the nation's employment in these three sectors grew by a strong 39.9 percent. This was nearly double the 20.4 percent growth that took place in total employment. However, the Northeast was the regional laggard, with employment in information, professional and business services, and financial activities expanding at half the national rate (20.0 percent versus 39.9 percent). In contrast, the South (52.5 percent) and West (45.1 percent) were booming.

In the 2000–2005 period, growth in these three sectors nationally plummeted to 0.7 percent, approxi-

TABLE 2: Ratio of New Jersey's Per Capita Income to United States Per Capita Income, Selected Years: 1970 to 2005

	Ratio: NJ to U.S.	NJ Per Capita Income	U.S. Per Capita Income
1970	1.18	\$4,821	\$4,085
1980	1.16	11,707	10,114
1990	1.26	24,572	19,447
2000	1.29	38,365	29,845
2005	1.27	43,771	34,586

Source: U.S. Bureau of Economic Analysis.

mately half the rate of growth (1.3 percent) of total employment. While the Northeast lost 204,000 jobs in information, professional and business services, and financial activities, the South gained 409,300 jobs. Similarly, while the Middle Atlantic Division of the Northeast lost 126,000 jobs, the South Atlantic Division of the South gained 302,400 jobs. At the state level, Connecticut, Massachusetts, New Jersey, and New York were losers, while Florida, Maryland, North Carolina, and Virginia were winners. The only positive sign for New Jersey was that it had the smallest absolute decline in the Northeast and the lowest rate of decline.

A similar differential is evident within the West Region. The Mountain Division, led by Arizona and Nevada, had the fastest growth in information, professional and business services, and financial activities in the 1990–2000 period, increasing more than twice as fast as the Pacific Division (76 percent versus 35.6 percent), which is dominated by California. Between 2000 and 2005, the Mountain Division had the fastest growth (7.0 percent, or 128,100 jobs) of any division, but the Pacific Division slipped into decline (-0.5 percent). This was all due to California's loss of 61,400 jobs (-1.7 percent) in the three sectors. Perhaps California could be considered the budding "Northeast" of the West.

Some of this pattern can be linked to differentials in population growth, but certainly not a majority of

TABLE 3: Information, Professional and Business Services, and Financial Activities by Region, Division, and Selected States:* 1990–2005

Region/Division/State	1990	2000	Change: 1990–2000		2005	Change: 2000–2005	
			Absolute	Percent		Absolute	Percent
U.S.	19,959.3	27,920.7	7,961.4	39.9	28,130.0	209.3	0.7
Northeast	4,863.6	5,836.8	973.2	20.0	5,632.8	-204.0	-3.5
New England	1,260.0	1,575.2	315.2	25.0	1,497.2	-78.0	-5.0
Connecticut	366.2	405.3	39.1	10.7	380.2	-25.1	-6.2
Massachusetts	630.9	832.0	201.1	31.9	768.6	-63.4	-7.6
Middle Atlantic	3,603.6	4,261.6	658.0	18.3	4,135.6	-126.0	-3.0
New Jersey	792.9	992.2	199.3	25.1	970.3	-21.9	-2.2
New York	1,922.3	2,184.4	262.1	13.6	2,064.2	-120.2	-5.5
Midwest	4,434.1	6,154.6	1,720.5	38.8	6,053.4	-101.2	-1.6
East North Central	3,079.4	4,275.5	1,196.1	38.8	4,185.5	-90.0	-2.1
West North Central	1,354.7	1,879.1	524.4	38.7	1,867.9	-11.2	-0.6
South	6,210.7	9,472.4	3,261.7	52.5	9,881.7	409.3	4.3
South Atlantic	3,563.2	5,538.9	1,975.7	55.4	5,841.3	302.4	5.5
Florida	1,028.1	1,786.5	758.4	73.8	2,018.2	231.7	13.0
Georgia	539.3	890.2	350.9	65.1	876.1	-14.1	-1.6
Maryland	443.4	567.6	124.2	28.0	592.3	24.7	4.4
North Carolina	428.3	702.3	274.0	64.0	717.2	14.9	2.1
Virginia	565.6	865.7	300.1	53.1	893.0	27.3	3.2
East South Central	848.2	1,230.9	382.7	45.1	1,277.0	46.1	3.7
West South Central	1,799.3	2,702.6	903.3	50.2	2,763.4	60.8	2.2
Texas	1,266.1	1,938.3	672.2	53.1	1,987.4	49.1	2.5
West	4,450.9	6,456.9	2,006.0	45.1	6,562.1	105.2	1.6
Mountain	1,043.9	1,837.0	793.1	76.0	1,965.1	128.1	7.0
Arizona	273.8	531.4	257.6	94.1	587.8	56.4	10.6
Nevada	101.5	182.0	80.5	79.3	224.6	42.6	23.4
Pacific	3,407.0	4,619.9	1,212.9	35.6	4,597.0	-22.9	-0.5
California	2,720.7	3,610.9	890.2	32.7	3,549.5	-61.4	-1.7

* Employment totals for each division include all the division's states, some of which are not shown. The sum of employment for selected states will not add to division totals.

Source: U.S. Bureau of Labor Statistics.

it. Expansion in these economic sectors is increasingly sensitive to differentials in the cost of doing business, as companies naturally avoid older, more-expensive places and concentrate in the less-expensive places. Consequently, employment shares in the Northeast are slipping. For example, New Jersey accounted for 4.0 percent of the nation's total employment in information, professional and business services, and finan-

cial activities in 1990. By 2005, its share had fallen to 3.4 percent. Similarly, New York's share fell from 9.6 percent to 7.3 percent, Connecticut's share fell from 1.8 percent to 1.4 percent, and Massachusetts's share fell from 3.2 percent to 2.7 percent. New Jersey is enmeshed in a broader dynamic of declining competitiveness of the more mature developed parts of the nation.

**TABLE 4: Selected Telecommunications Employment,
New Jersey versus United States: 1990–2004**

	1990	2004	Change: 1990–2004		2004 Average Annual Pay
			Number	Percent	
Total Telecommunications					
United States	994,093	1,028,206	34,113	3.4%	
New Jersey	57,738	39,747	-17,991	-31.2%	\$84,120
NJ share of U.S.	5.8%	3.9%			
Wired Telecommunications					
United States	690,864	539,250	-151,614	-21.9%	
New Jersey	51,881	25,286	-26,595	-51.3%	\$94,078
NJ share of U.S.	7.5%	4.7%			
Wireless Telecommunications					
United States	41,371	188,234	146,863	355.0%	
New Jersey	1,755	5,254	3,499	199.4%	\$78,789
NJ share of U.S.	4.2%	2.8%			

Note: Subcategories will not add to total, since other telecommunications industries are not included.
Source: Quarterly Census of Employment and Wages, U.S. Bureau of Labor Statistics.

New Economy Engines Slowing Down

Underlying this concern about a decline in New Jersey's competitive position are some troubling trends in specific economic sectors of key importance to the state's economy.

Telecommunications

The highly visible—and still highly lamented—great manufacturing hemorrhage in New Jersey began in earnest in 1969. It took 32 years, until 2001, for manufacturing employment to decline by one half. Thus, manufacturing had a so-called half-life of 32 years. But virtually unnoticed, an employment decline of equal relative magnitude occurred in high-technology wired telecommunications in New Jersey, led by the decline of AT&T and Lucent. Employment in this sector fell from 50,000 jobs in 1995 to 25,000 jobs in

2004—a half-life of nine years! Moreover, this slippage in New Jersey took place while wired telecommunications nationally grew modestly.

□ *New Jersey accounts for 3.0 percent of the nation's total job base. In 1990, the state accounted for 7.5 percent of the nation's wired telecommunications employment (table 4). At that time, this was a unique and powerful concentration and a key new economy locomotive for the state. But by 2004, the state's employment share in wired telecommunications fell markedly to 4.7 percent.*²

This rapid and dramatic loss of relative position is even more troubling since the average annual pay in wired telecommunications was \$94,078, a level nearly double the all-industries average (\$48,042) in New Jersey.

□ *While wired telecommunications employment in New Jersey declined by 51 percent between 1990 and*

² The year 2004 is used because wireless employment is not yet available for 2005.

TABLE 5: Pharmaceuticals and Medicine Manufacturing, New Jersey versus United States: 1990–2005

	1990	2005	Change: 1990–2005		2004 Average Annual Pay
			Number	Percent	
Pharmaceuticals and Medicine Manufacturing					
United States	207,200	288,500	81,300	39.2%	
New Jersey	41,900	39,600	-2,300	-5.5%	\$99,522
NJ share of U.S.	20.2%	13.7%			

Sources: New Jersey Department of Labor and Workforce Development; U.S. Bureau of Labor Statistics.

2004, wireless telecommunications employment grew by almost 200 percent (table 4). However, over the same time, wireless employment increased by 355 percent nationally—almost twice as fast. Thus, New Jersey lagged badly in this technology-driven frontier growth sector.

- Moreover, the increase in wireless employment in the state (3,499 jobs) was only 13 percent of the wired loss (-26,595 jobs) between 1990 and 2004. And while wireless annual pay (\$78,789) is certainly above average, it still was below that of wired (\$94,078). Thus, not only is wireless adding barely one job for every eight wired job losses, each of those new job gains has an annual pay below that of the jobs being lost.³

With Fort Monmouth due to close, SBC's purchase of AT&T, and the Lucent-Alcatel merger, the state's national role as "telecommunications central" is rapidly fading into the history books. New Jersey's transformation into an information-age economy was driven by telecommunications. The state's severe slippage in this area should serve as a warning that other sectors of the state economy could experience similar reversals of fortune in very short periods of time.

³ Moreover, while wired telecommunications was formerly a highly regulated, high-paying industry, wireless telecommunications is in a new, nonregulated, competitive, pay-constrained environment. This difference is likely to yield further pay constraints in the future.

⁴ The specific NAICS subsector is pharmaceutical and medicine manufacturing. This sector captures approximately 80 percent of total pharmaceutical employment.

⁵ Again, this compares to New Jersey's 3.0 percent share of the nation's total job base.

⁶ The state's pharma employment declined from 41,900 jobs in 1990 to 39,600 jobs in 2005, a loss of 2,300 jobs. In contrast, the nation added 81,300 pharma jobs during the same 14 years, from 207,200 jobs in 1990 to 288,500 jobs in 2005.

Pharmaceuticals

New Jersey has often been called the nation's medicine chest. But it is now a leaner and smaller one. Although New Jersey still retains a unique concentration of pharmaceutical activity, its share is rapidly eroding.

- In 1990, the state accounted for 20.2 percent of the nation's total pharmaceutical employment (table 5).⁴ Thus, more than one of five "pharma" jobs in America was located in New Jersey—an impressive and then unequalled concentration.⁵
- But by 2005, the state's pharmaceutical employment share declined to 13.7 percent.
- Between 1990 and 2005, the state lost 5.5 percent of its pharma jobs.⁶ In contrast, pharma employment grew by 39.2 percent nationally.
- The 1990–2005 national increase in pharmaceutical employment (39.2 percent) was nearly double the growth rate (21.9 percent) in overall employment in the United States.

Since the average annual pay in pharmaceuticals in New Jersey in 2004 was \$99,522, the economic

ramifications of pharma employment losses in New Jersey are certainly significant. It is also significant that these losses occurred while employment in pharma nationally was soaring. In 1990, California had half the number of pharmaceutical jobs as New Jersey. By 2004, it had surpassed us. So New Jersey's troubles were *not* due to a weak national pharmaceutical growth context. The state's medicine chest simply failed to participate in a strong national pharmaceutical expansion.

The Bigger Technological Erosion

Pharmaceuticals and telecommunications are two of the most visible icons of the state's scientific, high-technology economy. However, recent years have witnessed signs of an erosion of all of New Jersey's key technology-based economic assets (table 6). Globalization, deregulation, accelerating technological change, and an increasing focus on cost competitiveness are the predominant forces in the world economy of the new century. These forces, as well as aggressive public investments in technology-based growth by other states and nations, have reshaped New Jersey's competitive economic environment. However, the sheer scale and momentum of New Jersey's past prosperity and of its core economy have obscured both the relative and absolute deterioration of the state's competitiveness. The loss of national employment share in each of the technology-based industries, which closely replicate the National Science Foundation definition of high technology, has been steep and dramatic (table 6). Moreover, total employment in these industries in New Jersey in 2004 was *lower* than it was in 1990, indicating absolute as well relative decline.

TABLE 6: New Jersey's Share of National Employment: High-Technology Sectors, 1990 and 2005

Sector	1990	2005
Pharmaceuticals and Medicine	20.2%	13.7%
Computer and Electronics Manufacturing	3.2	2.4
Telecommunications	5.9	3.9
Wired Telecommunications	7.7	4.7
Wireless Telecommunications*	4.9	2.8
Internet Service Providers/Data Processing	6.1	3.5
Scientific Research and Development Services	6.6	4.9
Computer Systems Design and Related Services	6.4	4.3
Management, Scientific, and Technical Services	5.1	3.7
Architectural, Engineering and Related Services	3.6	3.3
Total	5.2	4.0

* Wireless Telecommunications share in the 2005 column is based on 2004 data.
Source: U.S. Bureau of Labor Statistics.

Losing Our Technological Edge?

The unsettling economic trends of the current decade can be classified into three overlapping areas. The first is the loss of relative employment share in the leading-edge, technology-dependent industries. These high-paying industries are important pillars of the state's high standard of living. The second is the declining significance of the state's once-unique leading-edge technology/research facilities. Innovation "factories" or "genius factories" such as Bell Labs (telecommunications) and RCA's Sarnoff Labs (electronics) were once globally preeminent, drawing the world's "best and brightest" to New Jersey. In addition, the establishment of major new pharma research facilities in San Diego, California, and in Cambridge, Massachusetts—not in New Jersey—has recently raised the specter of another loss of technological edge.

The third disturbing trend is the contraction of the state's export-based industrial "winners." The gold standard of state economic development is "growing" wealth-creating industrial sectors that sell their goods

or services to the rest of the nation and the world. Such industries are thus supported by flows of dollars and resources into New Jersey, increasing the state's wealth position. For example, AT&T used to be the sole seller of long-distance telephone services to the nation. Since New Jersey accounts for approximately 3 percent of the nation's population and jobs, that meant that about 97 percent of the domestic revenues that supported AT&T's operations in New Jersey came from outside the state. The erosion that is taking place in all three of these areas suggests the need for broad-based state economic development policy attention, along with a serious focus on science and technology.

New Business Research Models: Disadvantage New Jersey

Concurrent with the economic transitions stemming from globalization is a new business model for basic research and industrial laboratories in America. While foreign-based industrial giants are expanding large-scale corporate research facilities, an emerging trend in the United States is a shift in focus by the nation's industrial laboratories from basic leading-edge research—research that historically served as the basis for groundbreaking products and industries—to research directed at supporting their current business operations. Very simply, in a competitive global economy and in a deregulated national economy, U.S. businesses found that they could not afford to support their own extensive basic research undertakings.

The emerging paradigm is to shift leading-edge research to the nation's major research universities. These universities have broadened their traditional focus by building alliances and partnerships with corporate America in order to undertake the types of advanced research that can spawn new business innovations and economic opportunities. This change became institutionalized by the Bayh-Dole Act, which gave universities intellectual property rights stemming from research performed on federal grants, and by explicitly including industry connections/partnerships as criteria for awarding those grants. Many states have recognized the economic benefit of successfully com-

peting for large federal grants that can then leverage activities spawning new businesses and support emerging science and technology business clusters. These states have made significant investments in increasing the quality and scale of the research capacity of their leading research universities.

This new model has worked to the detriment of New Jersey. Historically, the state has long been home to some of the world's leading large-scale corporate research operations. Leading-edge research activities have now shifted from such facilities in New Jersey to locations near the major national research universities outside of the state, with the attendant loss of high-paying jobs and the economic spin-offs that typically accompany that research. At the same time, New Jersey has not been nearly as competitive in supporting its research universities. Thus, New Jersey is losing at both ends of the shifting paradigm of industrial R&D.

These new industrial R&D facilities are going to such locations in part because of the access they provide to university-based research "stars" and facilities, and the resulting leveraging of corporate resources from the large federal grants awarded to universities. This adds another dimension to the state's economic losses stemming from the new business model. In general, new corporate research facilities are now being located outside of New Jersey.

Disturbing Trends in Financial Activities

One of the remarkable events of the 1990s was the emergence of Trans-Hudson Manhattan—the rise of a national financial center on the Hudson County waterfront. But now there is some concern about whether this growth engine is stalling. The strong overall growth in financial activities masks divergent underlying trends in its subsectors (table 7). In the 1990s, lower-paying traditional banking jobs were sharply declining, while higher-paying "Wall

⁷ The NAICS subsector that encompasses traditional banking is "depository credit intermediation." "Securities and commodity contracts intermediation and brokerage" encompasses "Wall Street-type" employment.

Street-type” jobs were sharply increasing.⁷ In the 2000s, just the reverse has been happening. Thus, the previously discussed shift from high pay to low pay is also now evident in the financial sector.

□ *Between 1990 and 2000, while total financial activities employment in New Jersey increased by 32,600 jobs (13.9 percent), traditional banking jobs declined by nearly one-third (-31.3 percent, or -19,800 jobs). The average annual pay of these jobs was \$49,477.⁸*

While these lower-paying financial jobs were shrinking in number during the 1990s, higher-paying ones were soaring.

□ *Employment in “Wall Street-type” financial activities grew by 202.9 percent (28,400 jobs) between 1990 and 2000! This was nearly 15 times the rate of increase of total financial activities employment.*

□ *Most significantly, the average annual pay in this subsector was an extraordinary \$131,422 compared with \$49,477 in traditional banking.*

Thus, the movement of Wall Street activities to the western shore of the Hudson River proved to be a strong income stimulus for the New Jersey economy, and it made the state a significant player on the national financial scene. However, this trend stalled and then reversed in the post-2000 years.

□ *Between 2000 and 2005, total financial activities jobs grew by a respectable 5.0 percent. However, “Wall Street-type” employment declined by 8.3 percent, exacerbated by a “bear market” during 2001–2002, while traditional banking jobs grew by 14.5 percent.*

Thus, the highest-paying financial jobs have been in retreat in the post-2000 period, while their lower-paying counterparts have experienced a rapid rate of increase. Is this the start of long-term erosion of a very recent concentration? With the New York Stock

Exchange’s hegemony threatened by electronic trading, with other global financial centers becoming more powerful as a result of growing competition among financial institutions, and with back-office functions now as easily carried out in low-cost Asia as in Jersey City, the state’s recently gained role as a significant national financial center may well be in jeopardy.

The real estate sector (\$47,621) of financial activities has expanded in tandem with traditional banking in the 2000–2005 period (table 7). Growth in both of these sectors was driven by the state’s housing and consumption booms of the past five years. This reflects the enormous role that housing and consumption have played during this period not only in financial activities but also as an economic engine for the state and nation. This “dependency” could prove to be problematic if the current housing slowdown accelerates.

New Jersey: Corporations for Sale

In addition, there appears to be another problem layer, one defined by the acquisition of what were once New Jersey’s major economic institutions by out-of-state entities. The resulting loss of headquarters functions renders New Jersey a submarket rather than a prime market focus. The state’s utility and banking functions serve as case examples.

Over the past decade, most of the state’s large public utilities have been acquired by out-of-state corporations, with the attendant diminution of centralized management employment in New Jersey. Exelon, headquartered in Chicago, Illinois, is proceeding with the acquisition of PSEG, the state’s largest utility. Earlier, RWE (Germany) acquired E-Town Water, once one of the nation’s largest investor-owned utilities. Similarly, First Energy (Akron, Ohio) acquired GPU/JCP&L, Conectiv (Wilmington, Delaware) acquired Atlantic City Electric, and AGL Resources (Atlanta, Georgia), the largest distributor of natural gas on the East Coast, acquired NUI

⁸ While the average annual 2004 pay (\$49,477) in this subsector is actually above the all-industry average (\$48,042) in New Jersey, it is significantly below the average annual pay (\$74,789) for all financial activities employment.

TABLE 7: New Jersey Nonfarm Payroll Employment Change and Average Annual Pay: Selected Financial Activities, 1990–2000 versus 2000–2005

	1990	2000	Change: 1990–2000		2004 Average Annual Pay
			Number	Percent	
Financial Activities	234,200	266,800	32,600	13.9%	\$74,789
Depository Credit Intermediation ^a	63,200	43,400	-19,800	-31.3	\$49,477
Security and Commodity Contracts, Intermediation and Brokerage ^b	14,000	42,400	28,400	202.9	\$131,422
Real Estate and Rental and Leasing	49,500	52,400	2,900	5.9	\$47,621
	2000	2005	Change: 2000–2005		2004 Average Annual Pay
			Number	Percent	
Financial Activities	266,800	280,200	13,400	5.0%	\$74,789
Depository Credit Intermediation ^a	43,400	49,700	6,300	14.5	\$49,477
Security and Commodity Contracts, Intermediation and Brokerage ^b	42,400	38,900	-3,500	-8.3	\$131,422
Real Estate and Rental and Leasing	52,400	58,900	6,500	12.4	\$47,621
<p><i>Notes:</i> Numbers will not sum to total. ^aTraditional banking-type jobs ^b"Wall Street"-type jobs</p> <p><i>Sources:</i> New Jersey Department of Labor; U.S. Bureau of Labor Statistics.</p>					

(Elizabethtown Gas). Now, we do not advocate protectionism, because these mergers may be very beneficial from a national economic efficiency perspective. But it is worth observing that other (not New Jersey) utilities are doing the acquiring; rather, New Jersey utilities are the acquired, with the state consequently losing headquarters and other jobs, not gaining them. Executive authority therefore resides outside the state's boundaries. Instead of being the primary market focus, the state has been reduced to submarket status.

The same is true in banking. Until 1969, New Jersey's particularly archaic laws restricted banks from branching outside of the county (no less!) of their main office. This fostered the proliferation of many

small banks but inhibited the emergence of large, statewide institutions. New Jersey was thus constrained from achieving the growth enjoyed by large banks in other states. Whereas New Jersey's major banks were once mainstays of the state's cities and communities, this is no longer the case.

When New Jersey allowed reciprocal interstate banking starting in 1988, powerful out-of-state institutions gobbled up our major state players. Again, New Jersey businesses were the acquired, not only because of the state's high incomes, powerful consumer markets, and high population densities, but because we were again ripe for the picking. The major headquarters jobs of the largest banking institutions in New Jersey are now in Charlotte, North Carolina, where Wachovia and

Bank of America reside. We are not only the Garden State, we have become the “branch bank state.”

Government Employment Dependencies

During the 1990s, expansion of government employment in New Jersey was highly disciplined. Job gains were concentrated predominantly in the private sector. This pattern was completely reversed in the post-2000 period, with public-sector employment soaring and private-sector employment contracting.

□ *Government employment in New Jersey grew by 2.1 percent between 1990 and 2000, far below the 12.9 percent increase nationwide (table 8). But the rate of increase in government employment between 2000 and 2005 in New Jersey (9.0 percent) was nearly double that (4.9 percent) of the nation as a whole. This is a complete reversal of the pattern of the 1990–2000 period, when government employment nationwide grew more than six times faster than in New Jersey.*

Thus, in the current decade, employment growth in the state has become heavily dependent on taxpayer-supported jobs.

The Policy Imperative

The relative and, in some cases, absolute slippage of the New Jersey economy has only recently become apparent. The erosion in the high-technology sector was initially obscured by the unprecedented national surge in information technology capital investment of the second half of the 1990s and the accompanying stock market bubble, then by the sheer momentum of the state’s relative affluence. In addition, record-low

interest rates and massive federal deficit spending sustained consumption and led to a national housing boom (and possible bubble), with New Jersey one of its epicenters. It is now becoming clear, however, that New Jersey’s once preeminent technology-based economic position is at serious risk.

Because of New Jersey’s high relative income and wealth advantage, the state can live off of its historic assets, even while they are eroding, with only minimal current near-term economic consequences. Thus, it may be tempting to give lip service to future economic imperatives while continuing to concentrate on more immediate short-term issues, problems, and demands. But at some point, without positive public policy responses, the slippage may not be reversible. The longer that this slide is unchecked, the less the probability that the course can be reversed.

The Economic Goal: Externally Supported Industries

What will ensure the long-term prosperity of New Jersey? Can the state do anything to reinvent its economy a third time in order to replicate the sustained, better-than-national economic performance of the past? It was New Jersey’s unique ability to outperform the national economy that conferred its current high income and high wealth status on the state.

In an ever more competitive global economy there are no guarantees that this status will continue. The fundamental questions are: Do public decision makers and the broader population of the state understand that New Jersey has likely entered a new era of below-average economic growth? Does it matter to them, and if so, what can be done about it? While a number of effective business incentive programs exist, and several state agencies are dedicated to economic development, state policy has not given high priority to, or major, sustained investments for, growing the economy.⁹ Instead, policy debates focus on such issues as property tax reform, ethics and pay-to-play, K–12 educational equity, and the inevitable myriad special interests that compete for support during each state budget

⁹ The New Jersey Economic Development Authority, the New Jersey Commission on Science and Technology, the New Jersey Commerce, Economic Growth, and Tourism Commission, the New Jersey Treasury, and the New Jersey Department of Labor and Workforce Development have significant portfolios of programs, incentives, and policies to encourage economic development.

**TABLE 8: Government Employment Change,
New Jersey versus the United States:
1990–2000 and 2000–2005**

	1990–2000		2000–2005	
	NJ	U.S.	NJ	U.S.
Total Government	2.1%	12.9%	9.0%	4.9%
Federal	-15.5	-10.4	-9.8	-4.9
State	3.4	11.2	11.2	4.9
Local	5.5	20.4	11.5	7.0
Education	15.8	23.6	13.7	7.8

Source: New Jersey Department of Labor and Workforce Development; U.S. Bureau of Labor Statistics.

cycle. More than 40 percent of the state budget is sent back to school districts and to municipal and county governments in the form of various state aid programs.

Essentially, the choice is whether New Jersey can continue to be production oriented with significant, externally supported industries (businesses that produce goods, services, and/or knowledge and innovations) that leverage out-of-state and out-of-nation resources into the state's economy. It is such externally generated resources that increase economic well-being and the quality of life within New Jersey. Or, will New Jersey continue, as it has over the last five years, to move toward a consumer-based economy? In such an economy, locally serving industries (e.g., retail trade, housing, leisure and recreation, transportation and warehousing, direct health care) are supported primarily from in-state income, thus limiting New Jersey's growth potential.¹⁰ With such locally serving industries acting as engines of the economy, rather than externally supported industries, New Jersey's economic performance will lag that of the nation, and its relative economic advantages are likely to continue to erode.

One effective way New Jersey can avoid this outcome is to focus on those externally supported indus-

tries that can significantly increase income and build wealth. That is, the state's goal must be on creating, growing, and sustaining the high-value-added, high-productivity businesses that generate external revenues. New Jersey cannot compete by producing less-sophisticated goods or services for export to out-of-state buyers. The state's high relative costs of doing business and the proliferation of production capacity

in these low-end industries throughout the world make competition for these industries futile for New Jersey. Moreover, the global proliferation of capacity in the high-end industries of the present is a major cause of the current erosion of New Jersey's former economic advantages. Obviously, the state needs to create and sustain an economic and entrepreneurial environment conducive to the growth of new, high-knowledge-content, high-value-added businesses.

Conclusion

The purpose of this report is to identify an emerging and serious challenge confronting the New Jersey economy. However, this task is complicated because the overall prosperity of the state and the sheer scale of its income and wealth levels have masked the risks to the state created by a profoundly changing world economy. This prosperity, perhaps understandably, also lulls public policymakers into expecting that the economic successes of the state's past will somehow replicate themselves and ensure a large and increasing flow of tax revenues. Thus, a second purpose of the report is to build a consensus

¹⁰ It is certainly possible that externally supported industries outside of science and technology can also draw significant resources into New Jersey. Tourism and recreation are examples of such industries, and a number of states use these to generate economic growth. In New Jersey, the casino industry is estimated to generate about half of its revenues from out-of-state customers. New Jersey's shore tourism industry also attracts significant external resources and is able to retain large amounts of New Jersey tourist dollars within the state. However, these industries are all characterized by below-average wages.

that the model for past success is not guaranteed and that policy action is needed, and needed now, to ensure that New Jersey's economic future remains strong and viable. Without a growing and vibrant private sector, all the noble goals of the public sector, in their many manifestations, will remain elusive.

Although specific policy recommendations are beyond the scope of this report, two overarching elements of a policy framework are vital to achieving future economic success.¹¹ First, the state's highest leadership can signal that economic growth is a top priority of New Jersey and give this goal muscle by bringing together all the state's dispersed economic development functions directly under the aegis of the Governor. On a positive note, and most importantly, the Corzine administration has done exactly this. This step is the catalyst and the prerequisite for regaining the confidence of corporate America to invest and expand in New Jersey, a trust that slipped badly in the post-2000 period.

Second, for a long time, a significant (and rising) share of the state budget has been used to redistribute income. Too little attention and too few resources were consistently dedicated to growing income. Rather, public-consumption expenditures trumped expenditures on long-term public investments that would support the economy of the future. New Jersey needs to rebalance the use of public resources and make strategic investments in its economic infrastructure as well as develop an effective multimodal global transportation system. It also must make investments to enhance the research capacity of its higher education institutions. The State should provide the entrepreneurial environment and business climate specifically to support the growth of science and technology industries—and all businesses, in general. Encouragingly, the New Jersey Commission on Science and Technology has recently developed a comprehensive portfolio of policies that foster high-technology eco-

nomics development and build partnerships for academic and business collaborations in strategic areas.

Success for New Jersey in the competitive environment of the twenty-first century also requires a thorough examination of the business cost structures of the state and of appropriate changes to promote investment, risk taking, and job creation. Obstacles and disincentives to economic growth should be eliminated even if that entails negative short-run tax revenue consequences. In addition, support of early-stage emerging businesses in all the many dimensions necessary to advance a promising idea to successful commercial fruition—venture capital, incubator space, and myriad types of technical assistance—should be enhanced. Again, encouragingly, the New Jersey Economic Development Authority is well under way in providing such comprehensive support over the life cycle of business growth.

The economic dynamism and the ever more intense competition of the twenty-first century portend an emerging paradigm shift: No state (or nation) can rely on past success to continue to deliver sustained high levels of future economic growth. Jobs, investment, and public resources will all flow to the most efficient, most innovative, and the most strategically savvy businesses, states, and countries. New Jersey has a legacy of highly successful economic development that supported high levels of employment and income. Much of that success was the result of efficient and innovation-based export-led industries—first, in manufacturing in the first 70 years of the twentieth century, and more recently in advanced knowledge-based services and in science and technology over the last several decades. However, disturbing but clear evidence is mounting that the state's competitive position in these sectors has eroded. New Jersey needs to pay sustained attention to its economic development policies and its business environment to recapture its former comparative advantages. No less than the future economic well-being of the state is at stake. ■

¹¹ For a more detailed presentation of the central focus of this report and policy recommendations, see James W. Hughes and Joseph J. Seneca, "An Economy at Risk: The Imperatives for a Science and Technology Policy for New Jersey." Report of the New Jersey Commission on Science and Technology, November 2005. Available at www.policy.rutgers.edu.

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