It's hard to argue with success. The Old Dominion has one of the best "economic development" track records of any of the 50 states. Virginia consistently recruits more than its share of out-of-state corporate investment, and it consistently scores among the top states in the United States to do business. Indeed, Forbes.com has ranked the state as the very best place two years running.

With kudos like that, it would be easy to get complacent. But the Virginia Economic Development Partnership, the state's lead economic development organization, is continually refining its strategy and honing its competitive edge. For instance, VEDP maintains one of the most sophisticated geographic information systems of any economic development organization in the country. "Data-driven, analytically driven strategies are where the action is," says VEDP Research Director Rob McClintock.

Besides tracking industrial-era assets like Interstate highways, railroad spurs, water lanes and industrial properties, VEDP keeps tabs of broadband connectivity, workforce skill sets and a host of other details. The VEDP both makes the data accessible over the Internet and displays it on a giant interactive screen at its Richmond headquarters to wow prospects. "We have over 300 layers of data," McClintock says. "We're always adding new ones."

Virginia is at the top of the corporate recruitment game, an economic development model I refer to as "Economy 2.0." A strong program to attract outside investment remains an essential piece of any state's or region's efforts to build a stronger economy. But there are limits to what economic developers can accomplish in their traditional roles as facilitators of corporate real estate deals. As economic growth becomes increasingly driven by human capital and knowledge creation, corporate recruitment alone is no longer sufficient to propel Virginia communities any higher in the ranks of the most prosperous and livable places in the United States.

Virginia's metro areas and smaller communities are evolving in fits and starts toward a more advanced economic model -- stimulating the creation of new businesses built around intellectual property -- a paradigm that I call "Economy 3.0." But progress is uneven at best. And there are danger signs on the radar screen: Rising housing costs, soaring energy prices and increasing traffic congestion are undermining the ability of Virginia communities, especially in fast-growth regions, to maintain a high quality of life. That makes it increasingly difficult to lure the high-impact scientists, artists and entrepreneurs who contribute disproportionately to wealth creation. There are few signs that any region in Virginia is moving toward an "Economy 4.0" paradigm that confronts those critical challenges.

As I noted in the first edition of the series, "Peak Performance in a Flat World," Virginia's "Economy 2.0" corporate recruitment strategy delivered great results in the 1970s and early 1980s, then lost steam. The chart I published in that article is so important that I reproduce it here:

<table>
<thead>
<tr>
<th>Year</th>
<th>Per Capita Income (expressed as % of national income)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>93</td>
</tr>
<tr>
<td>1975</td>
<td>97</td>
</tr>
<tr>
<td>1980</td>
<td>100</td>
</tr>
<tr>
<td>1985</td>
<td>104</td>
</tr>
<tr>
<td>1990</td>
<td>105</td>
</tr>
<tr>
<td>1995</td>
<td>104</td>
</tr>
<tr>
<td>2000</td>
<td>104</td>
</tr>
<tr>
<td>2005</td>
<td>109</td>
</tr>
</tbody>
</table>

In the current decade, Virginia appears to have broken out of the doldrums. Income growth has made strong gains compared to national averages. A critical question, however, is whether Virginia's gains are attributable mainly to the national response to 9/11 -- dumping a monsoon of federal funds onto Northern Virginia's and Hampton Roads' defense/homeland security sector -- or to a deeper improvement in economic competitiveness.

As the table on the next page clearly shows, the greatest income gains were concentrated in Hampton Roads and, secondarily, the Washington metro
area, which includes Northern Virginia. Much of that improvement, we can infer, resulted from federal largesse.

But Danville and Blacksburg/Christiansburg showed comparable improvement during the same period, reflecting the long-term, bipartisan commitment of Virginia’s political leadership to turn around the fortunes of Virginia’s ailing mill-town economies. Indeed, nearly every Virginia MSA showed at least modest improvement compared to national averages. Economic progress, then, has not been confined to just one or two corners of the state.

Whether Virginia can sustain the remarkable gains of the past seven years, however, is questionable. Not only are Northern Virginia and Hampton Roads municipalities choking on growth, the political tide that made possible the post-9/11 surge is receding. While Republicans in Congress and the White House were happy to concentrate federal IT spending in the Washington region, Democrats may well take a different approach.

"The state needs to prepare for the exodus of [government] services contracts when the Democrats take power," cautions Pete Jobse, CEO of the Center for Innovative Technology. "The Democrats tend to look at government expenditures and funding and look for ways to spread it around the country. If the Department of Education needs a consolidated data center, it doesn’t necessarily have to be here [in Virginia]. Someone in Congress may say, ‘I want this in New Orleans or West Virginia.’"

When I started researching this segment of “Economy 4.0," I started with the supposition that the old corporate-recruitment strategy had largely run its course. I anticipated that two trends -- the hyper-productivity of the manufacturing sector and the out-sourcing of entire industries to China, India and other fast-developing countries -- had cut deeply into the number of economic development projects that Virginia could successfully compete for. Happily, I found out that I was wrong. (I may have to go back and revise some of my statements I wrote earlier in this series!) There still may be some life left in the old economic recruitment model.

The green chart on the following page shows the continued success of Virginia’s corporate recruitment efforts through the mid-2000s. The level of capital investment for projects notable enough to warrant VEDP press releases in 2004 and 2005 even kept pace with the go-go years of the Internet bubble. (A different, more all-encompassing database shows substantially the same trend.)

The past two years may pose a cause for concern, however: Corporate investment has declined to the level of the 2001 recession even while the economy, though battered by the housing crunch, is still growing. Whether this represents a temporary dip or a more fundamental shift in capital investment flows into the state is a matter that bears watching.

Another trend visible in the VEDP data is worth noting: While corporate investment has held up, job creation has declined sharply this decade. Traditional economic development strategies aren’t delivering the job growth they once did.
"It's the classic substitution of capital for labor," comments McClintock. By investing more capital, corporations need less labor. While fewer jobs are created, the new jobs pay better. Says McClintock: "There are fewer jobs, but they require more brainpower."

In a state with one of the lowest unemployment rates in the country, that trend actually is positive. With major metropolitan areas experiencing labor shortages, there are only small geographic pockets where the workforce is underutilized. As I argued in the second edition of this series, "A Bug in the Ointment," creating jobs for the sake of jobs is senseless, especially in places where they can be filled only by importing outside workers and straining roads and services already buckling under the weight of growth.

Fewer new jobs, higher incomes -- that is absolutely a step in the right direction.

<table>
<thead>
<tr>
<th>Year</th>
<th>Investment</th>
<th>Jobs</th>
<th>Incentives</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007*</td>
<td>$1,099,426,667</td>
<td>3,613</td>
<td>$38,366,667</td>
</tr>
<tr>
<td>2006</td>
<td>874,860,000</td>
<td>5,849</td>
<td>47,062,500</td>
</tr>
<tr>
<td>2005</td>
<td>2,653,850,000</td>
<td>12,964</td>
<td>41,827,000</td>
</tr>
<tr>
<td>2004</td>
<td>2,508,375,000</td>
<td>16,544</td>
<td>29,395,000</td>
</tr>
<tr>
<td>2003</td>
<td>1,613,460,000</td>
<td>10,522</td>
<td>17,007,500</td>
</tr>
<tr>
<td>2002</td>
<td>947,600,000</td>
<td>7,491</td>
<td>16,015,000</td>
</tr>
<tr>
<td>2001</td>
<td>1,441,010,000</td>
<td>5,417</td>
<td>30,269,000</td>
</tr>
<tr>
<td>2000</td>
<td>2,349,350,000</td>
<td>21,627</td>
<td>22,861,000</td>
</tr>
<tr>
<td>1999</td>
<td>2,427,080,000</td>
<td>24,544</td>
<td>14,107,000</td>
</tr>
<tr>
<td>1998</td>
<td>923,200,000</td>
<td>19,690</td>
<td>9,750,000</td>
</tr>
<tr>
<td>1997</td>
<td>1,130,650,000</td>
<td>10,590</td>
<td>7,380,000</td>
</tr>
</tbody>
</table>

* 2007 figures are annualized from nine months of data.

Source: Virginia Economic Development Partnership press releases. This is a compilation of the most significant economic development deals in Virginia, nearly all of which the VEDP was involved in. To see a complete list of the announced deals, along with key data, click here.

As encouraging as the VEDP numbers are, they leave a lot of money on the table. Investment by large, established corporations represents only a fraction of the total capital spending in the economy. Over the 10 years tracked in the chart below, traditional economic development deals accounted for only 10 percent of the total capital investment in Virginia's economy.

Admittedly, the 10 percent figure understates the impact of the economic development deals. First of all -- I think I am correct in stating this -- the "total investment" number covers a lot of replacement spending for depreciated buildings, equipment and software. Secondly, economic development deals generate a significant multiplier effect in the retail and service economies, creating a
cascade of follow-up investment in the region.

Still, there is a whole world of economic activity -- the start-up and growth of new businesses -- that the VEDP figures fail to capture. The Census Bureau publishes a census that tracks the churning, flailing netherworld of business start-ups. A healthy economy creates far more new businesses than it loses each year. A truly dynamic economy provides the means for a fraction of those new businesses to mature into the fast-growth, wealth-creating companies that MIT economist David Burch refers to as "gazelles."

Judging by a one-year snapshot of 2003-2004, Virginia excels at new business creation. The ability to generate new enterprises is not limited just to Northern Virginia, it applies across the board. In the chart below, I rank the top states by the rate at which they created new businesses, splicing in comparable numbers for Virginia's Metropolitan Statistical Areas (highlighted in pale yellow).

It's important not to generalize on the basis of one year's figures. Still, the table demonstrates that a lot of activity is occurring at a level where economic developers cannot perceive or influence it.

What we don't know about these businesses is this: What is the number designing lasers or cancer-fighting drugs vs. the number repairing dented auto bodies or hauling freight? In tech-savvy Northern Virginia, what is the number creating wealth-generating intellectual property vs. the number deploying technology developed elsewhere?

Where Virginia appears to fall far short of the leading technology states is in identifying promising companies with wealth-creating potential and supplying them with the funding, managerial talent and business connections to transform them into gazelles. Among the nation's leading technology centers, the "D.C. metroplex" is a venture capital laggard -- but at least it registers on the national radar screen. MoneyTree doesn't even bother to break out early stage financing in downstate Virginia; it just lumps the Rest of Virginia with the D.C. metroplex, which includes Washington, D.C., and Maryland. The table on the following page shows the venture financing numbers for the 2Q of 2007 as compiled by Pricewaterhousecoopers MoneyTree.

The D.C. area lags Silicon Valley, Boston, San Diego, Los Angeles and New York metro areas by wide margins. Adding insult to the Old Domin-
ion's injury, businesses north of the Potomac snagged the lion's share of the Metroplex dollars: Virginia enterprises raised only $127 million of the region's $272 million in venture capital in the second quarter of 2007.

To the best of my knowledge, no one systematically collects data illuminating the entrepreneurial, knowledge-based characteristics of Virginia's economy -- no one in Virginia, that is. As happens, the Massachusetts technology Collaborative does collect the data[1]. That's because the business and academic community in the Bay State is serious about preserving its competitive leadership in technology innovation.

The MTC includes Virginia in its list of 10 peer LTCs (leading technology states) along with Massachusetts, California, New York, Minnesota, Illinois, Pennsylvania, New Jersey, North Carolina and Connecticut. In its 10th Index of the Massachusetts Economy, MTC tracks the performance of six technology-intensive industry clusters, patents issued, sponsored university research, R&D as a percentage of gross state product, business formation, venture capital investment, SBIR awards, and the size and skills of state workforces.

The MTC study reveals some remarkable factoids about Virginia's economic competitiveness in the knowledge economy that most Virginians don't know. For instance:

- Of the 10 leading technology states, Virginia had the highest percent (14 percent) in 2005 of high school seniors planning to pursue computer, engineering or information science in college.
- Almost across the board, Virginia showed the fastest employment growth rate in key technology clusters.
- Virginia has the most business incubators per 10,000 business establishments. On the other hand...
- International exports in Virginia accounted for the lowest percentage of the gross state product (3.89 percent) of any of the 10 states. The growth rate in exports between 2002 and 2005 was the lowest as well.

As the old saying says, "Know thyself." Apparently, Virginia is wandering around clueless. Policy makers don't track the metrics of the state's entrepreneurial, knowledge-based economy. If they don't have a clear idea of what's happening, how can they formulate a coherent Economy 3.0 strategy, much less a 4.0 strategy?

It's not as if Virginia's economic developers aren't paying attention. They are acutely aware that Virginia cannot take its prosperity for granted, and they know full well that the rules of economic development are changing. Conversant with the latest theories, they can rap about industry cluster analysis and reel off their latest "creative class" initiatives.

In my home town of Richmond, for instance, the Greater Richmond Partnership has supported the Creative Change Center, a networking and support center for Richmond's creative class, and underwritten publication of "WORK" magazine, which highlights business and artistic creativity in the region. Similarly, the Fairfax County Economic Development Authority has expanded its mandate from recruiting corporations to helping corporations recruit employees. A survey released last month highlighted a "creativity gap" between the kind of work employees are looking for and the kind of work that employers are willing to provide.

Meanwhile, the VEDP is reaching out and collaborating with a variety of non-traditional players like universities, especially those with research strengths that complement one of the four industry clusters -- advanced manufacturing, services and se-
curity, transportation & logistics, and science & research -- that the state is targeting.

But economic developers can't create the Economy 3.0 economic development model, much less the Economy 4.0 paradigm by themselves. As a profession, economic developers are trained to close corporate real estate deals, not nurture new business enterprises. As organizations, economic development groups are structured to recruit new business, not recruit members of the creative class or help build world-class research institutions. With economic development funding not a state or regional priority, neither the VEDP nor Virginia’s regional groups have the resources to branch out very far beyond their core mission.

What Virginia needs, and has been unable to create, are over-arching regional institutions that coordinate and prioritize activities that take place in separate spheres:

- Recruiting corporate investment, with a special emphasis on industry clusters that align with university research strengths and other knowledge-creating assets.
- Building institutions of knowledge creation, including schools, colleges, universities and research institutes.
- Designing more livable communities -- more affordable housing, more attractive transportation options, lower energy costs, a cleaner environment -- that are attractive to the high-impact scientists, artists and entrepreneurial innovators who contribute disproportionately to economic growth.
- Investing in "hard" infrastructure spending (roads, water, sewer, broadband) and "soft" infrastructure spending (incubators, networking organizations, environmental projects, museums and cultural facilities).
- Commercializing technology, and funding and nurturing new business enterprises.

"The VEDP is all about attracting new entities, generating large-scale job announcements," says CIT’s Jobse. That's an indispensable function, he adds, but it's not sufficient to vault Virginia to economic leadership. Corporate recruitment, he adds, "is a game that every state plays. You have to play that game. But for me, the issue isn’t whom do we attract from Maryland to Virginia? The question is, how do I grow something organically?"

Home-grown businesses create more wealth locally, Jobse argues. Further, home-grown businesses are rooted in the community, embedded in relationships of trust with investors, partners and service providers that make them less likely to skip off to another state -- or to another country. "If you grow a company locally, and it's successful, you have a guarantee it will stay here at least seven to 15 years."

For the most part, Virginia's political and civic leaders treat "economic development" as what it has always been: the pursuit of corporate expansions. Although there is more dialogue than in the past between economic developers, educators, researchers, community planners and angel/venture financiers, the key players in the Economy 4.0 paradigm remain stuck in their silos. Casual conversations at cocktail receptions have yet to translate into much formal collaboration.

Economic developers see the need for change, but they can't do the heavy lifting by themselves. If Virginia is to move to the next level of productivity, innovation and wealth creation, change must come from the broader community.

End Notes

(1). The stated purpose of the MTC is to catalyze the growth of "knowledge- and technology-based industries that comprise the state's Innovation Economy and in promoting the development and use of renewable energy technologies. It is also working with major healthcare organizations to implement e-health solutions that save lives and reduce costs."

(2). The Hampton Roads Partnership comes the closest. It defines itself as "a public-private nonprofit committed to pursuing regional competitiveness for Hampton Roads in a dynamic global economy." Its priorities include:

A – Standard of living.
B – Ability to create, attract and retain jobs.
C – Overall quality of jobs.
D – Ability to attract and retain people.

While the Partnership’s strategic plan does a superb job of articulating integrated "Economy 4.0" priorities, as a practical matter, the big-dollar transportation initiatives backed by the organization benefit primarily the tourism and port/maritime industries, not the knowledge-creating industries of the future.