Top Trends in State Economic Development

Executive Summary
In the past two years, many states seeking to move from economic crisis to recovery have updated their economic development strategies and launched new development initiatives. Those states have generally focused on the building blocks of their economies—entrepreneurs and innovation, workforce, investment climate, support for businesses in expanding their markets, and a stronger connection between universities and the state’s economy. Just as importantly, they have focused on blending those elements together to increase their state’s rate of economic growth and provide their state’s citizens with more and better paying jobs.

Six important trends have emerged as governors have updated economic development strategies and introduced new initiatives in the past two years:

- States are focusing on the relationship between the state and its regions in fostering economic development;
- States are emphasizing job creation from within the state;
- States are strengthening their support for advanced manufacturing;
- States are creating partnerships to meet industry’s demands for talent;
- States are raising expectations for universities to bridge the gap between research and commercialization; and
- States are stepping up business export initiatives.

From the actions many states have been taking to strengthen their economic development, three overarching lessons can be drawn. First, many states have reviewed the evidence and concluded both that companies already doing business in the state are the most likely to create new jobs and that the entrepreneurs leading the fastest growing companies should be a focus of economic development efforts.

Second, as states have learned more about what type of support growing companies need, they are emphasizing policies and programs that have strong industry buy-in and participation. Such programs include industry-designed-and-supported workforce training, new intermediary organizations to ensure access to research and development (R&D) at universities and other institutions, and export assistance tailored to companies’ age, stage, and experience in international markets.

Finally, with the experience gained from practicing cluster-based economic development strategies, states are increasingly assured that they know how to strengthen the nation’s competitive advantage through an embrace of innovation hubs and ecosystems. Cluster-based economic development strategies emphasize focusing services on geographically concentrated firms in related industries that share needs for common talent, technology, and infrastructure. States are now applying lessons learned from more than a decade of practicing cluster-based strategies to new initiatives focused on innovation hubs. An innovation hub brings together the critical ingredients for innovation—smart people, research institutions, entrepreneurial training and mentors, and professional networking—and illustrates the important role that geographic proximity plays in supporting innovation. Industry cluster and innovation hub strategies for state economic development each depend on getting public
and private leaders to work together to develop an ecosystem of statewide proficiencies—smart people, unique research institutions, strong collaborations and other linkages and resources—to help entrepreneurs get through the hurdles they must clear to become high-growth businesses and also to provide strategic advantages for existing small and medium-sized companies competing in the global economy.

**Introduction**

The U.S. economy is currently characterized by rapid shifts in technologies and markets that create new opportunities and threats for individuals, businesses, and entire industries. The rapid pace of economic change has been coupled throughout the recent U.S. recession with prolonged unemployment and rising economic inequality. The unemployment rate in the United States remained above 8 percent for 43 consecutive months between 2009 and 2012—the longest period of time unemployment rates have been at that level since the Great Depression.  

Meanwhile, income inequality in the United States has continued to rise. One recent study found that nearly one-third of Americans who grew up in the middle-class experience downward economic mobility as adults.

The widespread effects of the recent economic crisis and the inauguration of 29 new governors in January 2011 prompted a wave of reforms and experiments in the states. The 29 new governors are now two years into their first term, and many are starting to see an economic recovery take hold in their states. As governors have updated economic development strategies and introduced new initiatives, at least six important trends have emerged:

- **States are focusing on the relationship between the state and its regions in fostering economic development.** States are setting priorities based on an aggregation of regional priorities within the state that are identified through a bottom-up strategic planning process, locating state staff and programs on the ground in regions, and streamlining or aggregating funding for implementing regional plans;

- **States are emphasizing job creation from within the state.** States are increasingly emphasizing policies and programs to provide customized services to startup companies and high-growth companies located within their own borders;

- **States are strengthening their support for advanced manufacturing.** States are attracting and supporting advanced manufacturing by offering more than just financial incentives and finding ways to use the state’s workforce and research assets to support companies within the state. A number of states have created industry advisory councils to guide state policy in these areas;

- **States are creating partnerships to meet industry’s demands for talent.** States are encouraging and forming partnerships among numerous companies and higher education institutions to strengthen industry’s role in shaping workforce training curriculum and in paying for workforce training;

- **States are raising expectations for universities to bridge the gap between research and**

---

commercialization. States are interested in how they can help their universities (and other sources of new technologies) to be more outward looking and to commercialize their research into new patents, products, and companies. They are streamlining access to university and federal lab research and encouraging cross-university efforts and innovation hubs; and

- **States are stepping up business export initiatives.** States are focusing on how they can help companies connect to new markets and customers outside the United States. They are setting goals to increase the fraction of companies that export, finding ways to work with small and medium size companies that have the potential to grow rapidly, and focusing on increasing exports by working with specific clusters.

These six key trends occurring in states over the past two years as they have sought to make their economic development systems more effective in restoring job creation, employment, and income growth are discussed further below in this paper. In most cases, what states have been doing in the past two years builds on trends that began over a decade ago. In addition to discussing recent examples of such trends, this paper identifies examples that emerged earlier and are often looked to as models. Reports by the National Governors Association (NGA) that provide greater detail about these trends are cited throughout this paper.

**Focusing on the Relationship Between the State and its Regions**

Economic development organizations and systems in the United States vary among states. Each state uses a different model and approach to economic development. One challenge that most state economic development systems share, however, is coordinating functions managed through dozens of separate state, regional, and local agencies. Those agencies often operate in a uncoordinated manner, which can diminish the effectiveness of state economic development efforts.

But over the last several years, governors and other stakeholders have made improving the alignment of their state and regional economic development strategies and operations a top priority. At least six states have enacted legislation or embraced plans to focus on regions within the state, which often include establishing regional councils and distributing funding to existing regional organizations.

Among the actions states have taken are:

- **Creating regionally focused state economic development strategies.** Colorado, New York, and Tennessee have each recently completed regional plans that have been rolled up into a statewide economic development strategy. In 2011, **Colorado** released the *Colorado Blueprint: A Bottom-up Approach to Economic Development*—a state economic development plan that was created through a regional, “bottom-up approach” by reaching out to citizens across the state to provide their input into shaping Colorado’s economy. The state has created regional partnerships and key industry councils to implement the economic development plan—using the state-wide plan provide a common framework around which to develop or enhance its region-specific or industry-specific economic development strategy. The regional councils include partners from the private and public sectors and will focus their efforts on strategic industry clusters. The industry councils include a similar diversity of partners across the state and focus their efforts on the cross-cutting issues affecting industry clusters in various regions of the state. All activities are complimentary and connected through six core objectives identified through the Colorado Blueprint bottom-up process.
• **Locating state staff and programs “on the ground” in regions.** Tennessee’s Jobs4TN plan was released in 2011 and focuses on creating high-quality jobs through a regional approach to economic development. One of the elements of the plan is the Jobs4TN Regional Accelerators program, which awarded a $250,000 competitive grant to entrepreneurial accelerators in each of the state’s nine economic development regions. The state has competitively selected nine business accelerators to serve as the “front doors for entrepreneurs” in each of the state’s nine economic development regions. The nine regional accelerators will also play a key role in Launch Tennessee, the state’s five-year strategic plan to make Tennessee a national leader in innovation and entrepreneurship.

• **Streamlining and aggregating funding for regional plans.** In 2011, New York established 10 regional public-private partnerships (regional development councils) composed of stakeholders from business, academia, local government, and nongovernmental organizations. The regional development councils were tasked with developing strategic plans that emphasize each region’s strengths and unique assets. New York then consolidated the application process for regional economic development grants. The new Consolidated Funding Application (CFA) is a single application that provides access to grant funding and tax credits from multiple state funding sources. In 2011, regional economic development councils completed one application, based on their regional strategy, to access those multiple funding sources. The four winning councils were announced in December 2011 and are receiving $40 million each to support their plans, with the other six councils splitting the remaining $40 million. An additional $800 million in tax incentives and existing grants was also distributed to support strategies in all 10 regions.

Today the regional development councils continue to be the main focus in New York’s economic development strategy. New York’s fiscal year 2014 budget funds the launch of 10 regional Innovation Hot Spots, which are charged with designating or creating a high-tech incubator that is affiliated with a local university. Moreover, the councils continue to compete for annual funding to implement projects identified as priorities in their regions. Second and third rounds of funding for the councils were announced in 2012 and 2013. Combined, these two rounds of funding make $300 million in capital funds and $140 million in tax credits available.4

New York has made additional targeted investments in specific regions through the regional councils. In 2012, Governor Andrew Cuomo committed $1 billion over 10 years to revitalizing the Buffalo area economy. When he made the funding commitment, the governor charged one of the 10 regional councils, the Western New York Regional Economic Development Council (WYRNEDC), to develop a strategy for deploying the funding. The WNYREDC’s finalized plan recommends six initiatives, including a center for manufacturing innovation, an accelerator to bring health care innovations to market, and a business plan competition to catalyze entrepreneurship.5

---

Emphasizing Job Creation Within the State

Traditionally, state economic development agencies have focused on attracting investments by larger firms and often competed with one another in offering incentive packages for such investments. Many state agencies and leaders still see attracting companies from beyond their state’s border to be the top priority, even though only 2 percent of annual job gains across states can be attributed to business relocations.6

Recently, however, as studies have shown that the majority of job creation in any given year comes from very small firms (those with fewer than 20 employees) and newly formed firms (established within the past five years), some states are shifting some of their attention to focus on startup and continual growth companies within their own borders.7

As states realize that growth comes from companies within their own state, they are focusing on both how to create more startup companies in their states and how to find already-existing companies in the state that have the potential to get back on a growth path. Over the past two years, almost 20 states have introduced legislation or started programs focused on boosting the number of startup companies in their state. Expanding entrepreneurial activity is not just about generating new companies, though—it’s making sure the companies in a state have the support and targeted policies they need to continue to grow and add jobs to the economy. At least seven states have recently developed strategies or introduced policies related to assisting companies with high growth potential.

Among the actions states have taken are:

- Moving toward a balance between attracting companies and focusing more on companies within the state. Michigan, for example, is replacing an incentive-based way of promoting economic development with a restructured, tactical toolkit that includes resources for new business creation, business acceleration, and meeting the needs of companies that are already located in the state.8

One key program will leverage company-to-company connections to provide local businesses with the resources and support they need to grow. Pure Michigan Business Connect is a more than $8 billion, multiyear initiative to help Michigan-based companies grow. The program helps companies find new ways to raise capital, get access to various business services, and connect with each other for business-to-business procurement opportunities. Initial program partners include state agencies, banks, public utilities, a technology business association, and economic development partners such as local chambers of commerce.

Hawaii recently created the Hawaii Growth Initiative, a set of policies aimed at developing an ecosystem to support high-growth entrepreneurial companies in the state. The initiative, funded with $6 million, will focus on three main areas: mentoring, collaborating, and funding opportunities for entrepreneurs to establish and grow their businesses; leading partnerships between public and private organizations to build research and commercialization activities; and networking Hawaii’s businesses into broader U.S. and international sources of investment.9

---

Emphasizing startups and potential high-growth companies and providing them with customized services. States have quickly introduced policies and programs to boost the number of startup companies in the state. As Michigan moves towards supporting growth from companies within the state, part of the state’s focus has been on startup companies. In fiscal year 2013, Michigan invested $12 million in entrepreneurship support services. The funding supports both business accelerators (organizations that help new, typically venture-backed companies grow and enter national and international markets) and other organizations that enhance the entrepreneurial ecosystem or promote the availability and quality of entrepreneurial talent in Michigan. To apply for funding from the business accelerator services fund, an organization must demonstrate that it is partnering with at least five SmartZones (regional networks) or local economic development organizations. Michigan lawmakers recently approved a $3.5 million increase to the Michigan Economic Development Corporation’s innovation and entrepreneurship programs for fiscal year 2014.

An increased focus on startup companies has encouraged some states to think about how to ensure that companies continue to grow once they have passed through the startup phase. There are a number of challenges that states face when developing policies that encourage existing companies to reenter a growth stage. One challenge is simply finding the companies that have the desire and potential to grow. Another challenge is determining which services companies need to continuously grow or reenter a growth stage.

States like Nebraska and Tennessee have started to focus on finding and providing services to companies with high growth potential. Nebraska is partnering with Gallup to use the firm’s Entrepreneur Acceleration System (EAS) to identify small to medium-sized businesses (SMEs) with high growth potential. The program begins by identifying the entrepreneurial ability of the individual who heads the firm, since Gallup research indicates that certain individuals have characteristics that increase the probability of extraordinary success in the role. Business leaders are then connected to a mentoring program that hones their entrepreneurial ability, leading to business growth and ultimately job creation.

In Tennessee, the nine regional entrepreneurship accelerators mentioned above were based on a regional best practice, the Nashville Entrepreneur Center. The Nashville center has resources to help any entrepreneur, but it targets its incubator services, mentors, and connections to sources of capital at companies that have the most potential to grow quickly and add jobs to the economy. The Nashville center has several steps in place to identify these companies. First, the center screens new business concepts and divides them into three categories: concept or early entrepreneurs, budding entrepreneurs, and high-value entrepreneurs. The center’s team spends the majority (55 percent to 65 percent) of its time with the high-value group of entrepreneurs. Second, the center focuses on providing support to entrepreneurs who want to start a business in one of four key sectors: health care, digital media and entertainment, technology, and social enterprise. As each of those sectors is either an established or emerging industry cluster in Nashville, there is an existing ecosystem of established companies, mentors, and funding available to help startup companies along their path to becoming a high-growth company.

For other examples of how states are targeting startup and high-growth companies with customized services, see NGA’s report Growing State Economies: Twelve Actions.
Strengthening Support for Advanced Manufacturing

With an increased understanding of the role that manufacturing plays in generating high-paying jobs, creating spillovers in other sectors, and contributing to research and development (R&D), leaders at the national level have increasingly turned their attention to the manufacturing sector, in particular, the advanced manufacturing sector.

State leaders are also taking a new look at the manufacturing sector. In 2012, 18 governors emphasized manufacturing in their state of the state address. Moreover, manufacturing remained an important theme in governors’ 2013 state of the state addresses, with 20 governors emphasizing the importance of the sector.

Eight states—including California, Colorado, Connecticut, Illinois, Kansas, Massachusetts, New York, and Pennsylvania—have recently developed manufacturing strategies as part of the NGA Policy Academy on Encouraging Growth Opportunities in Manufacturing through Innovation, Entrepreneurship, and Investment. In addition to those eight states, a number of other states, including Delaware, West Virginia, and Wyoming, have introduced legislation specifically related to manufacturing in the past two years.

Among the actions states have taken are:

- **Creating industry advisory councils to guide state policy related to manufacturing.** Massachusetts and Colorado have recently launched public-private partnerships that are intended to strengthen their states’ manufacturing sectors. The partnerships focus on the needs of small and medium-sized companies, including workforce development, access to R&D, increased business-to-business activities within the state, and export promotion. The **Massachusetts** Advanced Manufacturing Collaborative has helped academic, industry, and government leaders identify priorities and mobilize resources for advanced or high-tech manufacturing. The Massachusetts collaborative has developed an action agenda for five areas important to advanced manufacturers in the state, including workforce and education, technical assistance and innovation, access to capital, cost of doing business, and promoting manufacturing. Massachusetts Governor Deval Patrick signed an economic development bill in 2012 to make the collaborative an independent, statutory organization and to provide $1 million in an Advanced Manufacturing Futures Fund for initiatives across the five high-priority areas. The economic development bill also specified that the Advanced Manufacturing Futures Fund will receive future revenues as outlined in the Expanded Gaming Act.

In 2012, **Colorado** launched the Colorado Advanced Manufacturing Alliance, a partnership that includes the leaders of diverse manufacturing companies and decision-makers from state agencies and statewide associations. A core goal of the Colorado alliance is to connect manufacturing companies in the state with universities, state agencies, and existing local manufacturing efforts and expertise. Partly based on recommendations of the alliance, Colorado Governor John Hickenlooper introduced an Advanced Industries Accelerator Act in 2013 to provide support for advanced manufacturing and other advanced industries. The resulting bill, which passed in May 2013, promotes technology commercialization, entrepreneurship and manufacturing in the advanced industries through

proof-of-concept grants, early-stage capital and retention grants, and infrastructure grants.\textsuperscript{11}

- Working to connect manufacturers to talent; R&D at universities, federal labs, or other “centers of excellence”; and new models of customized assistance for small and medium-size companies. States are viewing attracting and supporting manufacturing holistically, offering more than just financial incentives and finding ways to use the state’s workforce and research assets to support companies in the state.

In the area of workforce policies, states are encouraging stronger partnerships between industry and workforce organizations, such as community colleges. West Virginia Governor Earl Ray Tomblin recently announced a joint manufacturing and community college program that offers students a paid work opportunity and will lead to a two-year associate degree.\textsuperscript{12} Toyota Motor Manufacturing West Virginia and Bridgemont Community and Technical College teamed up to offer the program to 20 students in the initial year. It combines a rigorous curriculum, instruction in business principles, and hands-on work experience in manufacturing. Students will attend classes two days a week and work three days a week at Toyota’s manufacturing facility.

In the area of R&D, Illinois Governor Pat Quinn announced the creation of the Illinois Manufacturing Lab in his 2013 state of the state address. The Illinois Manufacturing Lab is a public-private partnership created by the state, the University of Illinois, and the National Center for Supercomputing Applications to be a hub where advanced manufacturing companies have access to university research and sophisticated tools and equipment. Illinois also provides support to manufacturers through an R&D tax credit, which was extended in 2011, and the Angel Investment Credit Program, which has encouraged the placement of $65 million into early-stage innovative businesses by way of a 25 percent tax credit.

Many states are looking at the model that Virginia has developed with its Commonwealth Center for Advanced Manufacturing (CCAM). CCAM is a nonprofit organization that hosts a research-based collaboration between the University of Virginia, Virginia Tech, Virginia State University, and manufacturing companies worldwide. The partnership bridges the gap between the basic research typically performed at universities and product development routinely performed by companies. The manufacturers drive the research to be production-ready and focused on commercial use. Research is conducted in areas (such as surface engineering and manufacturing systems) that add value to manufacturers in diverse sectors. By pooling resources and keeping research focused on company needs, CCAM increases the value of the R&D dollar. Members share facilities, personnel, and precompetitive research.

Resources to support CCAM are pooled from the major partners, including the state, manufacturing companies, and the universities. The state’s contributions to CCAM and related partnership activities will total at least $40 million over five years. Industry partners have committed to con-


tribute more than $25 million to CCAM over five years. The universities are committing $10 million to support CCAM and related partnership activities over the course of five years.

In addition to helping small and medium-size manufacturers connect to talent and research and development, states connect manufacturing companies to a range of other services through their state Manufacturing Extension Partnership Centers (MEP Centers). In states where the state economic development agency has a strong relationship with the MEP Center, they often refer companies to the MEP Center or partner with the MEP Center on specific initiatives, such as helping companies to reduce costs through process improvements and exploring growth opportunities through new products, new markets in the US and abroad, and new industries.

This is the case in Vermont, where the state’s department of economic development partners with the Vermont Manufacturing Extension Center (VMEC) to implement an innovation leadership communities program, which aims to promote profitable and sustainable growth through innovation in Vermont companies. Companies that participate go through two phases of a project. The innovation acceleration program lasts for three months and includes group training and implementation, individual company activities and coaching, and CEO forums that help companies create new ideas and accelerate existing ideas for processes, products or services, new customers and markets, or marketing. The second phase lasts for nine months and helps companies introduce an innovation management system that provides a structured framework for taking ideas from conception to execution in the marketplace. The VMEC also assists companies in Vermont with innovation-based growth through an “open innovation” portal designed to accelerate connections and communications between sellers and buyers of innovations through two-way publishing of sellers’ offerings and buyers’ requests using standardized formats. Based on the nation-wide USA Innovation Marketplace, Vermont was one of the first states to develop a state-level innovation marketplace to connect buyers and sellers. The site also includes two submarketplaces; one focused on products that accelerate sustainability and the other on product ideas for new business startups.13

For more examples of states’ efforts to support advanced manufacturing, see NGA’s report “Making Our Future: What States Are Doing to Encourage Growth in Manufacturing through Innovation, Entrepreneurship, and Investment.”

Creating Partnerships to Meet Industry Demands for Talent

A key opportunity for strengthening state economies is encouraging good connections among leading industry clusters, particularly in defining educational needs, assuring that curricula are timely and relevant, and providing workers with training and retraining to manage the very real challenges of technological change and global competition. This is particularly important in a time when many companies may not be able to find the skills they need to fill open positions. Even as the country experiences an 8 percent unemployment rate, companies consistently report that they cannot find the employees they need to fill certain jobs.14 Recent studies have looked into the issue and found mixed evidence for a skills gap; however, when they do occur, skills

gaps are most likely to be local and industry specific. States have responded to local and industry specific skill gaps by partnering with the private sector to provide workforce training. More than 25 states are exploring or implementing sector strategies, which connect education and training programs with industry needs. At the same time, there are some “big collaborations” that combine industry and community colleges across state lines.

Among the actions states have taken are:

- **Exploring or implementing sector strategies.** Sector strategies are partnerships of employers within one industry that bring government, education, training, economic development, labor, and community organizations together to focus on the workforce needs of an industry within a regional labor market. At the state level, implementing sector strategies entails developing policies and investments that support the development of local sector partnerships. When employers find effective ways to work together with the public education and training systems, they can improve their profitability and outcomes for employees, such as increased wages. In 2013, Maryland introduced the Employment Advancement Right Now (EARN) program to identify industrial sectors holding the prospect of significant job growth, create industry-led partnerships to determine the needed skills, and institute training programs to teach these skills to the state’s workforce. Maryland’s EARN program, which has been funded with $4.5 million in the fiscal year 2014 budget, will provide competitive grants to industry-led, collaborative training strategies in sectors of the economy where a specific skills gap has been identified. The new EARN program will initially focus on four sectors: cyber, health care, traditional and advanced manufacturing, and construction. The program will build on the state’s previous sector strategies work, which includes the Skills2Compete Maryland initiative and the Governor’s Workforce Investment Board’s five-year strategic plan to make sector strategies a key way to connect workers to jobs.

- **Scaling successful industry partnerships across the state (and across multiple states).** States have realized the value of industry partnerships for workforce education and provide examples of successful public-private partnerships for training. The partnerships that stand out, though, are those that have taken a successful program at one high school or community college and scaled it to include multiple schools or colleges in multiple states. There are several recent examples of states providing funding to replicate a best practice from one community college or training program across the state. Connecticut created new manufacturing centers at three community colleges, based on the success of Asnuntuck Community College’s Manufacturing Technology Center.

---


There are fewer recent examples of “big collaborations” that have scaled across multiple states, but there are some established examples that states can learn from and build on. Kentucky’s Automotive Manufacturing Technical Education Collaborative (AMTEC) is a well-established example of a multistate partnership that engages industry in developing and funding training. AMTEC involves 30 community colleges and 34 auto-related plants in 12 states. The partnership began a decade ago when Toyota partnered with local community colleges because the company needed a type of technical training that other colleges did not offer. Unlike traditional auto manufacturers, which had dozens of job classifications for workers with specialized skills, Toyota emphasized multiple skills, especially for its maintenance technicians. Toyota maintenance workers do not specialize; rather, they are able to fix any maintenance problem anywhere on the assembly line or in the shop at any time. Toyota’s challenge to its partner, the Kentucky Community & Technical College System, was to create a curriculum that would train workers for their multiskilled maintenance jobs according to company specifications. The approach worked well and established the foundation for AMTEC. More information about this partnership can be found in the NGA case study A Sharper Focus on Technical Workers: How to Educate and Train for the Global Economy.

A more recent example comes from Minnesota’s Dakota County Technical College (DCTC), which worked with 30 companies and the University of Minnesota to develop a nanoscience technology curriculum to prepare graduates for employment in the array of industries where nanoscience applications are rapidly emerging, such as biotechnology, cosmetics, pharmaceuticals, medical devices, agriculture, materials, energy and electronics. In 2008, with a grant from the National Science Foundation’s Advanced Technical Education Centers program, DCTC launched the Midwest Regional Center for Nanotechnology (Nano-Link), a regional partnership for nanotechnology training that includes six two-year colleges in five states and two four-year research universities. Nano-Link shares the nanotechnology curriculum developed by DCTC, which was developed to be a series of modules, which are shorter than classes and provide more flexibility for students and educators. The modular packaging of nanotechnology content allows educators and students to implement specific aspects of nanotechnology appropriate to their discipline. At the community college level, for example, modules can be inserted into environmental, biotech, electronic, and energy curricula.

The partnership has produced more than 150 associate degree graduates, all of whom are employed or seeking a higher degree; involved over 70 company representatives; trained 500 high school educators; and reached over 10,000 high school students with information about the application of nanotechnology in various careers.20

- Holding institutes of higher education accountable for meeting industry needs. Governors and policymakers are creating policy mechanisms and incentives to align postsecondary education to their states’ economic goals. Because states face ongoing fiscal pressures that limit their ability to invest in postsecondary education, their focus is shifting

---

from focusing on how much states spend on postsecondary education to how those dollars are spent toward producing better educated workers and citizens. Governors are using performance-based funding to steer their higher education institutions away from accountability systems that focus on inputs (enrollments and revenues) towards systems that focus on outcomes (completion and employment).

A number of states are transitioning to performance-based funding, though most start with a small percentage of the total budget being allocated on the basis of performance. New Mexico transitioned to performance-based funding with its fiscal year 2013 budget. The new performance-based formula makes up five percent of total funding to universities and focuses on four outputs: course completion rate, number of certificates and degrees awarded, number of certificates and degrees awarded in state workforce priority areas, and number of certificates and degrees earned by financially at-risk students.\(^{21}\) A proposed outcomes-based funding formula in Missouri includes placement of recent graduates as a performance metric for the state’s technical colleges.\(^{22}\) Connecticut and Nevada now require disclosure of employment data for recent graduates as a measure in their postsecondary accountability systems.\(^{23}\)

Massachusetts Governor Deval Patrick introduced a Performance Incentive Fund in 2011 to encourage community colleges and universities to meet goals that include alignment with workforce and economic development efforts. The state’s fiscal year 2012 budget made $2.5 million available in competitive grants through the Performance Incentive Fund. An additional $7.5 million was included for the grants in the fiscal year 2013 budget.\(^{24}\) Going further, the state’s fiscal year 2013 budget calls for the Commissioner of Higher Education to develop a new funding formula for community colleges to improve alignment with workforce development and to create a coordinating office for job training that will coordinate workforce training opportunities across the state.\(^{25}\)

For more examples of how states, including Minnesota, North Carolina, Ohio, and Washington have created strategies to align postsecondary education with the state’s economic goals, see the NGA report Degrees for What Jobs?

**Raising Expectations for Universities to Bridge the Gap between Research and Development**

States are increasingly looking to their universities as agents of economic development. Governors are interested in how they can help their universities be more outward-looking and commercialize their research into new patents, products, and companies. More than half of U.S. states have begun to invest their own public dollars in R&D and research institutes in the past decade. Though the amount of state R&D funding and

---


\(^{26}\) Numbers are based on an NGA analysis of more than 100 state R&D programs and investments.
number of new R&D programs slowed during the recession, there have been increases in both funding and new programs over the past two years.\textsuperscript{26}

This experience is leading to increased sophistication in state R&D and innovation investments over time, especially as policymakers have learned that successful innovation is a complex and messy process. It often involves the coordinated activities of dozens of firms and organizations to put in place all the key elements, get those key elements to work in concert, and support circumstances for the private sector to bring new products and services to market. States have been using their own research and development funds to provide incentives to universities and other organizations in their states to connect with entrepreneurs and existing businesses. Those entrepreneurs can take university research and knowledge and use it to start new companies or reinvigorate existing ones through new product development and/or incorporating new technologies into existing products or processes.

Among the actions states have taken are:

- **Streamlining business and entrepreneur access to university and federal lab research and facilities.** A number of states have created commercialization funds aimed at getting more research out of university labs and into companies. Virginia created the Commonwealth Research Fund in 2011 to encourage partnerships between universities and industry. Awards made through the fund must align with goals set forth in the commonwealth’s research and technology strategic roadmap and with key industry sectors identified by the commonwealth. Washington recently created the W Fund—a combination of state, university, and philanthropic funding—to provide early-stage venture funds to promising companies that are started at the state’s research institutions.

States recognize that the core of the innovation process is not solely the research itself or the product but rather the networking of many different entities, each with an important role to play in moving things along. In 2012, Maryland launched the Maryland Innovation Initiative, which is a partnership between the state and five academic research institutions, and created the role of “site miners” to make connections between partners. Site miners are commercialization experts selected by TEDCO—the independent technology and innovation organization created by the Maryland legislature in 1998 that leads the initiative—to identify promising technologies and foster collaborations across departments, schools and institutions. In order to access funding that will assist with the costs of commercialization, university faculty and other entrepreneurs are required to meet with a site miner, who will make sure their application is business-oriented and champion the application during the review process.\textsuperscript{27}

States have also been encouraging master agreements at their universities to shorten the time it takes to negotiate joint research projects between a company and academic researchers. Master agreements eliminate the need for individually negotiated agreements each time the company wants to partner with an investigator. They can cut the amount of time it takes to put the project into motion to about six weeks or less.

In 2010, Ohio’s 14 universities signed a master agreement with Procter & Gamble (P&G) that established standard terms and conditions for joint research projects. The agreement saved P&G over a full year of separate negotiations with each university. In 2011, P&G created a similar

master agreement with Michigan’s University Research Corridor, a partnership between Michigan State University, the University of Michigan and Wayne State University.\footnote{Michigan’s University Research Corridor, “Master Research Agreement,” press release, Feb. 25, 2011, \url{http://urcmich.org/news/110225pp.php}.} The University of North Carolina created a new licensing process for commercializing research in 2010. The Carolina Express License Agreement is a standard licensing agreement that outlines standard provisions for company ownership, revenue payments, and other terms that can hold up the negotiation process. Entrepreneurs starting a company with university research can choose to use the express license to shorten the amount of time spent negotiating with the university about intellectual property provisions.

- **Establishing innovation hubs.** In some cases, states have realized the value of having an organization or set of organizations responsible for coordinating an innovation ecosystem, but have given responsibility to existing organizations in the state, rather than creating new ones. Rhode Island and Connecticut are two states that recently launched innovation ecosystem or innovation hubs programs to better connect the myriad of organizations that are involved in an innovation process. Rhode Island launched a life sciences innovation hub in 2011 to bring science, talent, and capital together to accelerate innovation within the Rhode Island life sciences community. The hub is housed in the Rhode Island Center for Innovation and Entrepreneurship, near downtown Providence, hospitals, research universities and dozens of life science entrepreneurs.\footnote{Rhode Island Center for Innovation and Entrepreneurship, Brown University, Rhode Island Life Sciences Innovation Hub, web page, \url{http://brown.edu/about/ri-life-sciences-hub/}.}

Connecticut’s Innovation Ecosystem initiative was launched in 2012 and funded with $4.8 million in its first year for four innovations hubs to help scalable young companies start and grow in Connecticut and to improve the pipeline of potential investments for local investors. The ecosystem initiative is part of a broader economic development plan that is being overseen by the quasi-state agency, Connecticut Innovations. Connecticut Innovations is matching the state’s $25 million per year over five years for a suite of programs will include $22 million in seed stage investments, $4 million for a preseed program, and $7 million to recruit emerging technology companies, among other programs.

As part of its innovation ecosystem initiative, Connecticut launched an innovation vouchers program in October 2012. The goal of the program is to help some of the state’s most promising early stage companies develop their ideas and get products to market faster. To spur collaboration between early stage companies and service providers in the innovation ecosystem, Connecticut’s innovation vouchers program gives companies a voucher to purchase innovation or commercialization services from a specific provider. Service providers are public and private entities (for example a university or an engineering firm) that have a specific expertise that can help a company develop or commercialize a new product or service. Companies that are selected to participate in the pilot program will be provided with a $5,000 voucher that they can use to purchase specific services from an approved provider. The company is not required to provide a financial match. Services could include anything from small-scale prototyping or preparatory work for research and development, to an innovation audit, an engineering design, or the preparation of legal documents to protect new intellectual
property. Paired with the innovation hubs initiative, the vouchers provide a way for the hubs to connect with a large number of high-potential companies and service providers. The vouchers program thus becomes a front door to the other resources and services to which the innovation hubs can link companies, such as training and education, peer networks, mentoring, and strategic and technical support.

Other more established examples of innovation hub initiatives can be found in Pennsylvania, Ohio, and Washington. Pennsylvania is encouraging communities with universities and research institutions to develop Keystone Innovation Zones where firms locate in close proximity to bring entrepreneurs and researchers physically together. Ohio is making similar investments, allocating some of its Third Frontier research money to build innovation hubs in close proximity to some of its universities. Washington passed legislation in 2007 to create state-designated Innovation Partnership Zones (IPZs) to encourage and support research institutions, workforce training organizations, and businesses to work cooperatively in small geographic areas. There are currently 12 designated IPZs in the state. Thus far, support from the state for the IPZs has consisted of $6.5 million in capital grant funding.30

For further discussion of state policy to support innovation and the commercialization of R&D, see NGA's report Growing State Economies: Twelve Actions. For a discussion of innovation hubs, see the NGA report New Engines of Growth: Five Roles for Arts, Culture, and Design.

Stepping Up Business Export Initiatives

The economic success of states and the companies located inside their borders is becoming more dependent on the strength of their global connections. The overall value of world trade has grown faster than the overall U.S. economy for the past three years.31 Further, the U.S. economy is linked to international markets through the global supply chain. Global supply chains have increased the economic interdependence between countries as intermediate inputs like parts and components are produced in one country and then exported to others for further production or assembly in final products.

As global purchasing power is increasingly located outside of the United States, companies need global connections to find new markets and customers for their products.32 Recent research has shown that companies that export have faster sales growth, create more jobs, and fare better during economic downturns.33 States are focusing on export initiatives that can help companies connect to new markets, customers, and investments. In 2012, 16 governors emphasized international trade and exporting in their state of the state addresses. In 2013, exports remained an important theme, with 14 governors discussing the importance of trade and exports to economic growth.

Among the actions states have taken are:

---

• Setting goals to increase the fraction of companies that export to five percent or higher. Illinois has a goal to double exports by 2014.\textsuperscript{34} With the launch of its new export initiative in 2012, the state of Washington set a goal to increase the number of its companies exporting by 30 percent in five years.\textsuperscript{35}

In 2010, the Washington state legislature allocated $3 million for export training and capacity building as part of the state’s export program. The Washington State Department of Commerce awarded the funding to higher educational institutions on a competitive basis to create six export training programs. One of the training programs is developing a web-based guide on “what you need to know to export medical technology” for medical technology startup companies that are new to exporting.\textsuperscript{36} Another training program is opening two new “export readiness centers” intended to serve the informational needs of the potential and new-to-export business community.\textsuperscript{37} Washington is using the six export training programs as a pipeline to prepare companies to apply for services offered through the state’s STEP grant, which include participation in trade missions, accelerators, and vouchers that fund participation in trade shows and other trade-related activities. Companies that have completed one of the state’s six training programs or are in one of the state’s targeted clusters receive priority when applying for vouchers.

• Finding ways to work with high-potential small and medium-sized companies, particularly within specific industry clusters. Working with industry clusters or cluster organizations is a natural starting point for states that want to target high-potential companies. As a collection of similar or related businesses, clusters provide a critical mass of customers, making it easier for agencies to develop special expertise and programs tailored to fit their industries’ particular needs. Focusing on clusters allows states to scale from supporting individual companies to building systems that enable many companies in one cluster to become more competitive together. North Carolina has a whole set of resources aimed at supporting exporting among its cluster of furniture companies, including targeted market research for the whole cluster and coordinated trips to furniture trade shows.

In addition to working with specific clusters, the North Carolina Department of Commerce’s International Trade Division describes itself as a “portal to available trade support services.” The state’s business development managers act as connectors and work with companies to determine which available resources will meet each company’s specific needs. Thus, the state is able to focus on the highest potential companies while ensuring that all companies have access to other entities that can help them increase their potential for exporting.

Conclusion
Six important trends have emerged in state economic development over the past two years. As discussed in this paper, (1) states are focusing on the relationship


between the state and its regions; (2) they are emphasizing job creation from within; (3) they are strengthening support for advanced manufacturing; (4) they are creating partnerships to meet industry’s demands for talent; (5) they are raising expectations for universities to bridge the gap between research and commercialization; and (6) they are stepping up business export initiatives.

From the actions many states are taking to strengthen their economic development, three overarching lessons can be drawn. First, many of these trends have resulted from states looking at the evidence and realizing that jobs in their states are created primarily by entrepreneurs and companies already based in their state. States are realizing that they need to have a closer connection to these entrepreneurs and companies and better understand their needs—whether by reorganizing economic development departments to better match where industry clusters regionally or by businesses’ age or stage of growth.

Second, as states move beyond relying primarily on tax credits or incentive packages as tools to attract and retain companies, they are working to engage with industry in new ways including emphasizing workforce training that is designed and supported by industry, creating new intermediary organizations to ensure access to research and development at universities and other institutions, and export assistance tailored to companies’ age, stage, and experience in international markets.

Finally, with the experience gained from practicing cluster-based economic development strategies, states are increasingly confident that they know how to strengthen the nation’s competitive advantage through an embrace of innovation hubs and ecosystems. Cluster-based economic development strategies emphasize focusing services on geographically concentrated firms in related industries that share needs for common talent, technology, and infrastructure. States are now applying lessons learned from more than a decade of practicing cluster-based strategies to new initiatives focused on innovation hubs. An innovation hub brings together the critical ingredients for innovation—smart people, research institutions, entrepreneurial training and mentors, and professional networking—and illustrates the important role that geographic proximity plays in supporting innovation. Industry cluster and innovation hub strategies for state economic development each depend on getting public and private leaders to work together to develop an ecosystem of statewide proficiencies—smart people, unique research institutions, strong collaborations and other linkages and resources—to help entrepreneurs get through the hurdles they must clear to become high-growth businesses and also to provide strategic advantages for existing small and medium-sized companies competing in the global economy.

There are still challenges ahead for state economic development agencies. They will likely be working with constrained budgets for the next few years. And with a crop of governors attuned to effectiveness and efficiency, agencies may need to find new ways to measure the impact of their new programs. The policy innovations that have emerged in economic development over the past two years demonstrate that states remain laboratories of innovation and have the capacity to rise and meet these challenges.

The NGA Center wishes to thank the U.S. National Institute of Standards and Technology’s Hollings Manufacturing Extension Partnership Program for its support of this project.

Erin Sparks
Senior Policy Analyst
Economic, Human Services & Workforce Division
NGA Center for Best Practices
202-624-7794
August 2013