

Revisiting Top Trends in State Economic Development

Executive Summary

Since the 2013 publication of the National Governors Association (NGA) paper *Top Trends in State Economic Development*, governors' key advisors have continued to explore and implement policies and programs intended to accelerate economic growth and create jobs. Both the 2015 Institute for Governors' Economic Policy Advisors hosted by the National Governors Association Center for Best Practices (NGA Center) and the NGA Center's ongoing work with governors' senior advisors provide an opportunity to check in with the officials who support governors in formulating and executing their economic development plans and to revisit selected trends in economic development.

Among the trends highlighted in 2013 were:

- Economic development plans that focused on regions within a state;
- Strengthening support for advanced manufacturing;
- Partnerships with businesses to meet the private sector's demand for talent;
- Working with universities to bridge the gap between research and commercialization; and
- Support for businesses that are active in or have the potential to succeed in international markets.

Those themes remained prominent in the 2015 meeting, but were developed in the context of the unique situations of different states and the demand that governors' advisors address an array of challenges in their states. One size does not fit all; governors' economic development advisors are called upon to devise and implement strategies that meet challenges that stretch from providing a business climate supportive of all businesses in their states to providing incentives for small businesses on Main Street and

in distressed areas to encouraging investment by the sophisticated businesses involved in advanced manufacturing and advanced industries.

Specific best practices that surfaced during the NGA Center's 2015 Institute for Economic Policy Advisors included:

- Creating an economic development strategy and supporting organizational structures that address the full range of issues that governors face;
- Focusing on workforce development strategies that respond to the demands of the private sector and that link into a state's kindergarten through 12th grade (K-12) and postsecondary system of education;
- Creating and using institutions that speed the process of moving applied research to the market;
- Supporting advanced manufacturing and industries, often in partnership with the federal government and universities;
- Providing small businesses with access to capital and incentives to invest in distressed areas; and
- Gathering and analyzing data to determine which strategies work and aiming for continuous improvement.

Introduction

The 2013 publication of the National Governors Association (NGA) paper *Top Trends in State Economic Development* looked at the actions governors were taking to make their economic development systems

more effective in job creation, employment, and income growth by emphasizing 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.¹ When governors’ key advisors, including secretaries of commerce and economic development officials, met at the next Institute for Governors’ Economic Policy Advisors hosted by the National Governors Association Center for Best Practices (NGA Center) in Pittsburgh, **Pennsylvania**, in May 2015, the issues they faced and the building blocks they emphasized were much the same. Lessons shared at that meeting afford an opportunity to revisit selected trends in state economic development programs.

Devising a Strategy and Supporting Organizational Structure

Most governors have crafted a strategy and underlying vision to guide their state’s economic development policies. As important, governors are also creating organizational structures that are tasked with the job of aligning state agencies’ activities and the many stakeholders in the private and nonprofit sectors with the governors’ growth plans.

Strategy and Vision

It is common practice for governors to lay out a guiding vision and strategy for how they intend to address the state’s economic growth and development. They may gather information to inform that vision from a variety of sources, including statewide listening tours with stakeholders and the engagement of advisors and consultants. Once they decide on a plan, most governors seek to establish it through executive order or legislation.

For example, in **Virginia**, Governor Terry McAuliffe established his five priorities for the “New Virginia Economy” through executive order. As laid out in the executive order, Governor McAuliffe’s priorities are

to diversify high-growth industry sectors, promote a competitive business climate, nurture a sustainable entrepreneurial environment, equip the workforce with in-demand skills, and enhance the economic development infrastructure.² Those priorities evolved from an extensive listening tour and survey carried out by a governor-appointed steering committee. The committee’s report, in turn, documents assets and challenges and serves as a roadmap for putting into practice goals and strategies for specific sectors.³

Governor Steve Bullock initiated the Main Street **Montana** Project by enlisting the services of two prominent private-sector leaders to develop and implement a state business plan through a public-private partnership. They researched the state’s strengths and challenges and solicited input from Montanans through surveys and regional roundtables. The resulting plan has five pillars: train and educate tomorrow’s workforce; create a climate that attracts, retains, and grows businesses; build on the state economic foundation; market Montana; and nurture emerging industries and encourage innovation.⁴

In **Iowa**, Governor Terry Branstad established an industry CEO-led advisory board called the Iowa Partnership for Economic Progress (IPEP) to review the state’s growth issues and set a strategic direction for the Economic Development Authority. After a broad-based study, IPEP concluded that a balanced and integrated economic development plan must focus on innovation, retention, and attraction; the measures of success must include the quality, not just quantity, of jobs and improvements in the overall standard of living.⁵

Organizational Structure

The structure of state economic development agencies and organizations is an important consideration for governors as they prepare to implement their economic vision. Just as states differ in their natural, physical, and financial resources, they also organize their economic development systems differently. Some are more centralized; others are decentralized.

Some are structured as public organizations, others as independent nonprofits, and still others are public-private hybrids.⁶

For example, the **Indiana** Economic Development Corporation (IEDC) is a public-private partnership led by the secretary of commerce, who is in charge of the state's economic development agenda and is a member of Governor Mike Pence's cabinet.⁷ IEDC is governed by a 12-member board of private-sector members representing industry, banking, and foundations. The board was constituted to reflect the geographic and economic diversity of the state, and the entire organization is intended to operate like a business in order to respond quickly to the needs of companies, with the goal of growing and retaining businesses while attracting others to the state. IEDC's board of directors is chaired by Governor Pence.

Governor Pat McCrory in **North Carolina** recently reorganized the state's economic development functions. The Department of Commerce entered into a contract with the nonprofit Economic Development Partnership of North Carolina to focus on business recruitment and expansion; international trade; and tourism, film, and sports development.⁸ The department continues to lead functions focused on workforce development and employment services, rural community development, labor and economic analysis, as well as incentive program oversight and policy development. Regional economic development marketing organizations no longer receive state funding and have consolidated, ceased operations, or reorganized to better serve the needs of regional economies.

The **Colorado** Office of Economic Development and International Trade (OEDIT) has developed a decentralized structure under the leadership of Governor John Hickenlooper.⁹ OEDIT relies on enhanced regional partnerships to engage stakeholders and is supporting regions in building partnerships from the ground up. The primary goal is to help the regions bring together their stakeholders—including

representatives of industry, economic development, local government, workforce development, academia, and prominent community organizations. OEDIT is working with the Economic Development Council of Colorado and the Colorado Association of Regional Organizations to accomplish that goal.

Instead of, or in addition to, reorganizing, some governors are emphasizing enhanced coordination across agencies and programs to create a more holistic approach to economic development. **Oklahoma** Governor Mary Fallin has laid out an economic vision of helping Oklahoma households generate wealth by strengthening advanced industries in her state.¹⁰ To achieve that goal, she has pushed for greater alignment between the state's economic development portfolio, including business incentives, and the workforce and education systems. Resources are allocated through the state's performance-informed budget based on the program data collected for OkStateStat—the state's performance transparency website.¹¹

Workforce Development and Economic Development

The quality of a state's workforce has become one of the most important factors in decisions by both domestic and international businesses about where to locate. It was perhaps the most frequently raised issue at NGA's 2015 meeting of governors' economic development advisors, and the NGA Center is working with 14 states on the topic.¹² Not surprisingly then, many economic development advisors have taken a great interest in workforce issues and in the quality and continuity of training from the educational system to employment. States are enhancing the connections all along the pipeline from early education to college and career training and, ultimately, jobs, through educational campaigns, alignment of programs, sector-based training and education, and work-based learning such as apprenticeships.

For example, **West Virginia** Governor Earl Ray Tomblin opened the state's first Advanced Technology Center

(ATC) in 2014, in collaboration with the West Virginia Council for Community and Technical College Education. The ATC provides laboratory space for training programs in advanced manufacturing technology and computer networking technology. Since the ATC's inception, Toyota has invested \$1 million to develop a training program specifically designed for Toyota West Virginia. The state is now developing its second center in conjunction with Pierpont Community and Technical College. The state also is stressing middle skills—requiring a high school education, but not a 4-year degree—to its citizens through a workforce education campaign called My State, My Life and is promoting the state to foreign students through an international high school campaign.¹³

In **Washington**, the economic development, workforce, and educational systems align through sector-specific strategies. The state's Workforce Training and Education Coordinating Board surveys aerospace employers, for example, about the pace of hiring, positions in high demand, skill gaps, and other challenges. Simultaneously, the Department of Commerce strategically focuses on aerospace and five other key sectors. So-called "sector leaders" then work with those sectors on targeted worker training programs. The state is also using a sector approach to identify basic education proficiencies needed for key industry sectors. For that effort, the workforce board partners with the state's K-12 education system, community colleges, career and technical education programs, and four university centers of excellence.

The **Utah** Governor's Office of Economic Development (GOED) has been actively working to convene high-growth employers in the state with education and training providers.¹ Nationally education has had difficulties engaging industry to develop meaningful workforce solutions. By playing the role of convener, GOED has effectively brought together key stakeholders to catalyze effective workforce programs. A good example of this is the Utah Aerospace Pathways

program, which brings high growth advanced manufacturing companies together with high schools to develop a well-trained workforce pipeline.¹⁵

Kentucky has enhanced the connection between workforce and economic development through workforce training partnerships and apprenticeships. The Kentucky Skills Network, a joint partnership of the cabinet-level programs for economic development, education and workforce development, labor, and the state's community and technical college system, was developed to serve as a single point of contact for businesses accessing workforce resources to, for example, hire new workers or re-train existing workers.¹⁶ The program identifies individual company needs and then customizes industry training partnerships, registered apprenticeships, recruitment, and related services. The network serviced 4,100 companies and trained some 85,000 workers in 2014. Kentucky has also developed the Kentucky Federation for Advanced Manufacturing Education (KY FAME). KY FAME coordinates nonprofit "chapters" of employers around the state, providing students three days of hands-on work at companies and two days of classroom learning integrated with career pathways at local community colleges leading to an associate's degree in five semesters.¹⁷ Eighty companies committed to sponsor more than 200 students in the fall of 2015.

In **New Jersey**, the Department of Labor and Workforce Development, the Department of Education, and the Office of the Secretary of Higher Education are working together to prepare a skilled workforce and to increase the number of adults in New Jersey who have earned a postsecondary credential or degree valued by industry. New Jersey has focused that effort on the seven industries that drive economic and job growth in the state, including life sciences, transportation, logistics and distribution, advanced manufacturing, and health care.¹⁸

To support that endeavor, the workforce research and analytics unit gathers and disseminates information on

the workforce needs of the key industries using both quantitative and qualitative data, including economic data, job postings data, employer surveys, employer feedback, administrative data, and program outcome data. New Jersey is developing a list of industry-valued credentials and degrees to inform education and training investments.

To develop an understanding of industry needs and to build employer-driven partnerships, the state has created seven Talent Networks focused on the state's seven key industries. Managed by industry associations or universities with expertise in the specific industry, the Talent Networks bring together employers, education and training providers, and workforce organizations to gather and share information on industry trends and workforce needs and to develop high-quality employer-driven partnerships. Starting in 2016, each Talent Network will focus on building sector-oriented workforce programs in three regions of the state.

To further enhance the effort, New Jersey also is aligning state workforce training investments to support the implementation of the high-quality, employer-driven partnerships, strengthening the state's eligible training provider list and consumer report card.¹⁹ The state will also convene annual workforce summits in each of the key industries.

Innovation and Technology Transfer

A core strategy for state economic development agencies is supporting the development of new technologies and innovations and promoting the transfer of those new resources to businesses. Colleges, universities, hospitals, research institutes, and even federal laboratories located within a state are the building blocks for a state's technology-based economic development.²⁰ In regional and metropolitan areas, those assets often form the basis for "innovation districts."²¹ States are supporting university technology transfer programs and incubator-type facilities in innovation districts and wider university settings.

They also are leveraging federal investments in new technologies, including research and development (R&D) in federal laboratories and the new institutes for manufacturing innovation.

The **Massachusetts** Technology Transfer Center (MTTC) is developing a pipeline of new companies by serving as a resource for the technology transfer offices in public and private institutions in Massachusetts—particularly those outside the Boston metropolitan area.²² The center, which is financially supported by the state, MassVentures, and other sources, acts as a catalyst by helping inventors in those institutions commercialize their technologies along with strong private-sector input. MTTC is connecting, coaching, and coordinating entrepreneurs through proof-of-concept awards, showcases, education, and pre-incubation services. The coaches, mentors, and expert reviewers, are drawn from the local investor community, industry partners, professional service providers, experienced technology entrepreneurs, and other MTTC partners.

Other multi-institutional models can be found in other states. For example, Colorado and **Wyoming** maintain contractual relationships with the nonprofit Innovation Center of the Rockies (ICR) to assess technologies in those states' universities and research institutions.²³ ICR then provides potential management teams for spinoff companies based on promising technologies.

States also are partnering to create facilities to house high-tech entrepreneurs and start-ups, and those facilities involve some original collaborations and designs. The **Maryland** Department of Business and Economic Development collaborated with the University of Maryland to create the Maryland International Incubator (MI2).²⁴ The incubator offers state-of-the-art facilities, world-class resources from overseas economic development offices and venture funds, and on-site services connecting Maryland companies with joint ventures in China, Russia, Kazakhstan, India, Bangladesh, and other countries.

Some states are partnering to establish incubator-type facilities specifically designed for manufacturing entrepreneurs (so-called “makers”). “Maker spaces” are do-it-yourself machine shops for testing and demonstrating inventions, and they are often housed near university engineering programs so they attract teams of students wanting to develop ideas conceived on campus.²⁵ Whether a membership-based for-profit company, such as TechShop, or a nonprofit entity like Fab Lab, such facilities offer access to hands-on tools—from advanced numerically controlled machines, 3D printers, and laser cutters to more common equipment and tools, such as sewing machines—that allow users to make prototypes and sell products.²⁶ States have played an important role in helping to develop partnerships between those organizations and consortia of higher education institutions, community colleges, outside corporate support, and public and nonprofit entities.²⁷ For example, full-time Arizona State University students receive free memberships to the TechShop in Chandler, Arizona, where Governor Doug Ducey recently signed legislation to help Arizona start-ups. In attracting a diverse, intergenerational membership of students, academics, and entrepreneurs, TechShops, Fab Labs, and similar organizations are incubating numerous start-ups.

States can build on activities of federal laboratories within their borders. **Tennessee’s** Department of Economic and Community Development teamed with the U.S. Department of Energy’s Oak Ridge National Laboratory to link the laboratory into the regional economy and improve the innovative capacity of Tennessee firms. The partnership makes available vouchers worth \$50,000 to \$300,000 that allow firms to access R&D services from the lab’s facilities.²⁸ A benefit of the R&D voucher program was its role in recently attracting to the state a new location for Local Motors’ microfactory network, which co-creates customized vehicles and now has a cooperative R&D agreement with the lab for 3D-printing cars.²⁹

States are also building upon federal and private

investments in manufacturing innovation institutes — government-university-industry partnerships that seek to build industry sectors based on new technologies.³⁰ The first such institute, called “America Makes,” is focused on 3D printing at a facility for research and demonstrations in the Tech Belt region of **Ohio, Pennsylvania, and West Virginia.**³¹ During the federal competition for that institute, the \$30 million federal investment attracted a \$40 million commitment from more than 100 partners over several years. The partners include state and local economic development organizations, universities, national labs, and large and small firms. In the first year of America Makes, the federal funding was leveraged with \$1 million in state funding and another \$1 million industry match. In the more recent federal competitions for additional institutes, there has been significant engagement of states anxious to get similar institutes underway.³²

Access to Capital

A common complaint among potential high-growth businesses not located in the two or three most heavily financed regions of the country is that they are overlooked by capital markets. Where that occurs, the governor can be a champion to raise awareness of the state’s investable businesses and to attract external private venture capital. States have found various ways of supporting businesses’ needs for capital at different stages of development.

States are expanding funding to companies, typically in science and technology, at various mile markers on the road from research to prototype and product development to full-scale commercialization and manufacture. For example, Colorado’s Advanced Industries Accelerator Program is a 10-year \$200 million program that provides seed funding to businesses in the state’s seven advanced industry sectors, which account for nearly 30 percent of the state’s wage earnings and sales revenues.³³ Colorado’s OEDIT offers companies early-stage capital grants of \$250,000 for technology development and \$500,000 for applied R&D, technology acceleration, and production.³⁴

States are customizing their capital programs to address their unique capital needs and to align with market norms for venture investing. In Tennessee, for example, the state-supported nonprofit corporation responsible for Tennessee’s innovation agenda sought advice from the state’s angel and venture capital communities, entrepreneurs, and other private-sector representatives on how to provide timely, accurate information to policymakers.³⁵ That effort helped the state better understand the economic needs of its business community and focus state programs on small-business financing requirements that weren’t being served by private investors.

An increasingly common model for a state-sponsored venture capital program involves establishing a “fund of funds,” where public funds are committed to private fund managers for investment in promising companies alongside private capital. Fund-of-fund programs are often administered by a private, quasi-governmental intermediary with the ability to hold an equity interest in a private company. With investment decisions made by contracted investment managers and not public sector employees, states avoid the appearance of picking winners and losers. In Maryland, for example, the InvestMaryland Program is an approximately \$84 million state venture capital program—now administered by an independent quasi-public organization, the Maryland Technology Development Corporation—which was financed by an innovative strategy that defers the fiscal effect of the investment program over several years to align fiscal effect with anticipated economic development effect at an acceptable cost of capital.³⁶

Governors can also help build awareness of opportunities within the state among private investors, ranging from prominent businesspersons and high-wealth individuals to less wealthy individuals who might be attracted by so-called crowdfunding opportunities. In both cases, individuals might not be aware of the possibilities of angel or venture investment opportunities in their home state. A media campaign led by the governor can

overcome that market failure. In almost every state, an individual can invest as an angel through pooled groups of investors or through the Internet.³⁷ Governors also can make the angel community aware of tax credit programs that encourage angel investing: About half of the states have Angel Investor Tax Credit programs to encourage angel investment.³⁸

Finally, governors can also help promote access to capital for entrepreneurs and early-stage companies by instituting executive actions that allow crowdfunding so that state residents can invest in companies in the state in exchange for equity.³⁹ Twenty-nine states and the District of Columbia now have laws, regulations, or pending measures to allow state-based crowdfunding while waiting for the federal government to release regulations.⁴⁰ Once a state allows this option, websites can be licensed as broker-dealers or intra-state equity crowdfunding portals; examples are **Oregon’s** HatchOregon.com, **Georgia’s** SterlingFunder.com, and **Texas’** and the District of Columbia’s EquityEats.com.⁴¹ Some local businesses have succeeded in raising funds this way.⁴²

State capital markets are being supported by some federal programs focused on small business credit, foreign direct investment, and finance related to exporting (See box on page 8).

Supporting Promising Businesses and Entrepreneurs

Many states attempt to identify both existing and new businesses that offer the greatest potential for economic growth. Those may be in industries that already have a presence in the state, which the governor wants to see maintained or expanded, or they may be in industries that the governor wants to bring to the state. Among states actively supporting industries or industry clusters, most give preference to advanced industries, especially manufacturing, and seek to make the best use of available federal resources. Many states are also taking a closer look at how they can support new businesses and entrepreneurship.

Federal Programs That Support State Capital Markets

The State Small Business Credit Initiative (SSBCI), used by 36 states to support or create state venture capital programs, was authorized in 2010 as a way for states to receive a federal formula allocation to stimulate private financing. Through 2014, participating states have expended \$864 million of the \$1.5 billion available, which has spurred more than \$6.4 billion in private-sector lending and investment to small firms. Since states have wide-ranging types of credit gaps and business needs, a variety of state programs have been designed through SSBCI. West Virginia created both an equity capital program and a credit support program with the state's SSBCI allocation. For the equity program, the state's department of commerce hired a marketing director to accelerate participation. A nonprofit, the West Virginia Jobs Investment Trust, initiated a program to help the state's small businesses, entrepreneurs, and investors become eligible for the funds. The equity investments ultimately supported 600 entrepreneurs and small-business jobs in the state. The state's allocation generated an additional \$81 million in debt and equity capital, a seven-fold leverage of the original allocation. The sources of the leveraged funds were angels, community development financial institutions, regional community banks, and imported venture capital invested in projects supported by the original allocation.

Governors and state economic developers have also been working hard to attract foreign direct investment (FDI). In Pennsylvania, for example, overseas companies employed more than 275,000 of the state's industrial workers in 2012, the most recent year for which this data is available, amounting to 5.4 percent of the state's industrial employment.⁴⁴ The SelectUSA Program at the U.S. Department of Commerce (DOC) offers states assistance in capacity-building for FDI. The DOC's International Trade Administration analyzes state FDI and how it is supporting jobs in industry sectors and localities. Other federal programs that assist states in the international arena are the Small Business Administration's State Trade and Export Promotion program and the Manufacturing Extension Partnership's ExporTech program.

Advanced Industries

Many state economic development teams are seeking to enhance the presence of advanced industries. Those industries comprise companies that are R&D-intensive and major employers of the science, technology, engineering, and mathematics (STEM) workforce.⁴³ They include manufacturing, energy, and services sectors. Prominent industries include pharmaceuticals, aerospace, motor vehicles, medical equipment, oil and gas extraction, and computer system design.

States are interested in advanced industries because of their growth prospects and benefits to local

economies. Advanced industries account for the vast majority of private-sector R&D, patents, and employment of engineers and architects, among other economic indicators.⁴⁴ According to estimates by the Brookings Institution, advanced industries support 39 million jobs through both direct and indirect employment. Advanced industry jobs generally pay above-average wages and salaries at all levels of educational attainment.⁴⁶ About half of all advanced industry jobs require less than a bachelor's degree. As a force for economic growth, advanced industries annually purchase about three and one-half times the goods and services from other businesses compared with purchases by other industries.⁴⁷

Among advanced industries, states pay special attention to manufacturing. States are helped in their efforts by working with the U.S. Department of Commerce’s Manufacturing Extension Partnership (MEP), which includes a number of state-based technical assistance centers focused on stimulating state and local economies by strengthening industry supply chains. MEP helps manufacturers of all sizes better understand their markets and expand sales. In 2014, MEP initiated five pilot programs across 13 states to help manufacturers understand the technology trends underlying their markets.

Virginia, for example, is working through its MEP center, GENEDGE, to assist the state’s supply chain in the transportation industry. That collaboration is helping to fulfill Governor Terry McAuliffe’s vision of diversifying the state’s economy. More than one-third of the Virginia economy is connected to the Department of Defense (DOD) budget, which faces potential cuts, and GENEDGE is collaborating with the governor’s office and the DOD Office of Economic Adjustment to help many of Virginia’s 25,000 small defense contractors through a dedicated program for DoD supply-chain companies.

Entrepreneurs and New Businesses

In addition to working with existing businesses, states are focusing support on entrepreneurs. Entrepreneurship and the growth of new businesses are important because during every year since 1988, U.S. firms less than 5 years old created more net jobs than firms 6 years or older.⁴⁸ Many observers are concerned that a decline in the rate of new firm formation in every state since 1980 means less economic growth and fewer job opportunities. Recently, start-up activity has improved. In 2014, U.S. entrepreneurial activity had its largest year-over-year increase in two decades, following a low after the Great Recession.⁴⁹

Many states are addressing the quality of their support for entrepreneurial activity and implementing a variety of strategies to support entrepreneurs and

early-stage start-up companies. States are surveying entrepreneurs to identify state-level barriers to their success. They are also enhancing digital connectivity for entrepreneurs and building networks and resources to support them.⁵⁰ For example, economists in the Colorado Office of State Planning and Budgeting developed a model for measuring progress on whether communities in the state are attractive to entrepreneurs. The state collected data on how Colorado entrepreneurs perceive their start-up ecosystem and whether they would promote their community as a great place for other entrepreneurs to start businesses.⁵¹ That analysis showed that entrepreneur satisfaction and community growth are, in fact, closely related, and that certain components of a start-up ecosystem are more closely related to entrepreneurs’ satisfaction than others. The findings suggested that individual and organizational connections to other entrepreneurs and investors were of great interest to the entrepreneurs.

Some state programs aim to build networks among entrepreneurs at the pre-start-up phase. For example, some states have engaged Startup Weekend and 1 Million Cups, which are national programs designed to educate and connect entrepreneurs so that they can learn from one another.⁵² Micro-funding programs are also being used to inspire entrepreneurs to connect with each other. For example, state programs can support the granting of small sums to a dozen or more start-ups at a time, creating a cohort of entrepreneurs that can be brought together with local support groups.⁵³ Examples are Launch Kansas City and Arch Grants in St. Louis—both of which are partnered with the Missouri Technology Corporation.

Other states have focused on entrepreneurship in rural areas, which often have limited access to broadband and other modern infrastructure because of their remote locations. Iowa Governor Terry Branstad recently signed a law to expand high-speed Internet access across the state after a study determined that almost a third of Iowa businesses and farms did not have access to high-speed Internet.⁵⁴

Finally, some states are taking a broader approach to building an entrepreneur-friendly environment by addressing regulatory and legal barriers that could affect business creation and growth.⁵⁵ States such as Indiana are examining their occupational licensing requirements to find ways to make them less restrictive through alternatives such as certification or registration. Similarly, state recognition of foreign degrees and credentials may help foreign entrepreneurs and other professionals to start new businesses. In Utah, Governor Gary Herbert recently completed a review of every state business regulation in his state. This led to the elimination of approximately 370 unnecessary or outdated business regulations. A less traditional approach for promoting entrepreneurship involves examining the requirements of noncompete agreements that firms enforce with former employees to see if their negative effects can be mitigated by narrowing the scope or duration.

Analyzing Performance to Ensure Strategies are Effective

States are increasingly applying data tools to better manage their programs and evaluate the results. It has traditionally been challenging to measure the effects of economic development programs—as the benefits only become clear over time—and it is difficult to separate specific results from overall economic trends. However, a project being coordinated by the Pew Charitable Trusts (Pew) and Center for Regional Economic Competitiveness (CREC) seeks to identify particular state strategies that show promising results.⁵⁶ The project aims to help six states to improve their incentives management systems and share best practices with other states.

For the pilot states, the Pew-CREC team helped document the array of business incentive programs across all agencies and combined those data with state economic development expenditures for a full picture of each state's economic development incentives.⁵⁷ The incentives include grants, loans, business assistance, tax credits, and other mechanisms for influencing business investment behaviors. The incentives address business needs such as capital

access, workforce training, technology transfer, and site facility improvements.

Documenting this complete set of state data and how it's being shared has helped the states to create more objective processes and frameworks for evaluating their business incentives and overall economic development. The participating states are improving their reporting and transparency efforts, and some have introduced legislation to enhance their performance monitoring. Ultimately, having complete data will help states better target economic development investments.

To document **Maryland's** business incentives in 2014, the project identified 72 active incentive programs spread across the Department of Business and Economic Development and a dozen other state agencies. Although Maryland has a relatively large number of incentive programs, the actual amount of economic development program spending per business establishment is lower than the average of all other states. Maryland spent \$103 million on economic development program expenditures statewide in 2012 (the most recent year for which full data were available). Maryland "spent" another \$103 million on economic development tax expenditures in 2012.⁵⁸ Approximately 60 percent of the state's economic development programs were achieved through tax incentives rather than budgeted expenditures. Maryland consolidated the reporting requirements for the programs and is now exploring new ways to evaluate their effectiveness and conducting an in-depth review of its most significant economic development financing and investment programs.⁵⁹

The Virginia Economic Development Partnership (VEDP) is using data to analyze the state's discretionary business incentives programs.⁶⁰ Before receiving funds from the state, VEDP performs a project-level analysis of return on investment (ROI), which is reported in a standardized two-page format indicating both project assumptions and the estimated benefits and costs over five-year increments. The state strives for a payback on

its grants and incentives within two to three years and has established comparative benchmarks for that part of the evaluation process. Preliminary approval from the secretary of commerce and trade allows VEDP to propose an “offer” to the prospective company and allows negotiations to proceed confidentially toward a final decision on, for example, project location without public scrutiny. Each prospective recipient company must execute a performance agreement that defines project parameters. Later, VEDP assesses whether the company has met expectations. VEDP both uses company-provided data at specified performance milestones and validates data with the Virginia Employment Commission on the number of

employees and payroll. Those data enable VEDP to monitor company performance over time, even after the incentive grant performance period has ended. The analysis is updated semi-annually.

The Virginia data tracking process allows evaluations of the benefits of the state’s incentives both on a project-by-project basis and in the aggregate. Expected results can be compared with the company’s actual performance and its effects on state revenues, employment, and other benchmarks. If a project is underperforming, the data help inform reasonable decision-making in negotiations with the company on potential “clawbacks” addressed in the performance agreement.

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Endnotes

- ¹ National Governors Association, “Top Trends in State Economic Development” (Washington, DC: National Governors Association Center for Best Practices, August 19, 2013) <http://www.nga.org/files/live/sites/NGA/files/pdf/2013/1308TopTrendsInStateEconDevPaper.pdf>.
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- ⁸ NC Commerce <http://www.nccommerce.com/>; and North Carolina: Economic Development Partnership of North Carolina <http://www.edpnc.com/>.
- ⁹ Colorado Office of Economic Development and International Trade <http://www.advancecolorado.com/>.
- ¹⁰ Presentation by Deidre Myers, Deputy Secretary, Oklahoma Office of Workforce Development, at the Institute for Governors’ Economic Policy Advisors, May 7-8, 2015; <http://www.nga.org/files/live/sites/NGA/files/pdf/2015/1505InstituteforGovernorsEconomicPolicyAdvisorsInstituteStateEconomicDevelopmentEcosystem.pdf>.
- ¹¹ OK.gov, OKStateStat <http://www.ok.gov/okstatestat/>.
- ¹² National Governors Association, “States Focus On Preparing Future Workforce To Strengthen Economy,” Press Release, August 14, 2014, <http://www.nga.org/cms/home/news-room/news-releases/2014--news-releases/col2-content/states-focus-on-preparing-future.html>.
- ¹³ WV My State. My Life. <http://mystatemylife.com/>.
- ¹⁴ Utah Governor’s Office of Economic Development <http://goed.utah.gov/>.
- ¹⁵ Gary Herbert, “Utah Aerospace Pathways Program Takes Flight,” Official Blog of the Governor of Utah, entry posted September 2015, <http://blog.governor.utah.gov/2015/09/utah-aerospace-pathways-program-takes-flight/>.
- ¹⁶ Kentucky Skills Network <http://www.thinkkentucky.com/workforce/>.
- ¹⁷ KY FAME members sponsor all students, so the students do not incur student debts; KYFAME: Kentucky Federation for Advanced Manufacturing Education <http://www.kyfame.com/>.
- ¹⁸ State of New Jersey, State Employment and Training Commission <http://www.njsetc.net/>.
- ¹⁹ Many of these efforts were developed during the state’s planning effort for the implementation of the Workforce Innovation and Opportunity Act (WIOA); see *Pathways and Partnerships: New Jersey’s Blueprint for Talent Development*, New Jersey State Employment and Training Commission, June 16, 2015, <http://www.njsetc.net/njsetc/planning/unified/documents/NJ%20Blueprint%20for%20Talent%20Development.pdf>.
- ²⁰ In research institutions, the innovation process from R&D to commercialization proceeds through the stages of basic research, proof of concept, laboratory testing, prototype development, and production demonstration; Charles W. Wessner, editor, *Best Practices in State and Regional Innovation Initiatives: Competing in the 21st Century*, (Washington, DC: National Research Council of the National Academies, 2013).
- ²¹ Brookings Institution defines innovation districts as dense spaces for the exchange of ideas; see also Bruce Katz and Julie Wagner, “What a City Needs to Foster Innovation,” Brookings Institution, January 16, 2014, <http://www.brookings.edu/research/opinions/2014/01/16-city-innovation-cafes-bike-lanes-3d-printers>.
- ²² The Massachusetts Technology Transfer Center www.mttc.org.
- ²³ Innovation Center of the Rockies <http://www.innovationcenteroftherockies.com/>.
- ²⁴ MI2: Maryland International Incubator <http://mi2.umd.edu/>; as of October 2015, the name of the Maryland Department of Business and Economic Development changed to the Maryland Department of Commerce <http://commerce.maryland.gov/>.
- ²⁵ TechShop has facilities in San Francisco, San Jose, Redwood City, Detroit, Austin, Pittsburgh, Phoenix, and the Washington, D.C., metropolitan area. A number of additional locations are under development.
- ²⁶ TechShop <http://www.techshop.ws/>; and Fab Foundation <http://www.fabfoundation.org/>.
- ²⁷ TechShop’s government and university partners include the Defense Advanced Research Projects Agency, the Department of Veterans Affairs, and Arizona State University; corporate partners include Intel, GE, Ford, BMW, Fujitsu, and Lowe’s.
- ²⁸ Correspondence with Commissioner Randy Boyd of the Tennessee Department of Economic and Community Development, October 6, 2015; see also TN Department of Economic and Community Development, “RevV! Program Supports Statewide Manufacturing Innovation,” Press Release, March 12, 2015, <http://tn.gov/ecc/news/8836>.
- ²⁹ Morgan McCorkle, “ORNL and Local Motors sign digital manufacturing agreement,” Oak Ridge National Laboratory Press Release, January 29, 2014; <https://www.ornl.gov/news/ornl-and-local-motors-sign-digital-manufacturing-agreement>.
- ³⁰ The national network of manufacturing institutes is intended to address market failures contributing to the perceived loss of U.S. leadership in advanced manufactured products; see National Network for Manufacturing Innovation <http://www.manufacturing.gov/nmmi.html>.
- ³¹ America Makes <https://americamakes.us/>.

³² Recent institutes joining the national network—a Composites Institute in Tennessee and a Lightweight Metals Institute in the Detroit area of Michigan—similarly involve multiple partners; a Photonics Institute has recently been announced to be located in Rochester; the state of New York made a more significant commitment toward this initiative than any state to date; New York State, “Governor Cuomo and Vice President Biden Announce New York State to Lead Prestigious National Integrated Photonics Manufacturing Institute,” Press Release, July 27, 2015, <http://regionalcouncils.ny.gov/finger-lakes/072715/bidenjointannouncement>.

³³ Colorado Office of Economic Development and International Trade, Advanced Industries Accelerator Grants <http://www.advancecolorado.com/funding-incentives/financing/advanced-industries-accelerator-programs>.

³⁴ Colorado also offers corresponding proof-of-concept grants for the state’s research institutions fostering commercialization in the targeted sectors; http://www.advancecolorado.com/sites/default/files/AIA%20POC%20Fac%20Sheet_051215.pdf; the state has recently expanded the program to include grants for exporting in those sectors; <http://www.advancecolorado.com/international-business/colorado-export-grant>.

³⁵ Presentation by Eric Cromwell, president and CEO, Cromwell Schmisser LLC, at the Institute for Governors’ Economic Policy Advisors, May 7-8, 2015; <http://www.nga.org/files/live/sites/NGA/files/pdf/2015/1505InstituteforGovernorsEconomicPolicyAdvisors2015InstituteStateVCPrograms.pdf>; the state-supported nonprofit was Tennessee Technology Development Corporation, now known as LaunchTN, <http://launchtn.org/>.

³⁶ PRWeb, “Maryland first state in the nation to use online auction to raise funds for venture capital program InvestMaryland will deploy first round of funds to seed early stage companies this summer,” Press Release, March 15, 2012, <http://www.prweb.com/releases/InvestMaryland/Economy/prweb9289682.htm>.

³⁷ According to Marianne Hudson, executive director of the Angel Capital Association, angel investors come together and syndicate deals in every state and there are formal angel investment groups in every state. Start-up companies may receive angel capital funding in a range between \$50,000 and \$750,000. More than 70 percent of angel groups are networks, in which capital is not pooled up-front but rather each member investor decides whether to write a check for each investment opportunity. A smaller portion of angel groups are formal pooled angel funds with capital of up to \$25 million. The Center for Venture Research estimates that angels invested more than \$24 billion in 73,000 investment rounds in 2014.

³⁸ Angel investors receive a credit against their state income tax for in-state investments meeting certain criteria.

³⁹ This is distinct from websites like Kickstarter, which are not state-based and where investors do not share in company profits but instead receive products or other perks; <https://www.kickstarter.com/>.

⁴⁰ Legislation has been introduced in an additional 11 states as of September 2015; for information on the new federal rules, see U.S. Securities and Exchange Commission, “SEC Adopts Rules to Permit Crowdfunding,” Press Release, October 30, 2015, http://www.sec.gov/news/pressrelease/2015-249.html?utm_swu=6233.

⁴¹ For more information, see Stacy Cowley, “Tired of Waiting for U.S. to Act, States Pass Crowdfunding Laws and Rules,” *New York Times*, June 3, 2015.

⁴² Those laws and regulations do not include a post-filing requirement. Anecdotally, there is evidence that companies have been successful. There are, however, limitations to a state-based crowdfunding approach, such as a lack of awareness that this option is available to businesses and potential investors.

⁴³ Mark Muro et al., “America’s Advanced Industries: What they Are, Where they Are, and Why they Matter,” Brookings Institution, February 3, 2015, http://www.brookings.edu/~media/Research/Files/Reports/2015/02/03-advanced-industries/final/AdvancedIndustry_ESFinalFeb2lores.pdf?la=en.

⁴⁴ Data prepared by the Office of Trade and Economic Analysis, International Trade Administration, U.S. Department of Commerce, updated April 2015.

⁴⁵ Ibid; advanced industries account for 90 percent of private sector R&D, 81 percent of patents, 80 percent of engineers and architects, and 60 percent of exports.

⁴⁶ Ibid.

⁴⁷ Ibid; advanced industries purchase \$236,000 of goods and services annually from other businesses compared to \$67,000 by other industries.

⁴⁸ Jason Wiens and Chris Jackson, “The Importance of Young Firms for Economic Growth,” *Entrepreneurship Policy Digest*, Ewing Marion Kauffman Foundation, updated September 13, 2015, <http://www.kauffman.org/what-we-do/resources/entrepreneurship-policy-digest/the-importance-of-young-firms-for-economic-growth>.

⁴⁹ Ewing Marion Kauffman Foundation, *2015 Kauffman Index: Startup Activity*; data are available for every state at <http://www.kauffman.org/microsites/kauffman-index/rankings/state>.

⁵⁰ Yasuyuki Motoyama and Brian Danley, *The Ascent of America’s High-Growth Companies: An Analysis of the Geography of Entrepreneurship*, Ewing Marion Kauffman Foundation, September 2012. http://www.kauffman.org/~media/kauffman_org/research%20reports%20and%20covers/2012/09/inc_geography.pdf; and Dane Stangler and Jordan Bell-Masterson, “Measuring an Entrepreneurial Ecosystem,” Ewing Marion Kauffman Foundation, March 2015, http://www.kauffman.org/~media/kauffman_org/research%20reports%20and%20covers/2015/03/measuring_an_entrepreneurial_ecosystem.pdf.

⁵¹ The state displayed all its findings—including each community’s overall score and sub-scores for their entrepreneurship ecosystems—on a state map. An overview of the start-up value survey, analysis of the community data, methodology, findings map, raw data, and other information is available at Colorado Office of State Planning and Budgeting, Startup Value Survey, <https://sites.google.com/a/state.co.us/gov-office-test/home>.

⁵² Founded by the Kauffman Foundation; Startup Weekend <http://startupweekend.org/>; and 1 Million Cups <http://www.1millioncups.com/>.

⁵³ Presentation by Jason Wiens, policy director, Ewing Marion Kauffman Foundation, at the Institute for Governors’ Economic Policy Advisors, May 7-8, 2015; the small sums are around \$50,000; http://www.nga.org/files/live/sites/NGA/files/pdf/2015/1505InstituteforGovernorsEconomicPolicyAdvisorsRecipesForCreating_Motoyama_Wiens.pdf

⁵⁴ Battelle Technology Partnership Practice, *Iowa’s Re-Envisioned Economic Development Roadmap, Prepared by Battelle Technology Partnership Practice, December 2014*, <http://www.iowaeconomicdevelopment.com/userdocs/documents/ieda/2014BattelleReport.pdf>.

⁵⁵ See also Yasuyuki Motoyama and Jason Wiens, *Guidelines for Local and State Governments to Promote Entrepreneurship*, Version 1.0, Kauffman Foundation Research Series on City, Metro, and Regional Entrepreneurship, March 2015, <http://www.kauffman.org/what-we-do/research/2015/03/guidelines-for-local-and-state-governments-to-promote-entrepreneurship>.

⁵⁶ The Pew Charitable Trusts, Economic Development Tax Incentives, Business Incentives Initiative, <http://www.pewtrusts.org/en/projects/economic-development-tax-incentives/about/business-incentives-initiative>.

⁵⁷ The participating states are Indiana, Maryland, Michigan, Oklahoma, Tennessee, and Virginia; reports for each of these states are available on the CREC website, <http://www.stateincentives.org>; one end product of this effort will be a complete 50-state business incentives database. The state incentives data can be accessed for any user through a special subscription that the U.S. Department of Commerce's SelectUSA program has with C2ER at <http://content.govdelivery.com/accounts/USITATRADE/bulletins/eec06f>. Another data product is state-specific reports for select participating states; see <http://www.stateincentives.org/media/2015/outcomes>.

⁵⁸ This is the most recent year for which reliable spending data were available for all program types in the state at the time of writing the report.

⁵⁹ For more details, see "Business Incentives and Economic Development Expenditures: An Overview of Maryland's Program Investments and Outcomes," Center for Regional Economic Competitiveness and Council for Community and Economic Research, February 2015, http://www.stateincentives.org/media/2015/outcomes/Maryland_State_Specific_Report_-_February_2015.pdf.

⁶⁰ For example, some of the state's largest and most visible incentives are grants such as the Commonwealth's Opportunity Fund (formerly the Governor's Opportunity Fund prior to July 1, 2015), Virginia Investment Partnership Grant Fund, and Major Eligible Employer Grant.