KAUFFMAN CENTER FOR ENTREPRENEURIAL LEADERSHIP

AT THE EWING MARION KAUFFMAN FOUNDATION

State Entrepreneurship Policies and Programs

Jay Kayne
Kauffman Center for Entrepreneurial Leadership
at the Ewing Marion Kauffman Foundation
Kansas City, Missouri

November 1999

Acknowledgments

This study was a collaborative effort among many organizations and individuals. The author wishes to thank the following individuals for their contribution to this study beginning with the initial concept through final publication.

- Thom Rubel and Scott Palladino; National Governors' Association Center for Best Practices
- Monica Kearns; National Conference of State Legislatures
- Patrick Von Bargen, Erik Pages and Doris Freedman; National Commission on Entrepreneurship
- Kurt Mueller, Rhonda Holman, Mary Miller, Doug Miller, Bob Strom, Judith Cone, Nancy Holland, Michael Camp and Kate Pope Hodel; Kauffman Center for Entrepreneurial Leadership
- Lisa Klein; Research and Evaluation, Ewing Marion Kauffman Foundation
- Damian Thorman and Laura Loyacono; Public Affairs, Ewing Marion Kauffman Foundation
- Pam Kearney, Laurie Bollig and Keith Mays; Communications, Ewing Marion Kauffman Foundation
- Steve Roling, Senior Vice President, Ewing Marion Kauffman Foundation

While each of these individuals participated in different phases of this effort, the author takes responsibility for the final product including the accuracy of the data and the interpretations of the findings.

Jay Kayne, Director
Public Sector and Community Entrepreneurship

Executive Summary

The intersection of two precepts—the value of entrepreneurship to the overall economy and the impact of state actions on the business climate – has significant implications for state officials and policymakers. To better understand the current state policy environment in which entrepreneurs operate, the Kauffman Center for Entrepreneurial Leadership asked the National Governors' Association (NGA) and the National Conference of State Legislatures (NCSL) to create an inventory of state policies and programs that support entrepreneurship. The purpose of the inventory was not to rank the states in terms of their support of entrepreneurial activity, but to develop baseline information that the Commission and the Center could use for the following purposes:

- To track changes in the policy environment.
- To acknowledge the contribution that many states are making to a pro-entrepreneurial environment in hopes that leading-edge policies and programs might be replicated in other states and by the federal government.
- To identify areas for further research.

Analysis of the information gathered from secondary sources and surveys of state executive and legislative policymakers provides the following insights into current state efforts to support an entrepreneurial economy.

- States that view entrepreneurs as a unique segment of the state economy tend to adopt policies and programs that directly support an entrepreneurial economy. States that do not make this distinction are more likely to adopt the perspective that entrepreneurs benefit from economic development policies and initiatives that are designed for a broader audience.

- States are taking a more macro-economic approach to tax and regulatory policy. This trend focuses on changes in laws (e.g., general tax reductions) and regulations that affect everyone doing business in the state. As entrepreneurial businesses move from the start-up to high-growth phase, these policies should positively affect their costs and net profits. However, there seems to be less focus on the needs of the entrepreneurs during the start-up stage.

- Access to capital, especially equity investments in start-ups, continues to be a critical issue for entrepreneurs. However, the overwhelming majority of state financial assistance programs are in the form of loan guarantees, loan participations and direct loans. Less than 10 percent of these programs involve direct or indirect equity investments.

- Although states recognize that the "capital readiness" of an enterprise is a key indicator of whether a firm can obtain the capital it needs, states focus more on increasing the supply of capital than working with entrepreneurs to address investor concerns about business planning and management.

- States have made significant progress to implement uniform and reciprocal procedures associated with the regulation of marketable securities.

- State investment in post-secondary education in support of entrepreneurship is significantly higher than that provided for elementary and secondary education.

- States clearly recognize the important contribution that universities and related institutions make to an economy that relies on innovation and technology. This is evidenced by a range of activities—direct investment, leveraging public funds and policies that encourage private sector collaboration and faculty participation—that expand the states' intellectual infrastructure.

To date, state commitment in support of entrepreneurs is mixed. While state funding for entrepreneurial development lags behind other economic development activities, many states have created programs or adopted policies that have a positive impact on entrepreneurs. Based on responses to the survey of state policies and programs, states fall into two general categories. At one end of the spectrum are states that have a clearly articulated development objective that focuses on the emergence and success of entrepreneurial ventures. In contrast, many states have draped their existing economic development programs in a mantel of entrepreneurship.

Table of Contents

I: Introduction

Research continues to link entrepreneurial activity and economic prosperity. The recently published *Global Entrepreneurial Monitor* (GEM) states, "Variations in rates of entrepreneurship may account for as much as one-third of the variation in economic growth."[1] The GEM study then examines the culture and economic policies of 10 nations to determine which factors either support or impede the emergence and growth of an entrepreneurial economy. One can assume that there are also variations at the sub-national level affected by differences in state polices and approaches to economic development.

Entrepreneurs contribute to economic and social well-being by:

- Developing and commercializing innovative products and services that improve our quality of life and improve our position in the global economy.
- Generating new industries and firms to replace those that have run their course.
- Creating employment opportunities.
- Creating wealth that is re-invested in new economic enterprises and, through philanthropy, in communities.

State government can play a significant role in supporting the emergence and success of entrepreneurial enterprises. Since states first became active participants in the economic development process in the 1950s, the majority of attention (and often scrutiny) has been on incentives and public programs that provide direct assistance to individual firms. However, the impact of these programs on a state's economy is relatively small compared to tax and regulatory policies that affect everyone who does business in the state. Similarly, state investments in education and public infrastructure determine the configuration and the quality of the "playing field" on which all economic activity occurs within individual jurisdictions.

The intersection of these two precepts—the value of entrepreneurship to the overall economy and the impact of state actions on the business climate – has significant implications for state officials and policymakers. In *Self-Renewal: The Individual and the Innovative Society*, John W. Gardner writes about the importance of creating an environment in which people and organizations can realize the potential of new ideas and practices.

> *"As far as adults are concerned, it is not certain whether anything can be done to supply creativity that is not already present. But much can be done to release the potential that is there. It is the almost universal testimony of people who possess this trait that certain kinds of environments smother their creative impulses and other kinds permit the release of these impulses."*[2]

In 1998, the Kauffman Center for Entrepreneurial Leadership (the Center) at the Ewing Marion Kauffman Foundation underwrote the creation of a National Commission on Entrepreneurship (the Commission). The Commission was established to examine the policy environment in which entrepreneurs emerge and operate in the United States, and where appropriate, educate

[1] Paul D. Reynolds, Michael Hay, and S. Michael Camp, *Global Entrepreneurship Monitor*, Kauffman Center for Entrepreneurial Leadership at the Ewing Marion Kauffman Foundation, 1999. This report can be accessed on the Internet at <http://www.entreworld.org/Bookstore/>.
[2] John W. Gardner, *Self-Renewal: The Individual and the Innovative Society*, pp. 34-35.

policymakers and thought leaders about ways that the public and private sector can enhance the climate for successful entrepreneurial ventures. The Commission recognized that states—through their laws, regulations, investments and programs—have considerable impact on where entrepreneurs choose to establish new enterprises and the probability that those enterprises will succeed. Therefore, the Commission's work would be incomplete if it failed to examine the role and impact of states on encouraging entrepreneurship.

An Inventory of State Policies and Program

To better understand the current state policy environment in which entrepreneurs operate, the Center asked the National Governors' Association (NGA) and the National Conference of State Legislatures (NCSL) to create an inventory of state policies and programs that support entrepreneurship. The purpose of the inventory was not to rank the states in terms of their support of entrepreneurial activity, but to develop baseline information that the Commission and the Center could use for the following purposes:

- To track changes in the policy environment.
- To acknowledge the contribution that many states are making to a pro-entrepreneurial environment in hopes that leading-edge policies and programs might be replicated in other states and by the federal government.[3]
- To identify areas for further research.

Information for the inventory was gathered from the following two sources:

- Existing research on state development policies and programs.
- A state survey that was distributed to governors' offices and a sample of state legislators.

The survey, jointly designed by the Center, NGA and NCSL, served two purposes. First, through a series of general questions, it gauged each state's perspective on entrepreneurship and its importance as part of an overall state economic development strategy. Second, it requested supplemental data about current state policies and programs that were not available from secondary sources.

NGA received survey responses from 36 states and one territory. (See Appendix A for a list of state respondents.) NCSL received responses from 22 state legislators from 16 states. Consistent with the understanding that survey information would not be used to grade or rank state performance, the survey results are provided in aggregate form. The only exception is that state practices that the Center and the Commission view as exemplary or innovative are attributed to the states responsible for each initiative.

Any analysis of data from the survey should be viewed with the following caveats. First, the survey responses were not independently verified. Therefore, they represent the respondents' own assessments of the policies and programs within their respective states. Second, at this time neither the Center nor the Commission has attempted to evaluate the effectiveness of individual policies or initiatives. This is an area for subsequent investigation, particularly for public innovative activities that appear to be most supportive of entrepreneurship.

[3] NOTE: NGA's Center for Best Practices is publishing "A Governor's Guide to Entrepreneurial Policies and Programs," drawing on the data contained in this inventory.

Defining Entrepreneurship

There are varying opinions about what constitutes entrepreneurship, especially the distinction between entrepreneurship and small business. In hopes of providing some common starting point for survey respondents, the Kauffman Center provided the following definition of entrepreneurship.

> *Entrepreneurship is the ability to amass the necessary resources to capitalize on new business opportunities. The term is frequently used to refer to the rapid growth of new and innovative businesses and is associated with individuals who create or seize business opportunities and pursue them without regard for resources under their control. They build something from practically nothing and usually reinvest earnings to expand their enterprise or to create new enterprises. Other words that characterize entrepreneurship include innovative, creative, dynamic, risk-tolerant, flexible and growth-oriented.*

Entrepreneurship is not dependent on size. Many companies that meet the Small Business Administration's criteria for small or medium sized enterprises (SME) are very entrepreneurial. The distinction lies more in the desired outcome. Have the business owners undertaken the enterprise to maintain a lifestyle for themselves and their families? Or have the principals tried to assemble resources that enable them to exploit opportunities to create new products or deliver services in previously unforeseen ways?

Small businesses play a significant role in the overall economy. It is through small businesses that we obtain many basic products and services (e.g., gasoline for automobiles, accounting services). And many small business owners exhibit entrepreneurial qualities as they address product demand and customer satisfaction. ***However, entrepreneurship, for purposes of this report, focuses on individuals who blend innovation with sound business practices to commercialize new products and services that result in high-growth firms.***

Many state policies can benefit both entrepreneurs and small business operators. For example, during the past two sessions of the Missouri General Assembly, legislators introduced bills that would allow businesses with 50 or fewer employees to participate in a pooled health insurance plan. The state would use its purchasing power (associated with the government employees insurance program) to obtain better rates and terms than individual businesses could obtain on their own. The ability to purchase reasonably priced health insurance changes the economic equation for the employee of a large corporation who is considering starting a spin-off enterprise. However, it also reduces labor costs for the owner of the local bookstore, impacting profit margins that may be the difference between success and failure.

State Policies That Impact Entrepreneurship

The remainder of this study covers state entrepreneurial policies in the following nine categories. Each is important to encouraging entrepreneurship as a career option and supporting entrepreneurial activity.

- General perspective of entrepreneurship.
- Tax and regulatory climate.
- Access to capital
- Entrepreneurship education.
- Intellectual capital.

The states are not ranked or graded in terms of their overall performance or in a given category. In fact, it is impossible to say that any state can claim the title of having the "most entrepreneurial-friendly environment." The fact that best practices under each of the policy categories are distributed among all the responding states suggests that states have much to learn from each other.

If one were to grade the states collectively, the data suggests that there are positive trends emerging within several states as evidenced by the best practices. However, there is still considerable room for improvement. State policymakers should not be discouraged by this assessment. The compelling argument to invest state resources in support of entrepreneurs is only now being made. Research such as the GEM analysis, which more clearly links entrepreneurship with strong economies, is only now achieving visibility among policymakers.

Or perhaps advocates of entrepreneurship have not worked closely enough with public sector officials and policymakers. Instead of being discouraged by some of the findings contained in this report, the Kauffman Center and the Commission view this study as an opportunity to begin working with state officials to better understand how entrepreneurs contribute to state economic and social goals. Only then will state officials realize it is in their own interest to explore policy options that effectively promote and support an entrepreneurial economy.

II. General Perception of Entrepreneurship

One objective of the NGA survey was to better understand state officials' general perception of entrepreneurship. To obtain this information, the research team developed the following questions:

- Is entrepreneurship and enterprise development part of your state's economic development strategy? Please describe.

- What are the three most important initiatives your administration has undertaken to promote entrepreneurship?

- What would you consider the annual percentage rate of growth that characterizes a "high-growth industry"?

- When considering economic policy, do you differentiate between policies that support small business and those that support entrepreneurs? If yes, please provide the rationale for this policy distinction.

The remainder of this section draws on the survey responses and other secondary data to differentiate between states that understand the needs of entrepreneurs (consistent with the definition provided in the survey) and states where entrepreneurs may benefit from general economic development programs, but are not the specific target of efforts to create a more entrepreneurial economy.

Entrepreneurship and the State Development Strategy

Thirty-four of the 37 states that responded to the NGA survey indicated that they consider entrepreneurship part of the state economic development strategy. When asked to describe how entrepreneurship fits into the state strategy, four states indicated that they had a clearly articulated statement within the strategy document. In contrast, a majority of the states said that most programs were available to entrepreneurs. This distinction between states that try to meet the specific needs of aspiring and emerging entrepreneurs and states that view entrepreneurs as a segment of the state economy who can take advantage of state programs is a continuing theme throughout this report.

North Carolina is one state that has specifically targeted entrepreneurial firms as part of its economic development strategy. The state's Economic Development Board, which implements and monitors the state's development strategy, includes the following among its six primary goals.

> *"Goal Four: An Entrepreneurial Center—Create an economic climate that is conducive to the birth, attraction, and retention of innovative entrepreneurial firms that create new products and services and expand into new markets."*

Sometimes the focus on entrepreneurs is contained in legislation such as the South Carolina Technology Act of 1999. The Act resulted from a determination that the state had an insufficient supply of rapidly growing South Carolina-headquartered companies and needed stronger linkages between state universities and research institutions and the state's business sector.

Kentucky best articulated the goal of creating an entrepreneurial economy through the following objectives:

- Changing the culture from one that develops employment skills to one that develops the necessary skills to build new businesses,
- Creating an atmosphere of entrepreneurship throughout the education system for kindergarten through post-secondary institutions, and
- Developing the knowledge and skills to deploy technology resources in high-growth businesses.

How states view entrepreneurship in the context of overall state economic development becomes more evident when state officials are asked about the initiatives they believe best support entrepreneurs in their respective states. In response to this question, the 37 states identified the 53 initiatives summarized in Table II-1.

Table II-1: State Initiatives in Support of Entrepreneurship

Category	**Number of States Responding**
Creation of venture capital pools	5
Specific goal with the state development strategy	4
Commercialization strategy	4
Attracting high-growth businesses	3
Improvements to the general business climate	3
Micro-enterprise loans	3
Expansion of small business development centers	3
Technology transfer programs	3
Comprehensive development planning	2
Existing business programs	2
Governor’s priority	2
Grow your own strategy	2
Industry cluster programs	2
Increased funding for research and development	2
Creation of technology corporations	2
Workforce development programs	2
Nine other initiatives	1 each
Total	**53**

Source: NGA Survey

The other category included a program to assist women entrepreneurs, an economic diversification strategy, an emerging industries strategy, appointing an entrepreneur director of economic development, creating a position of state technology coordinator, an entrepreneurial assistance program, investments in public infrastructure, one-stop licensing and assistance to start-up businesses.

While many of these initiatives are more characteristic of a general economic development or small business agenda, some states identified programs and policies that clearly support entrepreneurial ventures. An example is the industry cluster initiative in Connecticut. The Connecticut program was a response to the recession the state experienced as a result of cutbacks in defense spending in the early 1990s. Businesses within a cluster come together and work with the government to create an environment that is conducive to the growth of their industry. The objective is to establish and grow new businesses drawing on the combined skills and technology of entrepreneurs within the target industrial sector.

Tennessee is one of two states that identified the creation of a state technology corporation. The Tennessee Technology Development Corporation (TTDC) was created to encourage the formation and growth of high-technology firms in the state and to utilize the existing science and technology base as a source of economic development. A public/private partnership, TTDC has specific goals to commercialize homegrown technologies and to make seed capital available for Tennessee-based technology-related businesses.

High-Growth Industries

One of the defining characteristics of entrepreneurs is their interest in pursuing potentially high-growth ventures. Therefore, state officials were asked how they defined the term "high growth." Table II-2 summarizes the responses.

Table II-2: Definition of "High-Growth" Business

Annual Rate of Growth	Number of States Responding
Less than five percent	3
More than five percent	7
More than 10 percent	3
More than 20 percent	6
More than 50 percent	1
More than 100 percent	3
Other	9
No response	5
Total	**37**

Source: NGA Survey

Thirteen of the 32 responses to this question were less than the generally accepted definition of high growth, a 20 percent annual increase in revenues. However, the "other" responses were as illuminating as the numerical ones. Eight of the nine states in this category defined high growth relative to an industry or geographic standard. For example, two states responded that a high-growth industry is one that is growing at a rate higher than the national average. Another state said that "high-growth" varied from industry to industry.

Since one characteristic of entrepreneurship is wealth creation, the research team assumed that states would respond in terms of growth in revenues or net worth. However, four of the states in the other category said that they gauge high growth relative to the average employment growth rate in the state. Another state defined high growth as exceeding an annual growth rate in payroll of at least 10 percent. Using employment and payroll as a benchmark is not surprising since state economic development activities have historically focused on job creation rather than wealth creation.

Differentiating Entrepreneurs from Small Business

Responses to the survey question whether state development policies and programs differentiate between entrepreneurs and small businesses confirmed that many state programs are designed to serve a broad range of businesses, and therefore, do not address the unique needs of start-up companies with high-growth potential. Only 13 of the 37 states responded affirmatively to this question. Of these 13 states, two were unable to articulate specific differences between the two categories.

The remaining states provided the following rationales for treating entrepreneurs differently from small businesses.

- Entrepreneurs have different capital needs. (California and Nebraska)
- Entrepreneurs add value to the economy and generate a higher rate of return on public investment. (Iowa)
- Entrepreneurial businesses expand rapidly and are more dependent on constantly changing technologies. (Massachusetts)
- Entrepreneurial support includes incubators and sources of equity financing. (Maryland)
- Entrepreneurial businesses have high-growth potential. (Michigan and New Jersey)
- Entrepreneurs are cash importers as a result of selling products and services outside of the state. (Missouri)
- Entrepreneurial companies are defined by revenue growth. Their resource needs differ from small business in magnitude and kind. (North Carolina)
- The state begins working with entrepreneurs at a pre-competitive stage. (South Carolina)
- Entrepreneurs need greater access to research and development resources. (South Dakota)

When one compares these statements against the initiatives identified by these states as supporting entrepreneurs, there is consistency between a state's view of entrepreneurs and the programs and policies it adopts to bolster that perspective. For example, California focuses on venture capital and research and development funding to address entrepreneurs' unique capital needs. Not surprisingly, based on their view of entrepreneurs as a distinct segment of the state economy, Iowa and Massachusetts invest a higher percentage of their economic development funds in entrepreneurial development. (See the discussion of state economic development expenditures below.) This internal consistency between perspective and action suggests states with a better understanding of the contribution that entrepreneurship makes to the state's economic prosperity and the specific needs associated with entrepreneurship are more likely to take actions that more directly support entrepreneurs.

Policy Statements

While states reported that entrepreneurs are an integral part of state economic development strategies, there is little evidence in governors' policy statements that entrepreneurship is part of the chief executive's larger policy agenda. This conclusion is drawn from an analysis of major policy speeches—inaugural addresses and state of the state messages—in which governors laid out their priorities for 1999. Of the 76 separate policy speeches, only 19 contained a reference to entrepreneurs or entrepreneurship. (See Table II-3.)

Table II-3: Governors' Policy Statements in 1999

Category	**Number of States**
Inaugural address	32
State of the state message	39
Combined inaugural and state of the state	5
Total Policy Statements	**76**
Number in which variations of the term "entrepreneur" appears	19
Percent of Policy Statements in Which the Term "Entrepreneur" Appears	**25.0**

Source: Kauffman Center Analysis of Governors' Policy Addresses

When one examines the text of these 19 speeches, the extent to which the governor actually used the policy address to promote entrepreneurship is less evident. For example, several of the speeches refer to taking "entrepreneurial approaches" to social issues such as education or promoting the state's heritage.

The remaining references to entrepreneurship fall into two categories. First is recognition of the contribution that entrepreneurs make to the state economy. For example, Washington Governor Gary Locke stated, "We are blessed with a strong economy and creative entrepreneurs who have broken all records for new job creation. There is, to be sure, economic uncertainty and hardship as a result of the Asian economic downturn. But as we close the 21st century, I am proud to say the state of our state is vibrant, hopeful, and filled with promise." Similarly, newly elected California Governor Gray Davis celebrated the fact that "Our engineers and entrepreneurs have created the technology that is reshaping the world."

On the role of entrepreneurship in his vision for Idaho, Governor Dirk Kempthorne said that citizens of his state could only meet the challenges of the 21st century if we "take advantage of the entrepreneurial spirit and creative ideas of our people and our state employees…We must be successful economically…We must be competitive—both with other states and internationally—in the areas of education, technology and infrastructure, to name a few." To implement this vision, Governor Kempthorne announced that he had recruited Gary Mahn, a successful entrepreneur, to be the director of the state economic development agency.

North Dakota Governor Edward T. Schafer recognized the importance of youth as an economic force in his state. "They are our state's future parents, business owners, entrepreneurs, leaders. They are a resource we desperately need, not just in future decades, but now."

The second category of references to entrepreneurship in the policy addresses focused on tax and regulatory reforms to relieve the burden on entrepreneurs. In his inaugural address, Florida Governor Jeb Bush noted that as government expands to address social ills and provide vital services, "so too has the crushing weight of taxes and mandates on Florida's families and entrepreneurs." Similarly, Colorado Governor Bill Owens stated, "We should lessen the burden of the personal property tax on our small business and entrepreneurs. It is important that we eliminate disincentives for companies to make investments that lead to the creation of more quality, high-wage jobs."

Perhaps Wisconsin Governor Tommy G. Thompson, in his inaugural address, presented the most comprehensive public view of entrepreneurship. "Wisconsin's pioneers are just everyday people doing spectacular things so we can all live better lives. They are the W-2 (welfare-to-work) mothers in Milwaukee who are working and raising their children; the entrepreneurs in the Chippewa Valley developing new technology for a higher quality of life; the students in Sussex learning skills for the jobs of tomorrow; and the farmers in Janesville applying space age technology to feed the world."

State Economic Development Expenditures

A second measure of the importance of entrepreneurship in state economic development strategies is the percentage of state funding that is devoted to entrepreneurial development. Each year the National Association of State Development Agencies (NASDA) conducts a state economic development survey. States are asked to distribute their economic development expenditures across 15 program categories including administration and program support (e.g., research). While the survey requests information on both federal and state funded expenditures, this study focuses the state-funded activities.[4] For fiscal year 1998, the 47 states that responded to the NASDA survey reported spending more than $2.6 billion dollars in state funds on economic development activities. Of this sum, states expended less than $19 million for "entrepreneurial development," defined as state activities that support start-up businesses or provide seed capital to emerging companies. This amount, an average of $399,060 per state, was the least of any of the 15 categories covered in the survey. Table II-4 provides the expenditures in selected categories.

Table II-4: State Funding for Economic Development for Fiscal Year 1998

Selected Categories	Amount	Percent of Total State Funding
Entrepreneurial development	18,755,801	0.71
Community assistance	567,669,593	21.54
Business finance	497,028,335	18.87
Workforce preparation	345,124,712	13.10
Tourism	267,542,678	10.15
Administration	82,811,629	3.14
Program support	77,261,144	2.93

[4] Federal economic development funds are excluded from this analysis because they are generally distributed to the states based on formulas that do not reflect state policy preferences.

International trade and investment	75,882,398	2.88
Domestic recruitment	45,860,904	1.74
Minority business development	19,716,587	0.74
Total State Funding for Economic Development	**2,634,299,862**	

Source: NASDA Survey of State Economic Development Expenditures 1999

Only two states reported expenditures on entrepreneurial development that represented more than 10 percent of their total state funding. Kentucky expends 11.68 percent of its state economic development funds on entrepreneurial development and Massachusetts spends 11.19 percent in this category. In contrast, 25 states reported no expenditures for entrepreneurial development.

This is not to say that entrepreneurs do not take advantage of other programs financed through state appropriations. Emerging, high-growth companies utilize business finance programs or export assistance programs offered through the state trade office. They also employ skilled workers that graduate from state-funded workforce development programs. The distinction is that these programs are available to all business operating in the state regardless of whether they are a new start-up or a relocation target under the state's domestic recruitment effort. In states where entrepreneurship is truly a central element of the economic development, one might expect to see an increase in state expenditures that encourage entrepreneurs to take the step into self-employment and provide the support to raise the probability of their success.

Recognition of Entrepreneurs

The perception of entrepreneurs' contribution to a state's economy can also be gauged by the extent to which public officials recognize that contribution. In response to the survey question about recognizing entrepreneurs, nine of the 37 states reported that they did not have activities in this area. The remaining 26 states identified 32 ways in 12 categories through which they celebrated the contribution entrepreneurs make to the state economy. These responses are summarized in Table II-5.

Table II-5: Recognition of Entrepreneur

Category	Number of States Responding
Governor's small business awards	7
Quality awards	7
Co-sponsoring entrepreneur of the year awards	5
Co-sponsoring small business awards with the Small Business Administration	4
Small business appreciation week	3
Technology showcase	2
Business plan of the year	2
Day on the Hill	2
Young entrepreneur award	1

Economic development agency awards	1
Exporter of the year award	1
Environmental management award	1
Total	**36**

Source: NGA Survey

With some exceptions, the survey responses further confirm that most states do not distinguish between small business activities and entrepreneurs. One exception is Utah, which reported the most comprehensive effort to recognize the value of entrepreneurs. The Utah program consists of three activities: co-sponsorship with Mountain West Ventures of a state entrepreneur of the year award, a Governor's Young Entrepreneur of the Year Award, and a competition for business plan of the year co-sponsored with the small business development center.

Iowa indicated an emphasis on young entrepreneurs through two competitions: Invent Iowa and a business plan competition conducted through the five John Pappajohn Entrepreneurial Centers at the state universities. A unique aspect of Hawaii's "Exporter of the Year" award is one of the selection criteria that measures the extent to which candidates help others expand exports.

The Maryland Technology Showcase provides an opportunity for Maryland businesses and citizens to communicate and educate themselves about the latest technological advances and how they affect their personal and professional lives. The showcase attracts over 12,000 attendees and is covered by Maryland Public Television, area newspapers, local radio stations and the local network affiliates.

Tennessee and Texas referenced "Day on the Hill" events as one means of educating state officials about the contribution entrepreneurs make to the state economy. In Tennessee, locally recognized entrepreneurs meet with legislators and cabinet officials and attend an awards luncheon for the recipients of local awards. Tennessee adopted this approach to complement existing local award programs rather than to compete against or preempt them.

Summary and Implications

States that view entrepreneurs as a unique segment of the state economy tend to adopt policies and programs that directly support an entrepreneurial economy. States that do not make this distinction are more likely to adopt the perspective that entrepreneurs benefit from economic development policies and initiatives that are designed for a broader audience. This finding suggests that advocates of an entrepreneurial economy cannot expect major changes in public policies until state officials develop a more succinct view of the link between entrepreneurship and economic prosperity and the contribution that entrepreneurs make to society in general.

III. Tax and Regulatory Climate

Responses to survey questions about each state's tax and regulatory climate further differentiate those states that equate general pro-business policies with supporting entrepreneurs and those states that recognize the unique needs of aspiring and high-growth entrepreneurs. In particular, states in the latter category reported policies that deal with distinguishing characteristics of entrepreneurs. First, in an entrepreneurial setting, expenditures generally exceed revenues in the initial phase of the enterprise. Second, entrepreneurs tend to reinvest the gains from their initial business in successive enterprises. The following discussion of tax and regulatory policy highlights state policies that address these aspects of the entrepreneurial experience.

Tax Policy

Respondents to the NGA survey reported that states have used tax policy to support entrepreneurs in two ways: the general tax structure and tax incentives that reward specific business practices. Table III-1 contains responses to the survey question, "What tax policies is your state pursuing to support entrepreneurs?" Seventeen states focused on the general tax structure—reduction in rates, sales tax exemptions on machinery and equipment or the absence of income taxes. The other responses dealt with tax incentives including targeted tax credits based on the geographic location of the business (e.g., enterprise zones) or job tax credits, research and development tax credits and capital investment tax credits.

Table III-1: State Policies That Support Entrepreneurs

Category	**Number of States Responding**
General tax reductions	9
Targeted tax credits	9
Research and development tax credits	6
Capital Investment tax credits	5
Sales tax exemptions	5
Absence of income tax	3
Nine others	1 each
Total Responses	**44**

Source: NGA Survey 1999

While successful entrepreneurs do benefit from many of these tax policies, the benefits most often accrue to larger, established businesses. Many lower the tax liability associated with business revenues and profits that may be non-existent during the initial years for an emerging high-growth enterprise.

In contrast, two states reported tax policies that specifically benefit entrepreneurs who are trying to build new companies. In 1999, Connecticut adopted two tax provisions that allow new companies to recoup some of their initial investment. The first allows businesses to sell unused research and development tax credits back to the state. The state also extended its Net Operating

Loss Carry-Forward (NOL) from five to 20 years. The NOL extension gives small companies a longer time frame to recover losses they may have incurred during their initial years of operation.

Hawaii also has made changes in its tax structure to support the growth of its entrepreneurial economy. Recognizing the importance of non-tangible assets to entrepreneurs, the state now excludes from taxation income derived from patents and copyrights. Additionally, the state does not tax employee stock options.

A more comprehensive examination of tax incentives affirms that the benefits from these programs accrue to firms with established revenue streams as opposed to emerging businesses. In its 1998 Directory of Incentives for Business Investment and Development, the National Association of State Development Agencies reported that states offer a total of 325 different business tax incentives. Of these, 217 are in the form of credits against other state tax liabilities, generally personal or corporate income taxes. Even when an entrepreneur takes a qualifying action (e.g., investment in research and development), the tax incentive may have little value unless it can be sold or deferred until the company has a tax liability.

Interestingly, none of the respondents to the NGA survey mentioned the impact of either state capital gains or death taxes on entrepreneurs. If entrepreneurship is characterized by the continuous reinvestment of wealth in new businesses, building additional enterprises is partially a function of the entrepreneur's ability to retain income from previous endeavors. Table III-2 provides a summary of how the states treat capital gains.

Table III-2: State Treatment of Capital Gains

Category	**Number of States**
Treated the same as capital gains on the federal tax return	29
Treated as ordinary income	4
No income tax	9
Other	8
Total	**50**

Source: Federation of Tax Administrators

In the other category, states either applied a different rate of taxation to capital gains or partially excluded the gains. For example, Arkansas applies a maximum six percent tax rate on capital gains, while Idaho and Wisconsin exclude 60 percent of capital gains from state taxation. Massachusetts recently adopted a graduated exclusion based on the number of years the asset is held. When fully implemented in 2001, capital gains on assets held less than two years will be taxed at a five-percent rate. At the other extreme, assets held for more than six years will be totally excluded from capital gains taxes.

In terms of death taxes, the states have continued to reduce or eliminate liability on estates and inheritances. Most states have eliminated inheritance taxes—imposed on beneficiaries of the estate. States continue to generate revenues through estate taxes—imposed prior to distribution—by taking advantage of provisions under the Federal Estate Tax Act of 1926, which authorizes a tax credit for state estate taxes equal to 80 percent of the federal tax liability. Under this "pick-up" provision, the state can impose an estate tax without increasing the total liability on the beneficiaries. Table III-3 summarizes the trend in state-imposed death taxes.

Table III-3: State Death Taxes

Category	Number of States in 1989	Number of States in 1999
Inheritance tax	17	13
Estate tax	8	4
Pick-up tax	25	33
Total	**50**	**50**

Source: *State Death Taxes*, National Conference of State Legislatures, April 1999

Of the four states—Mississippi, New York, Ohio and Oklahoma—that continue to impose estate taxes, the maximum rates range from seven percent for taxable estates exceeding $500,000 (Ohio) to 21 percent for estates over $10 million (New York).

Finally, the NGA survey asked states about the assistance that they provide to entrepreneurs and small business to comply with the tax code. Table III-4 summarizes the state responses.

Table III-4: Tax Compliance Assistance

Category	Number of States Responding
Department of Revenue service unit	15
Economic Development Agency service unit	9
Information on Internet site	8
Small business development centers	6
Seminars	5
Publications	5
Joint reporting	3
Electronic filing	1
Secretary of State	1
Referred to private providers	1
Total	**54**

Source: NGA Survey

In summary, states continue to make changes in their respective tax policies that reduce the tax burden on firms operating within each jurisdiction. However, when asked which tax policies most support entrepreneurship, states generally did not differentiate between the needs of an aspiring entrepreneur and the general business community. As the nature of the U.S. economy shifts from firms that are dependent on tangible assets (e.g., machinery and equipment) to businesses that measure their worth in terms of ideas and innovations, tax policy will continue to evolve. Otherwise, tax policies may constrain the growth of entrepreneurial businesses that will lead the national economy in productivity, job creation and general economic prosperity.

Regulatory Policy

When asked about regulatory actions that support entrepreneurship, 33 of the 55 responses focused on compliance with regulatory requirements. These include one-stop service centers, unified reporting, paperwork reduction, electronic records, assistance teams, contracting assistance and publishing information on the Internet. While these improvements in state regulatory processes may have marginal cost savings for entrepreneurs, they do not have a significant impact on an entrepreneur's location decision for a new enterprise. The exception may be in Kentucky and North Dakota where the states have established a deadline for processing regulatory filings. In an economy where the window for introducing new products into the marketplace continues to shrink, it is important that businesses have some degree of certainty that they can proceed within a guaranteed time frame.

Table III-5: Regulatory Policies That Support Entrepreneurs

Category	**Number of States Responding**
One-stop service centers	11
Unified business registration and reporting	5
Regulatory reform study committee	5
General regulatory reductions	5
Paperwork reduction	4
Utilities deregulation	3
Business advocate	3
Environmental regulation reform	3
Electronic records	2
Internet information	2
State will not exceed federal standards	2
Establishing processing deadlines	2
Workers compensation reform	1
ISO information and training	1
Administrative law judge	1
State contracting assistance	1
Tort reform	1
Assistance teams	1
Local zoning changes to support home-based businesses	1
Small business impact statement on regulations and proposed legislation	1
Total	**55**

Source: NGA Survey

Of more significance may be regulatory changes that affect imposition of specific regulations or have a major cost impact on an emerging business. Five states—Hawaii, Indiana, Michigan, New York and Washington—reported a general reduction in regulations. In two states, these changes were the result of a comprehensive reform effort involving the state agencies that promulgate and administer the regulations and the business community that must comply with them. For example, in 1995 New York Governor George Pataki created the Governor's Office of Regulatory Reform. Since its creation, the state has had a 59 percent decrease in new regulations with an estimated $1.9 billion annual savings to businesses and individuals.

Equally important are state attempts to reduce the cost of doing business through regulatory reforms. These include utility deregulation reported by Delaware, Pennsylvania and Utah; workers compensation reform in Nevada, and tort reform in Florida. The latter is particularly significant because of concerns about new product liability. The Florida reform was passed by the state legislature during its 1999 session and signed by Governor Jeb Bush. The major elements of the package include a tiered treatment of joint and several liability, a limit on punitive damage awards, and a revised statute of limitations on law suits for product liability.

Finally, Arizona has taken steps to ensure that impacted parties have an adequate opportunity for input into the regulatory process. The state utilizes independent administrative law judges provided through an Office of Administrative Hearings to preside over appeals of agency regulatory rulings.

Summary and Implications

States are taking a more macro-economic approach to tax and regulatory policy. This trend focuses on changes in laws (e.g., general tax reductions) and regulations that affect everyone doing business in the state. As entrepreneurial businesses move from the start-up to high-growth phase, these policies should positively affect their costs and net profits. However, there seems to be less focus on the needs of the entrepreneurs during the start-up stage. While some states are beginning to recognize that many new ventures do not have tangible assets or positive revenue streams, this is the exception rather than the rule. Cash for payroll and other out-of-pocket expenses is at a premium for emerging entrepreneurs. Policies that most benefit these businesses are those that defer expenses, allow companies to convert tax incentives into cash and lower development costs.

One aspect of tax and regulatory policy that was conspicuously absent from the state responses is state authority over interstate transactions. Even though states are now experimenting with reciprocal approval of environmental technologies, no state mentioned these demonstration projects as a way of facilitating interstate commerce for technology-based firms. Also, no state mentioned tax or regulatory changes that support electronic commerce. One example is legislation in some states that revises the universal commercial code to accommodate electronic transactions. For entrepreneurs, who are dependent on markets outside of their state of domicile, state efforts to support interstate and international commerce will become increasingly important.

IV. Access to Capital

Historically, financial assistance programs have been a major element of state economic development efforts. The National Association of State Development Agencies reports that states administered 393 financial assistance programs in 1998. These programs fall into five categories. An overview is provided in Table IV-1.

Table IV-1: State Financial Assistance Programs

Program Category	**Number of State Programs**
Loans	251
Bonds	72
Loan guarantees	36
Direct equity	29
Indirect equity	5
Total	**393**

Source: NASDA Directory of Incentives 1998

Furthermore, NASDA's biennial analysis of state economic development expenditures reports that states appropriated $497 million for business finance programs for fiscal year 1998. At this level of public investment in business financing, one might assume that entrepreneurs could fill their capital needs through a broad range of public programs. However, the lack of capital continues to be a pressing issue for many aspiring and high-growth businesses.

Impediments to Capital Access

The 37 states that responded to the NGA survey identified 59 impediments to capital access. The responses fell into three general categories: (1) lack of capital resources, (2) readiness of the business to access capital and (3) institutional barriers. Table IV-2 provides a summary of the responses by general category.

Table IV-2: Impediments to Capital Access

Category	**Number of States Responding**
Availability of Capital Resources	
Shortfall in venture capital and other early-stage financing	5
Lack of local venture capital funds	4
Lack of seed capital	1
Absence of an angel network	1
Business Issues	
Not financing-ready including the lack of a solid business plan	9

Lack of management skills	5
Lack of owner equity or other collateral	5
Lack of knowledge about lending sources	4
Business has no track record	3
No understanding of the risk-reward of venture capital financing	1
Bad products	1
Institutional Issues	
Risk of deals	6
Conservative nature of the banking system	2
Transaction costs of small issues	2
State anti-donation clause	2
Rules/procedures associated with public financing programs	2
Time lag between investment and return on investment	2
Absence of securities reform	1
Lack of available technical assistance	1
Non-liquidity	1
Attitude (risk management vs. risk avoidance)	1
Total	**59**

Source: NGA Survey

These responses are consistent with other research that suggests there is sufficient capital for quality deals. The inability of businesses to access these resources is often a function of the firm's "capital readiness" more than the lack of capital. This suggests that states that want to help entrepreneurs access capital should focus more on business issues (e.g., management skills and evidence of a solid business plan) than on creating public financing programs. However, this is not the case. Table IV-3 summarizes state responses to the survey question about state efforts to encourage investors and lenders to provide capital in support of new enterprises.

Table IV-3: Overcoming Impediments to Capital Access

Category	Number of States Responding
Loan guarantee programs	11
Educating lenders	7
Direct leveraged loans	5
Pooled loan-loss reserves	4
Linked deposit programs	3
Loan participation with subordinated debt	2

Certified capital companies	2
State community reinvestment act	1
Helping businesses become “capital ready”	1
Total	**36**

Source: NGA Survey

Several states noted that on a national basis there might be sufficient capital; however, there are regional discrepancies as many of the major venture capital companies operate out of the major urban centers. In these instances, state participation in equity investment funds is viewed as one way to overcome these geographic biases. For example, the Delaware Innovation fund can be used to secure patents and test the technical feasibility of new products. The Maryland Enterprise Fund provides matching grants for the development of business plans. The Maine Small Enterprise Growth Fund provides patient capital to start-up companies. Finally, five states indicated participation in the Angel Capital Electronic Network (ACE-Net), which provides an electronic forum for entrepreneurs to present business plans to qualified investors.

A potential source of capital for entrepreneurial ventures is state pension funds. However, greater use of this resource for venture capital investments is limited by the attitude of fund administrators. Only five states that participated in the NGA survey—Arizona, California, Georgia, Massachusetts and Pennsylvania—reported that the state retirement system operates an “economically targeted investment” program. Of these, only three of the five are authorized to invest in venture capital funds and one reported that the authority has never been used.

Securities Regulation

One additional source of capital for entrepreneurs is the issuance of marketable securities. State authority in this area is governed by the National Securities Markets Improvement Act of 1996 (Public Law 104-290). While the act preempts state regulation of nationally traded securities and transactions with certain “qualified purchasers,” states retain regulatory oversight over “non-covered” securities. The act also directs the Securities and Exchange Commission to monitor the extent to which states adopt uniform regulatory requirements and procedures for these non-covered securities.

Uniformity and reciprocity is critical for entrepreneurs who attempt to raise capital through the issuance of securities in two or more states. States are making significant progress through the adoption of standards developed through the North American Securities Administrators Association (NASAA).

State uniformity and reciprocity efforts have been concentrated in two areas. First, NASAA has developed model statutes and a standard form (U-7) for a Small Company Offering Registration (SCOR). SCOR can be used by corporations or limited liability companies organized under the laws of the United States and Canada and are not subject to the reporting requirements of the Securities Exchange Act of 1934. Twenty-two states that participated in the NGA survey reported that they had adopted the model forms and procedures.

Second, NASAA has established a Coordinated Equity Review (CER) program. Under CER, a security registration is handled by a lead disclosure state and a lead merit state. These states coordinate comments from all states in which the security will be offered and then prepare a single comment letter. If issues raised during the comment period need to be resolved, the two lead states serve as negotiators on behalf of all other states. Currently, 38 states participate in the CER program. Additional review coordination is achieved through four regional review agreements.

In addition to adopting the national standards for SCOR and participation in CER or regional review programs, respondents to the NGA survey identified four activities that enhance the ability of smaller companies to raise capital through marketable securities. California and Wyoming have adopted a "testing the waters" provision that allows companies to provide written descriptions of potential offerings to determine if there is sufficient interest to justify the cost and effort associated with a formal registration. South Dakota and Tennessee offer technical assistance to potential registrants. Pennsylvania supports electronic filing of SCOR forms. And California and Guam conduct forums on small business capital formation.

Summary and Implications

Access to capital, especially equity investments in start-ups, continues to be a critical issue for entrepreneurs. However, the overwhelming majority of state financial assistance programs are in the form of loan guarantees, loan participations and direct loans. Less than 10 percent of these programs involve direct or indirect equity investments.

Although states recognize that the "capital readiness" of an enterprise is a key indicator of whether a firm can obtain the capital it needs, states focus more on increasing the supply of capital than working with entrepreneurs to address investor concerns about business planning and management. States might want to reassess their programmatic priorities, shifting resources from programs that increase the capital supply to activities that increase the number of quality deals.

States have made significant progress to implement uniform and reciprocal procedures associated with the regulation of marketable securities. Programs that standardize SCOR filings and facilitate interstate offerings have multiple benefits for entrepreneurs. First, they extend the reach of small businesses to raise capital through public offerings. Second, they reduce the costs associated with redundant registration filings in two or more states.

V. Entrepreneurship Education

Sustaining an entrepreneurial economy depends on nurturing successive generations of entrepreneurs. Therefore, it is important to understand the propensity of young adults to become entrepreneurs, and more importantly, to become successful entrepreneurs. In their recent book *Seeds of Success*, William B. Walstad and Marilyn L Kourilsky state, "…given the accelerating importance of entrepreneurship from both an economic and a social perspective, youth attitudes, knowledge and skills with respect to the entrepreneurial process take on strategic significance."[5]

To understand better how youth view entrepreneurship as a career option, the Kauffman Center for Entrepreneurial Leadership included high school students in a 1994 poll conducted by the National Center for Research in Economic Education and the Gallup Organization, Inc. Walstad and Kourilsky report, "What we learned from our survey was that youth have a view of entrepreneurship that was much more positive than we had ever expected."[6] Of the 1,008 high school students participating in the survey, 65 percent responded that they were interested in starting a business of their own.

However, when asked to rate their knowledge or understanding of starting and managing a business, the responses were less encouraging. Only six percent felt that they had an excellent knowledge and understanding. Only 12 percent characterized their entrepreneurship knowledge as good. In contrast, an overwhelming number rated their capacity to start and manage a business as fair (38 percent), poor (28 percent) or very poor (16 percent).

These findings beg the question, "Do young people lose their enthusiasm and interest in becoming entrepreneurs because they believe that they lack the capacity to start and manage a business?" Responses from the general public to the same questions suggest the answer is yes. For this group, the percentage of respondents interested in starting their own business drops from 65 percent for youth to 50 percent for the general public. Equally significant, the self-assessment of knowledge and understanding of entrepreneurship remains low—excellent (11 percent) and good (14 percent).

State Support of K-12 Entrepreneurship Education

The authors' basic message in *Seeds of Success* is that it is never too early to instill the understanding, knowledge and confidence that support fulfillment of an individual's desire to be an entrepreneur. Therefore, an area of interest in the survey of state activities that support entrepreneurship was the extent to which states are supporting entrepreneurial education in their public schools. To gauge this support, the survey included the following questions.

- Do your state's education guidelines/standards include references to entrepreneurship?
- Does your state provide resources to local districts that specifically support K-12 entrepreneurial programs? If yes, what was the appropriation in the most recent year?

Of the 37 states responding to the survey, 20 said that their education guidelines/standards do include some reference to entrepreneurship. However, only 13 states responded that they provide funding in support of K-12 entrepreneurship programs. Interestingly, two of the 13 states that say

[5] William B. Walstad and Marilyn L. Kourilsky, *Seeds of Success*, page 4.
[6] Ibid, page 15.

they provide specific funding do not have references to entrepreneurship in their standards or guidelines.

Information about the most recent appropriations was less encouraging. Several of the states indicated that the support was part of the general education budget or vocational education programs or came under a school-to-career program initiative. There was no indication the programs supported by these dollars focused on issues specifically related to starting and managing one's own enterprise. Only Massachusetts provided enough information in its response to suggest that students were exposed to the fundamental concepts of entrepreneurship.

Students in Massachusetts can participate in the Youth Tech Entrepreneurs (YTE) program. This program prepares high school students for leadership and education achievement by developing entrepreneurial and technical skills. The YTE program offers a project-based curriculum. Participating schools work with the state Department of Education to develop and implement academic programs and extracurricular activities that pay for themselves. Students join the program in their sophomore year and make a three-year commitment that includes daily classes, monthly Saturday labs and after-school technology-based projects.

In a February 1999 press release announcing an expansion of the YTE program to three additional high schools, Massachusetts Commissioner of Education David Driscoll said, "YTE is far more than technology training. Students learn, but they also teach technical skills, they work with faculty and staff to maintain computer networks, and they provide technology support services to local companies. These students are entrepreneurs today, and you'll be hearing from them tomorrow, as well." Driscoll added, "The heart of the YTE is in involving students from diverse backgrounds in the project-based curriculum. In daily YTE classes, students master skills in problem-solving, communication and critical thinking by completing reading and writing assignments on a technology question of the day."[7]

Omissions in the state responses provide additional clues about current state attitudes about entrepreneurship education in the public schools. For example, no state mentioned support for programs in public schools such as the Kauffman Center's Mini-Society, which has been implemented in school districts in 43 states. Mini-Society is specifically designed to teach entrepreneurship in ways children understand—through experiences, role-playing and careful instruction. Does the fact that the responding states did not refer to entrepreneurship education programs in their public schools suggest that states defer to local districts or even individual schools to take the initiative on entrepreneurial education? Subsequently, what does that mean for regional differences within a state in terms of entrepreneurship education?

State Support of Post-Secondary Entrepreneurship Education

Based on the survey responses, state support of entrepreneurship education at the post-secondary level is more prevalent. When asked about the existence of higher education opportunities associated with entrepreneurship centers, programs or endowed chairs at state universities and colleges, 30 of the 37 states responded affirmatively. Examples of university based centers include:

- Berger Entrepreneurship Program in the Carl Eller Center at the University of Arizona,
- The Entrepreneurial Center at the University of Hartford,

[7] "Lieutenant Governor Swift Announces Ten-Fold Expansion of Youth Tech Entrepreneurs," Press Release, Governor's Press Office, February 22, 1999.

- Jim Morran Entrepreneurial Institute at Florida State University,
- Dupree Center for Entrepreneurship and New Venture Development in the School of Management at the Georgia Institute of Technology,
- John Pappajohn Entrepreneurial Centers at five state universities in Iowa,
- Johnson Center for Entrepreneurship and Innovation at Indiana University,
- Dingman Center for Entrepreneurship in the Robert H. Smith School of Business at the University of Maryland,
- Nebraska Center for Entrepreneurship at the University of Nebraska,
- Institute for Rural Entrepreneurial Training at Pennsylvania State University,
- Larry Friedman International Center for Entrepreneurship at Johnson and Wales University in Rhode Island, and
- Center for Entrepreneurial Studies at West Virginia University.

The Rothman Institute of Entrepreneurial Studies at Fairleigh Dickinson University in Madison, New Jersey, deserves particular note based on the comprehensive scope of its entrepreneurship education programs. The Rothman Institute offers a masters in business administration (MBA) in entrepreneurship, a post-MBA program certificate in entrepreneurship, and a major in entrepreneurship at the undergraduate level. Additional activities beyond formal education include an extensive adult education program in how to start and grow a business and a forum on family-run businesses.

Three states responded that they had supported the creation of endowed chairs for professors of entrepreneurship. These include:

- Brown and Williamson Professor of Entrepreneurship in the College of Business and Public Administration at the University of Louisville,
- Ewing Kauffman Chair in Entrepreneurship in the Bloch School of Business and Public Administration at the University of Missouri-Kansas City, and
- Chairs in Free Enterprise Management at four state universities in Tennessee.

Finally, Hawaii presented a innovative approach to promoting entrepreneurial education in state colleges and universities. The University Connections program offers grants to encourage the development of new entrepreneurship-oriented courses at the University of Hawaii. A maximum award of $10,000 is given for courses that create new business opportunities "through unique applications of knowledge." Courses must include basic business planning fundamentals and result in student projects that are reviewed by business professionals. Team teaching and the use of guest speakers are encouraged.

Responses about university centers did raise an issue about states that did not distinguish between entrepreneurship education—i.e., providing a basic understanding and knowledge of entrepreneurship—and the location of business assistance programs in an academic setting or the university's general business curriculum. Eight of the 30 states that indicated support for post-secondary entrepreneurship education programs fell into this category.

The second area of inquiry in terms of higher education centered on the extent to which colleges and universities provided opportunities for internships through which they learned about or practiced entrepreneurial behavior. Twenty-seven responded yes to this question. The internships appear to fall into two categories. The first involves placement of interns in entrepreneurial companies to observe real-world applications of their classroom instruction in a business environment. These internships often include a project-specific assignment. The second category of internship programs involve the placement of students with academic training in businesses that need specific expertise (e.g., marketing, production design). Internships in the latter category seem to have reciprocal value for the intern and the host company.

Beyond the presence of an entrepreneurship curriculum and internship program, a couple of states mentioned that their universities were promoting entrepreneurship through two additional activities. One is sponsorship of business plan competitions that encourage students to apply their academic training to a potential enterprise. The second is the formation of collegiate entrepreneur clubs or forums in which students who are contemplating a start-up or are already operating a business can share information and experiences.

Summary and Implications

Based on the survey responses, state investment in post-secondary education in support of entrepreneurship is significantly higher than that provided for elementary and secondary education. The results of the 1994 Gallup survey on attitudes about entrepreneurship suggest that the dream of owning one's own business dissipates over time. Therefore, without encouragement and support during their elementary and secondary education, are there students who forego entrepreneurship education opportunities at the post-secondary level? Eventually, does that translate into lost opportunities for our economy and our society in terms of the next generation of entrepreneurs?

VI. Intellectual Capital

One area in which states are making substantial contributions to an entrepreneurial economy is through investment in, and policies related to, the utilization of intellectual capacity, primarily through state universities and colleges. In the NGA survey, 27 states identified 43 ways that they support entrepreneurs through enhancements to their respective state's intellectual infrastructure. Table VI-1 summarizes these responses.

Table VI-1: Intellectual Infrastructure

Category	**Number of States Responding**
Increased university funding	8
Centers of excellence	8
Cooperative funding	6
Commercialization entities	6
Revisions to the faculty research policy	5
Research parks	4
Cooperative research policy	3
Industry-specific curriculum	3
Total	**43**

Source: NGA Survey

Investments in Higher Education

Connecticut is among the states that focused on increased university funding citing UCONN 2000, a $1.0 billion, 10-year program to enhance, renew and rebuild the University of Connecticut's main and regional campuses. An additional $640 million has been pledged for the remainder of the state university system and the community colleges. More specific investments are being made in Iowa, where the governor and legislature enacted increased budgetary support for the three regents institutions including endowed chairs, incubators and matching funds for public/private partnerships.

Six states emphasized additional university funding for research and development activities. In Montana, Governor Marc Racicot marshaled an appropriation through the legislature that will provide a stable and secure source of funding for university-based research. This measure expands the work that was started through the state's participation in EPSCOR and will support an increase in quality research faculty at the state universities. In Texas, the state reported a fiscal year 1998 increase of $58 million (4.4 percent) in research spending, directed primarily to engineering schools and institutions that conduct health-related research.

Centers of Excellence

Much of the state investment in university research is being channeled through "centers of excellence," university-based facilities that focus on one or more specific industrial sectors. Kansas has created five such centers where companies "can obtain technological expertise, equipment and facilities for research and development." The center at Wichita State University focuses on aviation and aeronautics, working in cooperation with the cluster of aviation business—e.g., Cessna and Boeing—located in the Wichita area. In Rhode Island, the state supports two centers of excellence—the Center for Cellular Medicine at Brown University and the Ocean Technology Center at the University of Rhode Island.

A variation of the centers of excellence program is the Georgia Research Alliance, a public-private partnership that invests in promising researchers in three strategic industries—biotechnology, telecommunications and environmental technologies—providing needed laboratory facilities. Four state universities—Georgia Institute of Technology, Georgia State University, Medical College of Georgia and the University of Georgia—participate in the alliance.

Public funds are also being used to leverage additional private investment in the university research activities. As part of its post-secondary reform package, Kentucky created several research investment and incentives funds that can be used by a university development office to increase fundraising. West Virginia has implemented a more targeted form of cooperative funding that matches small businesses with a university partner in order to compete more effectively for Small Business Innovation Research (SBIR) grants.

Faculty and Cooperative Research Policies

States are also encouraging collaboration between state universities and the private sector through changes in university policies that (1) reward faculty for their contribution to commercialization of university-based research and (2) promote cooperative research with for-profit entities.

In 1997, as part of a new collective bargaining agreement with its faculty, the University of Hawaii increased a faculty member's share of the revenues from intellectual property licensing and commercialization to 50 percent. While Hawaii's policy is the most generous in terms of the faculty member's share of revenues, other states including California, Mississippi and Rhode Island have also liberalized their faculty research policies.

In terms of cooperative research, the Arizona Board of Regents has adopted new policy that allows state universities to negotiate cooperative arrangements with companies that want to use university facilities to commercialize new technologies. In particular, it encourages companies to sponsor research with an assurance the private sector partner can acquire the rights to any technology that might result from the cooperative effort.

Industry-Specific Curriculum

One additional way that states are supporting the growth of an entrepreneurial sector is by ensuring that institutions of higher learning and community colleges produce graduates who are literate in the technologies associated with specific industry clusters. The Maryland Applied Information Technology Initiative (MAITI) has partnered with the private sector to develop new curriculum in the following disciplines: computer science, systems engineering, electrical engineering, telecommunications and decision sciences.

Another example is the Semiconductor Process Technology (SPT) curriculum that was developed by the Delaware Economic Development Office and is offered at the Delaware Technical and

Community College. The purpose of the SPT program is to ensure the availability of a skilled workforce by training technicians and operators for the semiconductor and related industries.

Summary and Implications

States clearly recognize the important contribution that universities and related institutions make to an economy that relies on innovation and technology. This is evidenced by both a range of activities—direct investment, leveraging public funds, and policies that encourage private sector collaboration and faculty participation—that expand the states' intellectual infrastructure. State investment in intellectual capacity increases in importance as federal research and development investments either decline or remain static. The remaining question is the extent to which this trend results in the development and commercialization of new technologies. If they have not done so, states might consider methodologies for benchmarking and evaluating the benefits associated with state investment in intellectual capacity.

VII. Conclusions

To date, state commitment in support of entrepreneurs is mixed. While state funding for entrepreneurial development lags behind other economic development activities, many states have created programs or adopted policies that have a positive impact on entrepreneurs. Based on responses to the survey of state policies and programs, states fall into two general categories. At one end of the spectrum are states that have a clearly articulated development objective that focuses on the emergence and success of entrepreneurial ventures. In contrast, many states have draped their existing economic development programs in a mantel of entrepreneurship.

Many of these state practices have been in effect for only a short period of time. Therefore, it is difficult to gauge their effectiveness. Further research is needed to understand how states are evaluating the impact of these programs, and where appropriate, to develop new measures and evaluation processes.

As research continues to make the connection between entrepreneurial activity and economic prosperity, states should re-examine their strategies, policies and programs to maximize the return on state economic development expenditures. This report is only a snapshot in time, making observations about current state economic development policies and practices. At a minimum the report is a benchmark against which subsequent research can be compared. Hopefully, it also raises issues that will fuel debates around the impact that state actions have on entrepreneurs and promote public innovations that contribute to the realization of a truly entrepreneurial economy.

Appendix A
States Responding to the NGA Survey on State Entrepreneurship Policies and Programs

State	Population*
Arizona	4,668,631
California	32,666,550
Connecticut	3,274,069
Delaware	743,603
Florida	14,915,980
Georgia	7,642,207
Hawaii	1,193,001
Idaho	1,228,684
Indiana	5,899,195
Iowa	2,862,447
Kansas	2,629,067
Kentucky	3,936,499
Maine	1,244,250
Maryland	5,134,808
Massachusetts	6,147,132
Michigan	9,817,242
Mississippi	2,752,092
Missouri	5,438,559
Montana	880,453
Nebraska	1,662,719
Nevada	1,746,898
New Hampshire	1,185,048
New Jersey	8,115,001
New York	18,175,301
North Carolina	7,546,493
North Dakota	638,244
Pennsylvania	12,001,451
Rhode Island	988,480
South Carolina	3,835,962
South Dakota	738,171
Tennessee	5,430,621
Texas	19,759,614
Utah	2,099,758
Washington	5,689,263

West Virginia	1,811,156
Wyoming	480,907
Total for 36 Responding States	**204,979,566**
Total U.S. Population	**270,298.524**
Percentage Population Covered by Survey Responses	**75.83**

*U.S. Population Estimate, July 1, 1998
Source: Bureau of the Census, U.S. Department of Commerce