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HIGHER EDUCATION AND ECONOMIC COMPETITIVENESS

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ABSTRACT

Higher education plays an increasingly critical role in the economic competitiveness of local, state, and national economies. The factors driving the World Economic Forum's Global Competitiveness Index are examined to illustrate how higher education has come to be viewed as a driver of economic growth. Then, by examining institutional economic development reports and national economic competitiveness plans, this chapter lays out the growing global interest and import of economic competitiveness and the ways in which governments are seeking to harness the power of higher education to support their own competitiveness. It concludes with a discussion of how governments, businesses, and higher education institutions could collaborate to develop public agendas to guide, among other things, the economic contributions of colleges and universities.

INTRODUCTION

We are just now perceiving that the university's invisible product, knowledge, may be the most powerful single element in our culture, affecting the rise and fall of professions and even of social classes, or regions, and even nations.

—Clark Kerr, *The Uses of the University*

Clark Kerr was prescient about the significant role knowledge would come to play globally in terms of economic prosperity and competition. We now live in an age of a knowledge-based economy, in which the creation and transmission of knowledge has come to be a primary impetus for economic development. This has led to a shift in the policies and practices used by many countries to compete economically. In *The Competitive Advantage of Nations*, Porter (1990a) observed that in most of the world, a nation's economic prosperity would no longer be tied to abundant natural resources and cheap labor; rather, their "competitive advantage" would be increasingly based on creative and scientific innovations. This new paradigm of economic development positioned colleges and universities as primary engines of economic growth (see Romer, 1990).

Today, many nations are involved in *the great brain race*, a phrase used by Ben Wildavsky (2010) to describe the increasing competition among nations for new knowledge and innovation. Governments increasingly adopt comprehensive competitiveness strategies designed to improve their economic position in the global economy. Recognizing that an advantage of the great economic powers of the last century was their higher education sectors, many governments are now seeking to expand the capacity and quality of their own sectors. This, at times, includes actively recruiting and retaining students, scholars, programs, and institutions from other nations—particularly those perceived to have strong higher education systems. Some of these nations are using the higher education resources of other nations to decrease the competitive advantage gap between them. In this new environment, governments have begun to realize that higher education institutions are important anchoring tools as they help to attract and retain students and alumni. Governments also recognize that such institutions drive innovation and industry development, and have begun to invest in research institutions, research parks, and research programs.

Beyond the engagement in educating students, much of the economic development contributions derived from higher education come through partnerships with the government as well as the local community and industry. The reality is that while nations posture over competitive advantages, the economic contributions of colleges and universities occur in their local communities. So, it is also

important to understand the connection between higher education institutions and the communities where they are located.

The purpose of this book is to cultivate greater understanding among elected officials, business representatives, policymakers, academics, and other concerned parties about the central roles universities and colleges play in national, state, and local economies. Through the varied contributions, it assesses, based on the best available evidence, ideas, and practices from across the United States and around the world, how universities and colleges exert impact on economic growth. Some chapters explore methodologies, metrics, and data sources that may be used to gauge the performance of diverse higher education institutions in improving economic outcomes. Others present typologies of economic development activities and are designed to improve understanding of such initiatives and generate new energy and focus for a national community of scholars and practitioners working to formulate new models for how universities and colleges may lead economic development in their nations, states, and communities while still performing their more traditional and central educational functions.

The intent of this book is not to privilege the economic development functions of higher education institutions above those of teaching, research, and service. These engagements are well documented and discussed throughout the literature—and, rightly so; they are the primary missions of these educational institutions. However, there is now significant interest among policymakers and institutional leaders about the role of colleges and universities as economic drivers. This volume is intended to provide readers with an overview of the economic contributions of higher education institutions and set forth ways for better measuring, studying, and discussing the concept.

This chapter provides a conceptual context for the rest of the book, discussing the rising focus of nations on their economic competitiveness in the global marketplace. The rise of colleges and universities as economic drivers is set against this broad backdrop. Not all readers may agree that knowledge-driven innovation is a primary force behind the competitiveness of countries and—in the case of the United States—the several states. However, the issue of economic competitiveness is frequently discussed among political leaders, media pundits, and policymakers around the globe; and the desire to

enhance one's ability to compete economically has spurred many policy decisions. This chapter seeks to frame how higher education is now engaged with the issue of economic competitiveness, drawing on the literature, rankings, and policy documents.

The chapter begins with a discussion of the competitive advantage of nations, highlighting what many believe to be the critical role that higher education plays in advancing the economic condition of countries. I then discuss the ways in which higher education has been incorporated into national and state economic development and competitiveness plans. Then, drawing on economic development reports, the chapter shows how some U.S. institutions now use competitive advantage terminology as a means to strengthen their position among stakeholders. In the final section, I argue that higher education, business, and government leaders could be advantaged to work more collaboratively to develop public agendas that guide, among other things, the economic contributions of colleges and universities.

GLOBAL COMPETITIVENESS AND HIGHER EDUCATION

When Michael Porter (1990a) published the book *The Competitive Advantage of Nations*, his premise was simple: the economic prosperity of a nation in the twenty-first century would be created, not inherited. He posited that a nation's competitive advantage¹ in the global marketplace is based upon its industries' ability to innovate and upgrade. This conclusion challenged classical economic assumptions that the advantage of nations mostly rested on their access to natural resources and labor as well as productive regulation of their economic markets. Instead, Porter (1990a, p. 19) argued that competitiveness in the modern world would favor the innovators. Moreover, innovation would be "created and sustained through a highly localized process," not a standardized model to be adopted by all nations. He noted that differences in "national values, culture, economic structures, institutions, and histories all contribute to competitive success" (Porter, 1990b, p. 3). This premise quickly garnered the attention of leaders around the globe and led many nations and regions to be more strategic about enhancing their global competitiveness as a means for enhancing their economic prosperity.

The economic competitiveness of nations would soon become a competition in its own right. In 2004, the World Economic Forum, located in Switzerland, began producing an annual index of national competitiveness in their Global Competitiveness Report. The rankings are based on several pillars of economic development: public and private institutions, infrastructure, macro economic framework, health and primary education, higher education and training, market efficiency, technological readiness, business sophistication, and innovation. Given the different developmental stages of nations, the report breaks nations into three groups based on the most important factors driving their economic development. The stages of development, beginning with the stage with the least development, are factor-driven, efficiency-driven, and innovation-driven.

As countries move into more advanced economic stages, higher education becomes increasingly important. Countries with factor-driven economies gain competitive advantage based on what is available within the nation, primarily natural resources and unskilled labor. In this stage, the most important factors in the Global Competitive Index are institutions (e.g., government agencies and accountability), infrastructure, macroeconomic framework, health and primary education. Moving into an efficiency-driven economy, wages tend to increase and productive economies need to figure out ways to support the increased wage demands and further improve quality of life. They do this by enhancing the efficiency of the production process and quality of products. The competitive advantage of nations at this stage is driven by quality and accessible higher education institutions, efficient and well-developed markets, and the ability to effectively use technology. The Global Competitiveness Report explains the importance of higher education as nations transition through the various economic stages this way:

Although less-advanced countries can still improve their productivity by adopting existing technologies or making incremental improvements in other areas, for those that have reached the innovation stage of development, this is no longer sufficient for increasing productivity. Firms in these countries must design and develop cutting-edge products and processes to maintain a competitive edge. This requires an environment that is conducive to innovative activity, supported by both

the public and the private sectors. In particular, it means sufficient investment in research and development (R&D), especially by the private sector; the presence of high quality scientific research institutions; extensive collaboration in research between universities and industry; and the protection of intellectual property. (Schwab, 2011, p. 7)

Moreover, these nations need to develop their workforce to be able to both create and use these new innovations. Moving from an efficiency-driven economy to an innovation-driven economy requires a nation to produce and take advantage of new products. A nation must be able to both create and utilize innovation. This requires a research infrastructure and entrepreneurial culture that can foster innovation as well as an educational infrastructure to support knowledge acquisition, skill development, and critical thinking among the nation's workforce.

Competitive advantage is not just important for being able to foster economic prosperity within a nation. Some now argue that global power is increasingly being tied to economic might. The title of the 2011 book, *The Coming Jobs War*, underscores this concept. The author, Jim Clifton, chairman and CEO of Gallup, one of the leading international polling organizations, argues that the data from the vast array of Gallup's polling suggests that the competition for good jobs and GDP growth is becoming increasingly critical and that in the next three decades, global competition among nations will be led by economic force, political or military power. Thus, if economic might is driving the power struggle among nations, then innovation will likely be one of the keys to long-term success. And, in many nations, higher education institutions are the primary force driving innovation and developing workers for the innovation-driven economy. Indeed, Clifton argues that because of their unique ecosystems, universities are one of the most important institutions in the competition for jobs and, thus, economic power.

The American research university has been often posited as one of the primary drivers of the nation's economic competitiveness. Many have touted its role in producing a high-skilled work force, attracting some of the best minds from other countries, and fostering creative activity and innovation. Of increasing interest is also how these institutions have been able to sustain their global dominance

over the past several decades. The University of Virginia economic development plan argues, “Research universities are akin to large firms producing two valuable products that are most efficiently produced in tandem. These firms compete for customers among students and their families, government funding agencies, foundations, and corporations. To each customer, the university provides a different bundle of services” (Knapp & Shobe, 2007, p. 56). America’s higher education institutions proved to be significant components for supporting a range of activities from educating the high-skilled laborers to producing the new knowledge that supports an innovation-driven economy.

Recognition of higher education’s crucial role in supporting economic competitiveness has changed markedly in the last twenty years. In *The Competitive Advantage of Nations*, discussion of the role of higher education in a nation’s competitive advantage is surprisingly minimal. Porter’s (1990a) focus at the time was primarily on the role of firms in fostering competitive advantage. He noted that firms are particularly important in shaping the creation of factors that drive the economy and firms can influence the direction of higher education institutions by sponsoring students, helping institutions identify the needs of industry, helping with curriculum planning, hiring graduates, and financially supporting equipment, facilities, scholarship, research, and programs that recognize outstanding teachers and students.

Twenty years later, higher education is understood not just as a means for supporting a nation’s competitive advantage, but as a competitive advantage in its own right. Nations such as the United Kingdom and the United States, among others, have a long history of investing significant resources in their higher education sectors. This commitment to higher education has resulted in the development of quite advanced educational systems (see Carnevale & Rose, 2012, chapter 6 of this volume, for a discussion of how this transpired in the United States). These systems are able to provide the nation with highly skilled laborers and support the innovation economy. In addition, as discussed in Lane and Owens (2012—chapter 8 of this volume), higher education is now a highly valuable tradable service. The United States and the UK also hold competitive advantages not just because their higher education institutions are among the leading institutions in the world; they also attracted some of the most capable

students from other countries. Many of these students would remain in the country where they studied, contributing to its innovation and economic development, instead of returning home. In many ways, it is the competitive advantage in the higher education sector that allowed these nations to create and sustain their competitive advantage in several industries.

The theory of competitive advantage can be used to understand the development of higher education as a tradable service. The United States' competitive advantage in the area of higher education has resulted in the U.S. successfully exporting its higher education sector to most other nations. Why would nations desire to import higher education services? The United States has already invested significantly in the development of its higher education infrastructure and attained a very strong global reputation. For many nations, the costs of creating a comparable system to educate their students would be unfathomable. As such, it is more efficient to invest their limited resources in other industries and, instead, send their students abroad to study.

The United States relies on this competitive advantage. In fact, the largest proportion of students studying outside of their home country, study in the United States (OECD, 2010). However, many national leaders have begun to recognize the important role of higher education in economic growth. National competitiveness strategies now often include investment in their domestic higher education system as one of the core strategies. In some nations this even includes attracting colleges and universities in foreign countries to set up shop in their borders, resulting in a range of ventures from joint programs to consultancies to international branch campuses (Lane & Kinser, 2011a). This increased international competition can be measured in many ways; but the dramatic drop of the U.S. market share of international students is the most telling. While the total number of international students studying in the United States continues to increase, the overall market share has declined from 26 percent in 2000 to 18.7 percent in 2008 (OECD, 2010). Recognition of the critical role that higher education plays in fostering a nation's broad-based competitive advantage will lead some nations to invest more in higher education and further enhance the international competition for students and scholars.

Of course, competitiveness is not solely a national strategy. Within the United States, individual states seek ways to improve their own

competitive advantage. As semi-sovereign political entities that benefit from the productivity of their own markets (e.g., tax dollars, job growth, quality of life, etc.), state governments compete not just with other nations, but with other states for attracting businesses, jobs, and students. Moreover, institutions are now positioning themselves as a backbone of economic competitiveness in order to strengthen their standing among stakeholders. The following sections discuss the intersection of higher education and competitiveness at the national and state levels.

NATIONAL COMPETITIVENESS: HIGHER EDUCATION'S ROLE

It is difficult to determine exactly how higher education emerged as a competitive advantage in the United States. One might point to any myriad of federal policies. For example, the Morrill Land Grant Acts of 1862 and 1890 spurred the development of research into the agricultural and mechanical arts through the funding of new colleges and universities. The Servicemen's Readjustment Act of 1944 (otherwise known as the GI Bill) opened up higher education to the middle and lower classes and helped move the system from elite access to mass access. The National Defense in Education Act (NDEA), prompted by Russia's launch of Sputnik and their beating the United States into space, provided new funding to advance the nation's scientific progress. Many other policies could likely be added to this list, but policies alone did not create and sustain the worldwide success of this particular national strength. A number of institutional, cultural, and historical factors also contributed. Geiger (2004, p. 132) suggests the answer is "the decentralized, competitive structure of the university system, which fostered and rewarded innovative and entrepreneurial behavior." The collective diversity and flexibility of the entire high education sector, with community colleges, liberal arts colleges, comprehensive institutions, and so forth offering multiple educational pathways to a wide range of students surely also helped. But, for the purposes of this section, I am focusing on how national governments incorporate higher education into their competitiveness strategies.

To start, though many now consider its higher education system as the backbone of its economic success over the last century, the United States does not have a comprehensive competitiveness strategy (Porter, 2008). Nor does it have a national plan as to how its

higher education institutions could be used or grown to support its economic competitiveness. There are certainly calls for increasing the number of college graduates in the coming years, and some leaders believe that the federal government should support additional research funding, but these are not plans or strategies. This disconnect is partially explained by the fact that education is a public function that is primarily regulated by the state governments, and the role of higher education in the competitive advantage of states is discussed below.

Though the United States may not have a competitiveness strategy, other countries do, and many of those often put a significant emphasis on higher education. From Guyana to Indonesia and the Republic of Georgia to Qatar, national governments are linking higher education to their competitiveness strategies. They are investing new resources into their own educational institutions in order to educate more highly skilled labor. They are building research and science parks to help spur innovation and research. They are also seeking ways to capitalize on the success of other nations by importing higher education. This importing does not simply come through sending students abroad for an education with the hope that they might return, but also through developing joint partnerships, international branch campuses, and educational hubs designed to build local capacity and, for some, recruit students from other countries (Knight, 2011; Lane & Kinser, 2011a; Obst, Kuder, & Banks, 2011).

One of the more direct statements about the importance of education in national competitiveness comes from Ireland's National Competitiveness Council, which reports directly to the nation's prime minister:

Education is central to our ability to improve our quality of life and wellbeing through success in selling goods and services on international markets. The quality of education outcomes is central to national competitiveness. Ireland's education system has been a key contributor to economic growth and improvements in living standards in recent years. We need to have one of the best education and research systems in the world to drive economic recovery. (National Competitiveness Council, 2009)

For many nations, the role of higher education in fostering economic competitiveness is seen primarily as the production of highly skilled labor. For example, the competitiveness reports of such varied nations as Croatia, Malaysia, South Korea, and Guyana all point to the need for more workers for the knowledge-based industries. Guyana (2006) has an entire action item (HR.R5) in its competitiveness report dedicated to reversing “brain drain.” South Korea, through the Korea Research Foundation (n.d.), developed the BrainKorea21 (BK21) program designed to nurture world-class graduate schools and to foster research. Croatia places education as one of the foundational building blocks of its national competitiveness and its plan focuses on the need to expand educational access because of the lack of highly skilled labor (National Competitiveness Council, 2009). In the case of Malaysia, the government wanted to stem the significant outflows of students from the nation. Ziguras (2003) estimated that in 1995 Malaysia lost approximately US\$800 million due to the very large number of students studying overseas; this does not include the potential loss of productivity occasioned by a large number of those students not returning to the country. To counter this trend of their students studying abroad, the Malaysian government began expanding its domestic capacity, as well as attracting branch campuses from overseas institutions (Lee, 2001; Sirat, 2005).

Governments such as those in China, Qatar, and Malaysia have gone so far as to actively and purposefully align their educational interests with their economic policies. For example, in Qatar, the nation has actively attracted international branch campuses from the United States with the explicit purpose of supporting the key areas of economic growth—areas that the nation desires to develop into a competitive advantage (Lane & Kinser, 2011a). The foreign institutions, such as Carnegie Mellon University, Texas A&M University, and Northwestern University, that set up shop are intended to help build the local education system as well as spur innovation in local industries (Trani & Holsworth, 2010).

One of the more interesting developments in this arena has been the recent focus on the concept of “educational hubs.” Still loosely defined, the general premise behind a hub is that one builds an educational infrastructure to reduce the number of students studying abroad and entice international students to study in that country.

There is very little data yet available to measure the success or failure of such endeavors, but it does have great rhetorical panache. Nations such as Bhutan, Sri Lanka, Malaysia, Singapore, Qatar, and the United Arab Emirates have invoked this strategy, though the developmental process has been varied (see www.globalhighered.org for descriptions of emerging educational hubs).

The increasing importance of economic power, particularly as measured through economic competitiveness, has fostered renewed interest by nations in their higher education systems. Many nations seem increasingly less willing to outsource the advanced training of their students to other nations. The corresponding changes will likely mean increased competition for international students; but also new resources for higher education institutions in nations that deem higher education of strategic importance.

HIGHER EDUCATION'S CONTRIBUTION TO STATE ECONOMIC COMPETITIVENESS

Globally, the concept of competitiveness is mostly discussed at the national level, but it is also influencing much activity at the subnational level as well. For example, in the United Arab Emirates, which is a federation of seven states, Dubai and Abu Dhabi, as examples, are both active in increasing their own competitive advantages (Davidson, 2008). In terms of higher education, both have adopted strategies to import higher education and build new domestic institutions to help expand their advantage (Croom, 2010; Kinser et al., 2010; Lane & Kinser, 2011a). They both also compete with each other as well as other nations in terms of attracting students, workers, and businesses. This section, which focuses mostly on efforts within the United States, discusses the ways in which colleges and universities foster economic activity within subnational governments.

In nations where subnational governments (e.g., states) retain control over higher education, economic development and competitiveness strategies that utilize higher education can be quite varied, but often lead to states competing over businesses, laborers, and other drivers of economic development. Higher education institutions can play an active role in this competition seeking to attract students, faculty, resources, and recognition.

Within the United States, many states now have competitiveness councils and are ranked based on their own economic competitiveness and how business friendly they are.² Some states even have their own international trade departments, designed to help market the goods and services of their businesses in overseas markets. As with nations, states (and other subnational governments) have come to recognize the importance of higher education institutions, though many now have been forced to cut back on their support to higher education (Johnstone, 2012—see chapter 10 in this volume). Despite this new economic reality, many higher education institutions in the United States remain substantially linked to their state environment and state stakeholders. As such, many institutions remain committed to valuing their contributions to their state and explaining how they are important for fostering the state's economic competitiveness.

The Rockefeller Institute of Government recently conducted one of the most comprehensive reviews of the role of higher education in economic development within the United States. After interviewing institutional leaders throughout the country, they concluded:

From Springfield, Massachusetts, where a technical college has converted an abandoned factory into an urban tech park, to Raleigh-Durham, North Carolina, where research universities worked to turn a sleepy backwater into a global powerhouse of innovation and manufacturing, to Sidney, Nebraska, where a community college operates a training academy that has helped keep the headquarters of a growing national company in its rural hometown, communities today recognize that their hopes for the future are tied to higher education. (Shaffer & Wright, 2010, p. 1)

The report, subtitled *How Higher Education Institutions Are Working to Revitalize Their Regional and State Economies*, categorized the state-level economic contributions of U.S. colleges and universities into four groups: (1) Innovation: Building the Economy of the Future; (2) Strengthening Employers for Success and Growth; (3) Community Revitalization; and (4) An Educated Population. This section provides an overview of these four areas and highlights the ways in which higher education institutions are engaged in each (see also Gais and Wright, 2012—chapter 2 in this volume).

As noted above, innovation has become the driver of economic competitiveness. Colleges and universities, particularly those with a significant research infrastructure, have proven to be one of the primary sources of innovation. In fact, Abel and Deitz (2009) found that having a research university in a community is one of the most important contributors to creating an innovation-based economy, as such entities not only produce new knowledge and facilitate knowledge spillover into the local community but their infrastructure is important for retaining and attracting high-skilled laborers into the local population. The research by the Rockefeller Institute revealed that there were two basic strategies for fostering innovation. The first, which was often pursued with a collaboration of government, industry, and private and public higher education institutions, focused on creating a research infrastructure that would allow for building and/or attracting an industrial cluster. For example, after Austin, Texas, beat out Atlanta, Georgia, for providing the home for a major semiconductor headquarters, Georgia created the Georgia Research Alliance (GRA), headed by a nonprofit board comprised of university presidents and industrial leaders, to better coordinate the state's economic advantages and be more competitive. A primary component of GRA, the Eminent Scholars program, used matching funds from the state and universities to attract highly productive and entrepreneurial scholars. As of 2010, the program had recruited sixty researchers, which had managed to attract \$2.6 billion in research funding, generating more than 5,500 new science and research jobs and creating more than 150 new companies. While Georgia was motivated by losing out in a competition, other regions have had to confront the loss of existing industries. For example, after Pfizer, Inc., closed its research facility in Kalamazoo, Michigan, Western Michigan University developed a plan to mitigate the losses, not by attracting one new large business, but by developing an infrastructure to retain Pfizer scientists to start their own businesses. The University, in collaboration with a local economic development organization, was able to attract twenty-two startup companies as of 2010 (Shaffer & Wright, 2010).

A second contribution is the support offered to local businesses. Many colleges and universities host small business development offices, designed to support entrepreneurs and small business owners with creating and building their companies. Community and

technical colleges collaborate with business and industry to provide job training initiatives (Jacobs, 2012—chapter 7 in this volume). Some institutions have become even more aggressive in their support, working with government and financial institutions to provide financial support for small businesses.³ In their most recent economic development report, the University of Connecticut positions itself as a means for “keeping Connecticut Competitive.” They partly explain their contribution in terms of aiding Connecticut businesses:

Employers across Connecticut are gaining an edge over their competition with the help of the School of Business. Customized and open-enrollment finance, business law, and accounting courses offered to professionals through UConn’s Executive Education Programs provide the advanced training employees need to adapt quickly to emerging business trends, advancing technology, and global expansion. (University of Connecticut, 2009, p. 20)

Why are higher education institutions interested in providing such support? The efficiency and effectiveness of a business’s operations contributes to how well a region can adapt and absorb new technology (Glaeser & Saiz, 2003). While knowledge creation supports innovation, building better businesses helps facilitate the transfer of knowledge and innovation into the local marketplace.

Community revitalization, a third avenue of contribution, also proved to be an important component of the economic impact of colleges and universities. The impetus for such initiatives is twofold. First, higher education leaders recognize the benefit of being located in productive and welcoming communities. The local environment can affect an institution’s ability to recruit and retain students, staff, and faculty. Second, local and state leaders are increasingly calling on institutions to invest in the local community. In many places, colleges and universities are among the largest employers and serve as community centers. In addition, despite their growing global engagements, colleges and universities, as anchor institutions, remain inextricably linked to their local communities (Lane & Kinser, 2008). This is very different than corporations, whose headquarters, research labs, and production facilities have become increasingly mobile. Thus, higher

education institutions have also increasingly taken the role once filled by private industry in terms of investing directly into public infrastructure and community institutions (Shaffer & Wright, 2010).

One of the most common strategies for community revitalization comes in the form of downtown and neighborhood reclamation. Colleges and universities, from Pomona, California, to Philadelphia, Pennsylvania, and from Fargo, North Dakota, to Phoenix, Arizona, have become actively involved in the redevelopment of their city's downtown and other neighborhoods. The types of endeavors can vary significantly. Institutions such as North Dakota State University, Southeast Missouri State University, and California State Polytechnic University moved some of their programs into reclaimed structures in struggling parts of town. Such efforts can help attract new business and residential investments. Michigan State University, the University of Minnesota, and the University of Georgia offer an array of community "engagement" programs designed to help build local nonprofits, educational groups, and other community-based organizations. The University of Cincinnati and the University of New Orleans are examples of institutions actively involved in improving their local education pipeline, through developing or leading projects designed to improve P-20 educational quality and access.

Finally, higher education produces an educated workforce and citizenry. Despite the discussions of innovation, community engagement, and economic competitiveness, we must not forget the most significant contribution of colleges and universities is providing an educated populace. Long before policymakers and scholars were trying to identify the reasons for economic growth, this fundamental contribution of colleges and universities was at work benefiting their local communities and those to which their graduates migrated. The connection between education and economic growth has long been studied by human capital theorists (Schultz, 1960; Becker, 1964). The basic argument has been that the better educated a person is, the more productive she or he is, and, therefore, the more she or he contributes to economic development of a region. Later, researchers began to explore the externalities associated with the development of higher education institutions (Lucas, 1988). Community colleges, liberal arts colleges, comprehensive institutions, and research universities all benefit their local communities and others through the development of minds.

FRAMING THEIR COMPETITIVE ADVANTAGE: ECONOMIC IMPACT STUDIES

In order to evidence their economic contributions to local stakeholders, colleges and universities commission economic impact reports to show the extent to which they helped foster economic growth.⁴ These reports would often receive media attention and, at least early in their development, attracted the interest of policymakers. Over the last five years, these reports have begun to take on a new angle, arguing in favor of the important role that colleges and universities play in fostering competitiveness.

A review of seventy college and university economic impact plans revealed that twenty-five argued that higher education institutions play an important role in the competitiveness of economies, particularly at the state level. As expected after the research from Shaffer and Wright (2010), which showed broad-based engagement by multiple types of higher education institutions, these statements were not limited to the leading research universities. Out of the seventy reports included in this review, twenty-five were from institutions associated with the American Association of Universities (AAU).⁵ Only eleven of those institutions discussed their contribution to an economy's competitiveness. Fourteen non-AAU institutions also argued their case for being part of their state's competitiveness. Indeed, while the elite research universities contribute to innovation creation, it is the comprehensive universities and community colleges that have educated most students.

In many cases, the reports were very direct in their claims that higher education is at the center of their state's economic competitiveness. The following are examples from the reports.⁶

California's economic future is largely tied to the competitiveness of its knowledge-based industries. Consequently, all Californians share a common interest in the foundations that make these industries strong. There is no element of that foundation that is more important than the state's public university systems. Because the California State University provides more well-educated, job-ready graduates to California's knowledge-based industries than any other institution of higher education in the state, it has a strategic role at the

absolute center of California's economy. (ICF International, 2010, p. vii)

Universities lie at the heart of successful economies across our nation, and Eastern Kentucky University's impact on Kentucky and, in particular, its 21-county service area reaches to the core of our communities' economic vitality and competitive ability. Eastern is fueling the growth of our region with annual contributions of \$518.5 million to the state's economy. That's an almost eight-fold return on the state's investment in the university. ECU is responsible for the addition of almost 6,000 jobs across the state and \$192.1 million in household income. Tax bases are broadened as a result of the new business enterprise and new streams of personal and corporate income stimulated by Eastern. (Haywood, 2006, p. 1)

Based on 2008–09 figures, the \$109.5 million in annual spending and the equivalent of approximately 730 high-paying jobs in [Montana State University] research would be lost to the state if the University did not exist, and so would the fruits of those research efforts—the patents and inventions, the spinoff of business into the state economy, and the well-trained engineers and scientists that will help keep Montana and the nation competitive into the 21st century. (Montana State University, 2010, p. 11)

Indiana University–Purdue University Indianapolis (IUPUI) has played a fundamental role in its region since it was established in 1969. IUPUI provides central Indiana residents with affordable and convenient access to a range of continuing education, certificate and degree offerings at a premier research university. As a result, IUPUI strengthens the economic competitiveness of the state and increases the earning power of its residents. IUPUI's impact on the state extends beyond its academic mission. The university's budget, the civic engagement of students and staff, and the campus' cultural contributions also bestow many economic benefits to the region. (Indiana Business Research Center, 2008, p. 4).⁷

These four statements are illustrative of the type of overarching description that colleges and universities include in their reports. They exemplify the fact that while they speak of competitiveness, there is almost no discussion of competitive advantage. Above, only Montana State University, which directly mentions patents and inventions, references its contributions to innovation and scientific inquiry. California State University suggests that it provides “job-ready graduates to California’s knowledge based industries,” and IUPUI states that it provides “affordable and convenient access to . . . education.” Other reports make similar claims. Rutgers (2009) provides the education and training necessary for New Jersey workers to “remain competitive” (p. 18). The University of Connecticut’s (2009) business schools gives Connecticut’s employers “an edge over competition” (p. 20).

This is not to argue that these institutions do not contribute to the competitiveness of their regions. Without these institutions, it is very likely that their regions’ ability to attract and grow business and industry would be greatly reduced. But, given the now widely accepted belief that production and use of innovation is the key to long-term competitiveness, it is surprising that more reports do not highlight their role in the innovation-driven economy. Though, it is true, measuring such contributions can be complicated.

The University of New Hampshire actually admits the difficulty in measuring the connection between higher education and a state’s economic competitiveness. “UNH’s contributions to New Hampshire’s competitiveness in high technology and innovation-based economic developments are very hard to quantify.” After listing a few pieces of evidence, the report summarizes the issue this way: “UNH’s important role in research and business development will continue to be vital in the future as access to its skilled graduates, expertise, and other resources become [*sic*] increasingly crucial in the changing global economy, specifically the state’s move to a more innovation-driven economy where the nation’s comparative advantage lies” (Gittell, Carter, & Stillwagon, 2009, p. 8).

Not all reports were strictly positive in their discussions about economic competitiveness. Some institutions, particularly in places where government funding is becoming sparse, are arguing that competitive advantage can both rise and fall. Moreover, they assert, the

declines in the competitiveness of the institution may be linked to declines in the competitiveness of the state.

The University of Virginia did not mince words in their economic impact report in observing how a loss of institutional competitiveness may directly affect the state's competitiveness.

Given that many states are now making strong research universities central to their economic development plans, competitive pressures may make it difficult for Virginia's major research universities to maintain their national and international stature. As Virginia government provides a smaller and smaller share of the budgets of the research universities in the state, it is possible that these schools may lose some of their prominence due to the fierce competition among states and schools. This, in turn, would make it more difficult for the state to attract the top students and faculty, with the corresponding reduction in development of knowledge-dependent businesses. (Knapp & Shobe, 2007, p. 14)

A similar conclusion was drawn by the University of California: "Current and potential future reductions in state funding could have profound impacts on the California economy, including reduced economic activity and competitiveness" (Economic and Planning Systems, 2011, p. 2). The report went on state that its purpose was "to frame the state's funding decisions within a broad economic context, revealing that the critical role of the [University of California] within the state" (p. 2).

While the connection between institutional competitiveness and state competitiveness needs to be further researched, the evidence above suggests that institutions are beginning to use "competitiveness" language as a way to further support their claimed economic contribution. However, similar to how McHenry, Sanderson and Siegfried question some of the conclusions drawn by economic impact reports (McHenry, Sanderson, & Siegfried, 2012—see chapter 3 in this volume), it is also important to approach the broad-based assumptions of how individual institutions contribute to economic competitiveness with caution. One of the most important questions to pose is: What would be the impact if an institution did not exist within a state? Would a state still be as competitive? As discussed