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ALABAMA: AUTO ALLEY

7.1 Introduction

Alabama provides a state-level case study that traces how Alabama's automotive-related manufacturing activity (initiated by attracting Mercedes-Benz to Tuscaloosa, followed by auto parts suppliers) is raising the economic prospects in the Appalachian portion of the state.

The Appalachian counties of Alabama have been at the center of a major industrial revival powered by foreign investments in the auto industry. The efforts Alabama made to attract Daimler Chrysler, Honda, Hyundai, and key suppliers resulted in the growth of an auto cluster that is now a well-known story. This case study examines the conditions that led to that success but also the extent to which the benefits reached the Appalachian non-metro parts of the state.

The strategy to attract the auto industry was an economic development, not a rural development strategy. Conditions in rural Appalachian Alabama, though not as dire as more southern areas or as other parts of Appalachia, nonetheless were poor compared to national standards. How did the auto cluster affect rural Alabama? Was there a spillover of investment and jobs into rural areas? Did it create new jobs and wealth or did it deplete non-metro counties by attracting the best and brightest to the higher paying jobs in the auto companies locating in metro Alabama? These issues motivated this case study.

7.2 Regional Profile

The Appalachian region covers the northern half of the state, as shown in Exhibit 7-1. Since this case study is vastly different from the other case studies in terms of its geographic size and level of diversity, the economic development context of the region is best understood by reviewing its historical evolution, and the predicament that it presented.

Exhibit 7-1. Northern Half of Alabama is within the Appalachian Region



This northern part of Alabama has a long industrial history that was built on the steel and related industries in and around Birmingham and, in the more rural counties, the traditional non-durable goods industries that migrated South during the middle third of the 20th century to take advantage of surplus labor, low costs, and right-to-work laws. The Appalachian counties of Alabama, in particular, benefited from the state’s incentives, physical infrastructure, low wages, and federal investments.

During this period, manufacturing industry thrived in the rural areas. In 1984, the percent of employment in non-metro Alabama was 41.1 percent—and growing. The percent in metro counties was 18.5 and dropping. (source: Stuart Rosenfeld and Edward Bergman, *Making Connections: After the Factories Revisited*. Research Triangle Park: Southern Growth Policies Board, 1989). The share of metro workers employed in technical occupations, however was more than double the technical work force in non-metro counties. The biggest non-metro employers were furniture/wood (mainly in the northwest part of the state), metals, and apparel/textiles, rather than technology industries.

At the northernmost fringe of the state, in Madison County, Huntsville emerged as a high tech oasis. In the late 1940s, when Huntsville was still a small city in a non-metro county, the military brought German rocket scientist Werner Von Braun to the Redstone Arsenal. In 1960 President Eisenhower dedicated the NASA-funded Marshall Space Flight Center there, and Huntsville became “Rocket City,” one of the leading high tech centers in the nation.

The benefits of the space programs, however, did not reach out very far across the state, and in the early 1980s, Alabama began to realize that its still heavy reliance on low costs to recruit labor-intensive branch plants was increasingly precarious. Less developed countries could promise much lower costs with adequate skill levels and technological capacities.

7.3 Evolution of progress

In the 1980s the University of Alabama, influenced by the work of the Southern Growth Policies Board and Southern Technology Center to connect universities and economic development, began looking for new investment. The northern area was home to the Southern Research Institute, University of Alabama, and a recognized high tech industry capability.

As part of the search for new and more stable industry, a university team and state officials together saw a window of opportunity in autos, a product for which growing domestic demand was likely to provide continued advantage and stability. The University of Alabama had prepared a strong proposal in the bidding to locate the Saturn plant in Tuscaloosa. Although GM ultimately chose the Nashville area, Huntsville came close enough that the die was cast to pursue the next big opportunity. That came in 1993, when Mercedes Benz announced it was looking for a U.S. location for a large new production facility, in large part to gain entry to the growing American SUV market, avoid currency fluctuations, and access new sources of knowledge.

Mercedes’ needed a place in the United States that it could manufacture for both U.S. and export markets. To narrow down the options, the company established the following criteria:

1. labor force (underemployed but capable) and training system
2. physical infrastructure to make it easy to quickly reach suppliers and markets
3. supportive business climate (right-to-work, taxes)
4. existing and potential supplier base
5. strong university presence for access to business and engineering graduates plus adding to the area’s “melting pot” environment
6. good quality of life, melting pot of auto cultures

Later, Honda's criteria would be quite similar, focusing first and foremost on the availability of a trained and trainable work force, logistics to accommodate movement of supplies and products, physical infrastructure, and opportunities for growth, and an accepting and cooperative community.

7.4 Catalysts of change

On all counts, Alabama was competitive. Its extensive road, rail, port, and air systems were essential parts of the infrastructure. Some suppliers were in place. The Appalachian region of Alabama was already home to a small part of the auto supply chain, including two General Motors suppliers in Tuscaloosa. Mercedes visited JVC during its decision-making process to see how the company operated in Alabama and observe any differences from what they were accustomed to in their German facilities.

Education and training, in particular, greatly enhanced the state's competitive position, but for different reasons. The most important, according to those involved in the process, was its customized training. The Alabama Industrial Development Training, which is funded through a direct state budget line item, was set up to deliver various levels of training plus a wide range of recruitment, filtering, and selection activities. The state's community and technical college system was not only already organized to prepare skilled technicians for many of the occupations critical to the auto industry through its Beville Centers but also was a principal part of the state's manufacturing extension partnership (Alabama Technology Network). The primary impacts of the universities were the cultural and multi-cultural amenities and hospitable and open social environment they created in their respective regions.

The University of Alabama, with one of the first U.S. Department of Commerce-funded International Trade Centers, played a key role in convincing the German company to choose Alabama for its U.S. home. The universities also were sources of local expertise and problem solutions via their faculty and students in their science and engineering programs. The research capabilities of the universities have been more important to suppliers than the OEMs which continue to conduct most of their research near their home offices. The most valued contribution of the university, however, was the open and tolerant environment they instilled in their communities, particularly important to welcoming different cultures.

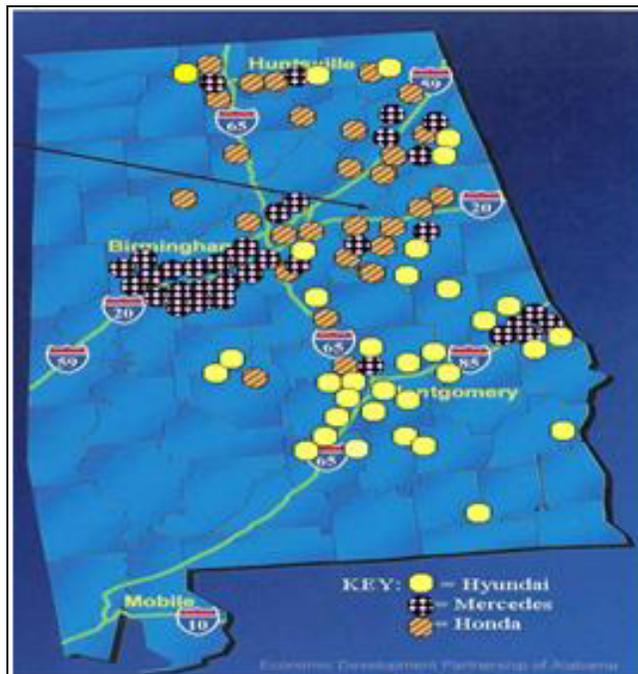
The elementary school system was undoubtedly the weakest link in the educational system. Although on average, Alabama is very close to the South's average, it has some of the most pressing rural education problems in the nation—ranked fifth most serious among all states (source: Jerry Johnson and Marty Strange, *Why Rural Matters 2005*, Rural School and Community Trust, 2005). But so long as a selection of good schools, public and private, were available to the employees and most employees were drawn from metro counties, overall statistics were not as barrier. It may, however, be one of the reasons that employment was so concentrated in urban areas.

The state further sweetened the pot—as did all the final candidates—with a sizable incentive package of \$372 million, one of the largest given for new investment at that point in time.

Giving Birth to the Auto Supply Chain Cluster. The site selection team from Mercedes began with proposals from 30 states, reduced it to 12, then six, then three (North Carolina, South Carolina, and Alabama). In 1997 Mercedes announced its decision to build its plant in Tuscaloosa, Alabama. That decision put Alabama on the map of the U.S. auto industry, extending the automotive manufacturing corridor along Interstates 65 and 75 dubbed “Auto Alley” that ran from Detroit through Indiana, Ohio, Kentucky, and Tennessee into Appalachian Alabama.

With the rapid growth of auto industry in Alabama (and Nissan in Mississippi), the center of gravity of that dispersed supply chain has drifted farther and farther south. The choice of Tuscaloosa by Mercedes proved to be the birth of a full-blown regional supply chain cluster—that is, the state eventually developed the exporter-OEMs, a base of suppliers some of which are shared, specialized support, expertise, work force, education and training system, and social infrastructure that together comprise a cluster. The key was landing Mercedes. According to University Chancellor Malcolm Portera, “Had Alabama not landed Mercedes, there would be no auto assembly in Alabama.” In 1998, the first year of production, Mercedes produced 68,800 units. (See map of the Alabama auto cluster in Exhibit 7-2.)

Exhibit 7-2. Alabama Auto Assembly and Parts Manufacturers



The incentives were important to the location decision but, according to site selection team members and economic developers, the value of incentives to the final decision was overrated and they were not the deciding factor. (Of course, only Daimler-Chrysler knows whether or not incentives were decisive and like all auto manufacturers, are unlikely to speak forthrightly about their importance.) They remain important, however, because virtually all U.S. regions offer them, and the absence of incentives could rule a location out of contention. State and business leaders offered different perspectives on the relative importance of the different reasons the two OEMs gave for their location decisions, but they all agreed that presence of a trainable labor force and state supported industry oriented education and training programs were the most important assets.

7.5 Lessons learned

The Human Capital Factor - Alabama is a good example of how an educational system can be focused to prepare for new job opportunities. The key to acquiring and growing the auto cluster was the presence of an underemployed but trainable labor force with the work ethic and learning potential the plants needed. The assembly plants had to hire large numbers of pre-qualified workers in a relatively short time since they did not intend to bring their work force with them. Mercedes officials initially were somewhat skeptical of the ability of Alabama to match the skills of Mercedes' German work force that was trained in its renowned "dual" vocational system (classroom theory combined with extensive work-based experience). By the time Honda arrived, however, it was clear that export-quality vehicles could be assembled in Alabama. A by-product of this workforce redirection towards in-state automotive assembly functions also meant that Alabama could be home to other vertically-linked businesses claiming a node position in several automotive supply-chains. These firms are then tied to auto-related business in Tennessee, Kentucky, Ohio, Michigan, Georgia, South Carolina and North Carolina.

Although Alabama as a state had lower levels of education than most states (in 1980 almost of third of adults living in non-metro counties had no more than eight years of education), attainment levels were higher in the Huntsville area and the state had a good record in vocational-technical education. Mercedes was concerned but believed the work ethic and training capabilities were on balance an advantage. They also realized that because their pay and benefits were going to be far above the state average, they would be able to attract the best from the incumbent work force. The companies that lost employees, then, would have to replenish their work force from the school systems. But this also meant that new job opportunities would eventually be dispersed across the region.

Alabama Industrial Development and Training (AIDT), according to multiple sources, was particularly important to both assemblers. Although customized training is now ubiquitous across the U.S., AIDT offers a fuller set of services than most competing

states, including advertising positions, taking applications, screening and then interviewing applicants, and conducting pre-employment training at plant sites, one of its permanent training centers, or in one of its 34 mobile units outfitted to meet a variety of technical training needs. The state's community and technical college system, which extended across the state, was an additional plus for Mercedes.

Mercedes initially brought over 150 Germans to conduct in-plant training and took workers to Germany for experience in German industry. But with the need to gear up and train a large workforce in a short time, the services and capabilities of Alabama's Industrial Development Training (AIDT) program quickly became a key to workforce recruitment, selection, and development.

The role of the university system is less clear cut. According to one state leader, it was "the spark that caused the automobile manufacturing fire" in the state. In this view, Alabama's engineering programs would provide the stream of engineers, student interns, and faculty consultants required to produce high-quality automobiles in a state with little experience in automotive manufacturing. Some graduating engineering did enter the industry but in general in the upper tiers of the auto industry, searches for engineers and top level managers tend to be national to attract the most experienced people possible. At the same time, engineering graduates from Alabama universities look nationally for employment—the majority of the state's engineering graduates leave Alabama to find jobs. The role of engineering students and programs, however, is clearer. Many students enter into coops with the industry and/or design engineering projects in cooperation with the industry. The presence of the schools offers opportunities for employees to get more advanced degrees or just upgrade their skills.

In the supply sector, there is little demand for engineering skills, as design and engineering are generally performed at existing sites in places like Michigan, Ohio, Germany, and Japan, rather than at new branch plants. There has been some movement into engineering functions at the 4th tier in Alabama and some prospects for further involvement. Overall, though, it might be the case, as one local official suggested, that the auto industry might rely more on University of Alabama's business school than on its engineering school.

Building blocks of human resource development - The state's formal education system starts with pre-school and continues through post-graduate education. But a comprehensive human resource development system also includes a variety of vendor-, industry- and company-based education and training, continuing and management education and informal learning. In Alabama, the public sector plays a major role at all levels.

1. ***Alabama Industrial Development Training***, created in 1971 by the state legislature to support economic development, was a major resource for the auto cluster. Administered by the Department of Postsecondary Education, AIDT's highly placed advisory council from business, industry, and education guide and advise its work. In 2004, the governor and Mercedes jointly announced a new

“backfill” program called Focused Industry Training at 34 sites to help fill the positions left open by those hired by the auto industry. Sites are located in and around the three assembly sites. A 400-hour curriculum produced an Alabama Certified Worker credential recognized by many of the state employers. To underline its importance to Alabama, AIDT has a line item in the state’s budget.

2. ***The University of Alabama*** was instrumental in focusing the state’s resources on the auto industry and in developing the proposals for both Mercedes and Honda. Its engineering and business schools and its International Trade Center were key factors, but it also created a welcoming environment for foreign investment. It runs, for example, a German Saturday school on campus that teaches math, science, and German language. It helped orchestrate the “Commission on Community Change” to help improve the quality of life in the area. The Alabama Productivity Center at UA was available to work on production problems with companies and the Center for Advanced Vehicle Technologies was established in 1998, the year Mercedes began production, with funding from the U.S. Department of Transportation.
3. ***Alabama’s community college system*** was also an important factor. In the final competition, North Carolina’s governor even offered as part of its package of incentives to build a “Mercedes University” within its already strong community college system. Alabama’s approach, however, was to offer to target the resources of its existing system. Bessemer Technical College (now merged with Lawson State Community College) and Shelton State Community Colleges both offered relevant education and training. The well-equipped Bevill Center for Advanced Manufacturing at Gadsden State Community College offered a nationally known and respected education and training programs in precision manufacturing and they housed a key part of Alabama’s manufacturing extension service. That Center was the result of a historic partnership between the college, the University of Alabama, and the city of Gadsden growing out of successful efforts there to save a GM plant in the early 1980s. (source: Stuart Rosenfeld, *New Technologies and New Skills: Two- Year Colleges at the Vanguard of Modernization*, American Association of Community Colleges, 1995).

The auto industry relies on the community college system for its more advanced training and to improve employees’ opportunities for advancement. Honda encourages (and reimburses) its associates to work towards Associate Degrees at the community colleges. To accommodate Honda’s policy of rotating its work force among shifts, the college system has arranged programs in which faculty alternate their class hours between day and evening consistent with the shift changes.

4. ***The state’s public school system*** was probably the weakest link in Alabama’s human resource development chain. While improving, it remains low compared to most other states, and was given a “D” by the Corporation for Enterprise development in its 2005 scorecard. Alabama ranks in the bottom ten states in

reading and math proficiency of 4th and 8th graders. One place the state has improved is in reducing the disparities among races and between genders, although disparities according to income were second highest in the nation. Graduation rates, while climbing, are still among the lowest in the nation. This is a particular issue for non-metro counties that, according to the Rural School and Community Trust. Alabama has the fifth most critical rural educational needs in the nation based on availability and distribution of educational funds, special needs, and poverty rates. (source: Jerry Johnson, Marty Strange. 2005. *Why Rural Matters: The Facts about Rural Education in the 50 States*. Rural School and Community Trust.)

The Topography Factor – also conducive to the entrenchment of automotive assembly activities in Alabama has been the availability of readily developable, affordable land amidst situated within an ample highway network.

7.6 Interviewees

Gregg Bennett, Alabama Technology Network and The Bevill Center for Advanced Manufacturing

Ernie Cowart, Senior Economic Development Specialist, Economic Development Partnership of Alabama

Robert Culver, Top Alabama Regional Council of Governments

Austin Dare, Mercedes-Benz

Brad Davis, Director, Alabama Technology Network

Steven Dean, Randolph County Chamber of Commerce

Dale Greer, Cullman Economic Development

Lee Hammett, Automotive Group Manager, AIDT

James Hayes, President, Economic Development Partnership of Alabama

Greg Knighton, Director of Business Information, Economic Development Partnership of Alabama

Jeff Newman, University of Alabama

Linda Paulmeno, Mercedes-Benz

Ray Perez, Honda Corporation

Malcolm Portera, Chancellor, University of Alabama

Bernard Schroer, Alabama Automotive Manufacturers Association

Steve Sewell, Executive Vice President, Economic Development Partnership of Alabama

Dana Stone, Program Manager, Alabama Technology Network

Perry Ward, President, Lawson State Community College

8.0 Conclusions – Strength of Growth Processes

The preceding six locations examined through case study exhibit distinct bases upon which their regional economies are organized, and varying degrees of success in achieving growth. Why do some of these studies show more pronounced evidence of a growth path than others? For locations with improving economic results can we attribute this to a growth orientation that’s just right for the local conditions regardless of whether the evolution was organic or achieved by planning intervention? Or even if regional planners and local stakeholders diligently frame a growth path and strategy are they guaranteed success? What role does geography play in determining the strength of growing trade center, or a tourism market for example?

We summarize the highlights as follows:

Growth Affirming Case Studies

Case Study	<i>Chautauqua, NY</i>
Growth Process	<i>Tourism Development</i>
<p>What worked</p> <ul style="list-style-type: none"> *Working to organize, market and leverage tourism assets into a year-round offering *Diversify the county’s economy to reduce the exposure to shrinking manufacturing presence <p>What Else worked</p> <ul style="list-style-type: none"> *Reinforced a vital segment of its Trans Equip MFG base & facilitated its expansion creating higher value-added/paying jobs and advancing the skills of the workforce. The latter with the help of the county’s Workforce Investment Board and the community college’s Manufacturing Training Institute *Selective retention of this firm and other manufacturing likely not possible without ADHS corridor “T “ which offers a viable connection to I-79 and I-90. 	

Growth Affirming Case Studies

Case Study	<i>Alabama's Manufacturing Resurgence</i>
Growth Process	<i>Automotive Assembly</i>
What worked	
*Incentives alone were not expected to be the silver bullet	
*State's Educational system (k-12, Community Colleges and advanced degree conferring institutions) has been a proactive and responsive element to assuring the workforce needs of all aspects of the vertical-chain of firms	
*Leadership from both state and regional agencies persevered to succeed in the germinal event - attracting Mercedes-Benz to Tuscaloosa	
What Else worked	
*Workforce programs assisted in retraining textile workers from jobs going overseas to automotive applications growing in state.	
* Ample land resources (typically flat green fields) with relatively unencumbered permitting process	
*Good highway accessibility to parcels developed	

Growth Affirming Case Studies

Case Study	<i>Corridor K Region</i>
Growth Process	<i>Tourism Development</i>
What worked	
*Regional collaboration (e.g. SEIDA) between SE TN and SW NC to further develop eco-recreational-cultural tourism assets	
*Addressing the road access capacity to carry regional visitors	
*Water resource planning to support rafting tourism	
What Else Needs to Happen	
*Establish a direct connection between the terminating corridor cities of Chattanooga and Asheville that will separate through traffic from tourism trips to corridor communities	
*Ensure that cities such as Murphy (Cherokee Co., NC) that desire to retain a healthy industrial component obtain efficient highway links to I-85, and I-65.	

Growth Affirming Case Studies

Case Study	<i>Morgantown-Fairmont</i>
Growth Process	<i>Hi-Tech Spin-offs from Educational Assets</i>
What worked	
*I-79 backbone through the Morgantown MSA has facilitated regional collaboration, most predominantly between Morgantown and Fairmont.	
*Infusion of federal research grants secured by U.S. Congressional representative & research readiness	
*City of Morgantown provides good entrepreneurial support	
*Ample higher education assets: WVU (Morgantown), Fairmont State University & Fairmont State Community Technical College	
*Technology-transfer office of WVU and WV High Tech Consortium in Fairmont	
Fairmont's smaller hi-tech economy appears to serve as a complement to Morgantown's economy	
What Else Works	
*I-68 connection (ADHS corridor E) links Morgantown to Baltimore-Washington area	
What Else needs to Happen	
*Fairmont needs to find opportunities to commercialize federal support research and incubate local start-up firms	
*Region needs additional east-west access without which the current limited extent of beneficial urban spillovers intraregionally goes unchanged	

Growth Ambiguous Case Studies

Case Study	<i>Scioto County Ohio</i>
Growth Process	<i>Alleged Trade Center</i>
What Happened	
Extra-regional N-S and E-W highways bypassed the county	
Difficult transition since 1980 as key manufacturing sectors (e.g. Steel, Shoes) moved jobs overseas	
Lack of critical mass in services to effectively draw surrounding rural consumers (household or business)	
Adverse urban backwash effect on Scioto as surrounding rural counties gained access to extra-regional metro area markets in Columbus, Cincinnati and Huntington WV.	
Geographic constraints of hilly terrain and flood plains of the Scioto and Ohio rivers limit developable land	
What Else needs to Happen	
Develop cultural and shopping amenities	
Remedy recruitment problem for doctors to the So. OH medical Center	
Launch high-tech health care services for hospital to serve a broad regional market in a realistic niche	
Build on the regional collaboration success of SODI in securing a new manufacturing resurgence in Scioto using joint infrastructure financing, brownfield redevelopment	
Build from/retrain the remnants of Scioto's strong manufacturing workforce	

Growth Ambiguous Case Studies

Case Study	<i>Pike Co., KY and Big Sandy Area</i>
Growth Process	<i>Diversifying from Extraction Industry reliance</i>
What Happened	
*Unique cut-through project completed in 1987 provided Pike Co. new developable land and better access	
*County as recipient of Coal Severance Tax to fund community development projects	
*Though still an economy based on coal mining, Pike Co. has taken on a function as a regional economic hub for other counties in the BSA	
*Emergence in healthcare services the result of cooperative efforts between Pikeville Medical College & Pikeville Medical Development Corporation (PMDC)	
*PMDC also champions non-healthcare economic development opportunities for the county	
*Pike Co. has good highway access, offers rail freight service and a regional airport	
What Else needs to Happen	
*Furthering industry diversification will require retraining of former mining workforce given population losses	
*More multi-county planning initiatives to remedy the paucity of positive economic spillover from Pike Co. to the four other BSA counties which remained <i>distressed</i>	
*Investment in regional amenities to retain/attract working age population	

These examples each show that numerous interventions or aspects contribute to the economic situation counties find themselves with. Whether economic progress or stagnation is the situation, these processes take time. This is both double-edged. First, there is no quick turn-around strategy. Well conceived program investments and targeted policy must be committed to with patience and a willingness to reassess over time and readjust as the background regional or macroeconomic conditions change. Second, there is always a time to take action towards improving the economic prospects of communities that have been in persistent distress. Some of these communities have high hurdles to ever developing a modest sized employment centers for their working age residents. This does not however preclude ensuring that

populations gain access to regional employment opportunities – so that expanding healthcare services growth in Pike County may spell more of an opportunity for workers from Floyd, Martin, Magoffin and Johnson counties as well.

Likewise Scioto County, a distressed micropolitan area, along with six other distressed Appalachian counties in the local development district need to build more regional solutions that can leverage the economic success at the periphery of the district and Appalachian boundary (in Brown, Clermont, Highland & Ross counties) to help revitalize the core of the region.

Many of the barriers or challenges to growth can be named: *topographical* (land constraints or access barriers), *underserved by necessary transportation infrastructure*, *limited local market demand*, *limited local services*, *limited labor supply and quality from persistent out migration and limited educational-training resources*, *neighboring economies that compete or fail to synergize regional opportunity*, *adverse urban/core backwash effects*.

Last, the case studies demonstrate that several key aspects must improve in sync to welcome economic development. All growth paths require good transport access and a suitably trained workforce for the employment center they will access. Other important components depending on the growth strategy are attracting federal research dollars to advance the role of higher-education institutions that are present, and learning to commercialize research and spur small business starts; evolving recreation and cultural assets into a tourism product with critical mass and learning to market the product; and improving both housing stock and local amenities as a mean to retain and attract working age population.

In the next volume of findings for the study of Sources of Growth in non-metro Appalachia, we interpret several statistical tests of the possible spatial influences at work in the economic outcomes of Appalachian counties.



