Resiliency, Competitiveness, and Innovation

IN ARLINGTON, VIRGINIA

BY DARRENE HACKLER

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By all indications, Arlington, Virginia, is emerging from the great recession of 2008 with a very different profile than many cities in the United States. In the second quarter of 2009, the official end to the recession, the city's unemployment was a little more than 4 percent, far below the U.S. average of 9 percent. In 2009, Arlington had a population of only 206,405, but close to 220,000 jobs. According to the U.S. Census Bureau, net employment in Arlington actually increased by 4,573 in the 12-month period between March 2008 and 2009, a period when the United States as a whole shed more than 6.3 million jobs. This was a feat, even in the Washington D.C. region, with its concentration of federal government jobs, since neighboring Alexandria, Fairfax, and Prince William County all lost jobs during this period. According to Arlington officials, the city weathered the economic downturn so well because its economic base was diverse. This was accomplished by nurturing long-term economic sustainability, along with a commitment to "placemaking," a multi-faceted approach to improving a neighborhood, city, or region by emphasizing input from the people who live and work there.

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In 2009, the Arlington County Board adopted its first economic development strategy, *Arlington's Framework for Prosperity*, which cautioned that Arlington could not remain a world-class community "without a commitment to aggressively mitigate threats and leverage growth opportunities."[1] The Arlington Economic Development Commission conceptualized this idea as "economic sustainability," but it wanted to understand the dynamics and interrelated factors that could produce ongoing economic prosperity. As a result, Arlington developed a framework that interweaves three economic values: resiliency, competitiveness, and innovation.

RESILIENCY AND ECONOMIC SUSTAINABILITY

Resiliency is more than being ready for long-term threats. It indicates that a system can recover to some workable point despite changes and hardships. In particular, resiliency suggests that economic prosperity is more likely in diversified economies than in one-company towns. From a local development perspective, "economic development can be pathological if the economic change erodes the community base or increases the vulnerability to macroeconomic fluctuations. Development programs must be designed to harbor the core community values while offering new economic opportunities."[2] Attention to resilience in economic development planning can preserve the region's economic and social integrity because it generates sustainable development "that is resistant to social degradation as well as insulated from macroeconomic fluctuations."[3]

The World Bank's Eco2 Cities Initiative also recognizes the need for long-term economic resilience in cities, in tandem with ecological care for future generations.[4] The initiative stresses that the economies of cities must not center on productivity and gross domestic product because "short-term and excessive pursuit of productivity often displaces fundamental social and cultural considerations and may undermine longer-term economic resilience."[5] Therefore, an economy would ideally have an industrial mix and diversification coming from the support of local and regional clusters. Regional clusters, one of today's prevailing economic competition models, are essentially functional innovation "ecosystems" where inventors, investors, manufacturers, suppliers, universities, and local and state governments can establish a dense network of relationships. The networks create cost and innovation advantages for cluster members by providing preferred access to markets and smoothing the exchange of technical and competitive information that can accelerate the pace of innovation, from research and development to commercialization.[6]

To build a diverse and resilient economy, the Eco2 Cities Initiative suggests that governments guide all budget decisions by assigning economic values to ecological assets and services, including the economic and social consequences of their depletion and destruction. The initiative's recommended investment and policy framework[7] makes a priority of sustainability and resilience because the approach requires longer time horizons and lifecycle cost benefit analysis for all categories of capital assets (manufactured, natural, human, and social). In addition, all investments need to manage risk, from financial risk to sudden disruptions in systems and rapid socioeconomic-environmental change.[8] The investment framework suggests the importance of the built environment and its implications, from economic base to the energy system that supports it. Consequently, these investment decisions will account for reliability, redundancy, and resiliency, and will be more likely to generate long-term success.

In a post-9/11 environment, disaster recovery and business continuity are important to the resiliency of a community and its economy, particularly given Arlington's density of federal buildings, leased office space, and other assets. Arlington's Office of Emergency Management works closely with the business community and building owners to help them perform risk assessments and develop business contingency plans. The guidance presents business with the tools, techniques, and resources to design strategies. In turn, the county's dedicated effort makes the collective Arlington economy more resilient to such threats.

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Furthermore, a community that relies on one business sector leaves itself open to global or national macroeconomic conditions, resulting in a highly volatile economic base that suffers from large swings in income and employment and lacks stability. In Arlington, federal agencies occupy nearly 40 percent of leased and owned office space, but the way the city manages the federal presence lessens the economic threat. The 2005 Base Realignment and Closure Commission (BRAC) recommended the relocation of 4.2 million square feet of space leased to Department of Defense installations within the region and throughout the country. The county responded by opening the BRAC Transition Center to help the 17,000 affected workers who did not want to relocate find jobs in Arlington as well as provide affected non-government businesses with development resources and technical assistance. In addition, the county adopted a 40-year sector plan to redevelop the office submarket most heavily affected by the impending vacancies.[9] Total federal space, whether owned or leased, is slightly lower now at 18.2 million square feet, compared with 18.6 million in 2003.[10]

COMPETITIVENESS AND ECONOMIC SUSTAINABILITY

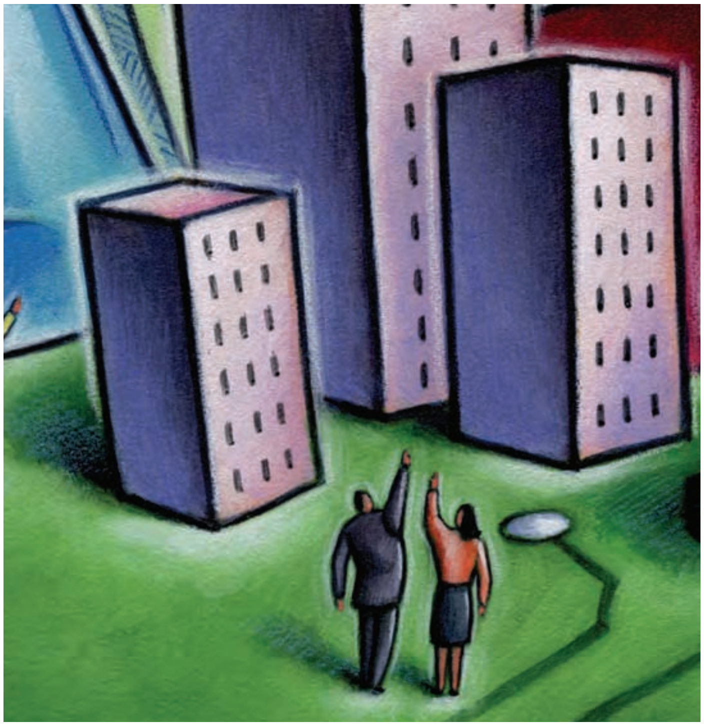
Most governments want a strong local economy. The idea of strength, however, contains a variety of values and intersects with values like resiliency. Competitiveness is an attribute of a strong economy, and most standard economic models suggest that competitiveness is about productivity relative to other cities, whether regionally, nationally, or globally. However, the concept of competitiveness is multifaceted and can mean different things in an economic sustainability framework that also embraces community sustainability. Competitiveness can be compatible with the social and environmental dimensions of sustainability.

The Eco2 Cities Initiative claims that the view of cities as productivity centers contradicts sustainable development because of the negative social and ecological (environmental) costs associated with economies that focus on productivity.[11] Others similarly caution that when cities compete for business in a traditional way, focusing on productivity, other cities' economies can be negatively affected.[12] Thus, governments that are pursuing economic sustainability need to reflect on the implications of their competeviness policies.

Reacting to the negative effects of competition, more communities are seeking to collaborate with other governments in their regions. Regional collaborations fall on a continuum from formal regional government structures such as the seven-county Met Council in Minneapolis and St. Paul, Minnesota, to a regional governance process created through ad hoc committees and boards that bring together local officials and other stakeholders. Whether formal or informal structures are successful is not the point; most local governments recognize that their policies have effects on surrounding localities, that labor markets spread across regions, and that localities share physical infrastructure, from roads and airports to telecommunications networks.[13]

Regional policies can increase the overall wellbeing of the region. For example, regions with higher levels of poverty and social separation experience sluggish growth over the long term, as do regions with greater income disparity.[14] This suggests that working together is beneficial.

In valuing competitiveness, Arlington acknowledges the contribution of placemaking in generating tangible economic results. For example, one of Arlington's older initiatives is the Think Arlington Campaign, which brands and markets Arlington as a business location and community with an educated and talented workforce. However, the city also recognizes that its competitive actions have social and environmental implications. Environmentally, Arlington supports sustainable business practices and views these as a competitive business advantage. Socially, it encourages a community where diverse ideas are heard and believes that this makes a community more inclusive, open to risk-taking, adaptable to change, and resilient. Economically, Arlington continues to focus on its built environment, ensuring that it is adaptable, competitive, and able to capitalize on future opportunities. These ideas indicate a broader view of competitiveness beyond the traditional competitiveness and productivity indicators.



INNOVATION AND ECONOMIC SUSTAINABILITY

Today's cities face increasing global competition, and they are fiscally constrained in the post-recession economy. Additionally, the post-recession way forward is unsettled, in terms of national, state, and local policy. The current environment leaves many city leaders searching for future sources of local growth.[15] This search becomes particularly relevant, given the uncertainty about how long it will be before the economy goes back to "normal," or if that is no longer relevant because of long-term economic and social costs.[16]

One possible answer for all levels of government is innovation, a source of large technical change and growth in the global economy. As with competitiveness, the values associated with innovation in an economic sustainability framework do not focus solely on productivity. The Alliance for Regional Stewardship conceptualizes an innovative economy as one of its four overlapping and mutually supportive principles of regional stewardship. In this sense, innovation has a broad meaning, and an innovative economy is one that prepares people and places to succeed. In an innovative economy:

- People work more with their brains than their hands, and rapid change is a constant.
- Competitiveness is based on speed, quality, flexibility, knowledge, and networks.
- Skills and knowledge are seen as the keys to economic progress, and skilled and knowledgeable people tend to locate in communities that provide a good quality of life and excellent social, cultural, and natural assets.
- The jobs that are available enable all citizens to enjoy a good quality of life. This economy produces meaningful jobs that sustain families all along the economic spectrum and provide opportunities for advancement.[17]

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The main thing that distinguishes innovation from invention and competitiveness is the way Arlington interprets innovation and its contribution to achieving economic sustainability. To some extent, Arlington's strategic plan conveys the value of innovation through one of its four goals: "Arlington will be an inclusive and interconnected community that fosters an innovative and creative workforce, supported by effective workforce development programs." The goal implicitly regards innovation as a crucial factor to the competitiveness and productivity of the workforce. Arlington's yearly action plan addresses this goal with strategic initiatives, one of which is the previously mentioned Think Arlington campaign. Although this is primarily a placemaking and labor force initiative, the desired workforce is also more likely to create inventions and take those inventions to the next level, innovation. For example, Arlington has a large employee base that is actively engaged in this kind of activity, as it is home to renowned federal high-tech science facilities such as the Defense Advanced Research Projects Agency (DARPA) and the National Science Foundation (NSF).

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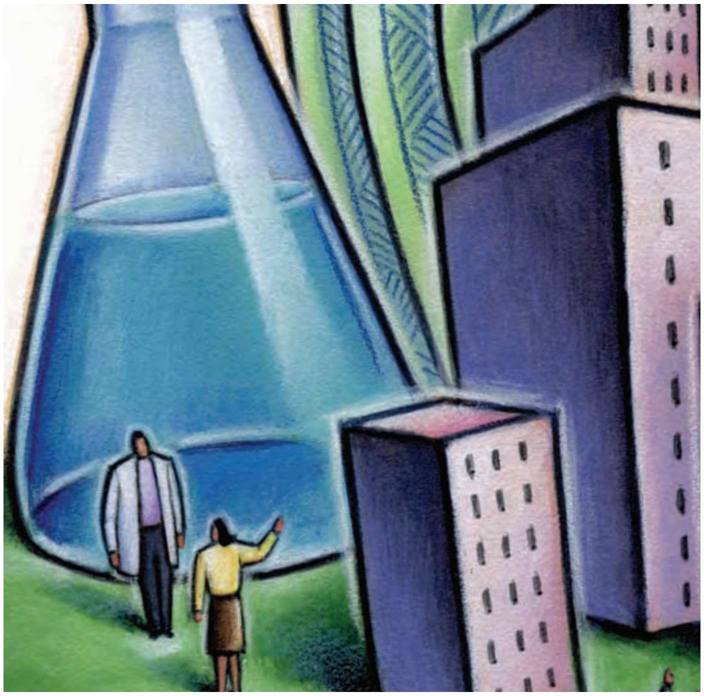
More recently, Arlington has strategically targeted emerging technology industry sectors that complement the likes of DARPA and NSF. Arlington County wants to enhance its reputation as a testbed (a development environment that is shielded from the hazards of testing in a live or production environment) and convener of innovators. In 2004, Arlington analyzed emerging technology trends and examined how economic development efforts could foster emerging technology sectors like cybersecurity, wireless telecommunication, advanced distributed learning, nanotechnology, and homeland security.[18] The resulting efforts seek to create knowledge dispersion, invention, and follow-through innovation. For example, the Virginia Tech Research Center, which opened in 2011 in Arlington, brings together science and technology research centers and institutes.

Arlington could further embed innovation into a strategic vision of economic sustainability such as the Alliance for Regional Stewardship's innovative economy concept. Paul D. Trokhan suggests that each person should develop a list of personal innovation principles because the distinctiveness and particularized meaning of individually developed principles are likely to increase one's probability of success.[19] Any community could use this idea to develop its principles of innovation and measures progress and success.

An enhanced conceptualization of innovation allows communities to understand the complete value chain of innovation management and capacity. Measures of this broader conception of innovation reflect:

- The institutional environment — the rules that guide incentives and constraints on interaction in society or the market, including governance and budgetary issues, which are closely related to the rules of the regulatory and legal framework.
- Levels of human capital — more than just education levels, these measures provide a more complete representation of non-physical assets such as expenditures on education and training.
- Social inclusion and equity of gender, race, age, and economic status — measures that provide a more complete notion of society in relation to innovation and creativity.
- The regulatory and legal framework — guide interactions.
- Research and development infrastructure — traditional measures like expenditures and patents as well as measures of innovation linkages.
- The use of information and communications technologies.[20]

Each category is multi-dimensional, allowing users to examine the full range of capacity for innovation within each category. In comparison, traditional measures of innovation depict a fairly restrictive view, defined as high-tech jobs, scientists and engineers, venture capital, industry and non-industry expenditure on research and development, patents, and the adoption of technology.[21] Broader definitions are needed in a culture where "networking and collaboration play an important role in innovation. Commercially valuable innovations often do not arise in isolation, but develop out of collaboration between firms, universities, government



research institutes and other players. The degree to which such linkages exist may be an important indicator of the functioning of the innovation system as a whole."[22]

CONCLUSIONS

Arlington's strengths are values that reflect its goal of economic prosperity, achieved in an economically sustainable manner. Arlington's process began with an internal reflection and examination of economic sustainability as the primary focus because economic sustainability was considered important to future economic development. Yet, the process identified that the other dimensions (social and environmental) were deeply entangled with the economic issues. The values of resiliency, competitiveness, and innovation involve more than traditional economic assumptions and lead quite naturally to fundamental assumptions about community sustainability. Thus, in viewing its future economic welfare through a framework of economic sustainability, Arlington's prosperity is beneficial to overall community sustainability.

Most communities approach sustainability first through comprehensive planning or environmental programs. Arlington's process and framework for economic sustainability originate with economic development but can lead to a community sustainability strategy. In fact, Arlington officials believe that to attain economic sustainability, communities must develop the three core strengths of resiliency, competitiveness, and innovation from amorphous concepts into a culture with policies and actions that the community's residents believe are important and relevant to the community's strengths.

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Notes

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DARRENE HACKLER, PH.D., is an associate professor at George Mason University Fairfax in the Department of Public and International Affairs. She can be contacted at dhackler@gmu.edu.