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FORUM

**Pittsburgh: Economic Power Shifts**

**MARCH 5, 2013**

We discussed the **economic power shifts** and transformation of Pittsburgh from an industrial past to a third-wave economy.

Rapid structural and functional changes are transforming the business landscape, both locally and globally. **Successful companies have changed.** Hierarchies are flatter. Products are more customized. Skill requirements have changed as muscle-work has declined and mind-work has increased. Alliances and complex supply webs have reduced vertical integration. Markets have nichified. Government organizations and companies are forced to innovate and operate at a faster pace than ever. **The competitive forces producing such changes are likely to grow more, not less intense.**

The Pittsburgh region's success in meeting the challenge of leveraging its industrial past to create and sustain a third-wave economy has enormous implications for its residents, businesses, and support infrastructure of government, health, and education. **The pace at which this transformation must occur is hastened by current trends of globalization, technological innovation, and the emerging importance of 'prosuming' sectors of the economy.**



As the US and other countries look for ways and methods to increase its competitive advantage, while also creating a more self-sustaining economy, **many authorities look to Pittsburgh as an illustrative example to be replicated on a larger scale.**

We explored questions such as:

**“What are the lessons learned from the economic power shift occurring in Pittsburgh? How can they be leveraged by other regions? What have been both the tangible and intangible enablers that have supported this shift?”**

**“What infrastructure or funding support is needed to not only sustain but continue to grow what has been created in Pittsburgh? How do you continue to attract talented workforces and influential corporations?”**

**“How has the support and collaboration of the public and private sectors and also the local universities helped shape the landscape of the Pittsburgh region? What shape have these partnerships taken? How can this be replicated elsewhere?”**



On March 5th, Toffler Associates hosted a dinner with leaders from both public and private sectors in and around the Pittsburgh, Pennsylvania area to discuss the region's success in meeting the challenge of leveraging its industrial past to create and sustain a third-wave economy. This report is a product of our discussion. Please note that it is not a transcript, but rather a "rendering" that condenses, eliminates, expands, and recombines some areas of discussion to illuminate themes that we believe emerged. Any errors in the interpretation or nuances are ours.

***"It is not the strongest or the most intelligent who will survive, but those who can best manage change."***

**-Charles Darwin**

## **Introduction**

Pittsburgh and the Allegheny Region stand as an example of how cities and regions can work together to drive economic recovery, stabilization, and growth. The region, heavily reliant on the steel industry for more than 100 years, identified its strengths and developed a plan to adapt and shift to a knowledge-centric economy. The story of **Pittsburgh's transformation is one of agility, wise decision-making, adept resource allocation and investment, and resilient people dedicated to change.** Change, however, is a continuous process (for cities and regions just as for organizations) and Pittsburgh must continue to push to adapt and leverage its strengths in order to remain competitive going into the future.

In 1983, Pittsburgh's economy hit its lowest point. Its lack of economic diversity made it very vulnerable to recession, and, as steel mills closed, the overall economy sank. Thirty years later in 2013, however, Pittsburgh's economy is more robust and diverse than ever with more than 1600 technology and 500 biotech companies calling the metropolitan area home. Much like Silicon Valley, this knowledge-based economy is self-sustaining and constantly evolving. High tech start-ups experience 2.5 times the job growth of existing companies and high tech employment pays 50% more than average work. Pittsburgh spends \$3b a year on university, corporate and government research and development and each year produces more than 33,000 graduates. In support of the transformation of Pittsburgh's economy, local authorities work with business and university representatives to implement a strategy aimed at redistributing the balance between business sectors in the city, in order to diversify the economy as a protective measure. Pittsburgh evolved from an economy in which 50% of employment was tied to one sector to an economy of five main industries, none of which represents more

than 23% of the total.<sup>1</sup> Alliances like the Allegheny Conference on Community Development allow individuals from the commercial sector, universities, nonprofits and government to focus on sustainable development and protect against the negative impact the loss of an industry would have on the region.

The Pittsburgh region's ability to transform itself into a technology hub is based on a number of factors, not the least of which is the number of universities, the technology that they foster and ultimately "spin off" into profitable innovations, access to private investment capital to exploit those technologies, and, most importantly, its ability (and historic success) in attracting and retaining high tech talent. Other factors clearly influence these drivers of success, but **successful economies in the global, knowledge-based economy must have people to generate bright ideas, the capital (and willingness) to take risks bringing those ideas to market, and the institutions to support growth.** At stake today is whether Pittsburgh can sustain its growth and focus less on "institutionalizing" success and **focus more on continuous adaptation to changing economic, social, and technological factors.** Furthermore, there are countless other cities that can take specific lessons from Pittsburgh's experience, but they must first identify whether they are prepared to make the change. The true test of success will be whether future generations can sustain this change and continue to transition and adapt.

### **Pittsburgh's Success**

In order to understand Pittsburgh's success and the ways in which it can continue to thrive, it is important to understand the major drivers of economic success and agility in the future: **1) individuals and their connections to others; 2) the macroeconomic environment in which individuals operate; and 3) the accessibility of capital in a risk-tolerant climate.**

Diverse and robust economies are based on the free transfer of ideas amongst diverse groups. Education hubs serve as excellent incubators for ideas, especially when the area has a variety of educational choices to attract a diverse group of individuals. There are more than 150,000 students enrolled at 34 colleges and universities in the region. Beyond the more renowned activities and research from Carnegie Mellon University and University of Pittsburgh, schools such as St. Vincent College and Robert Morris University also conduct highly specialized research in bioinformatics and advanced manufacturing, respectively.<sup>2</sup> **Strong educational institutions helped ensure**

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<sup>1</sup> fDi Magazine. "Pittsburgh's Progress: Rust Belt City Reinvents Itself as a Tech Hub." December 2012/January 2013. [www.fDiIntelligence.com](http://www.fDiIntelligence.com).

<sup>2</sup> fDi Magazine. "Pittsburgh's Progress: Rust Belt City Reinvents Itself as a Tech Hub." December 2012/January 2013. [www.fDiIntelligence.com](http://www.fDiIntelligence.com).

**that the city continued to attract vibrant ideas, even as the economy showed signs of weakness** (a stabilizing factor not found in many cities struggling with the same shifts).

While economic prosperity might wax and wane over the years, regions that have grown and sustained a strong economic base tend to survive downturns and adapt more quickly to their changing environments. While Pittsburgh's economy was based heavily on industry, the city itself had gone through a number of disjunctions in its economic history (agriculture to trade to industry). In fact, many of these "second-wave" industries actually provided the initial customer base for the "third-wave" economy that grew in the area. As universities spun-off technologies and start-ups, these fledgling companies were able to find their first sources of revenue (not necessarily capital investment). The industries and companies that remained recognized that their support for this innovative push across the region would not only serve to protect the labor base and attract new talent, but these ideas and firms could potentially improve their own efficiency and agility. Pittsburgh's business and political leaders recognized the advantages of this economic symbiosis and supported and encouraged its existence with informed policy and investment decisions.

While Pittsburgh does not garner the same attention from venture capital, the reputation of the universities and the strong culture of innovation serve as an anchor point to help ensure investment and attention remain in the region, even when the economy occasionally struggles. **Many of the schools in the region focus on technology and innovation, especially in the biotech industry, and this has fostered an environment that encourages entrepreneurship.** Carnegie Mellon University has become a hot bed for developments in computer science and robotics; the University of Pittsburgh expanded its medical school and networked its affiliates into the University of Pittsburgh Medical Center (UPMC). These new approaches attracted capital and investment that, in turn, attracted other companies, creating a positive loop for success.

New businesses replaced the departed and shuttered industries that once dominated the region. Apple, Disney, Intel and Goggle all have research offices at Carnegie Mellon. More importantly, with so many schools in the area, and a willingness to invest in the future, the region made vocational training and adult education available and affordable to many people, improving their ability to transfer to new jobs, and helping stem the drain of experienced labor. Now Pittsburgh and its universities, similar to Boston and MIT and Silicon Valley and Stanford, have a number of high-tech, start-up clusters around their mother university and **a critical mass is created that spurs self-reinforcing economic development.**<sup>3</sup> Universities drive Pittsburgh's resurgence because they provide a ready supply of people and ideas, but access to capital, healthy economic

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<sup>3</sup> Stokes, Bruce. "Steel Town to Tech Town: The Metromorphosis of America." Council on Foreign Relations. <http://www.cfr.org/health-science-and-technology/steel-town-tech-town-metromorphosis-america/p3228>.



development and incentives serve as the supporting framework. This base, along with early stage funding, has helped to give fledgling businesses the opportunity to begin and grow their operations.

## Continued Success

Universities drive Pittsburgh in many ways, but they cannot function without strong support systems (employees, infrastructure support, suppliers, etc.). Pittsburgh recognized that, in order to develop and sustain a transformation, it would have to attract both a knowledge-based workforce, as well as all the elements to support them. Other regions, such as Silicon Valley and Northern Virginia's Technology Corridor, have set the bar relatively high, and Pittsburgh has taken steps to ensure that the city and region provide a standard of living that technical and entrepreneurial workers have come to enjoy and ultimately expect. Pittsburgh is investing millions of dollars to transform itself. They are finding that this investment to attract talent to transform its economy has had a number of positive externalities on the region and the economy. Pittsburgh is consistently ranked as one of the Most Livable Cities in the U.S. It has also been ranked as the number one large city in 2011/12 "American Cities of the Future" by fDi Intelligence.<sup>4</sup> All of these accolades ultimately translate into increased revenues from the knowledge economy, as well as increased tourist revenue. In fact, National Geographic Traveler ranked Pittsburgh as one of the Best of the World for 2012 and the city played host the G-20 summit in 2009. In addition, the city has focused on revitalizing its cultural district, where trendy restaurants, bars and theaters now dominate the scene.

Despite all of this investment, the city continues to be viewed as a "steel-town," a moniker worn proudly by local residents, but not fully understood by those outsiders the city seeks to attract. **Pittsburgh needs to make careful, strategic decisions about its economic and cultural future.** The region cannot be afraid to leverage its strengths and find its niche in the market for talent. From an economic perspective, the region must recognize that pace of change continues to increase and if it wants to remain vibrant and successful, it will have to accept change as a constant, not a point in time. Political leaders at the city and regional level must recognize and leverage the work being done at the local and grass-roots level; these efforts should align to ensure success in the future. While Pittsburgh does not necessarily attract the venture capital that other regions do (and often, when it does, the technology is whisked away to other locations), it should leverage the unique opportunities for funding that reside in the region. The economic community should find ways to leverage not only government

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<sup>4</sup> fDi Magazine. "Pittsburgh's Progress: Rust Belt City Reinvents Itself as a Tech Hub." December 2012/January 2013. [www.fDiIntelligence.com](http://www.fDiIntelligence.com).



funding (e.g., local military bases, energy labs) or economic development organizations, but also the many foundations that call the region home. Too often, these are overlooked as sources of investment, and they are eager to help build local capacity. Finally, **as Pittsburgh seeks to position itself in the future economy, it should consider its assets – an educated and skilled workforce, ample access to energy, and plentiful water, along with its needs – the ability to attract and keep mid to high level managerial talent.**

## **Conclusion**

Other regions cannot simply cut and paste this recipe for success and try to replicate Pittsburgh. Detroit and Cleveland, for example, have been faced with similar challenges with the departure of industry, but they do not have the same historic basis as a hub for trade and they do not have the university base or draw as a “place to live.” Like any great transformation, these cities need to recognize and highlight their assets.

Pittsburgh has succeeded where others have failed because it has been able to leverage the myriad strengths of its greatest assets: its citizens. The citizens of Pittsburgh have worked tirelessly over the past 25 years to draw attention and improve upon the things that set the city apart, namely the intellectual prowess and entrepreneurial spirit of its “creative class” (defined by Kiplinger as the segment of society that generates cultural and economic vitality).

**The region's human capital, combined with the academic resources, access to investment capital and support of public and private organizations has built the foundation for Pittsburgh success.**



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## TOFFLER ASSOCIATES

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Toffler Associates is a strategy consultancy, helping leaders build the extraordinary organizations of tomorrow. We serve as a catalyst for change for clients with tough problems to solve, creating impact through knowledge of the forces of change that will shape the future.

To accomplish this, we employ a collaborative approach to guide clients in the development of Knowledge Age business strategies. Our **Future Proof<sup>SM</sup>** business consulting service provides clarity by identifying the risks and opportunities that may lie ahead, enabling leaders to implement the changes necessary to create value, to sustain growth and to succeed in future operating environments.

We work with public-sector clients, such as federal agencies, the intelligence community, associations and educational institutions, to develop and implement ways to use resources more effectively and to build lasting public trust. We work with private-sector clients, like those in the transportation, aerospace, chemical, advanced materials, information technology and defense markets, to create and execute strategies that drive top-line growth.

We find daily inspiration in working with commercial enterprises and government agencies that are creating something that really matters to people, clients who are trying to make a difference in all of our lives. Our purpose is to help them achieve that. It is the passion that unites our firm as one community.



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