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Contrasts in Innovation: Pittsburgh Then and Now

Michael J. Madison*

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I Introduction

Discussion and analysis of law, public policy, and economic growth is often predictive, and often national or global. Tweak a rule or doctrine here, perhaps patent law or tax law or financial and securities regulation, and anticipate growth there—in the United States, or in India, or around the world. This chapter approaches the question of growth from a different angle, working backward from an example of economic development to understand, if possible, what accounted for it, and focusing on regional rather than national or global growth. My subject is Pittsburgh, Pennsylvania, USA. I offer a descriptive account of one city's and region's work in progress in transitioning from Rust Belt collapse to Rust Belt chic,¹ or what President Barack Obama characterized as a “model for the future” in its transition to a diverse economy,² when he decided that the city would be the North American host of the September 2009 summit of the Group of 20 (G-20) finance ministers.³

* Portions of this chapter first appeared as a series of posts at Pittsblog 2.0, a weblog, at <http://pittsblog.blogspot.com>, over several days in September 2009. Thanks to Megan Carpenter for her interest in this work and to colleagues at the Evolving Economies conference at Texas Wesleyan University School of Law in April 2011, where a version of the work was presented.

¹ See Tod Newcombe, *The Rust Belt Has Arrived*, at GOVERNING: CONNECTING AMERICA'S LEADERS, Feb. 2011, available at <http://www.governing.com/columns/urban-notebook/Rust-Belt-Arrived.html> (last visited June 2, 2011).

² See Dan Malloy, *Obama calls Pittsburgh a model for the future*, PITTSBURGH POST-GAZETTE, Sept. 20, 2009, available at <http://www.post-gazette.com/pg/09263/999493-482.stm> (last visited June 2, 2011).

³ See Kris Maher & James R. Hagerty, *Pittsburgh Scores the G-20 Summit*, WALL ST. J., May 29, 2009, at A3, available at <http://online.wsj.com/article/SB124353544415163511.html>. In the months leading up to the announcement in May 2009 of Pittsburgh's selection for the G-20, Pittsburgh had attracted impressive national media attention for its renewal. See, e.g., David Streitfeld, *For Pittsburgh, There's Life After Steel*, N.Y. TIMES, Jan. 8, 2009, at A1, available at <http://www.nytimes.com/2009/01/08/business/economy/08collapse.html>.

I frame the description in terms supplied initially by the urban economist Benjamin Chinitz. Chinitz published a paper in 1961 titled “*Contrasts in Agglomeration: New York and Pittsburgh*,” from which the title of this chapter is adapted.⁴ Chinitz contrasted the respective “agglomeration economies” of two leading US cities, New York, with its massive concentration of garment firms, and Pittsburgh, with its world-leading integrated steel producers. New York, Chinitz hypothesized, had the brighter economic future in the event that its leading industry declined, because of the heterogeneity of the suppliers that comprised that economy. Chinitz reasoned by examining supply side considerations, that is, the inputs into industrial production, rather than on demand- or consumer-side considerations. New York’s garment business was defined by a plethora of small firms; that diversity of firms attracted a broad and complementary range of small, independent suppliers. Pittsburgh’s steel industry, the anchor of a highly specialized manufacturing economy, was dominated by a small number of very large integrated firms; comparatively few ancillary firms served as suppliers. The two regions had different patterns of “agglomerated” or adjacent industries. If their specific architectures were to break down, Chinitz argued, the underlying components of New York—small-scale entrepreneurship, widely distributed labor, capital, and land—would serve New York well in supporting the reconstruction of new industry.

Pittsburgh is in many ways a test case for Chinitz’s hypothesis, and not only because it was one of the cities that Chinitz reviewed in 1961. For most of the 20th century, Pittsburgh’s steelmakers were leading examples worldwide of American economic prowess. Pittsburgh was so vibrant with industry that a late 19th-century travel writer called Pittsburgh “hell with the lid taken off,” and he meant that as a compliment.⁵ In the early 1980s, however, Pittsburgh’s steel economy collapsed, a victim of changing worldwide demand for steel and the industry’s inflexible commitment to a large-scale integrated production model.⁶ As the steel industry collapsed, the Pittsburgh region collapsed, too. Unemployment in some parts of the Pittsburgh region peaked at 20 percent. More than 100,000 manufacturing jobs disappeared. Tens of thousands of residents moved away—annually. Over the last thirty years, Pittsburgh has slowly

⁴ Benjamin Chinitz, *Contrasts in Agglomeration: New York and Pittsburgh*, 51 AM. ECON. REV. PAPERS AND PROC. OF THE 73RD ANN. MTG. OF THE AM. ECON. ASS’N 279 (1961).

⁵ See James Parton, *Pittsburg*, ATLANTIC MONTHLY, Jan. 1868, at 17, 21.

⁶ The timing and causes of that collapse have been widely chronicled. See CLAYTON M. CHRISTENSEN, *THE INNOVATOR’S DILEMMA: WHEN NEW TECHNOLOGIES CAUSE GREAT FIRMS TO FAIL* 88-93 (Boston, MA, USA: Harvard Business School Press, 1997); JOHN P. HOERR, *AND THE WOLF FINALLY CAME: THE DECLINE AND FALL OF THE AMERICAN STEEL INDUSTRY* (Pittsburgh, PA, USA: Pittsburgh University Press, 1988).

recovered, building a new economy that balances limited manufacturing with a broad range of high-quality services. Most observers agree that Pittsburgh has managed an extraordinary transformation since then, evolving from a city and region dominated by heavy industry to a city dominated by what local leaders call “eds and meds”: higher education (eds) and medical services (meds) and their spinoffs and spillovers. Forty years ago, manufacturing accounted for more than a quarter of all employment in Pittsburgh; today manufacturing accounts far well under ten percent of Pittsburgh employment. Forty years ago, medical services accounted for just over five percent of Pittsburgh employment. Today, health care contributes more than 15 percent of Pittsburgh’s jobs. Teasing apart the causes and effects of that transformation yields some important insights into the accuracy of Chinitz’s hypothesis, and relatedly, into the roles of law and the legal system in promoting and supporting regional rebirth.

II Theorizing About Regional Economics

The Theoretical Challenge

“Innovation” is a buzzword of the 21st century. Countries, states, regions, cities, universities, and individuals all are urged to innovate—or fail. Innovation has its role in Chinitz’s theory of regional growth, as I describe below, but innovation is only one part of the story to be told. Pittsburgh’s emergence as a post-industrial city and region depends on elements of innovation, but the more significant story, and the one that has taken root locally, is not a story of finance and economics. It is a story of something akin to individual and collective well-being, measured largely by capacity and capability: the construction of a set of institutions and other social structures that supply opportunities and resources for individual and communal thriving.⁷ Importantly, Pittsburghers know this, and see this. Many of the objective metrics of Pittsburgh’s economic performance (job creation, income, population) are stagnant or only modestly positive. The one thing that Pittsburgh prides itself on is comparatively low unemployment. It also has “livability,” according to various published indices, which is largely a product of ratings schemes that value low and slow-moving residential real estate values—something that usually characterize a sluggish economy, rather than a vibrant one.

⁷ The phrasing here is intentionally evocative of Amartya Sen’s work on development and freedom. See AMARTYA SEN, *DEVELOPMENT AS FREEDOM* 3 (New York, NY, USA: Alfred A. Knopf, 1999) (“Development can be seen, it is argued here, as a process of expanding the real freedoms that people enjoy.”); Amartya Sen, *Capability and Well-Being*, in Martha Nussbaum & Amartya Sen eds., *THE QUALITY OF LIFE* 30, 30 (Oxford, UK: Oxford University Press, 1993).

A broader view of well-being is needed simply because somewhat paradoxically, considering the data, Pittsburgh has its mojo back.

Framing an analysis of that phenomenon in theoretical terms is, needless to say, a challenge. What explains relative communal well-being? The question being asked is problematic for any number of reasons.

First is measurement. What I am after is not simply an explanation for economic growth, even though growth considerations dominate most narratives and analyses—even this one. Like many recovering industrial regions, Pittsburgh has not experienced much growth in income or output over the last thirty years. Instead, Pittsburgh has experienced a slowly declining population, relative price stability, modestly increasing employment in the services sector and continued decline in the manufacturing sector, and a sense of collective place-based satisfaction, if not always outright optimism. This combination clearly distinguishes Pittsburgh today from Pittsburgh of fifteen or twenty-five years ago. Few Pittsburghers would deny that in many significant respects, Pittsburgh is at least on its way back to relative health. But the renewal of a place takes many forms, and it is renewal relative to a specific moment in history, rather than an altogether new beginning or growth in the abstract.

Second is scale. Pittsburgh's renewal has taken place against (and has been grounded in) both local and global changes. At the local level, over the last fifty years Pittsburgh has experienced an inside-out demographic shift, a re-centering of regional population from urban core to suburban periphery, that resembles that of many of similar regions. The historic political boundaries of the city of Pittsburgh have not changed in many decades. The city proper has long been and remains quite small in population and geographic terms. Roughly 300,000 souls call the city home today, or roughly half of the city's population at its peak in the 1950s. The population of the Pittsburgh region, taking account of Allegheny County (Pittsburgh's location) and a surrounding ring of counties, is just more than 2 million people; that overall total has declined only slightly over the same period. That population shift from city to suburb is a familiar one. But that shift masks the fact that much of Pittsburgh's legacy industrial communities are peripheral. Much of Pittsburgh's steel production was located in the region's river valleys, well away from the urban core, in communities that, unlike many modern suburbs, are poorly suited to being repurposed as centers of new business or as bedroom communities for commuters. The collapse of the steel industry emptied out both the city and the suburbs; the region, but not the city, has been repopulated. At the global level, Pittsburgh is, like all mid-sized American cities, connected to cities and communities worldwide by patterns of travel and commerce that simply did not exist even thirty years ago. Virtually every significant business enterprise in Pittsburgh today depends on global webs of suppliers and customers in ways that differ significantly from older patterns, when

steel was sold globally but produced locally. Segregating the causes of Pittsburgh's renewal from larger demographic and economic trends may be difficult; in fact, those trends may be part of the story.

Third is the unit of analysis. Regional economics and regional renewal are sometimes assumed to be good in their own right. That perspective runs the risk of overlooking connections between regional and national outcomes and connections between regional and global outcomes. It is possible, for example, that regional policy initiatives directed at one region will produce positive or benign spillover effects on adjacent communities, but it is also possible that those spillovers will be negative. What is good for Pittsburgh may or may not be good for Cleveland, Ohio (a peer city, to its northwest) or Morgantown, West Virginia (a much smaller city, to its south). At the same time, it is unwise to focus analysis exclusively at the national level. National well-being depends in critical ways on local well-being. There must be some articulated relationship between the two.⁸ Communal or collective analysis also runs the risk of interfering with achieving the goal of improving individual outcomes. Growth or well-being depends ultimately on improving the lives of individuals, wherever they live.

Fourth is the work that has been done already on regional innovation and prosperity, much of which I wish to distinguish, if briefly. Contemporary scholarship on public policy and legal solutions to regional innovation and growth dilemmas, with some salient exceptions, abstracts from the particular history of place and the particular characteristics of population and community. One cluster of explanations for growth, and related prescriptions, focuses on incentives and markets. Market demand shapes the growth and success of firms and therefore shapes the success (or failure) of the communities inhabited by those firms. Policymakers should emphasize fair and competitive market conditions, should ensure that firms and individuals have suitable incentives to participate in market transactions and are appropriately secure in their capital and other resource investments, and then should largely anticipate that demand will organize those resources in productive ways. For example, it is argued that inventing and patenting new technologies will structure research and development investments, both in the university sector and in the private sector, leading to additional public and private investment, new product development, new company formation, jobs, and income.⁹ Gillian Hadfield suggests that laws and lawyers themselves should be freed from conventional and traditional organization in law firms and freed to

⁸ Chinitz made this point long ago. See Benjamin Chinitz, *Appropriate Goals for Regional Economic Policy*, 3 URB. STUD. 1 (1966).

⁹ See generally THE KAUFFMAN TASK FORCE ON LAW, INNOVATION, AND GROWTH RULES FOR GROWTH: PROMOTING INNOVATION AND GROWTH THROUGH LEGAL REFORM (Kansas City, MO, USA: Ewing Marion Kauffman Foundation, 2011) (hereinafter, "KAUFFMAN").

migrate, via market demand, to better and more innovative uses.¹⁰ Entrepreneurs and innovators would value basic legal advice supplied via forms available through low-cost legal information providers, rather than through high-cost law offices. A second cluster of related arguments is rather more “top down” and government-driven than “bottom-up” incentive-based approaches. Annalee Saxenian and Ronald Gilson, among others, have emphasized the relative openness of labor markets in high-velocity entrepreneurial communities, particularly the Silicon Valley in California,¹¹ and have contrasted those markets and outcomes favorably with counterparts elsewhere, notably Boston.¹² Labor mobility in California is higher than in other regions, particularly for skilled employees, because state law prohibits enforcement of most noncompetition agreements. Richard Florida and his colleagues are associated with research and related proposals to stimulate urban revitalization by attracting young creative professionals.¹³ Land use and tax strategies have been developed to attract real estate development and/or to concentrate real estate development, via Euclidean zoning (during much of the 20th century) and more recently through strategies grouped under “New Urbanist” models¹⁴ and “Edge City” models, particularly with respect to populations, industries, and firms that are thought to have demographic and other locational advantages relative to existing natural or other regional resources, that is, that are thought to represent demand for one form of infrastructure or another. Public/private partnerships or governance arrangements combine these approaches.

Each of these strategies is, in one respect or another, largely “demand” driven rather than “supply” driven. The assumption is that a region or community can use law and policy to create or shape a set of demand curves for resources and for human, financial, and cultural capital. Once demand is specified—or stimulated, by importing young “creatives,” for example—then markets and structures will evolve to supply needed and desired goods and services. These

¹⁰ See Gillian Hadfield, *Producing Law for Innovation*, in KAUFFMAN, at 23.

¹¹ See Ronald J. Gilson, *The Legal Infrastructure of High Technology Districts: Silicon Valley, Route 128, and Covenants Not to Compete*, 74 N.Y.U. L. REV. 575 (1999).

¹² See ANNALEE SAXENIAN, *REGIONAL ADVANTAGE: CULTURE AND COMPETITION IN SILICON VALLEY AND ROUTE 128* (Cambridge, MA, USA: Harvard University Press, 1994).

¹³ See RICHARD FLORIDA, *THE RISE OF THE CREATIVE CLASS* (New York, NY, USA: Basic Books, 2002).

¹⁴ See, e.g., Brian W. Ohm & Robert J. Sitkowski, *The Influence of New Urbanism on Local Ordinances: The Twilight of Zoning?*, 35 URB. LAW. 783 (2003) (describing impact of “New Urbanist” policy initiatives). Perhaps the most notorious of these strategies has been using low-cost public financing to subsidize the construction of stadiums and arenas for professional sports teams.

may be both tangible and intangible—jobs, income, wealth, happiness—and they will emerge roughly in response to signals processed through those markets. All markets are subject to a broad variety of imperfections, and public policy advises that governments (among other institutions) should not only set in motion the processes of ensuring the relatively smooth functioning of these markets but also should step in to minimize the harms of flawed markets (inequality of capability and opportunity, for example, such as limited educational options) and to maximize their benefits (wealth generation, for example, or opportunities for self-determination through educational attainment and career development).

The Chinitz Framework

The foregoing summary paints with a broad brush. My point for the balance of this chapter is that the brush does not paint broadly enough. I am not an economist and therefore do not confine my thinking or analysis to economic questions. But I am interested in economics, just as I am interested in history, culture, geography, and politics. All of those bear on how the law influences regional renewal, just as law influences each of these disciplines separately. And a “demand” side account of regional economics, policy, history, and law is incomplete. One should also look at the “supply” side. That perspective was the distinct contribution of Benjamin Chinitz. One of my goals in this chapter is to introduce Chinitz to a contemporary generation of scholars, particularly legal scholars, who are not acquainted with his work.

Chinitz recognized and agreed upon the communal ends of regional economic analysis: knowledge and innovation spillovers in markets for labor and capital, leading to formation of firms, creation of jobs, rising income, greater equality of opportunity and access to communal resources. The question he considered was the extent to which performance of one industry affects performance of other industries in the same region. He contended that existing analyses did not pay enough attention to supply-side considerations, precisely because demand-driven models paid too much attention to contemporary considerations (static effects) and too little attention to the future (dynamic effects). Noting that diversified “agglomeration” economies (characterized by smaller independent firms, such as New York in the 1950s) grow more quickly than non-diverse economies (such as Pittsburgh during the same period), Chinitz wrote:

Suppose we project a sharp decline in the dominant industries along with a modest decline in the region's minor industries. True, the dominant industries will retard the growth of the region but in the process they will also decline in relative importance. The

region will then become more diversified in its old age, so to speak. What then? Do we correct for the increased diversification? Does it open up new opportunities to the region? [¶] The need to understand the whys and wherefores of diversification should therefore be quite apparent.¹⁵

Chinitz expressed his basic hypothesis this way: “[A]gglomeration is nourished more by the availability of a wide range of goods and services created in the first instance by the growth of the dominant industries.”¹⁶ The question was why? He identified the challenge of specifying where the sources and supply of that diversification—more new firms—might come from, looking at four traditional sources: entrepreneurship, labor, capital, and land. The supply of each of these, he argued, varied across regions, for reasons having to do with history and culture as much as with incentives and markets.

Of entrepreneurship, Chinitz wrote that regions might vary in their supplies of entrepreneurship, not only because entrepreneurs might migrate to some regions rather than others but also because the culture of risk-taking might vary from place to place. Chinitz called this the “entrepreneurial birth rate”¹⁷:

An industry which is competitively organized—in the neoclassical sense of the term “competition”—has more entrepreneurs per dollar of output than an industry which is organized along oligopolistic lines. The average establishment in the apparel industry, for example, has one-sixth as many employees as the average establishment in primary metals. Furthermore, multi-unit firms account for 82 per cent of the employment in primary metals, while they account for only 28 per cent of employment in apparel. Now you may have as much management per dollar of output in primary metals as you have in apparel, but you certainly do not have as many managers who are also risk-takers and this is my definition of an entrepreneur. [¶] What is the consequence of this? My feeling is that you do not breed as many entrepreneurs per capita in families allied with steel as you do in families allied with apparel, using these two industries for illustrative purposes only.¹⁸

That entrepreneurial “birth rate” would be coupled, Chinitz hypothesized, with a corresponding lack of cultural receptivity to in-migration of entrepreneurs.

¹⁵ Chinitz, *supra* note 4, at 281.

¹⁶ *Id.* at 288.

¹⁷ *Id.* at 285.

¹⁸ *Id.* at 284.

Of capital, Chinitz suggested that it is less mobile inter-regionally than might be supposed. New firms were and are far more likely to find investors locally and regionally than elsewhere, and in regions dominated by large firms, surplus capital was far more likely to be distributed internally, inside the firm, than externally, to new firms, because profits were returned to shareholders and key employees. Bankers in diverse economies are more likely to spread their investments across a range of firms and industries than they are in oligopolistic economies, out of self-interest as well as necessity. Banks require a certain level of return to maintain profitability, and risk diversification is an explicit strategy supporting that goal. Chinitz used a regional economy dominated by US Steel and Westinghouse, two of Pittsburgh's leading firms of the time, to make his point.

Of labor, Chinitz suggested that regional differences in costs attributable to distinctions between diverse and less diverse economies could be traced in part to wage scales offered by oligopolistic firms. Pittsburgh's steelworkers were extremely well-paid and therefore had little financial incentive to explore different opportunities. Chinitz also noted that wage scales and the demands of twenty-four-hour manufacturing cycles depressed the participation of women in the workforce. Finally, he contrasted the confluence of Pittsburgh's hilly topography and distribution of integrated manufacturing across a broad area with the concentration of small firms in New York's garment district. Labor costs in the latter were considerably lower.

As to land, Chinitz's concern was with spillover environmental effects of the widespread industrialization that he associated with the Pittsburgh region, particularly with Pittsburgh's notoriously dirty air, and with the associated reputation impact of environmental quality on firms' willingness to locate in that region. By the time Chinitz was writing, however, Pittsburgh's historic air quality problem was already well on its way to resolution.

Chinitz's account of labor costs and natural resources has an anachronistic feel, but in sum his argument resonates with the following proposition: growth-oriented economies rely on a culture of entrepreneurship and investment that feeds and builds upon a heterogeneous field of small and smaller independent firms. In Chinitz's framework these are "agglomeration" economies, in which firms in one industry attract firms in other industries. In modern terms these are "innovation" economies, in which innovation in one field leads to firm growth and to innovation and growth in adjacent fields. That parallel is drawn today in the work of Harvard economist Edward Glaeser. Glaeser has written:

All over the country, urban growth depends upon urban entrepreneurship—though measuring that entrepreneurship is easier said than done. There are at least three plausible, widely available statistical measures of entrepreneurial activity: average

firm size, the entry rate of new unaffiliated establishments, and the self-employment rate. Average firm size distinguishes between places like Detroit, dominated by a few large employers, and places like Brooklyn, with an abundance of smaller, nimbler firms. The smaller a city's average firm, the thinking goes, the more entrepreneurial the city. The entry rate of new unaffiliated establishments, probably the most direct measure of entrepreneurial activity, refers to the percentage of employees in a metropolitan area who are working in new firms that don't share ownership with preexisting ones. As for the self-employment rate, it is a considerably less popular measure among economists, since it doesn't capture many important forms of entrepreneurship—hedge-fund managers, for example, rarely work for themselves—and is swamped by very modest entrepreneurs.

None of the three measures is a perfect barometer of that hard-to-define quantity that we call entrepreneurship. But the good news is that all three usually move together. That is, places with smaller firms tend to have a high entry rate of new unaffiliated establishments, and they also tend to have high self-employment rates. The three measures suggest that levels of entrepreneurship differ substantially across regions of the country.¹⁹

Glaeser translates that account into a basic policy prescription that aligns with Chinitz's hypothesis: "Since important innovation is inherently unpredictable, the best economic-development policy may be to attract entrepreneurial people and get out of their way."²⁰

¹⁹ Edward L. Glaeser, *Start-Up City*, 20 CITY JOURNAL NO. 4 (Autumn 2010), available at http://www.city-journal.org/2010/20_4_urban-entrepreneurship.html (last visited June 2, 2011).

²⁰ *Id.* Glaeser's research is summed up in a recent book. See EDWARD L. GLAESER, TRIUMPH OF THE CITY: HOW OUR GREATEST INVENTION MAKES US RICHER, SMARTER, GREENER, HEALTHIER, AND HAPPIER (New York, NY, USA: Penguin Press, 2011). See also Edward L. Glaeser, *The New Economics of Urban and Regional Growth*, in THE OXFORD HANDBOOK OF ECONOMIC GEOGRAPHY (Gordon L. Clark et al., eds., Oxford, UK: Oxford University Press, 2003), at 83 (emphasizing the role of human capital); Edward L. Glaeser & William R. Kerr, Local Industrial Conditions and Entrepreneurship: How Much of the Spatial Distribution Can We Explain?, 18 J. ECON. & MAN. STRAT. 623 (2009) (summarizing data consistent with Chinitz's thesis that new manufacturing entrants are associated with regions with many smaller suppliers). Glaeser's work is echoed in the writing of urbanists who resist the prescription of Richard Florida, who argues that cities should attract young "creatives." See JOEL KOTKIN, THE CITY: A GLOBAL HISTORY (New York, NY, USA: Modern Library, 2005) (focusing broadly on

How to do that—how to attract and keep entrepreneurs, build entrepreneurship, and sustain an innovation economy and an “agglomeration” economy of entrepreneurs attracting entrepreneurs and related service providers across industries—becomes the question that challenges policymakers everywhere. Is it the right question? The evidence from Pittsburgh goes to that point. As I turn from this account of theory to a narrative of Pittsburgh’s recent revival, the theme to bear in mind is the extent to which Pittsburgh’s relative prosperity today is due to features of the region that are designed to attract entry by new independent firms—that is, entrepreneurship—or at least, in Chinitz’s framework, tend to enable entry.

III The Story Behind Pittsburgh’s Revitalization

The following account of Pittsburgh today is somewhat impressionistic, just as Chinitz’s account was in 1961. I have been observing Pittsburgh’s progress for the last thirteen years as a resident of the region, and since 2003 I have been writing about the region, with a focus on economic development topics, at a weblog titled “Pittsblog.”²¹ The core of what follows is adapted from a long series of blog posts that I wrote over the summer of 2009, leading up to the G-20 summit held in Pittsburgh in late September 2009, which aimed to moderate some of the boosterish storyline that the leaders of the city and the region were feeding to the press.²²

Background and History

How did Pittsburgh do it? How did Pittsburgh “revitalize” and achieve the renewal that justified its selection as the site of a global financial summit?

I start with a modestly contrarian premise. Did Pittsburgh revitalize itself? No. Cities do not “revitalize” themselves, at least not if one assumes that “cities” or “a city” can decide to do such a thing. Has Pittsburgh been revitalized? In some superficial (though nonetheless important) respects, yes. In many structural ways, no. Some, including the current mayor of Pittsburgh, take their case a step farther, arguing that the city is undergoing a renaissance, the third in a series that dates back to the mid-1950s (the first Pittsburgh renaissance, of which more below) and to the early 1980s (the second renaissance, of which more below, as well). Is there

the role of human capital in cities, and arguing that public policy should address three goals: keeping cities safe, busy (or vital), and sacred (filled with lives authentically lived).

²¹ See PITTSBLOG 2.0, <http://pittsblog.blogspot.com> (last visited June 2, 2011).

²² See, e.g., *The Revival of Pittsburgh: Lessons for the G20*, THE ECONOMIST, Sept. 17, 2009, available at <http://www.economist.com/node/14460542>.

a renaissance underway in Pittsburgh as the second decade of the 21st century dawns? Not really.

There is no doubt that the tone of the city and the region is different and sunnier now than it was a decade ago, and that both psychic and economic conditions are vastly improved over conditions in the mid-1980s. Pittsburgh's growing international reputation as a successful post-industrial city is not altogether undeserved. As I argue below, a key factor has been that the cost of living in Pittsburgh has remained extremely low relative to the growing range and depth of its urban amenities. As Pittsburgh's business climate has improved and as its economy has gotten more diverse, the benefits from those changes have not been diverted into sustaining fast-growing, ever more expensive markets for real estate and other resources. But why has the region evolved in this way?

A tale of post-industrial beginnings, at any scale, begins in part with a tale of industrial endings. In many significant respects, Pittsburgh's current success begins with Pittsburgh's massive failure. As almost everyone in the world knows, for the first half of the 20th century Pittsburgh was the home of an extraordinary and extraordinarily successful confluence of industry and finance. Pittsburgh built the world. The steel industry and its related manufacturing and financial industries were so successful, wealthy, and powerful in the Pittsburgh region that they largely interfered with processes of entrepreneurship that might have diversified the economy. The demise of steel in the 1970s and 1980s was not a surprise to those paying careful attention. It was foreseen by economists and planners,²³ and its effects—which were dramatic and traumatic—might have been mitigated.²⁴

²³ See PITTSBURGH REGIONAL PLANNING ASSOCIATION, ECONOMIC STUDY OF THE PITTSBURGH REGION, vols. 1–4 (1963–1964) (hereinafter, “ESPR”). The four volumes of the ESPR had different titles: *Region in Transition* (vol. 1); *Portrait of a Region* (vol. 2), *Region with a Future* (vol. 3), and *Summary* (vol. 4.) The authors of the ESPR, associated with the University of Pittsburgh, noted that Pittsburgh's overall economic success masked severe deficiencies in how the region treated human resources – its people. The region was characterized by slow population growth, a net outmigration of population, a lag in employment opportunities compared to other metropolitan areas, a low proportion of women in the labor force, a below-average rise in per capita income compared to the nation; above-average unemployment, an underrepresentation of small firms in the economy, an excessive income spread between high and low wage sectors, an excess of residents in non-productive age groups, and a proportion of blue-collar workers above average for the nation, urban areas, and large metropolitan communities. Benjamin Chinitz was a member of the team that produced the ESPR, and his *Contrasts in Agglomeration* paper was published mid-way through the study's completion.

²⁴ The authors of the ESPR specifically encouraged adoption of public policies in the region that would address the needs of its workers, particularly in the areas of education, training, job mobility, and health. Ironically, but not coincidentally, many of the same recommendations emerged from the pioneering Pittsburgh Study of 1907–08, a

But in significant respects, planning for the transition—planning for a transition to an economy not based on large-scale, high-wage employment by integrated industrial manufacturers—was not done. When the steel industry collapsed in the early 1980s, the city and region collapsed with it. More than one hundred thousand steel-related jobs disappeared (high-paying jobs, to boot, thanks to the effective work of strong labor unions).²⁵ Hundreds of thousands of people moved out of the region, and with them and their jobs went a significant amount of local income. Not only did the mills close, but neighborhood economies and entire mill towns all but closed, too.

What Pittsburgh was left with was little more than its legacy social infrastructure, a Downtown neighborhood dedicated to the financial institutions and law firms that supported the steel industry and the corporate headquarters of other major local manufacturers, the dozens of neighborhoods that make up the city of Pittsburgh and the many small towns around the region that had grown up and grown wealthy around the mills. Many of those neighborhoods and towns were anchored by the descendants of the Eastern and Southern European immigrants who populated Pittsburgh in the late 19th century and the descendants of the Scots-Irish immigrants to Appalachia, who populated Pittsburgh a century earlier.²⁶ Pittsburgh's many small communities were and are strong in cultural terms. Even as many of them struggled economically they provided an important social fabric for the city's remaining population; I refer to them as a “lattice” that supports new growth over time. But those communities did not provide the energy that has begun to restore the area.

Paradoxically, much of that energy has come from many of the same legacy institutions that were ineffective in planting the seeds for a smoother transition to a post-steel economy. Three of these deserve special note. Beginning in the 1950s, Pittsburgh's business and government leaders worked together on what was and remains known as “Renaissance I.”²⁷ This was an unusual public-private partnership to move the city forward by improving the quality of life across a wide spectrum of class and community, particularly via physical improvements. Among other things, private real estate investment was channeled through public authorities. The most visible of these efforts were those of the

comprehensive sociological account of the city's turn-of-the-century urban living conditions. See Maurine W. Greenwald & Margo Anderson, *PITTSBURGH SURVEYED: SOCIAL SCIENCE AND SOCIAL REFORM IN THE EARLY TWENTIETH CENTURY* (Pittsburgh, PA, USA: University of Pittsburgh Press, 1996).

²⁵ See Mary E. Deily, *Wages in the Steel Industry: Take the Money and Run?*, 37 *INDUS. REL.: J. ECON. & SOC.* 153 (1998).

²⁶ See FRANKLIN TOKER, *PITTSBURGH: A NEW Portrait* (Pittsburgh, PA, USA: University of Pittsburgh Press, 2009).

²⁷ Its formal name, originally, was the Pittsburgh Renaissance Project.

Allegheny Conference on Community Development (the ACCD), a private group of civic leaders founded in the 1940s. The ACCD's membership was drawn mostly from the business community, including some leading bankers, led by Richard King Mellon, and a department store magnate, Edgar Kaufmann, who partnered with the city of Pittsburgh, led by Mayor David Lawrence, and Allegheny County. Its mission was to address some of the region's most pressing environmental and infrastructure issues. The ACCD led efforts to clear Downtown Pittsburgh of the relics of its industrial past. The Downtown neighborhood in Pittsburgh constitutes what is sometimes called the "Golden Triangle," because it occupies land defined by the confluence of the Monongahela River (rising from Pittsburgh's south) and the Allegheny River (descending from Pittsburgh's north), which join in Pittsburgh to form the head of the great Ohio River (giving rise to one of the city's nicknames: the City of Three Rivers). The tip of the Golden Triangle is known as the Point, and in the 1950s train sheds that had occupied the Point for decades, because of its location as an obvious transportation node, were replaced beginning in 1952 by the Gateway Center office and apartment towers.²⁸

Renaissance I was about more than real estate development. Via local ordinances banning the burning of soft coal in residential furnaces, Pittsburgh's skies were largely cleared of their legendary smoke. During the 1950s and into the 1960s, the ACCD supported development of modern, regional water and sewer systems, supported the integration of a host of local transit systems into a county-wide Port Authority, renovated the remaining land at the Point into a showcase "Point State Park," and pushed for construction of new cultural amenities that would attract and retain businessmen and their families who might have been tempted to locate in larger cities. In 1961, a "Civic Auditorium" (soon, the "Civic Arena") opened. The steel-domed building, later nicknamed "The Igloo" because of its inverted-bowl appearance and its primary association with the Pittsburgh Penguins of the National Hockey League, was originally conceived as a concert venue and particularly as a home for the Pittsburgh Civic Light Opera. A minor-league ice hockey team competed there. The Penguins arrived later, in 1967.

Renaissance I and the ACCD have long been widely recognized for sowing seeds that paid off in the short term. The developments identified above have paid off over the longer term as well, even if Pittsburgh's contemporary political leaders and the modern ACCD itself no longer operate collaboratively in the *noblesse oblige* mode that helped accomplish so much fifty years ago. Had Renaissance I not taken place, it is difficult to imagine Pittsburgh looking as

²⁸ Still in good condition more than fifty years later, these were unusually successful examples of urban redevelopment inspired by the "Towers in a Park" vision of the modernist architect Le Corbusier.

relatively bright as it does today. Renaissance II, a renewed public-private partnership initiated under the leadership of Mayor Richard Caligiuri in the late 1970s, witnessed the construction of a number of modern office towers and hotels in Downtown Pittsburgh, the most striking of which is the complex of glass-sided buildings designed by the modernist architect Philip Johnson and called PPG Place, after its principal tenant PPG Industries, and a new convention center. Renaissance II modestly extended the impact of Renaissance I on Pittsburgh's landscape, and it broadened the scope of public/private efforts by addressing interests of Pittsburgh's substantial not-for-profit community, its universities, and a broader array of residents. In the mid-1980s, three hospitals affiliated with the University of Pittsburgh became part of a single organization that evolved into Pittsburgh's modern medical behemoth, the University of Pittsburgh Medical Center, now UPMC Health Systems. But Renaissance II lacked the momentum of Renaissance I; new skyscrapers in Downtown Pittsburgh could not offset the dramatic events unfolding along Pittsburgh's rivers, the demise of steel.

In addition to the ACCD and Renaissance I, the second major institutional development of fifty years ago was one that attracted far less notice at the time and had relatively modest short-term implications for Pittsburgh. It was a move that in time has made a world of difference to the modern city and region. In the 1950s, various wings of the Mellon family, scions of the banking empire that bore that name, donated more than \$50 million to the University of Pittsburgh (known as Pitt) to finance the construction of a new medical school and to endow the program. For the first time, Pitt and Pittsburgh were in a position to operate a world-class medical research institution. Jonas Salk was a young researcher at Pitt in the early 1950s, and in Pittsburgh he researched and tested what became the polio vaccine.²⁹

The long-term payoff of the 1950s investment in Pitt's medical school and research program has been profound, however. The clinical program at what grew into the University of Pittsburgh Medical Center benefited from enormous publicity surrounding its transplantation practice in the 1980s and 1990s, and today is recognized as among the world's best. UPMC, now an autonomous enterprise with clinical, hospital, and insurance divisions, has become one of the largest and most economically influential institutions in the region and the leading presence among the area's "meds," or medical services providers. On the research side, UPMC and the University of Pittsburgh together account for close to \$1

²⁹ In a preview of what has become a complex local, national, and international debate about universities' pursuit of patents and profits at the expense of the public interest, Salk famously refused to patent his work, so that it could be distributed as broadly and inexpensively as possible. The University of Pittsburgh, at least initially, wanted to pursue a patent. Salk left Pittsburgh and established the Salk Institute in La Jolla, California, near San Diego.

billion in federal research funds annually, a result of strategic decisions made over the last fifteen years to build considerably on the region's biomedical research foundation. That figure has gone up dramatically over the last ten years. Among other things, the increase represents a significant and strategic decision by contemporary leaders at Pitt and UPMC to build on a regional asset that was first identified when steel still ruled the city. Pitt's share alone puts it in elite company, with Harvard, Johns Hopkins, and the University of California San Diego as its peers.

The Mellon investments in Pitt's medical school are emblematic of a third and final major institutional force at work today: Pittsburgh's philanthropic community. The industrial era in Pittsburgh enabled the accumulation of enormous wealth. Much of that wealth was concentrated in a small number of Pittsburgh families that, fortunately, had the wisdom and foresight to direct much of it to philanthropy. That wealth remains at work in the region, distributed via foundations (many of them family-based), and that funding has been essential to sustaining much of Pittsburgh's cultural infrastructure, even as the collapse of steel undermined the region's economy in other critical ways. Pittsburgh's Downtown Cultural District and the city's traditional cultural institutions—the Symphony Orchestra, the Carnegie Library, and the Carnegie Museums of Pittsburgh among them—now have diversified income sources, if not always stable income sources, but they are here today in no small part because of support that is a legacy of Pittsburgh's industrial heritage.

Pittsburgh philanthropy has changed in recent years, and that change (like Pitt's strategic decision to grow its portfolio of federally-funded biomedical research) has contributed in a significant way to the recent brightening of the city. A dozen years ago, cultural philanthropy gave the outward appearance of Pittsburgh's older *noblesse oblige*. When Pittsburgh celebrated its arts and cultural communities, what it celebrated were the elite institutions that the philanthropic community and the upper tier of Pittsburgh society had long valued. Over the last decade Pittsburgh's foundations have started to take a broader and more forward-looking view of their role in the region, sometimes quite aggressively investing in artists and arts organizations that do not fit the elite model, investing in not-for-profit enterprises with missions defined by broad community impact, including neighborhood redevelopment and environmental advocacy and protection, and even occasionally investing in infrastructure for economic development throughout the region—this last being a role that in Pittsburgh was long reserved primarily for the ACCD. The philanthropic community is a long-standing Pittsburgh player that has taken on a new role.

Living

That summary demonstrates that Pittsburgh's present depends mightily on its history, as Chinitz predicted it would, and that the relevant history extends back much farther in time than the crisis in the steel industry with which Pittsburgh is popularly associated. Looking beyond Chinitz, however, the relevant history is cultural as well as economic. The spillover effects of that history are felt throughout the region. This section and the sections that follow address those spillovers, beginning with the now-vaunted "livability" of Pittsburgh.

Public relations information published by the region's official G-20 "partnership" sums up the recent news this way:

Chosen as the most livable city in the United States for the fifth year in a row - and the 29th most livable city worldwide by The Economist, Pittsburgh offers economic stability, culture, educational opportunities and natural beauty to residents. Forbes.com also named Pittsburgh as one of the most livable cities in America, noting the city's low cost of living, crime rates and unemployment.³⁰

Pittsburgh's reputation for livability depends on two key, related factors: its "economic stability" and its "low cost of living." I put those phrases in quotation marks because they are quotations, not because they are not true. They are true. Pittsburgh's unemployment rate over the last decade has consistently trailed the national unemployment rate. The average price of a house in the Pittsburgh region is less than \$150,000 for a 3-bedroom, 2-bath home. That data is important. But those features are weaknesses at the same time that they are strengths. Livability is a great thing. Pittsburghers are justly proud of how recognition of the city and region as "livable" measures just how far both have recovered since the collapse of steel. But "livability" based on "economic stability" carries some big drawbacks.

That is partly because Pittsburgh shines today in contrast to its peer cities, which in many cases continue to suffer badly. By comparison with places like Buffalo, Cleveland, Detroit, Milwaukee, and St. Louis, Pittsburgh is doing pretty

³⁰ PITTSBURGH LIVABILITY AND AFFORDABILITY, *available at* <http://www.g20pittsburghsummit.org/quality-of-life/livability-affordability/>. Pittsburgh's "livability" first attracted notice in 1985 when the city was named "the most livable city in America" by a publication titled "Placed Rated Almanac." Over the last decade Pittsburgh has landed atop a number of related surveys. *See* Dan Majors, *Pittsburgh rated 'most livable' once again*, PITTSBURGH POST-GAZETTE, Apr. 26, 2007, *available at* <http://www.post-gazette.com/pg/07116/781162-53.stm>.

well overall, and by comparison it was doing pretty well overall even before the recession that began in 2008. Pittsburgh's proud place is partly a version of the old joke in which a volunteer is called to step forward from a line of candidates, and all but one member of the line takes a large step backward. Pittsburgh took its big step backward back in the 1970s and early 1980s and since then has crept forward—perceptibly but ever so slightly. In the main, its peers have taken those big backward steps more recently. Detroit, troubled most recently by the collapse of its automobile industry, is the salient recent example. Pittsburgh has yet to make a substantial move forward.

This is partly, also, because "livability" depends significantly on stable property values, and Pittsburgh's status owes much to the relative lack of dynamism in the local real estate market over the last several decades. While markets in places like Southern California, the desert Southwest, and Florida have gone through repeated boom and bust cycles, much of Pittsburgh's property market has motored steadily and quietly on. Western Pennsylvania does not smile on speculators, on the whole. Mortgage lending in the region never got out of hand in the early years of the 21st century. Foreclosure rates in Western Pennsylvania are lower than they are in much of the rest of the country. From the perspective of real estate values, many homeowners in Pittsburgh are reaping the benefit of the region's inherent modesty.

Low and slowly moving real estate values also owe their stability to the fact that demand for real estate is relatively low, and relatively fixed. In this second sense, "livability" means that Pittsburgh is highly livable for the people who already live there, because not that many people are moving in. Pittsburgh's foreign-born and non-native English-speaking populations are among the lowest in the United States among the top forty regions in total population. Close to 90 percent of the region's population were born in Pennsylvania, and fewer than 50,000 people move to Pittsburgh each year from outside Pennsylvania, on average. These statistics make Pittsburgh among the least transient cities in the country, a status that, one plausibly suspects, is linked historically to Pittsburgh's large-firm industrial history. Stable neighborhoods and communities complemented stable steel mills and factories. It was common for successive generations of boys and men to take the places of their fathers and grandfathers in the steel mills and, before that, in the coal mines. It was expected.

If demand for real estate were higher, values overall would move higher, and Pittsburgh's livability ratings might decline. Business Week magazine recently ranked the nation's cheapest real estate markets, places where it may be

cheaper to own than rent.³¹ Pittsburgh was ranked number 2. Number 1? Detroit. Low real estate values are not necessarily indicators of economic vitality. (There are signs that this may be starting to change. Real estate values in Pittsburgh are rising, from their generally low levels, in contrast with falling real estate values in most of the United States.³²) To the extent that there is meaningful demand for real estate in Pittsburgh, that demand is distributed unevenly across the region. Like most urban areas, Pittsburgh features its share of upscale, even outright rich communities. And some communities in the city and the region feature real estate that is astonishingly cheap by local as well as by national standards—detached single-family houses that can be had for as little as \$20,000—partly because the surrounding economies are all but defunct and partly because of punitive real estate tax laws that discourage sale and redevelopment of adjacent abandoned properties. (More on tax systems below.) In this context, "livability" is not necessarily a good thing, because the structure of Pennsylvania's statewide property tax system means that cheap real estate translates into low local tax revenue and then into poor public services. Unsurprisingly, property-rich communities get wealthier. Property-poor communities lose ground.³³

The bottom line is that "livability" is of limited value as a measure of Pittsburgh's revitalization. Many of Pittsburgh's neighborhoods are livelier than they have been in a long time. Downtown Pittsburgh, to pick one salient Pittsburgh neighborhood, is relatively safe and walkable and full of far more interesting things to do, places to live, and sights to see than it was ten or twenty or thirty years ago. As a venue for jobs, however, Downtown Pittsburgh has not changed much. Roughly 100,000 people are employed in Downtown Pittsburgh today, roughly the same number as were employed in Downtown Pittsburgh in 1960. Downtown Pittsburgh has not evaporated into the suburbs, as many American downtowns have done over the last 50 years. But neither has Downtown pushed Pittsburgh forward. Low demand is a symptom of things that are worrisome: demand is linked to growth, to wealth creation, and ultimately to the other (expensive) things—infrastructure reconstruction, for example—on

³¹ See Prashant Gopal, *Why Rent When You Can Buy?*, BUSINESS WEEK, Aug. 20, 2009, available at http://www.businessweek.com/lifestyle/content/aug2009/bw20090819_413146.htm.

³² See Erich Schwartzel, *Home prices rose in region in first quarter*, PITTSBURGH POST-GAZETTE, May 31, 2011, available at <http://www.post-gazette.com/pg/11151/1150398-100.stm>; Chris Briem, *I'm shocked, shocked to find that housing appreciation is going on here!*, NULL SPACE, June 1, 2011, available at <http://nullspace2.blogspot.com/2011/06/im-shocked-shocked-to-find-that-housing.html> (last visited June 2, 2011).

³³ Tim Grant, *'House rich' got richer, poor got poorer*, PITTSBURGH POST-GAZETTE, Aug. 29, 2009, available at <http://www.post-gazette.com/pg/09241/993996-28.stm>.

which the region's continued "revitalization" depends. Even stability, staying the way that Pittsburgh is now, requires change. It requires money; it requires investment; it requires new people and new capital to replenish the well as other people and capital leave, as they will and do.

The Environment

Pittsburgh has acquired a reputation for embracing green-ness, or, in the jargon of the moment, for sustainability. The city and region are environmentally sensible, and perhaps even environmentally hip. Sustainability and clean energy were themes in President Obama's selection of Pittsburgh as the 2009 G-20 summit venue.³⁴ And in fact, Pittsburgh has come quite a long way since Chinitz noted the city's progress in 1961 to escape its "Smoky City" heritage.

Architecture

The green meme in Pittsburgh got started with the new David L. Lawrence Convention Center, completed in 2003 and site of the G-20 meeting, which was and remains among the largest LEED-certified (Leadership in Energy and Environmental Design) buildings anywhere.³⁵ It helps that the building is not only green, but cool—hip, neat, its giant white sail of a roof offering a truly distinctive addition to Pittsburgh's Allegheny River waterfront and to the view from the baseball stadium across the river, PNC Park. There are dozens of LEED-certified buildings in the region and more on the way. The recently-completed Consol Energy Center, a modern arena and home to the Pittsburgh Penguins ice hockey team, has been certified LEED Gold. City of Pittsburgh legislation requires that all publicly-financed development in Pittsburgh be certified "green." The LEED-driven, build green movement is gathering steam. Even local high school renovation projects are pitched to residents and taxpayers as LEED-friendly.

Air

It sometimes seems like every time a "livability" survey puts Pittsburgh at the top of the chart, an "air quality" survey puts Pittsburgh somewhere near the bottom. In 2008, long after coal smoke disappeared from Pittsburgh's skies, an American Lung Association (ALA) survey named Pittsburgh as home of the worst levels of short-term particle air pollution in the United States. Critics of the ALA study pointed out that measurements in Pittsburgh studied air quality not far from the

³⁴ See Malloy, *supra* note 2.

³⁵ See Union of Concerned Scientists, *Reinventing Pittsburgh as a Green City: Solutions in Action from the Climate 2030 Blueprint*, available at http://www.ucsusa.org/global_warming/solutions/big_picture_solutions/reinventing-pittsburgh.html (last visited June 2, 2011).

huge US Steel coke plant in Clairton, Pennsylvania, nearly twenty miles from Downtown Pittsburgh and in the heart of the former “Steel Valley.” Measurements in the Downtown neighborhood or in more heavily populated areas would, they argued, show Pittsburgh in a better light. But Pittsburgh struggles to shed its dirty reputation, and how clean Pittsburgh’s air seems today depends a lot on the relevant baseline. Compared to Pittsburgh's air in the middle of the 20th century, Pittsburgh's air now shines as day compares to night. (Literally.) But compared to what might reasonably be expected in a modern metropolitan area, the air in Pittsburgh is adequate at best and fragile, at worst. In 2003, when a massive power outage across much of the Northeast United States stilled coal-fired power plants in the Ohio River Valley, upwind from Downtown Pittsburgh, the skies above Pittsburgh were noticeably clearer.

Water

Pittsburgh's riverfront location is the source of enormous pride, and all three of its principal rivers today are marvelous multi-use sites. Recreation and industry share the space. Even after the collapse of the steel industry cleared the riverfronts of most of the region’s large steel works, Pittsburgh's rivers long remained almost exclusively "working" rivers, too polluted and crowded with barge traffic for recreational boating or fishing, and with limited access for the general public. The riverfronts were dedicated largely to industrial use, lined by railroad rights of way, highways, abandoned industrial sites, and some legacy building materials suppliers. In 1995, Pittsburgh missed an opportunity to expand access to its rivers when it built a new Allegheny County Jail on a prime parcel of riverfront property near Downtown. Real estate development still reflected older industrial sensibilities. But the region's view of its rivers has changed dramatically over the last fifteen years. Partnerships among local government (including former Mayor Tom Murphy), real estate developers, and river access advocates have produced recreational trails along much of the riverfront Downtown, with more in development. The Great Allegheny Passage, a hiking and biking trail that connects Downtown Pittsburgh and the Georgetown neighborhood of Washington, DC, is essentially complete. Summer weekends and home football games at Heinz Field (one of Pittsburgh’s new sports stadiums, described below) bring out large flotillas of recreational boaters. Fishing on the rivers is so good that in recent years Pittsburgh has twice played host to major bass fishing tournaments. On the North Side, a neighborhood just across the Allegheny River from Downtown, riverside development, including Heinz Field, PNC Park, and the Carnegie Science Center, have given a major visual and economic shot in the arm to the city. (Virtually all of this development was subsidized with public financing, discussed below.) Offices, educational facilities, and light industrial and research and development space have brightened the site of the former J&L

Steel Works along the Monongahela River in the Hazelwood neighborhood, which counts the city's main university neighborhood, Oakland, as its other boundary. The South Side Works shopping mall and condominium and office development has done the same on the opposite shore, on another reclaimed brownfield (steel mill) site.

Energy production

Coal is king in Western Pennsylvania even today, which reflects a basic truth about Pittsburgh's steel and (earlier) iron industries. There is a lot of coal in the region, even after more than a century of mining. Pittsburgh's new hockey and concert arena was christened the "Consol Energy Center" after the region's largest coal producer. That development recognizes the ongoing importance of coal to the region. But a host of clean energy alternatives are being explored here, too; Pittsburgh has a legitimate claim to being a center of 21st century energy research. Meanwhile, as I write Pittsburgh is the principal city in the middle of the Marcellus Shale, an underground shale formation that extends from western New York to Kentucky and that apparently holds an extraordinary amount of recoverable shale gas. Western Pennsylvania was home to the first oil well drilled in the United States, in the 1850s. With shale gas, a different kind of carbon-based energy is bringing new wealth to the region.

Waste and sewage

Water and waste have long been acute problems in Pittsburgh, partly due to the age of the region's infrastructure and partly due to its inescapably hilly terrain. The Pittsburgh Water & Sewer Authority regulates water and sewer systems in the City of Pittsburgh, and the Allegheny County Sanitary Authority (ALCOSAN). Despite modernization of both systems during Renaissance I, more often than it should today raw waste goes in its three rivers and down those rivers. Industrial pollution of the rivers is no longer a major problem in Pittsburgh, but untreated sewage is. Pittsburgh's sewer systems are antiquated and inadequate. Despite storm control in many part of the region, flash flooding during and after storms is common, leading to ugly and expensive backups in homes and some neighborhoods, and ugly and expensive deposits downstream (that is, down the Ohio River, towards West Virginia) from the Point. In 2007, ALCOSAN settled a claim by the United States Environmental Protection Agency over countywide untreated sewage discharges (billions of gallons per year), a settlement that obligates ALCOSAN to spend roughly \$3 billion by 2026 to fix the problems and bring the Pittsburgh region into compliance with the federal Clean Water Act. That is \$3 billion that the county's ratepayers will have to absorb over the next twenty years. Truly clean water in Pittsburgh is a long way off.

Transportation

Both public and private transit systems in Pittsburgh are creaking under the burdens of age, lack of public funds, and the pressure of politics that trump sensible planning. Unlike many American cities, Pittsburgh has no true freeway “beltway” for automobile traffic. That means that freeway traffic (“parkway” traffic to Pittsburghers) often travels from the periphery of the region into the heart of Downtown before making its way in a new direction. (Centering the parkway system in Downtown Pittsburgh, now part of the federal interstate highway system, is a legacy of Renaissance I.) Old and poorly engineered approaches to Pittsburgh's major bridges, inherently cautious Pittsburgh drivers, the lack of a grid system in the city (and the accompanying absence of easily accessed alternative routes, all attributable to the area's hills), and limited public funds for road and highway maintenance make rush-hour Pittsburgh traffic worse than its modest population otherwise might suggest. The public transit system is likewise fragile. The Port Authority, which now operates buses, the city's two remaining hillside Inclines (cable cars), and a single light rail line, was a product of Renaissance I; prior to its formation the region was served by a host of private transit companies. But declines in public support and tighter and tighter public budgets have produced successive rounds of service cuts. The light rail system is being extended from Downtown to the North Shore neighborhood at an extravagant cost, driven by rules associated with its federal funding source, while many Pittsburghers contend that better planning would have used the money to relieve congestion in the corridor between Downtown and the Uptown and Oakland neighborhoods, to the east of Downtown, where the region's three major universities and the bulk of its student population are located. The brightest spot in the local transit landscape today may be bicycles, which have found help in recent city administrations and among advocacy organizations. Between Pittsburgh's hilly landscape; narrow, old streets; and drivers and cyclists historically unused to sharing streets with each other, Pittsburgh is a notoriously bike-unfriendly place. But with new bike lanes being installed on some major city boulevards, and with the opening of additional riverfront bike and hiking paths, more cyclists are hitting Pittsburgh streets. Peaceful coexistence may be on the horizon. Slowly and awkwardly, Pittsburgh is getting greener.

Grit and Passion

This section challenges some Pittsburgh orthodoxy. The orthodox tale of Pittsburgh's revitalization is a simple tale of hard work. Pittsburgh owes its current success to the hard work and grit of Pittsburghers themselves, who stuck with their beloved city through thick and thin. Pittsburgh and Pittsburghers are the tortoise to the hare of places like Florida and Arizona. There is a native culture of

hard work and modesty in Pittsburgh, combined with an unrivaled passion for and loyalty to the city, that was forged in the steel era and that drives the city forward today.

That theme, that "character" matters most of all and that Pittsburgh's gritty character, its passion for itself, has never really changed, dominated some media coverage of the G-20 meeting in 2009 (one column in Forbes.com, the online partner of Forbes magazine, is particularly evocative)³⁶ and pervades local culture. Yet I doubt very much that Pittsburgh's "character," whatever it might be, is the cause of Pittsburgh's current condition.

First, it is far from clear that Pittsburgh today has the "gritty" character so often associated with the place. Maybe it does, especially in some neighborhoods and communities, and especially among people and families who have lived in Pittsburgh for decades. I know a lot of "gritty" people in Pittsburgh. I also know a lot of enthusiastic and energetic movers and shakers, in the arts, in the neighborhoods, in politics, and in entrepreneurship, in wealthy towns and poor ones, who are not "gritty" at all. Many of them did not grow up in Pittsburgh, do not have family in Pittsburgh and would not know the inside of the region's steel history if they were hit on the head by a bust of Andrew Carnegie. Instead, these people have the same kind of passion and spirit and talent that one finds in arts advocates, neighborhood organizers, emerging political leaders, and entrepreneurs anywhere.

The "gritty character" story survives because it is a very American way of combining political, economic, and cultural success with a morality tale. Pittsburgh was once dominated by blue-collar workers and their families. The good people, the folks who put their heads down and planned for the future and avoided the flash and dash have come out on top. (And Pittsburghers, of course, are the good people, especially when Pittsburghers are contrasted with sporting rivals in other Rust Belt cities, particularly Cleveland and Baltimore.) Never mind that over the course of the last 100 years in Pittsburgh, many of the people responsible for organizing and leading Pittsburgh's major successful economic, cultural, and political institutions either were not very nice (or even "gritty") and would struggle to achieve characterization as "the good people." Andrew

³⁶ See Raquel Laneri, *Pittsburgh? Yes, Pittsburgh: Why the city on the Ohio River is the perfect G-20 host*, FORBES.COM, Sept. 2, 2009, available at <http://www.forbes.com/2009/09/02/pittsburgh-g-20-economy-innovation-opinions-columnists-21-century-cities-09-pittsburgh.html> ("But the thing Pittsburgh has done perhaps more brilliantly and unabashedly than any other American city—a philosophy Detroit and other suffering one-industry towns should consider—is stay true to its identity. Pittsburgh may have built one of the largest health centers in the U.S., but it has not tried to reinvent its character. [¶] Pittsburghers have a ferocious pride in their city").

Carnegie and his rival, Henry Clay Frick, come promptly to mind. In the morality tale, the workers and a small number of selfless capitalists and politicians are usually "the good people." Never mind that putting Pittsburghers' collective heads down and planning for the future and avoiding the flash and dash produced some important community milestones during the first Renaissance but ended up driving the city over an economic cliff in the early 1980s and did little to bring things back to life over the succeeding twenty-five years. I do not suggest that Pittsburghers are not good or hard working or that steelworker forebears did not struggle mightily to achieve success for their families and for the region. They are, and they did. But I am skeptical of the morality tale that says that Pittsburgh is where it is today because good people worked hard for it and cared passionately about where they live.

Second, it may be the case that Pittsburgh is succeeding today not *because* of its historic gritty character, assuming that this gritty character survives, but *despite* it. In truth, of course, some of both things is probably at work, but the *cause* part is already an element of the standard narrative. I want to focus briefly on the *effect* idea.

In the Forbes.com story I referred to above, Pittsburgh City Council Member Bill Peduto was quoted. In the wake of the steel industry's collapse, he said, "Pittsburgh really had no choice It was diversify or die." The inaccurate way to read that statement is to infer that Pittsburgh somehow decided to diversify its economy in the wake of the collapse of steel, and the results are on display today, particularly the region's "eds and meds" industries. But the implied statement that Pittsburgh somehow planned for the end of steel is historically inaccurate. Important investments in "eds and meds" were made in the 1950s, but those investments bore meaningful fruit only much later. When the steel industry collapsed in the early 1980s, the University of Pittsburgh, Carnegie Mellon University, and the University of Pittsburgh Medical Center (now UPMC), today Pittsburgh's three leading institutions and each of them global in its reach, were competent regional enterprises. The collapse of steel was not expected or desired.

The better and more accurate way to read the statement above is that Pittsburgh had economic diversity thrust upon it. When steel died, for many years Pittsburgh wished and waited for another large-scale industry to arrive and restore the region, for a substitute to be found to replace US Steel as an oligopolistic but reliable and stable anchor. Over a very long period of time, Pittsburghers threw off the psychological shackles that kept the population hoping and waiting for the big thing that would save the city. That includes both the business community and the population at large. The people of Pittsburgh have at long last accepted a lesser role for steel (which survives in the Pittsburgh region, primarily through small specialty steel producers and suppliers). That is, eventually, Pittsburghers learned to stop worrying and love economic diversification. (More on the

economy as such appears below.) They really had no choice. Fortunately for the region, some key “eds and meds” investments had been made way back when, and those investments were waiting for more attention.

Having gradually accepted the reality of a “new-ish,” more diverse economy, Pittsburghers have concluded that they were not sad sack losers for letting steel slip away. Pittsburghers have decided they were gritty after all. The city is still here; therefore it has grit. Pittsburgh's character today is its reward for not having melted away, like the Wicked Witch of the West, when Pittsburgh steel had the cold water of new competition poured on it.

Hipness

History and culture have many dimensions. The flip side of grit is hip. Is Pittsburgh hip? The short answer is that it never was and it never will be, at least so long as anyone thinks that "hip" is defined by a New York or Los Angeles aesthetic. But in the last few years Pittsburgh seems to have attracted and supported a younger, more progressive social, cultural, and political "scene" than anyone might have thought possible as recently as ten years ago. It is wrong to put too much emphasis on surface phenomena like a single Whole Foods grocery store, which has been thriving for several years in Pittsburgh's East Liberty neighborhood and which, with adjacent stores and restaurants and a nearby regional outpost of Google, gives a patina of cool to part of a single neighborhood. But below the surface, there is definitely something happening.

Ten years ago, the region was gripped with public fear of "brain drain," anxiety that the area's adolescents and recent college graduates would leave Pittsburgh and take the brightest ideas and most passionate energy with them. “Brain drain” as a slogan reflects anxiety grounded in a localized economic and cultural model, the worry that it will no longer have local resources to support and reproduce itself. By the time that concern arose in Pittsburgh, the anxiety was almost entirely misplaced. Particularly in the latter part of the 20th century and continuing today, young people in the United States are fated to move around. Leaving home and leaving their native region seems to be a modern American birthright. Pittsburgh is a more rooted (some would say, "European") city than many of its peers, but it never had any realistic hope that its experience over the long run would be different.

Pittsburgh's legitimate anxiety was and to some extent remains that no one from other parts of the country and the world wants to move to the region. That anxiety has its cousin in the celebration, noted above, of the city's “livability” ratings. More dynamic cities, places where "hip" really means something, are places where population churn is a fact of life. People go, people come. This includes immigrant populations willing to work at dangerous jobs for low wages;

immigrant groups often take root, accumulate wealth, and build middle class institutions in their adopted communities. New ideas are constantly being imported as well as exported.

Is that happening in Pittsburgh? Population trends overall have not changed dramatically in Pittsburgh. The 2010 census shows that the city's population continues to decline slowly, to just over 300,000 people, and the regional population, at roughly 2 million people, is staying mostly flat. Age distributions, however, are changing. After enduring decades of being labeled one of the (demographically) oldest cities in the United States, Pittsburgh is now getting younger.³⁷ To be sure, much of the shift can be attributed to the demise of older Pittsburghers. The birth rate in Pittsburgh is quite low; Pittsburgh deaths are higher. But at the margins and in some particularly visible parts of the region, there seems to be movement around Pittsburgh. In arts, culture, entrepreneurship, neighborhood advocacy and development, and politics, there is an emerging tier of 20-something leaders who embrace and are building enthusiastically on what I call the "best of Pittsburgh's past"—the neighborhoods, the older racial and ethnic communities, even the steel industry and its associated blue-collar sensibility. Residential and retail revival in Pittsburgh neighborhoods like Lawrenceville, East Liberty, the Mexican War Streets, and parts of the South Side, the Strip, and even Downtown are emblematic of the new younger tone of Pittsburgh. The start-up economy in Pittsburgh (more on that below) is slowly but surely leveraging this younger talent. A leading young computer science researcher at Carnegie Mellon University, Luis von Ahn, sold his company to Google, which is developing a growing research facility in Pittsburgh and is keeping von Ahn and his team in place. The Warhol Museum, a Pittsburgh institution that houses the largest permanent collection of Andy Warhol's works (Warhol was born and raised in Pittsburgh), has become a focal point for cutting-edge arts and culture in the region and is widely respected beyond Western Pennsylvania.

Sports

No account of Pittsburgh's history and culture is complete without a review of the topic that binds more Pittsburghers together than any other: sports and professional sports in particular. Few cities anywhere in the world derive their identities so directly from their sporting successes and failures as Pittsburgh does.

³⁷ Economists predicted the shift a decade ago. See Christopher Briem, *We're getting younger every year*, PITTSBURGH POST-GAZETTE, Jan. 2, 2000, available at <http://www.post-gazette.com/forum/20000102edbriem8.asp>. Recent census figures bear it out. See Gary Rotstein, *Census finds Pittsburgh is growing younger*, PITTSBURGH POST-GAZETTE, May 19, 2011, available at <http://www.post-gazette.com/pg/11139/1147664-53.stm>.

The city is known for three teams in particular: the Steelers, of the National Football League; the Pirates, of Major League Baseball; and the Penguins, of the National Hockey League. When any of those teams wins a championship, Pittsburgh residents and former Pittsburghers everywhere (a “diaspora” with its genesis in the out-migration from Pittsburgh spurred by the collapse of steel in the 1980s and now often referred to as Steelers Nation) share an intangible collective sense of pride in the city itself, as if they had something directly to do with what happened on the field or on the ice.

In other words, today's aura of Pittsburgh success owes no small debt to the recent successes of its professional athletes, particularly in football and in ice hockey. It also owes no small debt to long-ago athletic successes. The Pirates won the World Series over the favored New York Yankees in 1960 under circumstances so miraculous that fans still gather on the anniversary of the final game to relive the deciding moment: a home run in the ninth inning by Pirates second baseman Bill Mazeroski. The Steelers won four Super Bowl championships during the 1970s, and the Pirates won the World Series again in 1971 and 1979, at a time when steel still ruled the region. Pittsburgh called itself the “City of Champions” then (the city was also home to an extraordinarily successful college football team at the University of Pittsburgh). Without the Steelers and Pirates of the 1970s, one may wonder legitimately whether there would have been much to revive in Pittsburgh in the late 1990s. The collapse of the steel industry in the early 1980s imposed a collective psychic trauma on the region that has faded ever so slowly over time. That trauma was mitigated in part by psychic spillover benefits from the championship years,³⁸ and those championships have been given new life by more recent victories—two more Super Bowl titles for the Steelers and Stanley Cup (ice hockey) championships for the Penguins. It is not too much to declare that fan support for Pittsburgh sports teams is ecstatically tribal; it spans gender and generation. Moreover, the force of Pittsburgh fandom is essentially unifying. In contrast to tribal support for football (soccer) clubs in many major European cities—consider Glasgow, or Manchester,

³⁸ It helped considerably that the Steelers and Pirates of the 1970s were characterized by coaches and star players who aligned themselves with the city's image of itself: down-to-earth, hard-working, no-nonsense, family-oriented men. All of Pittsburgh's professional sports teams feature black and yellow or black and gold—the official colors of the City of Pittsburgh—as their official team colors. At the Pittsburgh International Airport a handful of years ago, I rode a tram standing next to Lynn Swann, one of the superstar players from the Steelers of the 1970s and still a Pittsburgh-area resident. Another tram rider turned to him and said, modestly, “Thanks for the good years, Lynn,” and then walked away. Swann nodded an acknowledgement. No autograph or even a handshake was expected.

or Istanbul—Pittsburghers' loyalties are undivided.³⁹ And for reasons noted earlier in connection with Pittsburghers' arguable grit, the passion and loyalty associated with Pittsburgh sports teams, while strong to begin with, may have intensified in recent years, initially as compensation for the loss of the region's dominant industry, and more recently in proportion to the region's recent renewal. Where Pittsburghers all once had the steel industry in common, now they all share football. Pittsburgh fans are expressing and bonding communally over their intense pride in their great city, first despite its overall economic condition and now to celebrate it.

Does the aura translate into economic good fortune? The reputational benefits of Pittsburgh fandom do not necessarily translate into income or wealth for the region. To the extent that professional sports have a direct bearing on the economic fortunes of a city, the balance of payments decidedly favors team ownership and the athletes themselves. All three teams now play their home games in recently-constructed modern facilities that are among the most lavish (for players) and fan-friendly in their respective leagues; all three were built on a newer "urbanist" model that wove them into the fabric neighborhoods close by to Downtown Pittsburgh. But the teams do not create wealth; they redistribute wealth. To a team owner or player, or a broadcaster or other rights-owner, the obsessive loyalty of fans is highly lucrative. For fans, being fantastically and obsessively loyal is expensive. Being a supporter takes up time and, between tickets and fan gear, a lot of money. Fans receive psychic income, which is real enough if it motivates engagement with the community at large but which does not pay for food or housing. (Pittsburgh's baseball fans do not earn even that, however. The Pirates have not had a winning season since the early 1990s, though the team is profitable.) In its disparate economic impacts, Pittsburgh's sporting tribalism bears more than a passing resemblance to the steel industry.

Government

Having set out a broad range of cultural dimensions of Pittsburgh's current status, in this and the following sections I turn to some institutional and economic considerations. What roles have Pittsburgh politicians and politics and local government played in the region's evolution over the last three decades? I begin this quick review with a nod to a recent essay at a respected online Pittsburgh magazine, *Pop City: Five Things that Allowed Pittsburgh to Turn the Corner*.⁴⁰

³⁹ A Pittsburgh Steelers game against the Baltimore Ravens, perhaps the team's biggest rival, engenders passions on both sides that might approximate the passions unleashed by a *Clásico* between Real Madrid and FC Barcelona.

⁴⁰ See John Denny, *Five Things that Allowed Pittsburgh to Turn the Corner*, POP CITY, Sept. 9, 2009, available at <http://www.popcitymedia.com/features/5things090909.aspx>.

The author, who works for the Hillman Company, a Pittsburgh investment firm, identified five things that allowed Pittsburgh to turn its corner, toward renewal: RAD (the “Regional Asset District” that collects and distributes local sales and uses taxes to fund certain cultural services in the region); home rule for Allegheny County, where the city of Pittsburgh is located; Pittsburgh’s Life Sciences and Digital Greenhouses; river and trail restoration and access; and creation of the County’s Department of Human Services. This is a decidedly traditional Pittsburgh list in its focus on government and top-down organization as drivers of change. That is no surprise. The Hillman Company and the Hillman name are two of the most respected institutions in the entire region and icons of the Pittsburgh establishment. In a sense the list is representative of the perspective that is sometimes called “Renaissance III,” a modern public–private partnership leading Pittsburgh toward future success, continuing the traditions and successes of Renaissance I and Renaissance II.

Each of these items either came into being or came to prominence during a five-year period—1995 to 2000—that preceded the current sense of Pittsburgh renewal and therefore could be said to have set the stage for later success. Three of them, home rule for Pittsburgh’s home county, the Regional Asset District, and consolidation of disparate health and family services into a single county-wide Department of Human Services, followed public acknowledgement that the county (with well over a million residents) had weak government institutions relative to the city of Pittsburgh (with roughly 350,000 residents, at that time). The two Greenhouses, which are incubators of and investors in early stage technology companies located in Pittsburgh, are local implementations of a statewide, government-directed-and-funded economic-development strategy. Particularly in their early years of operation, both relied heavily on state funding.

While there is no doubt that each of the items on that list has played an important role in Pittsburgh over the last ten years, it also true that as with any government programs, the story in each case is full of misses as well as hits. The recession that began in 2008 exposed the flaw in the RAD formula. RAD support displaced direct appropriations from state and local budgets, and recipients of RAD funds now fight over a smaller pool of RAD-specific tax revenue. Home rule gave Pittsburgh a strong county executive, which is an elected political position, but in practice that office has run into frequent conflict with the Mayor of Pittsburgh over control of a vision for the region’s future. Beyond some streamlining of county bureaucracies that were long considered bastions of patronage for lesser-elected officials, the executive’s role in regional renewal and growth has been poorly defined. (In this chapter I have tried to emphasize the importance of Pittsburgh as a region as well as a city, but for decades the city proper has been the conceptual driver of Pittsburgh success—and failure.) The Department of Human Services is a success story, but it may be the exception that

proves the rule. Beyond ensuring effective delivery of services to populations who have neither access nor money to obtain resources otherwise, the county government is relatively toothless. In addition, that department, for all of its good work, is not in a position to address deeper structural problems that divide wealthier Pittsburgh communities from their poorer neighbors. (More on structural challenges, below.) As for the Greenhouses, despite some successes in supporting innovation regionally, state-directed investment via the Greenhouses has stood in the way of authentic entrepreneurship and economic development as much as they have facilitated it, by crowding out private sector investment and initiative. There is more on this topic, too, below.

More broadly, the story of Pittsburgh government has many more chapters than these five. In general, it is as easy to see Pittsburgh's governments as obstacles to revival as it is to see them as facilitators. For example, revival and renewal in Pittsburgh has taken place almost entirely in the private and not-for-profit sectors. Pittsburgh's public sector groans under the weight of an accumulated unfunded pension liability of hundreds of millions of dollars, owed primarily to public safety employees (police and firefighters) and to public school teachers, that is so severe that in late 2003 the city was labeled officially "distressed" under Act 47, a state law in Pennsylvania. Since then, the city's finances have been supervised both by a state-appointed Act 47 team of advisors and by a state-appointed Intergovernmental Cooperation Authority. Pittsburgh is neither insolvent nor bankrupt under federal law. But the city does not have enough revenue to pay all of its debts, and despite the continuing decline in the city's population, the city's deep-rooted neighborhood culture has made it extraordinarily difficult to consider reducing the levels of public services supplied by the city.

Moreover, the Mayor and City Council of the city of Pittsburgh, which govern the city, are frequently at loggerheads and even then are only parts of the vast mosaic of regional and local government institutions in the Pittsburgh area, some of them public, some of them partly public and partly private. "Fragmentation" is the local watchword. The city of Pittsburgh has ninety neighborhoods that are officially recognized by the city. Many of those are supported by Community Development Corporations, which have flourished over the last decade and which are responsible for freshening up many a neighborhood economy. Allegheny County as a whole, with just over 1 million inhabitants, has 130 municipalities, each of which has varying levels of authority over local taxes, public schools, and land use policy. In many cases, the Pittsburgh region, like Pittsburgh neighborhoods, thrives on this continuation of historic patterns of very close local control of local matters. But spillovers are increasingly frequent; no town, like no neighborhood and no man, is an economic or policy island. Despite the investment of Allegheny County itself with certain political authority in the

mid-1990s, the redistribution of regional population over the last several decades from the city of Pittsburgh to the broader region has not been matched by a reallocation of public authority and resources. That population shift is complicated by the fact that many regional residents commute to jobs in the city of Pittsburgh, yet pay only nominal taxes to the city. Many policymakers in the Pittsburgh region promote a broad consolidation of city and county governments. If suburban income were taxed as part of a regional solution, the city's unfunded pension liabilities might be reduced significantly, for example. Consolidation itself may or may not be a panacea with respect to aligning regional costs and benefits. The point is that the demographic shape of the city of Pittsburgh and the surrounding region has changed fundamentally; how governments deal with those things largely has not. Real, productive, disciplined broad-based inter-governmental cooperation is necessary to get things done in Pittsburgh, but it is rare. Renaissance I was possible in part because political and economic resources aligned in concentrated fashion in the city of Pittsburgh fifty years ago, together with enlightened leadership in both public and private sectors. That alignment no longer exists.

Sharing the Wealth

A big part of Pittsburgh's revitalization story focuses on the diversification of the region's economy. Pittsburgh's historic focus on steel production and other manufacturing, supported by a strong regional banking, has been supplanted by a broad range of economic drivers. Educational services dominate the stage, via the region's many colleges and universities; a medical services provider, the UPMC Health System, is the region's single largest employer. Financial services remain strong, along with energy production, chemicals, and engineering and specialty manufacturing (including steel, as well as medical devices). Several of Pittsburgh's legacy industrial firms retain significant presences in the region, including Alcoa, PPG Industries, and the H.J. Heinz Company. Westinghouse, a legendary Pittsburgh name originally associated with the Westinghouse Electric Corporation, survives in the Pittsburgh region via a descendant devoted to nuclear engineering. All of these enterprises, including UPMC and the region's leading universities, have adopted outward-looking global business strategies.

Alongside what might be called Pittsburgh's large-firm economy is an increasingly diverse and successful range of industries grounded in emerging firms and technologies, many of them built around research spun off from research at the University of Pittsburgh, Carnegie Mellon University, and UPMC. Pittsburgh is known for high-quality development in robotics, information technology, computer science, life sciences (particularly tissue regeneration), and what is now known as "entertainment technology," including videogames. A

variety of incubator and accelerator firms in the region, many of them seeded with state-supplied funding, have nurtured a growing number of these enterprises to viability. Pittsburgh is increasingly known nationwide as a place where technology-oriented innovation will receive strong community support, from entities such as the Digital Greenhouse, the Life Sciences Greenhouse, and Innovation Works.⁴¹ Those firms and the neighborhoods where many of them and their employees are located, such as Pittsburgh's South Side, the Strip District, Lawrenceville, the Oakland neighborhood, and East Liberty and Larimer, have experienced a decade-long upsurge in related residential and commercial development: rehabbed warehouses, renovated homes, and new stores and restaurants. The arts community has rebounded in tandem with technology-oriented development, both at the higher end (such as commercial film production) and at the smaller end (a growing number of visual artists and musicians, relying on living and working costs that compare quite favorably with alternatives in New York). Suburban communities on all sides of the city of Pittsburgh have benefited from re-located and expanded offices associated with small- and mid-sized company innovation. There is no single "technology corridor" or valley in Pittsburgh.

Enthusiasm for all of that development should be tempered by recognition of just how much of Pittsburgh, both city and region, remains essentially untouched by it. There is a structural problem at work. Pittsburgh's prosperity was driven by the fact that Pittsburgh possessed a nearly unique combination of access to raw materials, transportation, and financial resources, which came together in the 20th century in the steel industry, and in the 19th century in iron production and glassmaking. Because the location of those things was distributed broadly across the region, with mills and factories located up Pittsburgh's rivers and valleys, Pittsburgh's economic might, and the blue collar population that supported it, was distributed across the region rather than being concentrated in one place, such as Downtown.

When the steel economy crashed and the mills closed, those valley communities were the hardest hit. As the region's economy has slowly re-emerged and parts of it have been redeveloped, there has been little reason, in purely economic terms, to focus on them. Pittsburgh's new economy, and particularly its "eds and meds" and technology communities, can be located anywhere and generally are located where the population is clustered, and particularly the better educated, white-collar population. In a manner of speaking, steel money was

⁴¹ A newer entity, the Energy Alliance of Greater Pittsburgh, does not fund new enterprises itself but serves as a clearinghouse of information about funding opportunities and advocates on behalf of technology developers and other firms who are exploiting Western Pennsylvania's energy resources.

sucked out of one part of the Pittsburgh region; new money is largely being injected elsewhere.

That proposition should be understood in tandem with a history of racial and ethnic diversity that has left Pittsburgh composed almost exclusively of white majority and black minority populations. There are, in fact, at least three Pittsburghs today. There is the city and region that is the object of some guarded optimism, courtesy of emerging economic development in “eds and meds” and technology sectors. I call that “First World Pittsburgh.” Alongside First World Pittsburgh there is the fading steel-producing region, much of which lays outside of the city itself and much of which is home to abandoned manufacturing sites. (Many of the steel-producing sites in Pittsburgh were located up the Monongahela River, leading to its informal moniker: the Steel Valley.) I call that Second World Pittsburgh, characterized mostly by pure pessimism. (Some mills continue to operate profitably, but with a fraction of their former workforces.) Finally, there is Pittsburgh’s African-American population, which is modest in size and, to the extent that it is concentrated in a handful of city neighborhoods (notably, Homewood and the Hill District), quite poor.⁴² A recent local news story captured the problem in a headline: “Pittsburgh’s ‘Livable’ label called lie for blacks.”⁴³ I call this Third World Pittsburgh, burdened by poverty and crime and no obvious way out. Pittsburgh’s black population swelled during the middle part of the 20th century during precisely the era when growth in manufacturing in Pittsburgh was slowing and reducing the number of available jobs.

Some details might be added to that rough sketch, particularly within First World Pittsburgh. That cluster includes “Suburban Pittsburgh” and “City of Pittsburgh” subdivisions. The two groups share positions of power but do not identify with each other. First World Pittsburgh also includes other distinct sub-groups: “Traditional Pittsburgh,” Pittsburghers, especially older Pittsburghers, who long primarily for a restoration of the prestige that the city enjoyed in its golden age; “Corporate Pittsburgh,” often but not exclusively Pittsburghers in positions of government and business authority, who associate Pittsburgh with the benevolent governing style that characterized the city during Renaissance I; and “New Pittsburgh,” the younger Pittsburghers and newer arrivals who are often at the forefront of new efforts in arts, technology, and real estate development, who

⁴² Pittsburgh’s African-American community is economically diverse, but its middle and upper classes are scattered across the region.

⁴³ See Moustafa Ayad, *Pittsburgh’s ‘Livable’ label called lie for blacks*, PITTSBURGH POST-GAZETTE, July 20, 2007, available at <http://www.post-gazette.com/pg/07201/803126-53.stm>. That story reported on a report prepared by faculty members at the University of Pittsburgh’s School of Social Work, titled *Pittsburgh’s Racial Demographics: Differences and Disparities*. The report is online at http://www.cmh.pitt.edu/pdf/Demographics_Complete.pdf (last visited June 2, 2011).

often bring global perspectives to bear on local issues and who are sometimes impatient for "Traditional Pittsburgh" and "Corporate Pittsburgh" to get out of the way. Second World Pittsburgh, the Pittsburgh of fading mill towns and neighborhoods, has its own divisions, as does Third World Pittsburgh. Some "New Pittsburgh" energy spills over into efforts to revive and renew these places, for example. And none of the boundaries among these broad groups is impermeable, and people within each group are more, and sometimes less, capable of change.

No matter how you divide up the community, however, it is clear that "Pittsburgh," like many cities and regions, is an amalgam of cultural and economic interests that are in conflict as often as they are aligned. It is tempting and even sometimes right to see Pittsburgh's revitalization as the product of the convergence of these interests, and to see flaws in the revitalization project as the products of a failed infrastructure of cooperation. If First World Pittsburgh supports and protects only First World Pittsburgh, then Pittsburgh's renewal is not taking root across the broader community. Even the struggling Steel Valley is sometimes characterized by micro-versions of these same conflicts. In Braddock, Pennsylvania, a mill town near Pittsburgh that is home to the region's first and largest integrated steel mill, the Edgar Thomson Works, the force and face of "new," Braddock Mayor John Fetterman, has struggled both against what is left of the town's old guard and against claims that Fetterman himself has favored friends and family in promoting arts- and culture-based renewal.⁴⁴

Land Use and Redevelopment

A post-industrial city such as Pittsburgh has to account for its land, because no other resource was so dedicated specifically to supporting the structure of its former economy. Perceptions of Pittsburgh's renewal owe much of their resonance to productive reuse of several prominently located former steel mill sites, along with other redevelopment of prominent parcels in Downtown Pittsburgh and along its rivers.

This visible transformation of Pittsburgh over the last fifteen years is marked by a quick review of the banks of the Monongahela River, which arrives in Downtown Pittsburgh from the south. In Homestead, just outside Pittsburgh's city limits, the site of the former Homestead Works steel mill is now occupied by an enormous outdoor mall and office complex, called the Waterfront. Heading downriver into Pittsburgh, the site of the former LTV steel works in the South Side neighborhood is now occupied by the Southside Works office and retail

⁴⁴ See Sue Halpern, *Mayor of Rust*, N.Y. TIMES MAGAZINE, Feb. 11, 2011, at MM30, available at <http://www.nytimes.com/2011/02/13/magazine/13Fetterman-t.html>.

complex. The former Jones & Laughlin mill site, facing the Southside Works, is occupied by a series of modestly scaled, light office buildings that house Pittsburgh's technology incubators and accelerators and research facilities. Modern office buildings dot the Downtown Pittsburgh skyline, many of them products of Renaissance I and Renaissance II. The tallest of them, built in 1970 as the headquarters of US Steel, now boasts the letters "UPMC" on the sides of its top-most floors, both signaling the presence of the corporate offices of that organization and embodying in a single image the metaphorical shift underway in Pittsburgh.⁴⁵ On the other side of the Point, on the Allegheny River, an older and unloved concrete product of Renaissance I, the multi-sport Three Rivers Stadium, was torn down in 2001 after thirty years of use to make way for modern, separate facilities for football (Heinz Field) and baseball (PNC Park) and an expanding array of office buildings, hotels, and concert venues. The new David Lawrence Convention Center sits just upriver, also replacing an outmoded Renaissance I predecessor. Where Pittsburghers once poured steel into molds, and where land once stood abandoned and vacant, today they watch, play, convene, office, and shop. Contemporary culture is quick to recognize this as progress.

Virtually none of this real estate development happened without substantial input and investment from Pittsburgh's city government, principally from a Renaissance I-era municipal agency, the Urban Redevelopment Authority (URA), which is one of the oldest and most prominent examples of its type anywhere in the United States. The Waterfront development in Homestead was executed outside the city limits; public investment in that project consisted of a major rebate of expected property tax revenues, via a state "Tax Increment Financing" program that encourages redevelopment of "blighted" property. The other projects identified above, however, all involved substantial coordination and investment either from the URA or from its municipal cousin, the Sports & Exhibition Authority (SEA). The agencies offer planning support, and importantly, both some public financing and the ability by law to coordinate public financing (at tax-subsidized rates) with private investment (which earns market returns). The URA previously played a key role during the 1950s in the successful redevelopment of the Point, in Downtown Pittsburgh, and in the 1960s in the unsuccessful redevelopment of Pittsburgh's East Liberty neighborhood, what was then Pittsburgh's second-largest business zone. Today, it is most

⁴⁵ See Dan Fitzpatrick, *Top of the triangle: UPMC getting ready to put its name on U.S. Steel Tower*, PITTSBURGH POST-GAZETTE, Apr. 25, 2008, available at <http://www.post-gazette.com/pg/08116/876329-28.stm>. The "Top of the triangle" in that headline is a local inside joke; "Top of the Triangle" was the name of an elite restaurant that operated for years at the top of the building and that catered to US Steel executives. The restaurant space has been renovated and is now occupied by UPMC's leadership team.

prominently associated with riverfront development, although it manages residential redevelopment throughout the city.

In part because the URA has long played such a large role in Pittsburgh real estate, developers of almost all types of projects have gotten accustomed to a significant public role in their efforts. The advantage of this approach has been a city today that is somewhat more coordinated in its appearance and function than cities where development policy is channeled largely via zoning regulation. Pittsburgh has a larger residential community in its Downtown neighborhood today, and in renovated warehouses and factories in the adjacent Strip District neighborhood, compared to a decade ago. Both are products of URA interest and investment. The drawback to this approach is that certain development opportunities go unexplored, either because they do not fit the government's vision—note above, for example, the relative absence of light office and light industrial facilities suitable for start-up technology firms—or because political considerations spill over from the Mayor's administration, which has a strong formal role in the URA, to the adjacent planning agencies. The URA is responsible for many of Pittsburgh's current amenities, but the URA's vision is derivative of an older Pittsburgh, both in the sense that the vision is planned from above, and in the sense that it is planned by elites. For both reasons, it may have crowded out other private investment.

If land use policy has been exercised in such an unorthodox way, related tax policy has been equally unorthodox. There are at least three tax notes worth mentioning in connection with Pittsburgh's revitalization.

The real estate tax assessment system in Allegheny County was overhauled a little over a decade ago in an effort to assess each parcel at its actual market value. Given dramatic changes in property values over decades during which new assessments had not been conducted, and the difficulties associated with re-assessing every parcel in the county virtually overnight, the overhaul led to allegations, ultimately sustained by the Pennsylvania Supreme Court, that inequities in the new system were so profound that the entire system was declared unconstitutional. Under Pennsylvania law, however, the bulk of property taxes are paid to municipal school districts, but assessments are conducted primarily by county authorities. A successor system has yet to be devised and fully implemented.

Disruption in the tax system has not in itself impaired Pittsburgh's renewal, but the reforms of a decade ago may yet have deeper consequences. As Pittsburgh moved to a new assessment system in 2001, it also abandoned its land tax, sometimes called a land value tax, or a split-rate property tax system. Under

such a system, related to the single-rate land tax proposed by Henry George,⁴⁶ real property is taxed at two rates, one (lower) rate for improvements, and a second (higher) rate for the land itself. The goal of a split-rate land tax is to discourage land speculation and holding under-developed property, and to encourage development of raw land. (In theory, a pure land tax is a means of equalizing wealth across society, on the premise that land itself is a form of wealth equivalent to improvements, chattel property, and money. Conceptually, taxes on the land would be paid by landowners; taxes on improvements would be paid by improvers or tenants.⁴⁷) For decades during the 20th century, Pittsburgh taxed undeveloped land at a much higher rate than it taxed developed land. There is some evidence that the split-rate system encouraged construction in Pittsburgh, especially the commercial construction associated with Renaissance II during the 1980s and early 1990s. It has been suggested that this change adversely affected private incentives to engage in real estate development.

Finally, there are two other aspects of Pittsburgh's residential taxation system to consider. One is its tax lien system. The city of Pittsburgh has had a large number of vacant and abandoned properties in its neighborhoods, and liens for unpaid taxes on those properties have stood in the way of selling them and getting development moving. Pittsburgh recently started to buy back the liens, in effect getting taxes out of the way of improving the neighborhoods with private capital. The huge number of affected properties means that this project has a long way to run, but the fact that it got started at all is a positive sign. Two is Pittsburgh's high deed transfer tax, which punishes those who buy and sell homes, discouraging turnover and returning the story thematically to one of its starting point. The note brings me full circle: Pittsburgh is particularly "livable," and affordable, for those who have little interest in moving elsewhere.

Summary

The narrative is long, full of color and some detail. What does it add up to? My goal in this contemporary account of Pittsburgh has been both to illustrate those features of the city and region that justify the claim that it has been revitalized in the wake of the collapse of the steel industry, and also to point out those features that justify skepticism regarding the extent and depth of that revitalization. The

⁴⁶ See John A. Swain. *The Taxation of Private Interests in Public Property: Toward a Unified Theory of Property Taxation*, 2000 UTAH L. REV. 421, 478–80 (describing the Georgist approach).

⁴⁷ Not only does the land tax idea have the virtue of progressivism, it has also been shown to be economically efficient in urban contexts. See Joseph E. Stiglitz, *The Theory of Local Public Goods*, in Martin S. Feldstein & Robert P. Inman eds., *ECONOMICS OF PUBLIC SERVICES* (London, UK: Macmillan, 1977).

following statistics capture the yin and yang of Pittsburgh today. On the one hand, despite all of the new investment, new and expanded institutions, and diversification of Pittsburgh's economic base described above, the rate of new business formation in Pittsburgh remains remarkably low, particularly in comparison to rates in peer Rust Belt cities (Baltimore, Cleveland, Cincinnati, Milwaukee). A report in 2008 concluded, "The Pittsburgh region has the third lowest rate of startup businesses in manufacturing of any of the top forty regions, and the lowest startup rate in every other sector, from retail to finance."⁴⁸ On the other hand, in 2004 for the first time there were equal numbers of women and men in Pittsburgh's workforce; since then, women have outnumbered men.⁴⁹ Pittsburgh's Asian-Indian population nearly doubled between 2000 and 2010. The numbers seem small in absolute terms—from roughly 8,500 people to roughly 14,500 people—but the trend and the impact are unmistakable. This is a community that is generally well educated and entrepreneurial. Pittsburgh cannot escape its industrial history and the spillover economic, cultural, and demographic

⁴⁸ A leading local economic development consultant and scholar wrote recently: "In regions like Charlotte, Denver, Kansas City, and Minneapolis, more than 1 out of every 6 workers (17–18%) is employed by a locally-owned firm 10 years old or younger. In Silicon Valley, more than 1 out of every 5 workers (22.3%) is employed in a firm that is young. But in the Pittsburgh region, only about 1 in every 7 workers (14.3%) is employed by a locally-owned firm 10 years old or younger." Harold D. Miller, *Want More Jobs? Attract More Entrepreneurs*, PITTSBURGH'S FUTURE, Jan. 13, 2008, available at <http://pittsburghfuture.blogspot.com/2008/01/want-more-jobs-attract-more.html> (last visited June 2, 2011). A complete set of comparative statistics is available through the Pittsburgh TODAY project, a research resource maintained at the University of Pittsburgh. Employment in new businesses is described in data collected at http://www.pittsburghtoday.org/view_NewBusinessFormation2.html (last visited June 2, 2011).

⁴⁹ In December 2007, researchers at the University of Pittsburgh's Center for Social and Urban Research published a comprehensive report titled *Gender Wage Disparity in the Pittsburgh Region: Analyzing Causes and Differences in the Gender Wage Gap*. It included this statement:

Women are singularly responsible for the region regaining its employment and labor-force levels above their peaks prior to the massive job losses of the 1980s ... in fact, total employment and total labor force would reach their all-time peaks in the Pittsburgh region in the late 1990s. This expansion in the local labor force, despite the large structural job loss of the 1980s, was only possible because of the dramatic increase in female labor force participation.

SABINA DEITRICK, GENDER WAGE DISPARITY IN THE PITTSBURGH REGION: ANALYZING CAUSES AND DIFFERENCES IN THE GENDER WAGE GAP 8 (2007) available at <http://www.ucsur.pitt.edu/files/frp/DeitrickGenderWageDisparity12-07.pdf>.

effects of that history. Pittsburghers as a whole would say that they have no desire to escape that history. But there are modest signs that the region may be headed towards an era of stability and perhaps even prosperity.

IV Conclusion

This chapter has attempted to assess the challenges of revitalizing a depressed post-industrial economy by examining the modern state of a primary example of such a city—Pittsburgh, Pennsylvania—both by contrasting that city with its earlier self and by framing that examination in terms offered by a leading urban economist, Benjamin Chinitz. Chinitz's work, published in 1961 and based in part on a review of Pittsburgh then, emphasized the role of supply considerations in regional growth, and particularly the supply of a diverse field of firms and sources of labor and capital.

In view of Chinitz's framing, the state of Pittsburgh now is not surprising, as an economy part of the way to restoration of its good health with a diverse, innovation-based economy built on the rubble of a collapsed industrial monoculture. That is so despite the fact that it is essentially impossible to diagnose a cause-and-effect relationship between any particular step that Pittsburgh took (or had thrust upon it) either as a matter of public policy or as a matter of economics, history, or culture. Pittsburgh has not reinvented itself in the wake of the collapse of the steel industry. Reinvention has happened, in part. The difference between those two statements is important. "Pittsburgh," if that name means "the government, business, and educational leaders of the city and region," was forced by circumstance to try to execute a strategy of economic diversification and real estate development. Much of the region's subsequent success should be attributed not to top-down policy or legal changes but instead to payoffs of institutional investments made decades ago or to changes in investment and employment patterns made possible by the elimination of dominant firms, or both.

Pittsburgh's relative success today bears the hallmarks both of the long struggle to recapture regional prosperity that Chinitz predicted in the wake of troubles in concentrated Pittsburgh economy, and also of emerging Chinitz-style agglomeration. In both senses, Pittsburgh's evolution toward a new economy remains a work in progress. Via lots of individual and local efforts, project by project and neighborhood by neighborhood, change has accumulated over time to the point where Pittsburgh is able to stand back and point with justifiable pride to a more or less crazy quilt of relative prosperity, rather than a single pattern of progress. The people of Pittsburgh, over a long period of time and in fits and starts involving some who were already here, some who moved in, and some who have since moved on, invested time and money in things that they were and are

passionate about. Some of that is scientific and technological research; some it is the arts; some of it is starting and growing businesses; some of it is building institutions; some of it is building buildings; some of it is nurturing communities and families. Some of it is an intense desire to get rich; some of it is an intense desire to give back. That collective energy was once tethered to the fact and the mythos of the steel industry. The literal tethers largely disappeared by the mid-1980s. The metaphorical and emotional tethers have been fraying for some time. That collective energy is now tethered instead to the idea of a new Pittsburgh, built on the foundations of the old Pittsburgh. Revitalization is bottom up, not top down, and the pattern of revitalization reveals some significant gaps. Much of Pittsburgh remains poor, however, and the revitalization narrative has a long way to go before Pittsburgh may justifiably declare itself restored. If, as Chinitz hypothesized and as more recent economists argue, economic growth is most pronounced in regions characterized by high rates of new business formation, then Pittsburgh, with a low rate on that metric, has a long way to go.

The lesson here for law reformers and policymakers may not be that Pittsburgh would have been better off leaving redevelopment to the private market, rather than trying to direct it as Pittsburgh had directed both industry and public policy for many decades. Despite the suggestion above that Chinitz's research, and more recent work by Edward Glaeser, point to minimizing government participation in economic development strategies, Pittsburgh's experience shows that a government role in economic development can be useful, particularly given the absence of underlying agglomeration effects in the region. Even stronger government intervention than what Pittsburgh experienced might have been helpful, in certain respects. Formation of new firms might have been encouraged by more aggressive federal policies directed to commercialization of federally funded university research, or by changes in Pennsylvania's employment law to facilitate employee mobility.⁵⁰ But Pittsburgh made a great deal of progress without either of those steps being taken, and even accounting for the risk that government processes, like market processes, have been and are subject to abuse and exploitation for a variety of well-known reasons.

Instead, it is better to say that government (and its products, law and policy) have been most effective and productive when they have supported access and community engagement by a broad spectrum of firms, organizations, and individuals and have been least effective or productive when they have limited engagement or discouraged or slowed down forms of community participation, whether related to business opportunity or to some other form of culture. Public-private partnerships such as the original Allegheny Conference on Community Development thrived and helped Pittsburgh considerably when the region's

⁵⁰ Unlike California, Pennsylvania enforces "reasonable" noncompetition agreements.

economy was most concentrated in steel. As that economy broke down and has slowly been replaced in recent years by a more diversified model, the Pittsburgh region has prospered most when the cost of participation—neighborhood engagement, redevelopment of older and empty building sites, entrepreneurship, individual well-being and happiness—has been the lowest. The example of the ACCD suggests that the appropriate role of the public sector in a concentrated economy was to consolidate resources, including new entrants and opportunities for community participation, so that the consolidated resources could work to offset the harmful spillovers of that economy. In an agglomerated economy, the role of the public sector may be the reverse, that is, to protect and enable a broadly distributed range of equivalent resources, such as entrepreneurship, so that they can leverage and extend the positive spillovers from that economy. In Pittsburgh's experience, industrial and cultural histories are sources of great community pride and power in the former context but are also great sources of drag and delay, in the latter. As Chinitz might have said, sentiment is, in part, a price paid by entrepreneurs.

The challenge for contemporary policymakers is that history and culture change slowly, if at all, and rarely in response to policy changes. Government sponsorship of real estate development and entrepreneurship, evidenced in Pittsburgh by contemporary institutions like the URA and Innovation Works, are sources of growth but are also costs of participation. Government's role in renewal and growth is susceptible to continued policy adjustment, at least in principle. We do not know what Pittsburgh might look like if and when government sponsorship were withdrawn, if for no other reason than that public funds might be directed to other things. Pittsburgh might crash again, for it would turn out that Pittsburgh's post-industrial economy is as dependent on central state support as its industrial economy was dependent on a steel oligopoly. Or, the most optimistic vision implicit in the work of Ben Chinitz might prevail, and Pittsburgh might then discover that in the absence of a central government role in development, the region has supplies of time, energy, initiative, passion, vision, and capital that are large and diverse enough not only to keep Pittsburgh on its current positive path but also to propel it forward sustainably, and on a more broadly prosperous trajectory, well into the 21st century.