

**The Role of Local Government
in Contemporary Economic Development**

Michael I. Luger

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Abstract

The purpose of this paper is to review the role sub-national governments play in contemporary economic development, with particular reference to the United States. In the United States, municipal (local) governments play a central role in land use policy (often following model state legislation) and the provision of common infrastructure. County, multi-county, and other regional governments are central actors in the U.S. in other areas of economic development. The intergovernmental distribution of responsibilities differs from country to country elsewhere in the world, but with few exceptions, there are important roles for sub-national governments in land use and other aspects of economic development policy. A common theme internationally, then, is that there is increasing competition within and between countries for economic activity – especially for higher-skilled and better-paying jobs. That is entrenched in the structure of most governments, where responsibility for various important functions is devolved to the state (prefecture, Länder, cantons, etc.), regional and municipal levels. The advisability of this competition is open to debate, but it is a feature of most governments that will continue to at least 2015.

About the Author

Michael I. Luger is a Professor of Innovation, Management and Policy and the Dean of Manchester Business School at the University of Manchester, UK

Booth Street West
Manchester, UK M15 6PB
tel +44(0)161 306 1322
fax +44(0)161 275 6585
michael.luger@mbs.ac.uk
www.mbs.ac.uk

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Introduction

The purpose of this paper is to review the role sub-national governments play in contemporary economic development, with particular reference to the United States. In the United States, municipal (local) governments play a central role in land use policy (often following model state legislation) and the provision of common infrastructure. County, multi-county, and other regional governments are central actors in the U.S. in other areas of economic development. The intergovernmental distribution of responsibilities differs from country to country elsewhere in the world, but with few exceptions, there are important roles for sub-national governments in land use and other aspects of economic development policy.¹ A common theme internationally, then, is that there is increasing competition within and between countries for economic activity – especially for higher-skilled and better-paying jobs. That is entrenched in the structure of most governments, where responsibility for various important functions is devolved to the state (prefecture, Länder, cantons, etc.), regional and municipal levels. The advisability of this competition is open to debate, but it is a feature of most governments that will continue to at least 2015.

The public sector has been engaged in economic development since the very founding of the United States (and from the early days of other countries, as well). Today, the local economic development apparatus is so entrenched around the world that it is hard to imagine regions without government involvement. To the extent there is discussion in the literature about government and local (regional) economic development it tends to revolve around the appropriate unit of government, the extent and timing of involvement, and the type of interventions to use.

In the United States, the United Kingdom, and elsewhere, local governments are the principal providers of infrastructure services, notably water, wastewater, sewer, local roads, public transit, and in some cases, power. Local governments also are the primary source of land use regulations. Throughout U.S. history, all of these have been used, either explicitly or implicitly, as tools of business development. In the latter decades of the 20th century to today, local governments have used their tools as a means to recruit and retain businesses, raising some interesting constitutional challenges.

I organize the paper into five further sections. First, I define terms, specifically what I mean by economic development, “local” government, and “role.” The definition of local government is important because the division of responsibility for governmental services among federal, state, regional, and municipal governments is a very special feature of American-style governance, and has changed over the years. That is illustrated in the next section, where I put local governments’ role in economic development into a broader historical context, tracing briefly the evolution of policy. Third, I provide some data that suggest that the local (regional) government’s role does make a difference in the 21st century knowledge economy. In short, there are growing disparities in economic development inputs and outcomes among local (or at least metropolitan) areas, which begs the question to what extent those differences are driven by

policy, or are an inescapable consequence of the “new economy.” Having established those differences, I review in the fourth section that follows the very rationales for government intervention in economic development and ask, in section five, what the growing disparities might suggest about the role of government in the 21st century.

1. Key definitions

The paper’s title includes three terms that tend to be used loosely in the literature and in practice: “local government,” “the role of government,” and “economic development.”

In the narrowest, political administrative sense, “local government” refers to the smallest incorporated municipal unit, such as a city, town, township, or village. In “Dillon’s Rule” states, these units of government are “creatures of the state” bestowed by the legislature with certain functional and fiscal responsibilities and rights.² Counties are also local governmental units with separate political apparatuses, in most cases.³ But unlike cities, towns, townships and villages, counties have functional authority stipulated in state constitutions, including health and welfare, the courts and policing by a sheriff.

Economists are less concerned about the political administration definition of local government than about the economic definition. “Local economies” and “local labor market areas” to an economist is the functional economic region, defined by the commuting shed. The U.S. Census Bureau operationalizes that concept as a metropolitan area.⁴

I use both the political and economic definitions in the discussion that follows. When I talk about service provision, I refer to the cities, towns, townships, villages, and counties, that provide those local services. When I talk about local economic outcomes, I refer to the economic region, since those outcomes do not stop at municipal borders.

The textbook definition for the “local government’s role” includes the following activities and range of sub-activities:

- Planning -- objective setting, *ex ante* assessment (usually cost-benefit analysis), and rule making.
- Financing -- development of capital for long-term projects from both taxes and fees, paying as-you-go and through bonds, and the provision of inducements, incentives, and subsidies.
- Delivering – using public sector employees to deliver services, including, for example, teachers, firemen, policemen, sanitation workers, and public works personnel.
- Regulating -- establishment and enforcement of property rights, taxation, and any other rules governing behavior.
- Managing -- coordination, contracting out, and *ex post* evaluation, *inter alia*.

There is little debate about whether government *should* play these roles. Regions differ, however, in the mix of these by local governments. Indeed, the absence of government is itself an act of governance, as would pertain to privatization and deregulation.

By “local (or regional) economic development” I mean efforts to enhance employment, income, wealth, and/or opportunity within a defined geographic area. Regional economic development

subsumes industrial, workforce, infrastructure, and other types of development efforts. Figure 1 presents a schematic of economic development.

We can see in figure 1 that economic development can be interpreted as both a noun and a verb. As a noun it is an outcome, equated to a better quality-of-life for citizens. Ultimately that means a more vibrant social and cultural milieu, financial security, physical health and well-being, and a sustainable environment. The weights attached to each of those ultimate outcomes typically differ as a matter of political ideology: Green parties stress environmental outcomes; conservative regimes focus more on financial security for incumbents; and so on.

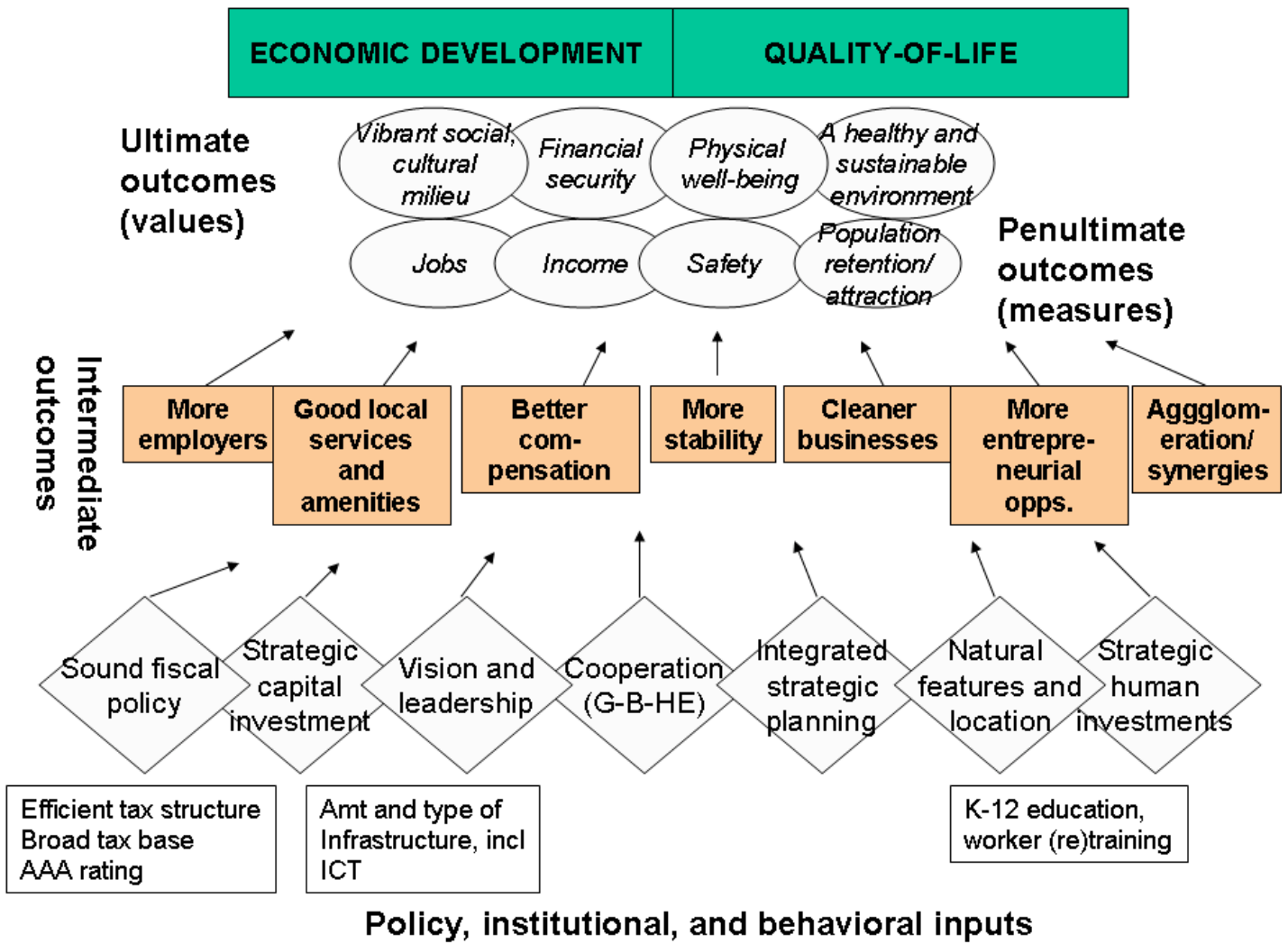
The figure shows that those outcomes are commonly understood in terms of jobs and income created, safety, and retention and attraction of population (brain-draw and brain-drain). Indeed, those are the very “penultimate outcome” measures used in popular commercial software, such as by Regional Economic Models, Inc. (REMI).

Much of the literature and many professional reports focus on what are really intermediate outcomes, at least in terms of economic development (it may be legitimate to consider them as ends in themselves in more limited studies). They are shown as the tan boxes in figure 1: more employers, strategic capital investment, better compensation, more stability, more entrepreneurial opportunities, and agglomeration and synergies. Those intermediate outcomes are also the grist for political debates, in which credit for success and blame for failure are assigned.

The role of government (and other inputs) in this schematic is shown at the bottom of the figure. Among the important policy, institutional, and behavioral inputs are the provision of a sound fiscal environment and strategic investments in capital and labor (Tabellini, 2005). This shows economic development as a verb – the things we do to develop economically.⁵

This schematic applies to other countries besides the United States, though (as previously noted) the weights attached to the outcomes (top of the figure) vary, as do the types of interventions that are employed (the bottom of the figure). Germany has been a leader in technical education, Finland has been a leader in the provision of information and communication technology (ICT) infrastructure, Taiwan and South Korea, for example, have made enormous investments in physical infrastructure, and so on. Fuller discussion of national differences in policy approach is beyond the scope of this paper.

Figure 1: Regional economic development



Source: Professor Michael Luger, 2006.

2. Historical Context, in Brief: The Changing Intergovernmental Role

The public sector's role in local (regional) development predated the Revolution when the colonies invested in port and waterway improvement and began to build roads (Schultz, 2004). By the early 19th-century, the new nation was building canals and then railroads. This role was at the center of both constitutional and other legislative acts in the early years of the United States. The interstate commerce clause and federal funding for postal roads recognized the importance of facilitating the flow of goods, people, and information to all parts of the developing nation, including the frontier.⁶ That continued after the Civil War into what is now called the "Era of Bridge Building." (*Ibid.*) Federal involvement expanded into the 20th century with further development of roads (including the construction of interstate highways starting in the 1950s), water systems, electrification projects, and the development of airports and seaports. Today, government has added investments in information and advanced communications technology to its list of responsibilities (Luger, et al, 2003; Luger, 2001; Luger, 2005). These activities may not have been explicitly for regional development, but are recognized to have had profound regional effects.

More explicit attention to regional development by the federal government was intended to alleviate pockets of poverty. Many New Deal programs were directed where unemployment was highest or where infrastructure needs were greatest, for example the Works Projects Administration (WPA), Tennessee Valley Authority (TVA), the Appalachian Regional Commission (ARC), and Rural Electrification Administration (REA) were targeted to laggard regions. Some of these regional development efforts survive today, with the TVA and ARC as prime examples of federal programs that have survived for decades. The longevity of these programs is not proof of their success in promoting economic development within their regions, but rather the staying power of the political institutions. Both the TVA and ARC cover multiple states within the regions, with the ARC including 13 state governors within its commission and converting this participation into the political support necessary for continued funding (Bradshaw, 1992). ARC has expanded into new areas, including the metropolitan area of Pittsburgh, as Congressmen and Senators look to expand the benefits of the commission across their districts. The TVA, at its heart a rural electrification program, has also been shown to have limited economic impact on its region, despite decades of regional investments (Chandler, 1984).

Large federal projects like the construction of the Hoover and Grand Coulee dams in Nevada and Washington (and many other large hydro projects), flood control on the Mississippi and other rivers, and more, have had profound effects on regional development. The federal government also has used the location of large federal facilities, including military bases and national laboratories, to enhance regional development (see Markusen, Hall, Deitrick, and Campbell, 1991). Today, there are ongoing regional development programs sponsored by the U.S. Department of Agriculture in rural areas, the U.S. Economic Development Administration, and to lesser degrees other federal agencies. Of course there is also a history of programs targeted to sub-regions or neighborhoods, including for example Model Cities, Community Development Block Grants, and other programs with income and/or unemployment criteria in their allocation formula.

The federal government's activities just summarized have a mix of what the literature calls intended and unintended or derivative regional consequences. Many authors have pointed out that there are really no geographically neutral federal policies. Luger (1984), among others, has shown that the federal tax code has distinct spatial biases. There was a period during the presidency of Jimmy Carter when the federal government sought to use the federal tax system explicitly to help laggard regions. But that attempted federal targeting of the tax system was short-lived.

Also in the 1970s there was discussion in the U.S. about national industrial policy. Robert Reich, Ira Magaziner, and other progressive writers at the time advocated for an open debate about what industries should be supported by policy (Reich and Magaziner, 1982). In short, that would make the selection of winners and losers among America's businesses more explicit. But that also had a relatively short half-life.

Today the literature is relatively quiet on these macro questions about the federal government's responsibility and effect on economic development. Central government in the U.S. continues to fund (although at increasingly lower levels) the Appalachian Regional Commission (ARC), Economic Development Administration (EDA), and other federal agencies that help distressed regions more than others. And questions of regional economic impact are part of discussions about military base closings and realignments (BRAC), for example. Some new federal programs require a regional (or distressed community) economic impact assessment – for example, New Market Tax Credits are now available to taxpayers who invest in designated Community Development Entities that can demonstrate the use of the funds for job creation and income enhancement.⁷

Rather than directing multi-state or regional development efforts, the federal government has become a source of funding and other support to state and local efforts. One clear advantage of devolution in the economic development system is the creation of national competition and innovation across states and regions, which can quickly develop best practices for regional development. Unencumbered by the federal government, state and regional leaders are free to pursue innovative policies and programs to address economic shortfalls, as suggested by David Osborne in his "Laboratories of Democracy" (Osborne, 1988). However, without a coordinated public-private dissemination effort, these best practices fail to spread across areas (McDowell, 1995), concentrating program benefits and potentially widening regional disparities. Those regions without the infrastructure, expertise, and technology to replace declining industries may also experience destructive competition as they which can lead to a race to the bottom for financial incentives, limited cross-state cooperation, and a duplication of development efforts within a single geographic area (Cooke, 1997). Whether the outcome of this devolution is net positive or negative, there are significant consequences for regional economic developers who must work within this new system.

It is now common for states to have an economic development program whose purpose is to grow industry, mostly by tax incentives and recruiting. The strategic development of those programs in many cases is overseen by an economic development board at the gubernatorial or legislative level. In many states, multi-county economic development organizations also provide services. In addition, there are over 2,500 cities, towns and counties across the U.S. with full-time economic development professionals, often reporting to an economic development commission. Those state, regional, and local economic developers; Chambers of Commerce and issue groups with names like "the Committee of 100"; economic development

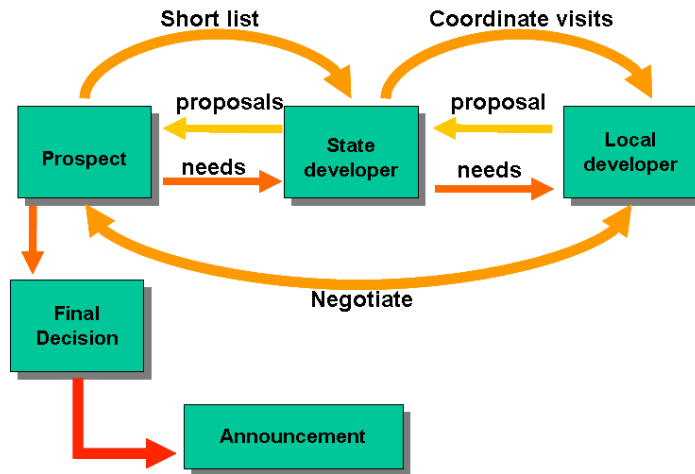
“allies,” including law firms, banks, and utilities; elected officials; non-governmental organizations (NGOs); foundations; consultants; the education sector; state legislative “standing committees”; and several federal agencies all constitute a broad and deep professional community of interest around economic development. These stakeholders have no shortage of state-wide and national meetings to attend, sponsored by such organizations as the International Economic Development Council (IEDC), State Science and Technology Institute (SSTI), U.S. Economic Development Administration (USEDA), and state economic development associations. And several professional publications are outlets for information about economic development at the state, regional, and local levels, including: *Applied Research in Economic Development* (ACCRA), *Economic Development Journal* (IEDC), *Economic Development Now* (IEDC), and *Economic Development America* (IEDC and the National Association of Regional Councils -- NARC), to name a few. There is also a community of scholarship around economic development, in many universities and colleges. That has another set of organizations and journals to create legitimacy (see Luger and Stewart, 2003).

Tax incentives are perhaps the most common state-level policy used to recruit businesses from other states, assist existing businesses, and induce new start-ups (Luger and Bae, 2005). For example, while 24 states offered tax incentives for job creation in 1984, 43 states offered those incentives in 1998. R&D tax incentives were offered to businesses by 9 states in 1977 and 39 states in 1998 (Chi, 1989; Chi & Hofmann, 2000).⁸

There is considerable debate in the literature and among policy makers about the effectiveness of these state tax incentive programs and whether they are justified as public policy.⁹ A review of legislative intent indicates that state tax incentive programs usually are enacted and implemented for political rather than cost-benefit or cost-effectiveness reasons. Brunori (2001) argues that most business tax incentives are the product of inter-state competition to attract businesses from other states, or what he calls an “arms-race mentality.” State policy makers appear to be obliged to offer tax incentives to businesses when other states are implementing tax incentive programs. They fear that they will lose businesses already located in their states to other states with tax incentive programs.¹⁰ On the other hand, Greenstone and Moretti (2004) estimated that jurisdictions that won the competition for “million-dollar plants” gained welfare relative to the runners-up, in terms of wage and property tax premia and, consequently, more spending on services, in their and neighboring jurisdictions.

Given the growth of tax incentive programs at the state level over the past 25 years, the stakes involved with their use also have grown. The tax expenditure nationally from state business tax incentives is substantial. For example, in California, the estimated loss of revenue from business tax incentives was approximately \$15 billion in 2001-2002.¹¹ New York forewent approximately \$2 billion in 2002.¹² And North Carolina spent some \$74 million on business tax incentive programs in 1997-1999.¹³ In addition, Thomas (2000, p. 159) estimated that state and local corporate subsidies in the United States reached approximately \$48.8 billion in 1995-1996. This large tax expenditure justifies a careful look at whether business tax incentive programs are justified as public policy. Indeed, several states have sunset provisions or required reviews written into the legislature (e.g., North Carolina, Oregon, and Texas). The need for careful reviews has been amplified in the past fiscal year by serious budget crises in many states,¹⁴ often accompanied by renewed cries from legislators to curtail incentive programs (an action also referred to as “close tax loopholes”).¹⁵

Figure 2: The economic development process



Source: Professor Michael Luger, 2006.

Today it is also common for local governments to sweeten recruitment deals with offers of property tax abatements (except in states that proscribe that), straight-out cash subsidies and employment-based grants, below-market price land deals, subsidized industrial buildings, and concessionary utility rates. The reduction of property tax liabilities for qualifying businesses is of particular relevance for this volume. Two of those programs, personal property exemptions and accelerated depreciation, can be used by almost any commercial or industrial operation to reduce its property tax liability on machinery and equipment. Foreign trade zone programs also confer property tax benefits to companies that do business internationally. In addition, state enterprise zones offer property tax incentives.

Variants of these incentives are used in Europe, as well, often in a targeted fashion – that is, to induce development in the city center, in distressed places, in historic structures, in brownfield sites, for “green technologies,” etc.¹⁶ One perceptive is that these will become even more common in locations around the world to which U.S.-owned companies are seeking to move.

Within this wide range of state- and local-level efforts, the typical goal and most common metric of success is the number of new business announcements. Figure 2 shows the typical process to achieve that end. State and local developers not only are involved in prospect handling, but increasingly provide financial incentives to lure the prospect. Some of the incentives that are offered are based on federal (mostly EDA) grant and loan programs, others use state and local taxpayers’ money. The figure shows the interconnection among actors. A prospect tells a state agency they are potential interested in a site somewhere in the region, and provides general criteria. The state then sends “requests for proposals” to many local authorities who choose how to respond, including what local incentives to bring to the table. The prospect then visits the most attractive locations and negotiates a final package with the state and the local entity.

Economic development scholars and some enlightened practitioners long have argued that too much attention is focused on business recruitment, as opposed to business retention and

entrepreneurship (see Luger and Stewart, 2003). The commitment to this more balanced approach varies among jurisdictions. In any case, they require another (overlapping) set of stakeholders, including Small Business Development Centers, community colleges, manufacturing (industrial) extension partnership programs, entrepreneurship support networks, loan and equity funds, and more. Many of these resources are provided and/or subsidized by government.

The review so far has focused on the United States. But as noted in several places above, similar trends can be found in Europe. One of the European Commission's major activities over much of its existence has been to reallocate "structural adjustment funds" to regions of countries deemed to be relatively distressed. And within countries, regional authorities were created to help with industrial development. The Northwest Development Agency, for example, provides incentives for businesses locating or expanding in the northwest of England.

Over the past 50 years we have moved farther away from the laissez-faire notion of businesses seeking location based on their assessment of resource and transportation costs, and business performance driven solely by the company's inherent efficiency. And, over the past several decades local governments have moved from service providers to incentive providers, along with their regional and state government counterparts. That role for local and state government has been contested in the courts; its foundation in law has been shaken, but is still intact. For example, in Maready vs. Town of Winston-Salem, NC (342 NC at 723, 467 SE2d at 624) William F. Maready, a trial lawyer, successfully argued in state Superior Court that his city and the surrounding county violated the state's constitution by giving taxpayer money to private companies for such incentives as helping to rent an office building and providing subsidized parking. The judge, ruling in August 1995, also found that the statute authorizing local government expenditures for economic development was impermissibly vague. Local governments throughout North Carolina began to question their own use of incentives. State officials worried that if the ruling were upheld on appeal, other statutes governing state-level expenditures for economic development might also be cast into doubt. In this case, the ruling was reversed in the state Supreme Court. The Democratic majority accepted the argument that incentives "are directly aimed at furthering the general economic welfare", while one dissenting judge castigated the state for justifying its use of incentives on the rationale that "all the states are doing it."

That provided a reprieve for state and local governments to continue offering incentives, and between 1996 and 2004, the repertoire was expanded, using several new incentive programs to lure corporate giants Merck and Dell (among other companies) to North Carolina. The opposition to incentives intensified in response, led by former Supreme Court justice Robert Orr, who formed the North Carolina Institute for Constitutional Law to oppose business incentives.¹⁷ An odd coalition of progressive and libertarian groups has joined Orr in opposing the state's use of incentives, including the Corporation for Enterprise Development on the left, and the John Locke Foundation on the right.¹⁸

To date, the political center that supports the use of incentives has prevailed in North Carolina (as elsewhere), but pressure for reform is mounting. In 2004, the Cuno vs. Daimler-Chrysler decision in the U.S. Court of Appeals (2004 FED App. 0293P (6th Cir.)) created a specter for economic developers throughout the U.S. The Court upheld the plaintiff's claim that a Toledo, Ohio, investment tax credit violated the Commerce Clause of the constitution. But, it remains to be seen how broadly that decision will apply.

The impact of the Cuno case was muted somewhat by *Kelo v New London, CT* (268 Conn. 1, 54 n.49 (2004)), decided by the U.S. Supreme Court in June, 2005. In *Kelo*, the Court affirmed the use of eminent domain when the result would be jobs for the community. “The City’s proposed disposition of petitioner’s property qualifies as ‘public use’ within the meaning of the Takings Clause” (pp. 6-20 of Opinion). In a highly publicized dissent, Justice Sandra Day O’Connor said: “Under the banner of economic development, all private property is now vulnerable to being taken and transferred to another private owner, so long as it might be upgraded... ”

The bottom line should be very clear: the government’s role in local (regional) economic development is broad and deep. In general, it is not disputed. It is firmly entrenched with many stakeholders who derive financial benefit from the system.

3. Increasing Disparities in Local (regional) Economic Development

Since the mid-1980s the United States has experienced widening economic disparities among socio-economic groups and regions (Luger, 1993). Arguably, that is the result of macro-policies that have reduced tax burdens and regulations more for upper than for lower-income Americans. But it also is a consequence of the knowledge (or “new”) economy in which workers are increasingly footloose and gravitate to places with concentrations of amenities and others like them. Florida (2003) refers to those workers as the creative class and those places as creative communities. What we see is that the “have regions” get richer and the “have not” regions get poorer.

These growing disparities show up in all sorts of outcome and input indicators. On the outcome side, consider table 1:

Table 1: changes in per capita personal income by size tier of Metropolitan Statistical Areas (MSAs)

Area name	2005			Area name	1999			percent change, 1999-2005	
	personal income	per capita personal income	pop		personal income	per capita personal income	pop		
New York-Northern New Jersey-Long Island, NY-NJ-PA	854,317	45,570	18,747,356	New York-Northern New Jersey-Long Island, NY-NJ	653,173	37,019	17,644,286	23.1%	
Los Angeles-Long Beach-Santa Ana, CA	477,101	36,917	12,923,612	Los Angeles-Long Beach-Santa Ana, CA	357,595	29,184	12,253,326		
Chicago-Naperville-Joliet, IL-IN-WI	362,994	38,439	9,443,378	Chicago, IL*	275,684	33,569	8,212,458		
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	235,657	40,468	5,823,292	Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH	211,837	35,178	6,021,860		
Dallas-Fort Worth-Arlington, TX	215,756	37,075	5,819,447	Dallas-Fort Worth-Arlington, TX	159,254	13,854	5,119,852		
Miami-Fort Lauderdale-Miami Beach, FL	196,789	36,293	5,422,230	Philadelphia, PA-NJ*	162,176	31,896	5,084,525		
Houston-Sugar Land-Baytown, TX	206,198	39,052	5,280,088	Washington, DC-MD-VA-WV*	182,722	37,693	4,847,637		
Washington-Arlington-Alexandria, DC-VA-MD-WV	258,281	49,530	5,214,638	Detroit, MI*	140,791	31,716	4,439,116		
Atlanta-Sandy Springs-Marietta, GA	172,164	35,009	4,917,707	Houston, TX*	131,601	31,995	4,113,174		
Detroit-Warren-Livonia, MI	169,183	37,694	4,488,327	San Francisco-Oakland, CA	170,460	41,681	4,089,625		
Boston-Cambridge-Quincy, MA-NH	212,464	48,158	4,411,811	Atlanta, GA	126,446	31,534	4,009,831		
San Francisco-Oakland-Fremont, CA	215,791	51,964	4,152,702	Miami-Ft.Lauderdale, FL	100,297	26,289	3,815,102		
	3,576,695	41,280	86,644,588		2,672,036	33,547	79,650,792		
Riverside-San Bernardino-Ontario, CA	103,944	26,584	3,910,021	Riverside-San Bernardino, CA*	70,928	22,238	3,189,493		21.6%
Phoenix-Mesa-Scottsdale, AZ	125,755	32,536	3,865,103	Phoenix-Mesa, AZ	83,347	26,223	3,178,393		
Seattle-Tacoma-Bellevue, WA	133,452	41,661	3,203,284	Minneapolis-St. Paul, MN-WI	101,664	34,671	2,932,249		
Minneapolis-St. Paul-Bloomington, MN-WI	132,258	42,083	3,142,789	San Diego, CA	84,585	30,322	2,789,559		
San Diego-Carlsbad-San Marcos, CA	116,986	39,880	2,933,450	St. Louis, MO-IL	77,424	29,838	2,594,812		
St. Louis, MO-IL	100,511	36,174	2,778,543	Baltimore, MD*	78,303	30,824	2,540,326		
Baltimore-Towson, MD	108,475	40,846	2,655,707	Seattle-Bellevue-Everett, WA*	93,047	38,811	2,387,439		
Tampa-St. Petersburg-Clearwater, FL	87,393	33,008	2,647,631	Tampa-St. Petersburg-Clearwater, FL	64,205	27,101	2,369,101		
Pittsburgh, PA	86,396	36,208	2,386,103	Pittsburgh, PA	68,830	29,092	2,365,943		
Denver-Aurora, CO	100,473	42,574	2,359,961	Cleveland-Lorain-Elyria, OH*	67,035	29,757	2,252,747		
Cleveland-Elyria-Mentor, OH	75,573	35,542	2,126,301	Denver, CO*	71,496	34,515	2,071,447		
Portland-Vancouver-Beaverton, OR-WA	73,806	35,215	2,095,868	Portland-Vancouver, OR-WA*	56,125	29,594	1,896,499		
Cincinnati-Middletown, OH-KY-IN	73,745	35,618	2,070,442	Cincinnati, OH-KY-IN*	48,424	29,561	1,638,104		
Sacramento-Arden-Arcade-Roseville, CA	71,082	34,805	2,042,293	Sacramento, CA*	45,588	28,457	1,601,996		
	1,389,849	36,367	38,217,496		1,011,001	29,895	33,818,110		
Virginia Beach-Norfolk-Newport News, VA-NC	54,883	33,316	1,647,347	Kansas City, MO-KS	52,969	30,063	1,761,933	20.4%	
San Jose-Sunnyvale-Santa Clara, CA	88,404	50,373	1,754,988	San Jose, CA*	76,443	45,733	1,671,506		
San Antonio, TX	56,901	30,109	1,889,834	Orlando, FL	41,313	25,692	1,608,010		
Salt Lake City, UT	34,426	33,279	1,034,466	Indianapolis, IN	46,760	29,427	1,589,017		
Raleigh-Durham-Cary, NC	48,972	34,833	1,405,897	San Antonio, TX	39,188	24,920	1,572,552		
Orlando-Kissimmee, FL	60,148	31,112	1,933,273	Norfolk-Virginia Beach-Newport News, VA-NC	38,799	24,905	1,557,880		
New Orleans-Metairie-Kenner, LA	27,340	20,722	1,319,371	Columbus, OH	44,563	29,228	1,524,668		
Nashville-Davidson-Murfreesboro, TN	51,845	36,445	1,422,555	Las Vegas, NV-AZ	40,406	26,882	1,503,088		
Milwaukee-Waukesha-West Allis, WI	57,279	37,862	1,512,836	Milwaukee-Waukesha, WI*	46,584	31,134	1,496,242		
Memphis, TN-MS-AR	42,720	33,880	1,260,921	Charlotte-Gastonia-Rock Hill, NC-SC	43,384	29,481	1,471,592		
Louisville-Jefferson County, KY-IN	41,208	34,100	1,208,446	New Orleans, LA	33,672	25,159	1,338,368		
Las Vegas-Paradise, NV	59,682	34,890	1,710,576	Salt Lake City-Ogden, UT	32,685	24,748	1,320,713		
Kansas City, MO-KS	69,843	35,859	1,947,712	Nashville, TN	36,409	29,973	1,214,727		
Jacksonville, FL	42,110	33,732	1,248,370	Austin-San Marcos, TX	36,852	30,560	1,205,890		
Indianapolis-Carmel, IN	59,440	36,231	1,640,584	Buffalo-Niagara Falls, NY	30,386	25,902	1,173,114		
Hartford-West Hartford-East Hartford, CT	50,745	42,706	1,188,241	Raleigh-Durham-Chapel Hill, NC	35,568	30,613	1,161,859		
Columbus, OH	60,188	35,226	1,708,624	Hartford, CT (NECMA)	39,199	34,345	1,141,331		
Charlotte-Gastonia-Concord, NC-SC	54,996	36,151	1,521,286	Memphis, TN-AR-MS	32,011	28,431	1,125,919		
Buffalo-Niagara Falls, NY	36,741	32,012	1,147,726	Rochester, NY	30,339	27,675	1,096,260		
Austin-Round Rock, TX	49,394	34,005	1,452,551	Jacksonville, FL	29,903	27,475	1,088,371		
Rochester, NY	34,930	33,618	1,039,027	Oklahoma City, OK	25,953	24,117	1,076,129		
Oklahoma City, OK	36,590	31,630	1,156,813	Louisville, KY-IN	29,253	28,677	1,020,086		
Providence-New Bedford-Fall River, RI-MA	57,588	35,493	1,822,517	Richmond-Petersburg, VA	29,131	29,513	987,057		
Richmond, VA	43,697	37,169	1,175,630	Providence-Warwick-Pawtucket, RI (NECMA)	26,040	27,251	955,561		
	1,220,070	34,909	34,949,589		917,810	28,988	31,661,873		

I divide the largest 50 metropolitan statistical areas (MSAs) into three tiers, based on size: very large (generally above 4 million population), medium large (roughly 2 to 4 million) and large (above 1 million). The groupings are inexact because of the differences in population rankings (and MSA definitions) between the two years we examine—1999 and 2005. The key insight is that the higher the population tier, the more the MSA's population has been able to increase its per capita personal income. In short, the rich get richer.

We use a unique dataset: RaDiUS – assembled by the RAND Corporation -- to illustrate increasing concentration on the input side. RaDiUS shows the volume and types of federal R&D grants made, by recipient, sorted by type of research, location, and other attributes. If one believes that the future of regions in the “new economy” depends on their ability to innovate, and that innovation is somehow related to R&D, then growing concentrations of R&D dollars is both a coincident and leading indicator of imbalanced growth.

Table 2 presents the top 50 MSAs in the U.S. (as of 2004) in three tiers: very large (above 4 million population), medium large (2 to 4 million), and large (the remaining 50 below 2 million). I divide the MSAs in this way to see if there has been an increasing concentration of R&D dollars in the largest cities that have the greatest critical mass of knowledge resources. The answer is clear: YES. In 1994, average funding per capita for tiers 1, 2 and 3 was \$3.80, \$4.20, and \$5.90, respectively. The percent deviation from lowest to highest ratio was 55.2%. Just ten years later, the per capita figures were \$12, \$6.70, and \$9.10. Not only did the top tier cities spring into the lead, but by a large margin. The percent deviation lowest to highest was 79.1 percent. The same pattern occurs for funding per S&T worker and per full-time professor. The same story emerges using concentration indices. In short, critical mass is attracting more critical mass.

Table 2: R&D disparities among metropolitan areas

	City	Population		Funding Per Capita		Per S&T Worker		Per Full Time Professor at Top 50 Research University
		1994	2004	1994	2004	1999*	2004	2004
Tier 1	New York	19,788,963	18,709,802	2.4	5.8	283.9	607.9	22,895
	Los Angeles	15,302,000	12,925,330	0.0	0.5	0.6	31.7	1,282
	Chicago	8,527,000	9,391,515	6.0	8.6	248.7	396.5	18,834
	Philadelphia	5,957,000	5,800,614	4.7	6.0	232.1	269.0	13,402
	Dallas	4,362,000	5,700,256	1.1	1.8	33.5	76.9	7,324
	Miami	3,408,000	5,361,723	0.9	1.3	89.6	184.8	7,749
	Houston	4,099,000	5,180,443	4.9	5.1	137.9	204.6	15,236
	Washington DC	7,059,000	5,139,549	2.0	60.9	57.3	965.0	449,332
	Atlanta	3,331,000	4,708,297	0.0	0.0	0.0	0.0	N/A
	Detroit	5,255,000	4,493,165	0.8	1.8	22.4	54.1	N/A
	Boston	5,730,000	4,424,649	15.7	34.1	552.4	907.3	23,722
	San Francisco	6,513,000	4,153,870	7.1	17.6	500.0	910.5	22,982
		AVERAGE	7,444,330	7,165,768	3.8	12.0	179.9	384.0
Tier 2	Phoenix	2,473,000	3,715,360	0.0	0.1	1.2	5.7	N/A
	Seattle	3,225,000	3,166,828	11.3	19.9	263.8	482.8	22,037
	Minneapolis	2,688,000	3,116,206	19.4	16.5	433.4	440.0	30,736
	San Diego	2,632,000	2,931,714	12.6	27.6	471.2	920.4	83,853
	St Louis	2,536,000	2,764,054	0.1	1.2	2.7	48.9	3,461
	Tampa	2,157,000	2,587,967	1.1	2.9	44.7	145.6	N/A
	Pittsburgh	2,402,000	2,401,575	9.9	26.6	490.5	1173.2	27,148
	Denver	2,190,000	2,330,146	1.5	1.4	39.8	40.5	3,972
	San Juan*	2,450,292	2,270,808	0.8	3.2	101.8	347.1	N/A
	Cleveland	2,899,000	2,137,073	1.9	3.9	95.3	181.4	13,286
	Portland	1,982,000	2,064,336	0.5	0.3	18.7	10.9	766
	Cincinnati	1,894,000	2,058,221	1.3	3.2	57.3	145.6	5,729
	Sacramento	1,588,000	2,016,702	0.9	0.1	40.4	3.9	N/A
	Kansas City	1,647,000	1,925,319	0.2	0.0	7.4	0.0	N/A
	Orlando	1,361,000	1,861,707	1.3	2.6	52.6	108.5	N/A
	San Antonio	1,437,000	1,854,050	0.9	1.6	50.2	97.9	N/A
	Columbus	1,423,000	1,693,906	10.5	18.4	316.3	665.1	11,170
	Las Vegas	1,076,000	1,650,671	2.0	1.3	123.4	94.3	N/A
	Virginia Beach-Norfolk	1,529,000	1,644,250	1.9	5.0	86.3	186.4	N/A
	Providence	912,000	1,628,808	12.5	8.0	762.3	639.3	21,140
Indianapolis	1,462,000	1,621,613	0.0	0.0	0.0	0.0	N/A	
Milwaukee	1,637,000	1,515,738	1.8	3.4	70.5	119.5	N/A	
	AVERAGE	1,981,831	2,225,321	4.2	6.7	160.5	266.2	20,300
Tier 3	Charlotte	1,260,000	1,474,734	0.9	2.0	31.1	74.7	N/A
	Raleigh-Durham-ChapelHill	965,000	1,415,260	34.1	47.0	528.5	924.8	17,114
	Austin	964,000	1,412,271	20.2	24.4	338.0	265.4	13,955
	Nashville	1,070,000	1,395,879	3.0	6.9	157.7	366.2	12,353
	New Orleans	1,309,000	1,319,589	1.5	6.5	89.9	397.4	N/A
	Memphis	1,056,000	1,250,293	1.2	2.0	71.6	125.6	N/A
	Jacksonville	972,000	1,225,381	0.1	0.2	4.7	10.5	N/A
	Louisville	981,000	1,200,847	0.4	1.6	21.0	95.6	N/A
	Hartford	1,117,000	1,184,564	2.4	1.2	63.9	32.5	N/A
	Buffalo	1,189,000	1,154,378	7.6	14.1	440.0	728.3	14,203
	Richmond	917,000	1,154,317	0.9	2.3	33.7	78.2	N/A
	Oklahoma City	1,007,000	1,144,327	0.1	0.6	6.0	27.7	N/A
	Rochester	1,090,000	1,041,499	10.2	10.9	370.2	372.0	22,422
	Salt Lake City	1,178,000	1,018,826	11.5	20.6	408.3	521.5	18,664
	Grand Rapids	985,000	767,539	0.1	0.3	N/A	9.0	N/A
	Greensboro-Winston Salem	1,107,000	667,542	0.9	4.8	32.9	141.5	N/A
	AVERAGE	1,072,938	1,176,703	5.9	9.1	173.2	260.7	16,452

As interesting, and more pertinent for the purposes of this paper are the differences among MSAs within the tiers. Not surprisingly, those MSAs with concentrations of universities, research labs, hospitals, and high tech consulting companies do much better than the others.

The point of this exercise is two-fold. First, it suggests that the traditional things state and local governments have been doing to develop their economies – notably providing infrastructure and location incentives – are necessary but not sufficient to compete in the 21st century. Those places with concentrations of knowledge resources are moving ahead; those without are falling behind. Second, knowledge resources can be created as a matter of policy, and indeed, that type of government intervention can be justified, as we show in the next section. These conclusions apply not only in the United States, but also in Europe, and increasingly, in Asia.

4. Rationales for Government Intervention to Enhance Economic Development

Implicit in the foregoing discussion were rationales for government involvement in local (regional) economic development. The justifications are a combination of market failure, equity, and efficiency—all related to the inability of the unfettered market to deliver the outcomes shown at the top of figure 1. In practice, the case for government action includes the following (which are not necessarily mutually exclusive), which go beyond simple textbook rationales. (Each can be contested, and often are by libertarian groups.)

- *Capital barriers can preclude a critical level of infrastructure.* This is true in most places, but certainly in poor regions. The physical infrastructure needed to support growth and development is lumpy. There are economies of scale in its provision, and because it is long-lived, equity considerations require its costs to be spread over time. The number of future users and/or their median incomes may dwindle, requiring a subsidy. Or the initial cost to provide a level of service adequate for health and safety may be beyond the means of the users.
- *The market may not value economic “transformation” adequately.* Economists who have studied the rapid development of the Asian dragons and tigers note the massive investments made by central government, building entire science cities, universities, and other research facilities; investing in transportation and communications infrastructure, including high speed rail and large airports; and luring expatriates back from the West (see World Bank, 1993). That has enabled economies like Taiwan, Singapore, and Korea to leapfrog ahead, moving up the economic development trajectory in figure 2 quite rapidly. There is no market mechanism for that type of progress.
- *Economic development is a merit good and is associated with cross-border flows.* Some of the inputs used to achieve economic development (the noun) can be mobile. Trained workers and educated students can move to jurisdictions different from where they were trained and educated, and students from elsewhere can attend local colleges. This type of externality warrants government action.
- *As trade barriers are lifted, unfettered global competition may overwhelm indigenous industries.* In the short-term, the government can play a central role in supporting industries that are newly opened to competition while retraining workers that are forced out of the

sector. Over the long-term, the government's role shifts to become more promotional, identifying local sectors with global competitive advantage and bolstering their growth, and more managerial, monitoring trade partners and foreign corporations to ensure a fair playing field for the local private sector.

- *Economic development is a “public purpose,” so that government involvement to achieve social benefit is justified.* The U.S. Constitution identifies the promotion of health, safety, and welfare as the *raison d'être* of government. That has been used to justify public provision of environmental infrastructure, occupational safety and health regulation, and food and drug oversight, for example. General welfare also has been argued as a basis for “takings” under eminent domain, where the good of the many are weighed against the sanctity of individual property rights. The legal challenges to the government's role in economic development mentioned earlier revolve around whether economic development is to be regarded as essential for the public good. So far it has been.
- *Strategic investment can be efficient, by returning more than itself in benefits.* There is such a focus on “multipliers” in economic development because, in principle, a value greater than one passes the benefit-cost test of efficiency.

5. Conclusions and implications for policy

This paper summarizes the sense of the literature about the role of government in local (regional) economic development, focusing mostly on the U.S., using examples from North Carolina. But the lessons are more broadly applicable. The main take-aways are: (1) economic development is so entrenched as an activity of government there is little debate about its legitimacy; (2) all levels of government have been involved in economic development, but the balance of responsibility and types of intervention have changed over the course of history; (3) in the knowledge economy of the 21st century, traditional types of intervention (providing water, sewers, and roads, or even conventional tax incentives, for example), may not be enough for lagging regions to compete—attention needs to be focused on the development of knowledge infrastructure that allows regions to attract R&D dollars and become more innovative; and (4) several “stylized” rationales for government intervention can be applied to the activities we observe.

The third of these observations has considerable import for policy-making. Unlike the presence of a deep-water seaport, proximity to natural resources, or accessibility to markets, for example, which are largely “natural advantages” that accounted for the growth of America's largest cities through the 20th century, the presence of universities, research centers, and cultural amenities can be enhanced anywhere. The Research Triangle Region of North Carolina, the Huntsville-Birmingham corridor, and the Daejeon region in Korea, to name just three of many examples, were economic backwaters at one time. But have become successful high tech regions through strategic action. Those actions can be justified by several of the arguments listed above, including their ability to be “transformational,” and to generate net welfare benefits.

Endnotes

- ¹ The best author on international comparisons of intergovernmental relations, particularly among the U.S., Korea, and Japan, is Deil S. Wright, Professor Emeritus, University of North Carolina, Chapel Hill.
- ² For Dillon's Rule, see Frug (2001) Some states allow "home rule," which loosens the connection between local and state governments. Dillon's Rule is based on English common law, as exemplified in this quote: "Whoso desireth to discourse in a proper manner concerning incorporated towns and communities must take in a great variety of matter and should be allowed a great deal of time and preparation...The subject is extensive and difficult." (Thomas Madox, *British Historiographer*, 1726, as quoted in Rhyne (1980), p. 1).
- ³ There are several successful models of consolidated city-county governments – Miami-Dade in Florida and Nashville-Davidson in Tennessee, for example – but they are exceptions not the rule.
- ⁴ The Census Bureau defines several types of statistical regions, including metropolitan statistical area, consolidated statistical area, and micropolitan area, for example.
- ⁵ Luger (1987) explains the practice of scholarly evaluation in this area.
- ⁶ The Interstate Commerce Clause of the U.S. Constitution grants the US Congress the power to regulate international and interstate trade. This clause was used in the 19th and 20th centuries to expand federal regulatory power at the expense of the states. The clause became the basis for federal environmental, safety, and labor standards, among others.
- ⁷ <http://cdfifund.gov/programs/programs.asp?programID=5>
- ⁸ Coenen and Gekkersteubm broadly define tax incentives as the "entire class of direct and indirect government subsidies to business that are not inherently part of a generally accepted tax structure, including but not limited to property tax abatements, tax exemptions, low interest loans, free real estate, firm-specific infrastructure, and firm-specific job training" (1996; as cited in Buss, 2001). According to Chi and Hofmann (2000), tax incentives refer to "any credits or abatements of corporate income, personal income, sales-and-use, property or other taxes to create, retain, or lure business." This definition is much narrower than Coenen and Gekkersteubm's, because tax incentives exclude grants, loans, loan guarantees, loan subsidies, job training programs, and infrastructure subsidies. Fisher and Peters (1998) distinguish tax incentives and non-tax incentives. Tax benefits are provided to any businesses if certain conditions or criteria are satisfied, while non-tax incentives are "discretionary" in that a firm must compete with other firms to get any benefits from state governments. Programs such as grants, loans, infrastructure subsidies, and job-training programs are classified as non-tax incentives. Since they define tax incentives from the aspect of competition among states, some tax incentive programs such as tax exemptions for R&D are excluded.
- ⁹ For pros and cons on state tax incentives, see Lynch (1996), Fisher and Peters (1996), and Chi and Hofmann (2000).
- ¹⁰ This can be verified with any state Department of Commerce secretary. Quotes are available from authors.
- ¹¹ This amount does not cover all tax credits expenses. It covers only four types of tax credits: Manufacturers' Investment Credit, Research and Development Tax Credit, Carryover of Net Operating Losses, and Enterprise Zone Hiring and Sales Tax Credits. See California Department of Finance, *Tax Expenditure Report 2001-02*.
- ¹² This amount covers only five types of tax credits in New York: New Capital Investment Tax Credits, Research and Development Credit, Emerging Industries Jobs Act, Credit for Hiring Persons With Disabilities, and Alternative Fuel Vehicle Credit. See New York Division of Budget and Department of Taxation & Finance, *Annual Report on New York State Tax Expenditures 2002-2003*.
- ¹³ In addition, Massachusetts spent about \$220 million in 1997-1998 for Investment Tax Credit, Research and Development Tax Credit, and Economic Opportunity Area Credit. Iowa spent about \$61 million for New Jobs Credit, Research and Development Credit, and Investment Credit in 2000. See Luger (2001);

Massachusetts Fiscal Affairs Division, *The Governor's Budget Recommendation Fiscal Year 1999*; and Iowa Department of Revenue and Finance, *Iowa Tax Expenditures 2000*.

¹⁴ For example, North Carolina and California faced budget shortfalls in 2002- 2003 of upwards of \$2 billion and \$23 billion, respectively. 2004-2005 saw some improvement, but still tight budget times.

¹⁵ The North Carolina House decided to close \$60 million in corporate tax loopholes in 2002-2003, and additional tax loopholes in 2003-2004. The Missouri House will close or cut corporate tax breaks and loopholes to cover expenses for elementary and secondary schools in 2003-2004. Bill Ratliff, Texas Lieutenant Governor, proposed to close some corporate tax loopholes to address school financing problems in 2002-2003. See *The Charlotte Observer* (July 12, 2001); *The News & Observer* (February 13, 2002); *The St. Louis Post-Dispatch* (April 8, 2002); and *Houston Chronicle* (October 20, 2001).

¹⁶ See <http://www.pinsentmasons.com/media/1847864368.htm>. A quick scan of the worldwide web reveals websites on these types of incentives in Spain, Ireland, and several other countries.

¹⁷ Web address: www.ncicl.org

¹⁸ Web addresses: www.cfed.org and www.johnlocke.org

References

- Bergman, E. and Feser, E. "Industrial and Regional Clusters: Concepts and Comparative Applications". *The Web Book of Regional Science*, Research Institute, West Virginia University, <http://www.rri.wvu.edu/WebBook/Bergman-Feser>. 1999.
- Bozeman, Barry and James S. Dietz. "Research Policy Trends in the United States: Civilian Technology Programs, Defense Technology and the Deployment of the National Laboratories." Research and Innovation Policies in the New Global Economy: An International Comparative Analysis. Eds. Philippe Laredo and Philippe Mustar. Cheltenham, UK: Edward Elgar Publishing, 2001. 47-78.
- Bradshaw, Michael J. The Appalachian Regional Commission : twenty-five years of government policy. Lexington, KY: University Press of Kentucky, 1992.
- Brunori, David. *State Tax Policy: A Political Perspective*. Washington, D.C.: Urban Institute Press. 2001.
- Buss, Terry F. *Capital, Emerging High-Growth Firms and Public Policy: The Case Against Federal Intervention*. Westport, Connecticut: Praeger. 2001.
- Chandler, William U. The myth of TVA : conservation and development in the Tennessee Valley, 1933-1983. Cambridge, MA: Ballinger Publishing, 1984.
- Chi, Keon S. and Daniel J. Hofman. *State Business Incentives: Trends and Options for the Future*. Lexington, Kentucky: Council of State Governments. 2000.
- Chi, Keon S. *The States and Business Incentives: An Inventory of Tax and Financial Incentive Programs*. Lexington, Kentucky: Council of State Governments, Division of Policy Analysis Services. 1989.
- Clovis, James. "Challenging industry on education." *Research Technology Management*. November 2003; Vol. 46, No. 6; Pg. 9.
- Cooke, Philip, Mikel Gomez Uranga, and Goio Etxebarria. "Regional innovation systems: Institutional and organisational dimensions." *Research Policy*. Volume 26, Issues 4-5, December 1997, Pages 475-491.
- Feser, Edward and Michael Luger. "Cluster Analysis as a Mode of Inquiry," *European Planning Journal*, Vol 11, No 1. 2003: 11-24.
- Greenstone, M. & Moretti, E. (2003). Bidding for industrial plants: Does winning a million dollar plant' increase welfare? *NBER Working Paper Series 9844*. National Bureau of Economic Research.
- Feinson, Stephen. "National Innovation Systems Overview and Country Cases." Knowledge Flows and Knowledge Collectives: Understanding The Role of Science and Technology Policies in Development. Eds. Bozeman, Barry et al. Synthesis Report on the Findings of a Project for the Global Inclusion Program of the Rockefeller Foundation. June 2003.
- Feldman, Maryann P. and Albert N. Link, eds. Innovation policy in the knowledge-based economy. Boston : Kluwer Academic Publishers: 2001.

-
- Fisher, Peter and Alan Peters. "Taxes, Incentives and Competition for Investment." *The Region* (Federal Reserve Bank of Minneapolis), Vol. 10, No. 2. June 1996: 52-57.
- Florida, Richard. *The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community and Everyday Life*. New York: Basic Books, 2003.
- Frug, Gerald E. *et al.*, *Local Government Law*, 3rd ed. pp. 139-158. West Publishing, 2001.
- Krugman, Paul. "Toyota, Moving Northward." *The New York Times* July 25, 2005: A19.
- Luger, Michael I. and Suho Bae. "The Economic Effects of Business Tax Incentives: The Case of North Carolina." Forthcoming in *Economic Development Quarterly*.
- Luger, Michael I. and Leslie Stewart. "Improving North Carolina's Economic Development Delivery System." For the North Carolina General Assembly. March 2003.
- Luger, Michael I. "Assessment of the William S. Lee Tax Act." For the North Carolina Department of Commerce. July 2001.
- Luger, Michael I. "Tax Incentives as Industrial and Urban Policy." In W. Tabb and L. Sawers, editors. *Sunbelt-Frostbelt: Urban Development and Regional Restructuring*. New York: Oxford University Press. 1984: 201-234.
- Luger, Michael I. "Technology Development Programs, Intergovernmental Relations and Balanced Regional Growth." In Anita A. Summers and Lenfranco Sen, editors, *Comparisons of Urban Economic Development in the U.S. and Western Europe*. Washington, DC: The Urban Institute Press, 1993. Pp 493-529. *Revised for a second edition of the book, 1998*.
- Luger, Michael I. "Smart Places for Smart People: Using Cluster-based Planning in the 21st Century." In Scott Shane, ed. *Creating Enterprise: Igniting Innovation through Business-University-Government Networks*. Northampton, MA: Edward Elgar. 2004.
- Luger, Michael I. "Information and Communications Technology and the Places Left Behind." Working paper. Chapel Hill, NC: Center for Competitive Economies, University of North Carolina. 2005.
- Luger, Michael I. "State Subsidies for Industrial Development: Program Mix and Policy Effectiveness." In John M. Quigley, editor. *Perspectives on Local Public Finance and Public Policy*. Greenwich, CT: JAI Press, 1987. Pp. 29-61
- Lynch, Robert G. "The Effectiveness of State and Local Tax Cuts and Incentives: A Review of the Literature," *State Tax Notes*. September 1996
- Maillat, D. (1998) "Innovative Milieux and new Generations of Regional Policies." *Entrepreneurship and Regional Development*. 7: 157-65.
- Malizia, Emil E. and Edward J. Feser. *Understanding Local Economic Development*. New Brunswick, New Jersey: Center for Urban Policy Research. 1999.
- Markusen, Ann, Peter Hall, Scott Campbell and Sabina Deitrick. *The Rise of the Sunbelt*. New York: Oxford University Press. 1991.
- McDowell, G.R., 1995. Some communities are successful, others are not: toward an institutional framework for understanding the reasons why. In: Sears, D.W. and Reid, J.N., Editors, 1995. *Rural Development Strategies*, Nelson-Hall, Chicago, pp. 269-281.

-
- Nunez, Rosa Belen Castro. "Analysis of the U.S. Technological Spillovers over the Mexican Economy." Universidad Autonoma de Madrid, Spain. 2004.
- Osborne, David. *Laboratories of democracy*. Boston, Massachusetts: Harvard Business School Press. 1988.
- Porter, Michael E. "Clusters of Innovation." Report for Council on Competitiveness. http://www.compete.org/pdf/mp_presentation.pdf 2001.
- Reich, Robert B. and Ira C. Magaziner. *Minding America's Business: The Decline and Rise of the American Economy*. New York: Harcourt Brace Jovanovich. 1982.
- Rhyne, Charles S. *The Law of Local Government Operations*. Washington, D.C.: Law of Local Government Operations Project, 1980
- Russo, Benjamin. "A cost-benefit analysis of R&D tax incentives." *Canadian Journal of Economics/Revue canadienne d'économique*. Volume 37, Issue 2, Page 313-335, May 2004.
- Schultz, David F. "Big Projects in America." Research report from the Infrastructure Technology Institute, Northwestern University. Evanston, IL. 2004.
- Tabellini, Guido. "The Role of the State in Economic Development." *Kyklos*. Volume 58, Issue 2, Page 283-303, May 2005.
- Thomas, Kenneth P. *Competing for Capital: Europe and North America in a Global Era*. Washington: Georgetown University Press, 2000.
- World Bank Policy Research Report. *The East Asian Miracle: Economic Growth and Public Policy*. New York: Oxford University Press. 1993.