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State and Local Fiscal Policy and Economic Growth and Development

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Executive Summary

This report addresses important issues involving state and local government policy and its effect on economic growth and development. Understanding these issues is imperative to government policy makers and political leaders. There is a widely held belief that state and local government taxation and expenditures influence economic growth and development. But that influence is limited.

The markets and private sector are the real determinants of growth and development. In that regard, growth and development in a particular state or local jurisdiction depend on the level of investment and economic activity by the private sector. Firms make investment decisions to maximize profits. Such investments are governed by traditional economic fundamentals such as access to markets, labor costs, transportation systems, and access to raw materials and vendors.

There is a vast amount of literature on the factors that influence growth and development. The research suggests that there are many characteristics that affect economic activity in a particular location. Many scholars have found that agglomeration -- the idea that firms are attracted to places where there are other firms and markets -- is a major factor in economic growth. Large urban areas produce greater agglomeration given the large supply of labor, vendors, and customers.

The research has also found other characteristics contributing to economic growth. The most consistent finding in the empirical literature is that human capital (education and skills of the area labor force) is positively related to economic development. The presence of college-educated workers for example has a significant effect on growth. But labor costs also affect growth, particularly for lower skilled sectors. As labor costs increase, the level of manufacturing jobs decreases.

Increasingly, scholars have also explored the effect of quality of life factors on economic growth. Lifestyle amenities, including schools, parks, arts, and climate, have been found to positively affect development and growth, especially for industries using highly skilled labor.

Perhaps most importantly for purposes of this report, there are hundreds of articles exploring the role of the public sector on economic development. This much is known. If the level of spending and quality of public services are held constant, increases in taxes negatively affect employment and economic activity. If the level of taxes are held constant, increases in public services positively affects employment and economic activity. Both of these effects have a much larger effect on the competitive advantage of municipalities relative to one another *within* a metropolitan area than they do on the competitive advantage of a metropolitan area relative to other metropolitan areas.

There is much less agreement on the magnitude of these effects. Indeed, there is considerable disagreement among researchers as to how much taxes and public spending affect economic development. As section D of the report illustrates, the research has found tax burdens and public spending to have anywhere from “slight” to “significant” influences on growth. More importantly, when researchers have examined both taxes and spending, public spending has a positive effect on local economies. But again, the magnitude of the effect is in dispute.

This disagreement should not be surprising given the complexity of the national economy. Market factors such as labor costs, access to market, and location of suppliers have significantly more impact on economic decision making than taxes and public services. Different industry sectors place varying emphasis on taxes and public services. The high technology sectors have been less influenced by taxes than traditional manufacturing. The real estate sector, is negatively influenced by property taxes, but positively influenced by public spending particularly on schools. Moreover, different business functions place varying degrees of emphasis on taxes and public services. Location of research and development facilities is strongly correlated to quality of the education system. Manufacturing facilities are influenced by taxes on capital and labor, but also dependent on local transportation spending.

In the end it is clear from both econometric studies and surveys of business executives that many factors influence investment decisions. It is also clear that both taxes and public spending matter.

Given the fact that both taxes and expenditures have an impact on local economic growth, this report explores the extent to which there is a balanced revenue system that can support economic development. That is, can the tax system be structured to generate revenue for necessary expenditures, while not unduly burdening any particular industry or segment of the economy?

The notion of a balanced tax system has been discussed and debated for decades. The conventional view is that the state and local tax system should collect 20-30 percent of government revenue from the three major taxes -- income, sales, and property. This belief is based on the idea that each of these taxes has its strengths and weaknesses. They vary in terms of stability, fairness, and efficiency. The theory has been that government should not overly rely on any one source of revenue. This belief is also based on the idea that reliance on the three major taxes satisfies two competing views of tax equity. The use of income taxes complies with the ability to pay principle, while property taxes apportion burdens to the level of benefits received.

The ideal may be a system utilizing the three main taxes, but the reality is far different. The report finds that there has been a significant movement away from the balanced tax system approach over the past two decades. As of 2002, only 4 states were “strongly balanced,” while 33 states where either poorly balanced or imbalanced.

While support for the traditional notion of balance remains strong, many scholars believe that balance is not an end in itself. Rather balance should be thought of as a means of attaining sound tax policy. Sound tax policy is a jurisdiction specific goal based on competitiveness, notions of fairness, the need for revenue, and the willingness to endure economic distortions. Many state and local governments have traded the benefits of the balanced tax system for what they believe to be sound tax policy decisions.

A. Introduction

The purpose of this report is to address three fundamental questions:

1. What factors determine and drive local economic growth and development?
2. How do state and local tax and expenditure policies influence economic growth and development?
3. Is there a balanced system of taxation that supports economic growth and development while not unduly burdening any particular industry or segment of the economy?

We approach the project with a clear recognition that the primary engine for strong state and local economies is a strong private sector. The purpose of this report is to identify those state and local fiscal policies that facilitate and support growth in the private sector. Such state and local policies fall into two general categories:

1. traditional economic development policies primarily targeted at external sources of growth through attracting new firms or firm relocations; and
2. policies which recognize that the engine for economic growth is typically the small firm and, therefore, focus on promoting internal growth by supporting entrepreneurship and creating an environment conducive to private economic activity.

To address these issues, the report is broken into six sections following this introductory section. The next section discusses what is meant by local economic growth and development. That is followed by a section, which lays out the general theoretical framework for thinking about local economic growth and development. This section is followed by a general discussion of why some metropolitan areas grow and some do not. The next section discusses the literature on which factors affect firm location and economic growth. That is followed by a discussion of the specific impact of state and local fiscal policies on local economic growth and development. The final section then discusses the notion of a balanced tax system, which promotes local economic growth and development, but does not unduly burden any individual sector of the economy.

B. What is "Local Economic Growth and Development?"

What do we mean by "economic growth and development?"

There is no generally agreed upon definition of local economic development, either conceptually or operationally (Maliizia and Feser, 1999). However, theorists of economic development frequently argue that the term implies more than simply growth in economic output (Malizia and Feser 1999, 20-21) list nine ways in which different writers have treated economic growth and economic development. Kindleberger and

Herrick (1977) write “Economic growth means more output, while economic development implies both more output and changes in the technical and institutional arrangements by which it is produced and distributed.” Blair states, “Economic development implies that the welfare of residents is improving… Economists recognize that income alone is an incomplete indicator of how well residents of a region are doing.” For example, U.S. population has grown by about one percent a year since 1970, employment has grown at about twice that rate over the same period, real per capita income has doubled, yet the gap between rich and poor has been expanding. Measures of economic output have registered increases over this period, yet it has not resulted in increases in welfare for all citizens.

This perspective on the differences between economic growth and development has been at the heart of writings by the Nobel Laureate Professor Amartya Sen. He asserts that a major issue in conceptualizing the notion of development is the gap between an exclusive concentration on economic wealth and a broader focus on the lives we can lead given that wealth. In this context, development consists of the removal of various impediments that leave people with little choice and few opportunities, e.g., social opportunities of education and health care, removal of poverty and tyranny, poor economic opportunities as well as systematic social deprivation, neglect of public facilities as well as intolerance or over activity of repressive state. Development is seen as a process of expanding the real freedoms that people enjoy (Sen 1999, xi-xiv and 3-4). The focus is on exploring the relation between incomes and achievements, between commodities and capabilities, between our economic wealth and our ability to live, as we would like. Economic growth is not an end in itself; development has to be more concerned with enhancing the lives we lead and the freedoms we enjoy (Sen 1999, 14)

This shift, from considering solely growth in economic output as development, stems from two main factors. Firstly, though income figures are useful, they do not reveal the composition of income or the real beneficiaries. Secondly, people often value achievements that either do not show up at all, or do not show up immediately in higher measured income or growth figures. Examples include greater access to knowledge, better working conditions, security against crime or violence and more satisfying leisure time.

The need to develop a more multi-dimensional definition of economic growth and development has lead to the use of many different measures of economic development. These include area output, wages, earnings, income, employment, investment, business starts, the poverty rate, the distribution of income, the infant mortality rate, etc. For the purposes of this paper, we focus on studies exploring the impact of state and local fiscal policies on various measures of economic growth: area income, wages, employment, creation of firms, etc., being careful to distinguish among these measures when research results differ across them. There is a very limited literature exploring the ultimate impact of state and local fiscal policies on various measures of economic development, such as income distribution, poverty rates, etc.

Geography

The concern we address is local economic growth and development. But what is meant by "local?" There is a fundamental problem in that it is widely agreed that the relevant local economy is the metropolitan area economy (local municipalities are far too open to be considered an economy), but local economic development "*policy*," at least in the United States, is a product of local (and state) governments (see Wolman and Spitzely 1996, for a discussion of this). In this report we focus primarily on studies that include states or metropolitan areas as their geographic unit of analysis, in large part because they represent the vast majority of such studies. We also review literature looking at economic growth and development from an intra-metropolitan basis, to the extent such studies exists.

C. Economic Theory of Regional Development

To provide a framework for interpreting and evaluating empirical studies of what factors motivate business locations decisions, it is useful to begin by surveying the theoretical literature on regional development, the foundations of which are to be found in the work of Von Thunen (1826), Zipf (1929), Alonso (1964), Muth (1969) and Mills (1967), and North (1958). Von Thunen (1826), Alonso (1964), Muth (1969) and Mills (1967) developed theories of urban form, which help explain why cities (regions) have the "shape" that they do, North described why cities located where they located, and Zipf noted a peculiarity about the distribution of city sizes within an economy.

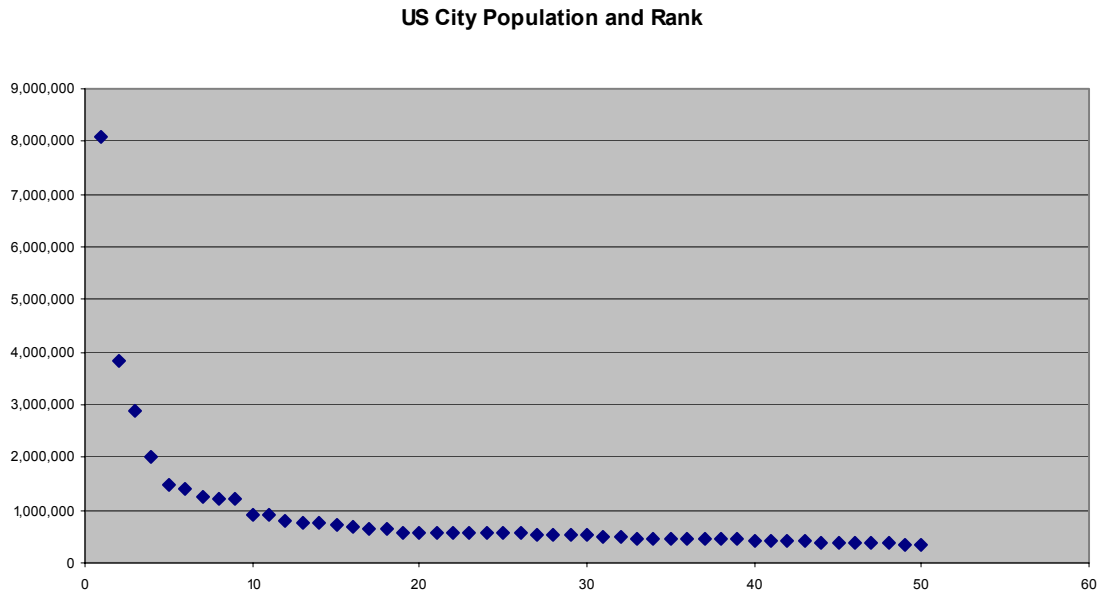
In the discussion below, we discuss this literature and its more recent descendents. We begin with Zipf, because it is worthwhile discussing whether there is a "natural" distribution of city sizes, and whether that distribution limits the ability of some cities to compete with each other. Put another way, it asks whether Green Bay can compete with Tampa for population and employment, and whether Tampa can compete with New York, or whether cities are limited to competing within their own general size class.

We then look at North's line of literature, and ask why the largest metropolitan areas came to be located where they are located. We push that literature a little further, and ask why some places with great locational advantages have failed to grow, while other places have done well.

Finally, we follow Von Thunen and Alonso, Muth and Mills to examine why cities in the United States have developed physically as they have. This will explain, to some extent, why certain regions have succeeded better than others, but it will also explain why some areas within regions have performed better than others.

Zipf's Law and the "Natural" order of Cities

Below is a graph of the population of the 50 largest cities in the United States against the rank of those cities:



There is an interesting regularity of these data. Note that the second largest city (it happens to be Los Angeles) is roughly one-half the size of the largest city (New York). The third largest city is roughly one-third the size of the largest, the fourth largest (Houston) is roughly one-fourth the size of the largest, the fifth largest (Philadelphia) is a little less than one-fifth the size of the largest, the tenth largest is a little more than one tenth the size of the largest, etc.

This regularity is known as Zipf's law, and it seems to do a good job of describing the size and rank relationship for the larger cities in the United States. Black and Henderson (2003) have shown that the relationship between size and rank was remarkably stable in relative terms over the course of the 20th century, with the only major change being that cities have gotten larger, and that the number of cities has increased over time (there are roughly 2.5 times more metropolitan areas in the United States now as there were in 1900). So the question is: why do we observe this empirical regularity, and what does it imply for cities that compete with one and other for employment and population?

Black and Henderson suggest five answers:

- As metropolitan areas collect human capital (that is, people at certain skill levels), they become more technologically efficient, which in turn makes them more attractive to more people. Larger cities generally have an advantage with respect to human capital compared with smaller cities, and therefore accumulate it at a more rapid rate.

- Cities of different types (i.e., different industrial structures), tend to have labor forces of different sizes with different levels of educational attainment. We rarely observe changes in the relative growth rate of a city without also observing a change in industrial structure. For example, cities that relied on manufacturing for employment (St. Louis, Detroit, Pittsburgh, etc.) saw their industrial composition change, and did not have a labor force that was well equipped for that change. Consequently, they grew far less rapidly than other cities (or even lost metropolitan population).

- Cities tend to rise more rapidly through rankings than they fall. This reflects the advantages of scale enjoyed by larger cities. We will discuss scale in a bit more detail below.

- The share of population in the United States living in the largest urban areas is becoming larger across time, possibly because traded services (as opposed to goods) require face-to-face contacts. Interestingly enough, the population of the median sized county in the United States is now about the same as it was in 1900. Most parts of the United States have not grown in the last century, even though the country as a whole is four times larger. Glaeser (1998) notes however, that population in U.S. cities is more diffuse than it is in many other countries.
- Finally, urban sites are heterogeneous and superior cities (places in warm weather, on coastlines, or with proximity to markets) have done better than cities without these advantages. Again, we will return to this below.

Perhaps we need to back up and ask the question: why have cities at all? The continental United States has about 300 million people in about 3 million square miles, so in principal we could divvy up the country into 6 acre plots, one for each person. Yet we do in fact concentrate in cities—so much so that only about 5 percent of the continental United States is developed, meaning that on average Americans live 20 times more densely than necessary.

The reason we arrange ourselves this way is that cities have agglomeration economies—that has, clustering people together tends to reduce the cost of goods production, and therefore leads to economic growth. Agglomeration economies arise from two sources: economies of scale (which produce specialization) and economies of scope (which produces variety). Let us describe each of these briefly.

Consider automobile manufacturing. Automobile manufacturing has throughout American history been concentrated in or near the Midwest (if we define the Midwest as the area north of the Ohio River, east of the Mississippi River and west of the Appalachian Mountains).[1] Part of the reason has to do with the Midwest's proximity to inputs and to consumer markets, but part of it has to do with economies of scale. The

[1] Auto manufacturing remains concentrated in the Midwest, if we now include Kentucky and Tennessee as part of the Midwest. It's just that Midwestern manufacturers are now include Toyota, Honda, Nissan, etc.

automobile industry does not consist of large numbers of small assembly plants located throughout the country, but rather of small numbers of large assembly plants concentrated in a fairly small geographical area. The reason for this is economies of scale—as assembly plants get larger, they become more efficient, and are able to produce more cars at lower cost. Of course there is a point at which scale economies become exhausted, and this point defines the limit of plant size.

Nevertheless, these manufacturing economies of scale led to the development of large cities in the Midwest, such as Detroit and Chicago, that had large manufacturing plants and then smaller plants (such as parts suppliers) supporting them.

Economies of scale in one industry eventually get exhausted, which means that there is a limit to the size of cities that are based on one industry. Cities that relied heavily on one industry—such as Detroit and Pittsburgh—eventually reach the size at which scale economies are exhausted, and so stop growing. A current example of a city that is heavily based on one industry—Las Vegas—still has clearly not exhausted its economies of scale: it is still growing rapidly. But it suggests that unless Las Vegas diversifies, there will likely be a limit on its growth.

More recently, the urban literature has hypothesized that knowledge spillovers are becoming increasingly important. This means that when firms locate near one and other, knowledge from one firm is transferred to the next. The classic case in point of this is Silicone Valley, where workers move often from one firm to the next, taking with them knowledge they learned at one firm to another. While Silicone Valley is a spectacular example of this phenomenon, knowledge spillovers and mobile labor have likely explained the success of some cities relative to others for many years. In a classic paper from the 1960s, Chinitz (1961) explains why New York became more successful than Pittsburgh. New York has long had large numbers of employers and industries, meaning that workers have always had powerful incentives to keep their skill levels high, so that they can move from one job to another that might pay better. In places such as Pittsburgh, where employment was much more centralized, workers had much less incentive to reinvest in themselves.

It is worth noting that the United States has a large number of successful cities, even taking into account the nation's large size. Ades and Glaeser (1995) use theory, case studies, and cross-country evidence to show that countries with low tariffs, low costs of internal trade, and high levels of international trade have greater population diffusion. They also show that politics determines urban primacy. Dictatorships have central cities that are, on average, 50 percent larger than their democratic counterparts. The democratic nature of the United States, combined with its relatively open trade policy and excellent internal infrastructure, help explain why it can have a large number of cities that perform well.

Nevertheless, when cities are trying to develop economically, they need to be realistic about the nature of their competition. Small cities are at a competitive disadvantage to large cities, and the disadvantage is, if anything, getting larger. Cities

in cold climates are at a disadvantage to warm weather cities; cities on the interior are at a disadvantage to cities on the coast (although as we shall see, this phenomenon can be partially overcome). Most importantly, cities without a highly educated labor force are at a serious disadvantage relative to a well educated labor force, because knowledge spillovers and labor mobility will likely become increasingly, rather than less, important to regional vitality.

Transportation and the Location of Cities

Douglas North won the Nobel Prize in Economics in 1993, at least in part because of his work on the geographical aspects of the development of cities. He wrote:

> Revolutionary developments in transport have been an essential feature of the rapid growth of the Western world of the past two centuries. Reduction in the cost of carriage has enabled specialization and division of labor on a national and international basis to replace the relatively self-sufficient economies that predominated in the Western world two centuries ago.[2]

While it has long been understood that the first great cities were ports or crossroads, infrastructure has almost certainly abetted urban location. Buffalo, at the western end of the Erie Canal, became the first large inland city in the United States (as recently as 1900, it was among the 10 largest cities in the US—it is now not within the top 50); St. Louis, at the southern end of the Illinois Barge Canal, rose to the fourth largest city in the country in 1890 (it too has dropped out of the top 50). In the late 19th century, railroads overtook barges as the principal lubricant of commerce, and the great rail hubs (especially Chicago) ascended.

The importance of roads to the modern American city is underlined in Glaeser and Shapiro (2001). They find that urban growth in the post-war decades has been determined by three large trends (1) cities with strong human capital bases grew faster than cities without skills, (2) people moved to warmer, drier places, and (3) cities built around the automobile replaced cities that rely on public transportation. They assert that over the past 20 years more local government spending was associated with slower growth, unless that spending was on highways.

Now it is road and air transportation that are crucial in determining the success of cities. Recent work of Green (2005) and Brueckner (2003) has demonstrated the powerful correlation between the quantity of air service to a metropolitan area and economic growth in that area. Put another way, it is difficult for a metropolitan area to compete without strong air service.

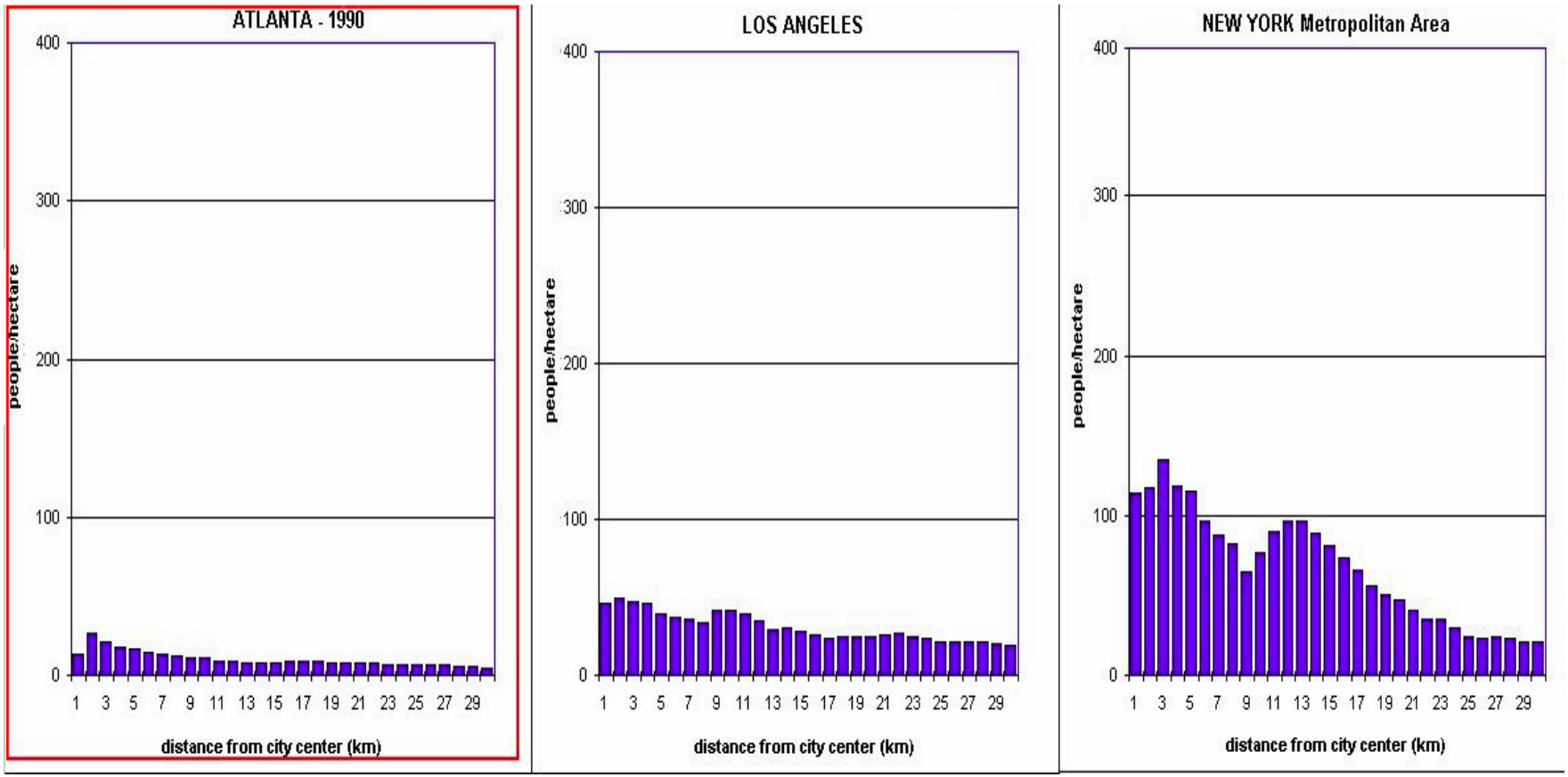
The Alonso-Muth-Mills Model and Intracity Development

[2] North (1958).

To understand why cities have the shapes, land use patterns, and income patterns that they do, one needs to begin with three fundamental facts: (1) that the minimum value of land within a city is its non-developed value (typically agricultural) plus the cost of development, (2) that transportation is costly, both in terms of physical costs and time and (3) that when land becomes more expensive, people will have an incentive to use it more intensely, by increasing both the density of improvements and population. These three facts are the underlying bases of the Alonso-Muth-Mills (AMM) monocentric model of the city. Thus we can imagine that from an airplane, the value of land in a city will look somewhat like a witch's hat: tall and peaked in the center, and low and flat at the brim.

AMM actually works reasonably well at describing US cities: land is generally least valuable at the periphery, and becomes more valuable as it gets closer to the commercial center. The following set of graphs from Bertaud (2002) give the comparative population density gradients in the built- up areas for three American cities: Atlanta, Los Angeles and New York., along with some European and Asian counterparts.

Comparative Population Densities in the Built –up Areas of Selected Metropolitan Areas



From: “Order Without Design”, Alan Bartaud, 2001

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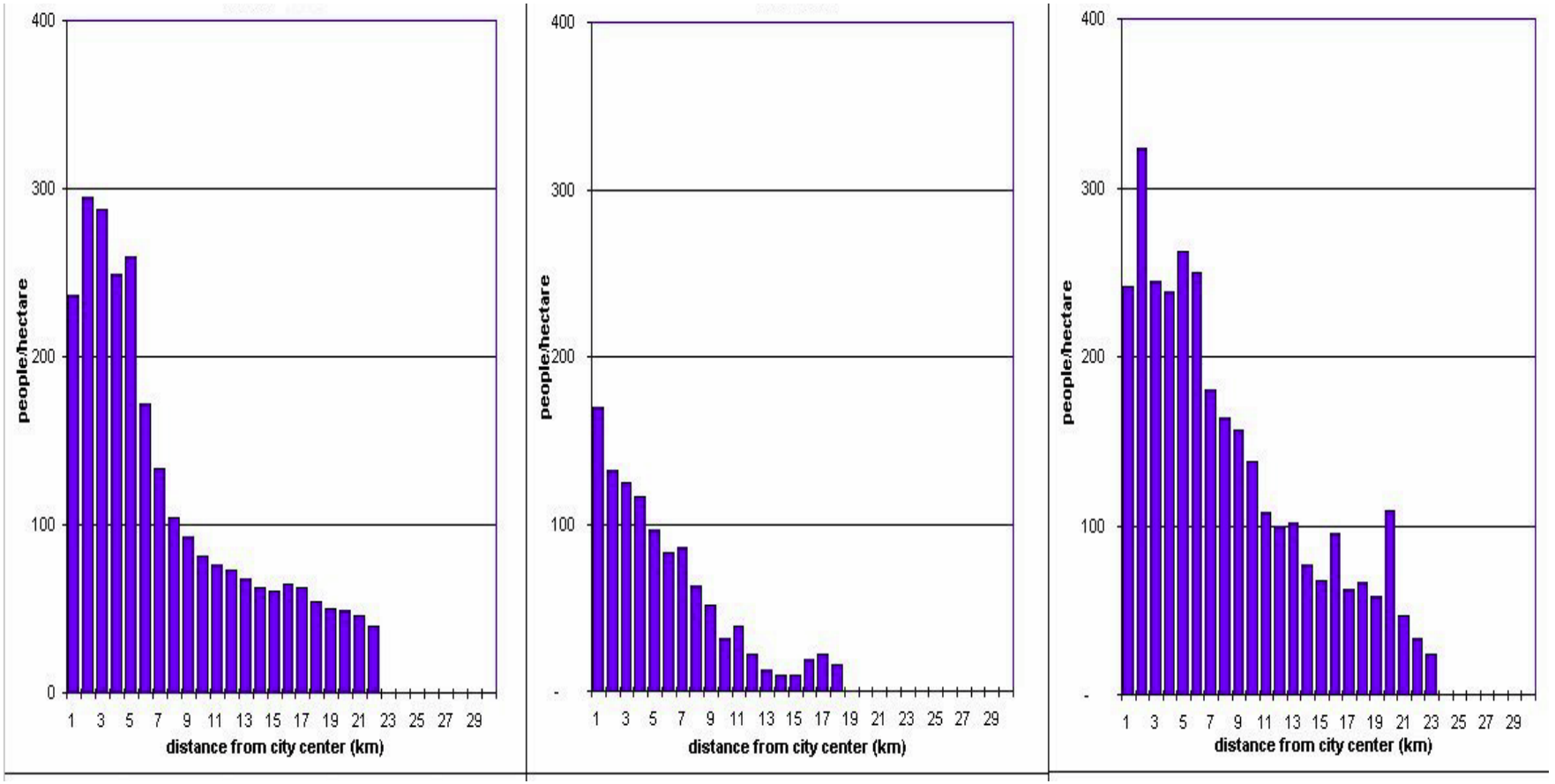

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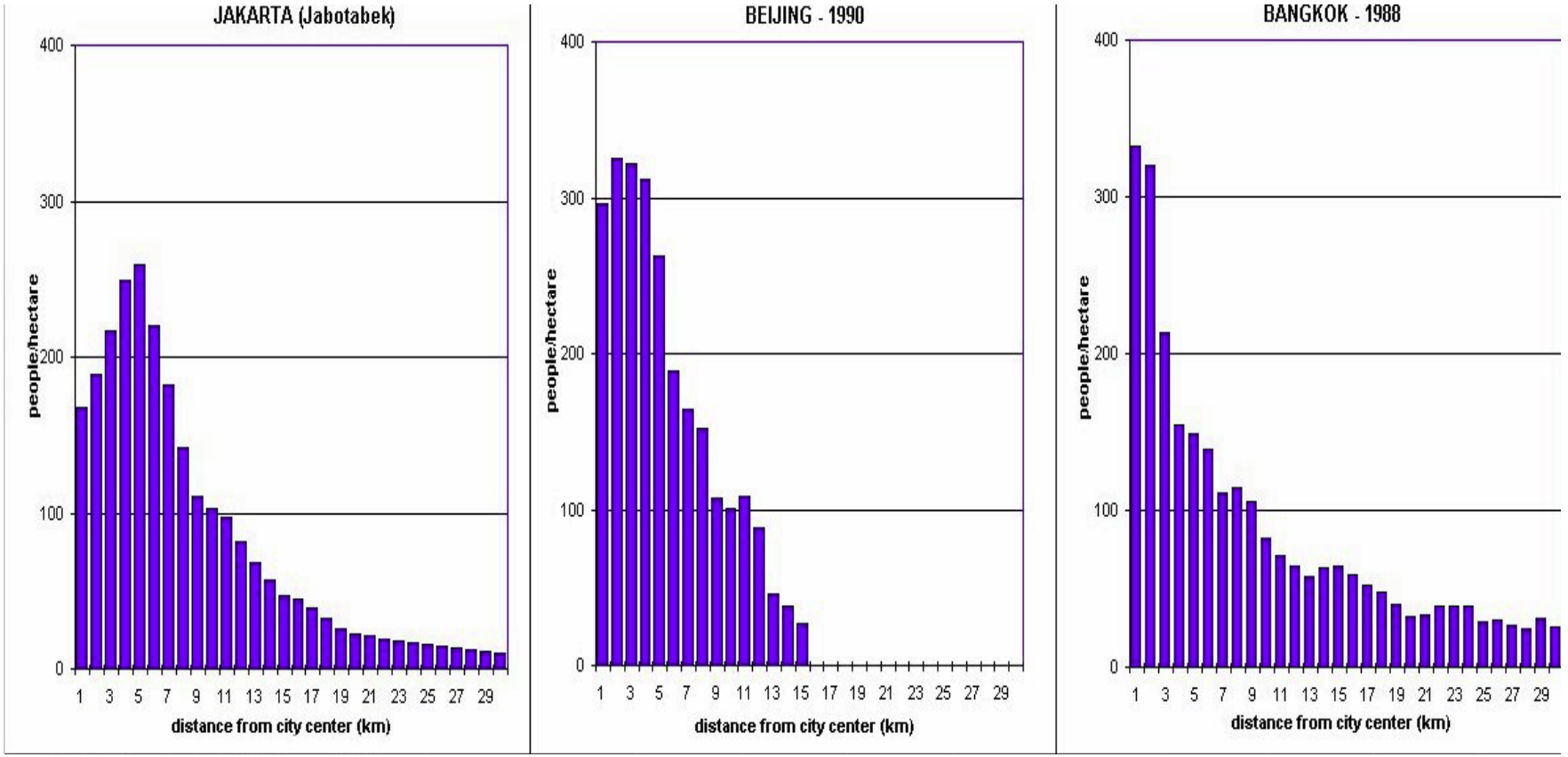


From: “Order Without Design”, Alan Bartaud, 2001

As one can see, cities tend to have similar shapes: they have somewhat low residential densities in the center—because office buildings are "denser" than residences (think of the difference in size between a cubicle that a typical office worker has relative to an apartment that a typical single office worker lives in). But as one moves out a bit from the center, densities jump, and then tend to fall off gradually until they are very low at the periphery.

While this pattern tends to hold for most cities, there are two ways in which different cities vary from each other: the steepness of the density gradient, and the incomes in the centers. Let us discuss why these things vary from place to place.

First, one cannot help but notice that the density gradient in New York is much steeper than it is in Atlanta. Part of the reason for this is geography—the fact the New York occupies islands means that the frictions to growing outward—rather than upward—are much greater in New York than they are in Atlanta, a place where land is essentially endless. But the second reason is a function of the transportation technology that existed at the time of substantial growth. New York grew rapidly in the 19th century, before the car existed. Consequently, it is very much a train and trolley based city, and settlement patterns reflect the desire of people to live near the transportation that was available. Aerial photographs of the housing stock in Manhattan in 1920 look remarkably similar to photographs of the island today. On the other hand, Atlanta developed entirely after the introduction of the automobile. In 1940, only half a million people lived in metropolitan Atlanta; today more than four million do. Because driving was cheap and convenient, the convenience value of being near a central place was much lower. Glaeser and Shapiro (2001) go so far as to say that the shape of the American city in the post-WW II era is, beyond human capital and climate, entirely a function of inexpensive automobile transportation. This has influenced New York as well—one can see that as dense as it is, it is less dense at the center than other world cities.

From an economic development perspective, however, the really interesting difference across cities is that in some (New York, San Francisco and increasingly Chicago and Washington), central cities have large numbers of affluent people, while in others (Detroit, Buffalo, St. Louis, Milwaukee, for example), the central city is predominantly poor. There are two broad explanations for this phenomenon, one of which is a function of the economics of urban form, the other of which is a function of fiscal federalism.

As we have already discussed, economic theories of urban form predict that land will be used more intensely in the center of cities. This intensity can take one of two forms - in population density, or in capital density. In cities with relatively little congestion, and with relatively low wages, transportation costs per se, rather than the cost of time, are the principal driver of settlement patterns. Low-income people cannot afford the fixed cost of owning an automobile, so they live in close proximity to jobs. Consequently, they live where location rent is most expensive. They compensate for this by consuming small amounts of housing capital: they live more densely, and they

live in older housing whose condition is of poorer quality than elsewhere. As such, they can afford to live on valuable land, and can economize on transportation.

On the other hand, in cities with congestion and high wages, the cost of commuting for high income people is high, because congestion means it takes a long time to commute, and because people's time is valuable. Consequently, high-income people will outbid others for residential space in the center of the city.

But this is only part of the explanation. Fiscal federalism also affects the distribution of income within a metropolitan region. Political leaders have a powerful incentive to provide voters with high levels of services while keeping taxes low - they want to get re-elected. This generally puts central cities at a disadvantage for a simple reason - the housing stock in central cities is older than it is in suburbs, older housing is the most predominant form of "affordable" housing, and people who live in affordable housing consume as much government service as anyone else while having less wherewithal to pay taxes. Higher income people who live in central cities must therefore pay both for their own services and for the services of others.

Newer suburbs can therefore make themselves attractive by limiting the inflow of low-income people. By requiring housing to have a minimum size, or by severely limiting multi-family housing, suburbs can effectively place a floor on the cost of housing, and thus limit their residents to those whose income is above some threshold. This gives newer suburbs an advantage relative to central cities at attracting residents. Ultimately, employment follows residents, and jobs migrate from central cities to the suburbs. This in turn leads to the central city becoming even less competitive, until it empties out from the center. This has unfortunately been the pattern of development in many older American cities, including the string of cities in upstate New York, Philadelphia, Baltimore, Cleveland and St. Louis.

It is important to note that the hollowing out of these cities creates market failure. The fact that fiscal conditions push people who can afford to move to the periphery of cities creates congestion, because people need to travel greater distances for work, leisure and shopping than they otherwise would. This is likely one of the reasons why "sprawl" has become a pejorative term.

D. Why do Some Areas Experience Greater Economic Growth and Development than Others?

In this section we examine why urban areas differ in the extent to which they achieve economic growth and development. Why do some areas experience rapid and sustained growth while others face slow growth or decline?

Urban areas provide a set of competitive advantages or disadvantages for firms in different sectors. In a market economy firms will locate in an area if that area has characteristics that allow firms to produce and bring to market their goods and services

at a lower cost than elsewhere. Some characteristics of an area are likely to be relevant to many, if not all, kinds of economic activity, while others may be relevant only to a particular sector. An urban area thus may have a competitive advantage for certain kinds of activity and a competitive disadvantage for others. The mix of activities for which an area has a competitive advantage and whether these activities are growing, stable, or declining determine whether the area's competitive advantages are likely to produce economic growth and development.

The theoretical underpinnings for understanding urban economic growth and development have been presented in the above section. Here we summarize findings from empirical studies. As noted in the introduction, the definition of what constitutes economic development as well as the appropriate unit of "urban" spatial analysis is contested. Empirical research has focused on, inter alia, the level and change of income, employment, wages, earnings, investment, productivity, and population. Some of the research also utilizes city (i.e., the legal political jurisdiction) as the spatial unit of analysis rather than the metropolitan area (the functional labor market or economy). We focus on the latter research, although from time to time we may cite findings on determinants of city (or state) competitive advantage when relevant or when research on the metropolitan area is sparse.

The literature, both theoretical and empirical, suggests a large number of urban area characteristics that might affect an area's competitive advantage for different kinds of economic activity. These include agglomeration economies; input prices, including not only the price, but also the quality of labor (human capital), transportation, land, and energy; amenity characteristics affecting the location of high quality labor; the quality of public services and the level of taxation.

Agglomeration economies:

As discussed above urban areas provide cost savings, in the form of agglomeration economies to firms located there, that create a competitive advantage over other areas. While large urban areas are likely to produce greater agglomeration economies than smaller ones, it is important to note that advantages do not increase continuously with size. At some point benefits will be mitigated by factors such as commuting costs, crime and pollution.

Agglomeration economies can be divided into *urbanization economies* and *localization economies.* Urbanization economies involve cost savings accruing to all or most economic activity in the area as a result of large and diverse labor markets, support services and consumer demand. Localization economies involve savings to firms in a particular sector that result both from the fact that firms producing inputs and services to this sector are likely to co-locate in the same area in response to demand, thus reducing costs, and from the easy communication and spread of ideas and innovations among firms in the same sector

Quigley (1998) provides a review of research on agglomeration economies. He writes :

> The general finding is a parallel shift outward in the production function for larger metropolitan areas. For example, Shefer (1973) analyzed a group of 20 industries across MSAs, concluding that doubling city size would increase productivity by 14 to 27 percent. Sveikauskas (1975) used more sophisticated methods but a smaller number of industries and found that a doubling of city size would increase output by six to seven percent. Segal (1976) aggregated across industries but constructed careful measures of urban capital stocks and concluded that in "large" cities of about two million or more in population, productivity was about 8 percent higher than in smaller cities (Quigley 1998, 134).

In his review, Beeson (1992, 23) concludes that "the empirical evidence to date indicates that productivity growth tends to be highest in the largest metropolitan areas." He cites Fogarty and Garofalo (1988) and his own work, but does note that the relationship may be non-linear with the growth rate of productivity higher for very large and small cities and lower for those in between.

Glaeser et al. (2001) found that as metropolitan area size doubled in 1980, wages rose by 5.1 percent. By 1990 wages rose by 8.2 percent for every doubling of metropolitan area population. Glaeser et al. note that not only do these findings indicate agglomeration economies increase with size, but that they also cast doubt on the argument that agglomeration economies are declining.

Satterthwaite (1992, 45) reviews the research literature on localization economies and concludes that "the literatures of both urban and industrial economics suggest that localization economies are important." In particular he cites his own work with O hUalluahain (1988) in which they model metropolitan area growth between 1977-1984 in 37 industrial sectors and find that the size of the industrial sector in the area in 1977 was significant in 32 or the 37 sectors in determining growth of the sector over the period. They interpret this as evidence of localization economies in the areas.

Glaeser (1998) summarizes the theoretical literature on informational spillovers as an agglomeration economy and reviews the empirical literature. He notes particularly the research by Jaffe et al. (1993) that found a new patent application was more likely to cite a spatially close existing patent, even controlling for firm effects.

<u>Human Capital (Labor Quality and Cost)</u>:

The most consistent finding in the empirical literature is that human capital (education and skills of the area labor force) is significantly and positively related to urban economic development. Human capital in most of the empirical studies is proxied by level of education, usually the percentage of an area's population with a college degree.

Shapiro (2003) found that from 1940 to 1990, a 10 percent increase in a metropolitan area's college educated population was associated with a roughly 0.6 percent increase in the area's employment growth. Growth in wages tends to be higher in cities with greater concentrations of college-educated residents. Overall, a 10 percent increase in the share of college-educated residents leads to a 0.2 percent increase in wage growth. Weissbourd (2004, 32) studied the determinants of metropolitan area per capita income and average wage per job and concluded that of all the variables included, education was the single biggest driver of economic growth over the 1990s. His findings indicated that for each two percent growth in the proportions of college graduates income growth increased by roughly one percent. Pack (2002) also found that the percentage of MSA population with a college degree in 1970 was significantly and positively related to growth in MSA per capita income between 1970-1990 (Glaeser and Saiz 2004, 67) estimate that a metropolitan area with an additional 10 percent of its population with college degrees will have an increase in expected income growth of two percent. Rauch (1993) finds that an additional year of average education in a metropolitan area is associated with an increase of 2.8 percent in total factor productivity (wages and rent).

The presence of institutions creating human capital is also related to growth. Pack (2002) found that the number of university departments in a metropolitan area ranked in the top 25 in biology, computer science, and engineering was positively related to metropolitan area per capita income growth.

Labor cost as well as quality affects an area's competitive advantage, particularly for lower-skill sectors. Henderson et al (1995) estimated that, controlling for labor quality, a 1 percent increase in area wages for the five manufacturing industries he examined reduced metropolitan employment in those industries by one percent. Wasylenko and McGuire (1985) also found, although at the state level, that state hourly pay for manufacturing workers was negatively and significantly related to state employment growth, controlling for state median years of education.

Amenities/Quality of Life:

In his review of the literature, Malpezzi (2001, 91) notes that "A growing number of studies have documented the potential economic importance of a clean environment, a desirable climate, and in general localized amenities (as a determinant of economic growth)." Studies have shown that lifestyle amenities are particularly important for companies that require higher skilled, more talented labor. "The future of most cities depends on their being desirable places for consumers to live. As consumers become richer and firms become mobile, location choices are based as much on their advantages for workers as on their advantages for firms" (Gottlieb 1995). Recently Richard Florida (2002) has emphasized the importance of amenities and lifestyle characteristics as a contribution to urban economic development. He presents data, for example, that suggests a relationship between bohemian/gay lifestyles and growth.

Work by Glaeser and his colleagues has emphasized the importance of climate. Glaeser et al. (2001, 2004) found that climate was positively and significantly related to metropolitan area population growth. They also found [Glaeser, et. al. (2004)] that average heating degree days (number of days heating is required) were negatively and significantly related to log change in wages between 1970-2000 (i.e., the colder the climate the lower the growth in wages over time.).

Glaeser et al. (2001) found that a variety of amenity characteristics are related to population growth at the county level. These include both temperate and dry climates, proximity to an ocean coast, live performance venues per capita, and restaurants per capita, all of which were positively and significantly related to county population growth (bowling alleys per capita and movie theaters per capita were negatively and significantly related).

Rauch (1991) finds that amenities (a culture per capita index based on the number of symphony orchestras, opera and dance companies, theaters, public television stations, fine arts radio stations, museums, and public libraries in a metropolitan area) is negatively and significantly related to average wages, implying that workers are willing to accept lower wages (thus implying lower labor costs for area firms) in order to gain access to the increased area amenities available.

However, Weissbourd (2004) presents evidence that an "art score," derived from the Places Rated Almanac was unrelated to change in metropolitan area per capita income between 1990-2000. Glaeser (2004) also finds that the relationship Florida found between bohemian/gay lifestyle and population growth disappears when years of schooling (percentage of residents with four or more years of college) is controlled for. Gottlieb (1994) reviews and summarizes a variety of other studies, noting "few econometric studies of firm location have focused on amenities as the primary variable of causal interest….When amenities are a secondary concern in econometric studies of economic growth, the chances for misspecification or ambiguous results are greatly increased." His review presents a variety of these contradictory results.

Taxes and Government Services:

The vast literature on the role of public sector fiscal policy on an area's competitive advantages can be summarized, at one level, quite succinctly. If the level of spending and quality of public services are held constant, increases in taxes negatively affect employment and economic activity. If the level of taxes is held constant, increases in public services positively affects employment and economic activity. Both of these effects have a much larger effect on the competitive advantage of municipalities relative to one another within a metropolitan area than they do on the competitive advantage of a metropolitan area relative to other metropolitan areas.

There is much less agreement, however, on the magnitude of these effects. Noting Bartik's conclusion drawn from a review of the literature that a reduction in taxes

of ten percent will increase employment, investment or firm births by between one and six percent, Wasylenko (1997, 38) remarks, “These findings have implications for state and local tax policy. However, the range of the elasticity is not estimated with much precision, and it matters a great deal to policymakers whether the elasticity is -0.1, -0.6, or somewhere in between.” He argues (1997:38) that “the wide range of the elasticity estimates has less to do with the type of activity being measured than with the variations in data, time periods, and other variables used in the equation estimates. In effect, the results are not very reliable.” After his own review of the literature, Wasylenko (1997, 49) concludes, “taxes have a small, statistically significant effect on interregional location behavior. The suggested estimate of interregional activity is -0.2.” Thus, a ten percent increase in taxes would reduce economic activity by approximately two percent.

Malpezzi (2001) reviews studies on the effects of taxes on economic growth, most of which have been at the state level. He concludes (143-144), “Taken as a whole, these tell us that firms and economic output respond to tax environments; but much more within a metropolitan area than across metro areas or states.” However, Malpezzi (2001) also notes that the results vary substantially depending on whether public service expenditures or outcomes are included in the model. A reduction in taxes not accompanied by a reduction in public services has a much greater positive effect on employment and other outcomes than does a reduction in taxes that also results in a service reduction. As he notes , “An obvious point is that, to the extent economic outcomes are more strongly tied to tax changes, holding services constant… a viable economic strategy would be to lower taxes without cutting services – if we could find a way to do that. Experience with states that have adopted stringent tax limitations, like California and Massachusetts, tell us that in fact services do get cut substantially” (Malpezzi 2001, 145).

Modifi and Stone (1990) estimated the effect of state and local taxes and expenditures on manufacturing employment and investment for all 50 states between 1962-1982. They found that public expenditures had a negative effect on manufacturing employment and investment in states that had greater increases in expenditures for transfer payments and a positive effect on states that had greater increases for health, education, and public infrastructure purposes.

Government services can be considered either a cost reduction to a firm located in the area (the higher the quality education system, the lower the firm’s cost for on-the-job training) or an amenity to it or its employees. Fisher (1997), in his review of the literature concludes, “In many studies, government spending, public capital, or public services are estimated to exert a positive and statistically significant effect on economic development… But the results vary greatly. Perhaps the most that can be concluded is that some public services clearly have a positive effect on some measures of economic development in some cases.”

Very few of the studies Fisher reviews use metropolitan areas as the unit of analysis to allow estimation of the competitive effect of metropolitan area service levels

controlling for taxes as well as other factors affecting area competitive advantage. Dalenberg and Partridge (1995) examine the determinants of total employment among 28 metropolitan areas over a 15 year time period and find that, controlling for tax revenues, change in metropolitan area education spending is positively and significantly related to employment change, while change in metropolitan area highway spending is negatively and significantly related. However, as Fisher points out, these measure the effects of marginal changes (and thus areas that spend more on highways may have poorer roads to begin with) and, more importantly, reflect inputs (spending) rather than outcomes (e.g., quality education, safe and efficient roads).

However, firms do not receive general metropolitan area public services, but public services from the specific jurisdiction within that area where they locate. Thus, it makes sense here to look at intra-metropolitan studies. Fisher reports that Luce (1994) found that local government highway expenditures and public safety expenditures were positively related to local employment within metropolitan areas.

Initial Condition (Cumulative Causation)

To what extent are the competitive advantages of an area affected by its own history, either in terms of prior industrial structure or prior levels of economic and social development?

Industrial Structure: Does an area's industrial structure at the beginning of the period, controlling for other possible determinants of competition provide it with an advantage or disadvantage in its growth path for the future? Henderson et al. (1995) found that metropolitan areas whose employment was concentrated in a small number of traditional capital goods industries in 1970 experienced higher employment growth in these industries between 1970-1987 than did less concentrated metropolitan economies. They attribute this to the accumulation of "inside knowledge" or trade secrets within these industries in these locales, a form of agglomeration economy. However, they also found that areas with more diverse industrial structures in 1970 had greater growth in high-tech employment between 1970-1987. Quigley (1998, 136) notes that, "This is consistent with the informal arguments of Jane Jacobs about the stimulation of 'ideas' in heterogeneous surroundings and also with the view that diversity fosters specialization in inputs, yielding higher returns."

In terms of sectoral shares, Weissbourd (2004) found that the share of 1990 metropolitan area employment in manufacturing was significantly and positively related to both metropolitan area per capita income growth and average wage per job growth between 1990-2000. Pack (2002) found that metropolitan area per capita income growth between 1980-1990 was significantly and positively related to the share of employment in the finance, insurance, and real estate sector in 1980 and was also positively related (though only at the .10 level) to share of employment in the manufacturing sector in 1980. However, Glaeser et al. (2004) do not find a significant relationship between the percent of employment in manufacturing in a particular year and wage growth over the following 10-year period between 1970-2000.

Economic and Social Development: Do poor (or good) initial conditions with respect to levels of economic and social development lead to a cumulative process of decline (in the case of poor conditions) or growth (in the case of good ones) or do they produce convergence through an equilibrium effect?

Glaeser et al. (2004) find that the metropolitan area unemployment rate 10 years earlier is negatively related to metropolitan area income, i.e., a high unemployment rate ten years prior to the present is related to a lower average family income in the present period, suggesting cumulative causation processes. However, the same study shows that average family income ten years prior to the present is negatively related to average metropolitan area family income in the present period, i.e., low income in the past is related to more rapid increases over the next ten year period. This suggests an equilibrium effect with areas experiencing lower average income poised to experience income growth. Similarly, Weissbourd (2004) also found that 1990 metropolitan area unemployment rates and per capita income were negatively related to 2000 metropolitan per capita income and wages. He also found that 1990 poverty rates were negatively related to metropolitan area income growth, again suggesting a cumulative causation process. While Pack's research (2002) showed the same negative relationships between both initial period per capita income and initial period unemployment rate and metropolitan area per capita income growth between 1970-1990, both of these relationships became insignificant when regional controls were included.

E. Factors Driving Business Location Decisions

As the above discussion suggests, firms are likely to locate in areas that have a competitive advantage for the goods or services they produce. What are the factors that account for these location decisions?

There is an abundance of scholarly and business research on the question of why businesses locate in particular locations. Indeed there are literally hundreds of published studies going back seven decades[3].

The scholarly and business research runs the gamut from comprehensive macro studies of international business location decisions to individual cases of why a particular firm chose a particular site. The research includes studies on various segments of business (manufacturing, retail, high technology development), and individual industries (automobile manufacturers, casinos, apparel makers, and banks). The research also includes examinations of regions (Southeast Asia, Deep South United States, Eastern Europe), as well as many individual communities throughout the world. Finally, many of the studies examine the effects of specific factors on the

[3] The first location theory was developed by Johan von Thunen in 1826 who wrote about the optimum location for agricultural crops in relation to a city (Miller 1977). Weber (1929) was among the most widely cited early works on business location. Since that time, the authors have identified over 500 studies of business location. There are no doubt many more.

decision making of firms. For example, many studies examine only the effects of transportation, labor, and tax issues (holding other factors constant).

This section obviously cannot review all, or even a sizable percentage, of the vast research concerning business location. Rather the goal is to discuss some of the most influential studies and to find common factors influencing business decision-making about site location. For despite the large amount of research, there are consistent findings among many of the most cited works.

The majority of research operates under the economic theory that typically assumes firms will make location decisions in an attempt to maximize profits (revenue less costs). Where a firm locates can affect both revenue and operating and capital costs one would expect variances across locales. Access to markets and the ability to increase productivity can affect revenue. Labor, transportation, raw materials, energy and taxes are all costs of doing business and are possibly affected by a firm's location selection.

Over the past several decades, firm location research has progressed along two tracks. Scholars and business[4] researchers have conducted econometric studies to determine the revealed preferences of firms. Scholars and other professional researchers have also conducted surveys of business executives to determine why they chose particular locations. Econometric studies and survey research both have strengths and weaknesses as methods for learning about location decisions. Yet, despite the wide variances in approach, both econometric and survey research have produced consistent results in terms of identifying factors that influence location decisions. Each of the approaches is discussed below.

Econometric Studies Based on Revealed Preferences

Revealed preference studies use statistical techniques to examine correlation between distribution of economic activity and variations in regional attributes. The revealed preference studies are considered highly accurate for measuring statistical significance of a limited number of quantifiable variables. The primary drawback of using such studies is that they cannot accurately measure non-quantifiable factors such as quality of life. Moreover, a lack of data often limits specific testing for more than a small number of variables (Calzonetti and Walker 1991).

A review of older econometric studies by Milward and Newman (1989) found that traditionally, the primary factors influencing site selection by businesses were access to labor (measured usually by the supply of labor), labor costs (and unionization), transportation (number of highways, proximity of railroads, etc.), access to markets, and access to raw materials. The latter two factors were determined by measuring transportation access as well as proximity to customers and raw material suppliers. The

[4] Readers should be aware that the site location research has been conducted by academic scholars, as well as by business groups such as large accounting and consulting firms and trade associations. The most significant findings are consistent among both types of researchers.

findings of such studies have been consistent since the early 1940s and reflect the model that assumes businesses decide to locate in places that will maximize profits. Under this model, firms choose locations that satisfy input requirements (costs of labor and raw material), access to market, and transportation costs.

While these factors continue to be paramount, more recent studies show that state tax systems (in particular relative burdens), education (measured by standardized test scores and/or high school graduation rates), industrial climate (proximity to other firms), and labor skills are also significant factors. In a review of econometric studies conducted in the 1970s and 1980s, Blair and Premus (1987) found productivity, education, taxes, community attitudes toward business (measured by the amount of business regulation), and other quality of life measures increasingly important factors. But these factors continue to lag behind labor and transportation costs, and access to markets.

In one of the largest and most comprehensive studies, Bartik (1985) examined corporate location decisions for new manufacturing plants in the United States during the early 1980s. He found that availability of land, unionization (and existence of right to work laws), corporate tax rates, transportation systems (highways and railroads), wage rates, and existing manufacturing activity had the largest effect on manufacturing decisions. He also found that education levels of the population, construction costs, population density, and energy costs had little or no significant effect on location decisions of manufacturing plants.

Bartik (1991) reviewed 44 econometric studies on the effects of wages on business location decisions conducted between 1979 and 1991. He found that in 25 of those studies wages had a negative and significant effect on business location decisions. Rainey and McMamara (1992) conducted a study of the factors that determined where business located in Indiana during a three year period. They found that agglomeration characteristics (the presence of similar firms), labor costs, and highway access were the most important factors. But they also found that taxes, quality of life issues (particularly with respect to education), and government regulation had an impact on where firms choose to locate.

Traditionally, empirical studies of location decisions have focused on manufacturing facilities. But empirical studies have also been conducted to determine the factors influencing location of other business functions. For example, the following factors have been found to influence the location of a corporation's headquarters: accessible international airport; high end hotels, restaurants, and entertainment (including professional sports teams); attractive housing for executives; strong educational system; and available land on which to build (Cohen 2000).

The research and development function has different requirements than the headquarters function. For example, empirical studies have shown that research and development location is highly dependent on proximity to universities and clusters of highly educated employees (Cohen 2000). No other factors have been statistically

significant in determining the location of research and development facilities, except proximity to a corporation's headquarters.

Back office functions such as call centers, customer service offices, and distribution centers have been studied as well. A literature review of the empirical research on the location of these functions found that site selection was dependent on state of the art telecommunications capacity, affordable housing, availability of continuing education and training, and real estate costs.

Even the question of where to incorporate (which is distinct from the headquarters research noted above) has been studied. Bebchuk and Cohen (2002) empirically studied firms' decisions about where to incorporate. That study found that the most important factor governing location results was the existence of anti-takeover laws.

The vast majority of empirical studies have dealt with manufacturing firms (Laulajanen and Stafford 1995). These studies have invariably found that manufacturing firms were influenced most frequently by transportation issues. That is, the chief determinants of where a manufacturing operation would locate were access to raw materials and costs of bringing materials to plants (Cohen 2000).

Empirical research has also been conducted across business sectors. In addition to the traditional manufacturing sector, location decisions of the retail and high technology sectors have also been studied. Empirical studies dealing with retail business have largely found that factors leading to increased sales (rather than reduced production costs) have influenced location decisions (Cohen 2000). For retail business, positioning within markets is the single most important factor.

Devol (1999) conducted an extensive study of where the nation's high technology industry was locating. He found that the factors most influencing high technology site selection were access to a well educated work force, close proximity to universities and research institutions, existing network of suppliers, availability of capital, climate and other quality of life factors, and the cost of living.

Other research has reached similar results. Audretsch and Feldman (1996) found that technology driven research and development clustered in areas with high levels of industry research, universities, and skilled labor. Cortright and Meyer (2001) found that the existence of other high technology firms was the single largest indicator of where high technology firms choose to locate (with the implication that areas without significant high tech presence have a difficult time attracting the industry). The importance of clusters has been studied as a factor in business location decision, particularly with respect to the high technology industry. A cluster is a geographically proximate group of interconnected companies in a particular field. Porter (2000) found that most new business formation occurs within existing clusters rather than in isolated locations.

Research Based on Surveys of Business Executives

Survey research is widely used to ascertain the reasons for firm location. Surveys have several advantages over empirical research (Calzonetti and Walker 1991). The actual decision-makers are providing the information, the context of the location decision can be obtained, and the results are easily interpreted. There are of course disadvantages of survey research including: often low response rates, difficulty in contacting decision-makers, and respondent bias.

More significant for the purposes of this paper is the belief that respondents have an incentive to lie or exaggerate about the importance of low taxes in their decision making process because business executives have an interest in lower taxes (Peters and Fisher 2002). This concern has led some researchers to express doubt about the accuracy of information regarding taxes obtained from surveys of business executives (Lynch 2004).

Surveys of business executives have been taking place since the early 20th Century. Morgan (1964) studied 17 surveys conducted in the 1940s and found that labor costs and transportation were the most significant factors in location decisions. Only three of those surveys indicated that taxes were of "some significance." Morgan (1967) reviewed 24 surveys conducted during the 1950s. He found that access to markets was the single most important location factor, followed by labor costs, raw materials, and transportation.

The largest survey of corporate executives was conducted by Schmenner (1982). He examined Dun and Bradstreet data on Fortune 500 plant openings and then conducted extensive surveys with executives from the companies that opened plants. He found that labor issues (wage rates, unionization) were the largest factors in plant location decision -- cited by 80 percent of business executives as being the most important factor. Schmenner's review found that proximity of markets was the next most important factor. But he also found that quality of life and tax issues were not significant factors. Schmenner's results are consistent with other large scale surveys of plant location. (See e.g., Mueller and Morgan 1962; Greenhut and Colbert 1962; Stafford 1974; Fortune Magazine 1977; and Goldstein 1985).[5]

Kieschnick (1981) surveyed firms that were offered tax incentives as a means of luring business development. He found that less than one percent of business executives surveyed made their decision based on the availability of tax incentives. He reported that most important factors influencing the location decision were labor costs, labor productivity, market size and accessibility, access to raw materials, and the quality of transportation services.

[5] That many surveys on site location have found that taxes and incentives are of minimal or secondary importance is remarkable. Experts in the study of site location have long noted the inherent bias of asking business executives if low taxes and incentives are important (Bartik 1991).

A survey of 204 business executives from companies opening plants conducted by Hekman (1982) had similar results. Hekman found that the most important factors were labor costs, production costs (raw materials), and transportation costs. Of secondary importance to the business executives were land availability, education, local cost of living, and housing availability. He found that taxes and business incentives were of negligible importance to the surveyed executives.

A nationwide survey of corporate real estate executives conducted by Deloitte-Touche in 1994 found that real estates costs were the number one factor for determining site location (Mackay 1994). The Deloitte survey found that labor force issues, transportation, real estate availability, and market access were the top five factors for deciding where to locate a business.

Cohen (2000) reviewed surveys of various business functions and found that headquarters location decisions were based on:

1. Accessibility to international service,
2. Professional support services,
3. Strong educational systems, and
4. Attractive housing for executives.

Research and Development location decisions were generally driven by proximity to universities and clusters of high skilled employees. Back office location decisions were dependent on telecommunication capacity, affordable housing, and labor force quality. Manufacturing and distribution location decisions were most influenced by good transportation systems, particularly roads, and strong utility systems.

Premus (1982) surveyed high technology company executives regarding location choices. He found that availability and cost of technical labor to be the most important factors in high tech location decisions. But he also found that proximity to a university system and low taxes were also important factors. Premus' research is consistent with later work (Haug 1991), which also found that labor agglomeration and proximity to universities were key to location decisions by high-tech firms. Survey research has found that tax incentives and other government assistance have very little impact on high-technology location decisions. Fulton and Shigley (2001) found that proximity to a university, access to skilled labor, and existing Internet infrastructure had the most bearing on high tech location decisions, while tax incentives and government assistance had the least.

Site Selection magazine periodically surveys corporate executives on the factors important in making location decisions. Musil (2001) writing for Site Selection noted that the following factors were "key" to location decisions:

1. Proximity to customers;
2. Access to highways;
3. Reasonable real estate costs;
4. Availability of skilled workers; and
5. Pro-business government officials.

The most recent published survey was conducted by Deloitte Consulting Group and the National Association of Manufacturers (2005). That study surveyed chief executive and chief operating officers at 220 manufacturers in the United States and Canada to determine location preferences. The survey revealed that reducing costs, accessing markets, improving productivity, and adding revenue as the primary motivations for expansion or relocation.

The survey found the following factors as "critical" in determining where to locate: utility reliability; access to customers; costs of labor; ease of doing business (regulatory environment); and labor relations (specifically unionization and existence of right to work laws). The critical factors were not prioritized. The survey found the following factors "very important" in determining site location: property taxes and corporate income taxes. The survey respondents identified a number of factors as "least important": port access, airport service, access to local amenities, and availability of government grants and incentives.

A review of survey research by Blair and Premus (1987) found that business executives treat site selection as a multistage process. The earlier stages are dominated by market access, labor costs, and transportation issues. The later stages are more influenced by other factors such as quality of life and tax burdens.

Relative Importance (and reasons for importance) of various factors affecting firm location decisions

The relative importance of the factors affecting firm location has been studied for years. Thompson (1961) reviewed econometric and survey studies of manufacturing plant location and characterized -- and ranked in importance -- five broad categories. His rankings were

1) access to markets,
2) location relative to raw materials,
3) transportation costs,
4) availability and cost of energy resources, and
5) labor costs.

These factors are the most important for manufacturers because they directly affect costs. Moreover, they represent the largest costs (labor, transportation, energy, raw materials) that manufacturing firms incur.

Subsequent research has identified the relative importance of other factors as well. These secondary factors rise in importance when the primary factors are present at competing locations. These secondary factors include the education system, crime rates, local amenities, and taxes (Salvesen and Renski 2003).

The Deloitte Survey cited above listed the top 17 factors that influence site selection for large corporations. Those factors in order of importance were:

1. Real Estate Costs
2. Labor Force Issues
3. Transportation
4. Real Estate Availability
5. Market Access
6. Regulatory Environment
7. Labor Costs
8. Community Image
9. Tax Climate
10. Utility Services
11. Utility Costs
12. Quality of Life
13. Business Services/Support
14. Incentives
15. Education System
16. Proximity to Suppliers
17. University Resources

(Mackay 1994).

Cohen (2000) found that the importance of factors depended on the business function. For headquarters location, costs of real estate and utilities were much less important than for manufacturing and back office location decisions. For research and development, proximity to universities was of paramount importance, while much less so for other business functions. Utility availability and costs were factors only for manufacturing location decisions.

F. Affect of State and Local Fiscal Policies on Economic Growth and Development

The purpose of this section is to explore the impact of state and local tax and spending decisions on local economic growth and development.

The U.S. economy over the last 5 years has experienced relatively anemic growth in jobs. Some regions have experienced growth in jobs, while others are dealing with declining jobs and population. It is not unusual, then, that job creation and retention have moved to the top of the agenda for state and local government officials.

As state and local policy makers wrestle with their role in supporting local economic development, there must be a recognition that "The primary energy and innovation for strong state and regional economies must come from the private sector" (Committee for Economic Development 1986). This is consistent with the findings of

the empirical and survey research reviewed above – that the strongest and most consistent factors affecting business location decisions are factors related to the cost of doing business such as

> "…the cost and quality of labor, the proximity to markets for outputs (particularly for service industries), access to raw materials and supplies that firms need, access to quality transportation networks and infrastructure (e.g., roads, highways, airports, railroad systems, and sewer systems), quality-of-life factors (e.g., good schools, quality institutes of higher education, health services, recreational facilities, low crime, affordable housing, and good weather), and utility costs" (Lynch 2004, 6).

Generally, state and local policy makers have little control over most of these determinants of business location. The only variables they have control of are state and local fiscal policies – taxing and spending – and regulatory policies. For example, the Committee for Economic Development (1986, 3) identified several powers that states possess that affect economic development including, among others,

- State public services that are fundamental to the private sector such as education, transportation, water supply, sewage treatment, health, employment exchange, and numerous others.

- State tax and spending decisions related to the above services affect economic activity.

While the role of state and local governments in the economy is limited, their actions can be decisive in shaping the way that state and regional economies adjust to competitive market forces. In this context, the decisions of state and local policy makers can influence economic growth and development in their jurisdiction with the limited policy tools they control. This is accomplished through two general strategies. First, there is the strategy of targeting assistance either spatially (e.g., enterprise zones in depressed areas) or firm-specific where incentives are provided to individual firms for specific discrete projects on a negotiated basis (Lynch 1996A).

Nearly every state and the majority of municipalities provide at least some targeted assistance programs. Such special state and local tax loopholes, tax credits, and tax abatements for businesses have grown rapidly over the last quarter century. Lynch reports data from eight states that suggest such special tax expenditures totaled nearly $50 billion in 1996. Such tax expenditures substantially exceed other resources spent on state and local economic development (Lynch 1996B, 1).

With regard to the impact of spatially targeted incentives, the jury is still out. Studies show that at best enterprise zones have demonstrated mixed results. The most recent and most thorough studies find little benefit from enterprise zones as currently implemented. Malpezzi (2002) Alternatively, the advantages and disadvantages of firm-specific incentives are generally not well understood since there is no comprehensive

data available on how many have been granted, their costs, or their benefits (Lynch 1996A).

The second strategy is for state and local policy makers to pursue tax and spending decisions that create an environment conducive to entrepreneurial activity. Too often, however, this strategy is dominated by a focus on cutting taxes to improve the business climate of a community, region or state. For example, for seven consecutive years from 1995 to 2001 state governments cut taxes, with total tax cuts amounting to over $35 billion (Lynch (1996B). Between 1982 and 2002, only eleven states increased their reliance on tax revenues as a share of general own-source revenues. The other 39 state-local systems actually decreased their reliance on tax revenues as a source of general own-source revenues. States have lessened their reliance on tax revenue as a means of fostering a more attractive business climate.

There is an extensive literature on the impact of general state and local taxes and spending on economic growth and development. The purpose of this section is to summarize the general themes that emerge from that literature.

It should be noted, however, that there is an extensive literature looking at interjurisdictional competition from the perspective of state and local government decision makers. This literature looks at state and local tax and spending decisions from the perspective of local business climate of the state or local government where policy makers are concerned about the mobility of various tax bases. As a result, they want to avoid tax or spending patterns that deviate substantially from neighboring jurisdictions. Such interjurisdictional competition encompasses both tax and spending decisions by state and local policy makers (Kenyon (1997).

Some analysts and policy makers view such interjurisdictional competition as positive, others as very negative. One's perspective on such competition, however, depends in large part on their policy objectives. For example, if one is concerned about providing services at least cost, financed in large part by benefit-received type taxes, interjurisdictional competition can be beneficial. Alternatively, if one is concerned about equity based on principles of ability-to-pay, then interjurisdictional competition can be very detrimental. [See, for example, Kenyon and Oates] This is of particular concern if the policy objective is improving economic development, which implicitly includes a redistributive element.[i]

Lynch summarizes the weaknesses of the interjurisdictional competition argument for reducing general taxes and providing firm-specific targeted tax incentives:

- The competitiveness argument hinges on the assumption that states must offer tax cuts and tax incentives to keep from losing a large number of businesses to other states. But, in fact, the tax cuts and tax incentives that state and local governments are offering may be undermining their ability to retain businesses and create jobs by providing necessary

expenditures on education, infrastructure, and other services necessary to promote economic growth.

- State and local taxes represent about one percent of the cost of doing business, while by comparison, labor costs generally represent 20 percent or more of the cost of doing business, so incentives that reduce taxes provide minimal assistance to firms.
- State and local tax cuts often benefit firms that would invest in the jurisdiction even in the absence of such incentives.
- There is little evidence that tax cuts and incentives motivate firms to relocate to areas of high unemployment or low income.
- The competitiveness argument assumes that competition among states and local governments is better than cooperation. However, cooperation among states or local governments may result in faster growth and more jobs (Lynch 2004, 14-5).

Finally, regarding interjurisdictional competition in state and local tax and spending policy, a 1991 survey of the literature by the Advisory Commission on Intergovernmental Relations indicated that the strongest criticism of such competition centered on individually negotiated targeted state and local policies intended to attract new industry or retain existing industry. For example, this would include firm-specific tax packages that include specific tax abatements or concessions and other subsidies provided by the local government. The study concluded

> "Theoretical research has argued that such competition may have the characteristics of a negative-sum game (ultimately every body loses). Empirical evidence has buttressed the theoretical research by concluding that the cost effectiveness for the offering government for most types of tax incentives is very low" ACIR (1991, 64).

In this context, one can conclude that state and local competition for economic development through firm-specific incentives is the type of interjurisdictional competition that is most deserving of criticism (Kenyon 1997, 26). In part, this is because the main reason the number of local governments offering such targeted incentives has increased over time is because other communities are offering them (Anderson and Wassmer 2000). In addition, however, this conclusion is consistent with the research summarized in the previous section that indicated that private businesses consider many factors other than local taxes when making their location decision. However, Oates argues

> "As we have seen, there are clearly settings in which economic competition among governments can undermine the adequate provision of public services. However, the extent and magnitude of such distortions are not well understood" (Oates 2001, 511).

While such targeted assistance may result in a negative-sum game, there is a broader issue for state and local governments concerned with economic growth and

development. Specifically, in this context, there is an interest in creating an environment that is conducive to, or facilitates, endogenous growth and expansion of new, or existing, small businesses. What impact does state and local fiscal policy have on local economic growth and development?

Even here, however, there is a predisposition on the part of state and local decision makers to lean toward cutting general taxes as a way of stimulating economic growth. This bias is reinforced, at least in part, by the concerted efforts of some organizations dedicated to undermining support for all taxes. Such organizations are often ideologically driven and oppose all tax increases as a matter of principle. There are some 800 state and local groups pursuing this objective; often through efforts to get politicians to sign pledges that they will not, under any circumstances, increase state or local taxes. Taxes, and many of the government programs they finance, are characterized as burdens on the private sector and individuals.

We often hear that government should cut taxes because families and businesses know best how to spend their income. This view, however, neglects the fact that because competitive markets often fail to provide some goods and services, there is a legitimate role for government in a market economy. The research summarized below supports this view by demonstrating the important role that critical government expenditures play in supporting economic growth. When we analyze the impact of taxes on economic growth, we must look at the implications of the entire state and local tax and spending package on economic growth and recognize that we cannot sustain large tax cuts without significant reductions in government spending. Thus, tax cuts are a two edged sword that both help and hurt state and local economic growth.

The following section discusses spatial or firm specific incentives. That is followed by a discussion of studies exploring the impact of state and local fiscal policies on economic growth and development, which are divided into those that consider the impact of taxes on economic growth and those that explore the impact of government spending on economic growth.

Spatial and Firm-specific Incentives and Economic Growth

Malpezzi (2002) provides a good discussion on the use of specific tax abatements. As he notes:

> Today, nearly every state and the majority of municipalities provide at least some such incentives to some firms. The "traditional" view of economists, at least until a decade ago, was that firm-specific incentives were usually "infra-marginal subsidies," that is, tax breaks given to firms that had already decided to move there for other reasons. Certainly firms who decide to pick a particular location on transport, labor force, and other grounds have an incentive to claim to local officials that they are actively considering other locations in hopes of getting a tax break. Many studies in the seventies and early eighties seemed to confirm this. However, some recent research suggests that while not as central to the location

issue as labor force, input, transportation, and other issues, on the margin, taxes can matter.

Bartik (2004) discusses the most general of business tax incentives – reducing business taxes generally. He finds that for large geographical areas, the long-run elasticity of business activity with respect to taxes is between –0.2 and –0.3 (Bartik 1991, 1992; Wasylenko 1997). Thus, a ten percent cut in business taxes will lead to a two to three percent increase in business activity, assuming government services remain constant.

To put this in context, he asks how much each job costs in lost tax revenue, and finds that the answer is about $7,000 per job per year. If the inflation-adjusted rate of interest is 5 percent, this implies that each job created costs about $140,000. At the same time, this does not take into account the possibility that government services (police, schools, etc.) will be compromised. This point is emphasized in Pennsylvania Economy League (2000).

Two fairly recent literature reviews, Lynch (1996a;b) and Kusmin (1994), find little evidence that the level of state and local taxation figures prominently in business location decisions. Lynch, in particular, stresses that there is no evidence that state and local tax cuts, when paid for by reducing public services, stimulate economic activity or create jobs. Moreover, state and local tax incentives and financial inducements are not the only or even the primary influences on business investment decisions.

Geographically targeted tax incentives do seem to be more effective than metropolitan-area-wide or statewide tax incentives. If one suburb cuts its taxes within a metropolitan area, and others do not, it is likely to see an upsurge in business activity. Bartik (1991, 1992) and Haughwout et al. (2003) imply, however, that business tax relief in central cities may not be as effective as such relief in suburbs.

Beyond business tax levels per se, state and local governments have attempted to lure and retain businesses via targeted subsidies to individual businesses. Some methods for doing this include industrial revenues bonds, enterprise zones, and tax increment financing.

Industrial revenue bonds are tax-exempt bonds that generally have the full faith and credit of a state government behind them. While policymakers touting such bonds assert that they “cost the tax payer nothing,” this is not true – they impose costs both in terms of lost tax revenue on bonds, and by putting pressure on the state’s ability to raise capital for other purposes in the municipal bond market. When states take on too much debt, their debt ratings are lowered, the interest on their general obligation bonds goes up, and taxpayers wind up paying more for borrowing than they otherwise would.

Malpezzi (2002) argues that industrial revenue bonds (IRBs) have very little, if any, impact on location, and are very costly, and that the subsidy inherent in industrial revenue bonds largely ends up in the hands of bond investors and investment banks.

CBO (1981) argued that IRBs may be an effective method for targeting aid to distressed communities, but probably do not work as well as general tax cuts, at stimulating business activity.

Enterprise zones are designated areas in depressed central cities where businesses receive tax and regulatory relief. The idea behind such zones is that depressed central cities are at a competitive disadvantage, and need some offsetting advantage to compete. Anderson and Wassmer (2000) argue that a true enterprise zone has never been fully implemented; as a result, it is impossible to assess how effective they might be. They maintain, however, that the econometric and case study evidence suggests that they might work at stimulating development in distressed areas. But this begs the question as to whether it is more effective to attempt to stimulate distressed areas, or to give people the tools necessary to leave those areas. For the former to be the case, there must be some basis of support to the idea that there are economic benefits to a metropolitan area from having revitalized core cities.

Tax Increment Financing (TIF) is another method for encouraging development in blighted areas, and on its face, makes a certain amount of sense. With a TIF, a district is created where the additional property taxes created by development go to pay bonds used to finance the infrastructure improvements in the district. For projects that would not take place in the absence of the TIF, this is a value-added proposition to the community.

Unfortunately, one can find TIF supported projects in desirable locations that would certainly be redeveloped and appreciate in value without TIFs. For example, one can find shopping centers in affluent suburbs financed with TIFs. Under these circumstances –where properties would be developed regardless of the TIF-the community is giving up revenue that could go toward general government services and diverting it to site-specific infrastructure. Thus, while TIFs make some sense in principal, it is not clear whether they have worked well in practice.[6]

TIFs are a special case of more general property tax abatement programs. Dalehite, Mikesell and Zorn (2005) provide an extensive and exhaustive review of U.S. property tax abatement programs and identify and compare critical structural differences of abatement programs across states. While the data set they develop could be potentially useful to practitioners considering the design of a new property tax abatement program, the authors conclude that

> "abatement programs are overly generous. The review of the literature conveyed the sense that if effective, property tax abatement is only partially, temporarily, or conditionally effective and that care should be taken to limit awards in such a way that positive net benefits can be achieved" (Dalehite, Mikesell and Zorn 2005 , p. 171).

[6] For a thorough discussion of TIFs and their impact on local economic growth and development see Johnson and Man (2001).

Finally, large one-off projects, such as convention centers and stadiums, rarely have any substantial impact on economic development (see Zimbalist 1996) and are very costly. Communities should be willing to pay for a baseball stadium because they want a team, but not out of any sense that they are helping themselves economically.

Taxes and Economic Growth

In a widely referenced report, Bartik summarizes the results of 48 studies of taxes and growth in different metropolitan areas and states. Based on these 48 studies, he concludes that, on average, if a state or metropolitan area reduces state and local taxes by 10 percent, **without changing its public services, and without other states or metropolitan areas changing their fiscal policies**, then business activity in that state or metropolitan areas would increase in the long run by somewhere between 1 and 6 percent[7] (Bartik 1992, 852). In other words, if everything else is held constant, firms do respond to changes in taxes, but only marginally. The problem is that other things cannot be held constant in the face of significant tax cuts over long periods of time.

This conclusion, however important, shows a wide range in the estimates of the possible impact of taxes on economic activity. Wasylenko argues that such a wide range in the findings of these studies reflects variations in data, time periods, and other variables used in the empirical analyses. He concludes that such estimates are not very reliable since the conclusions change depending on which variables are included in the analysis and which time frame is analyzed (Wasylenko 1997, 38).

Wasylenko reviews 75 studies of employment growth, investment growth, or firm location that include state and local taxes as part of their analysis. While a basic tenet of state and local policy makers is that their tax policy influences economic behavior, researchers in the area have struggled mightily over the past 20 years to understand the actual influences of state and local tax policies on economic activity (Wasylenko 1997)

According to the review by Wasylenko, the most common measures of economic growth and development used in these studies are income, employment, investment, and plant expansions, relocations, or births. Most of the studies he reviews have their conceptual foundation in a profit model that says firms locate where they can maximize their profits. Typical variables included in these studies measure cost of inputs such as labor, energy, capital, and taxes, as well as public expenditures variables, measures of agglomeration economies, environmental factors and measures of market size such as population and per capita income.

Variables that are the most significant in explaining location decisions (e.g., labor costs, etc.) are beyond the control of state and local policy makers. As a result, the

[7] Emphasis added. Also, Bartik later refined his consensus estimate to be about 2.5 percent increase in economic activity for a 10 percent reduction in taxes. [Bartik, 1992]

focus of most of this research is on the fiscal variables of taxing and spending, which state and local policy makers do control. Since both taxes and spending affect firm location, Wasylenko argues that empirical studies investigating the impact of state and local fiscal policies on economic growth and development must include measures of both taxation and the services that taxes buy (Wasylenko 1997, 41).

While all of the studies are plagued by some of the conceptual, measurement and estimation problems discussed by Wasylenko, he concludes that the empirical results based on a variety of data sets over a long time period are more similar than they are different, albeit the range in estimates of the impact of taxes on economic activity vary widely (Wasylenko 1997, 45). Looking at the impact of total taxes on aggregate economic activity (manufacturing employment or investment, aggregate gross state product, or other measures of output), Wasylenko found that 23 of the 38 studies report significant impacts of taxes on economic activity. Three studies use micro data to look at the impact of total taxes on location decisions and also find statistically significant impacts. Finally, he reviews 34 studies that examine the impact of business taxes on economic activity, of which 24 report statistically significant results. Overall, based on this review, Wasylenko concludes that the impact of taxes on economic activity are generally lower than the 3 percent average figure reported by Bartik.

Explaining the variation in results, Wasylenko argues that the impact of taxes on economic activity may decline over time as a consequence of interstate competition that reduces differences across states in tax rates and burdens. In fact, he cites Papke (1995) who finds that for the six Great Lakes states, the after-tax rates of return to investment are so similar that there are virtually no tax reasons to prefer one of these states to another.[8]

Lynch reviews several survey research reports that confirm the relatively modest potential impact of taxes on location decisions. For example, in a 1978 survey, Schmenner found that firms were almost as likely to relocate to areas with higher taxes, as they were to relocate to areas with lower taxes (Lynch 1996A, 22). In a more recent study, Rubin found that 32 percent of firms granted New Jersey enterprise zone tax incentives said that these incentives were the sole or major factor in their location decision; 68 percent said such incentives were not the sole or major factor in their location decisions. Surveys by Inc. Magazine, Fortune, and Industry Week found that taxes, and to a lesser extent, business incentives did play a role in business location decisions; but all these surveys found that tax incentives were less important than economic variables like worker productivity, efficient transportation networks, and access to materials and products.

While such surveys tend to confirm the generally modest impact of taxes on economic activity, it is likely the results are more often than not exaggerated. Bartik

[8] Papke, James 1995, "The Convergence of State-Local Business Tax Costs: Evidence of De Facto Collaboration," *Proceedings of the Eighty-Eighty Annual conference on Taxation,* National Tax Association, San Diego, CA, pp. 195-206.

notes that if a business executive who receives such an incentive admitted that it had no effect on his/her location decision that would cause serious political problems for the firm. Hence, survey results, especially those of firms receiving tax incentives, should be viewed with caution (Lynch 1996A, 23).

After all is said and done, Wasylenko concludes that state and local taxes have a small, statistically significant, effect on interregional location behavior. But as discussed above, there are a number of important caveats to these findings. As a result, Lynch argues it would be erroneous to conclude the recent empirical research proves that tax cuts improve state economic growth and create jobs in a cost-effective manner. In his view, such results should be viewed with caution because

- The econometric studies fail to adequately take into account the interrelationship between taxes and public services.
- The studies suggest only small effects of taxes on economic activity and the results of these studies are often inconsistent with each other, not reproducible, and unreliable.
- The negative effects of state and local taxes that the econometric studies report are probably somewhat exaggerated because of conceptual and methodological limitations of the models tested.
- State and local taxes may be largely irrelevant to business investment decisions, which are driven by other costs.[9]
- The study results may be meaningless because most of the studies are measuring their explanatory variable – tax burdens – inaccurately. As a result, it is impossible to know if the empirical results accurately reflect the impact of the variable in question. [Lynch, p. 28]

More recently, however, Cline, Neubig, Phillips and Fox (2005) provide comprehensive estimates of the taxes paid by businesses in each state. Their study includes property taxes, sales and excise taxes paid by businesses on their business purchases, gross receipts taxes, corporate income and franchise taxes, license taxes, unemployment payroll taxes, and individual income taxes paid by owners of noncorporate businesses. They conclude that their state-by-state estimates document a significant variation across states in the total state and local taxes paid by businesses. In 2004, effective business state and local tax rates varied from 3.5 percent of Gross State Product in Delaware and North Carolina to 9.1 percent in Wyoming. The average for the U.S. was 4.7 percent, a slight increase from 4.5 percent in 2000. The authors caution, however, that the ratio of business taxes to all state and local taxes cannot be used to measure a state's tax competitiveness.

Most of the studies reviewed above look at the interregional impact of total taxes on various measures of economic performance. The results are somewhat different

[9] For example, Mead found that state and local taxes caused very little variation in the user cost of capital across states. He noted that if North Carolina, a state with an average corporate income tax rate, had totally eliminated its corporate income tax in 1997, it would have lowered the user cost of capital for equipment from 22.4 percent to 22.2 percent. Lynch (1996A, 36).]

when considering the intra-regional (i.e., within metropolitan area) variation and the variation of impacts of individual taxes or the impact of taxes on different industries.

For example, within a metropolitan area changes in tax policy will have a much more pronounced impact on economic growth for the individual jurisdiction increasing (or reducing) local taxes. For example, summarizing research on how differences in property tax rates across local governments within a metropolitan area affect economic growth and development, Bartik concludes that a 10 percent reduction in a community's local business property tax will increase business activity in the community by around 20 percent – **assuming all other communities leave their property tax rates unchanged and there is not an offsetting decrease in local spending** (Bartik 1994, 853, emphasis added). Again, the caveat that all things must remain equal to realize these results is not a realistic assumption when local governments within a metropolitan area are likely to engage in interjurisdictional competition.

These findings are consistent with subsequent research by Mark, McGuire and Papke (2000). Looking at population and employment growth across local governments within the Washington D.C. metropolitan areas, they find that employment growth rates are highly sensitive to the levels of personal property tax and sales tax. In each case, a 10 percent reduction in the tax would be expected to increase employment by approximately 20 percent over the long term. Their empirical results suggest that local real property taxes are not important influences in either residential or business location decisions. Similarly, they conclude that taxes on individuals (personal income, sales, and residential property taxes) are not important influences on residential choice (Mark, McGuire and Papke, p. 121).

Tomljanovich (2004) examines the effect of various taxes on state economic growth. He concludes that sales tax rates, corporate income tax rates, property tax rates, and income tax rates have little or no effect on growth rates. This result is generally consistent with the findings above. However, Yamarick (2000) finds somewhat different results. He finds that both personal income and marginal property tax rates have a negative impact on growth in state economic activity, whereas the sales tax rate is insignificant.

Similarly, different taxes affect industries differently. For example, Wasylenko and McGuire (1985) find that for wholesale trade, retail trade and finance the effective income tax rate is statistically significant indicating a cut in personal income tax rates would contribute to growth in employment in these industries. At the same time, they find that the sales tax had a negative and statistically significant effect on wholesale trade employment.

Both the empirical and survey research indicate that taxes have little or no effect on business location decisions, and there is some evidence to suggest the impact is declining over time (Carroll and Wasylenko 1994). There are several reasons why this may be true. First, taxes are a very small part of the cost of doing business for most corporations. Taxes certainly pale in comparison to labor and transportation costs for

most businesses. The burden of paying business taxes is further ameliorated by the fact that state and local taxes are deductible from income for purposes of calculating federal tax liability. Second, state and local tax burdens do not vary significantly across the United States. Third, some tax burdens can be shifted to customers in the form of higher prices therefore minimizing their effect on location decisions.

Bogart (1998) found that taxes are a factor in location decisions when three conditions are met. First, taxes are more important for intra-metropolitan location decisions (where other variables such as labor and transportation are constant across jurisdictions). Second, taxes are more important in deciding among locations offering similar or the same public services. Third, taxes are more important to firms that face an elastic demand for their products that prevents the shifting of the tax to their customers.

These conditions may explain why Bartik (1991), Wasylenko (1997), and Newman and Sullivan (1988) found some correlation between taxes and location decisions. The econometric studies have confirmed that to the extent taxes matter in location decisions, taxes are more important in intra-metropolitan business location decisions.

State and Local Spending and Economic Growth

There are several different bodies of literature that are relevant to this discussion. For example, there is a literature that looks at the impact of infrastructure investments on private sector productivity. This literature is of particular interest to those state and local governments pursuing a strategy of promoting economic growth and development by creating an environment conducive to internal growth.

Bell and McGuire (1997) provide the most thorough review of this literature. They review a broad array of studies, which use a variety of methodological approaches to investigating the relationship between transportation investments and private sector economic activity. They review time-series production function studies, cross-section and panel-data production function studies, cost and profit functions, sources of growth models, as well as other empirical investigations of the link between transportation investment and private economic activity.

They conclude that infrastructure investments have a modest positive effect on the nation's private sector economic activity. This conclusion confirms a general intuitive belief that infrastructure networks (roads, airports, water and other core infrastructure services) are important ingredients in a modern, productive economy.

Garcia-Mila and McGuire (1997) use a public capital stock series constructed by Bell and McGuire to investigate how transportation services affect different industries. Their empirical research suggests that highway capital stock has a significant, positive, effect on output in three industries – transportation, communication and public utilities, retail trade, and services. Since retail trade and especially services are relatively fast

growing segments of our economy, these results suggest that there is an increasing role for highways in the productivity of our service-based economy.

The conclusions of this literature are consistent with the findings of econometric studies explaining various measures of economic activity in terms of state and local fiscal policies. Fisher (1997) finds that of the 15 studies he reviews which include measures of highway facilities or spending, 10 find positive impacts on economic development, with 8 of the studies having statistically significant findings. This leads him to conclude that of all the public services examined in the studies he reviewed, transportation services, especially highways, show the most significant impact on economic development (Fisher 1997, 54).

Another area that is critical for economic growth and development is the relationship between education and human capital formation. While it is difficult to link directly the level of school financing with performance, what is clear is that adequate funding for education is a necessary, albeit not sufficient, condition for good school performance. In addition, in today's technological/global economy post-secondary education is another critical determinant of economic growth and development (Malpezzi, 2003).

While the importance of education emerges from the survey literature, the econometric studies reviewed by Fisher (1997) provide only limited support for the conclusion that education expenditures are important determinants of economic activity. He concludes that of the three spending categories discussed in his paper, the evidence about the relationship between economic development and spending on education is the least convincing. The empirical evidence about whether and how education influences economic activity, according to Fisher, is very cloudy (Fisher 1997, 57).

In explaining this counterintuitive conclusion, which is consistent with information about the impact of education obtained from survey research, Fisher says one reason for the ambiguity in these empirical findings is that education service or level is measured by education spending, when the relationship between spending and education outcomes is not well understood. Also, spending decisions are made by local governments and can be highly variable across a state so that variables reflecting statewide average spending on education do not reflect the educational situation in individual local areas.

Fisher also reviews nine studies of the effect of public safety services on economic growth and development. He finds that the results are less consistent than the findings in studies looking at the role of transportation on economic growth and development. He argues that the lack of consistent results is due, in part, to measurement problems. All of the studies include measures of spending on public safety, but it is difficult to translate spending into level and quality of services actually provided.

Another state and local expenditure category designed to stimulate economic growth is large discrete projects like a sports stadium or convention center. Malpezzi (2003) concludes that the general consensus of studies examining the economic consequences of such projects is that they rarely have any significant economic impact.

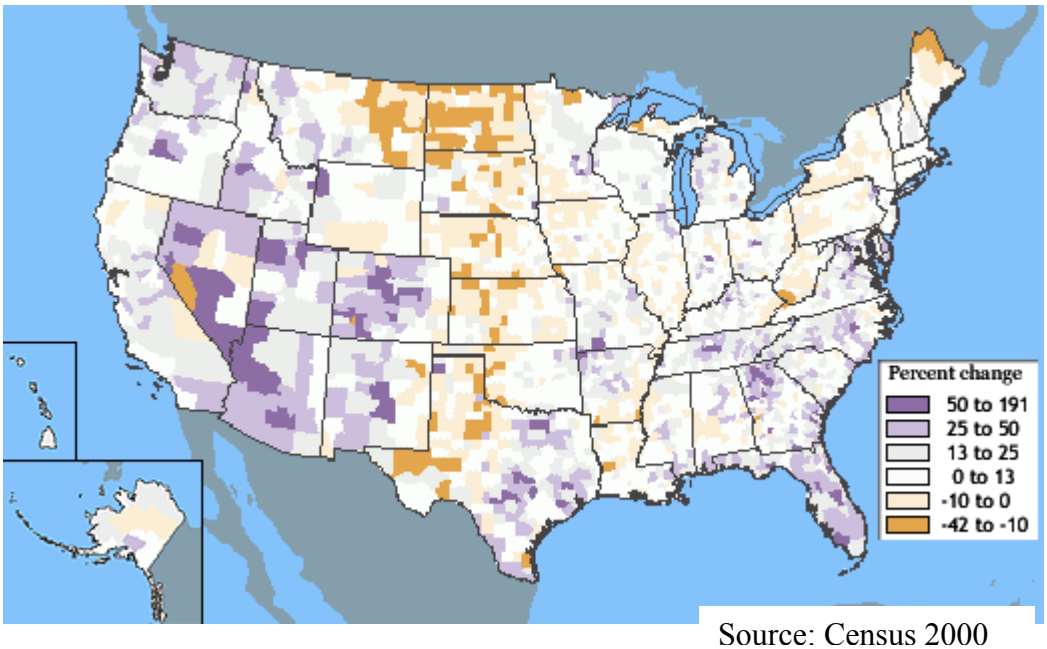
Taxes and Spending and Housing Values

Beyond the fact that discussions of house prices make for good cocktail party conversations, house prices by themselves reveal a lot about the economic vitality of a metropolitan area, and are also a reflection of its fiscal and land use policies. We divide our discussion on the impact of local economic development on house prices into five pieces: the effect of local economic activity on house prices; the inter-relationship between taxes, services, voter choice and house prices; the effect of property taxes on house prices; the effect of schools on house prices; and the effect of crime on house prices.

Regional Economic Vitality and House Prices:
Surprisingly, the correlation between economic vitality and house prices is, for lack of a better word, asymmetric. It is certainly the case that places that have consistently lost jobs and population have low house prices – the least expensive houses in the country may be found in the great swath of rural counties that make an "L" in the middle of the country, beginning with North Dakota, moving south to Oklahoma and then east to Arkansas, Mississippi, Alabama, and Louisiana.

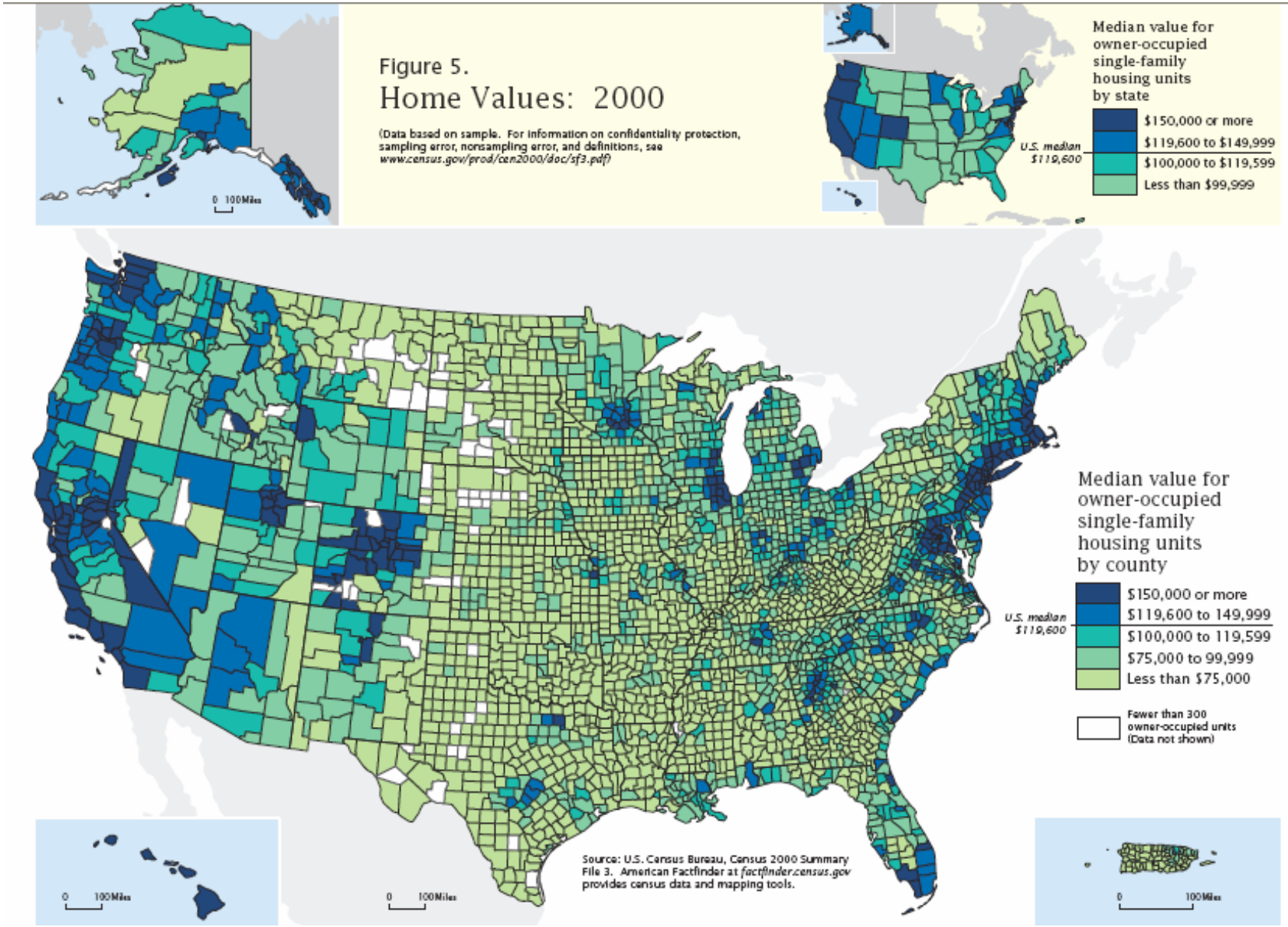
The following maps show the national relationship between low house prices and population losses across counties.

Population change by County in percentages: 1990-2000



Source: Census 2000

House Price Levels by County, 2000



While economic vitality is a necessary condition for strong house price growth it is not sufficient. The places with high house prices, such as San Francisco, Los Angeles, Seattle, Boston, New York, Washington, and to a lesser extent, Chicago, are places that meet anyone's definition of being economically successful. They are major job centers and have high metropolitan area incomes. They also happen to be places that attract large numbers of immigrants.

On the other hand, some of the most rapidly growing cities in the United States, including Las Vegas and Phoenix, the fastest growing metropolitan areas in the country, have until recently exhibited fairly modest house price growth. Moreover, even with its remarkable price growth spurt in 2004 (37 percent in one year according to the Office of Federal Housing Enterprise Oversight), Las Vegas prices are much lower than they are in the coastal cities that have grown nowhere near as rapidly. Houston, Dallas and Atlanta are other cities where economic growth has not led to rapid house price growth. The question is "why?"

The answer almost certainly is connected to land. The rapidly growing cities have little in the way of geographical or regulatory barriers to development. Consequently, as soon as house prices rise above construction costs, developers have an incentive to build, and nothing to inhibit them from doing so. This increase in supply drives prices down until they once again, equal construction cost.

At the same time, newer cities, having developed around the automobile, do not have a lot of variation in location value. Downtown Phoenix accounts for less than 10 percent of the jobs in its metropolitan area; this compares with Manhattan, with nearly 20 percent of the jobs in the New York metropolitan area. Some places in New York are far more convenient than others; in Phoenix, location does not matter so much. As a result, there is no shortage of convenient locations in Phoenix, and thus nothing that would cause prices to rise. Glaeser, Gyourko and Saks (2005), though, point out that scarcity of land arising from land use regulation does more to drive up prices than any other single factor.

The Tax-Service Mix and House Prices:

Before discussing how taxes and government services affect house prices, it is important to discuss how they interact with each other and how the optimal mix of services for one community is not necessarily optimal for another. These concepts are important to the problem of identifying the effect of taxes and services on house prices – simple correlations of, for example, property taxes and values, are unlikely to reveal very much, because such correlations fail to account for tastes and service quality.

The first point to note is that, to some degree, people get the government services that they pay for. For example, in many affluent suburbs in the United States, property taxes are quite high. On the other hand, the taxes go to pay for well-delivered government services, such as superior public schools, reliable garbage pick-up and street cleaning, and large, professional police and fire departments. To the extent that high taxes produce (or are even thought to produce) schools with good test scores, a pleasant environment and low crime rates, the benefits citizens receive from the

government service will off-set, or perhaps even surpass, the cost of taxes. Thus, high tax areas can have high property values.

On the other hand, a combination of high taxes and poor services can be devastating to the desirability of a municipality, and therefore to house prices in that municipality. While this combination is surely not the only reason that cities such as Detroit, Philadelphia, Newark, Gary and East St. Louis saw inflation adjusted house prices fall over the past 20 years, it is likely that these were contributing factors.

But value for the tax dollar is not the only fiscal issue that local governments need to worry about. They also need to consider the mix of government services that people in their community desire. Tiebout (1956) wrote a classic paper that showed that under certain conditions people will sort themselves into different communities, some of which have high levels of taxes and services, and others which do not. To draw a contrast, consider Minneapolis and Tampa. Both have been economically successful during the post-World War II era, but Minneapolis has among the highest state and local tax burdens of any city in the country, while Tampa has among the lowest. Metropolitan Minneapolis also has first-rate government services; Tampa provides a far more minimal set of services. The two metropolitan areas attract people with different tastes for government services – some people chose to consume high levels of services and pay for them; others prefer not to pay for a local government.

The Tiebout phenomenon can make it difficult to disentangle the relationship between taxes, service and property values – a set of services that are valuable to some people but are not valuable to others. This explains why, for many years, researchers had a hard time making connections between taxes, services, and house values (Malpezzi 2002). But as we have come to understand the interrelationship/interdependence between tastes, taxes, and services, and begun to specify models based upon those tastes, we have become better at characterizing the linkages between taxes and property values, and services and property values.

Finally, it is worth repeating that taxes and services will show up in values only to the extent that the supply of land is in someway limited – either particular locations have special attributes that cannot be reproduced, or development is constrained by topography or regulation. When the supply of land is perfectly elastic, there is no mechanism through which taxes and services can translate into house prices.

Property Taxes:

The impact of property taxes on property values is well established and obvious – all else being equal, higher property taxes drive down property values. To understand why this is true, consider the following well-known relationship in real estate:

$$V = \frac{NOI}{R}$$

Where V is the value of a property, NOI is the net operating income of a property, and R is a capitalization rate or the current income return that investors expect as return on their investment.

Now let us consider what happens when the property tax rate rises. To make things easy, let us assume a capitalization rate of .1, and consider a property tax increase of one percentage point from an initial base of one percent. Before the property tax change, ten dollars of income produces $100 of value. But a one-percentage point increase in the property tax means that taxes rise by one dollar. Now income falls to nine dollars. We capitalize this nine dollars by ten percent, and find value falls by $10 to $90. This reduction in value causes property taxes to go down a bit – ultimately there is convergence at a value of $91.67.

This decline in value is known as property tax capitalization. The specific case described above is called full capitalization – all of the increase in the property tax comes out of the value of the property.

While it is not controversial that some capitalization takes place, the question of how much takes place is uncertain. In particular, consider the possibility that in response to the property tax increase, the landlord will raise his rent. If he can raise his rent by an amount equal to the increase in property taxes, if he can pass through his costs fully to his tenants, the increase in property tax has no impact on values.

Perhaps not surprisingly, the literature is mixed on the extent to which increases in property taxes cause property values to depreciate, but there is some agreement that there is some capitalization. In a seminal paper that may be viewed as the beginning of the modern capitalization literature, Oates (1969) estimated that there is partial capitalization. Blakely and Follain (1996) produce results that suggest that rent is largely independent of the cost of capital, which suggests that property taxes would largely be capitalized. Capozza, Hendershott and Green (1996) find that places with constrained land (such as California) tend to have large amounts of capitalization, while those places that do not have such constraints (such as Texas) have less capitalization.

School Quality and Property Values:
While property taxes can lower property values via capitalization, high quality services can similarly enhance property values via capitalization. Surprisingly, there are times when even those who do not directly consume a public service can benefit financially from that service, via an increase in their house value.

The extant evidence suggests that better schools do, in fact, produce higher property values. Figlio (2002), using data from Gainsville, Florida, finds that house prices respond to how a school is “graded” under Florida’s accountability system. Kain, Staiger and Samm (2004) found that a one standard deviation change in student-standardized test scores was associated with a 19 percent change in house values. These two contributions are the most econometrically sophisticated of a line of literature that shows how educational quality gets capitalized into house prices.

What is interesting is how this translates into political support for schools.

A paper by Hilber and Mayer (2004) argues that capitalization of school spending into house prices can encourage residents to support spending on schools, even if the residents themselves will never have children in the schools. In their paper, they show that so long as land supply is constrained, high quality government services, and especially schools, are capitalized. Nationally, they find that communities with a higher percentage of residents above 65 years of age and high homeownership rates spend more money on schools, so long as land is scarce. Their measure of scarcity is population density. Residents seem to understand that the benefits to property values of providing high quality schools under such circumstances is greater than the cost of providing such schools.

Crime and Property Values:

We would expect low-crime neighborhoods to have higher house prices than high-crime neighborhoods, all else being equal. Gibbons (2004) produces a nice, short review on the U.S. literature on crime and house prices:

> The evidence from the U.S., based on hedonic models, suggests that crime rates do affect property values. In early studies, Thaler (1978) claims that a one standard deviation increase in property crime rates decreased prices by three percent in Rochester, New York, whilst Hellman and Naroff (1979) report an elasticity of 0.63 for total crimes in Boston. More recently, Lynch and Rasmussen (2001) find an elasticity of 0.05 for violent crimes in Jacksonville, Florida, but report positive associations of property crime rates with prices. This they attribute to higher reporting rates in wealthier neighborhoods but higher victimization rates may provide another explanation. They find that properties are heavily discounted in the highest-crime neighborhoods. Bowes and Ihlanfeldt (2001) report that an additional crime per acre per year in census tracts in Atlanta decreases house prices by around three percent, allowing for simultaneous effects from transport access.

These results are remarkably consistent and economically important. They also show that to the extent that local government can bring about reductions in crime, it can also enhance property values. Donohue and Levitt (2001)[10] show that increases in police force size and incarceration rates do lead to lower crime rates.

Conclusion: Tradeoffs Between Local Taxes and Government Spending

There seems to be a common belief held by state and local policy makers that high taxes inhibit economic growth and development. The problem is that myths and exaggerations, when they are repeated often enough, tend to become accepted by people as facts. As a result, many state and local governments have engaged in various

[10] Their work also contains the controversial finding that the Supreme Court decision of Roe. V. Wade led to a reduction in crimes beginning fifteen years after that decision.

forms of intergovernmental competition resulting in a general lowering of tax rates. However, a reduction in tax rates often results in a reduction in spending. As a consequence many state and local governments find themselves in a situation of having low taxes, but also low spending. Of course, there are those who prefer both low taxes and the reduced government services that result. New Hampshire for example has both a low state tax burden and minimal state public services. That reflects a policy choice by the citizens of the state.

Gabe and Bell (2004) discuss a number of studies that provide evidence of such fiscal policy tradeoffs – where the increase in economic activity expected from a tax reduction is offset by the decrease in economic activity associated with a reduction in spending. One study found that an increase in state taxes has a negative effect on state personal income, but the positive effect of increased government spending on income may more than offset the adverse tax effects (Gabe and Bell, 37)

Mofidi and Stone (1990) provide further evidence of the tradeoff between taxes and government spending as means to stimulate manufacturing employment or investment. They find that taxes have a negative effect on state-level manufacturing employment and investment, whereas educational spending and spending on other public services increases employment and investment (Gabe and Bell, 37)

Gabe and Bell examine the same issue for local governments within the state of Maine. They conclude that local policymakers face similar important fiscal policy tradeoffs when they lower taxes to attract business investment. Local officials generally have to give up any increased investment that might be expected from tax reductions because of the reductions in spending that follow.

Lynch (1996A) reviews several other studies that look at a package of state and local tax and spending decisions. One study found that increases in state and local taxes used to finance increased spending on health, highways, schools, or higher education contributed to growth in state personal income. Bartik (1989) found that increases in state and local taxes contributed to a higher rate of small-business starts if the additional funds were spent on local schools or fire protection. Bartik (1996) found that increases in higher education and health spending, financed by increases in local property taxes, contributed to increases in state manufacturing output in the long run.

When considering both taxes and spending simultaneously, Bartik concluded that state and local spending on public services has a positive effect on local economies; and based on the findings of some studies, this positive effect may be so large that increasing taxes, which are then spent on an equal increase in spending on education or roads, will boost the state's economy. That is, the positive impact of spending on education and roads is greater than the negative impact of increased taxes on business activity necessary to fund such expenditures. As a corollary, for business tax cuts to boost a state economy, they must either be funded by increases in personal taxes or

reductions in spending that does not provide services valued by businesses[11] (Bartik 1996, 852-3).

G. A Balanced System of Taxation

Based on the discussion above, it is clear that both taxes and expenditures impact local economic growth. The level and quality of infrastructure services are key factors in business location decisions and economic growth. Similarly, the quality of education and other pubic amenities like parks are key elements in household location decisions. Thus, balance in state and local fiscal policy means providing the level and quality of services necessary to support economic growth, and funding them with an appropriate revenue structure. This section explores the extent to which there is a balanced revenue system that can support economic growth, by generating sufficient revenue to finance public expenditures necessary for such growth, while not unduly burdening or distorting any particular industry or segment of the economy.

The Advisory Commission on Intergovernmental Relations (1991) put forward one view of a balanced revenue system that has attained a high level of popular support. Thirty years ago the ACIR observed a gradual, but steady, movement of state and local fiscal systems toward a more diversified revenue system – i.e., a more balanced use of the three major revenue producers, income, sales and property taxes. Acknowledging such a movement toward diversification had a long way to go still, ACIR suggested a flexible definition of balance – specifically, a balanced revenue system would collect between 20 and 30 percent of own-source revenues from each of the major three taxes – income, sales and property taxes. (ACIR, 1991, 11-15) The remaining revenues would be collected through user charges and other revenues.

One of the arguments in favor of a diversified revenue system is the recognition that there is no such thing as an ideal tax. Each tax has its own unique strengths and weaknesses. Thus, the more intensely a revenue source is used, the less obvious become its virtues and the more obvious become its defects (Shannon 1987, 10). By diversifying revenues across the major taxes, state and local governments can keep rates on individual taxes relatively low, thereby minimizing the disadvantages associated with excessive reliance on any single tax source.

A recent study of the tax system in Montana endorsed this view[12] (Montana Department of Revenue 2003). According to the report, one of the seven fundamental, underlying principles of taxation is that a high quality revenue system relies on a diverse and broad based range of revenue sources. If reliance is divided among numerous sources and their bases are broad, rates can be kept relatively low, which will minimize

[11] Wasylenko and McGuire (1985) found that increases in personal taxes could affect economic growth. Wasylenko and McGuire.

[12] Much of the material presented in that report was drawn from ***Principles of a High-Quality State Revenue System***, published by the Foundation for State Legislatures, and the National Conference of State Legislatures in November 1992.

the unintended negative impact of any single revenue source on individual and business behavior. In addition, low rates that broad bases make possible can improve a state's competitive position relative to other states. With regard to this issue, the report concludes that, whenever possible, policy makers should try to balance the Montana tax system through reliance on the three-legged stool of income, sales, and property taxes in roughly equal proportions, with excise, business, gaming, and severance taxes, and user charges playing an important supplementary role. In any instance, every attempt should be made to avoid excessive reliance on any single revenue source. As a result, the Tax Reform Committee forwarded to the General Assembly a proposal to institute, for the first time, a general retail sales tax in Montana.

Another argument in favor of a diversified revenue system relates to two competing views of tax equity. One view argues that taxes should be apportioned across taxpayers in relation to their ability to pay taxes – i.e., the ability-to-pay principle of taxation. This view generally argues for a personal income tax, typically with a progressive rate structure so that those with higher incomes pay a higher tax rate. The alternative perspective argues that taxes should be apportioned across taxpayers in relation to the level of benefits received – i.e., the benefits received principle of taxation. This is one of the arguments in favor of a property tax.

Shannon (1987) argues that the great strength of a revenue diversification policy is that it strikes a balance between these two competing views of tax equity (Shannon 1987, 19). For example, a study of the tax system of Nevada argued that one of the important characteristics of a personal income tax, a tax consistent with the ability-to-pay principle of taxation, is the fact that it provides diversity of the state's overall tax system[13] (Ebel 1990, 559). Such revenue diversification is important because the personal income tax can be used to offset the regressivity of the property and sales taxes, thereby reducing inequities resulting from the overall tax system (Ebel 1990, 22-23).

This view of balance, or revenue diversification, has significant popular support. For example, the National Conference of State Legislatures concluded that, among other characteristics, a high-quality revenue system should have substantial diversification of revenue sources over reasonably broad bases (Gold 1988). According to the NCSL, such a diversified revenue system is desirable because

- Reliance on many revenue sources makes it possible to keep tax rates on each revenue base low, which minimizes the undesirable effects of each tax.

- Reliance on a basket of different taxes tends to be considerably more stable than an undiversified structure.

- A set of taxes with broad bases and low rates contributes to fairness and does not overburden any one segment of the economy.

[13] Nevada is one of the seven states without a personal income tax.

In addition, NCSL explicitly argues for taxes justified on the benefits received and the ability-to-pay principles of taxation. They argue that such balance allows policy makers to keep rates low, which contributes to another characteristic of a high-quality tax system – a fair system of taxation that generally distributes tax liabilities proportionally across all taxpayers.

The NCSL is not alone in its endorsement of this view of a balanced revenue system. In addition to the NCSL, in 1998, the National Governors Association and the National League of Cities jointly endorsed this notion of balance with the NCSL in ***Is the New Global Economy Leaving State-Local Tax Structures Behind?*** by Thomas Bonnett. Separately, in 2001, the National League of Cities endorsed the notion of revenue diversification implicit in the ACIR concept of a balanced revenue system in their report ***Toward a System of Public Finance for the 21st Century***. That report essentially says state and local governments need strong property, sales, and income tax systems.

While the ACIR notion of balance seemingly has extensive popular support, we want to see how well it actually describes state and local revenue systems. In 1987, using a modified definition of balance, Shannon classified the 50 states into four groups – Strongly Balanced,[14] Fairly Balanced,[15] Poorly Balanced,[16] and Imbalanced.[17] The results of this classification are summarized in Table 1. Shannon concluded from this evidence that, over time, state and local revenue systems were becoming more balanced. This is consistent with the observation in the original ACIR publication on revenue diversification discussed above.

Table 1
Movement of 50 State-Local Revenue Systems
Toward More Balanced Use of the Big Three Taxes, 1957-1984

Year	Strongly Balanced	Fairly Balanced	Poorly Balanced	Imbalanced
1957	--	--	19	31
1967	2	2	26	20
1977	4	10	23	13
1984	12	11	14	13

Source: Table 2 in Shannon, p. 15.

As part of this project, we wanted to see what the tendency toward balance in state and local revenue systems has been over the last 20 years. Using the same definitions employed by Shannon in his 1987 paper, we grouped the 50 states into the

[14] The states in which each of the "Big Three" taxes (property, personal income, and general sales) contributes at least 25 percent but not more than 43 percent of the state-local tax revenue.
[15] The states in which each of the "Big Three" taxes contributes at least 20 percent but not more than 48 percent of state-local tax revenue.
[16] States that do not meet the requirements of being strongly or fairly balanced, yet they generate revenues from each of the "Big Three" taxes.
[17] States that either do not have a general sales tax or do not have a personal income tax.

same four categories using data on state and local revenues from the 2002 Census of Governments. Table 2 summarizes our findings. The findings suggest there has been a significant movement away from more balanced systems over the last 20 years. As a result, state and local revenue systems, from the perspective of revenue diversification put forward by Shannon, now look more like they did in 1977.

See Appendix A and B for states percentages. The questions that come to mind are where is my state in the list? and has it changed categories?

Table 2 Balance in State-Local Revenue Systems, 2002	
Strongly Balanced	4
Fairly Balanced	14
Poorly Balanced	22
Imbalanced	11
Source: Staff compilations.	

In part, the movement away from what Shannon characterized as strongly balanced state-local revenue systems seems to be driven by a general decline in the reliance on taxes to finance state and local governments. Between 1982 and 2002, only eleven states increased their reliance on tax revenues as a share of general own-source revenues.[18] The other 39 state-local systems actually decreased their reliance on tax revenues as a source of general own-source revenues.

In addition, Ladd (1988) and Ladd and Weist (1987) argue that achieving the type of balance called for by ACIR is not an end in itself. That is, policy makers do not make tax policy decisions in an effort to achieve revenue balance as defined by ACIR. Rather, they argue, policy makers pursue characteristics of a good tax system, which typically include features such as fairness, minimal distortion of economic behavior, administrative ease and revenue raising potential. Thus, policy makers are faced with making tradeoffs between what are sometimes conflicting characteristics of a good tax system. According to this view, policy makers should strive for balance among competing policy goals, not necessarily for balance among revenue sources (Ladd 1988, 32).

This view of balance found support from Stocker (Stocker 1987, 2). He argues that to evaluate the existing balance in a state's tax structure, it is necessary to determine the facts as to the distribution of tax burden across taxpayers, the economic distortions the tax system produces, the administrative and compliance burdens it involves, and so on. This exercise does not look simply at where the tax is imposed, but looks at who actually bears the final burden of the tax after efforts to shift or avoid the tax. Effects to be estimated include not only those on revenue received, but also effects on resource allocation, on the after-tax distribution of income, on administrative costs, and all other effects that are considered important from a public policy perspective.

[18] Georgia (strongly balanced); Connecticut, Kansas, Minnesota, Nebraska, and Rhode Island (fairly balanced); Arizona, Maryland, New Mexico and North Dakota (poorly balanced); and South Dakota (imbalanced).

In this context, decisions about tax policy are guided by generally accepted characteristics of a good revenue system like revenue raising potential, stability, fairness, and the extent of behavioral changes stimulated by specific taxes. From this perspective, each revenue source has strengths and weaknesses. These are summarized in Table 3.

While such decisions are ultimately made in line with good tax policy, they do have implications for the degree of balance realized in each state and local revenue system. For example, data indicate that it is not necessary to have a balanced tax system to generate significant amounts of revenue, i.e., a more balanced tax system does not necessarily lead to greater revenues. Of the four states that had strongly balanced tax systems in 2002, two have per capita taxes greater than the national average and two have per capita taxes less than the national average. On average, the four states had per capita taxes equal to 98.3 percent of the national average.

For the 14 states that had fairly balanced tax systems in 2002, only three had per capita taxes greater than the national average, but the 14 states in this category, on average, had per capita taxes equal to 97.1 percent of the national average. Alternatively, five of the 11 states with imbalanced tax systems had per capita taxes above the national average and the group, on average, had per capita taxes equal to 107 percent of the national average. If Alaska is omitted from this group, per capita taxes for the group, on average, falls to 99.3 percent of the national average; the highest of any of the groups examined here. Thus, a balanced system does not lead to higher per capita taxes, and an imbalanced system does not prevent state and local governments from generating substantial revenues.

Table 3
Strengths and Weaknesses of Individual Revenue Sources

Feature	Property	Sales	Income
Revenue Raising Potential	Strong	Weak	Strong
Revenue Growth and Stability/volatility	Revenue growth in line with income growth and is relatively stable as income declines	Revenue growth slower than income and sensitive to declines in income	Revenue growth faster than income but sensitive to declines in income
Fairness	Consistent with ability-to-pay and benefits- received principle of taxation. Regressive at low income levels then proportional and a bit progressive at high income levels	To a limited extent it is most consistent with ability-to-pay principle of taxation. It is generally regressive.	Consistent with ability-to-pay principle of taxation and can introduce progressivity into the tax system.
Behavioral Distortions	Tax on land does not affect behavior.	Distorts economic behavior	Distorts economic behavior

Because a state relies on an imbalanced tax system, however, does not mean that it results in any greater economic distortions than states with a more balanced

system. ACIR defines balance in terms of revenues collected. However, revenues collected depend on the tax base in the state and the tax rate applied to that base. Thus, if a state has a particularly high tax base, it could generate substantial revenues from that base without having a tax rate that is out of line when compared to neighboring states.

Another generally accepted characteristic of a good tax system is that it minimizes behavioral distortions. But such distortions result from the tax rates in a jurisdiction, not the overall level of revenue generated in the jurisdiction. There is some evidence suggesting that a move toward a more balanced tax system would lead to lower rate differentials, and, as a result, less behavioral distortions (Ladd 1988, 40).

Still another principle of sound tax policy is stability (i.e., a lack of volatility). Stability requires a consistent amount of revenue to be collected over time, necessitating a mix of taxes, "with some responding less sharply to economic change". For example, personal income taxes are widely thought to produce more revenue than other types of levies when the economy is growing, but not in times of recession. By contrast, revenue raised through broad-based sales taxes tend to be more consistent during economic swings. Stability is important because most public services are designed to be provided over an indeterminate time. Much of what state and local governments spend money on (schools, roads, prisons) remains the same from year to year or changes only incrementally. The importance of stability is illustrated starkly by the economic changes in the late 1990s and early 2000s. In the late 1990s, states relying heavily income taxes experienced unprecedented increases in revenue. But the recession of the early 2000s led those same states to suffer from record setting budget deficits.

Finally, one needs to consider the overall fairness of a tax system. There would be general agreement that a more diversified revenue system would tend to be less regressive than a system that relied predominately on sales and property taxes. Income taxes tend to introduce some progressivity into the overall tax system. As a result, it could be concluded that a more balanced tax system could have lower overall regressivity than a system that depended heavily on sales and/or property taxes.

Weighing the trade-offs inherent in designing a revenue system consistent with the characteristics of a good revenue system does not necessarily result in a less balanced, or a more balance, revenue system. Revenue balance may be inconsistent with a states desire to have competitive tax rates. Also, revenue diversification is not a prerequisite for high revenue yields. Alternatively, balanced tax structures may be less distorting and fairer, and may generate revenues that grow in line with state income (Ladd and Weist 1987, 22-3). In the final analysis, then, ones view of a balanced revenue system as defined by ACIR will depend, in large part, on the trade-offs made among competing criteria for a good revenue system.

H. Conclusion

Based on the literature reviewed in this paper several themes emerge. One is that both economic theory and empirical evidence indicate that economic fundamentals, such as access to markets, inputs, and the quality and cost of labor are the key drivers in business location decisions. These locational attributes remain important today as in the past, and as the service and knowledge-based sectors of the economy have grown, factors such as weather and quality of life have been added to the list.

In contrast, although local officials often see taxes as playing a major role in business location decisions, empirical evidence on this score is mixed. As noted in several reviews of econometric research on the link between state and local policies and economic activity, these studies suffer from common problems. The most critical problems concern the measurement of state and local fiscal variables, or more accurately, the inability to measure these variables well due to data limitations. The existence of reciprocal causation between economic activity and revenues collected and expenditures made -- e.g. taxes and expenditures both affect and are affected by economic activity -- pose additional methodological issues.

Because of these problems, the findings from these empirical studies are not robust, and are open to interpretation. Some scholars contend that econometric studies of the effect of local taxes are converging on a consensus that taxes do matter, although even in this case, the effect is seen to be marginal in the sense that taxes matter only if other factors, such as economic fundamentals are the same across locations. Others, however, argue that the empirical results from existing studies are so variable, and dependent on the specification of the model and time period examined, that the consensus may not really be that strong – certainly not sufficiently robust to serve as the foundation for state and local fiscal policy. For example, citing some of the limitations discussed above, McGuire (1997) challenges the contention that a consensus that taxes matter has been achieved from the literature.

While the econometric research may be sufficiently flawed that it cannot provide a firm basis for public policy, the conclusions of the survey research studies do provide some useful, and somewhat intuitive, findings. Specifically, taxes do not influence the initial stages of the location process. For example, the initial screening stage involves defining the area of search and depends on macro issues like wage differentials and transportation availability. Next, there is the selection of a metropolitan area, which typically focuses on variables affecting the cost of doing business. Then there is a final selection of a community within the metro area where taxes can influence location decisions at the margin.

But survey research is very clear that taxes are a much less important factor in location decisions than such variables as the availability of good transportation networks and a skilled, and educated, workforce. In other words, state and local spending in a number of sectors that influence directly the cost of doing business and the quality of the labor force rank ahead of taxes as a major determinant in business location decisions.

Taken together, the econometric literature, even with its shortcomings, and the results of surveys call into question the simplistic view that lower taxes are necessarily beneficial for economic development and higher taxes are necessarily harmful. Because of the important role of economic fundamentals, such as adequate transportation, quality of workforce, and quality of life, businesses will not be attracted to locations with "low" tax burdens if there are significant deficits in the one or more of the economic fundamentals, and conversely strong economic fundamentals may attract and retain businesses in jurisdictions which have "high" tax burdens.

The message is that what may matter more than the level of the state and local tax burden is how the revenues are spent, and the efficiency with which state and local governments are able to transform a $1 of tax revenue into a $1 of spending that has a positive affect on the fundamental factors that affect business location decisions. The results also suggest that having a tax system that is capable of providing a more or less stable stream of revenue is desirable to the extent that it allows state and local governments to better plan for investing in the economic fundamentals that make communities attractive as locations for economic activity.

As a final caveat, however, we should note that the vast majority of the empirical studies reviewed here provide insights about how state and local fiscal policies affect (or fail to affect) economic *activity* as distinct from economic *development.* Virtually none of the studies examine what we would include under the rubric of economic development – what types of jobs are being created? Do they pay a living wage? Do they provide employees with health insurance? Do the jobs go to low income/low skilled or unemployed residents? What impact does the economic growth have on the distribution of income in a community? In short, very little is known about how increases in the various measures of economic activity translate into benefits for residents of a community, which should perhaps be the next area of research.

Appendix A

Balanced State and Local Tax Systems, 2002 Individual Taxes as a Percent of Total Taxes

State	Property Taxes as a Share Of Total Tax Revenues	General Sales Taxes as a Share Of Total Tax Revenues	Personal Income Taxes as a Share of Total Tax Revenues	Sum of Big Three Taxes	Tax Rev as a Share of Total Own Source Revenues
United States	30.8%	24.6%	22.4%	77.9%	68.3%
IMBALANCED					
Alaska	40.1%	5.9%	0.0%	46.0%	38.2%
Delaware	14.9%	0.0%	28.4%	43.3%	57.9%
Florida	35.1%	33.5%	0.0%	68.7%	62.5%
Montana	39.9%	0.0%	24.2%	64.2%	60.5%
Nevada	26.5%	34.5%	0.0%	60.9%	65.7%
New Hampshire	60.3%	0.0%	2.0%	62.3%	70.4%
Oregon	34.9%	0.0%	40.8%	75.7%	59.3%
South Dakota	36.3%	36.5%	0.0%	72.8%	66.9%
Texas	41.6%	31.1%	0.0%	72.6%	68.4%
Washington	29.7%	47.3%	0.0%	77.0%	66.6%
Wyoming	38.1%	31.9%	0.0%	70.0%	59.6%
STRONG BALANCE					
California	25.1%	26.0%	27.4%	78.5%	67.5%
Colorado	29.9%	29.7%	25.0%	84.6%	63.8%
Georgia	27.6%	31.1%	27.0%	85.7%	68.7%
Missouri	25.7%	28.1%	26.0%	79.7%	69.6%
FAIRLY BALANCED					
Connecticut	39.6%	20.1%	24.4%	84.1%	80.6%
Idaho	29.1%	24.2%	25.6%	78.9%	63.2%
Indiana	35.2%	22.4%	24.3%	81.8%	65.1%
Iowa	34.5%	24.2%	21.8%	80.5%	62.9%
Kansas	31.7%	28.8%	23.3%	83.7%	69.1%
Michigan	32.0%	25.4%	21.5%	78.9%	67.5%
Minnesota	28.3%	20.5%	29.5%	78.2%	68.1%
Nebraska	32.9%	24.2%	21.7%	78.8%	67.7%
North Carolina	24.0%	21.7%	32.2%	77.9%	66.5%
Ohio	29.4%	21.3%	32.6%	83.3%	69.9%
Rhode Island	40.4%	20.2%	22.7%	83.3%	74.4%
South Carolina	31.8%	25.0%	24.1%	80.8%	61.3%
Utah	23.6%	32.7%	26.6%	82.9%	61.0%
Wisconsin	34.7%	21.0%	26.7%	82.5%	71.3%

POORLY BALANCED					
Alabama	15.2%	30.5%	21.9%	67.6%	55.6%
Arizona	29.5%	40.1%	14.5%	84.1%	72.8%
Arkansas	15.5%	39.3%	24.2%	79.1%	67.2%
District of Columbia	24.9%	17.3%	29.4%	71.6%	79.1%
Hawaii	14.5%	38.0%	26.2%	78.8%	72.1%
Illinois	38.2%	18.1%	18.0%	74.3%	73.7%
Kentucky	18.3%	21.4%	32.4%	72.2%	68.2%
Louisiana	15.9%	39.7%	14.7%	70.3%	62.3%
Maine	42.1%	18.4%	23.6%	84.1%	73.5%
Maryland	27.2%	13.5%	38.5%	79.2%	75.3%
Massachusetts	36.5%	15.5%	33.1%	85.1%	72.8%
Mississippi	25.2%	35.9%	15.1%	76.2%	61.2%
New Jersey	46.3%	17.3%	19.8%	83.5%	74.8%
New Mexico	15.5%	36.2%	20.2%	71.8%	63.0%
New York	30.2%	18.7%	34.0%	82.9%	74.5%
North Dakota	30.8%	22.8%	11.5%	65.2%	60.9%
Oklahoma	16.9%	29.6%	26.0%	72.5%	64.3%
Pennsylvania	29.0%	19.9%	25.3%	74.2%	67.3%
Tennessee	26.6%	45.0%	1.1%	72.8%	65.3%
Vermont	41.9%	10.9%	20.8%	73.6%	70.9%
Virginia	30.3%	16.2%	30.3%	76.9%	67.5%
West Virginia	19.4%	20.7%	22.3%	62.4%	65.3%

Appendix B

A Classification of the 50 State-Local Tax Systems According to Revenue Balance (1984)

	Percentage Distribution				Exhibits:	
	Total	Property Tax Revenue	General Sales Tax Revenue	Individual Income Tax Revenue	Sum of the "Big 3"[1]	State & Local Tax Revenue as a Percent of Personal Income
United States	100%	40.82%	31.93%	27.35%	73.80%	0.12
FULLY DIVERSIFIED						
Strongly Balanced						
Arkansas	100	27.83	42.00	30.17	70.72	9.74
California	100	32.87	36.37	30.76	77.98	11.54
Georgia	100	34.56	35.04	30.40	76.95	10.53
Idaho	100	35.29	33.32	31.39	76.03	10.10
Indiana	100	36.53	38.29	25.18	85.60	10.47
Kentucky	100	28.52	33.34	38.14	63.66	10.18
North Carolina	100	31.30	29.08	39.62	71.15	10.64
Ohio	100	38.22	27.24	34.53	77.96	11.12
Oklahoma	100	29.96	40.10	29.94	57.50	10.57
Pennsylvania	100	39.43	26.16	34.41	66.79	11.44
South Carolina	100	33.19	33.47	33.33	73.76	10.79
Utah	100	33.95	40.98	25.07	82.24	12.86
Group Average[2]	100	33.47	34.62	31.91	73.36	10.83
Fairly Well Balanced						
Alabama	100	20.73	48.44	30.82	58.68	9.99
Colorado	100	40.21	38.11	21.69	82.73	10.62
Hawaii	100	21.72	48.02	30.26	83.06	12.93
Illinois	100	47.33	28.98	23.69	77.32	11.35
Iowa	100	48.48	24.89	26.64	79.87	11.91
Maine	100	46.96	28.97	24.06	76.63	12.59
Minnesota	100	35.22	22.72	42.05	77.56	14.39
Missouri	100	29.88	43.58	26.54	77.29	9.30
New York	100	38.91	24.20	36.90	78.38	16.46
Virginia	100	40.20	23.24	36.56	70.61	10.14
Wisconsin	100	40.58	22.96	36.45	80.73	13.75
Group Average[2]	100	37.29	32.19	30.51	76.62	12.13
Poorly to Fairly Well Balanced						
Arizona	100	35.97	46.26	17.77	78.14	12.05
Kansas	100	49.33	26.12	24.54	75.28	10.34
Louisana	100	24.79	61.56	13.65	59.97	10.91
Maryland	100	33.06	19.78	47.17	76.47	11.68
Massachusetts	100	43.39	17.50	39.12	79.40	11.74
Michigan	100	47.73	19.90	32.37	79.88	13.75
Mississippi	100	30.40	53.53	16.07	71.54	10.80

Nebraska	100	52.61	27.72	19.66	78.21	11.05
New Jersey	100	57.20	23.00	19.79	72.59	11.67
New Mexico	100	22.21	69.88	7.91	55.67	12.60
North Dakota	100	44.63	40.66	14.71	54.90	11.53
Rhode Island	100	50.33	23.10	26.58	79.50	12.10
Vermont	100	54.90	17.15	27.95	70.17	12.86
West Virginia	100	24.02	50.60	25.39	71.55	12.07
Group Average[2]	100	40.75	35.48	23.76	71.66	11.80
PARTIALLY DIVERSIFIED						
Imbalanced						
Connecticut	100	56.56	35.95	7.48	71.33	11.17
Delaware	100	25.13	0.00	74.87	56.01	11.18
Florida	100	49.10	50.89	0.01	66.45	9.51
Montana	100	74.01	0.00	25.99	62.40	12.93
Nevada	100	39.76	60.24	0.00	55.40	11.11
Oregon	100	55.62	0.00	44.38	77.71	12.35
South Dakota	100	57.94	42.06	0.00	71.68	10.02
Tennessee	100	35.09	62.99	1.91	69.03	9.26
Texas	100	59.51	40.49	0.00	62.95	9.71
Washington	100	36.19	63.81	0.00	76.98	11.76
Wyoming	100	72.97	27.03	0.00	60.18	(20.89)[3]
Group Average[2]	100	51.08	34.86	14.06	66.37	(10.90)[3]
NOT DIVERSIFIED						
Imbalanced						
Alaska	100	87.98	11.78	0.23	21.10	(28.55)[3]
New Hampshire	100	96.69	0.00	3.31	63.06	9.26
Group Average[2]	100	92.34	5.89	1.77	42.08	(9.26)[3]

1 The sum of state and local property tax, general sales tax, and individual income tax revenue expressed as a percentage of all state-local tax revenue

2 Unweighted average.

3 Alaska and Wyoming were excluded from the group average burden computations because of their extraordinary reliance on energy taxation.

Source: ACIR State-Local Government Diskettes.

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[i] Courant (1994) argues that too much time and resources have been wasted on analyzing the determinants of economic growth and development because researchers are asking the wrong questions. Rather, what should be measured when assessing local economic development policies are changes in the level and distribution of economic welfare, not simply measures of economic activity like employment, business starts, new branch plants, etc.