CITIES AND ECONOMIC PROSPERITY

A DATA SCAN ON THE ROLE OF CITIES IN REGIONAL AND NATIONAL ECONOMIES

A REPORT FOR

CEOs for Cities

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THE ROLE OF CITIES IN REGIONAL AND NATIONAL ECONOMIES

Executive Summary

Urban economies offer tremendous opportunities as vehicles for regional and national economic growth. The assets of cities are enormous, varied, concentrated in particularly critical sectors, and integral to regional economies, which account for the overwhelming portion of our national economy. Much more work is necessary to fully understand the varied economic assets and shifting roles of cities, and particularly to develop a typology of cities and metropolitan areas. What is clear, even at this point in the analysis, is that focusing on the assets, rather than the deficiencies, of cities reveals healthy, vibrant, productive places at the core of our national economy. National policy focused on identifying and investing in these assets offers vast potential impact -- not just or even primarily for cities -- for the country as a whole.

This Report develops a "data-picture" of cities in layers, starting with a static snapshot of key economic indicators, and moving through more targeted views of critical types of cities and economic activity. A few key messages emerge from this developing picture of the assets and role of cities.

Looking first (Section I, "Snapshot of Economic Indicators,") simply at the distribution of economic assets and activity in the nation reveals the following picture.

1. <u>We have become a metropolitan nation</u>. Consistently 75-90% of the nation's economic assets and drivers are in metropolitan areas.

2. <u>The cities' portion of metropolitan output is very substantial.</u> Across numerous baseline economic indicators, cities constitute at least 30-40% of the assets and productivity of metropolitan areas.

3. <u>The cities' portion is not only substantial, it's disproportionate</u>. Even at the snapshot level, it is clear that cities play a disproportionately important role. Their portion of key assets and productivity is much greater than their portion of people or, particularly, space.

The snapshot of metropolitan areas and cities in the aggregate masks the enormous impact, as well as the special nature of the impact, of particular *types of cities*. "Global cities," "consumer cities" and other variations are emerging in the new economy. Taking a closer look (in Section II), then, at "focus cities," reveals that:

4. <u>Key cities are particularly crucial contributors to the national economy</u>. Looking at concentrations of economic activity in types of cities highlights both the hugely disproportionate contribution of top cities, and that cities are heterogeneous, each type offering its own economic opportunities.

Section III takes a further closer look beyond the snapshot, this time examining *types of economic activity*. We find that:

5. <u>City economies are disproportionately concentrated in key types of new economy activity</u>. Cities are centers of key industries, particularly new economy sectors, that constitute a

disproportionate and growing share of the national economy. Indeed, wages are higher and growing faster in cities.

6. Cities are *hubs* for metropolitan areas. Cities disproportionately house assets on which their metropolitan economies particularly depend. These include intellectual and institutional assets, such as universities and hospitals; infrastructure assets, such as transportation and communication; social assets (tourism, entertainment, culture); and core service assets (financial, legal).

7. Cities are *drivers* of metropolitan economies. Modeling of the flow and multiplier effects of economic activity in Chicago suggests that cities disproportionately drive suburban activity.

Finally, Section IV focuses further on the relationship of cities and their suburbs, and finds:

8. The economies of cities and suburbs are intertwined and co-dependent. Their economies move in tandem, not in opposition. The important point may be not which has more assets or drives the other, but that cities and suburbs succeed or fail together. This is because:

9. Economies are regional, and do not obey political boundaries. Furthermore, as regional economies directly participate in global economies, national governments have an ever increasing stake in ensuring the competitiveness of their cities.

Focusing on the assets of cities, as integral and vital parts of regional economies, reveals vibrant opportunities. Indeed, cities offer one of the most strategic leverage points for strengthening the national economy. Taking a perspective which understands and invests in the diverse assets of cities – getting past old perceptions and battle lines – offers the possibility of much more productive economic development for the country as a whole.

Introduction

The enormous assets of our nation's cities frequently go unseen, lost in a constant stream of negative messages supporting deficiency based policies and institutions. We hear about concentrations of poverty, but not concentrations of wealth. We hear of high unemployment, but not of better and higher paying jobs. We hear about decaying infrastructure, but not about the transportation, institutional and intellectual hubs that drive regional and national economies. We hear about needs, but not about opportunities.

However, three trends are fundamentally altering this one-sided perception, bringing cities into clearer focus. First, successful economic development models have shifted towards a business based approach to investing in assets – instead of a deficiency-based approach of meeting needs. This approach recognizes that long term, sustainable solutions to urban problems require creating wealth through understanding and investing in the assets of local economies. More importantly, this new look for assets, instead of problems, has revealed that local economies do indeed have enormous assets, and a business approach to them reaps permanent, large scale rewards.

Second, there is renewed interest in the assets and roles of cities as a result of profound changes in economies everywhere: the related ascendance of markets, information technologies and globalization. These changes reinforce a market-based approach to assets, while altering what urban assets are most valuable, as well as the broader role of cities as economic centers. An asset-based approach to investing in cities ultimately must analyze the changing nature and value of their assets, and the changing roles they play in regional, national and global economies. New investment strategies must be based on the competitive assets and opportunities of cities in the new economy.

Finally, both of these changes are being reflected in evolving perceptions of the role of government. New programs increasingly focus on assets and economic development, taking an approach which engages businesses and markets, rather than supplanting them. Similarly, under the rubric of "reinventing government," there has been increasing examination of whether this new approach entails a different role and process for government.

The changing role of cities in the global economy, and its implications for federal policy, present complex issues well beyond the aspirations of this paper. Fortunately, CEOs for Cities, an organization of Mayors, Corporate CEOs, policymakers and others committed to better understanding and capitalizing on the evolving role of cities, has made analyzing and acting on these changes a core part of its long term agenda. In a companion Report, CEOs provides an overview analytic and policy framework for this long-term agenda, as well as identifying immediate implications and recommendations. A view of cities as assets rather than liabilities, and accordingly a more business and market based approach to developing them, suggests new opportunities to invest based on understanding the economic potential and contribution of cities. This understanding leads to a strategy that identifies the assets of cities that most contribute to national competitiveness, and that invests strategically in those assets.

Our purpose here is much more modest. This Report presents some baseline data on the economic assets and role of cities, as a first step towards understanding their economic potential and contribution to the national economy. Its purpose is neither to be comprehensive nor conclusive, but rather to provide some initial underpinnings for the much bigger and longer term discussion. We hope to begin filling out and clarifying – at the level of concrete data – an asset-based view of cities. This initial data-based observation reveals some major opportunities, as well as some provocative parts of the picture, suggesting new questions and themes which may help inform further, more detailed analysis and policy development.

I. Snapshot of Economic Indicators: The Assets of Cities

Wherever you live, whatever you do, cities account for a large share of the goods you consume; the consumers of your products and services; the employees you use and your employment; and the income, savings, tax payments and other resources of the national economy.

We begin by examining this core economic activity, and the extent to which it occurs within metropolitan areas in the aggregate, and then within their core cities.[1]

1. **We have Become a Metropolitan Nation:** by any measure, the national economy is overwhelmingly centered in and driven by metropolitan areas.

Consistently 75-90% of the nation's economic assets and drivers are in metropolitan areas, including people, businesses, jobs, income, assets, tax payments, GDP, and exports.

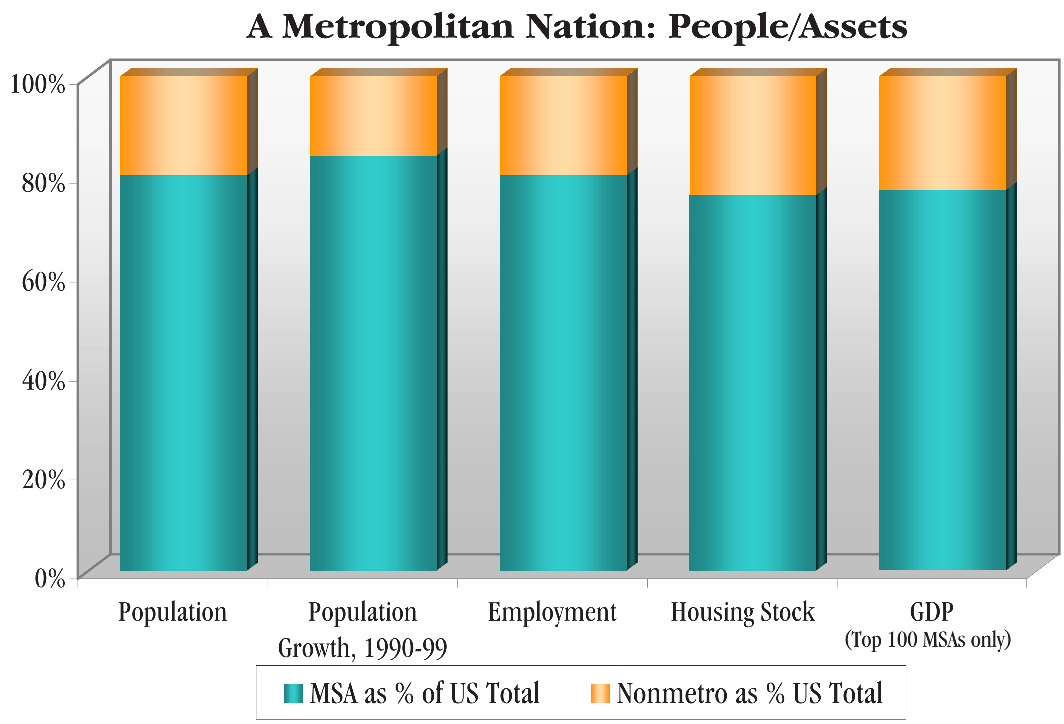


Figure 1

Eighty percent of us live in metropolitan areas, and the population continues to shift towards metropolitan living. Eighty percent of us work in metros as well. This concentration is mirrored in the nation's asset distribution. Approximately 77% of the gross national product is produced, and just under 80% of the housing stock is located, in metropolitan areas. The people and assets of the nation are overwhelmingly, and increasingly, concentrated in metropolitan areas.

Metropolitan areas are also the nation's centers of consumption: they hold 82% of total U.S. consumer dollars. Related indicators reveal that 83% of income is earned in metropolitan areas, and metropolitan areas account for 86% of federal income taxes collected. . The production picture is at least as strong: total production, contribution to exports, value added in manufacturing and other indicators all place over 80% of our nation's productivity in metropolitan areas.

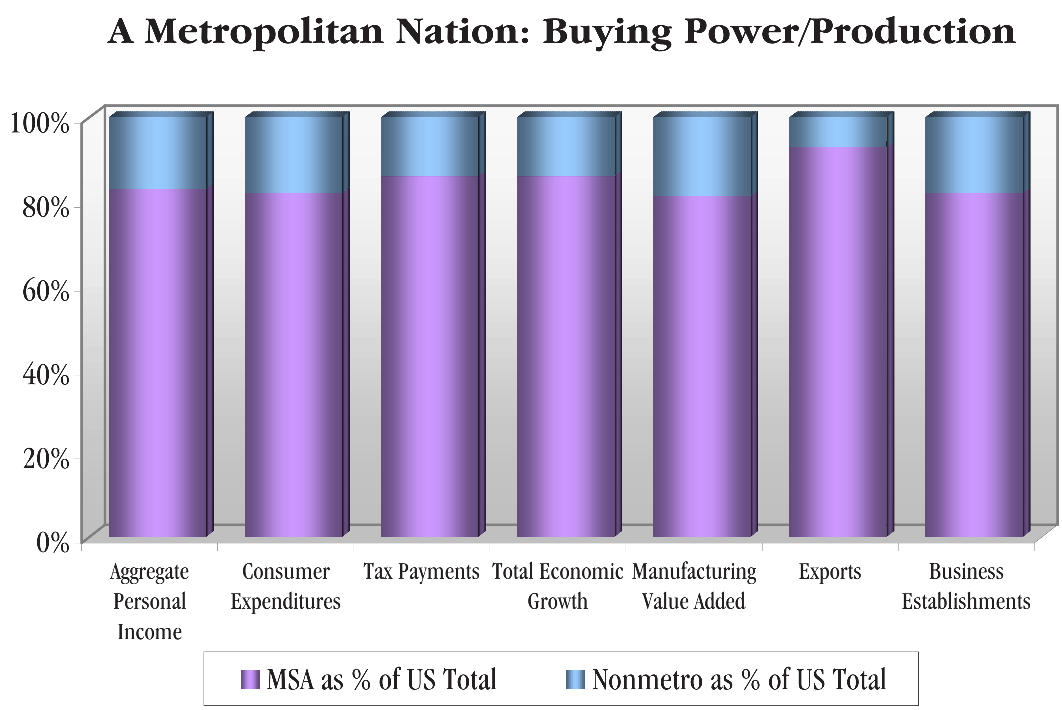


Figure 2

Looking at this picture over time reveals that the "metropolitanization" of our national economy has been a long term trend.

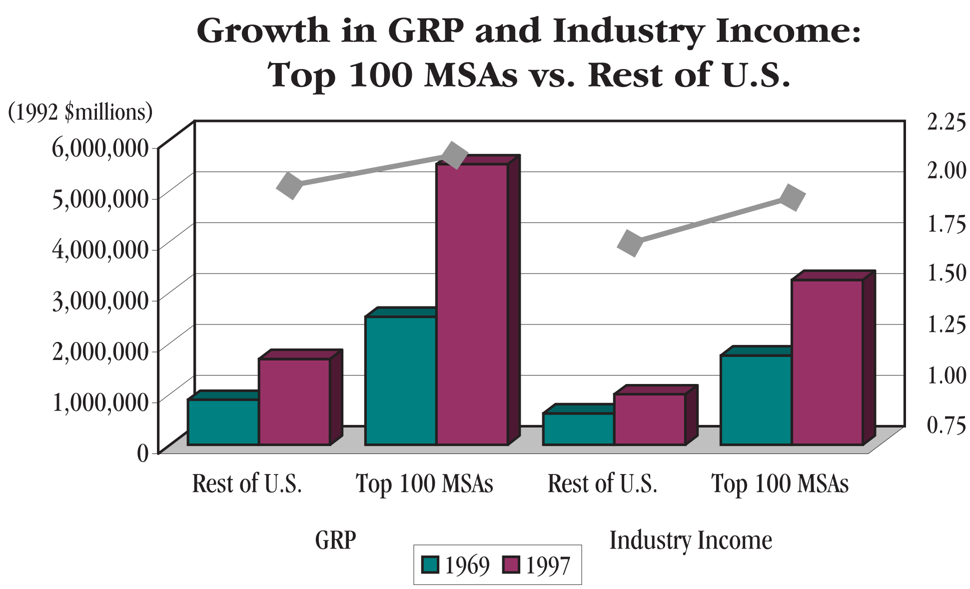


Figure 3

Over the past 29 years, metropolitan economic growth, particularly as measured by Gross Regional Product (the contribution of a region to Gross Domestic Product), was substantially larger than in non-metropolitan areas. GRP and Industry Income grew 14.7 and 14.9%, respectively, more in metropolitan areas.

2. The Cities' Portion of the Metropolitan Output is Very Substantial.

A great deal of the economic activity and productivity of metropolitan areas is housed in cities.

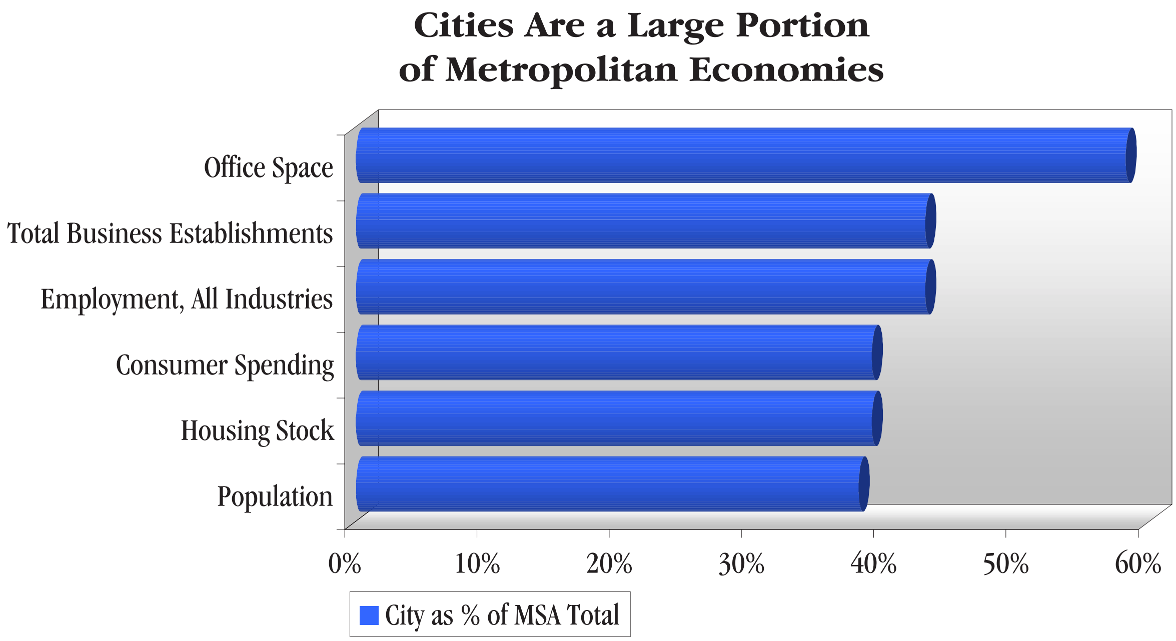


Figure 4

Again surprisingly consistently, across numerous baseline economic indicators, cities constitute at least 30-40% of the assets and productivity of metropolitan areas. If metropolitan areas effectively ARE the national economy, cities are a large and critical part of metropolitan economies. As we take a more detailed look at the *nature* of the cities' contribution below (Sections II – IV), much more data confirms this fundamental observation.

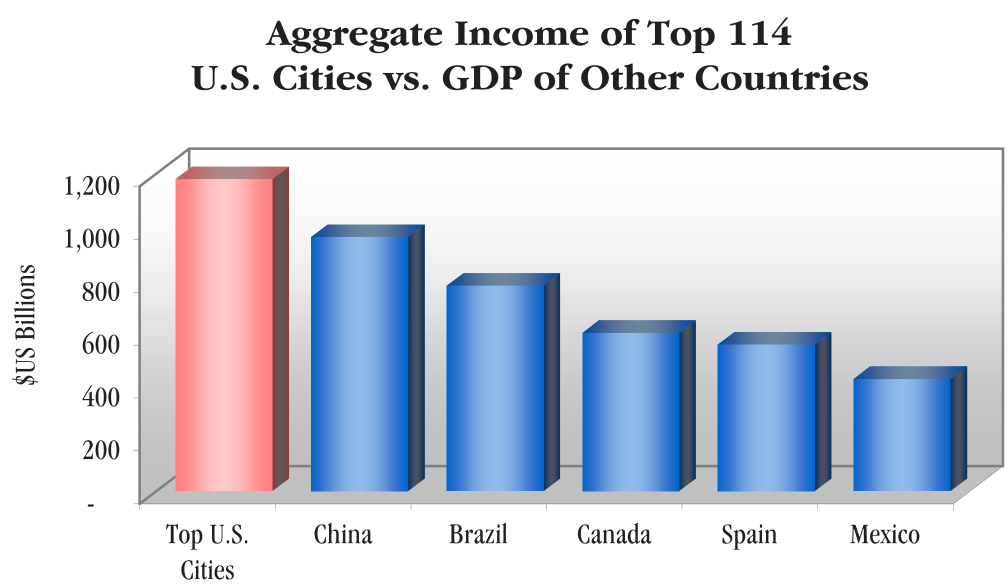


Figure 5

Another way of understanding the extraordinary level of our nation's economic activity that is housed in cities is to compare their economies to foreign countries. If just our top 114 cities were a separate country, their aggregate personal income alone would make them the sixth largest economy in the world, behind only Japan, Germany, France, the U.K. and Italy[2].

3. The Cities' Share is not only Substantial, it's Disproportionate.

It is worth noting that, even at this "snapshot" level, the data reveals that cities play a disproportionately important role in metropolitan economies. The cities' share of economic activity such as business establishments and employment (see for example figure 4) is significantly higher than their share of population.

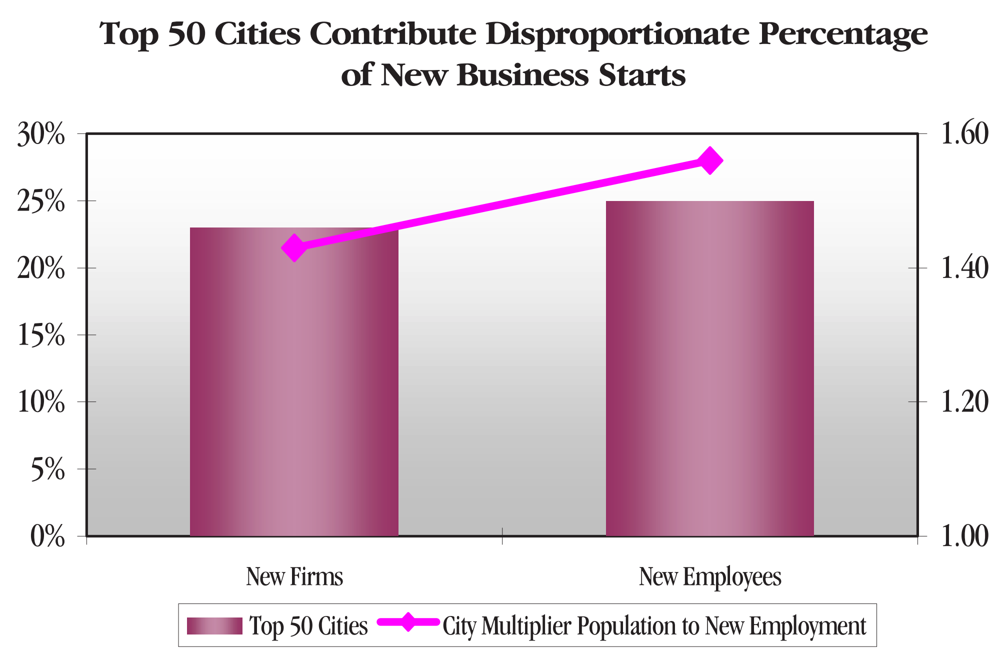


Figure 6

Examining business starts, a particularly critical contribution to economic growth, the top 50 cities account for 23% of new firms, and 25% of employment in new firms, but only 16% of the population. The "city muliplier," reflecting the extent to which these cities' contribution to new firms and employment is disproportionate to their share of population, is thus 1.44 and 1.56 respectively.

Proportionate to their land mass, the cities' contribution to the metropolitan and national economies is of course much more dramatic. Though this may seem obvious, it is no less important: this density of economic activity is one key basis of the developing, compelling research on the efficiencies of cities and the costs of urban sprawl.

The disproportionate importance of key types of cities, and of key economic activities within cities, are the subjects of the Sections II and III.

II. Taking A Closer Look 1: Looking at *Types* of Cities

The "Snapshot" looks at metropolitan areas and cities in the aggregate, combining metros and cities of all types and all performance levels. By failing to differentiate between types of cities, this aggregation masks two important points: (1) the top cities make particularly immense contributions; and (2) varying cities make quite different types of contributions. The nation's cities present quite varied assets and opportunities, suggesting differing possibilities for strategic investment.

1. "Focus Cities:" Key Cities are Particularly Crucial Contributors to the National Economy

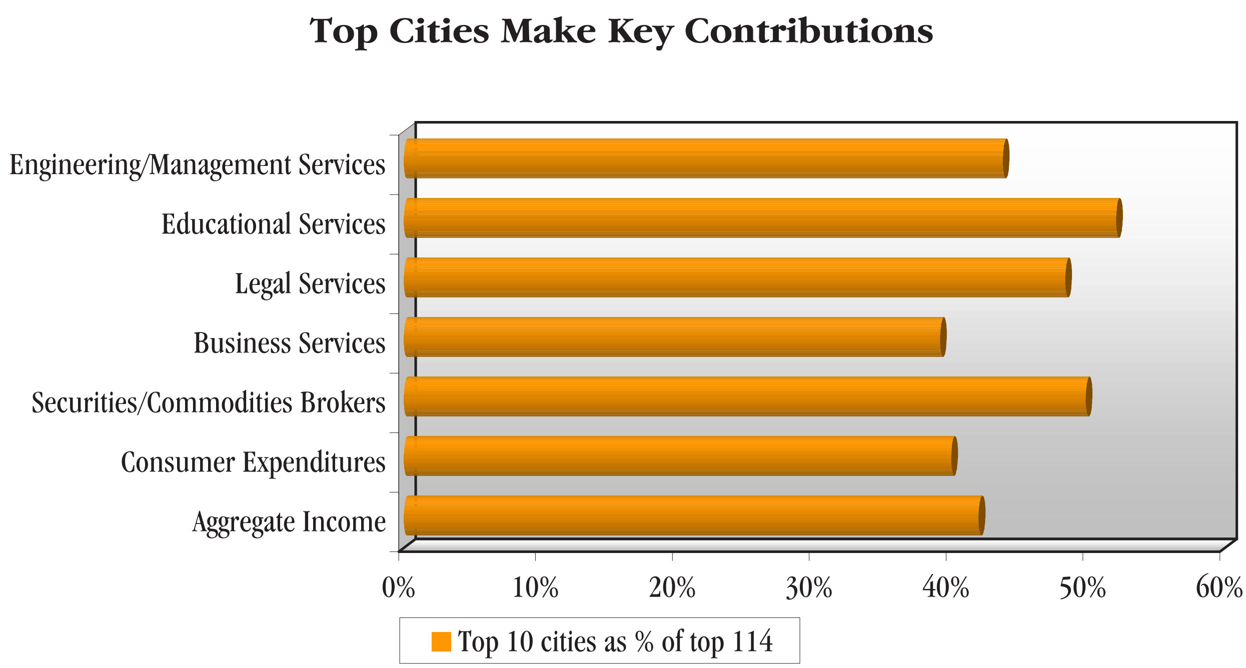


Figure 7

To get a sense of the extent to which aggregation was hiding the significance of highest performing cities, we looked – with respect to categories of activity particularly significant to the role of cities -- at the proportional contribution of the top 10 of 114 cities in each category. For example, the top 10 cities for consumer expenditures account for 40% of expenditures in the top 114 cities. The top 10 cities in educational services account for 52% of all educational services employment in the top 114. Clearly, top cities are massive contributors.

Top 5 Cities Attract Most Foreign Tourism to US

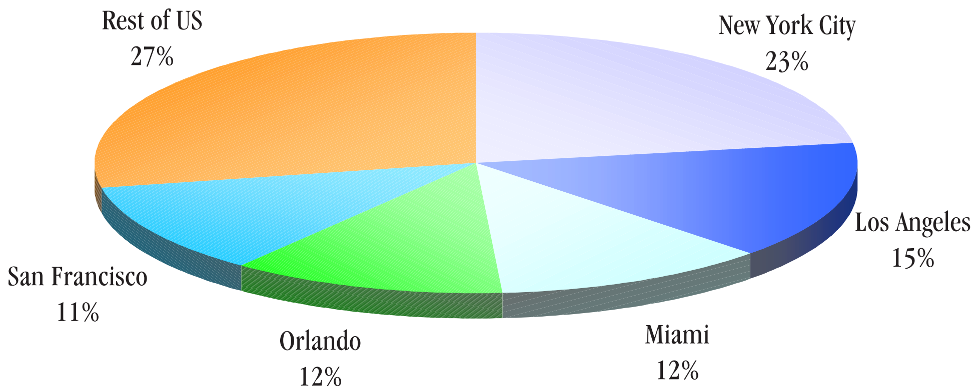


Figure 8

Another example of highly concentrated and disproportionate contribution is the tourist industry: The top five tourist destinations account for an enormous 73% of all overseas tourism to the United States. This example also illustrates the second point: varying types of cities offer differing opportunities. Orlando plays a role in the national economy beyond what its hiding place in the aggregated broader indicators might have revealed.

2. The Varying Roles of Cities and Metropolitan Areas.

Different types of cities and metropolitan areas are emerging in the context of global economic changes, presenting differing competitive advantages and development opportunities. Thus, analysts have created typologies of cities, based on varying models, and pointed to their differing and often disproportionate roles in the national economy.[3] Developing these typologies becomes even more complex – but also even more important – as they aim at a rapidly moving target: the nature of city and metro economies is changing dramatically in the information age.[4] Once a typology is developed, the different types of cities must ultimately be understood and analyzed distinctly. While that effort is far beyond the scope of this initial data examination, the examples above and below confirm the differentiation, and that understanding these differences has major implications for understanding the significance and role of cities.

As we will see in Section III, and particularly in Section IV, below, city and suburban economies are intertwined. As a result, when looking at individual differentiation, it becomes important to look at the regional economy, not only the city in isolation. The charts below turn to a few metropolitan areas, and further detail both the extent of concentration and, particularly, of variation.

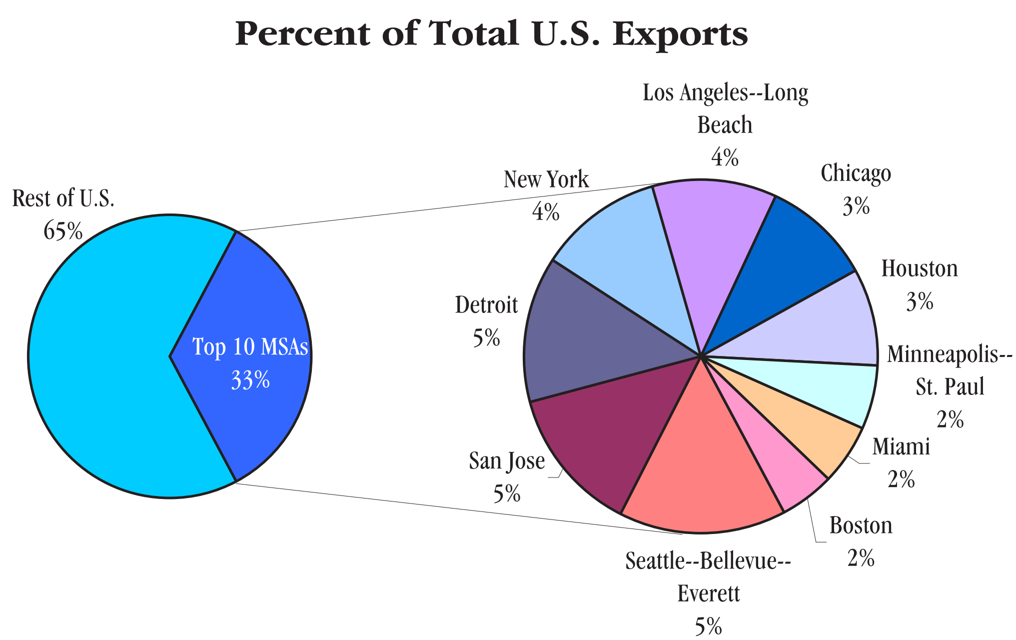


Figure 9

The top 10 exporting metros account for over one-third of US exports.

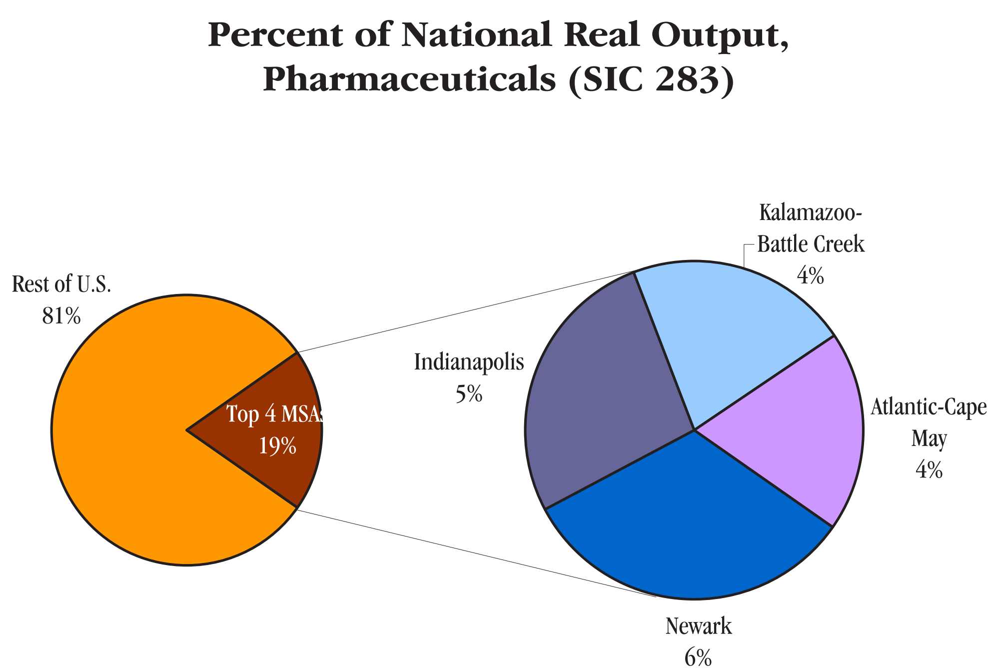


Figure 10

The top 4 pharmaceutical-producing metros account for nearly 20% of total output. More importantly, they illustrate the importance of differentiating local economies and understanding variation between types of contributions. Not all industry-leading metros are "global cities:" Indianapolis and Newark are key economies for the nation's pharmaceutical industry.

The point, of course, is that not all cities or metros are equal: instead, even a cursory data scan reveals enormous variation both in the extent and nature of their contributions to the national economy. Key cities are obviously hugely disproportionate contributors. As important, varied metros have quite different contributions to make. An approach which aspires to strategically invest in the assets of cities that contribute to regional and national economies will ultimately benefit from differentiating between types of cities and metros, and recognizing that each present different assets and opportunities.

III. Taking A Closer Look 2: Types of Economic Activity

Just as examining cities in the aggregate masks key differences between types of cities, examining aggregate economic indicators can mask key differences between economic sectors or types of activity. In fact, cities play a role in the national economy far more critical than even the static snapshot reveals. City economies are disproportionately composed of the most important and highest growth types of economic activity, and cities also house many activities that act as hubs, and even drivers, of metropolitan economies, making cities important far beyond their static percentage of assets and productivity.

1. City Economies are Disproportionately Composed of Key Types of Economic Activity.

The following charts show the percentage of broad economic sectors located in cities as compared to suburbs. They also indicate a "city multiplier," this time indicating the extent to which the cities' economy is disproportionately in that sector.[5]

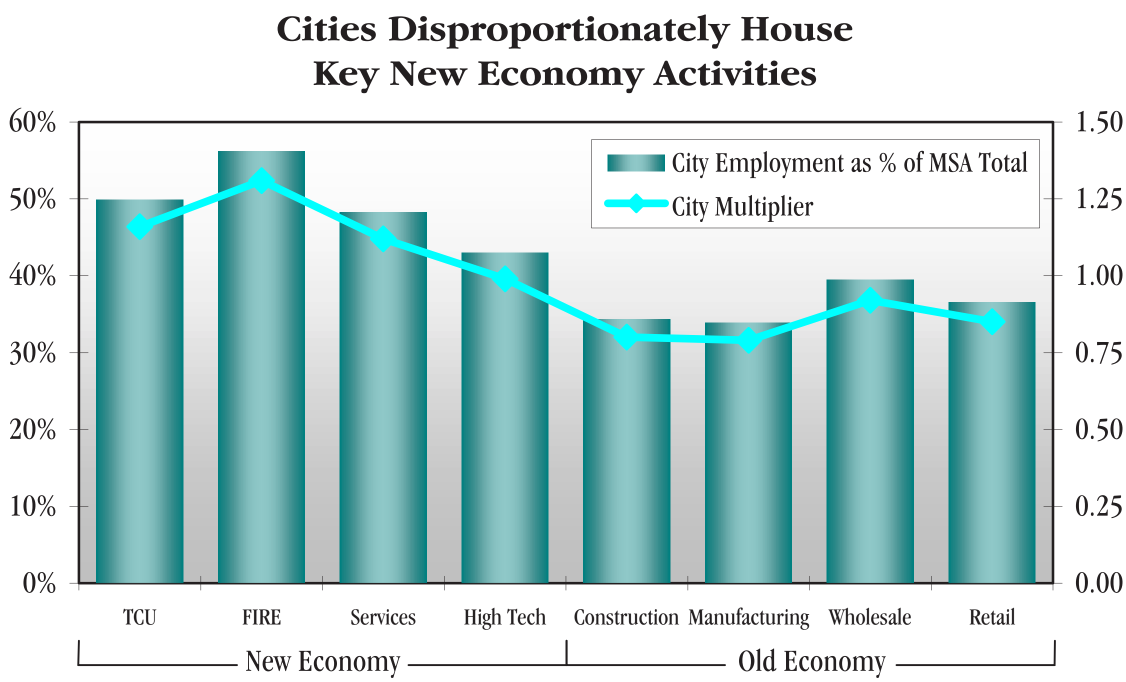
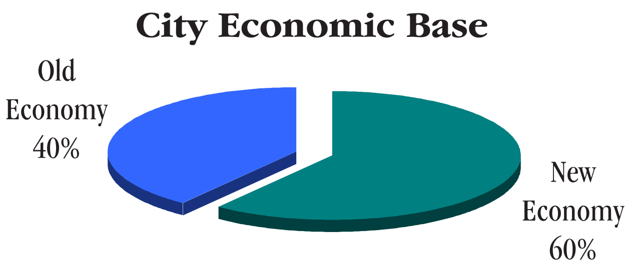


Figure 11

Interestingly, city economies have less than the MSA average percentage of old economy activity. For example, manufacturing is 15% of the metropolitan economy overall, but only 12 % of the city economy, creating a less than unity "city multiplier" of .79.

In dramatic contrast, the economic activity of the cities is concentrated in what are generally accepted as the most important and highest growth sectors to the new economy. Cities have a proportional amount of high technology activity, and significantly higher than expected concentration in FIRE, Services, and TCU (transportation, communications and utilities). While TCU, for example, constitutes 6.5% of metropolitan economies overall, it constitutes 7.5% of city economies, creating a "city multiplier" of 1.16, indicating the disproportionate concentration of city economies in this sector.



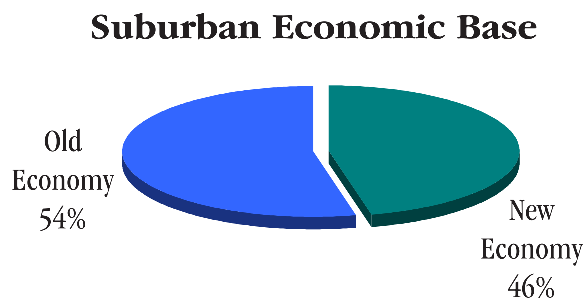


Figure 12

Looking at this data in a different way, the cities have 60% of their economic activity in new economy sectors, compared to 46% for the suburbs.

A word of caution: economic sectors at this broadest level do not neatly conform to "new" and "old" economy. This overview of broad sectors needs to be substantially refined to focus on particular subsectors critical to economic growth in the global economy. Varied research has highlighted and explained the natural advantages of metropolitan areas in the global economy, as centers for knowledge workers, finance, service, technology and other industries.[6] Much more refined analysis of particular critical, high growth subsectors would not only clarify the economic role of cities, but offer guidance for strategic investment in their most productive assets. Nevertheless, even this initial step into the data (which data below further confirms) strongly suggests that many of these critical sectors to metropolitan economies are disproportionately located in their urban cores.

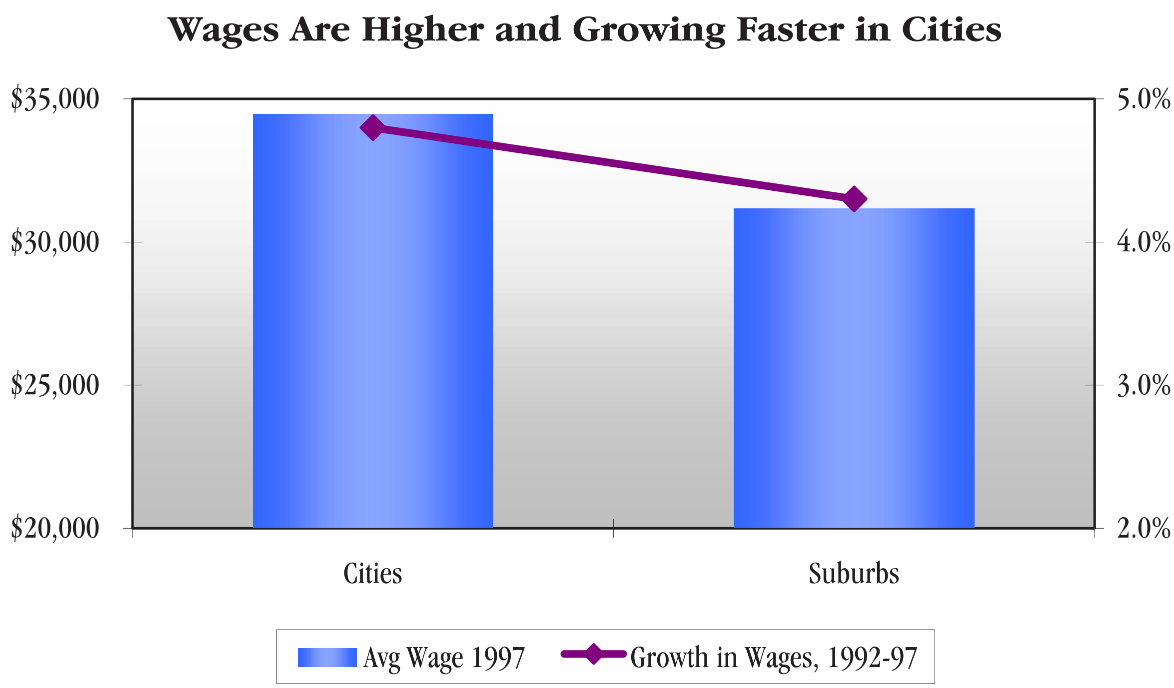


Figure 13

Another compelling indicator of the extent to which cities are housing particularly important types of economic activity is that wages and wage growth are higher in cities. Finally, the disproportionate level of business formation in cities (see figure 6) provides another example of key economic activity concentrated in cities.

2. Cities are *Hubs* for Metropolitan Areas.

Not only are city economies concentrated in many of the most critical sectors. They are also concentrated in sectors on which metropolitan economies particularly depend. In other words, cities also disproportionately house some types of institutions or infrastructure that make them the economic hubs of their metropolitan areas. Features ranging from museums to hospitals have been cited in highlighting varied "hub" roles for cities: as idea and innovation centers,[7] corporate command centers, financial centers, key sources of infrastructure or of cultural amenities.

Hub Functions of Cities

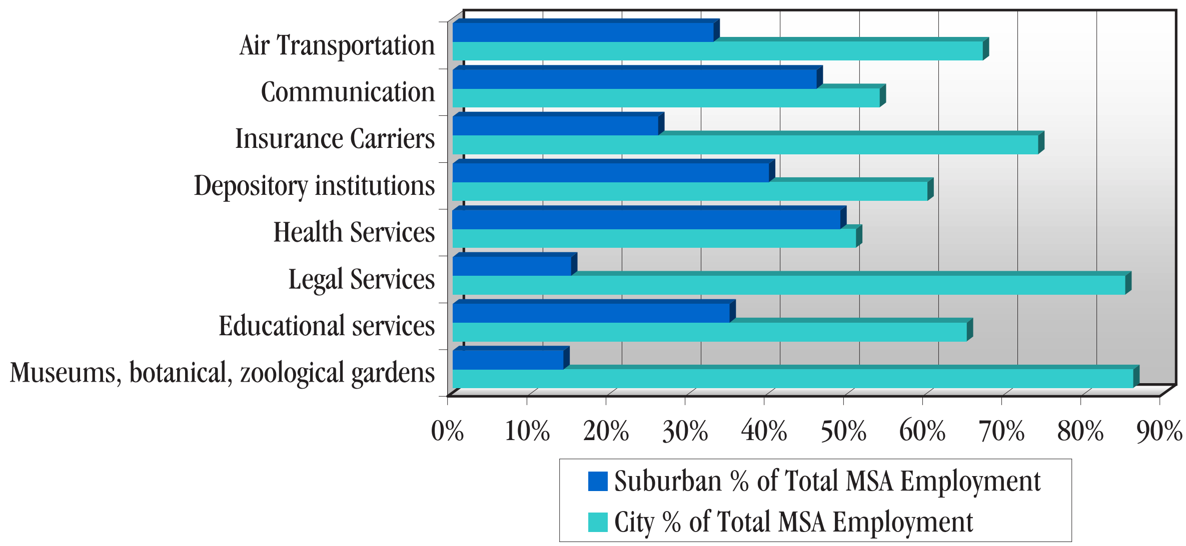


Figure 14

Cities do, in fact, provide a far greater share of key functions central to their metropolitan economies than their suburbs. Hospitals and universities, transportation and communications infrastructure, office space (see Figure 4) and financial services, all are concentrated in cities, and serve their wider metropolitan areas.

However, the key point with respect to cities as "hubs" is not really how big their share is, but rather the special role played by the activities. This is a grossly simplified version of a theme amply demonstrated in the "new economic geography" (e.g., Krugman). Cities are important in many ways that data may not fully reveal: even if their economic share were not dominant, they could still be the central node holding metropolitan economies together. If the "hub" functions played by central cities disappeared, would there be a reason for suburbs to be located where they are? Could they survive as efficient economic units? This area, too, is one in which the changing nature of cities and metros makes further analysis, and development of a typology recognizing the substantial variation between regional economies, particularly important. For present purposes, however, it can be noted that while some "edge cities" (really referring to metros) may be emerging that depend less on "hub" functions of their central cities, they are by far the exception that seems to prove the rule.

3. Cities are Drivers of Metropolitan Economies.

Sophisticated modeling done for the city of Chicago suggests that city economies in fact translate into and drive metropolitan economies much more than the other way around. In other words, suburbs may be more dependant on their central cities than cities on their suburbs.

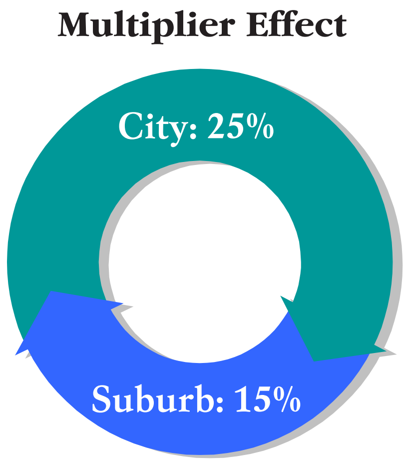


Figure 15

When a dollar of additional economic activity is generated in the City of Chicago, 25% of its ripple or multiplier effect occurs in the suburbs. On the other hand, if suburban activity expands the same amount, only 15% of the multiplier activity occurs in the City. In other words, cities are also contributing disproportionately to their suburbs.

Considering the earlier data, this result is not surprising: that cities have more and higher growth new economy industries, combined with having more sectors which act as "hubs," may explain why they are drivers of metropolitan economies as well.[8]

IV. Taking A Closer Look 3: The Suburbs Still Matter Regionalism--Cities and Suburbs are One Economic Unit

Examining the relationship of city and suburban economies leads to a broader conclusion: that they are intertwined. The important point may not be which is greater, or drives the other, but that they are interdependent. If suburban economies are often driven by cities, cities need their suburbs too!

1. The Economies of Cities and Suburbs Move in tandem, not in Opposition.

Testing the thesis that the economies of cities and suburbs are interdependent requires an only slightly more complex look at the data. If they are interdependent, one would expect their wages to correlate, move together, such that if a city is doing well, its accompanying suburbs are doing well, and vice-versa.

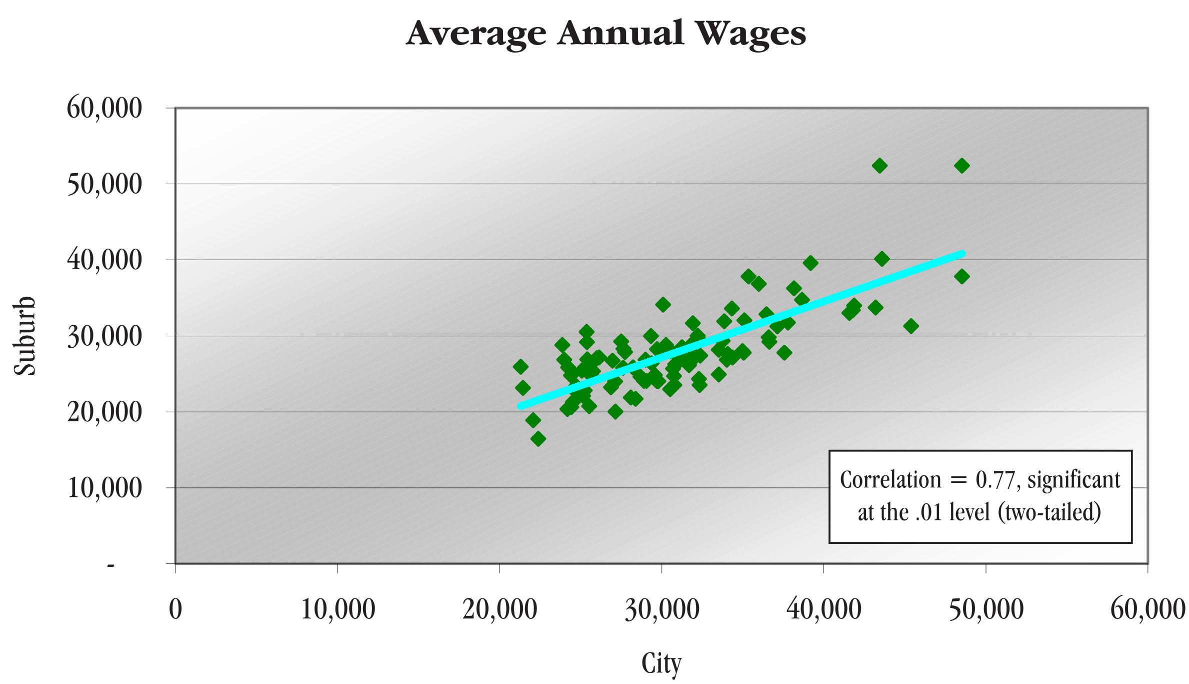


Figure 16

In fact, a scatterplot of average annual wages for the largest 114 cities and their suburbs (each dot in Figure 11 represents one city/suburb pair), shows a compelling – and highly statistically significant ($p<.01$) – correlation. While not addressing causation, this evidence strongly suggests that the economic fortunes of cities and suburbs move in tandem.[9] Similar analysis of wage trends, while not as dramatic, also demonstrated a positive correlation.

High Tech Jobs as a Proportion of All Jobs

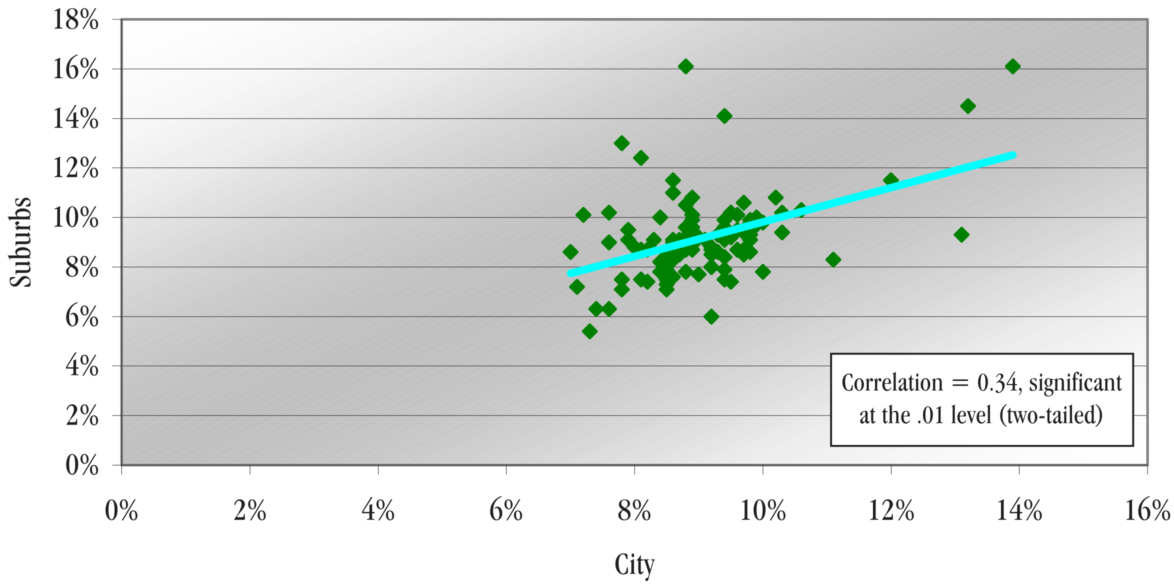


Figure 17

To further analyze whether cities and their suburbs move in tandem, we choose a variable that might more closely relate to future economic activity: technology employment. The question is whether particular cities and their suburbs tend to succeed together or compete with each other for the technology sector. Again a statistically significant correlation appears: cities and their suburbs tend to succeed or fail together in this critical sector.

Like it or not, cities and suburbs appear to be symbiotic: inextricably linked as part of regional economies.

2. Economies are Regional

Particularly in the context of a global economy, with free trade, international capital markets and the revolution in communications and information technologies, many have persuasively argued that regions – not cities or suburbs – are the units of economic competition.[10] As the data above suggests, regions are the geographic and economic units in which industrial clusters, goods and services and labor operate.[11] With the exception of the impact of local taxes and regulation, economic activity does not obey political boundaries.[12]

Indeed, understanding cities and suburbs as part of unified regional economies has further implications. The global economy is increasingly organized around urban regions, composed of regional networks of cities, linked by trade and communications. Examining this phenomenon worldwide, it has been argued that urban policy can no longer be simply understood as a subset of domestic policy: as the role of regional economies in directly participating in global economies becomes clearer, national governments have an even bigger stake in ensuring the competitiveness of their cities.[13]

Conclusion

Focusing on the assets, rather than the deficiencies, of cities reveals vibrant, productive places at the core of our national economy. The assets of cities present enormous investment opportunities as vehicles for regional and national economic growth. The national economy is increasingly concentrated in metropolitan areas, whose core cities house a substantial portion of assets. Furthermore, the economies of cities are concentrated in particularly critical and high growth industries. They act as hubs and drivers of regional economies, with which their fates are wholly intertwined. If we want to strengthen the economies of our regions and our nation, the cities may be the most important leverage point.

While beginning to develop a data-based picture of the assets and role of cities reveals enormous opportunities, it also suggests the importance of seizing them strategically. Particularly in the context of global economic changes, cities and their metropolitan regions are developing in varying trajectories, presenting differing assets and opportunities. The diverse types of cities and assets, and their varying contributions to regional and national economic growth, need to be carefully distinguished so that investments can be tailored and targeted to best capitalize on the opportunities presented. Taking this perspective – getting past old perceptions and battle lines – offers the possibility of much more efficient and productive economic development for the country as a whole.

Appendix I: Data Sources

Data Element	Source
Figure 1: A Metropolitan Nation: People/Assets	
Population	Census Bureau Estimates, 1999 (authors' calculations)
Growth in Population, 1990-99	Census Bureau Estimates, 1999 (authors' calculations)
Employment	State and Metropolitan Area Databook, 1997-98. Data for MSAs are 1995, for U.S. Total, 1994.
Housing Stock	American Housing Survey. 1999 (authors' calculations)
GDP	"Extracting Gross Regional Product for Metropolitan Areas," 2001. Prepared for this Report by Geoffrey Hewings and John Seo, Regional Economic Applications Laboratory ("REAL"). Includes top 100 MSAs only. Including all MSAs would increase the percentage.
Figure 2: A Metropolitan Nation: Buying Power / Production	
Aggregate Personal Income	Authors' calculations based on data from CACI, 1999
Consumer Expenditures	Authors' calculations based on data from CACI, 1999
Tax Payments	Authors' calculations based on Satistics of Income Zip Code Statistics, IRS, 1997
Total Economic Growth	HUD, State of the Cities report, 1998
Manufacturing Value Added	Edward Hill, Calculated in association with The Urban Center, Cleveland State University, with data from the Bureau of Economic Analysis' Regional Economic Information System and Annual Gross State Product Tables. Year: 1997.
Exports	Data from Geoffrey Hewings, REAL.
Business Establishments	State and Metropolitan Area Databook, 1997-98. Data for MSAs are 1995, for U.S. Total, 1994.
Figure 3: Growth in GRP and Industry Income	
Growth in GRP and Industry Income	Hewings and Seo, 2001

Appendix I: Data Sources (continued)

Data Element	Source
Figure 4: Cities are a large portion of metropolitan economies	
Population	Authors' calculations from CACI data (1999) for HUD SOC cities*
Aggregate Income	Authors' calculations from CACI data (1999) for HUD SOC cities*
Housing Stock	American Housing Survey (Authors' calculations)
Consumer Spending	Authors' calculations from CACI data (1999) for HUD SOC cities*
Employment, All Industries	Calculated by the authors from HUD's State of the Cities Data System, County Business Patterns Special Extract*
Total Business Establishments	Calculated by the authors from HUD's State of the Cities Data System, County Business Patterns Special Extract*
Office Space	Top 13 MSA's only, data from Black's Guide to Office Leasing, as reported in Robert Lang, "Office Sprawl: The Evoloving Gepgraphy of Business," The Brookings Institutions Center on Urban and Metropolitan Policy (2000)
Figure 5: Aggregate Income of Top 114 Cities vs. GDP of Other Countries	
Aggregate income for U.S. Cities	Authors' calculations from CACI data (1999) for HUD SOC cities*
GDP for all countries	IMF, 1998
Figure 6: Top 50 Cities Contribute Disproportionate Percentage of New Business Starts	
New Firms, 1996-97	Dun and Bradstreet, Business Starts Record
New Employees, 1996-97	Dun and Bradstreet, Business Starts Record

Appendix I: Data Sources (continued)

Data Element	Source
Figure 7: Top Cities Make Key Contributions	
Aggregate Income	Authors' calculations from CACI data (1999) for HUD SOC cities*
Consumer Expenditures	Authors' calculations from CACI data (1999) for HUD SOC cities*
Securities and Commodities Brokers	
Business Services	
Legal Services	Calculated by the authors from HUD's State of the Cities Data System, County Business Patterns Special Extract.* Numbers represent percentage of employment in the industry.
Educational Services	
Engineering and Management Services	
Figure 8: Top 5 Cities Attract Most Foreign Tourism to U.S.	
Total Visits, 1999	Authors' calculations of data from U.S. Department of Commerce, ITA, Tourism Industries. Excludes visits from Canada and Mexico.
Figure 9: Percent of Total U.S. Exports	
Export Sales, 1999	Data provided by Geoffery Hewings, REAL
Figure 10: Percent of Real Output, Pharmaceuticals	
Real Output, SIC 283, 1998	Authors' calculations from data presented by Miliken Institute, "America's High Tech Economy," (1999)
Figure 11: Cities Disproportionately House Key New Economic Activities	
All Data	Calculated by the authors from HUD's State of the Cities Data System, County Business Patterns Special Extract*
City multiplier	Industry as percent of total city employment divided by industry as a percent of total MSA employment. Data summed for all cities and MSAs in the data set.

Appendix I: Data Sources (continued)

Data Element	Source
Figure 12: City Economic Base/Suburban Economic Base	
All Data	Calculated by the authors from HUD's State of the Cities Data System, County Business Patterns Special Extract*
Figure 13: Wages are Higher and Growing Faster in Cities	
All Data	State of the Nations Cities 2000, HUD. Data refer to top 114 cities and their suburbs.*
Figure 14: Hub Functions of Cities	
All Data	Calculated by the authors from HUD's State of the Cities Data System, County Business Patterns Special Extract.* Data refer to city and suburb share of total MSA employment by industry.
Figure 15: Multiplier Effect	
City-suburb multipliers	Data and model developed by Geoffery Hewings, REAL.
Figure 16: Average Annual Wages	
Average wage, all industries, 1997	Calculated by the authors from HUD's State of the Cities Data System, County Business Patterns Special Extract*. For MSAs in which more than one central city appears in the database, only the largest central city is plotted.
Figure 17: High Tech Jobs as a Proportion of All Jobs	
High Tech Employment/Total Employment, 1997	Calculated by the authors from data presented in State of the Cities 2000, Appendix B, HUD. "For MSAs in which more than one central city appears in the database, only the largest central city is plotted."

* State of the Cities Data System

Data for several of the charts in this paper were obtained from the State of the Cities Data System (SOCDS), created by HUD. SOCDS contains data on the top 100 central cities, out of about 400 cities designated as central cities of MSAs, and their metropolitan areas. In addition, for the 14 states which had no cities in the top 100, the largest city in the state was included. Thus, the seemingly peculiar total of 114. Although many MSAs have more than one central city (e.g., Evanston is one of several central cities in the Chicago MSA), the SOCDS contains data only for the central cities that meet its criteria -- the remainder of the MSA is counted as suburban. This special tabulation makes the SOCDS particularly appropriate for studying large central cities. Note that 11 of the MSAs have more than one central city in the top 100 (e.g., Los-Angeles—Long Beach). In this case, all central cities in the MSA in the top 100 are counted as central city, with the remainder of the MSA as suburban. In addition, it is important to note that in cases where data could reveal the characteristics of individual firms (e.g., there is only one firm in a particular industry in a city), data are suppressed. For details, see *County Business Patterns* documentation. For this reason, reported totals for the group of cities/MSAs may sometimes be more than the sum of the totals reported for the individual cities/MSAs.

[1] As used throughout this Report, metropolitan areas refers to the Standard Metropolitan Statistical Area as defined by the Census Bureau. See Appendix I for further detail and data sources on all of the charts below.

[2] In fact, using aggregate income of the cities relative to GDP of other countries, if anything, understates the relative size of the city economies. If we had data for city GDP – which to our knowledge do not exist – the cities would almost certainly move up even higher in the ranking. For example, nationally, income is about 60% of GDP .

[3] See, e.g., Saskia Sassen, Cities in a World Economy, Pine Forge Press, 1994 ("global cities" emerging as key sites for finance, specialized services and corporate command functions).

[4] See, e.g., Edward L. Glaeser, Jed Kolko and Albert Saiz, "Consumer City," National Bureau of Economic Research (2000)(success of cities increasingly depends on role as centers of consumption – consumer cities offer amenities attracting the most sought after workers, and firms increasingly follow this labor force; classifying cities into resurgent dense, older dense and edge cities).

[5] The earlier multiplier, in Section I.3, showed that city economic contributions were disproportionate to city population; this one instead shows that city economic activity is weighted towards certain types of sectors. It should be noted that the "new economy" concentrations below, well above city population percentages, further confirm the Section I.3 disproportionality point as well.

[6] Sassen, Ibid; Frank Moulaert, Allen J. Scott, *Cities, Enterprises and Society on the eve of the 21st Century*, , Pinter, 1997; Rob Atkinson, Urban Economic Prospects in the New Knowledge Economy, Paper for CEOs for Cities Conference, October 20, 2000; Glaeser, Ibid.; Joseph Cortright, Heike Mayer, "High Tech Specialization: A Comparison of High Technology Centers," Brooking Institution, Center on Urban & Metropolitan Policy (January, 2000).

[7] The classic modern formulation of the city's key role as a center for ideas was, of course, by Jane Jacobs; more recent evidence is summarized in Janice Fanning Madden, "Jobs, Cities, and Suburbs in the Global Economy," Annals of the American Academy, vol. 572 (November 2000).

[8] For an interesting, if complex, example, see Andrew F. Haughwout, "Regional Fiscal Cooperation in Metropolitan Areas: An Exploration," Journal of Policy Analysis and Management, vol. 18, no. 4, p. 579 (1999)(enhancements to central city infrastructure significantly increase suburban property values].

[9] See, for similarly compelling analysis looking at trends in income, with more detailed explanation of the methodology, implications and limitations, William R. Barnes and Larry C. Ledebur, The New Regional Economies, Sage Publications, 1998, chap. 4. See also, Richard Voith, "City and Suburban Growth: Substitutes or Compliments?", Business Review, Federal Reserve Bank of Philadelphia, v.126 n.6 (September/October 1992). More recent work has begun to address causation, and to differentiate between types of cities, generally confirming these findings of interdependence, with some important qualifications. See, e.g., Stephanie Shirley Post and Robert Stein, "State Economies, Metropolitan Governance, and Urban-suburban Economic Dependence," Urban Affairs Review, Vol. 36, No.1, p 46 (September 2000); Sheng-Wen Chang and N.Edward Coulson, "Sources of Sectoral Employment Fluctuations in Central Cities and Suburbs," Journal of Urban Economics, vol. 49, p 199 (2001); Richard Voith, "Do Suburbs need Cities?", Journal of Regional science, vol. 38 no.3 p. 445 (1998).

[10] See, Theodore Hershberg, "Regional Cooperation: Strategies and Incentives for Global Competitiveness and Urban Reform," National Civic Review, v. 85, Spring/Summer, 1996. See also, Michael Stegman and Margery Austin, "The Future of Urban America in the Global Economy," Journal of the American Planning Association, v62, n2 (Spring 1996).

[11] Extensive and varied work on industrial clusters, other types of business clusters and agglomeration economies generally (see, for example the work of Piore and Sable, Michael Porter, Paul Krugman and Ned Hill), highlighting the economic value of density and concentration, particularly in the new economy, all focuses on metropolitan regional economies, explicitly and implicitly recognizing these as the relevant economic units.

[12] Another interesting example of this phenomenon is that the Office of Management and Budget is no longer looking at MSAs as political units, but instead as "Urbanized Areas."

[13] Jean-Claude Pye, "Why Cities Matter to the Wealth of Nations," OECD Observer, No. 197, p 4-5 (12/95-1/96).