

Blueprint for American Prosperity

Unleashing the Potential of a Metropolitan Nation



# MetroNation

How U.S. Metropolitan Areas Fuel American Prosperity

Metropolitan Policy Program  
at BROOKINGS



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**The effort to secure American prosperity in the 21st century confronts a series of new realities.**

# EXECUTIVE SUMMARY

The stakes are high as the United States approaches the 2008 Presidential election.

Often unsettling forces are rapidly transforming the world in which we live and the rules that govern how our families and communities thrive. These forces pose a series of historic challenges and opportunities for the nation:

- How does the American economy maintain its edge in the face of quickening competition abroad, and continued restructuring at home?
- How can we grow the education and skills of our workers, and secure more broadly shared gains from economic growth?
- How will our nation combat the threat from global climate change and achieve greater energy independence, given continued U.S. population growth?

In short, the effort to secure American prosperity in the 21st century confronts a series of new realities.

These new realities, in turn, demand a reality check about who we are as a nation, and how we will succeed in the future.

The United States is not the nation of gentleman farmers in which our founding fathers lived. Nor is it defined by the teeming, polluted, industrial cities of a century ago.

Today, our nation—and our economy—is metropolitan. U.S. metropolitan areas—complex regions of interwoven

cities and suburbs—are home to more than eight in ten Americans and jobs.

These metros range from global economic centers like New York,

Chicago, and San Francisco; to major trade hubs like Louisville, Houston, and Seattle; to smaller, highly productive centers like Bridgeport, Durham, and Des Moines.

They concentrate and strengthen the assets that drive our economic productivity, grow the skills and incomes of our workers, and contribute to our environmental sustainability. Our major metro areas reflect the face of America in a global economy where, for the first time, more than half the world's population is metropolitan.

**Today, our nation—and our economy—is metropolitan.**

This report argues that the ability of our nation to meet the great economic, social, and environmental imperatives of our time thus rests largely on the health and vitality of our metropolitan areas.

Yet U.S. metropolitan areas, for all their economic might, face a series of troubling challenges that hold back our nation's prosperity. And as local and regional leaders across the nation struggle to surmount these challenges, they confront a legacy federal government maladapted to dynamic metropolitan realities.

Along these lines, *MetroNation* draws the following conclusions:

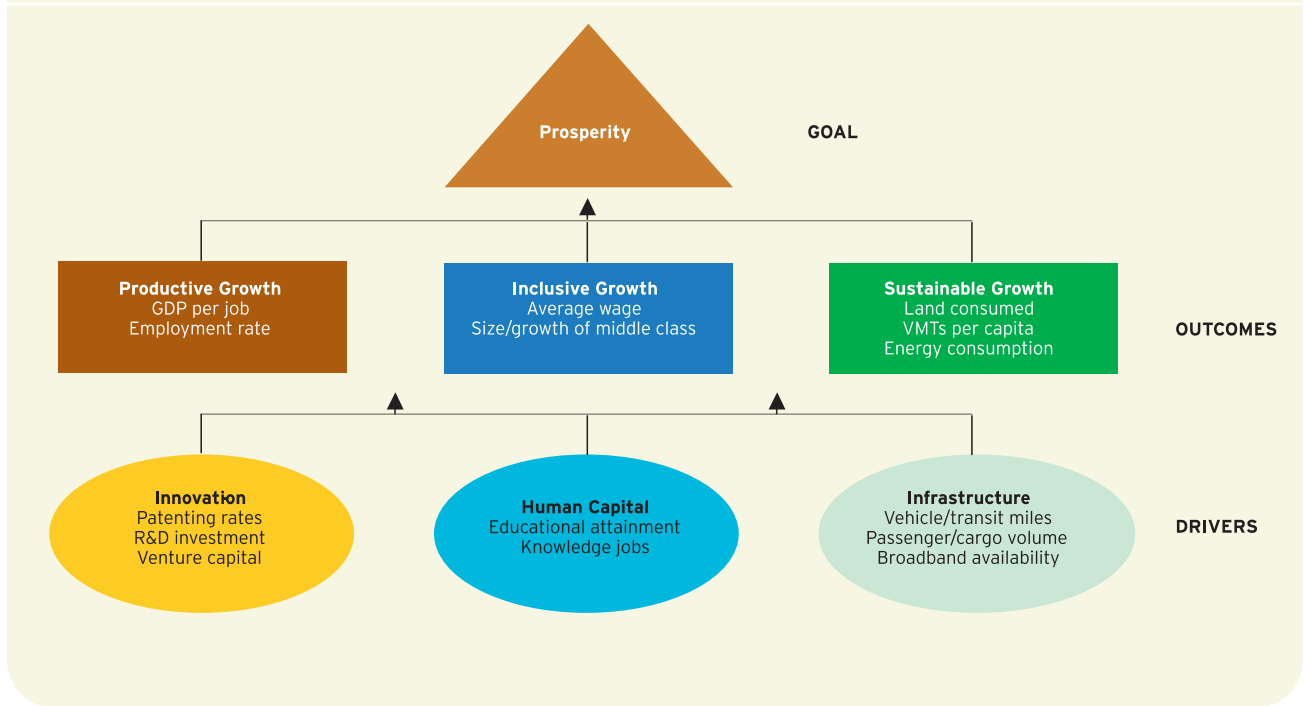
**1. New challenges to American prosperity have emerged.** Profound changes in the global and domestic economy present America with a series of historic challenges:

- **The U.S. economic powerhouse faces expanded global competition.** Economic liberalization throughout the world, skills upgrades in developing countries and massive technological advances mean that the United States faces expanded competition for jobs and investment. China and India alone accounted for more than 40 percent of global economic growth from 2000 to 2005.
- **Our domestic economy continues to restructure.** The share of U.S. jobs in manufacturing has fallen from 31 percent to 10 percent over the past half century. Meanwhile, services employment has risen to two-thirds of all U.S. jobs. Accelerated "offshoring" in both sectors threatens to bring about economic dislocation for American workers and firms in the future.
- **The U.S. labor market has become more economically polarized.** Wages for highly educated workers have risen considerably over the past 30 years, while those for less educated workers have stagnated or fallen. In part due to this polarization, the typical American family has not benefited from recent economic growth to the same degree as in previous generations.
- **Demographic shifts portend new economic challenges.** An aging workforce, combined with projected population increases among historically less educated groups, will test the nation's ability to sustain its economic leadership, achieve rising standards of living for all, and provide for a growing retired population in the future.



**The ability of our nation to meet the great economic, social, and environmental imperatives of our time rests largely on the health and vitality of our metropolitan areas.**

**Investment in innovation, human capital, and infrastructure helps drive American prosperity**  
 Prosperity outcomes and drivers, and common measures of each



**True prosperity requires productive, inclusive, and sustainable growth.**

■ **Global growth and domestic consumption have exacerbated natural resource pressures.** These trends have raised the price of energy and increased the threat to low-lying coastal areas and sensitive ecosystems from global climate change. With the United States set to add another 120 million people by 2050, such resource pressures are likely to intensify.

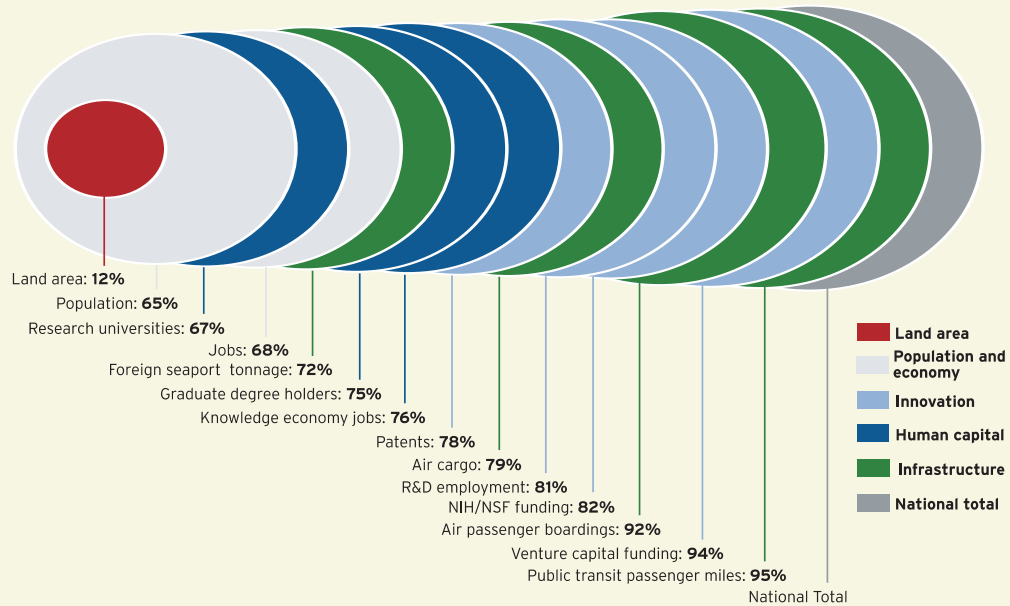
**2. America's metropolitan areas are the engines of national prosperity.** In a global economy marked by a highly competitive, interlinked network of major city-regions, America's efforts to extend prosperity depend more than ever on the success of its metropolitan areas:

■ **True prosperity requires productive, inclusive, and sustainable growth.** Our nation must aspire and act to maintain its economic leadership, foster a strong and diverse middle class, and advance efforts to address climate change and achieve energy independence. These three growth goals are not mutually exclusive, and can actually reinforce one another.

■ **Investments in innovation, human capital, and infrastructure help drive American prosperity.** Strategic public and private investments in these core assets—and in the quality places where they come together most forcefully—contribute crucially to productive, inclusive, and sustainable national growth.



**Major metros aggregate fundamental drivers of prosperity, and generate 75 percent of U.S. GDP**  
 Percentage of national activity in 100 largest metro areas, various indicators, 2005



■ **America's metropolitan areas aggregate its key drivers of prosperity.** The 100 largest U.S. metropolitan areas contain 65 percent of the nation's population and 68 percent of its jobs, but gather even larger shares of innovative activity (78 percent of U.S. patent activity), educated workers (75 percent of graduate degree holders), and critical infrastructure (79 percent of U.S. air cargo). As such, they generate three-quarters of U.S. gross domestic product. Their successes, and those of the nation's smaller metro and rural areas, are inextricably linked.

■ **Major metro areas strengthen key prosperity drivers.** These metro areas possess agglomeration economies—geographic clusters of related firms and large pools of workers—that enhance productive growth. What is more, these economies foster the quality places—vibrant downtowns, attractive town centers, and historic older suburbs—that by virtue of their density and diversity help speed the acquisition of human capital, and contribute to resource-efficient sustainable growth.

**3. To achieve American prosperity, we need a new federal partnership to promote metropolitan prosperity**

For all their aggregate strength, America's metropolitan areas face a series of troubling challenges that hold back our collective prosperity. Their collective productivity growth rate has begun to slip, their college degree-earning pace has slowed, and their sprawling development patterns continue to fuel elevated greenhouse gas emissions.

Yet our metropolitan leaders find our national government absent and adrift, largely unaware of the new economic, social, and environmental realities enveloping metropolitan America. A new partnership between federal, state, local, and private-sector leaders, a *Blueprint for American Prosperity*, is needed to help our metropolitan areas innovate and prosper in a fast-moving, unpredictable world.

**T**hough our nation faces new and unprecedented challenges, we begin from a position of great strength. Much of that strength vests in our nation's major metropolitan areas, which contain the bulk of our most important prosperity drivers. To succeed in a metropolitan world, our national government must value and strengthen our metropolitan assets. Only by recognizing that we are a metropolitan nation can we achieve the productive, inclusive, and sustainable growth that should define American prosperity in the 21st century.

# I. INTRODUCTION

As we approach the 2008 U.S. presidential election, it is worth reflecting on what sort of future America our founding fathers envisioned around the time of the first presidential election, nearly 220 years ago in 1789.

Thomas Jefferson articulated one vision. He foresaw a nation of “yeoman farmers” contributing to a largely agrarian U.S. economy, arguing: “Those who labour in the earth are the chosen people of God....” Jefferson saw no place for manufacturing in his home state of Virginia or elsewhere in the new nation, nor for the types of communities in which such activities typically took place in Europe: “The mobs of great cities add just so much to the support of pure government, as sores do to the strength of the human body.”

**As Alexander Hamilton predicted, America’s metropolitan areas today function as more than the sum of their parts.**

Alexander Hamilton played opposite Jefferson in this debate. A New York City resident for most of his life, Hamilton argued instead for a diversified American economy based on manufacturing, in which “...each individual can find his proper element, and can call into activity the whole vigour of his nature.” By his account, the approach would render “...the total mass of useful and, productive labour, in a community, *greater than it would otherwise be.*”<sup>12</sup>

Hamilton’s vision won out. Although the United States today produces goods and services beyond his imagination, Hamilton’s notion that our nation would profit most from maintaining diverse industries, aggregated in largely urban communities, forms much of the basis for our nation’s economic prosperity.

Of course, the physical form of our contemporary economy would likely bewilder either of these founding fathers. America does not resemble the European nations of their era, where population and commerce concentrated in one great capital city like London, Paris, Rome—or even New York. Nor do our “cities,” from an economic standpoint, operate like those of 200, 100, or even 50 years ago.

Rather, the United States is a **metropolitan** nation. Our major metropolitan areas encompass large cities, old and new suburbs, and even exurban and rural areas that, by virtue of their interwoven labor and housing markets, share common economic destinies. From global financial centers like New York and San Francisco, to major sea-





ports like Los Angeles and Houston, to manufacturing hubs like Detroit and Chattanooga, U.S. metropolitan areas are where our economy happens. Despite consuming just 12 percent of our land mass, the nation's 100 largest metropolitan areas harbor 65 percent of our population, and generate 75 percent of our gross domestic product.

As Hamilton predicted, American metropolitan areas also function as more than the sum of their parts. By bringing together clusters of related firms, deep pools of skilled workers, and infrastructure that connects us to one another and to the rest of the global economy, our major metro areas help stimulate the innovation that fuels economic growth, advance our workers and families, and preserve our abundant natural resources.

America is not exceptional in this regard. Indeed, we are part of a highly networked global economy in which the world's major metropolitan areas generate an outsized share of world output. Politics, custom, and language continue to separate us into individual nation-states; but trade, migration, and investment link Seattle more closely to Shanghai than to Sacramento.

On the eve of the 2008 election, we must wrestle with a series of critical questions about America's future. How do we retain our productive edge in a rapidly changing global economic hierarchy? How do we spread more widely the benefits from domestic economic growth? And how do we combat global warming and achieve energy independence while accommodating significant ongoing population increases?

In a metropolitan nation such as ours, our efforts to achieve collective prosperity—through economically productive, socially inclusive, and environmentally sustainable growth—will depend on our metropolitan engines realizing that same prosperity.

Yet Washington is out of step with America's metropolitan character. Federal policy makers too often perceive America as possessing one overarching national economy,

or perhaps 50 state economies, and our population living in a collection of 435 distinct Congressional districts. As such, they fail to focus on key national priorities, leaving metropolitan areas to wrestle with challenges that are beyond their reach. They adopt policies that betray no understanding of how our metropolitan-dominated economy works. And they saddle metropolitan leaders with fragmented, diffuse programs that ignore how thorny public policy problems interrelate and spill across state and local borders.

We need a new approach cognizant of new realities. In that spirit, this report launches the *Blueprint for American Prosperity*, a multi-year initiative of the Metropolitan Policy Program at Brookings. The *Blueprint* will present a series of specific, discrete recommendations for federal policy reforms intended to give metropolitan areas the tools they need to leverage their economic strengths, build a strong and diverse middle class, and grow in environmentally sustainable ways. These recommendations are rooted in the evidence, presented here, that our major metropolitan areas drive and dominate the U.S. economy, and possess the assets and characteristics critical for attaining greater national prosperity.

Fifty-five presidential elections separate us from the debate between Hamilton's urban vision and Jefferson's rural idyll. In 2008 and beyond, we must act on what those intervening years have shown. The United States is a MetroNation, and deserves a federal government that can fully unleash its metropolitan potential.

# II. EMERGING CHALLENGES TO U.S. PROSPERITY

Profound changes in the global and domestic economy present America with a series of historic challenges.

**Environmental impacts from worldwide industrialization, alongside continued rapid growth in U.S. population, put at risk our natural environment and quality of life.**

The rapid expansions of foreign economies and greatly enhanced technological capabilities have given rise to a new global division of labor that will test America's economic leadership. Those same forces, among others, have created a widening gap between our nation's aggregate economic performance and the well-being of typical American families. Environmental impacts from worldwide industrialization, alongside continued rapid growth in U.S. population, put at risk our natural environment and quality of life.

This section explores five trends, both global and domestic, that underline emerging challenges to American prosperity:

- **The U.S. economic powerhouse faces expanded global competition**, thanks to economic liberalization throughout the world, skill upgrades in developing countries, and rapid technological advancement
- **Our domestic economy continues to restructure**, with manufacturing representing a diminishing proportion of U.S. jobs, and a growing number of service-related sectors coming under new threat of offshoring
- **Labor market changes have fueled economic polarization**, as more highly-educated workers and those who possess certain non-routine skills have reaped wage gains, while others have experienced stagnating incomes
- **Major U.S. demographic shifts portend future economic challenges**, due to impending baby boom generation retirements and growth in the working-age population concentrated among groups with lower levels of educational attainment



■ **Global growth and domestic consumption have exacerbated natural resource pressures**, raising the price of energy and increasing the threat to low-lying coastal areas and agricultural belts from global climate change. Continued U.S. population growth will further intensify these pressures

The challenges posed by these trends also imply significant opportunities for the United States, if it acts to keep stride with the stepped-up forces of economic and demographic change.

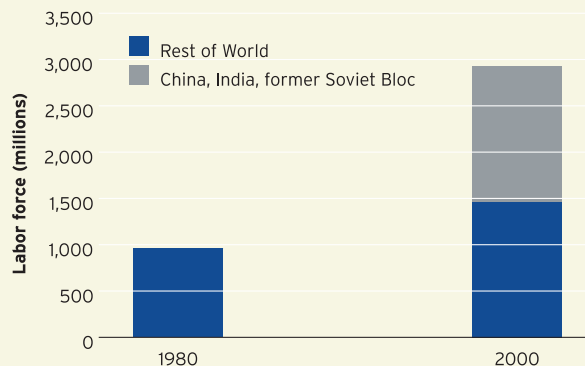
## 1. THE U.S. ECONOMIC POWERHOUSE FACES EXPANDED GLOBAL COMPETITION

The rapid developments transforming the global economic landscape in recent decades have delighted metaphorically inclined economists everywhere. Legrain asserts that we now live in an “open world.”<sup>3</sup> Dicken heralds a “global shift” that has reshaped the world’s economic map.<sup>4</sup> Leamer notes that, perhaps, “it’s a small world after all.”<sup>5</sup> Some even invoke John Lennon, asking us to: “Imagine there’s no country....”<sup>6</sup>

While breathless, this imagery does reflect real phenomena that have altered the form and function of the world economy. The most visible and momentous change regards the relatively recent integration of vast emerging economies into the global marketplace. Market-based reforms in China, India, Eastern Europe, and other developing regions over the past two decades have, by one estimate, effectively doubled the size of the global labor force during that time.<sup>7</sup>

Rapid technological advancement facilitated this expansion and integration of foreign markets. The introduction of the standardized shipping container in the late 1950s lowered the cost of shipping goods dramatically, and increased speed exponentially.<sup>8</sup> Costs have plummeted even faster and further for storing and transmitting information, thanks to advances in microprocessors and the advent and rapid diffusion of the Internet.<sup>9</sup> These advances have enabled emerging foreign economies to compete for a host of manufacturing and service jobs that were once rooted domestically. As

**Reforms in China, India, and the former Soviet Bloc roughly doubled the size of the global labor market**



Source: Richard Freeman, "What Really Ails Europe (and America): The Doubling of the Global Workforce." *The Globalist*, June 3, 2005.

**The most visible and momentous change regards the relatively recent integration of vast emerging economies into the global marketplace.**

## The Polyglot iPod

**A** symbol of the ever-evolving ways Americans connect to media and society, Apple's family of iPod products also symbolizes another evolution—the production of American electronics through longer and more complex global supply chains.

Consider the Video iPod. Researchers at the University of California, Irvine recently published a paper tracing the geography of the companies supplying this gadget's components. They found that seven of the most expensive inputs are supplied by seven different companies that are headquartered in four different nations with manufacturing locations in five different countries. Among the suppliers are two U.S.-headquartered companies, Broadcom and Portal Player, and five Asian enterprises: Toshiba, Toshiba-Matsushita, Inventec, Renesas, and Samsung.

Most of the suppliers manufacture their iPod components in Asian countries, including China, Japan, Taiwan, Singapore, and Korea. For example, U.S.-based Broadcom, which is responsible for providing the Video iPod's multi-media processors, manufactures these parts in its facilities in Taiwan and Singapore. Similarly, the suppliers with Asian headquarters may also offshore the production of their components to other countries in Asia with cheaper labor rates. When Apple outsources the production of the Video iPod's hard drive to Toshiba, the Japan-based company actually manufactures the parts in China.

Despite the large number of countries, firms, and workers involved in producing the Video iPod, the overwhelming majority of the product's gross margins accrue to U.S. firms—Apple chief among them. The authors estimate that the device's seven key inputs generate \$33 per unit in profits for the primarily foreign-based firms that supply them, but that Apple earns \$80 per unit—greater than the price of any single input. Apple's market knowledge, intellectual property, systems integration and cost-management skills, and brand name generate significant value at the lead end of the Video iPod supply chain.

Although global outsourcing is not a new development in American business history, the case of Apple's Video iPod illustrates just how complex the process has come to be. If drawn on a world map, this single supply chain, with its many different steps, businesses, and countries would appear as a dense series of links. The fact that Apple seems to effectively manage all these links and the related languages, time zones, and regulatory policies testifies to the capabilities of modern information technology, transportation logistics, and communications. It also demonstrates the unique capabilities of innovative U.S. firms to capture value in these global supply chains.

*Sources: Greg Linden, Kenneth Kraemer and Jason Dedrick, Who Captures Value in a Global Innovation System? The Case of Apple's iPod. Personal Computing Industry Center, The Paul Merage School of Business, University of California, Irvine (June 2007); Thomas McCraw, Creating Modern Capitalism. Cambridge: Harvard University Press (2003).*



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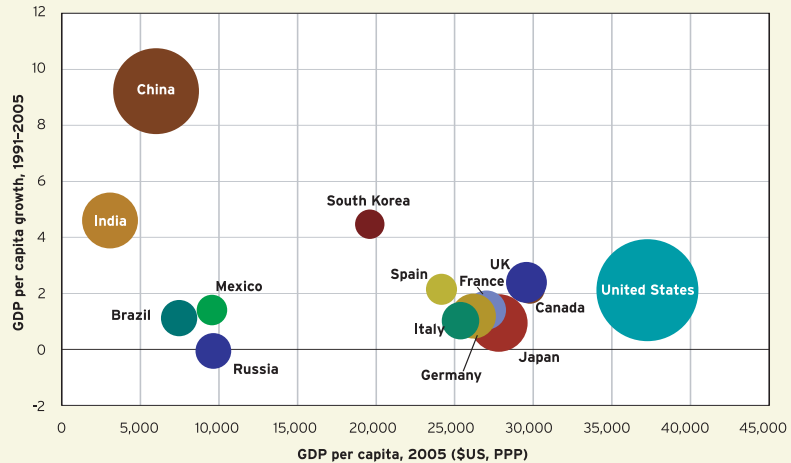
Atkinson and Correa describe, the types of jobs that moved from the U.S. Northeast and Midwest to the Southeast during the 1950s and 1960s are today moving from the United States to Southeast Asia.<sup>10</sup> Liberalized trade policies, including tariff reductions, regional trade agreements, and greater openness to direct foreign investment have further enabled these shifts.

As both a driver and consequence of growth in emerging economies, their export and import capacities and inward direct investment have expanded rapidly as well. Whereas the United States led the world in high-tech product exports in the late 1980s, China is today the world's leader, and other Asian nations such as South Korea, Taiwan, and Malaysia have made significant strides in this arena. The location of multinational corporations in these and other emerging economies has propelled their share of worldwide foreign direct investment to 36 percent in 2005, according to the Council on Competitiveness.<sup>11</sup>

Labor quality in these nations appears to be on the rise, too. According to the McKinsey Global Institute, China and India have more than twice as many young professionals in fields including engineering, finance, and life sciences research as the United States. Nonetheless, only a fraction of those workers—about one in eight by McKinsey's estimates—would make suitable candidates for employment with a multinational corporation.<sup>12</sup> Although overall educational attainment levels in these countries remain quite low relative to the United States, their sheer size implies significant potential to augment the global pool of educated workers. Freeman foresees China producing more science and engineering PhDs than the United States by 2010.<sup>13</sup> Recognizing this, an increasing share of U.S. company research and development sites have moved to China and India in recent years.<sup>14</sup>

Yet the rise of these emerging economies should not obscure the fact that the United States remains the world's largest and most prosperous national economy. The \$11 trillion U.S. economy accounts for roughly one-fifth of world output, despite the fact that the U.S. accounts for less than one-twentieth of world population. More importantly, the United States also leads all major world economies on gross domestic product (GDP) per capita, the best measure of national standards of living. Here, particularly stark differences separate the United

**The U.S. is the largest and highest-income of major world economies, though many emerging competitors are growing faster**  
 GDP (bubble size), GDP per capita, and GDP per capita growth, major world economies



Source: World Bank World Development Indicators

States from the emerging BRIC economies (Brazil, Russia, India, and China). While some suggest that continued growth and currency appreciation in the BRIC economies over the next few decades will close the GDP per capita gap, others foresee continued American dominance on this metric well into the future.<sup>15</sup>

Of course, growing per-capita income in foreign economies implies both challenges and opportunities for the United States. On the one hand, to the extent that rising incomes reflect growing productivity of foreign workers, their countries may become ever-closer competitors for investment and job growth that might otherwise occur here in America. On the other hand, as the case of Apple's Video iPod demonstrates (see page 12), worldwide economic growth also creates enormous new opportunities to export the intellectual services and high-value manufactured goods in which the United States leads the globe. As financial innovations developed in New York are exported to Hong Kong, software designed in Seattle is marketed to India, medical technologies pioneered in Cleveland are sold in Eastern Europe, and films produced in Hollywood are viewed in São Paulo, the United States is, to quote Leamer: "...a big winner not a loser from the extension of the market for its intellectual services..."<sup>16</sup>

## 2. OUR DOMESTIC ECONOMY CONTINUES TO RESTRUCTURE

**B**eneath the aggregate trend on economic output, the U.S. economy has undergone a radical transformation in its productive focus.

Nowhere is this change more apparent than in the shifting balance of U.S. manufacturing versus service employment. In July 1950, about 14 million American jobs were in the manufacturing sector. Fifty-seven years later, in July 2007, that sector employed roughly the same number of workers.<sup>17</sup> Yet in 1950, those 14 million jobs represented fully 31 percent of U.S. nonfarm employment. By 2007, the much larger size of the U.S. economy overall meant that the share of nonfarm jobs in manufacturing had fallen to just over 10 percent.

As noted above, manufacturing jobs have been moving offshore to developing countries for some time. Bardhan and Kroll refer to the period from 1987 to 1997 as the “first wave” of offshoring, in which U.S. manufacturers took steps to outsource the production of intermediate inputs to East Asian countries, such as Taiwan, China, South Korea, and Malaysia.<sup>18</sup> Today, wage differentials between the United States and industrializing nations remain a considerable driver for decisions to relocate manufacturing jobs. Recent estimates put average hourly compensation costs for production workers in China at \$0.67 in 2004, or about 3 percent of costs for U.S. production workers that year.

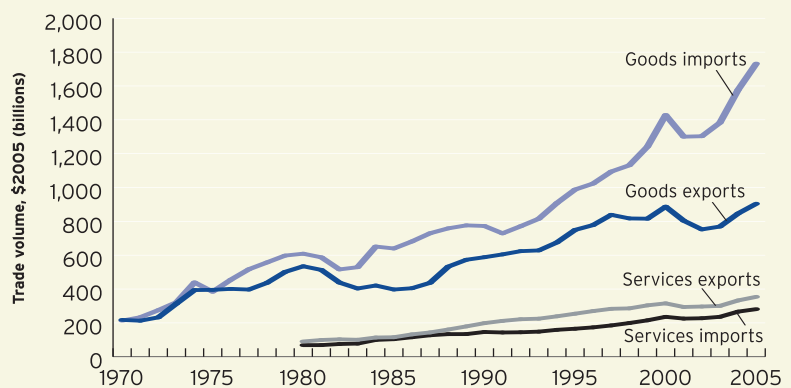
Similar disparities are evident for workers in Brazil, Mexico, and other developing Asian economies as well, and Atkinson and Correa report that developing nations’ wage rates average 20 percent of those in the United States.<sup>19</sup>

Manufacturing still remains an important part of the American economy, though its share of national output has declined somewhat over the past 15 years. Productivity growth among U.S. manufacturers has enabled firms to expand their output and keep pace with economic growth without increasing the number of workers they employ.<sup>20</sup> General Motors, for example, makes more cars and trucks today than it did in the early 1960s, but does so with about two-thirds fewer employees.<sup>21</sup> And domestic demand for manufactured goods has waned over time relative to demand for services.<sup>22</sup> These trends have affected the regional economy of the Midwest most

severely, but have also brought about some level of economic dislocation in every region of the United States.<sup>23</sup>

As manufacturing employment has held steady over the past 50 years, employment in service-related industries has ballooned. These include high-value sectors such as finance, consulting, legal, engineering, and information, as well as lower-paying niches such as administrative services, personal services, and accommodation/food services. Between 1970 and 2006, private service industries grew from 51 percent to 67 percent of all U.S. jobs. Many services meet highly localized demand (e.g., home

**The United States faces a large trade deficit in goods, but maintains a smaller trade surplus in services**  
Volume of exports and imports, merchandise v. services, United States, 1970-2005\*



Source: World Trade Organization; Bureau of Economic Analysis  
\* Data on services from 1980-2005

health care, fast food, barber shops, and community colleges) but others form the basis for U.S. competitiveness in a rising international services trade (e.g., entertainment law, management consulting, university research, and tourism). The enormous expansion of services relative to manufacturing employment also reflects slower historical productivity gains in the service sector.<sup>24</sup>

What the United States exchanges with the rest of the world through trade illustrates this shifting balance. The value of goods we import far exceeds the value of goods we export, and the gap between these measures has grown especially rapidly in the last decade. At the same time, the United States maintains a surplus in services trade, though volume in those sectors remains considerably smaller than for goods.

While the offshoring of manufacturing jobs has occurred for quite some time, service-sector offshoring



picked up considerable pace in the last several years. As Atkinson and Wial note, offshored service-sector jobs tend to involve transferring or manipulating standardized information that can be digitized and transported over telecommunications networks, with little or no face-to-face interaction.<sup>25</sup> Accounting, bookkeeping, tax preparation, payroll, call centers and telemarketing, and claims processing represent the range of business process services that some U.S. firms are conducting offshore. India is a popular destination for service-sector work, with more than half of U.S. Fortune 500 companies offshoring work there.<sup>26</sup> As with manufacturing, technology and economic growth in developing economies have enabled U.S. firms to realize cost savings from service-sector offshoring. Atkinson and Wial cite estimates that typical computer programmers in China and India earn salaries about one-tenth of those for their counterparts in the United States.<sup>27</sup>

Much debate surrounds the current and ultimate projected volume of service-sector offshoring. Consensus estimates, however, including those by Bardhan and Kroll and Atkinson, suggest that perhaps 12 to 15 million domestic service-sector jobs are at risk.<sup>28</sup> Notably, significant shares of U.S. multinational corporations expect to make offshore investments in services functions. The Council on Competitiveness cites findings that about 40 percent of these multinationals plan to offshore some business processing and R&D/engineering functions, 50 percent plan to offshore some contact-center jobs, and fully 67 percent plan to offshore some information technology work.<sup>29</sup>

However large the eventual impact of offshoring, it is still likely to be small in the context of the U.S. economy as a whole, which “churns” roughly 30 million jobs per year. At the same time, the effects of service offshoring will be felt—and are being experienced today—disproportionately within some sectors and occupations, and in U.S. geographic areas that specialize along those lines.<sup>30</sup>

**Accounting, bookkeeping, tax preparation, payroll, call centers and telemarketing, and claims processing represent the range of business process services that some U.S. firms are conducting offshore.**



### 3. LABOR MARKET CHANGES HAVE FUELED ECONOMIC POLARIZATION

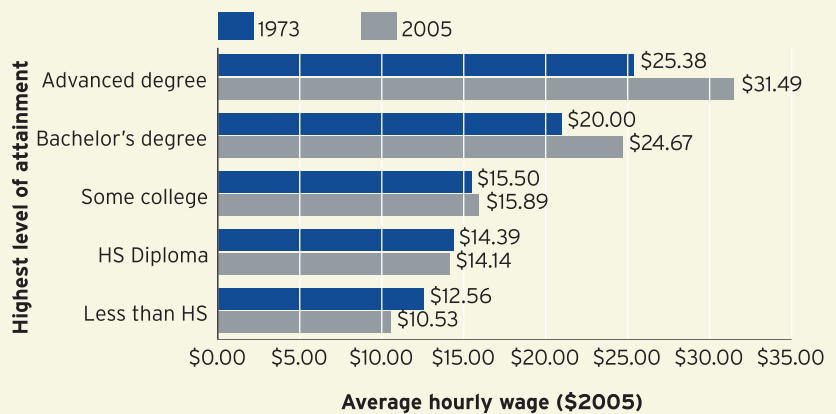
A third impact of globalization and technological change on the American economy concerns the well-being of workers at different ends of the income spectrum.

The long-run rise of global trade in manufactured goods, and the emerging global market for some services, has coincided with growth in the economic gap between workers by skill and education. As technological advancement and offshoring limited the growth of manufacturing employment domestically, workers with less formal education and skills development have had relatively fewer traditionally middle-income jobs available to them. In turn, the service-sector jobs that have increasingly replaced manufacturing jobs have themselves been polarized in their skill requirements, from management consulting and finance jobs at the high end, to food service and hospitality at the low end.

U.S. workers at the low end of the education spectrum have experienced little to no wage growth over the past few decades. Workers without a high school diploma saw their real average hourly wage drop from 1973 to 2005, and those with no more than a high school diploma saw no growth at all. By contrast, those with a four-year or advanced degree experienced significant real wage growth over this period. This rise in wage inequality represented a dramatic departure from the previous 30 years, when the income distribution narrowed during the 1940s and remained relatively stable thereafter.<sup>31</sup> More recently,

#### Average wages have risen for highly-educated workers and stagnated or decreased for less-educated workers

Average real hourly wage by educational attainment, U.S. workers, 1973 and 2005

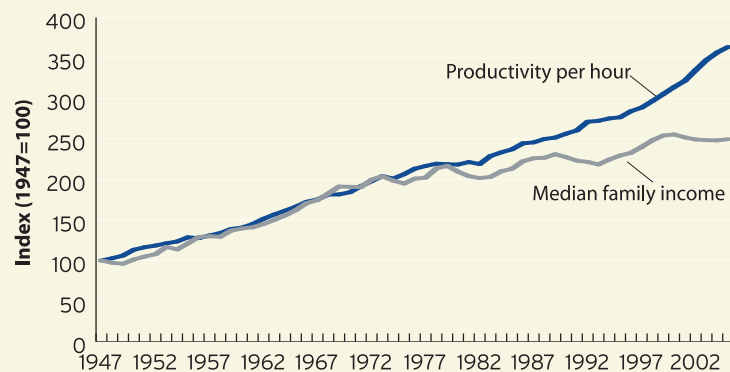


Source: Lawrence Mishel and others, *The State of Working America 2006/2007* (Ithaca, NY: ILR Press, 2007)

**As technological advancement and offshoring limited the growth of manufacturing employment domestically, workers with less formal education and skills development have had relatively fewer traditionally middle-income jobs available to them.**

#### The benefits of recent productivity gains have eluded typical American families

Index of worker productivity per hour vs. median family income, 1947-2005



Source: BLS; U.S. Census Bureau  
Productivity measured as nonfarm business output per hour

workers near the bottom of the wage distribution made gains in the late 1990s, but only the most highly educated workers have experienced any real wage growth since then.<sup>32</sup> Regardless, the long-term, secular wage trend has unmistakably disadvantaged less-educated workers.

The global and domestic economic forces described above provide some explanation for the stagnation and erosion of wages at the bottom of the education scale. But what explains the coincident gains by workers with more formal education?

Even as technological improvements and expanded trade reduced the relative demand for less-skilled workers in this country, they served to raise the demand for highly-skilled labor.<sup>33</sup> Technology has changed what workers need to know to do their work, and workers who have the conceptual and organizational skills to use technology effectively have benefited.<sup>34</sup> Computerization reduces the need for routine manual (e.g., repetitive assembly) and routine cognitive (e.g., bookkeeping) tasks, while it increases the demand for non-routine cognitive tasks (e.g., legal writing).<sup>35</sup> Similarly, because the United States has become more specialized in exporting goods and services that use skilled labor intensively (e.g., medical devices, financial services), highly educated workers have benefited from growing international trade as well.<sup>36</sup>

In part due to this wage polarization, the typical American family has not shared in the benefits of economic growth to the same degree as in previous generations. Even as U.S. worker productivity has climbed steadily since World War II, median family income has increased only in fits and starts since the early 1970s.<sup>37</sup> During the first half of this decade, the gap between productivity and income growth expanded especially quickly. This trend suggests that faster growth in today's economy does not alone guarantee that typical workers and families will see a benefit in their paychecks.<sup>38</sup>



**Faster growth in today's economy does not alone guarantee that typical workers and families will see a benefit in their paychecks.**

#### 4. MAJOR U.S. DEMOGRAPHIC SHIFTS PORTEND FUTURE ECONOMIC CHALLENGES

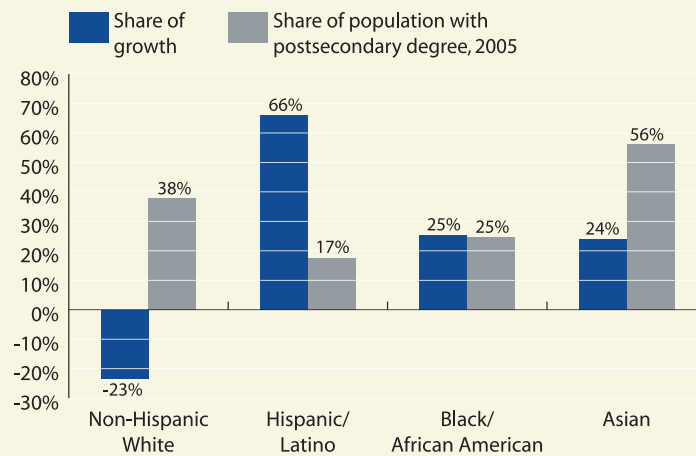
To date, the United States has confronted global economic and technological dynamics with demographic winds at its back. The baby boom generation—the 78 million Americans born between 1946 and 1964—significantly outstripped the magnitude of previous generational cohorts. They greatly augmented the size of the U.S. workforce beginning in the 1960s, and have kept the nation’s elderly “dependency ratio”—the number of elderly that each worker must support—in check for the past several decades. In 2005, the U.S. had 21 non-working people aged 65 and over for every 100 workers, lower than the ratio in every other high-income OECD country (except Iceland).<sup>39</sup> As Gladwell argues, falling dependency ratios have fueled a considerable portion of recent economic growth in Ireland and East Asia.<sup>40</sup>

**With the baby boomers on the verge of traditional retirement age, the U.S. workforce is poised to grow much more slowly in coming decades.**

With the baby boomers on the verge of traditional retirement age, however, the U.S. workforce is poised to grow much more slowly in coming decades. Despite continued immigration and higher birthrates than in many other industrialized nations, the U.S. working-age population is projected to slow its growth from about 1 percent

#### Hispanics and blacks will drive future U.S. workforce growth, but lag other groups in educational attainment

Share of growth in 25 to 64 year-old population, 2000to2050, and share of population 25 years and older with postsecondary degree, 2005



Source: U.S. Census Bureau

\* Non-Hispanic white share of growth is negative because non-Hispanic white working-age population is projected to decline from 2005 to 2050



per year today to 0.25 percent per year by 2035. This will occur alongside a marked rise in the share of the population age 65 and over, who may represent one-fifth of all Americans in 30 years.<sup>41</sup>

In the absence of strong growth in the number of workers, continued expansion of national output and income will depend even more so on productivity gains from firms and workers. More efficient use of capital investment could supply some of these gains. But given the nation's increasing specialization in high-value services, the human capital levels of tomorrow's workforce—and the degree to which technological and organizational innovations leverage that human capital—will crucially determine whether U.S. workers enjoy high and rising standards of living. Moreover, the output those workers generate will shape the levels of income and health support that can be provided, through both public and private means, to the nation's burgeoning population of non-working elderly.<sup>42</sup>

The aging of the population coincides with a second signal demographic trend: the U.S. workforce is becoming much more racially and ethnically diverse. Projections from the U.S. Census Bureau show that by 2050, non-Hispanic whites will represent less than half of the nation's prime working-age (25 to 64) population. Between now and 2050, blacks and Hispanics will grow from about 25 percent to nearly 40 percent of the work-

ing-age population, and will account for more than 90 percent of total growth in that age range.

It is among these fast-growing groups, however, that rates of educational attainment are lowest. In 2005, only 25 percent of African Americans, and 17 percent of Hispanics, held at least an associate's degree, compared with 38 percent of non-Hispanic whites and 56 percent of Asians.<sup>43</sup> Moreover, these racial/ethnic disparities are widening over time. Of particular concern are the "leakages" present in the pipeline to postsecondary education; for every 100 African Americans and Latinos entering ninth grade in 2001, the National Center for Public Policy and Higher Education estimates that 10 or fewer earn a post-secondary degree after graduating from high school.<sup>44</sup> In sum, coming demographic changes pose added challenges for sustaining U.S. economic leadership, achieving rising standards of living, and providing for a growing non-working population in the future.

**The aging of the population coincides with a second signal demographic trend: The U.S. workforce is becoming much more racially and ethnically diverse.**

## 5. GLOBAL GROWTH AND DOMESTIC CONSUMPTION HAVE EXACERBATED NATURAL RESOURCE PRESSURES

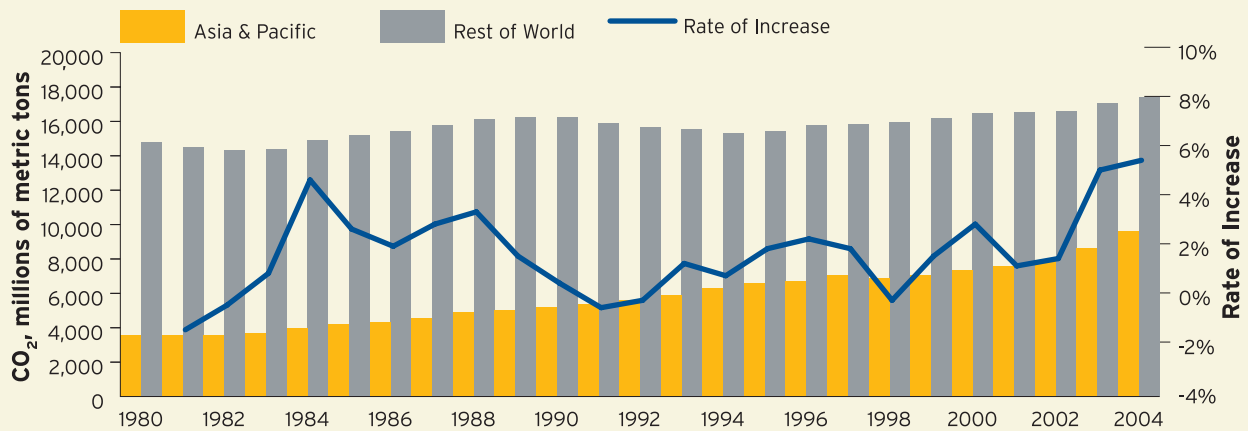
As recent research on global climate change has made clear, the accelerating industrialization of developing economies poses stark new threats to the global environment. Between 1980 and 2004, carbon dioxide emissions worldwide rose roughly 50 percent (outpacing population growth), with 70 percent of that increase concentrated in Asian/Pacific countries. The rate of increase in the 2000s—about 3 percent per year on average—significantly outstrips that of the 1990s. The International Energy Agency estimates that this pattern will repeat between now and 2030, with attendant rises in prices for oil, gas, and coal throughout that period.<sup>45</sup>

The projected impacts of these rising emissions levels on the Earth's climate are now well-documented. Current atmospheric levels of greenhouse gases (carbon dioxide, methane, nitrous oxides and other gases arising from industrial processes) are equivalent to about 430ppm (parts per million) CO<sub>2</sub>, and may reach the equivalent of 550ppm CO<sub>2</sub> by 2035, given accelerating energy demand. That is roughly double the CO<sub>2</sub> level pre-industrial revolution, and according to British economist Sir Nicholas Stern, may cause global temperatures to rise an

**As the world's largest energy consumer and largest greenhouse gas emitter, the United States contributes significantly to its own natural resource challenges, which projected future growth may exacerbate.**

### Industrializing Asian economies account for much of the rapid rise in worldwide greenhouse gas emissions

CO<sub>2</sub> emissions by world region, and year-on-year increase, 1980-2004



Source: Energy Information Administration

average of 2 to 3 degrees Celsius.<sup>46</sup>

At home, the effects are evident in rising energy and commodity prices. During the past year, the inflation-adjusted price of gasoline in the United States neared its high during the Iran-Iraq war in the early 1980s.<sup>47</sup> After a decade or more of decline, real U.S. retail electricity prices have begun to climb again, and domestic natural gas prices are now near all-time highs.<sup>48</sup> The World Bank reports a 40-percent jump in world agricultural prices since 2003, and a *240-percent climb* in metals and minerals prices over the same period.<sup>49</sup> Instability in oil-producing nations and recent natural disasters have undoubtedly contributed to these price increases, but growing worldwide demand explains most of these trends.

The effects of global climate change are already evident in U.S. ecosystems, and pose significant future challenges for a large swath of the country. The timing of important ecological events and the geographic range of plants and animals within the United States have already shifted in response to warming, which impacts the stability, resilience, and productivity of the country's ecosystems.<sup>50</sup> Southeastern states, in particular, are vulnerable to reduced agricultural output, the potential for water shortages, and threats to their low-lying coasts due to rising sea levels. Smith projects that average temperature increases of more than two degrees Celsius (in line with the Stern estimates) would cause economic damage to the country as a whole, and bring about potentially catastrophic impacts in the nation's most vulnerable sectors and regions.<sup>51</sup> And U.S. insurance commissioners see evidence of mounting property losses related to climate change-induced weather events, especially hurricanes and forest fires.<sup>52</sup>

As the world's largest energy consumer and largest greenhouse gas (GHG) emitter, the United States contributes significantly to its own natural resource challenges, which projected future growth may exacerbate. Mounting evidence shows that choice of urban form in the United States relates meaningfully to the volume of vehicle miles traveled by residents, and the energy consumed by buildings, thereby impacting GHG levels.<sup>53</sup> Meanwhile, our nation is projected to add another 120 million people by 2050, a level that only China and India will exceed. Nelson estimates that as a result of this growth, the United States will require an additional 213 billion square feet of homes, retail facilities, office buildings, and other built space.<sup>54</sup> How and where we build in the future, therefore, carries far-reaching implications for the health of our environment, our energy independence, and our economic security.

## SUMMARY

The rapid changes brought on by expanded global trade and technological advancement, as well as our nation's shifting demographics, animate several of our most important domestic economic challenges. In short, our nation's future appears more uncertain today than it might have in the past:

- While U.S. economic pre-eminence is not under immediate threat, rising competition abroad, continued restructuring at home, and major changes on the demographic horizon may jeopardize our future economic growth prospects;
- Typical American families, and especially less-educated workers, have not shared in the benefits of recent economic growth, and global economic expansion threatens further dislocation for some; and
- Environmental changes imperil U.S. regional ecosystems and economies, firms and families are contending with energy costs that seem likely to rise well into the future, and continued domestic population growth could exacerbate existing natural resource pressures

Each of these challenges, however, implies opportunities that, if seized, could propel American success well into the 21st century.

- Economic growth in the developing world could create vast new markets for high-value American products and services, if our firms and workers continue to innovate, grow ever-more productive, and meet rising global demand
- An increasingly diverse U.S. workforce, if equipped with the necessary education and skills that complement evolving technologies, could reap enhanced gains from future growth that narrow historical racial and ethnic economic disparities
- Global climate change and higher energy prices could spur the creation of new innovations that augment our energy independence, protect our environmental assets, and efficiently accommodate future population growth

Amid unprecedented levels of global and domestic change, the United States thus faces one overarching question: How can our nation secure a vigorous, shared, and sustainable prosperity?

# III. METROPOLITAN AREAS: ENGINES OF AMERICAN PROSPERITY

The United States must find a way to sustain and grow its collective prosperity in the face of tremendous economic and demographic change.

**Our national prosperity is inextricably linked to the health and vitality of our metropolitan areas.**

We argue that true prosperity marries productive economic growth with greater social inclusion and long-term sustainability. In order to achieve this type of lasting prosperity, our nation must invest in the institutions, people, and places that help drive these desired outcomes.

It is America's *metropolitan areas*, collections of interconnected cities and suburbs, that aggregate and strengthen our key prosperity drivers: innovation, human capital, and infrastructure. Moreover, these metropolitan areas boast the dense, diverse, and distinctive quality places that help to unleash the full potential of these drivers. Though encompassing just 12 percent of the nation's land mass, fully 65 percent of our nation's population lives in the 100 largest metro areas. And these metro areas generate three-quarters of U.S. gross domestic product.

This section argues and demonstrates the following:

- **True prosperity requires productive, inclusive, and sustainable growth** that helps the United States maintain its economic leadership, fosters a strong and diverse middle class, and advances U.S. efforts to address climate change and achieve energy independence. These three growth goals are not mutually exclusive, and can actually reinforce one another
- **Investments in innovation, human capital, and infrastructure help drive American prosperity** by strengthening economic growth, improving the potential of our workers and the well-being of our





families, and making more efficient use of our natural resources

■ **America's metropolitan areas aggregate its key drivers of prosperity**, evidenced by their concentrations of high-value jobs and innovative activity, educated workers and institutions of higher learning, critical infrastructure for market function and energy efficiency, and our nation's most globally competitive firm clusters

■ **Major metro areas strengthen key prosperity drivers** by virtue of their significant agglomeration economies, and their dense, diverse, and distinctive quality places where knowledge- and innovation-based firms and workers thrive

Metropolitan areas do not *follow* the national economy, they *are* the national economy. As a result, our national prosperity is inextricably linked to the health and vitality of our metropolitan areas.

## 1. TRUE PROSPERITY REQUIRES PRODUCTIVE, INCLUSIVE, AND SUSTAINABLE GROWTH

**W**e assert that true prosperity is based on our achieving three types of growth, which in turn address the challenges set forth in the previous section:

■ **Productive growth** boosts innovation and entrepreneurship, generates quality jobs and rising incomes, and helps the United States maintain its economic leadership

■ **Inclusive growth** expands educational and employment opportunities, reduces poverty, and fosters a strong and diverse middle class

■ **Sustainable growth** strengthens existing cities and communities, conserves fiscal and natural resources, and advances U.S. efforts to address climate change and achieve energy independence

Why growth? For the foreseeable future, our nation will continue to grow in size, thanks to immigration and birth rates that exceed those in most other industrialized nations. As noted in the previous section, U.S. population is projected to reach 420 million by 2050. As a result, our economy is bound to grow as well, as it creates new jobs, new firms, and new ways of doing business. No doubt, Americans will consume more resources, both natural and man-made, in conjunction with this continued growth. Growth is an American reality, and moreover, a signal of our collective optimism and appeal to residents of other nations.

To achieve true prosperity, however, America cannot grow for growth's sake alone. We assert that productive,

**To achieve true prosperity, America cannot grow for growth's sake alone.**



inclusive, and sustainable growth are each important in their own right, and in some respects, actually help to reinforce one another.

First, productive economic growth helps the United States achieve rising incomes over time, allowing each generation to benefit from higher standards of living than its predecessor. This type of growth is often measured through an indicator such as GDP per capita, which reflects the average income enjoyed by a nation's residents.

Second, inclusive growth requires that the fruits of that productive growth are widely shared. An inclusive society is one in which most people have opportunity and hope for the future, and a reason for civic engagement. And inclusive growth reaffirms the distinctly American value that: "merit and effort should matter more to professional success than do the circumstances of one's family."<sup>55</sup> Progress on inclusive growth is measured in many ways, such as median income or wages, the poverty rate, and the size and growth of the "middle class."

Third, sustainable growth preserves expendable resources, not only to fuel future economic growth, but to protect the natural environment on which our quality of life depends. Greenhouse gas emissions, rural land consumed, and air or water quality shed light on whether our nation is achieving sustainable growth goals.

Evidence confirms that, although societies often make trade-offs among these three types of growth, these growth goals can and do coexist:

- **Productive growth and inclusive growth are interrelated.** The tighter labor markets that characterize robust economic growth help to lift median wages

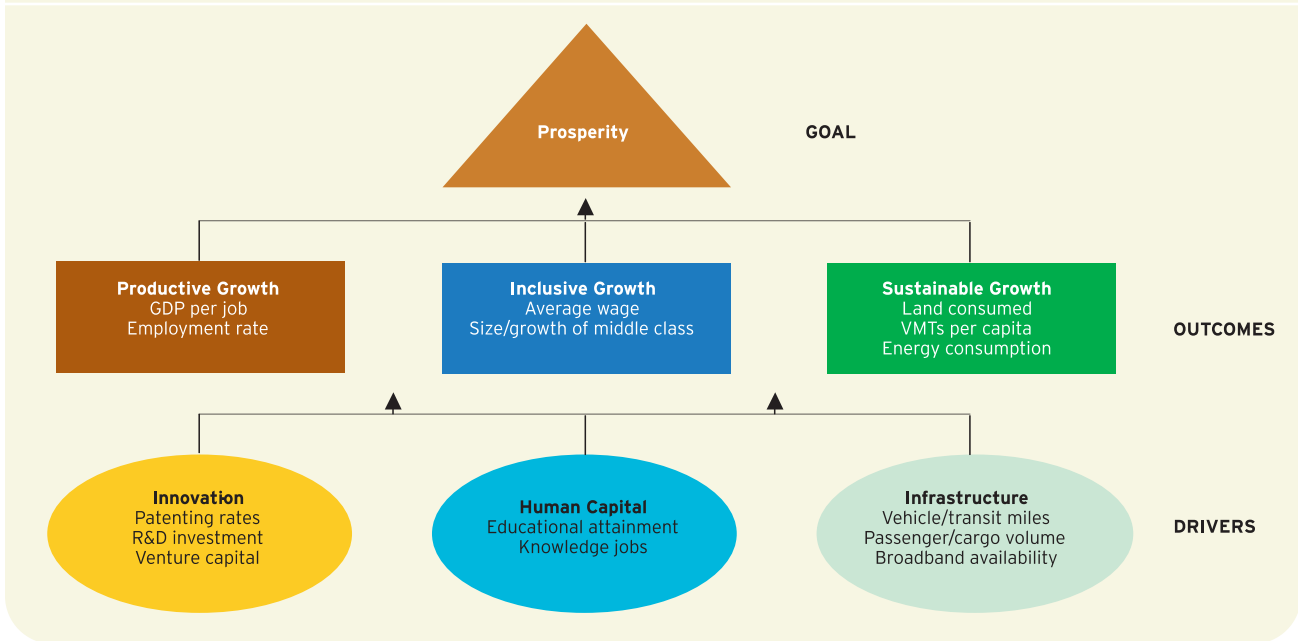
and reduce poverty rates, as occurred in the late 1990s.<sup>56</sup> Moreover, key policy efforts to promote inclusion, such as turn-of-the-century Progressive reforms, the Civil Rights Act, greater receptivity to immigration and trade, and the creation of Medicare and Medicaid all occurred in the context of expanded economic growth. Friedman argues that these efforts succeeded because people believed their standard of living would rise over time.<sup>57</sup> Likewise, there is an increasing recognition that the political consensus for policies to promote economic growth depends on achieving a more inclusive distribution of the gains from that growth.<sup>58</sup>

- **Productive growth and sustainable growth are interrelated.** To be sure, many nations—certainly the United States—have historically pursued economic growth to the detriment of environmental sustainability. Such trade-offs are most evident today in China, which is experiencing both rapid economic growth and environmental degradation. But as Kahn, Friedman, and others argue, income growth in developed nations is associated with improving environmental quality, as workers move into industries and occupations that are more resource-efficient, and governments accrue resources and a public mandate to protect air, water, and land.<sup>59</sup> Recent declines in the levels of toxic emissions, and increases in forest volume, suggest that the United States is past the tipping point where greater economic growth should yield improved environmental sustainability.<sup>60</sup> In addition, efforts to sustainably accommodate future population and job growth in existing communities not only protect natural resources, but also can augment the density and diversity on which robust growth thrives.

- **Sustainable growth and inclusive growth are interrelated.** Recent evidence shows that, in a significant number of the nation's metropolitan areas, economic inequality gives rise to greater levels of economic segregation and subsequent oversupply of housing.<sup>61</sup> Such oversupply tends to consume more resources than is efficient given levels of population and household growth, and occurs most often in formerly rural settings.<sup>62</sup> At the same time, metropolitan areas that have greater population density—and hence a more sustainable profile—exhibit greater wage equality among their workers.<sup>63</sup> Conversely, those places that artificially limit housing supply through excessive regulation and exclusionary zoning drive up housing prices, which may limit residential opportunities for lower-income households and stimulate resource-dependent development at the metropolitan fringe.<sup>64</sup>



**Investment in innovation, human capital, and infrastructure helps drive American prosperity**  
 Prosperity outcomes and drivers, and common measures of each



## 2. INVESTMENTS IN INNOVATION, HUMAN CAPITAL, AND INFRASTRUCTURE HELP DRIVE AMERICAN PROSPERITY

**P**roductive, inclusive, and sustainable growth, and the prosperity to which they contribute, reflect a desired outcome for America’s future. But achieving these growth goals requires that the nation strategically invest in the institutions, people, and places that can produce those outcomes.

Here, we focus on three key drivers of prosperity: innovation, human capital, and infrastructure. These are not the only factors that matter for prosperity, of course. Indeed, this *Blueprint* initiative asserts that a complementary set of policy tools such as wage subsidies, environmental regulations, and planning requirements are needed to “bend” growth towards collective prosperity. Nevertheless, these three drivers contribute fundamentally to productive, inclusive, and sustainable growth, and as such, attract significant levels of public and private investment.<sup>65</sup> The relationship is depicted above.

**Innovation:** The successful exploitation of new ideas, through new products, new processes, and new business models, has always served to propel economic growth.<sup>66</sup> Increased market integration, increased speed of information flows and economic transactions, and increased

**The successful exploitation of new ideas, through new products, new processes, and new business models, has always served to propel economic growth.**



American dependence on high-value services exports suggest that innovation is more important now than ever before to future U.S. productivity growth. The UK's Department of Trade and Industry points out that: "The speed of changing technology and the extent to which new products and services can change market conditions mean that the challenge to innovate is urgent and continuous."<sup>67</sup> Indeed, our nation's ability to continuously innovate may constitute a growing competitive advantage at a time when developing nations such as China and India can offer firms significant labor cost advantages. Innovation inputs include, among others, investments in research and development, public and private research institutions, and venture capital support for innovative firms; patenting rates are a widely-used measure of innovative activity.<sup>68</sup>

**Human Capital:** Recent trends in the earnings distribution, when viewed through the lens of educational attainment, strongly suggest that worker knowledge increasingly contributes to worker productivity. The most highly educated workers have accumulated the bulk of wage gains over recent decades—especially those workers who specialize in cognitive, non-routine tasks that complement evolving technologies. Not only may greater human capital translate directly into higher output per worker (e.g., by improving worker efficiency, or growing and retaining jobs in high-value industries), but also it may create spillovers into other productivity drivers (e.g., by raising the rate of innovation). What is more, strategic investments in human capital are clearly necessary for fostering inclusive growth, as narrowing educational disparities can help to reduce economic inequality. Educational attainment for adults and test performance for children are common measures of human capital levels; the density of "knowledge economy" jobs helps to indicate the extent to which the labor market is making use of that human capital.

**Infrastructure:** The quality and efficiency of infrastructure—especially on transportation, telecommunications, and energy—can support prosperity through multiple channels. The provision of high-quality transportation infrastructure, such as roads, transit, rail, and ports, speeds the movement of goods and people within and

**Strategic investments in human capital are clearly necessary for fostering inclusive growth, as narrowing educational disparities can help to reduce economic inequality.**

across markets. This may facilitate greater business investment, enhance the positive effects of agglomeration economies (see below), promote labor market flexibility, and open new domestic and international product markets.<sup>69</sup> Technological infrastructure such as broadband Internet raises output growth by “deepening” capital stock and enhancing network effects and methods of organizing production.<sup>70</sup> And a reliable energy supply allows firms to operate at lower cost, make long-term decisions, and take full advantage of other public infrastructure investments. Investments in infrastructure can also support sustainable growth by, for instance, reducing traffic congestion, linking transit to dense residential and employment nodes, or supporting the adoption of clean-fuel technologies. Infrastructure output measures include, among others, miles traveled (by vehicle or public transit) and passenger/cargo volumes; broadband usage; and grid volume.<sup>71</sup>

We further emphasize that these three drivers come together most forcefully in what we term **quality places**—

dense, diverse, and distinctive local environments that foster greater innovation, attract and grow human capital, and promote infrastructure efficiency.

Of course, these drivers clearly overlap and influence one another. For instance, human capital is a necessary ingredient for innovation; and superior infrastructure—especially technological infrastructure—contributes to innovative capacity. Yet public investments in all three are critical. Just as importantly, related public policies shape the broader *climate for investment* in each of these areas, as actors in other sectors—such as private universities and laboratories, utility and telecommunications firms, and real-estate developers—deliver the ultimate return on investment. As the next section argues, to achieve prosperity, our nation must focus particular attention on the places within the United States that possess and enhance the return on those drivers.

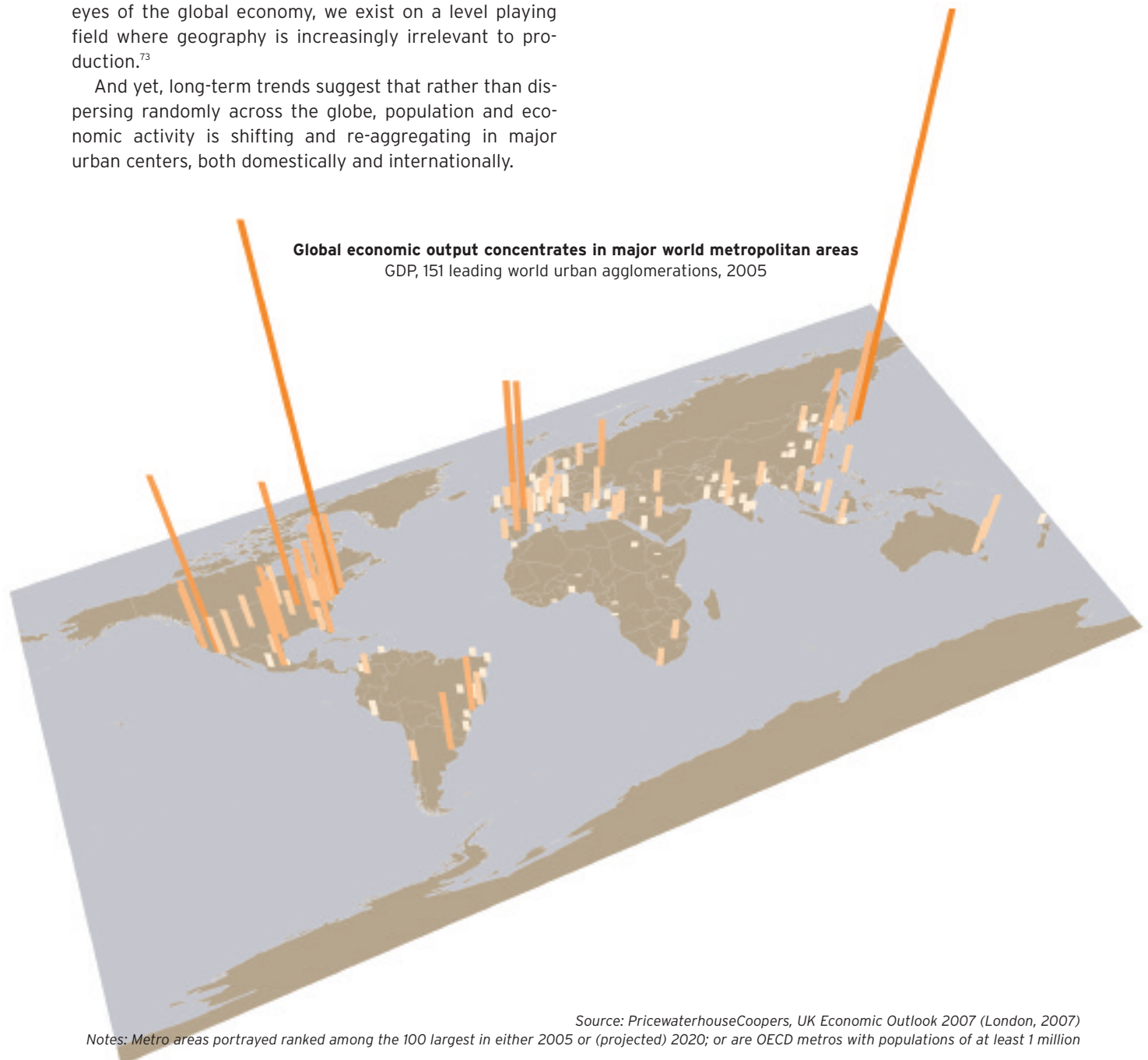


### 3. AMERICA'S METROPOLITAN AREAS AGGREGATE ITS KEY DRIVERS OF PROSPERITY

Popular portrayals of the new global economic order have led some to argue that place no longer matters in a world with such fluid economic boundaries. Phrases such as “the death of distance,” “geography is dead,” the advent of “electronic cottages,” and projected dispersal into the “Electronic Heartland” signify such predictions.<sup>72</sup> In addition, Thomas Friedman’s metaphor that “The World is Flat” suggests that in the eyes of the global economy, we exist on a level playing field where geography is increasingly irrelevant to production.<sup>73</sup>

And yet, long-term trends suggest that rather than dispersing randomly across the globe, population and economic activity is shifting and re-aggregating in major urban centers, both domestically and internationally.

At the global level, the best evidence for the continued importance of place lies in a simple fact: For the first time ever in 2006, more than half the world’s population lives in metropolitan areas. The growth of mega-cities in the developing world has much to do with this trend, but so does the continued prominence of metropolises in developed economies. The proportion of population living in metropolitan areas is very high in Western Europe (77 percent), North America (81 percent), and Australia/New Zealand (88 percent).<sup>74</sup>



Even more so than population, global economic output concentrates in major urban centers. The top 30 metropolitan areas worldwide—including Tokyo, New York, London, and Boston—generated roughly \$10 trillion in GDP in 2005, equivalent to about 16 percent of global output, despite containing just 4 percent of the world’s inhabitants.<sup>75</sup> Indeed, economic activity clusters in urban areas in nearly all corners of the globe. Thus, globalization has not killed off geography; rather, it has increased competition among clusters of firms in our major global urban centers.

Though notions of America as an agrarian nation still persist—rooted in Jefferson’s view that cities are: “...pestilential to the morals, the health, and the liberties of man”—the American economy is today a heavily metropolitan one. Our population and highly productive industries concentrate mainly in our largest metropolitan areas, combinations of cities and suburbs that represent markets for labor, housing and other consumption goods, and regional identity. As in the rest of the world, U.S. metropolitan areas are the geographic building blocks of our national economy.

- Metropolitan areas are **labor markets**; the vast majority of people who live within a given metropolitan area also work there. In 2000, 94 percent of workers living in the nation’s 100 largest metropolitan areas commuted to jobs within their own metropolitan area. Yet commuters cross municipal and county borders within metropolitan areas frequently on their way to work. Roughly 30 percent of major metropolitan workers commute to jobs outside their county of residence, a share that has increased steadily over time.<sup>76</sup>
- Metropolitan areas are **housing markets**, in that when households move, they tend to stay within their home market. In the 100 largest metro areas, more than three-quarters of movers from 2004 to 2005 relocated from elsewhere in the same metro area.<sup>77</sup>



- Metropolitan areas are **sources of identity** for their residents, too. When people travel abroad or elsewhere in the United States, their answer to the question, “Where are you from?” is more likely to reference their metropolitan area’s largest city than a suburban hometown or county.<sup>78</sup> This metropolitan identity finds expression in sports teams, media, and marketing by business and tourism associations, as well as visits to metropolitan cultural destinations in metropolitan areas like greater Chicago (see page 30). Even as many NFL teams play their games in suburban stadiums (e.g., the Dallas Cowboys in Irving, TX; the New England Patriots in Foxborough, MA; the Washington Redskins in Landover, MD), televised “cut-away” shots inevitably reveal the downtown landscapes that anchor the teams’ metropolitan areas.

## What Makes Chicagoland?

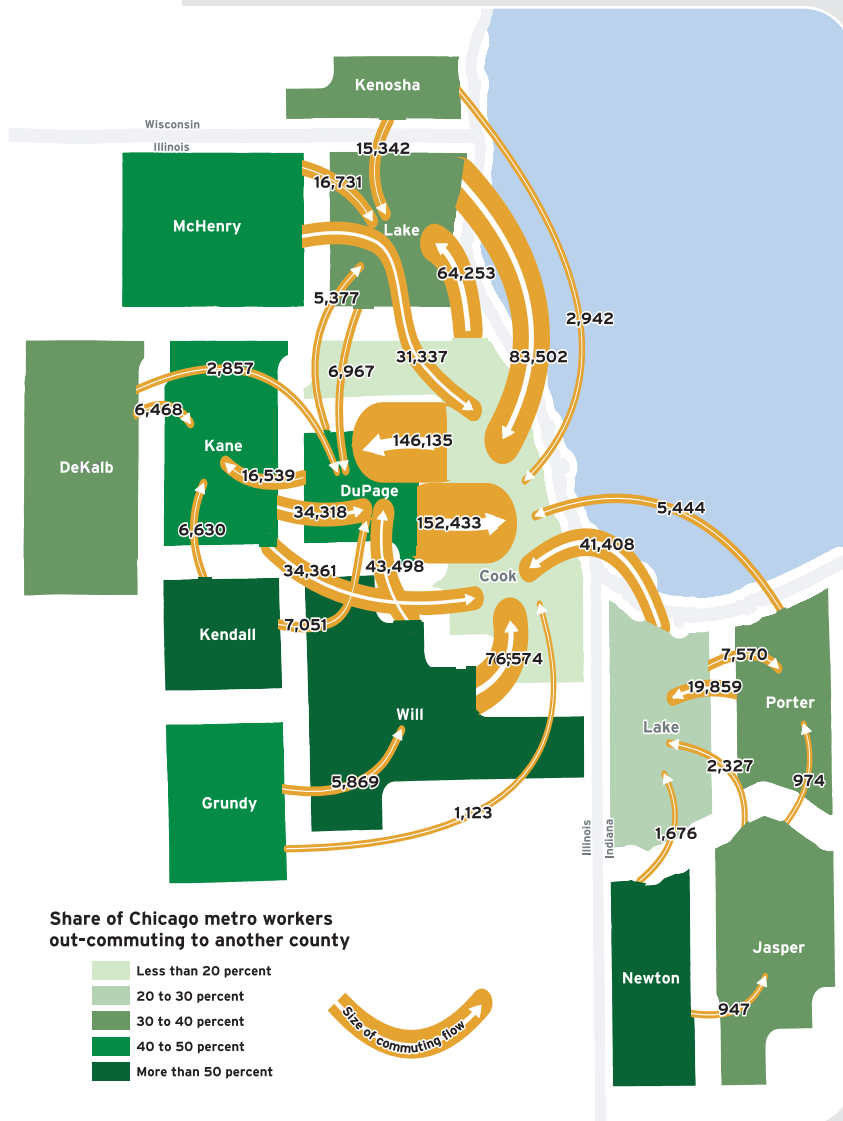
**M**etropolitan areas join cities and their suburbs together to represent local economies. In the United States, *Metropolitan Statistical Areas* (MSAs) are defined by the U.S. Office of Management and Budget (OMB) based on data gathered by the Census Bureau. OMB locates these areas around a densely populated core, typically a city, of at least 50,000 people. Counties that have strong commuting ties to that core are then included in the definition of the metropolitan area.

metropolitan area.

Based on definitions announced in 2003, OMB identifies a total of 363 MSAs nationwide, with populations ranging from 52,000 (Carson City, NV) to over 18 million (New York-Northern New Jersey-Long Island). This report focuses primarily on the 100 largest metropolitan areas in the United States, which in 2005 had populations of roughly half a million people or more.

The Chicago metropolitan area, the nation's third largest, links the city of Chicago and its surrounding Cook County with 13 other counties in Illinois, Indiana, and Wisconsin (see below). The strong commuting ties between these counties and the dense core of the region reveal the interconnectedness of the metropolitan economy. Indeed, the shared economic, social, and cultural fates of the region are bound up in the identity of what its residents term "Chicagoland."

• **The Chicagoland region, not merely the city itself, is a hub of international business.** Hundreds of locally-owned businesses throughout the region operate internationally, with headquarters spanning the collar counties of Chicagoland. Of the businesses with foreign-operating subsidiaries, 34 percent are located within the city of Chicago, while the remainder fall outside of the city, primarily within Cook County, DuPage County, and Lake County. Of the foreign-owned businesses that site a headquarters location in the Chicago MSA, only 16 percent do so within the Chicago city limits. By comparison, 43 percent of these foreign headquarters are in another Cook County city or town, and 24 percent lie in DuPage County. Lake (IL) and Kane counties capture another 12 percent.



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• **Many of the workers who live and work in the Chicagoland region commute across county lines to their places of employment.** According to Census 2000, 24 percent of all commuters that live and work in Chicagoland travel to jobs within the metro area outside their county of residence. In some counties, especially those located farther out in the region, the out-commuting share is much higher: 68 percent in Kendall, 55 percent in Will, 52 percent in Newton, and 48 percent in McHenry.

• **To facilitate this movement throughout the region, Chicagoland has a public transit system that links downtown Chicago to many surrounding counties.** For instance, the Metra commuter rail system has 11 lines connecting downtown Chicago to surrounding areas in Cook, DuPage, Will, Kane, Lake, and McHenry counties in Illinois and Kenosha County in Wisconsin. In addition, the South Shore Line connects Lake and Porter counties in Indiana to downtown Chicago. In 2002, Metra experienced more than 280,000 boardings on a typical weekday. What is more, Metra commuting across jurisdictional lines is on the upswing. Despite a slight drop in ridership overall from 1999 to 2002, *inbound* boardings from several outlying Chicagoland counties towards downtown Chicago increased (by 13 percent from Kenosha, 8 percent from McHenry, and 7 percent from Porter), as did *outbound* boardings from the Chicago Loop during the peak morning rush hours (by 3 percent).

• **Major centers of knowledge and learning locate throughout the Chicagoland area.** The University of Chicago, in the city's Hyde Park neighborhood, and Northwestern University, in Evanston (Cook County), are two of the world's elite centers of higher learning. Northern Illinois University, in suburban DeKalb County, and the University of Illinois at Chicago, in the city's University Village neighborhood, also count among the nation's major research universities. The School of the Art Institute of Chicago, in downtown Chicago, is one of the nation's premier centers for fine arts study. And Argonne National Laboratory, in suburban DuPage County, employs 2,900 people (including 1,000 scientists and engineers) to study a range of scientific phenomena, from particle physics to global climate change.

• **Media and sports teams affirm Chicagoland's regional identity.** Statistics compiled for the Knight Foundation indicate the Chicagoland-wide reach of the region's two major daily newspapers. In 2005, 54 percent of the *Chicago Sun Times'* weekday sales occurred in ZIP codes outside the city of Chicago, including 34 percent in suburban Cook County and 14 percent in suburban DuPage, Will, Kane, and McHenry counties. The *Chicago*

*Tribune's* readership is even more regionalized, with 73 percent of weekday sales occurring outside Chicago, including 33 percent in suburban Cook County, 17 percent in DuPage County, and 11 percent in Lake County (IL). The area's nine professional sports teams connect fans throughout the region and, in some cases, across the greater Midwest. Though the White Sox and Cubs, the area's two Major League Baseball squads, are known for their intense North Side/South Side rivalry, the White Sox actually draw 63 percent of their ticket base from outside the city of Chicago. Other franchises estimate similar levels of regional support.

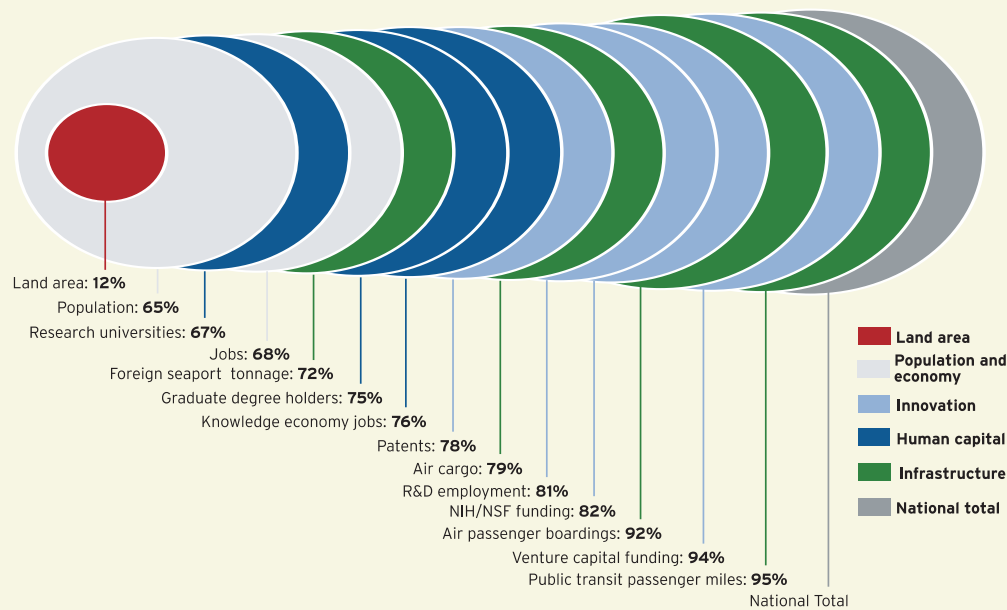
• **Chicagoland's cultural institutions and non-profit organizations draw regional support.** Museums in the Parks, a consortium of 10 Chicago museums located within Park District boundaries, estimates that from January to June of 2006, 22 percent of visitors came from the city of Chicago itself, while 21 percent came from the greater Chicagoland area. Chicagoland residents also make substantial charitable donations to organizations region-wide. According to the Donors Forum, in 2005, 45 percent of donors from the city of Chicago, and 51 percent of donors from elsewhere in the region, contributed money to organizations located outside of their home community.

• **An area mayors' caucus and regional planning organizations tackle issues affecting the whole of Chicagoland.** The Metropolitan Mayors Caucus is comprised of the elected leaders of 273 individual municipalities across six Chicagoland counties. The mayors have collaborated on a range of critical region-wide public-policy initiatives on affordable housing, clean air, and school funding. Meanwhile, two quasi-governmental regional planning agencies—the Chicago Metropolitan Agency for Planning and the Northern Indiana Regional Development Authority—plan for population growth and demographic shifts, and invest in transportation, housing needs, and sustainable development.

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Sources: *Business headquarters data from ReferenceUSA Business Database and Global Chicago; Commuting data from Census 2000; Metra ridership data from Regional Transportation Asset Management System, [www.rtams.org](http://www.rtams.org); Newspaper sales data from Knight Foundation, <http://powerreporting.com/knight/>; cultural information from Museums in the Parks; philanthropy information from the Donors Forum. Special thanks to the Chicago Metropolitan Agency for Planning for its assistance in compiling this profile.*

**Major metros aggregate fundamental drivers of prosperity, and generate 75 percent of U.S. GDP**  
 Percentage of national activity in 100 largest metro areas, various indicators, 2005



Other nations think about and describe the geographic arrangement of their economy in this way, though their terminology may differ slightly. Much of the economics profession tends to use the term “cities” to refer to entire metropolitan areas, recognizing that the economic function of these large places encompasses territory and population far beyond the administrative units that lie at their core. The United Nations employs the term “urban agglomeration” to connote the densely populated areas that surround major world cities.<sup>79</sup> The OECD refers to “metropolitan regions” within which economic links are concentrated.<sup>80</sup> The United Kingdom asserts that its “city-regions” reflect the “geography of everyday life,” and governments there are developing policies to respond to that reality.<sup>81</sup>

Concentrations of our key prosperity drivers—innovation, infrastructure, and human capital—are found in varying degrees in any one of the nation’s 363 metropolitan areas. As explained further below, metro areas are built on *agglomeration economies* that enhance productivity and output by gathering these assets within close proximity. The aggregations of the greatest breadth and depth are found within larger metropolitan areas:

**Population and economy:** Though the nation’s 100 largest metro areas consume just 12 percent of the nation’s land area, they contain 65 percent of the nation’s population and 68 percent of its jobs, and generate 75 percent of the nation’s gross domestic product.<sup>82</sup>

**Innovation:** The top 100 metro areas produced 78 percent of all patents, accounted for 81 percent of all R&D

employment, attracted 82 percent of NIH and NSF research funding, and received 94 percent of all venture capital funding in 2005;<sup>83</sup>

**Human capital:** The top 100 metro areas house 67 percent of major U.S. research universities, 72 percent of adults with a post-secondary degree, and 75 percent of workers with a graduate degree; they also accounted for 76 percent of all “knowledge economy” jobs;<sup>84</sup>

**Infrastructure:** Ports and airports in the top 100 metro areas handled 72 percent of all foreign seaport tonnage, 79 percent of all U.S. air cargo weight, and 92 percent of all air passenger boardings. Their transit systems accommodated 95 percent of public transit passenger miles traveled. And 85 percent of the U.S. population living in “high-penetration” areas for broadband technology in 2004 resided in the 100 largest metro areas.<sup>85</sup>

Given that our large metropolitan areas aggregate these key economic drivers, it is not surprising that the firms and industries that drive national economic competitiveness in the global economy are found in major metropolitan areas, too. A list of our most globally competitive industry clusters—in which the United States retains an outsized share of goods and services exports—further reveals the economic dominance of our largest cities and suburbs, and their varying specializations in our nation’s key goods-producing sectors:

- The Seattle, Los Angeles, Dallas, and Hartford metro areas specialize in *aerospace*, and together account for 41 percent of national output in that industry.

**America's major metros specialize in globally competitive export industries**  
 Clusters by industry and size, 100 largest metro areas, 2005



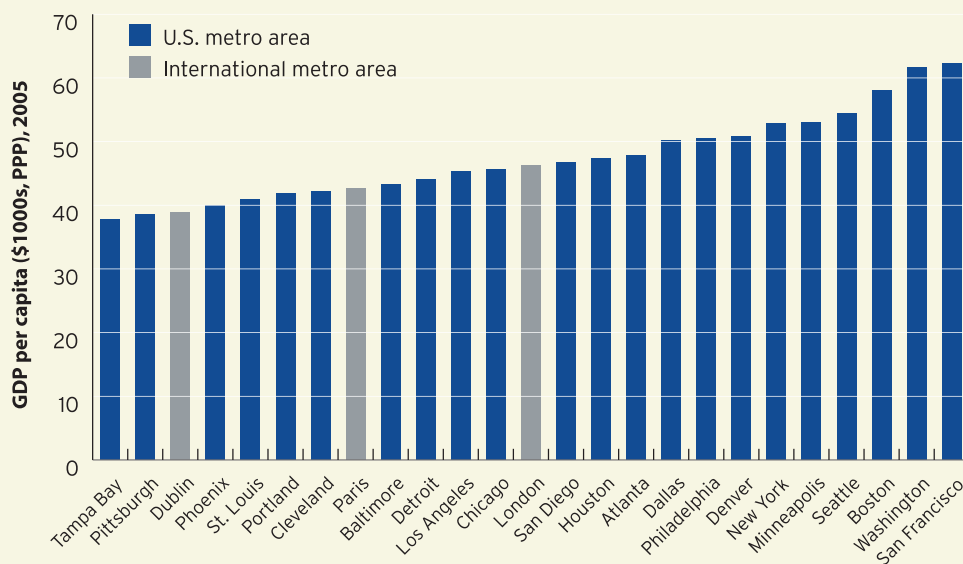
Source: Brookings analysis of BLS and WTO data

- Greater New York, San Francisco, and Chicago demonstrate a competitive edge in *pharmaceuticals* production, contributing 36 percent of that industry's national output.
- The Los Angeles, San Jose, and Boston areas are leaders in *measuring instruments* production, generating 34 percent of national output in that industry.
- The Twin Cities metro area, in and around Minneapolis-St. Paul, alone accounts for 22 percent of national output in the *biomedical devices* industry.

- And despite industry dispersion since the heyday of the "big three," 18 percent of *motor vehicle parts* manufacturing output still clusters in the Detroit area.<sup>86</sup>

Globally competitive services exports are also heavily metro-focused in their location. For instance, the top 10 metro areas in both *legal* and *accounting/consulting* services (which contain 26 percent of all jobs) generate about 45 percent of all output in those industries, and the top 15 metros in *information technology* (which contain 30 per-

**The U.S. claims 22 of the 25 highest-income world metro areas**  
Gross domestic product per capita (PPP), Top 25 OECD metros, 2005



Source: OECD, *Competitive Cities in the Global Economy* (Paris, 2006)

cent of all jobs) account for a similar proportion of activity in that sector. Finance tilts enormously towards the New York metropolis, with nearly 43 percent of national output generated there, far greater than the region's 6-percent share of national employment.<sup>87</sup>

Indeed, the strength of these large metro economies derives from the combination of specialization in these high-value export industries, amid broader industrial diversification. Larger metro areas tend to be more diversified, partly because they all have large shares of their employment in non-tradable, local services.<sup>88</sup> Diversification (as well as human capital) provides them with cushion against economic shocks, while specialization provides them with distinctive niches in a highly competitive global economy.<sup>89</sup> As Porter notes: "An economic geography characterized by specialization and dispersion—that is, a number of metropolitan areas, each specializing in an array of clusters—appears to be a far more productive industrial organization than one based on one or two huge, diversified cities".<sup>90</sup>

Though these statistics dwell primarily on the contribution of the nation's 100 largest metro areas by employment, their function and success remain highly intertwined with that of smaller metropolitan and non-metropolitan areas, and rural communities (see page 35).<sup>91</sup> The 100 largest metro areas are hardly a monolith, either. Some of the largest of these metro areas act as true gate-

ways to the global economy, while others focus inward toward other metro areas. Taylor and Lang find that the nation's three largest metropolitan areas—New York, Los Angeles, and Chicago—top the list of "global network connectivity," with heavy concentrations of multinational services firms. Not far behind, however, loom San Francisco, Miami, Atlanta, and Washington, D.C., with heavy global connections, variously, to the Pacific Rim, Latin America, and Western Europe. Indeed, coastal metros tend to be the most globally connected, while inland metros such as Denver, Indianapolis, and Pittsburgh relate most strongly to other domestic production centers.<sup>92</sup>

International work reveals that America's major metropolitan economies are succeeding in the global economy. According to the OECD, fully 22 of the 25 highest-income metropolitan areas in the industrialized world (measured by GDP per capita) are found in the United States.<sup>93</sup> These include not only highly globally-connected metros such as New York, San Francisco, Washington, and Los Angeles, but also the hubs of some of our most productive export clusters—Seattle, Minneapolis, Houston, Detroit, and Cleveland.<sup>94</sup> These metros are innovative, highly productive, and the places where many American workers enjoy high and rising incomes.

## How America's Large and Small Places Connect

While major U.S. metropolitan areas are global leaders in their own right, they draw strength from, and provide benefits to, smaller places throughout the nation as well. One need look no further than the nation's \$83 billion in agricultural exports to be reminded of the economic value of small metropolitan, micropolitan, and non-metropolitan areas to national prosperity.<sup>95</sup> But the interrelationships between communities across the urban/rural hierarchy are based on far more than agriculture alone.

- **Smaller metro areas gather important economic assets, too.** Beyond this paper's focus on the nation's 100 largest metro areas, an additional 263 U.S. smaller metro areas collectively contain about 18 percent of the nation's population. Like the major metros, each of these smaller metros is composed of intertwined cities and suburbs, and many contain the types of assets also aggregated in their larger brethren. The Peoria, IL metro area (118th largest by employment) boasts highly valuable machinery exports by virtue of Caterpillar's location there. The Huntington, WV metro area (176th largest by employment) features the nation's largest inland river port, along the Ohio River. And dozens of smaller metros, including Ann Arbor, MI (108th), Boulder, CO (137th), Gainesville, FL (162nd), and State College, PA (214th) contain major public institutions of higher learning.

- **Much of rural America lies within metropolitan America.** Metropolitan areas are defined by the federal government as collections of counties with commuting ties to a densely-populated urban area. Many of these metropolitan counties contain significant rural territory, which the Census Bureau defines as low-density areas and towns of 2,500 or fewer people. In fact, more than half (51 percent) of all rural residents, amounting to over 30 million people as of Census 2000, live in metropolitan counties. These rural areas form part of the commuter sheds for their associated urban areas, while providing valuable resources and close-by access to natural amenities for communities closer to the metropolitan core.

- **Globally competitive major-metro firms depend on small-metro and rural operations.** The availability of lower-cost labor and office space in smaller metros and rural areas has led to the introduction of back-office business process operations that serve financial services firms in large cities. Sioux Falls, SD (165th by employment) is a major back-office center for Citicorp (headquartered in New York), while Bismarck, ND (280th by employment) serves a similar function for Aetna (headquartered in Hartford). Bank of America, Safeco, and several other "coastal" firms employ workers in a significant call-center cluster in Spokane, WA (105th by employment). While such back-office jobs are in general more susceptible to offshoring, these locations may be cost-competitive with foreign sites due to higher labor quality and lower

turnover. By extension, the economic health of these smaller areas depends in no small part on the performance of the major-metro firms to which they are linked.

- **Agriculture and natural resources link rural and urban areas.** Rural areas provide the bulk of the nation's abundant food supply, the majority of which is consumed in urban areas, or shipped to the rest of the world via major-metro ports. A growing segment of higher-income urban consumers is forging productive linkages with growers through farmers' markets and niche groceries that specialize in organic foods and sustainable agriculture. Rural areas generate an outsized share of the nation's energy from non-renewable sources, such as coal, oil, and natural gas, but are also positioned at the leading edge of renewable energy options, especially ethanol, biodiesel, and wind power. Urban residents drive key hospitality and tourism export sectors in high-amenity small-metro and rural areas (through consumption and seasonal labor supply), which provide unique recreational and cultural opportunities and, in a growing number of cases, second-home destinations for long-time metropolitan dwellers.

- **Major metros provide specialized services for rural firms and consumers.** Major metro areas possess the economies of scale that can support the provision of specialized services unavailable in smaller places. Urban and rural consumers alike utilize cutting-edge medical services, specialized legal and business services, high-end retailing, and entertainment and cultural facilities, but large metros have ready access to the labor supply and deep consumer markets necessary to support these activities on an ongoing basis.

- **Major metros generate fiscal benefits for smaller areas.** Higher incomes among large-metro residents generate the fiscal wealth that fuels public investments across the country, including in rural America. Cortright demonstrates, in the case of Oregon, how the Portland metropolitan area generates a disproportionate share of state revenues (thanks to the state's progressive taxation system), but consumes a proportionately smaller share of state-financed services relative to Oregon's rural areas. A study of New York state reaches similar findings, with the greater New York City area providing a net fiscal benefit to the state's non-metropolitan counties.<sup>96</sup>

Although this paper focuses primarily on the contribution of the nation's largest metropolitan areas, no clear divide separates these places from the rest of metropolitan America. Nor is it possible for our major urban and rural areas to achieve prosperity independently. The nation's large and small places exist in symbiosis, and thus have much to gain from one another's health and vitality.

Source: Brian Dabson, "Rural-Urban Interdependence: Why Metropolitan and Rural America Need Each Other" (Washington, DC: Brookings Institution, 2007).

#### 4. MAJOR METRO AREAS STRENGTHEN KEY PROSPERITY DRIVERS

The concentration of the nation's economic asset base in major U.S. metro areas speaks to their ongoing value to U.S. productivity and wealth. However, the forces of global market integration and technological advancement could, in theory, erode that concentration, either through domestic dispersal or movement of key activities abroad.

And yet, considerable evidence shows that our major metropolitan areas also *strengthen* fundamental drivers of U.S. prosperity. Their scale and scope, in terms of workers, firms, and fixed assets, provide value to the U.S. economy above and beyond the mere sum of their parts. As such, the economic advantage embodied in these areas will hardly fade overnight. Rather, researchers find that the relative size distribution of U.S. metro areas has remained stable over the last *century*, with—if anything—a tendency towards increasing urban concentration.<sup>97</sup> Indeed, the 100 largest metro areas, which contained 65 percent of U.S. population in 2005, actually captured 76 percent of national population growth from 2000 to 2005.<sup>98</sup>

No less an economist than Adam Smith expresses the value of this clustering and concentration of economic activity in cities in his seminal work, *The Wealth of Nations*. There, he writes that, "...the division of labour is limited by the extent of the market." He observes that sparsely populated towns in the countryside required more tasks done by a smaller number of generalists, such that, "in so desert a country as the Highlands of Scotland, every farmer must be butcher, baker, and brewer for his own family." By contrast, more densely populated towns and cities could take advantage of worker specializations, leading to a more efficient division of labor—the foundation of the modern economy.

In the early 20th century, Alfred Marshall's foundational *Principles of Economics* expanded on Smith's reflections in describing the benefits of "agglomeration," or geographically clustered economic activity. He identified three ways in which agglomeration enhanced productivity: (a) by bringing together a pool of skilled labor that facilitates matching of workers to firms; (b) by developing specialized inputs in the form of local goods and services suppliers; and (c) by giving rise to knowledge "spillovers" that occur when information flows freely between people and firms. These benefits have come to be known as "Marshallian externalities."

Although Marshall's theories were developed during the Industrial Revolution, an economic age far removed from our own, the same logic holds today. Many of the central features of a globalized economy reinforce the importance of metropolitan agglomerations, especially for the high-value services industries and occupations that are increas-

ingly important to the United States. As Athey and colleagues put it, "...cities make it easier to do things—meeting people, sharing information, making deals, selling things."<sup>99</sup> All of these activities still matter—and some matter even more—for unleashing productivity in today's economy.

Essentially, technology and globalization have changed some things, but not others. What technology has altered most radically is our ability to exchange *information* at great distances. For instance, the price of light sweet crude oil on the New York Mercantile Exchange can be transmitted quickly and inexpensively across the world, reducing the need for proximity to facilitate those exchanges. But knowledge, especially *tacit knowledge*—that which cannot be codified, but only understood through training or personal experience—is notoriously averse to transmission over long distances.<sup>100</sup> Thus, information technology consulting firms might outsource the development of discrete modules to programmers in India or Estonia, but still continue to rely on in-house, face-to-face interaction between highly-trained workers and clients—most often in major metropolitan areas—in order to develop sophisticated systems designs (see page 37).

Tacit knowledge is but one example of "untraded interdependencies"—the conventions, rules, and habits that coordinate production under conditions of uncertainty, and which depend on proximity and embeddedness in the social and economic processes of a region.<sup>101</sup> With the advent of digital video, computerized editing, mobile talent, and networks that can distribute films worldwide rapidly, why should Hollywood remain Hollywood—especially given the price of real estate? People who are part of "the industry" learn the conventions of a specific production culture, and thus benefit, by remaining there. This echoes Marshall's observation nearly a century ago that:

When an industry has thus chosen a location for itself, it is likely to stay there long: so great are the advantages which people following the same skilled trade get from near neighbourhood to one another. The mysteries of the trade become no mysteries; but are as it were in the air....

## The Limits of Offshoring at IBM

To many it may appear that IBM is shifting the bulk of its jobs overseas. In just a little over five years, the company has increased the number of its workers in India from 3,000 in 2002 to 53,000 today. Still, of IBM's 200,000 employees worldwide, more than half, 127,000, are located within the United States, and it seems this is where many of them will need to stay.

As reported by the *New York Times* in its case study of a typical high-value IBM project, the firm required 86 U.S. employees and only six overseas programmers—over 14 times more U.S. workers than foreign ones. The difference between how information and tacit knowledge are transmitted helps account for this dramatic difference.

For IBM, information involves such items as software technologies, computing codes, and rules for system updates. Because these pieces of information can be described in math-based rules, IBM can easily transmit them via the Internet to overseas locations where foreign workers can quickly, accurately, and cheaply process it all. IBM is also trying to automate some of its jobs that use rules-based information, thereby relying less on human labor and further reducing business costs.

Tacit knowledge, on the other hand, is necessary when the work at IBM requires sophisticated business management, such as maintaining client relationships and coordinating multiple project dimensions. Many of the skills comprising tacit knowledge involve effective in-person communications, such as listening, observing, negotiating, and persuading. Because such “soft” or intangible skills cannot be explained in code and simply transmitted offshore, IBM retains its higher-value, tacit knowledge-steeped workers within the United States. These workers gain their knowledge through years of on-the-job training where it is continuously reinforced through face-to-face interactions with equally high-skilled co-workers and clients.

In the project reported by the *Times*, an IBM team from around the world is working for a Texas utility that wants to install computerized electric meters, sensors, and software to improve service

and conserve energy. The computer programmers on this project come from Pune and Bangalore, India. All the other team members, whose jobs involve greater use of tacit knowledge, are based in major U.S. metros. Research and quality-control specialists come from Austin, Miami, and New York. Software designers and utility experts come from Philadelphia, San Francisco, Chicago, and Raleigh, among other places. The U.S. team members are able to visit the Texas client regularly, and through their interactions are able to gain feedback that will help IBM perform similar projects more effectively in the future.

One of the U.S.-based engineers reports to the *Times* that his job requires “a tremendous amount of face-to-face work” because he spends much of his time translating jargon and culture between the computing and utility worlds. In the long run, this type of employee will help to expand IBM's business and increase its efficiency. And for the foreseeable future, most of those employees will be found in the United States.

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Source: Steve Lohr, “At I.B.M., a Smarter Way to Outsource.” *The New York Times*, July 5, 2007.





**More than ever in a knowledge-based economy, growing metropolitan agglomerations show that success can breed success.**

More than ever in a knowledge-based economy, these growing metropolitan agglomerations show that success can breed success. For instance, between 1991 and 2004, even as Internet technologies became ubiquitous, a tech-oriented swath of the Greater Boston area actually increased its share of Massachusetts' high-technology firms from 53 to 60 percent.<sup>102</sup> The trend highlights the benefits that flow to employers, workers, investors, and public officials from cultivating and maintaining such a dense, flourishing network of inter-related economic activity in an otherwise high-cost area.

Beyond the importance of tacit knowledge, two particular facets of our contemporary economy favor dense, cluster-based agglomerative activity. First, as Summers argues, the cutting-edge knowledge-based industries that dominate in our major metro areas benefit from increasing returns to scale. The presence of two biologists, he describes, produces one possible two-way combination. But the presence of 10 biologists produces 45 possible two-way combinations, with significant potential for knowledge exchange and spillover. These scale returns suggest that the impact of an 11th biologist in that same metro area will be larger than if she went to a metro area with fewer biologists.<sup>103</sup> Second, high-technology firms—along with those in life sciences, finance, consulting, and a host of other industries in which the United States increasingly specializes—are not land-intensive. This distinguishes them from routine manufacturing sectors, which throughout the 1970s and 1980s decamped for small-metropolitan and rural areas in the South and West, and more recently, for international destinations in search of (among other things) low-cost land for new plants.<sup>104</sup>

Beyond the theory of agglomeration economies, and the evidence suggesting their ongoing relevance, lies research and experience confirming that major metro areas strengthen key drivers of prosperity.

### ***Metro areas strengthen innovative capacity***

Our nation's economic performance hinges largely on how well our metropolitan areas function as incubators of new ideas and knowledge-driven businesses. The innovation that fuels productive growth comes in differing shapes



and sizes. As Safford describes, two types of innovation “systems” are most relevant for large agglomeration economies. First are cutting-edge science-based systems, where innovative activity orients towards developing new products and maneuvering within the competitive landscape. Such activity may be rooted in hard scientific research (e.g., biotechnology) or consumer-driven research (e.g., electronics). Second are project-based innovations, where unique products require the creative abilities of a team of specialists. Safford notes that deep labor markets help facilitate the movement of such specialists across projects in high-value service fields like entertainment, advertising, and fashion.<sup>105</sup> The idea for Apple’s iPod, for instance, came from a consultant Apple hired to run the project, and its design melded in-house innovations with “off-the-shelf” technologies developed elsewhere in Silicon Valley.<sup>106</sup> Moreover, major metro areas can give rise to greater innovation by enhancing user/producer interaction, which some suggest is increasingly important for innovation.<sup>107</sup>

Though both types of innovation greatly enhance productivity, cutting-edge science-based systems tend to be easier to identify through measures like patents. On that count, a wealth of recent evidence shows that workers and firms in large urban areas innovate at higher rates. In 2005, the nation’s 100 largest metro areas accounted for 78 percent of all patents nationwide, considerably higher than their shares of workers or firms. What is more, population and patents per capita in the 100 metro areas were positively associated—an indicator that bigger areas do not simply produce more patents, but innovate at higher rates altogether.<sup>108</sup>

More in-depth research suggests that larger cities and metros innovate more because their dense clusters of employment promote knowledge spillovers. Studying nearly 300 U.S. metropolitan areas and their patent intensity across the 1990s, Carlino and colleagues find that, holding other factors constant, doubling the employment density in the urbanized portion of a metro area is associated with a 20 percent increase in the number of inventions per resident. Since the metro areas they study vary in employment density by a factor of ten, this implies significant gains in innovation due to density.<sup>109</sup>

Does the presence of higher patenting rates actually lead to the commercialization of those innovations, and subsequent economic growth? Research finds that, indeed, the distribution of innovation commercialization across metro areas does relate closely to the distribution of patenting, and that patent citations tend to occur disproportionately within the metro area in which the cited patent itself originated.<sup>110</sup> The importance of proxim-

ity in fostering innovation spillovers is perhaps best expressed by Glaeser and colleagues, who note that, “...intellectual breakthroughs must cross hallways and streets more easily than oceans and continents.”<sup>111</sup>

Because the true value of innovation lies in the translation of new ideas into products, services, and processes that command value in the marketplace, places that attract the greatest densities of entrepreneurs and risk capital are likely to realize significant benefits from innovation.<sup>112</sup> To that end, the concentration of venture capital (VC) in large metro areas—especially a select few with high levels of knowledge-economy employment—signals their unique productive capacities. In 2005, firms in the 100 largest metro areas captured fully 94 percent of all venture capital investments nationwide. Investments were even more concentrated than the aggregate figure reflects, with just the San Jose (18 percent), San Francisco (17 percent), Boston (10 percent), and New York (8 percent) regions collectively capturing a majority of VC investment that year.<sup>113</sup>

These statistics reflect just how geographically “sticky” VC investments are. Stross documents the “20-minute rule” that guides decisions in Silicon Valley. Because investors require frequent, in-person contact with the entrepreneurs they fund, and because entrepreneurs must often “pitch” to several VCs before landing a deal, start-up firms and VC firms tend to locate within a 20-minute drive of one another. As one venture capitalist notes, regarding getting to Menlo Park (home of the leading Silicon Valley VC firms) for a meeting on short notice, “If you live in Santa Clara, it’s doable...If you live in Dubuque, it’s not.”<sup>114</sup> The same seems to hold true for early-stage “angel” investments; 90 percent of firms receiving such investments are located within a half-day’s travel time of their principal investor.<sup>115</sup> Kendall Square, the epicenter of the Boston area’s biotechnology/life sciences cluster, demonstrates the power of proximity between cutting-edge firms, investors, and research institutions (see page 40).

**A wealth of recent evidence shows that workers and firms in large urban areas innovate at higher rates.**

## Spillovers along the Charles

Locals may call Boston “The Hub,” but as far as the biotechnology industry is concerned the center of it all lies across the Charles River in Cambridge, Massachusetts. The Massachusetts Institute of Technology (MIT) reports that more than half of the biotechnology and life sciences firms in the cities of Boston and Cambridge are located in just three Cambridge ZIP codes. The tightest clustering occurs around MIT’s main campus in Kendall Square, an area that is only about two square miles.

Despite high rents, tight spaces, and the lack of any local incentives, biotech companies clamor to be as close as possible to Kendall Square. MIT’s Entrepreneurship Center currently counts over 150 biotech companies in or around the square, up from 82 just four years ago. These companies include a mix of start-ups and spin-offs: small biotechs, such as Idenix; established public firms like Genzyme; and multinational biopharmaceutical concerns, such as Novartis. Although these companies could locate anywhere in the world, they choose to be in proximity to one another in Kendall Square, where biotech density in a compact geography facilitates the pipeline to bring new drugs to market.

First and foremost, being in or around Kendall Square allows firms easy access to a large and ready pool of talented labor, including M.D.’s and PhD’s who are already doing advanced work in biotechnology. Second, biotech activity in the Square already has well-established connections to nearby area research universities—MIT chief among them—and hospitals that can provide opportunities for continued learning and partnership. In fact, business, academic, and health centers are easily accessible via bus and subway routes. Third, the Square’s biotech clustering has given rise to specialized institutions, such as the Whitehead and Broad Institutes, that serve as collaborative research centers where scientists can share new information on genetic and biological processes.

Fourth, the sheer number of Kendall Square biotech firms ensures a local base of supporting business, including biotech-focused venture capital firms, lawyers and accountants with specialized services, and real estate professionals experienced in laboratory spaces. These experts permit the square’s biotechnology workers to focus on their core research and development activities.

Through it all circulates the air that carries Marshall’s “mysteries of the trade.” Kendall Square’s localized industry network allows for an easy exchange of ideas, and, according to MIT research, a very active communication web exists among the area’s biotech cluster. Daily face-to-face interactions can be commonplace even though individuals work in separate buildings. After all, they still walk the same city blocks, travel on the same subway, and eat at the same restaurants, a few of which are known as places where deals are made over meals. Eric Lander, founding director of the Broad Institute, asserts that biotech-types gravitate to this area because “they are going to hear the ideas sooner.” According to Lander, “People talk about genetics on the subways.” Such knowledge spillovers are a valuable asset in an innovation industry like biotechnology because they allow workers to stay on the pulse of new discoveries and emerging business trends.

Kendall Square’s communication network has often led to useful business partnerships. For example, Elixir Pharmaceuticals and Centagenetix were two area biotech firms that both had the goal of discovering genetic factors behind ageing. They decided to merge to combine their individual strengths in clinical experience and basic research. As the race continues to discover new genes, proteins, and other compounds, the necessity for constant communication and the opportunity to find valuable partners, ensure that Kendall Square will continue to grow as a biotechnology hub.

*Sources: “Beantown to Genetown.” New Scientist, February 15, 2003; “Chain Reaction.” Pharmaceutical Executive, August 2006; MIT Entrepreneurship Center, Biotech Cluster in Greater Kendall Square; MIT News Office, “Cambridge Still Dominates in Massachusetts Life Sciences Industry, New Study Shows” (August 2004); MIT News Office, “Early Findings of Mass Impact Study” (August 2004).*



### **Metro areas facilitate human capital gains**

Our nation's largest metro areas contain an outsized share of the highly-educated populace. Fully three-fourths of U.S. individuals with a graduate degree reside within the top 100 metro areas. Migration flows add to their stock of highly-educated workers. Between 2004 and 2005, 43 percent of adults who moved into one of the 100 largest metro areas from out of state possessed at least a bachelor's degree, compared to 27 percent of adults who moved within counties, 31 percent of their overall adult populations, and 38 percent of all interstate movers.<sup>116</sup>

Evidence shows that the geographic distribution of human capital across all U.S. metro areas has actually grown more concentrated over the past two decades. Wheeler finds that in larger metro areas with more educated populations, the share of workers with a bachelor's degree grew faster over the 1980-to-2000 period than in smaller metropolitan areas.<sup>117</sup>

As Marshall's theories suggest, large metro areas help match people to jobs, or even people to people. The rise of the two-earner couple in the American economy creates what Costa and Kahn call "the co-location problem." They find that dual-career households, in which both spouses are college-educated, increasingly locate in large metropolitan areas at higher rates than other couples and singles because those areas offer many more potential job matches.<sup>118</sup> Compton and Pollak arrive at a related but different explanation: that singles are attracted to large metropolitan areas because they are more successful at finding educated partners in large "marriage markets."<sup>119</sup> As Florida explains, younger, educated workers are attracted to large metro areas because they provide a "thick" set of employment opportunities, especially in an era where lifelong jobs are few and far between.<sup>120</sup>

Importantly, these large metropolitan labor markets not only increase the chances of a satisfactory employment match between a worker and a firm, but also provide an avenue to learning and wage growth for younger workers.

In the international context, Fielding shows that the dense South East region of England, which includes the London metropolis, acts as an "upward social class escalator" that promotes young workers at rates higher than elsewhere in the country.<sup>121</sup> Stateside, Wheeler finds that the wages of workers in large U.S. metro areas with a diverse economic structure tend to grow faster over time,



**Large metropolitan labor markets provide an avenue to learning and wage growth for younger workers.**



due to the greater frequency with which young workers are able to switch industries, and the larger wage gains they make when they change jobs. Holding education and experience constant, Wheeler's results suggest that over a 10-year period, a worker in the Chicago metro area would enjoy wage gains about 14 percent greater than his counterpart in the Cheyenne, WY metro area due to Chicago's size advantage alone.<sup>122</sup>

The scale of large metropolitan labor markets clearly increases the chances and efficiency of matching, helping these areas to attract and retain educated workers. But the wage growth these workers experience also reflects an underlying increase in their productivity—suggesting that urban areas promote

*learning* as well. Glaeser and Maré find

that workers in large metro areas earn a 33 percent wage premium, that the premium accrues to these workers over time, and stays with them when they leave cities.<sup>123</sup> This strongly suggests that large metro areas themselves speed the accumulation of human capital.<sup>124</sup> Not only does this benefit workers, but metro areas themselves benefit from the bundle of worker skills that permit the area to adapt to economic shocks. Glaeser and Saiz find that older,

Northeastern metro areas in which the local workforce was more highly educated transitioned more successfully from manufacturing to other industries.<sup>125</sup>

One further ingredient critical to learning and human capital accumulation in large metro areas is their

concentrations of higher education institutions, particularly those specializing in research. Seven in 10 of the nation's top research universities are located within the 100 largest metro areas, most commonly in their central cities.<sup>126</sup> Universities strengthen the capacity of local innovation systems, not only through direct activities such as patenting in university laboratories, but also by adding to the local stock of highly educated workers, serving as a public space for practitioners, facilitating serendipitous interactions and knowledge spillovers, and attracting new knowledge resources from elsewhere.<sup>127</sup> Areas like Austin, TX bring together a major university, a dense cluster of related firms, and a diverse environment that attracts and nourishes human capital and productive growth (see page 43).

**Seven in 10 of the nation's top research universities are located within the 100 largest metro areas, most commonly in their central cities.**

## Austin's Human Capital Magnetism

What attracts so many young, creative, highly-educated minds to the Austin metropolitan area? The *Austin-American Statesman* set out to find the answer in a series of articles exploring the region's 32-percent increase (from 267,000 to 352,000) in its 20-to-34 year-old population from 1990 to 2000. The newspaper finds that many people over that decade and prior ones decided to move to or stay in the Austin area because it gives people a diverse array of choices in where and how to work, live, and play.

The Austin area has many large employers, such as IBM, Texas Instruments, Dell, and Intel, with knowledge-intensive jobs. Any one of these technology firms could recruit individual workers, but the sum of them together, along with their supporting industries, attracts an entire segment of the labor force. Skilled workers (and their partners if applicable) prize the number of different employers in the region because it allows them to move horizontally across different businesses and not just vertically up a single corporate ladder. One young couple employed in the high-tech field reported to the *Statesman* that this "solid base of companies" is one of the primary reasons keeping them in the Austin region.

The Austin region also has considerable entrepreneurial activity with a number of spin-offs from established firms and startups from the local University of Texas campus. The regional economy generally welcomes people wishing to change jobs, switch industries, or take time to create their own enterprises. The City of Austin's former mayor, Kirk Watson, recalled to the *Statesman* that during the 1980's he would meet people with graduate degrees working as security guards and waitresses, "doing any job just to be able to stay in Austin." Similarly, Peter Zandan, remembers trying to stay in school at UT Austin as long as he could just to remain in the area. These people believed that the Austin region would eventually provide them with right opportunity to fulfill their creative ideas.

Zandan, for one, eventually founded Intelliquest, which was among the fastest growing technology companies in the country when it went public in 1996.

Skilled workers are also drawn to the Austin region's cultural diversity and lifestyle options. The Austin area has a reputation for its open, tolerant attitude towards new ideas, and it clearly accommodates many different types of individuals. Stereotyping people is difficult: People in cowboy boots and hats might be found discussing the latest computer gadgets, and high-tech mavens might be playing in their own rock bands. In addition to the mix of people, the Austin region also has a mix of places. People can choose to interact with one another in a cosmopolitan downtown with the famous Sixth Street music strip, at urban and suburban coffee houses and pubs, or in great natural settings in nearby Texas Hill Country that offer a range of recreation activities. Because the Austin region is able to offer many choices to many types of people, it is an area where many creative minds find a long-term home.

Sources: Bill Bishop and Mark Lisher, "Cities of Ideas." *The Austin-American Statesman*, 2002; Richard Florida, *The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community, and Everyday Life* (New York: Perseus Books, 2002).



### **Metro areas enhance the return on infrastructure investments**

We often take public infrastructure for granted, until a road shuts down, a water main bursts, or—as recent experience shows—a bridge fails. Yet beyond safety and convenience, infrastructure matters greatly for productive growth, especially in major metropolitan areas where so much of our infrastructure concentrates. Road, rail, transit, and air networks are the result of massive public investment to facilitate the flow of goods and workers within and between markets. Reliable and predictable transportation networks form a vital part of our just-in-time economy.<sup>128</sup> With major metro areas acting as the hubs of that economy, future productivity gains will hinge on the efficiency of those metropolitan networks.

Of course, the United States is at a much more advanced developmental stage than countries such as China, where new infrastructure is driving rapid economic growth.<sup>129</sup> Indeed, recent U.S. transportation investments show a lower rate of return than in the past, due to their diffuse distribution, and insufficient focus on investment type (e.g., new infrastructure vs. maintenance and repair), targeting (e.g., metropolitan core vs. metropolitan fringe), and mode (e.g., highways vs. transit).<sup>130</sup>

More so than the United States, Europe has led the way in exploring the links between infrastructure investments and productive growth in developed economies. Research from Germany suggests that raising the effectiveness of its existing infrastructure would stimulate economic growth at many times the rate of building *new* infrastructure. Simulations from the United Kingdom indicate that reducing journey times for car travel by 10 percent could raise national productivity by at least 1 percent.<sup>131</sup> Related research finds that the productivity gains from transportation improvements are at least four times greater for British commuters within a 40-minute drive of those investments than those farther out.<sup>132</sup> The refrain from this research is clear: investments to improve transportation efficiency in *existing* urban agglomerations produce the greatest economic return.

Congestion concentrates in the largest U.S. metro areas. Consequently, investments in capital and technology to reduce commute times in those places—especially through expanded modal options and pricing schemes—are likely to yield the largest economic returns to the nation.<sup>133</sup> Moreover, upgrading the quality and efficiency of transportation systems in urban areas, versus expanding road capacity outside these areas, strengthens sustainable prosperity by conserving rural lands and expanding commuting options that are less greenhouse gas-intensive.

### **Quality places reinforce prosperity drivers**

“Quality of place” refers to the bundle of amenities that make an area desirable (or undesirable) as a place to live, work, and do business.<sup>134</sup>

Most critically, communities in our major metro areas that provide such quality of place—be they cities, suburbs, downtowns, or residential neighborhoods—help strengthen key prosperity drivers, and contribute to our trio of growth goals (productive, inclusive, sustainable) by virtue of their *density* and *diversity*.

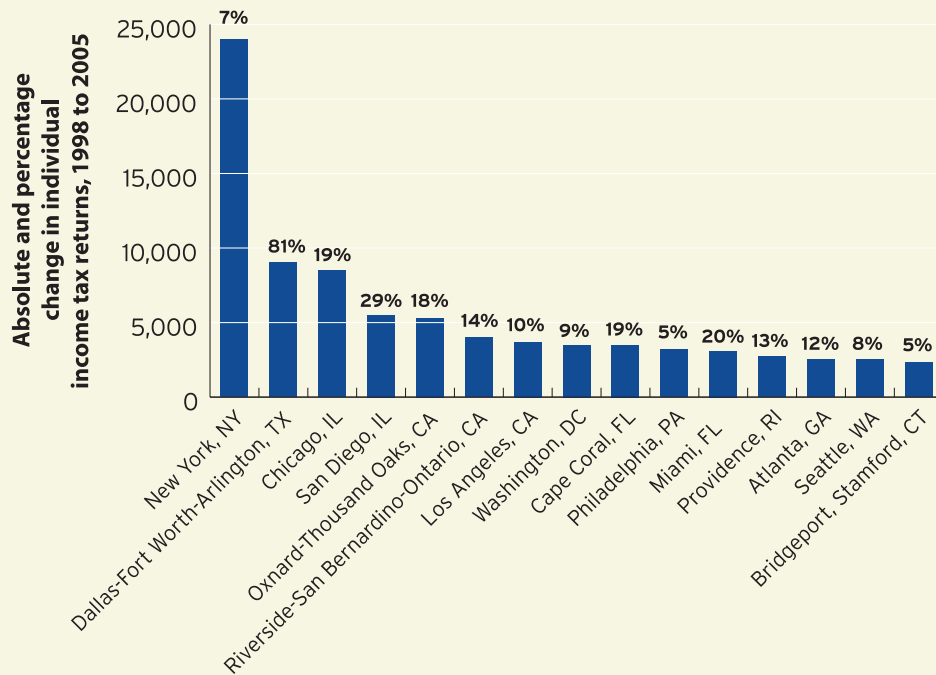
As the above sections illustrate, density helps to foster more *productive* growth. It facilitates productive *matching* between large proximate pools of workers and firms (and may also facilitate *matching* of single adults). It promotes the cost-effective *sharing* of non-divisible resources, such as airports, convention centers, waterfronts, and sewer systems. Furthermore, density stimulates *learning* among firms and workers, thanks to knowledge spillovers and the human capital gains that workers make in large “escalator” regions.<sup>135</sup> In addition to stimulating innovation and human capital in these ways, density also facilitates a larger productive return on infrastructure investment by enhancing existing agglomeration economies.

The population diversity of metropolitan communities provides an important focal point for more inclusive growth. For instance, the 100 largest metro areas are home to 77 percent of the nation’s non-white/Hispanic population, and 85 percent of its immigrants. But emerging evidence suggests that such diversity may be important for productive growth as well. Page argues that, at the firm level, diversity trumps ability, by bringing together groups of people with differences in how they think and in the cognitive tools they possess.<sup>136</sup> The positive returns on such diversity are likely to be greatest in the non-routine occupations and industries which cluster in major metro areas. Other research shows that, at the metropolitan level, higher wages (and higher rents) for U.S.-born workers correlate significantly with higher shares of foreign-born population within the same metropolitan area.<sup>137</sup> This may be attributable to complementary skills that native- and foreign-born workers possess, or to learning that occurs between workers due to differences in problem-solving and creativity that Page identifies.

Fostering high-density quality places also contributes to efforts to ensure *sustainable* growth. More compact development patterns preserve rural lands and valuable ecosystems which rapid suburbanization might otherwise consume. Such development expands transportation options and generates fewer vehicle miles and associated greenhouse gas emissions.<sup>138</sup> One result is that high-density places are highly energy efficient. Glaeser notes that New York State’s energy consumption per capita is next-to-last among all states because of New York City’s low energy profile.<sup>139</sup>

### Residential populations continue to rise in many major downtown areas

Change in individual income tax filers, Downtown ZIP codes\*, selected cities, 1998 to 2005



\* Residential ZIP codes (and portions thereof) located within one mile of Central Business District(s)

Source: Brookings analysis of IRS data

While density and diversity are evident at the aggregate metropolitan scale, these attributes are embodied most fully in the residential and commercial nodes that characterize our large metro areas, especially cities:

- Nearly half (49 percent) of employed persons within the 100 largest metropolitan areas work within a principal city—a place of dense population and typically even denser employment.<sup>140</sup>
- While many of these nodes exist outside the core of metropolitan areas, major downtown areas show a continued population rebound, signifying the increasing appeal of their dense residential environments.
- Moreover, in a country continuing to diversify by age, race, ethnicity, and income, cities retain the greatest range of housing styles, neighborhood and community types, transportation options, and cultural and entertainment offerings, and thus remain critical focal points for efforts to ensure widely-shared, inclusive growth. Even amid ongoing suburbanization of immigrant populations, 22 percent of residents in the nation's 100 largest cities were foreign-born in 2005, compared to 12 percent nationally.<sup>141</sup>

### SUMMARY

America's metropolitan areas are not **part** of our national economy; rather, they **are** the national economy.<sup>142</sup> Our major cities and suburbs are highly interconnected units that not only gather critical drivers of our national prosperity—innovation, human capital, and infrastructure—but strengthen them through the forces of agglomeration. They possess our most globally competitive firms, our most educated workers, and the hubs that connect Americans to one other and to the rest of the world. The success of these major metros and that of the nation's smaller cities, towns, and rural areas are closely linked.

Whether our nation achieves true prosperity, then, in the form of productive, inclusive, and sustainable growth depends on whether our metropolitan economies grow and remain prosperous. The final section of this report turns to that subject.

# IV. PROMOTING METROPOLITAN PROSPERITY: THE CASE FOR A RENEWED FEDERAL APPROACH

The concentration of innovation, human capital, and infrastructure in America's major metropolitan areas, together with the quality places that strengthen those key drivers, confirm that our national prosperity depends heavily on the individual and collective prosperity of our metropolitan areas.

**Our metropolitan areas could perform much better if policy promoted their adaptation to increasingly dynamic economic and demographic change.**

Yet for all their aggregate strength, major metro areas face a series of troubling challenges, and display a series of negative characteristics, that serve as a drag on our national prosperity. These speak not simply to deficits in their fundamental prosperity drivers, but to their collective underperformance on certain metrics of productive, inclusive, and sustainable growth.

Our metropolitan areas could perform much better, and thereby unleash greater national prosperity, if policy promoted their adaptation to increasingly dynamic economic and demographic change. But the federal government, in particular, remains in many respects maladapted to today's fast-changing realities. We need a new federal-state-metro partnership that helps metropolitan America to resolve key challenges, and to grow in more productive, inclusive, and sustainable ways (see page 47).





**Policies that promote productive, inclusive, and sustainable metropolitan growth provide a critical basis for achieving our national priorities.**

To that end, this section argues the following:

- **Despite their collective potency, U.S. metros as a group are underperforming on some key measures of productive, inclusive, and sustainable growth.** Major metro areas are experiencing some slippage on metrics of productive growth relative to international competitors, while they exhibit more fundamental problems in attaining inclusive and sustainable growth goals
- **Outmoded federal policies inhibit metropolitan adaptation to fast-changing realities,** and thus fail to unleash the innovative problem-solving and coordination that metro areas and the nation need to realize true prosperity
- **Our nation needs a *Blueprint for American Prosperity*,** a new approach for federal policy and a new compact with metropolitan America that gives local and regional leaders the rules and the tools to leverage their economic strengths, build a strong and diverse middle class, and grow in environmentally sustainable ways

We are a Metro Nation. Policies that promote productive, inclusive, and sustainable metropolitan growth thus provide a critical basis for achieving our national priorities.

## The *Blueprint* Series: What's Next

The release of *MetroNation* marks the kick-off of the Brookings Metropolitan Policy Program's *Blueprint for American Prosperity*.

*MetroNation* reaffirms the central role that U.S. metropolitan must play in our nation's efforts to achieve more productive, inclusive, and sustainable growth. This final section of the report offers a rough diagnosis of how metropolitan America is faring along these three growth dimensions, with cautionary results evident across many key indicators. It touches succinctly on the wide diversity of experience even among the top 100 metros. A brief analysis of the role for federal policy follows, from the problems underlying the current approach, to the principles for reform that would enable metropolitan areas to perform better across the full trio of growth goals, and thereby generate greater national prosperity.

This section effectively previews the next signature paper in the *Blueprint* series, entitled: *Unleashing America's Metropolitan Potential*. That paper, scheduled for release in early 2008, will offer a much more detailed examination of metropolitan performance and variation on dozens of important metrics. It will review in greater depth the failure of federal policy to evolve in ways that recognize and respond to the rapid economic and demographic changes our metropolitan areas are experiencing. And it will describe the structure and promise of a new federal-metro partnership that embraces a robust, updated role for federal policies designed to unleash metropolitan innovation, adaptation, and prosperity.

In addition to setting the broad policy framework for a new prosperity agenda, the Metro Program will subsequently publish a series of policy briefs—the *Blueprint* Policy Series—that will argue for specific reforms in selected areas of federal policy, including innovation and economic development, transportation, education, housing, income support, energy, and immigration.





## 1. DESPITE THEIR COLLECTIVE POTENCY, U.S. METROS AS A GROUP ARE UNDERPERFORMING ON SOME KEY MEASURES OF PRODUCTIVE, INCLUSIVE, AND SUSTAINABLE GROWTH

**M**ajor U.S. metropolitan areas, by virtue of their innovative firms and institutions, highly-educated workers, and critical links to domestic and international markets generate for themselves and the nation some of the highest living standards in the world.

In 2005, the nation's 100 largest metro areas boasted a per-capita income of \$48,500. That exceeded the national average of \$41,300, as well as that of any other country in the world.<sup>143</sup> And as shown on page 34, major American metro areas comprise the bulk of the world's highest-income city-regions, accounting for 22 of the 25 leaders on GDP per capita.

Despite their impressive performance to date, some signs point to slippage among large metro areas on key drivers—and outputs—of productive growth. More troubling is their recent record on indicators of inclusive and sustainable growth, where they not only lag international counterparts but also raise distinct challenges for achieving long-term national prosperity as a result of their under-performance.

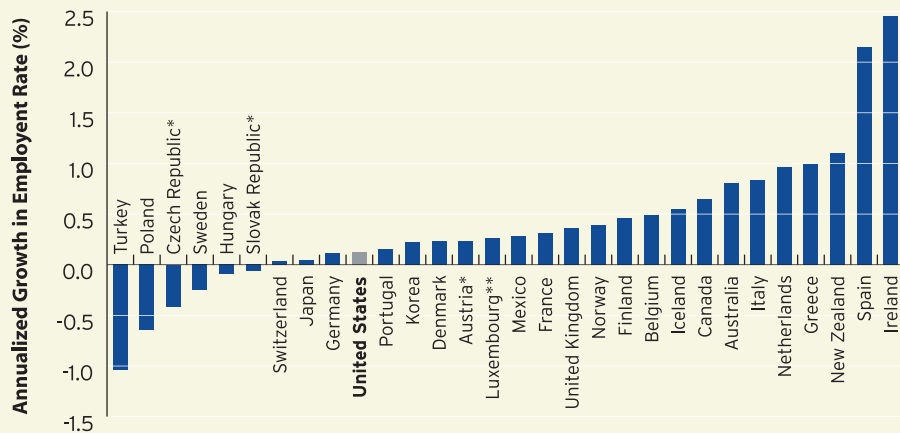
### **Major metros are lagging on certain measures of productive growth**

■ **Patenting activity is up among the 100 largest metros, but their global advantage is steadily slipping.** As the previous section demonstrates, patenting, and the cutting-edge innovation it implies, concentrates heavily in the 100 largest metro areas, which generated 78 percent of all patents nationwide in 2005. Between 1975 and 2005, the number of patents per 100,000 residents in these metros rose from 26 to 30, a 15 percent increase. However, that increase fell far behind the 120-percent increase in Japan and the European Union during that time. As a result, between 1975 and 2005, the global share of U.S. patents granted that originated in the United States fell from 65 percent to 52 percent.<sup>144</sup>

**More troubling is major metros' recent record on indicators of inclusive and sustainable growth.**

■ **Productivity growth in our largest metros has slowed recently.** Productivity growth is perhaps the most critical ingredient for achieving rising standards of living. While overall productivity in the 100 largest metro areas—measured in output per job—remains formidable, its growth slowed considerably during the most recent years for which data are available. After increasing from a 2.3-percent growth rate in

**The employment rate has grown more slowly in the United States than in most industrialized nations**  
Annualized growth in employment rate, OECD countries, 1992-2006



\* 1993-2006; \*\* 1992-2005; Source: OECD, OECD Factbook 2007 (Paris, 2007)

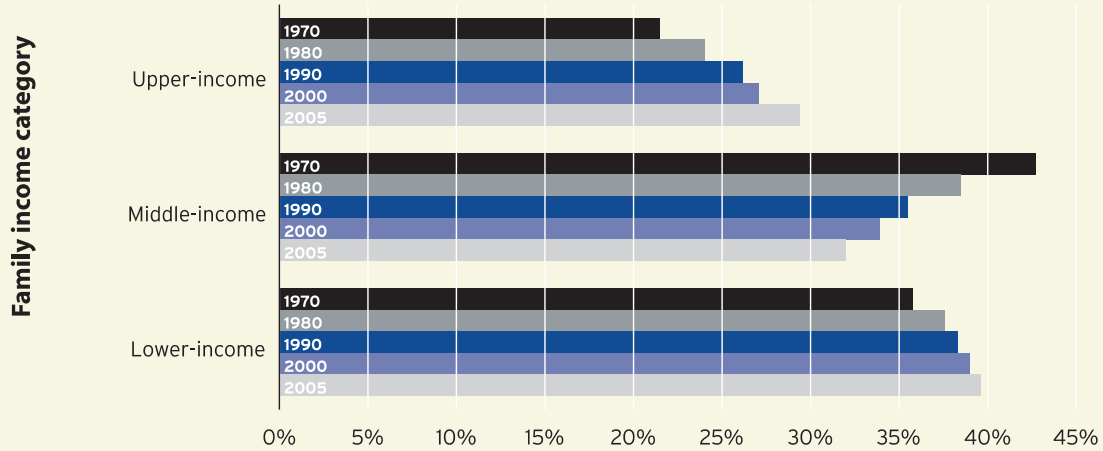
2001-02 to a 2.8-percent growth rate in 2003-04, GDP per-job growth in the 100 largest metro areas decelerated to a 1.4-percent pace from 2004 to 2005. Because these 100 metros account for 75 percent of total U.S. GDP, the nation's productivity trend experienced a similar slowdown. The 1.7-percent growth in U.S. GDP per job from 2005 to 2006 hints at continued slower growth in metro productivity since then.<sup>145</sup>

■ **Recent employment-rate growth in major metros has not kept pace with that in other nations.** Beyond expanding worker productivity, enlarging the share of the labor force engaged in employment offers another route to productive growth. Yet despite a period of especially strong economic growth during the 1990s, the United States and its major metros are falling short of other nations' performance on this measure. At the national level, the United States ranks 10th among the 30 OECD nations in the share of its working-age adults who are employed. But the U.S. ranking falls to 21st among these nations on growth in its employment rate from 1992 to 2005. Employment rates in Australia, Canada, New Zealand, and the United Kingdom all managed to catch up to, and surpass, the United States rate during this period.<sup>146</sup> This occurred despite recent modest improvement in the share of 16-to-64 year-olds in major metros who are working, from 70 percent in 2000 to 70.6 percent in 2006.<sup>147</sup>

**Major metros are falling far short on indicators of inclusive growth**

- **While overall educational attainment remains high, the pace of degree-earning in major metros has slowed.** At the national level, the United States ranks second among more than 100 nations tracked by the United Nations on the share of its young adults enrolled in higher education, but only 16th in the percentage who actually go on to complete a degree. From 1999 to 2004, the OECD finds that college completion rates in the United States stagnated even as they expanded throughout most of the industrialized world, including Eastern and Western Europe, Korea, and Australia.<sup>148</sup> Within the 100 largest metro areas, the share of 25-to-34 year-olds holding four-year college degrees climbed only marginally, from 31.4 percent to 32.7 percent, between 2000 and 2006. At this pace, the group will fall short of the nearly 5-percent-age point nationwide increase in bachelor's degree attainment for 25-to-34 year-olds between 1990 and 2000.<sup>149</sup>
- **Achievement trends are even more troubling in secondary education.** A recent OECD assessment revealed that U.S. 15 year-olds rank near the bottom of the industrialized world in their ability to solve practical problems that require mathematical understanding.<sup>150</sup> The wide achievement gaps separating U.S. black and Hispanic from white students help account for a good deal of this deficit. These gaps are

**The size of the middle class in major metros continues to decline**  
 Share of families by income category, 100 largest metro areas, 1970 to 2005



\* Lower-income=under 80% of metro median; middle-income=from 80% to 150% of metro median; upper-income=over 150% metro median

most evident in high schools in the nation's largest urban and older suburban school systems, dozens of which fail to graduate even two-thirds of their students, and the bulk of all of which lie within the nation's major metro areas.<sup>151</sup>

■ **The size of the "middle class" in major metro areas continues its long-term decline.**

Though there is not one agreed-upon definition of what constitutes middle-class status in America, there is clear evidence indicating that the share of families in major metropolitan areas with incomes around the median is steadily shrinking. Within the 100 largest metro areas, the proportion of families with incomes between 80 percent and 150 percent of their metropolitan median declined from 43 percent in 1970 to just 32 percent in 2005. Families at the extremes grew in share, such that lower-income families now make up the largest group within the 100 metro areas. Accompanying this steady decline, middle-income neighborhoods in major metropolitan areas have evaporated even more rapidly due in part to rising income segregation.<sup>152</sup>

**The share of families in major metropolitan areas with incomes around the middle is steadily shrinking.**

■ **Significant shares of major-metro residents exhibit poor credit quality.** An often-overlooked influence on, and indicator of, inclusion regards Americans' experience with an increasingly complicated financial system. On that count, a troubling percentage of major-metro consumers register very weak credit scores. Nearly one-third of consumers in the 100 largest metro areas have credit scores below 595 in 2007.<sup>153</sup> Such low scores not only raise the costs of basic financial services, credit, and homeownership for families, but can boost their automobile insurance premiums, create barriers to their employment, and reduce the level and quality of market investment in their neighborhoods.<sup>154</sup>

### **Major metro areas are failing to achieve sustainable growth goals**

■ **Low-density suburbanization continues to threaten metro areas' rural land reserves and contribute to job sprawl.** Between 1980 and 2000, the growth of the 99 largest metro areas consumed 16 million acres of rural land, a rate of about one acre for every new household.<sup>155</sup> As a result, employment has sprawled out to meet population; 44 percent of jobs in these metro areas now locate at least 10 miles from the downtown (up from 42 percent in 1998), versus 22 percent in and around downtown.<sup>156</sup> With a projected need for 213 billion new square feet of built space over the next 25 years, continued development of this sort in our major metro areas could imperil efforts to achieve more sustainable growth.<sup>157</sup>

■ **Our major metro areas are saddled with an outdated, outmoded, and substandard transportation network.** No shortage of indicators points to the inadequacy of our major metropolitan transportation systems for the functioning of metropolitan economies, and for efforts to achieve more sustainable growth patterns. Our nation's major roadways are in poor condition, with only 36 percent of urban roadway miles rated in "good" condition by the U.S. Department of Transportation. Compared to global urban competitors, many of our major city downtowns are clogged with streets, parking lots, and cars. While the largest metros collectively dominate national transit-system ridership, more than half have no rail service and low bus volumes. As trade and falling transportation costs have increased traffic and trip lengths on the nation's freight rail network over the past 50 years, capacity has dropped sharply. And in several states, antiquated funding schemes

fuel continued highway building at the metropolitan fringe, shortchanging urban infrastructure and contributing to the sprawling development patterns noted above.<sup>158</sup>

■ **Per-capita vehicle miles traveled are on the rise, contributing to elevated greenhouse gas emissions.** Owing in part to low-density development patterns and insufficient transportation options in major metro areas, vehicle miles traveled in the 100 largest metropolitan areas increased 28 percent between 1992 and 2002—twice as fast as population. Major-metro congestion, in the form of average hours spent in traffic delays, rose even more markedly over the last two decades.<sup>159</sup> These trends, together with the virtual absence of fuel-efficiency increases over the same time period, contributed to rising emissions nationwide. As a result, the U.S. continues to rank first among major world economies in per-capita carbon dioxide emissions, with roughly double the emissions rates of Germany and the United Kingdom.<sup>160</sup>

**Vehicle miles traveled in the 100 largest metropolitan areas increased 28 percent between 1992 and 2002—twice as fast as population.**



In sum, America's largest metropolitan areas—while enjoying continued economic preeminence in a changing world—face significant shared challenges that put at risk our future prosperity. Recent trends raise the prospect of slowed productive growth in our major metros, and highlight their collective failure to bend historically strong growth towards meeting critical goals for inclusion and sustainability.

**America's largest metro areas, while enjoying continued economic preeminence in a changing world, face challenges that put at risk our future prosperity.**

To be sure, the 100 largest metropolitan areas examined in this report differ widely from one another. Each metropolitan area faces a unique combination of challenges to achieving productive, inclusive, and sustainable prosperity. For instance:

- **On productive growth**, innovative firms and workers in San Jose, Boise, and Austin registered 376, 260, and 111 patents, respectively, per 100,000 residents in 2005, while Fresno, Jackson, and Honolulu, at the other extreme, posted patenting rates of less than 5 per 100,000 residents.<sup>161</sup> This unevenness characterizes metropolitan productivity as well, with GDP per job in the top-ranked metro area (Bridgeport) registering 153 percent higher than that in the 100th-ranked metro area (Scranton).<sup>162</sup>
- **On inclusive growth**, even the most highly-educated metro areas face challenges with their “feeder systems.” The cities of Austin, Boston, Denver, Minneapolis, and Washington, despite their high levels of adult educational attainment, all had public high-school graduation rates below 60 percent in 2003-04.<sup>163</sup> Metro areas toward the smaller end of the 100-metro spectrum, such as Des Moines, Madison, Boise, and Harrisburg retain sizeable middle-class populations, while big metros like New York, Los Angeles, Houston, and Miami count only a small share of their families in the middle-income bracket, and many at the extremes.<sup>164</sup>
- **On sustainable growth**, public transit passenger miles concentrate heavily within a relatively small number of major metro areas. Nine of the ten largest metro areas surpassed 100 transit miles traveled per capita in 2005, but several among the top 100 (including Greenville, Boise, Jackson, and Augusta) fail to register even 10 transit miles per capita. Similarly, metros such as New York, Columbia, Des Moines, and Salt Lake City retain at least one-third of their jobs within 3 miles of downtown; others including Atlanta, Detroit, Los Angeles, and Miami count fewer than 10 percent of their metropolitan jobs there.



## 2. OUTMODED FEDERAL POLICIES INHIBIT METROPOLITAN ADAPTATION TO FAST-CHANGING REALITIES

The United States and its major metros are hardly powerless in the face of stepped-up global competition. To maintain our nation's competitive edge, public policy at all levels has a critical role to play in protecting, nurturing, and enhancing the key drivers of metropolitan prosperity.

Yet for all their inherent strengths, metropolitan areas cannot resolve their challenges alone. Metropolitan actors operate within a national policy framework, and face challenges of enormous magnitude that transcend their own capacities. Metropolitan firms and workers are on the front lines of a highly competitive global economy in which their regions are prime players, and where the imperative to innovate never ceases. Metropolitan-area leaders are grappling with massive social and demographic challenges, as they seek to elevate their workers' education and skill levels while mitigating the impacts of rising wage inequality. And though an increasing number of local and regional leaders are acting to "green" their cities and metros, runaway sprawl and increasing vehicle congestion mean that the finish line for those efforts continually recedes into the distance.

Moreover, constitutional and statutory constraints limit the scope for truly "metropolitan" agents, working across jurisdictional lines, to gather the resources and authority to act on these problems. All counties, cities, and towns are creatures of their state governments, but very few metro areas—despite their economic primacy—hold such legal designation. All too often, metropolitan areas face severe governmental fragmentation, with hundreds—if not thousands—of local and special-purpose governments competing for tax base and state resources in a zero-sum game that undercuts metropolitan economic competitiveness.<sup>165</sup>

To pursue the three related goals of productive, inclusive, and sustainable growth, metropolitan areas need support and guidance from the federal government on several levels. Federal funding for basic and applied science allows metropolitan institutions to set economic development priorities that leverage their underlying strengths. Federal tax credits and housing investments help close the growing gap between wages for less-skilled workers and the cost of basic necessities. And federal infrastructure and climate change policies set critical context for efforts to address massive trans-regional problems on connectivity and environmental sustainability.

More broadly, the federal government brings key assets for problem-solving at the metropolitan level. In terms of resources, the federal government matches dollar-for-dollar the direct general expenditures of all state and local



governments nationwide combined. Federal procurement expenditures account for over \$300 billion per year. Federal regulation guides efforts to control greenhouse gas emissions, secure capital for home mortgages and small businesses, and shape international trade. And federally-provided information, in the form of data, research, and analysis, forms the statistical bedrock upon which hundreds of thousands of public and private decisions are based each day.

Unfortunately, the federal government and the policies it carries out are in many respects maladapted to today's fast-changing economy. Numerous programs retain too much of the rule-oriented, top-down, managerial framework and practice that marked the American post-war economy. By contrast, organizations today find that they must operate in an increasingly dynamic, unpredictable environment in which local conditions vary widely, challenges overspill traditional boundaries, and constant learning is essential. Moreover, the pace of policy making in Washington has lagged well behind the exigent challenges brought on by global climate change, rapid advancements in trade and technology, and a growing, transforming U.S. population. In these respects, American governance must be updated to reflect the new demands of a more fluid, difficult environment for policymaking.

Given these imperatives, we identify three signal shortcomings in current federal policy and practice, as Washington:

- **Ignores the roles and realities of metropolitan economies.** The United States is less a national economy than a sum of its unique and varied metropolitan economies. And those economies are characterized by an increasingly complex intermixing of people and jobs across traditional local and state boundaries. Yet our diffuse national investments in economic development largely ignore the critical, place-bound role of metropolitan clusters of firms in fostering productive growth. Likewise, federal policies to stimulate



affordable housing production favor distressed inner-city neighborhoods over growing suburbs with plentiful jobs, good schools, and critical workforce housing needs.

- **Fails to comport itself as an accountable, strategic partner.** In areas where global imperatives require strong national leadership, such as combating climate change and boosting wages for lower-income workers, recent federal responses have been tepid, non-existent, or even counterproductive. Conversely, the federal government's substantial investments in transportation do not address key national infrastructure priorities around congestion, security, and economic growth, and fail to hold state and local actors accountable for their spending decisions.
- **Does not organize for success.** By compartmentalizing and fragmenting policies and programs, and starving itself and its partners of needed information, the federal government discourages integrated problem solving across metropolitan jurisdictions, and frustrates regional adaptation and innovation in the face of rapid market dynamics. To wit, nine federal departments and five independent agencies collectively carry out 180 disparate federal economic development programs, with little coordination at any level of government. Meanwhile, Washington neglects to collect and disseminate key data that support program and policy evaluation, and instead "nickels and dimes" the budgets of core statistical agencies such as the Census Bureau and the Bureau of Economic Analysis.

Just as metro areas need smart national and state policies to realize their economic potential and to grow in sustainable and inclusive ways, so the nation needs an agenda that recognizes and reinforces the economic, environmental and social potential of its major metro areas.

The shortcomings evident in the current federal approach suggest principles for a renewed partnership that respects metropolitan America's unique strengths, and helps to address its most pressing challenges.

**The federal government and the policies it carries out are in many respects maladapted to today's fast-changing economy.**



### 3. OUR NATION NEEDS A BLUEPRINT FOR AMERICAN PROSPERITY

So what would a pro-metro federal policy agenda look like?

It would foster a new partnership between federal, state, local, and private-sector actors to build a more prosperous metropolitan America, through constant productivity growth, broadened access to its benefits, and a new commitment to environmental sustainability. Above all, it would adjust old models of policymaking and governance to respond to the dynamic new realities facing the metropolitan engines of our national prosperity.

To that end, the *Blueprint for American Prosperity* initiative will highlight a series of federal policy reform proposals to promote more productive, inclusive, and sustainable growth in our metropolitan areas. It will argue that federal policy should:

- **Enable metropolitan areas to exploit their strengths, and adapt to changing realities.** For example, federal policy should support the regional clusters that enhance our nation's productivity growth, fostering new collaborations between state and local governments, universities, and private industry. Similarly, the federal government should facilitate investments in workforce housing in growing suburban job centers where the needs are most pressing, and where low-income families would enjoy greater opportunity.
- **Lead on national priorities, and demand results.** The federal government must lead a national response to critical global climate change imperatives, through investments in innovations that promote energy independence, and expand access to "green" homes and communities. The federal government, together with states, should strengthen work supports like the Earned Income Tax Credit that close the yawning gap between stagnating wages and rising prices. And in the transportation arena, federal policy must ensure that our substantial national investment resolves the congestion challenges facing our major corridors and gateways; at the same time, it must hold state, metropolitan, and local actors accountable for the performance of their investment decisions.

**The *Blueprint for American Prosperity* initiative will highlight a series of federal policy reform proposals to promote more productive, inclusive, and sustainable growth in our metropolitan areas.**

- **Promote integrated, informed, and innovative problem solving.** A centrally-funded, purpose-driven National Innovation Foundation should reorganize and gather together the federal government's fragmented and diffuse efforts to unleash innovation in fields such as information technology, engineering, and clean energy. Federal policy should also catalyze regional solutions to closely interrelated metro-wide challenges on land use, transportation, housing, and schools. All the while, Washington should provide transparent and accessible data and information that to guide state and local policy design, implementation, evaluation, and constant adjustment.

The representative policy reform ideas suggested above do not envision a uniform or exclusive focus on major metro areas, nor do most pre-suppose the existence of new formal institutions at the metropolitan level. Instead, these ideas—and the principles they seek to fulfill—would strengthen the drivers of prosperity (innovative institutions, educated workers, and critical infrastructure) that are found disproportionately within our major metro areas, as well as ensure that the growth unleashed by these drivers yields an inclusive and sustainable prosperity.

# V. CONCLUSION

Though our nation faces new and unprecedented challenges in a more integrated, more technologically advanced global economy, we begin from a position of great strength. Much of that strength vests in our nation's major metropolitan areas, which contain the bulk of our most important prosperity drivers.

With recent slippage on key indicators of U.S. metropolitan performance internationally and domestically, and tremendous gaps separating our highest-performing and lowest-performing major metro areas, the federal government must re-engage to address these challenges. For our metropolitan nation to prosper in a metropolitan world, our national government must value and strengthen the urban agglomerations that drive and dominate our economy. The *Blueprint for American Prosperity* will identify reforms that would give these metropolitan areas the tools needed to unleash productive, inclusive, and sustainable national growth well into the 21st century.



# APPENDIX

## THE 100 LARGEST METRO AREAS, BY 2005 EMPLOYMENT



## APPENDIX. 100 LARGEST METRO AREAS BY EMPLOYMENT, 2005

RANK	METRO AREA NAME	JOBS	POPULATION	GDP (\$M)
1	New York-Northern New Jersey-Long Island, NY-NJ-PA	8,688,774	18,813,723	1,056,381
2	Los Angeles-Long Beach-Santa Ana, CA	5,963,464	12,933,839	632,407
3	Chicago-Naperville-Joliet, IL-IN-WI	4,645,646	9,446,565	461,374
4	Washington-Arlington-Alexandria, DC-VA-MD-WV	3,120,965	5,251,629	347,631
5	Dallas-Fort Worth-Arlington, TX	2,892,217	5,823,043	315,544
6	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	2,884,152	5,806,092	295,236
7	Miami-Fort Lauderdale-Pompano Beach, FL	2,530,954	5,424,697	231,806
8	Boston-Cambridge-Quincy, MA-NH	2,507,022	4,448,884	261,086
9	Houston-Sugar Land-Baytown, TX	2,461,994	5,352,569	316,332
10	Atlanta-Sandy Springs-Marietta, GA	2,427,921	4,972,219	242,382
11	San Francisco-Oakland-Fremont, CA	2,119,610	4,158,012	268,300
12	Detroit-Warren-Livonia, MI	2,110,473	4,479,254	198,630
13	Phoenix-Mesa-Scottsdale, AZ	1,858,592	3,878,525	160,028
14	Minneapolis-St. Paul-Bloomington, MN-WI	1,855,851	3,141,050	171,361
15	Seattle-Tacoma-Bellevue, WA	1,747,611	3,207,892	182,170
16	San Diego-Carlsbad-San Marcos, CA	1,495,758	2,936,609	146,341
17	St. Louis, MO-IL	1,419,997	2,782,411	116,215
18	Baltimore-Towson, MD	1,366,441	2,651,069	118,063
19	Riverside-San Bernardino-Ontario, CA	1,338,182	3,909,903	101,561
20	Tampa-St. Petersburg-Clearwater, FL	1,324,721	2,646,540	100,952
21	Denver-Aurora, CO	1,261,495	2,361,778	131,551
22	Pittsburgh, PA	1,172,270	2,381,671	102,053
23	Cleveland-Elyria-Mentor, OH	1,112,432	2,125,138	99,338
24	Cincinnati-Middletown, OH-KY-IN	1,070,958	2,090,968	90,963
25	Orlando-Kissimmee, FL	1,064,513	1,931,479	89,402
26	Portland-Vancouver-Beaverton, OR-WA	1,049,947	2,096,571	95,573
27	Kansas City, MO-KS	1,035,803	1,944,690	91,169
28	Columbus, OH	963,822	1,706,913	82,745
29	Sacramento-Arden-Arcade-Roseville, CA	958,215	2,041,701	84,828
30	San Jose-Sunnyvale-Santa Clara, CA	928,896	1,761,164	123,305
31	Indianapolis-Carmel, IN	918,377	1,640,029	87,645
32	Las Vegas-Paradise, NV	912,655	1,709,364	80,486
33	Virginia Beach-Norfolk-Newport News, VA-NC	888,212	1,641,543	66,715
34	Milwaukee-Waukesha-West Allis, WI	880,526	1,509,388	73,333
35	San Antonio, TX	851,851	1,888,047	67,006
36	Charlotte-Gastonia-Concord, NC-SC	835,270	1,521,474	106,408
37	Nashville-Davidson-Murfreesboro-Franklin, TN	778,938	1,421,124	68,639
38	Providence-New Bedford-Fall River, RI-MA	746,487	1,619,440	59,411
39	Austin-Round Rock, TX	732,676	1,454,706	65,813
40	Memphis, TN-MS-AR	657,970	1,256,631	56,694
41	Jacksonville, FL	643,703	1,247,828	52,592
42	Hartford-West Hartford-East Hartford, CT	643,517	1,185,700	67,038
43	Richmond, VA	639,726	1,173,410	55,616
44	Louisville-Jefferson County, KY-IN	625,945	1,210,182	50,108
45	Salt Lake City, UT	614,482	1,046,685	50,643
46	New Orleans-Metairie-Kenner, LA	594,021	1,313,787	61,911
47	Oklahoma City, OK	588,330	1,154,991	46,661
48	Buffalo-Niagara Falls, NY	558,126	1,144,796	38,983
49	Birmingham-Hoover, AL	540,330	1,088,218	49,321
50	Rochester, NY	523,064	1,036,890	41,897
51	Honolulu, HI	508,735	904,645	41,111
52	Raleigh-Cary, NC	493,581	951,809	43,413
53	Omaha-Council Bluffs, NE-IA	473,910	812,830	39,058

<b>RANK</b>	<b>METRO AREA NAME</b>	<b>JOBS</b>	<b>POPULATION</b>	<b>GDP (\$M)</b>
54	Albany-Schenectady-Troy, NY	455,858	847,421	34,466
55	Bridgeport-Stamford-Norwalk, CT	453,387	901,086	72,725
56	Tulsa, OK	429,951	885,778	38,418
57	Dayton, OH	427,070	841,240	32,439
58	Grand Rapids-Wyoming, MI	404,193	770,171	31,463
59	Albuquerque, NM	399,975	797,517	32,012
60	New Haven-Milford, CT	396,219	844,510	34,292
61	Tucson, AZ	385,535	925,000	27,077
62	Greensboro-High Point, NC	375,939	674,219	30,001
63	Columbia, SC	373,800	690,959	26,319
64	Baton Rouge, LA	369,487	731,322	32,770
65	Fresno, CA	359,579	878,089	25,072
66	Madison, WI	358,834	536,990	29,169
67	Little Rock-North Little Rock-Conway, AR	348,849	642,630	26,482
68	Allentown-Bethlehem-Easton, PA-NJ	347,985	789,695	26,217
69	Akron, OH	346,934	701,435	25,707
70	Toledo, OH	342,892	655,617	24,955
71	Knoxville, TN	341,541	655,905	26,335
72	Oxnard-Thousand Oaks-Ventura, CA	339,782	796,348	32,127
73	Worcester, MA	339,394	781,704	25,551
74	Harrisburg-Carlisle, PA	335,412	520,690	24,662
75	Syracuse, NY	323,539	650,434	23,789
76	Des Moines-West Des Moines, IA	321,214	523,366	31,240
77	Sarasota-Bradenton-Venice, FL	312,410	671,371	23,099
78	Greenville-Mauldin-Easley, SC	311,996	590,622	22,250
79	Wichita, KS	304,600	586,933	22,196
80	Springfield, MA	304,204	686,491	20,055
81	Charleston-North Charleston, SC	303,520	591,792	22,503
82	Colorado Springs, CO	290,869	586,719	21,354
83	El Paso, TX	288,321	721,183	21,984
84	Bakersfield, CA	285,628	756,981	22,834
85	Durham, NC	278,726	456,180	26,030
86	Portland-South Portland-Biddeford, ME	275,252	512,992	22,181
87	Boise City-Nampa, ID	273,442	545,141	22,145
88	Jackson, MS	269,587	520,680	20,024
89	Scranton-Wilkes-Barre, PA	269,294	550,539	17,052
90	Poughkeepsie-Newburgh-Middletown, NY	267,684	667,259	19,132
91	Lexington-Fayette, KY	260,686	429,679	20,018
92	Youngstown-Warren-Boardman, OH-PA	254,209	590,968	16,691
93	Chattanooga, TN-GA	253,901	491,758	18,612
94	Lancaster, PA	244,281	489,936	17,481
95	Augusta-Richmond County, GA-SC	234,142	517,855	16,214
96	Cape Coral-Fort Myers, FL	232,859	544,196	20,392
97	Stockton, CA	230,634	664,796	17,256
98	Trenton-Ewing, NJ	229,931	366,070	21,513
99	Lansing-East Lansing, MI	226,985	454,668	16,806
100	Palm Bay-Melbourne-Titusville, FL	226,102	528,640	15,961
<b>100-metro total</b>		<b>96,035,760</b>	<b>193,005,690</b>	<b>9,282,300</b>
All metro areas		121,364,373	246,669,227	11,097,027
U.S. total		140,967,000	296,507,061	12,372,850
<b>100-metro share of U.S. total</b>		<b>68.1%</b>	<b>65.1%</b>	<b>75.0%</b>
All-metro share of U.S. total		86.1%	83.2%	89.7%

Source: Bureau of Economic Analysis and U.S. Census Bureau

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