

Ideopolis: Knowledge City Region

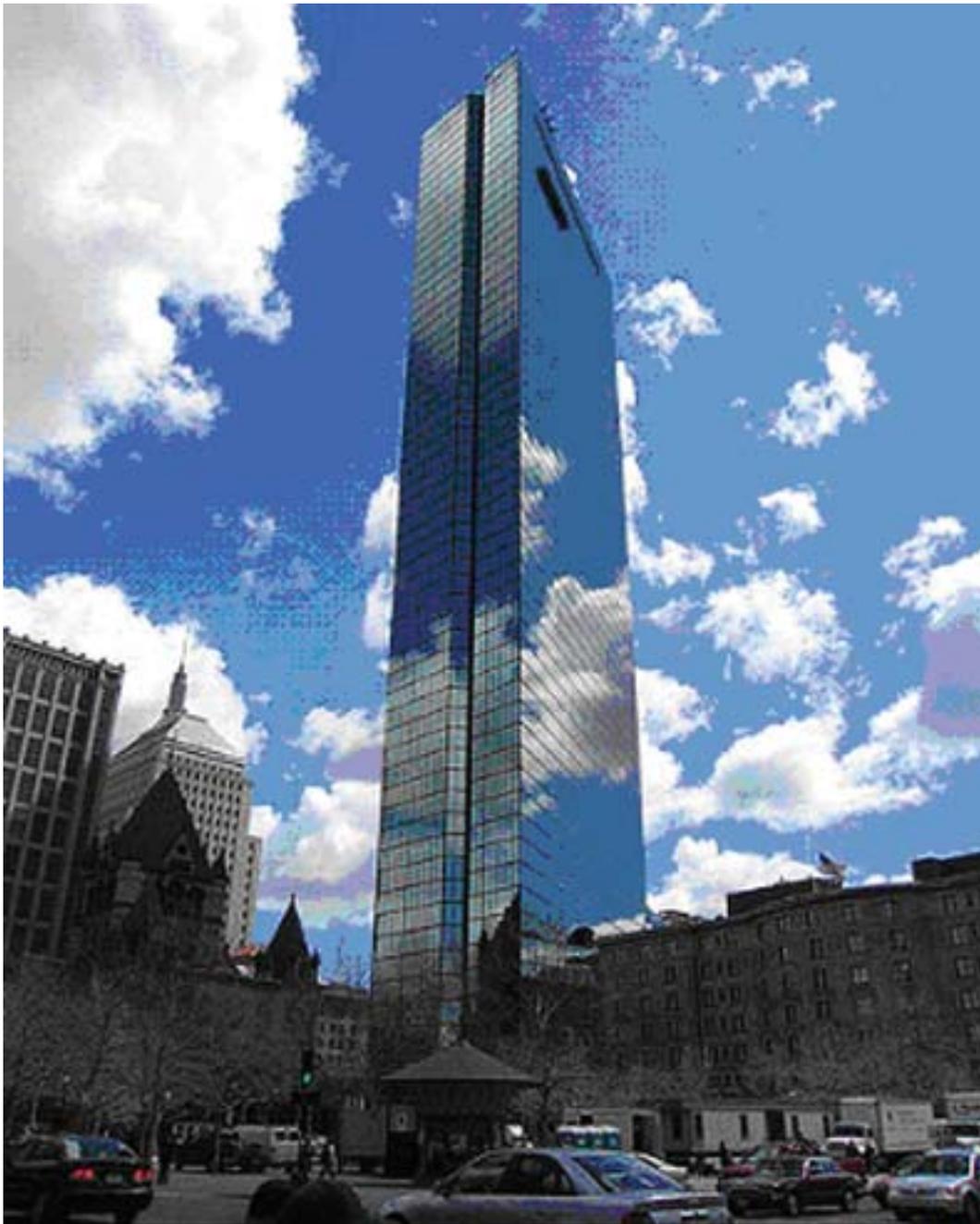
Boston Case Study

James Crabtree



“In 1980, Boston was a declining city in a middle-income metropolitan area in a cold state...There was little reason at that date to suspect that Boston would be any more successful than Rochester or Pittsburgh or St. Louis over the next few decades...Twenty years later, Boston looks like the future not the past.”

Ed Glaeser



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Introduction

About the Ideopolis project

The Work Foundation has conducted a year-long research project looking at the concept of the Ideopolis - a sustainable knowledge city that drives growth in the wider city-region. Based on literature reviews, data analysis and UK and international case studies, the re-search highlights drivers of an Ideopolis. For more information on the Ideopolis project please see: www.theworkfoundation.com.

About this case study

Boston is one of four international case studies that form part of the evidence base for the project, alongside Munich, Lisbon and Dublin. It focuses on the strengths and weaknesses of Boston, and the consequences of these for economic success and quality of life in the city, providing lessons for policymakers in other cities.

The case study is organised into the following sections:

- Overview: The Boston Renaissance
- Boston's Strengths:
 - World Class Institutions
 - Human Capital
 - A Large, Diverse Technology Sector
 - Financial Services and Venture Capital
 - A Biotech "Super Cluster"
- Boston's Weaknesses
 - A Crisis in Affordable Housing
 - Retaining People
 - Corporate Flight
 - High Cost of Living
 - A Leadership Crisis
- Issue 1: The Impact of Public Policy on Boston's Renaissance
- Issue 2: Boston and the Ideopolis Framework
- Issue 3: What can other cities learn from Boston?

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Overview: The Boston Renaissance

The city of Boston has undergone two decades of remarkable change. Its renaissance is best understood with reference to its history. Similar to other US cities, Boston declined sharply from the end of the Second World War until the 1970s.¹ Its population crashed, from more than three quarters of a million to barely half a million. Industry stagnated, perhaps not surprisingly in this capital of the state known as "Taxachusetts" due to its high rates of taxation. The mid 1970s were especially bleak. Boston gained a reputation for decline, deindustrialisation, financial crisis, urban strife, racial tension, and white flight. Richard Syron, previously president of the Federal Reserve Bank of Boston, said some decade and a half later that in the mid 1970s "people thought the world was ending. Massachusetts was collapsing. We were gradually going to sink into the sea."²

The chances of Boston becoming a knowledge city looked slight. In what became known as the "Massachusetts Miracle," a combination of defence contracting and emergent micro computing combined with Boston's traditionally strong base of skills and research, the city sharply rebounded to bring sudden growth and prosperity. Boston boomed, bucking the national recession of the early 1980s on the back of increased Cold War spending, the rise of new financial services and the emerging importance of technology. In particular, the "Route 128" corridor in the Greater Boston region became the nation's leading centre for microcomputer manufacturing (see p21), and began a trend towards the building of new knowledge intensive industries in Boston. As the

Christian Science Monitor, a respected current affairs magazine, reported at the time, Boston suddenly became "an entrepreneur's haven where in one case 39 new businesses spun off of one major electronics firm."³ The boom saw a leap in incomes from below the national average to 20% above it, a fall in unemployment from 15 to 3.5%, and a tripling of local property prices.

Eventually, the miraculous economy staled as its three critical industries began to struggle simultaneously. Defence research contracts dried up at the end of the Cold War. Boston's financiers, who had pioneered mutual funds, money-market funds, and stock-transfer services, all suffered as the 1980s finance bubble ended. But perhaps most importantly, the micro computing industry collapsed. The City lost 350,000 jobs in the following recession, and never again recovered the hi-tech pre-eminence it lost to California in the late 1980s. Yet despite this, Boston was no longer the troubled city it had been 15 years previously, and was able to prosper along with the rest of the US throughout the late 1990s.

Between the mid-1990s and 2000, the Boston economy boomed once again. Although it never quite hit the pace of the very early 1980s, the latter half of the 1990s were marked by tight labour markets and fast growth fuelled once again by the knowledge intensive technology and financial services sectors. Much to the delight of Bostonians, the city's population began to grow again. The city also began to lead in other areas, particularly its famous and much-imitated "Boston Strategy" for dealing with gang violence and urban decay. The year 2000, in the

¹ The Brookings Institution (2003), *Boston In focus: A profile from Census 2000*

² The Boston Globe, January 15, 1989, P73, *Massachusetts meets economic reality*

³ The Christian Science Monitor, April 19, 1989, P8, *Is the Massachusetts Miracle Fading?*

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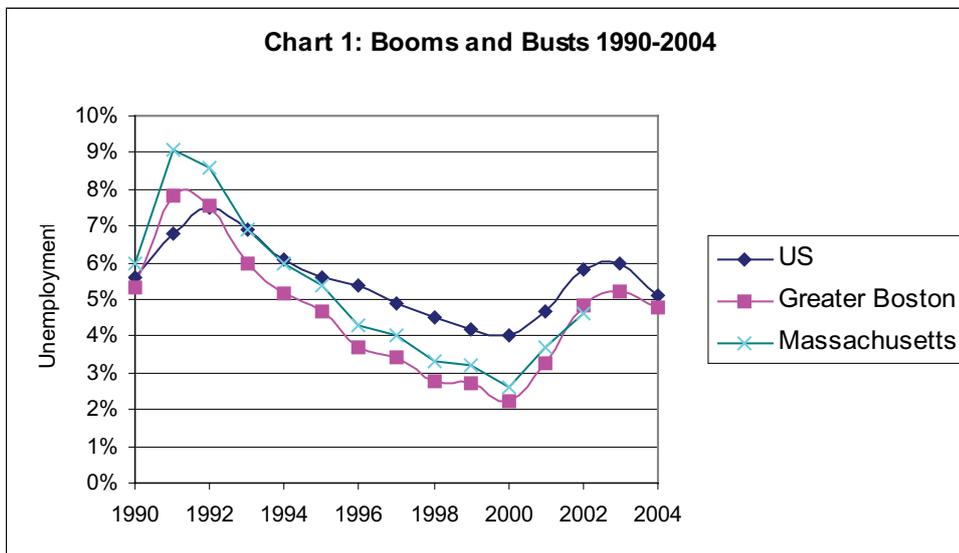
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words of the *Boston Indicator's Report*, "stands out as an economic pinnacle in Boston's history and a moment when Boston's economy was pulling almost everyone – even teenagers with little work history – into the work force."⁴

All of this came to an end in 2001 when the US economy declined and brought tougher times to the city and the country as a whole. A recession from 2000 to 2003 knocked much of the shine of Boston's economic performance in the late 1990s. The area's technology industries suffered, with technology manufacturing in the region taking a particular hit. By the end of 2005, employment in the state was still down by more than 160,000 from its peak, while household income fell by 3.5% between 2000 and 2004 (see Chart 1).⁵ Alongside recent

growth in the US economy and labour market, Boston's economy has remained relatively flat. Mike Goodman, of the University of Massachusetts Donahue Institute, offers one explanation for Boston's current lull:

*We are in slow growth mode. What has always saved our bacon in the past is that we have invented one or more of the next big technological things, and this helped us recover. Something like this hasn't happened, or if it has it hasn't been something which is job creating. There has been a lot of talk about nanotech, or renewal energy, or bio-infomatics, or pharmaceutical. But none of it has emerged to be the sort of job-creator that is needed.*⁶



Yet even without this obvious "next big thing," the Boston of 2005 is a world away from its declining position in the post-industrial 1970s. Commentators might disagree about exactly

what caused Boston's revival, or what or who should get the credit, but few disagree that the city has enjoyed a renaissance as profound as any 20th Century American city.

⁴ The Boston Foundation, *A Summary of the Boston Indicators Report 2002-2004*, p6

⁵ Heudorfer, B and Bluestone, B, presentation entitled *The Greater Boston Housing Report Card 2004*, given at the Center for Urban and Regional Policy, Northeastern University (CURP), September 2005

⁶ Original Project Interview

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How should we understand these changes? Barry Bluestone and Mary Huff Stevenson's book *The Boston Renaissance* is perhaps the best overview of the radical changes that occurred.⁷ They cite three separate but related revolutions that changed the area. First, Boston underwent a long-term demographic revolution, in which its minority population "tripled between 1950 and 1970, and then doubled again in the next 20 years." Continuing strong immigration hid the decline in population among White residents and saw Boston gain "majority minority" status in 2000. A city that used to be largely White and suffered many racial tensions had become tolerant and diverse.

Second, like most US cities, Boston's economy moved from "mill-based to mind-based industries." This long-term shift away from manufacturing to service and knowledge industries included a steep decline in blue-collar employment in favour of white collar.

Finally, there has been a spatial revolution, changing a mid-sized city into a metropolis that dominates its local region. Economic decentralisation, suburbanisation and expansion are common to many US city-regions. But, Boston's economic expansion is more complex, largely because its growth encroached upon surrounding towns and nearby states that were existing sites of economic activity. This spatial dimension has also brought great change to the centre of the city. The result is "The Boston Formula," a phrase coined by the Boston Indicators project, a research exercise designed to gather data on the city. They claim that the "key ingredients of the "Boston Formula" are walkable, livable, high-density communities close to public transit stations, with nearby research institutes, educational institutions,

cultural facilities, natural resources and new industry clusters."⁸ The project's authors suggest that this formula is now being copied by other cities around the US, and that it is a distinctive way to understand the development of the city. On one level Boston's reinvention looks extraordinary, but on another, argues Harvard economist Edward Glaeser, it is nothing new at all. His paper *Reinventing Boston 1640 – 2003* suggests that the city is a centre of frequent reinvention.⁹ Its history is not one "of steady success, but rather a series of crises and restructurings" as it changed from colonial city, to a sailing and trading port, to a manufacturing powerhouse, and finally to an envied hub in America's knowledge and technology economy. And it is this reinvention – present throughout Boston's history, but particularly relevant in the last 20 years – that forms the basis of this case study.

⁷ Bluestone, B., and Huff Stevenson, M. (2000) *The Boston Renaissance: Race, Space and Economic Change in an American Metropolis*. Russell Sage: New York

⁸ The Boston Foundation, *A Summary of the Boston Indicators Report 2002-2004*, p18

⁹ Glaeser, E (2003) *Reinventing Boston 1640-2003*, Rappaport Institute for Greater Boston: Harvard University

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Boston's Strengths

World Class Institutions

By any measure, Boston has a world-class set of institutions. Eight research universities - Boston College, Boston University, Brandeis, Harvard, MIT, Northeastern, Tufts and the University of Massachusetts Boston - are all less than 10 miles from downtown Boston. The city is also home to four medical schools and 16 teaching hospitals. Probably the city's biggest asset, these permanent institutions attract a wide range of talent, employ thousands of people and provide a significant source of local investment.

Edward Glaeser's overview of Boston's history credits these universities with a vital role in the area's renaissance. "In the 1950s, Boston's universities may have seemed like a quaint anachronism of the city's Brahmin past" he suggests. However they "meant that when America became an information economy, Boston would be able to capitalize on that transformation."¹⁰ The Boston Chamber of Commerce agrees, arguing in a recent report that: "These institutions dramatically enhance the Greater Boston economy and quality of life by driving job creation, infusing significant capital resources, and fuelling the innovation pipeline by drawing the brightest minds."¹¹

More prosaically, a recent report produced by the research universities, *Engine of Economic Growth*, makes clear how important the combined institutions are for local economic prosperity. Its figures show that their joint activities and research contribute more than \$7 billion annually to the Boston economy. The

colleges are significant sources of investment, spending more than \$3.9 billion in the Boston-area on wages, goods and services. The universities also employ more than 50,000, or "slightly more than Greater Boston's financial services industry."¹² Even more importantly, they conduct some \$1.5 billion in research every year. Between them they dominate the market for research spending in the area, and are the reason that Massachusetts receives more Government research investment per capita than anywhere else in the US.¹³

Institutions, though, matter more than simply what they spend. Their value to the city also comes in their very permanence. Unlike corporations, institutions don't move. In a time when Boston has suffered from corporate closures and population loss, such permanent institutions also help to attract and retain jobs. One National Bureau of Economic Research study concluded that: "education is a key factor...high human capital measures and, to a lesser degree use of computers, positively predict the degree of centralization. Industries which appear to be idea-intensive are more likely to locate in the central city."¹⁴ In other words, cities like Boston that have an unusual concentration of universities, teaching hospitals and scientific research facilities help to keep jobs stuck within the city itself. In addition to employing significant numbers of highly skilled workers, they also attract other firms who need to locate nearby.

¹⁰ Glaeser, E (2003) *Reinventing Boston 1640-2003*, Rappaport Institute for Greater Boston: Harvard University

¹¹ Boston Chamber of Commerce (2005) *Leading Industry Report*, The Greater Boston Chamber of Commerce: Boston, MA, p6

¹² Eight Colleges of Massachusetts, *Engines of Economic Growth: The Economic Impact of Boston's Eight Research Universities on the Metropolitan Boston Area*, Summary Document, p5

¹³ *Ibid*

¹⁴ Glaeser E, and Kahn, M (2001) *Decentralized Employment and the Transformation of the American City*, NBER Working Paper No. 8117, p36

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And while corporate headquarters have been declining of late (see p21), these public institutions have been persuading large private institutions to continue moving their research and development facilities into the city. Most recently the Swiss-based pharmaceutical giant Novartis last September announced plans to locate its \$255 million global research headquarters in Cambridge, a city in the greater

Boston area. The move will ultimately bring around 1,500 jobs to the city. Other companies with a significant research presence in the city include Amgen, Cisco, Merck, Novartis, Pfizer and Sun Microsystems.¹⁵ In this way these institutions do much more than just churn out good ideas. In addition to employing significant numbers of highly skilled workers, they attract firms to re-locate nearby.

Box A: The impact of Boston's Eight Research Universities

- \$7.4 billion in benefits to the regional economy
- Direct employment of 48,750, indirect estimated employment spin-offs of 37,000 further workers
- A talent pool of more than 31,900 graduates each year, around half of whom stay in the Boston area
- Innovative research that resulted in 264 patents, 280 commercial licenses of technology, and 41 start-up companies in 2001
- Continuing education for 25,000 non-degree students
- Community cultural events, such as concerts, plays, and lectures
- Community improvements through construction of housing and infrastructure, and environmental benefits.

Source: Eight Colleges of Massachusetts, Engines of Economic Growth report

Human Capital

Boston has always been an educated city. Shortly after the founding of the Massachusetts Bay Colony it was recorded that Boston had more than 100 graduates of Oxford and Cambridge. Even then "the city and surrounding towns were the most densely educated in the world."¹⁶ So it remains today. Edward Glaeser, this time in his guise as a leading authority on

human capital and economic development, puts skills at the heart of the city's recent reinventions. He notes that while Boston lost population every decade between 1950 and 1980, it has risen over the last two. "What distinguishes places like Boston that have stemmed their population decline?" he asks. "In a word: Education."¹⁷ Boston, with its talented people and institutions of learning, is close

¹⁵ Eight Colleges of Massachusetts, Engines of Economic Growth: The Economic Impact of Boston's Eight Research Universities on the Metropolitan Boston Area, Summary Document p10

¹⁶ The Boston Globe, May 7, 1989, Pg. 20 Some miracles never cease

¹⁷ Glaeser, E *Smart Growth: Education, Skilled Workers and the Future of Cold Weather Cities* in Rapaport Insitute Policy Briefs, April 2005, p1

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to a textbook example of how investment in human talent can reap economic benefits. Understanding why this is the case, however, is more complicated.

Like many cities, levels of education in Boston have risen dramatically over the last 20 years. In 2000, 39% of those in the greater Boston area had a degree or higher, the third highest level in the US behind San Francisco and Washington, DC (see chart 2).¹⁸ This is perhaps not surprising given that the city also has the highest proportion of university students in the US: 17.5% of Bostonians aged 15 and over are at university. (The next closest city has less than 14%.¹⁹) Although both the city of Boston and the state of Massachusetts worry frequently about the state of their public primary and secondary schools, the state's performance rates on many measures as among the best in the US.²⁰ Even on less tangible levels, Robert Tannenwald of the Federal Reserve Bank of Boston thinks the region's human capital remains a major asset:

Boston's greatest strength is still its people. It goes back to when people came over here originally. They had an ethic of hard work and "Yankee ingenuity". It is still here. We have a hard working and creative workforce. This isn't just the people at Harvard and MIT, the financial geniuses and the Route 128 people. It is also the working class family in South Boston. These people are still an attractive workforce.

Educated, hard working, not as unionized as it used to be. And demand for them has normally outstripped supply.²¹

Boston is a magnet for talented, educated people from its surrounding region, and across the US. Its mobile student population in combination with its skilled workforce make for one of the highest population churns of any American city, with 3 in 10 households arriving in the city in the last 5 years.²² A recent report on migration also notes that Boston "attracts a very specific type of person. No matter where they are coming from, they tend to be young, unmarried, highly educated professionals and managers who work in the knowledge economy."²³ Many such workers end up working in knowledge intensive sectors of the economy. And while the area is losing middle class families (see p18), this report suggests Boston is able to attract highly skilled knowledge workers from its competitor states.²⁴

Boston's ability to attract knowledge workers is combined with the density of world-class institutes of higher education within the city lead to high levels of human capital. Increasingly, human capital is regarded a crucial determinant of economic success in cities. Glaeser, along with fellow economist Albert Saiz, offer one convincing theory as to why. Their paper – *The Rise of the Skilled City* – notes an academic consensus that human capital is a good predictor of growth rates, but no

¹⁸ The Boston Indicator Project (2004), section 4.1.1 *Educational attainment rates, Boston and Metro Boston versus comparable regions*, available at <http://www.tbf.org/indicators2004/education/indicators.asp?id=2202>.

¹⁹ The Brookings Institution (2003) *Boston In Focus: A Profile From Census 2000*, part 2, p9

²⁰ See for instance The National Education Association, *Good News about Public Schools in Massachusetts* available at: <http://www.nea.org/goodnews/ma01.html>

²¹ Original Project Interview

²² The Brookings Institution (2003), *Boston In focus: A profile from Census 2000*, p39

²³ Nakosteen, R., Goodman, M and Ansel, D. (2003) *Mass Migration*, The Massachusetts Institute for a New Commonwealth, and the University of Massachusetts Donahue Institute, p3

²⁴ These states are generally understood to be California, Colorado, Connecticut, Minnesota, New Jersey, and New York -the six "Leading Technology States" identified by the Massachusetts Technology Collaborative (MTC) – and North Carolina

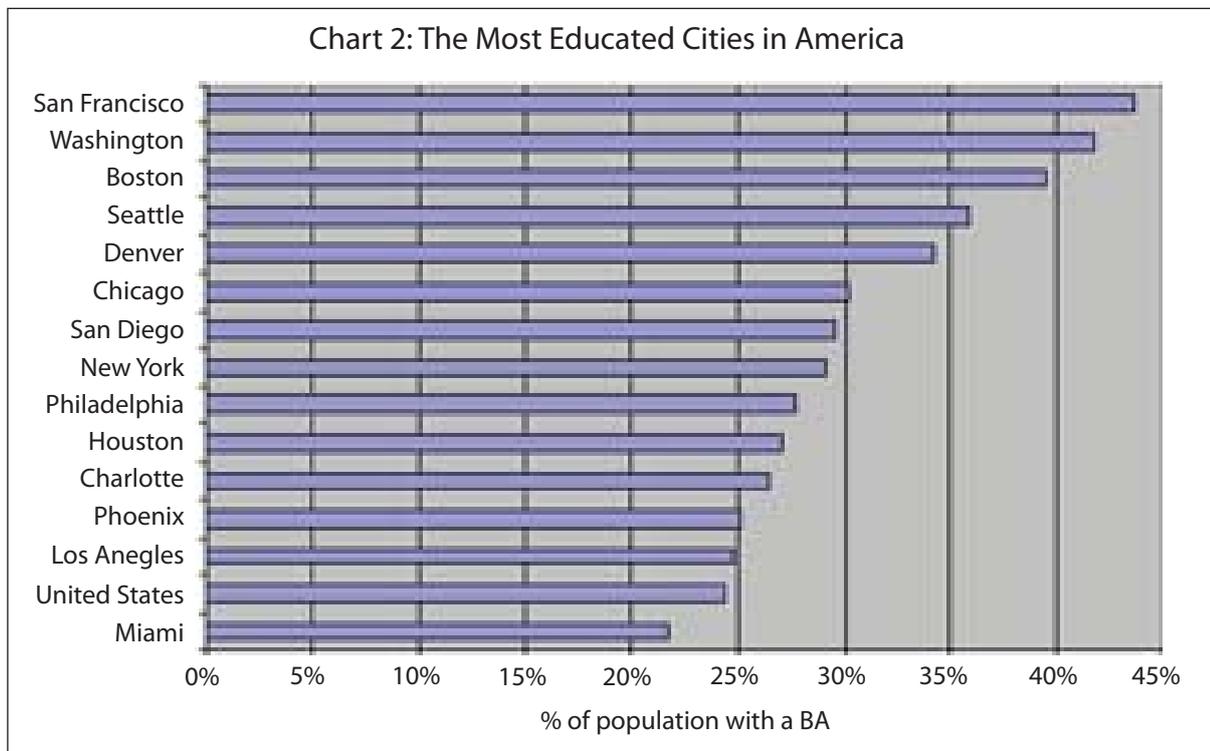
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consensus as to why this is so and how best to measure it. As Federal Reserve Bank of Boston analysis put it: “a growing body of research suggests that human capital—skilled labour—may be a better gauge and a more important driver of economic development [than technology]. Growth theorists have stressed the importance of human capital to productivity and income growth for the economy as a whole.”²⁵

One explanation of the importance of human capital is from Glaeser and Saiz. They posit that because educated people adapt better to changing environments, particularly technological environments, human capital

allows cities to reinvent themselves.²⁶ Supporting their theory that a highly skilled population helps cities re-equip after shocks, they find a strong relationship between education levels and the speed at which cities moved out of manufacturing. Equally, the authors look at the impact of cold weather. Cities in warm areas of the US have grown much more quickly than those in cold areas since the World War II, with the notable exception of those cold cities—including Boston—with high levels of human capital. The bottom line of their analysis is that Boston’s human capital-rich population is the most plausible reason for its historic and current ability for reinvention.



Source: U.S. Census Bureau / Boston Indicators Project

²⁵ Yu, D (2003) “What’s in a name? Gauging high-tech activity” *New England Regional Review*, Q4-Q1 2003/4, Federal Reserve Bank of Boston Regional Review, p6

²⁶ Glaeser, E., and Saiz, A., (2003) *The Rise of the Skilled City*. NBER Working Paper W10191. p2

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A Large, Diverse Technology Sector

Boston has an enviable collection of high technology industries. A 2001 Brookings Institution study examined 14 American technological hubs and found Boston to be 1 of only 3 American cities that have “large high-tech complexes”.²⁷ The city was also 1 of only 3 (different) cities to have higher than average employment in four critical hi-tech sectors: computer manufacturing, software publishing, data processing and computer system design. The report noted that while most high-tech cities specialize in one area, these three cities managed to develop various different technology clusters. Thus, while Boston’s technology sectors are large, their real advantage is in their diversity. As Jim Klocke, vice president of the Greater Boston Chamber of Commerce puts it: “We’ve got a very diverse high tech sector. Software was strongest in the late 1990s; now hardware, medical devices and telecom are picking up steam.”²⁸

A recent analysis by the Pingkang David Yu, an economist at the Federal Reserve Bank of Boston backs up this view.²⁹ Using statistical techniques that correlate technology with human capital indicators, a strong predictor of growth and development patterns, he found that Boston’s “more diversified job base” allowed the area to “generate a large enough stream of

high-tech jobs to remain on par with its West Coast counterpart.”³⁰ The diversity of Boston’s technology base gives the city a number of further advantages. Yu suggests that the city’s strength in technology services, rather than manufacturing, “may fuel future economic growth by introducing new technologies across industries and building channels for cross-fertilization,”³¹ rather than simply building strength in one area.

Equally, economic diversity was credited with helping Boston suffer less than its Californian counterparts during the dot-com bust. *The Economist* noted during the recession of 2002, “the ones wearing sneakers are out of work and there is Schadenfreude on the east coast.”³² This benefit should not be overstated: the Boston economy might not have crashed like San Francisco, but it still suffered very significant job losses between 2001 and 2004, including an estimated 25,000 hi-tech jobs.³³ Most of those jobs have not yet returned. Recent job growth in the technology sector has been sluggish at best, with technology manufacturing in particular showing no signs of recovery. Nevertheless, diversity still helps Boston avoid the sort of reliance in one area that proved damaging to its economy in the late 1980s. And overall, this diversity helps the city enjoy more of the benefits that technology companies bring to

²⁷ Cortright, J and Mayer, Heike (2001) *High Tech Specialization: A Comparison of High Technology Centers*, The Brookings Institute, Washington DC

²⁸ Quote taken from Monster.com, *Boston City Profile: Intelligentsia Take Risks that Create Jobs*, http://featuredreports.monster.com/city_profiles/boston/

²⁹ Yu, D (2003) *ibid*

³⁰ Yu, D (2003) *ibid*

³¹ Yu, D (2003) *ibid*

³² *The Economist*, Feb 7th 2002, *Revenge of the Brahmins*

³³ Srivastava, S. and Theodore, N (2004), *America’s High Tech Bust*, *Washington Alliance of Technology Workers*, p13. Specifically, the report noted that “The IT industry employment in the Boston region plummeted from 71,200 to 46,900 between March 2001 (the beginning of the recession) and April 2004 (the latest month for which revised employment numbers are available). This decline of 24,300 jobs includes 12,200 jobs that were lost after the recession officially ended in November 2001.”

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cities: high paying jobs, strong rates of growth and the development of knowledge based industries.³⁴

These aspects of technological diversity are also present in Boston's biotechnology cluster (see p14). A forthcoming Stanford University study notes that the cluster is particularly marked by a "diverse set of organizations involved in life science...[and] this heterogeneity is important in that it promotes experimentation and flexibility." The report suggests that this heterogeneity of research combines well with an open and collaborative form of scientific knowledge sharing in which "scientific

competition created a virtuous cycle, rather than a vicious one, enabling researchers and clinicians to build on the accomplishments of others."³⁵

Overall, Boston's technology clusters remain one of the most impressive images of the city's ability to transform itself and its economy, once again, in response to changing times. Just as the city rebounded from its 1970s decline by tapping into a base of talented people and strong educational institutions to become an early leader in the hi-tech computing, so it has done again.

Box B: Massachusetts' 10 Core Technology Focus Areas

The Massachusetts Technology Road Map and Strategic Alliances Study was a recently published examination of technology research in the state. It listed areas for potential R&D collaboration, much of which involves research universities and companies in Greater Boston. The list gives an idea of the diversity of technology present in the region.

1. **Advanced materials**, the "development of new classes of materials with unusual properties (e.g., strength, wear characteristics, and electromagnetic properties)."
2. **Signal processing** a "foundation technology for communications, computing and embedded systems."
3. **Computer sciences**, covering all aspects of computing "from software development to databases to information analysis and retrieval to networking to decision-making and data visualization."
4. **Sensing, optical and electro-mechanical devices**, a broad set of technologies that "enable measuring, sensing, actuation and the fusion of electrical and mechanical systems in ever more miniaturized components."
5. **Environmental sciences**, involving "understanding the basic physical and biological processes occurring in marine life and oceanography, ecosystems, climate and earth sciences."
6. **Genomics** and proteomics, "understanding the structure and function of genes and proteins, holding the potential to identify major new therapeutic approaches to treating diseases."
7. **Disease-related research** and drug discovery involving "advanced disease specific research, applying biotechnology related techniques."
8. **Biomedical device technologies**, involving "the convergence of biological processes with materials, electronics and software."
9. **Renewable energy**, developing "advanced technologies for harnessing alternative energy generating"
10. **Nanotechnology fabrication** developing "new structures based on the precise control of materials architecture at the molecular or atomic level."

Source: The Massachusetts Technology Road Map³⁶

³⁴ Cortright, J and Mayer, Heike (2001), *ibid* p1

³⁵ Porter, K., Walter W., and Whittington, K (Forthcoming), *The Institutional Embeddedness of High-Tech Regions: Relational Foundations of the Boston Biotechnology Community*. www.stanford.edu/group/song/papers/Porter_etal.pdf p32

³⁶ The Massachusetts Technology Road Map and Strategic Alliances Study (2004), *Choosing to Lead: The Race for National R&D Leadership & New Economy Jobs*, pp59-83

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Financial Services and Venture Capital

While the universities and technology companies gain more coverage, any picture of Boston's long-term success is incomplete without an understanding of the finance industries that have provided its funding. In particular, the city's recent emergence as a capital in the fast-growing mutual fund industry and its maintenance of a strong venture capital sector continue to underpin its capacity for reinvention.

Boston has been a financial services centre for more than 300 years, and these services remain a significant part of the area's economy. A recent analysis from the University of Massachusetts Donahue Institute shows that financial services account for 11.2% (\$30 billion) of the state's output and 8.2% of its employment.³⁷ For the purposes of this report, however, the most interesting development is Boston's reinvention from an insurance and banking centre to become the "mutual fund capital of America."

The world's first mutual fund, the Massachusetts Investors Trust, was launched in the city in 1924. It was not until the investment boom of the 1980s and 1990s shot the equity industry to prominence, however, that Boston's position became a source of advantage. Fuelled by massive asset investment over the last two decades, Boston became the industry's first city. Although recent reports have suggested that it might be gradually losing that title to Los Angeles,³⁸ it remains home to the world's largest mutual fund, Fidelity Investment. The giant enterprise alone manages funds close to \$1000

billion³⁹, a figure that has more than doubled in the last decade.

Robert Keough, Editor of the Boston magazine *Commonwealth*, noted in an interview for this report that Boston's continued success as a financial services capital included an element of chance:

*Boston was the birthplace of the mutual fund industry, and then got lucky when mutual funds became the principle vehicle for the participation of the broad middle class in the stock market over the 1990s. This made financial services in Boston a powerhouse, but it was essentially a matter of luck.*⁴⁰

While luck did certainly play a role, Boston's knack for reinvention has always allowed its financial services base to react to changing economic circumstances. Colonial Boston was the most advanced financial system in the US: the first to issue paper currency, to establish a banking system and to develop shipping insurance.⁴¹ Boston financiers then became leading backers of America's industrial and transportation revolutions in the nineteenth century, before moving into personal banking and insurance in the twentieth. The move to a financial economy dependent on assets, securities and mutual funds in particular, is best understood as a further iteration in the city's changing financial services architecture.

The changes also reflect long-term changes in the American financial services industry, in particular the consolidation of insurance and banking industries. While employment

³⁷ Bandopadhyaya, A., Detzler, M., & Habib, M. (200?), *Down But Not Out: The Future of the Financial Services Industry*. University of Massachusetts Boston, Boston: Massachusetts p3

³⁸ Bloomberg News, February 17, 2006, *Los Angeles Displaces Boston as Mutual-Fund Hub*
http://www.bloomberg.com/apps/news?pid=10000039&sid=a7IfENLtmYak&refer=columnist_carrier

³⁹ http://en.wikipedia.org/wiki/Fidelity_Investments

⁴⁰ Original Interview

⁴¹ Boston Redevelopment Authority (2001) *Leadership Through Innovation: The History of Boston's Economy 1970-2000*, p4

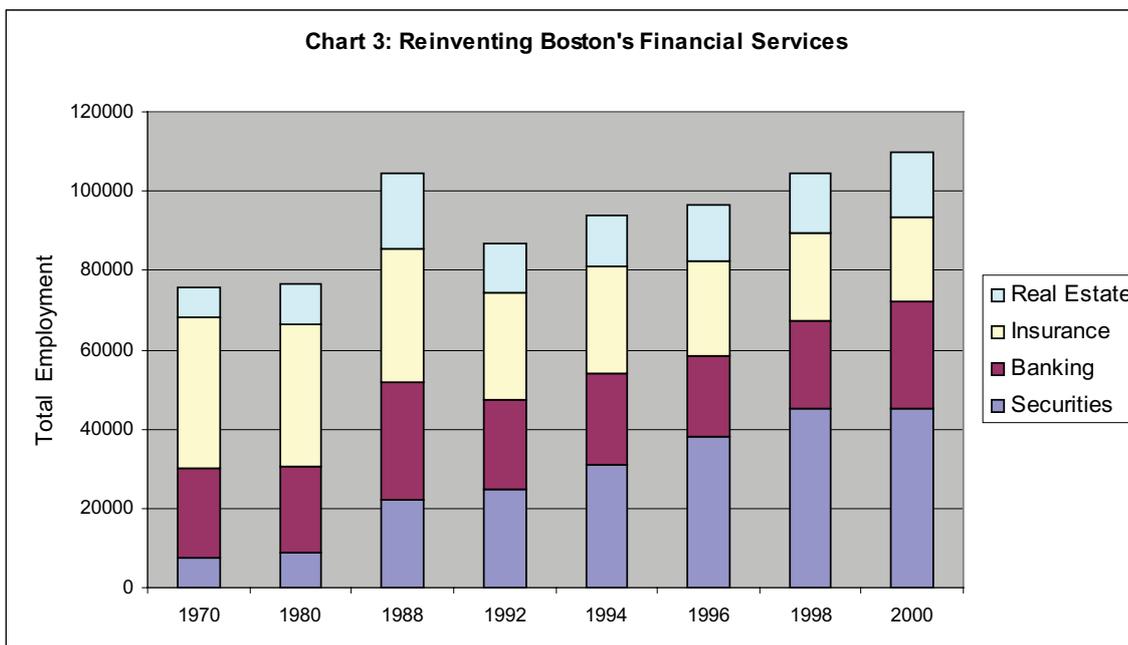
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in mutual fund institutions grew rapidly over the 1990s, jobs in banking have shrunk.⁴² The Insurance industry is also on a long-term downward trend in the city, shedding nearly 20,000 jobs since 1970.⁴³ Put another way, while the Boston securities industry, including mutual funds, was smaller than either the banking or insurance industries in the late 1980s, it is now almost as large as both combined (see chart 3). The second major benefit of Boston's financial services sector is a plentiful supply of venture capital, with both the city's technology and biotech clusters benefiting from strong links to investors. The Brookings Institution notes that this ability to commercialise scientific

ideas and research has been the city's biggest advantage in biotech and life sciences.⁴⁴ The Boston Redevelopment Authority proudly states: "Massachusetts is now the second largest recipient of venture capital [in the US], trailing only California, but receives more on a per-capita basis."⁴⁵ Competitive pressure is never far away, however, as demonstrated by a recent survey in which New York was rated as a better state for start-up funding⁴⁶.

Policy makers in New England (New England is a region in the Northeast United States comprising five states: Massachusetts (of which Boston is the capital), Rhode Island, Connecticut, Vermont, Maine and New Hampshire) moved



Source: Boston Redevelopment Authority (2004) Boston Chartbook: A Primer on Boston's Economy

⁴² The Boston Globe, November 9, 2003 pH1, New England Niche Boston Discovers Life After Banking Exists, *Asset Management*

⁴³ Boston Redevelopment Authority (2001) *Leadership Through Innovation: The History of Boston's Economy 1970-2000*, p13

⁴⁴ The Brookings Institution, Profile of Biomedical Research and Biotechnology Commercialization Boston-Worcester-Lawrence, Consolidated Metropolitan Statistical Area. Available at: www.brookings.edu/es/urban/publications/biotechboston.pdf

⁴⁵ Boston Redevelopment Authority (2001) *Leadership Through Innovation: The History of Boston's Economy 1970-2000*, p12

⁴⁶ The Boston Globe, August 4, 2005, Prospects For State Still Solid Despite Buyouts By Outsiders, pE1

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aggressively to protect their lead in both industries. A 1996 tax break given to the mutual fund industry within the state of Massachusetts was deemed sufficiently successful to be ranked among the 10 most important economic events of the 1990s in one business survey.⁴⁷ But perhaps even more than that, as The Boston Globe put it, the development of mutual funds and venture capital represented a shift even more substantial than putting “Boston on the map as the centre of a booming business. The city reinvented itself as a money manager for everybody, not just for the old-guard elite.”⁴⁸

A Biotech “Super Cluster”

Boston’s current race to become the world’s premier biotechnology location parallels the emergence of Silicon Valley as the premier locale for computing and technology a decade ago. The hope for Boston is that biotechnology forms the heart of a new type of “super cluster”, able to repeat California’s success in ICT.

Boston is among the world’s leading biotech and life science’s hubs. A study by academics at Stanford University suggests that the city is home to the world’s “largest single geographically concentrated cluster” of biotech enterprises.⁴⁹ The Milken Institute, a Californian think tank, recently reported that that Boston lies just behind San Diego as the 2nd ranked city for biotechnology. However it commented that “in many respects the two are virtually tied for 1st place”, and noted that Boston leads in the broader category of “life sciences” which

includes big pharmaceutical companies and scientific institutions.⁵⁰

Far from being a recent phenomenon, Boston’s life sciences cluster has been around since the late 1970s and early 1980s and now includes some of the largest companies in the sector. More recently, the Massachusetts Technology Collaborative began promoting the idea of a “super cluster” linking the area’s world class hospitals and educational institutions with companies specializing in biotechnology, pharmaceuticals and medical device manufacturing.⁵¹ *The Boston Globe* journalist Charles Pierce claims the industry has had a significant impact both on the city’s economy and its self-image.

The image of Boston’s public intellectual” he claims “is no longer a tweedy gent with leather patches on his elbows, the way it was in the 1920s and ’30s. It’s not the rag-wool-sweatered computer phenoms out along Route 128, as it was in the high-tech 1970s and ’80s, and it’s not a shark in a suit, like the financial-services whiz kids of the 1990s. It’s someone in a white coat, working in the spotless heart of a new building, looking at the future one fly at a time.”⁵²

The emerging biotechnology industry has important economic implications. Milken’s report argues that “regions with health-care clusters are likely to receive an economic shot in the arm in the next decade”⁵³ as demand for health care services continues to increase, particularly among the retiring baby boomer

⁴⁷ The Boston Globe, May 20, 1998, *10 events that shook our economy; Fall of an institution, rise of a razor help mark decade of change*, pC1 (*München – Stadt des Wissens*)

⁴⁸ The Boston Globe, March 2, 1997, *12 Moments That Mattered 1872-1997; The Creation Of The Magellan Fund 1963*, p.40

⁴⁹ Porter, K., Walter W., and Whittington, K (Forthcoming), *The Institutional Embeddedness of High-Tech Regions: Relational Foundations of the Boston Biotechnology Community*. www.stanford.edu/group/song/papers/Porter_etal.pdf

⁵⁰ The Milken Institute (2004), *America’s Biotech and Life Science Clusters*

⁵¹ Massachusetts Technology Collaborative (2002) *Index of Massachusetts Innovation Economy* p14

⁵² The Boston Globe, December 14, 2003, *The future has big red eyes*, p14

⁵³ The San Diego Union-Tribune, August 12, 2003, pC1, *S.D. ranked No. 17 for health care*

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generation. A 2004 report from the Brookings Institution noted that the industry promised to reveal “the next great frontier of scientific advancement that will bring with it whole new industries. The potential economic impacts of new technologies, though unknown, seem to be huge.”⁵⁴

And while biotech is often seen as an emerging industry elsewhere, Boston’s sector is sufficiently large to have been called the “cornerstone” of the local economy, not a surprising claim given that it accounts for “one-sixth of all public companies” in the State.⁵⁵ The Massachusetts Biotechnology Council (MBC), an industry group promoting biotech in and around Boston, suggests that activity related to the sector has contributed “roughly half of the new industrial jobs in Massachusetts” since the turn of the century. In a recent report, the group claims that biotech now employs around 30,000 workers in Massachusetts, a figure that has been growing at around 10% a year for a decade. The Milken Institute suggests a more conservative, but none-the-less impressive, 18,700 workers, and still suggests more people are employed in biotech in Boston than any other US city.⁵⁶

Most of these jobs are located in Cambridge, a city in the Greater Boston area, close to downtown Boston. The MBC also claim: “biotechnology accounts for 18% of the state’s venture-capital investment, 27% of its R&D spending, one sixth of its public companies, and

approximately 10% of its market capitalization. What’s more, the fact that approximately 8% of the world’s pipeline of new medications (pharmaceuticals as well as biotech) is now located in Massachusetts represents enormous potential for growth and job creation.”⁵⁷ Some of the area’s biotech companies show the potential to become genuine corporate giants and compensate for Boston’s recent loss of a number of symbolic corporations. The area’s two largest, Biogen Idec and Genzyme, have both been buying up rivals with Biogen’s 2003 purchase of Idec, at a cost of \$6.8 billion, creating one of the world’s largest biotech companies.⁵⁸

This is not to say that the industry is secure. The city worries constantly that its leading position in this 21st century growth industry might slip. Those who saw Boston’s almost complete dominance of the early microcomputer industry almost completely lost to California, worry that the same could happen again. They note that other US cities are keen to attract industry players, that the share of US biotech jobs in the state of Massachusetts is declining and that investment and venture capital in the industry have been growing more quickly in other states⁵⁹. While other cities will not be able to replicate Boston’s success overnight, Boston’s successful mix of investment in R&D, high skills, a culture of entrepreneurship, institutional diversity and openness acts as inspiration for any city trying to lead in this area.

⁵⁴ Cortright, J and Mayer, H (2004) *Signs of Life: The Growth of Biotechnology Centers in the U.S.* The Brookings Institution Center on Urban and Metropolitan Policy

⁵⁵ The Washington Post, June 1, 2004 Tuesday, Importing a Fight With Boston’s Biotech Industry

⁵⁶ The Milken Institute (2004) *ibid*

⁵⁷ The Massachusetts Biotechnology Council and The Boston Consulting Group (2005) *Massbiotech 2010 Achieving Global Leadership In The Life-Sciences Economy*, p12 <http://www.massbiotech2010.org/summary/>

⁵⁸ The Boston Globe, August 4, 2005, *Prospects For State Still Solid Despite Buyouts By Outsiders*, pE1

⁵⁹ The Massachusetts Biotechnology Council and The Boston Consulting Group (2005) *Massbiotech 2010 Achieving Global Leadership In The Life-Sciences Economy* p6

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Boston's Weaknesses

A Crisis in Affordable Housing

Boston suffers from one of the most acute, and potentially one of the most damaging, affordable housing shortages in the US. It has been described by Barry Bluestone, an economist at Northeastern University in Boston, as both a "moral imperative for all those who need decent housing" and an "economic necessity" in order to sustain the city's renaissance economy.⁶⁰ Even more importantly, some of the other challenges facing the city, namely retaining people and the high cost of living, are exacerbated by high housing costs.

The facts about Boston's affordable housing crisis are detailed in a recent study from Harvard's Rappaport Institute for Greater Boston. Between 1980 and 2000, four US cities with the fastest growing house prices – Cambridge, Somerville, Newton and Boston itself - were in the Greater Boston area. House prices in certain parts of the region have grown by more than 200% in real terms since 1980s.⁶¹ Prices for rented accommodation are also among the most expensive in the country, including a lack of affordable housing for key workers.⁶² The housing crunch is also a major contributing factor in the city having an extremely high cost of living within the US,⁶³ potentially leading to a loss of less affluent people from the Greater Boston region (see Chart 4) to more affordable towns and bordering states (or outside of the Northeast

altogether to the sunshine belts of the South and Southwest.

Far from being a bubble, however, the house price boom is largely a product of inadequate housing supply. Whereas other American regions have seen economic vitality coupled with population growth and static house prices, Boston's slow rate of new building is associated with low population growth and soaring house prices. The lack of supply is explained by complicated housing regulations and a decentralized planning process that allows local communities to veto development. Edward Glaeser argues:

*Boston faces extraordinarily high housing prices. Boston's limits on new construction were relatively costless in an era of urban decline, but as the area thrives, these barriers to construction pose the largest barrier to new growth and may well create large social costs for Bostonians and would-be Bostonians. The regulation on new construction is surely the most important policy area facing Boston today.*⁶⁴

During 2005 the rise in prices did finally slow leading, alongside a lull in sales, to gradually falling rents.⁶⁵ Research suggests that housing production has increased over the last couple of years, but figures for 2004 suggest that even this increase was of less than three quarters the level needed to keep price rises at normal levels.⁶⁶

⁶⁰ Heudorfer, B and Bluestone, B, presentation entitled *The Greater Boston Housing Report Card 2004*, given at the Center for Urban and Regional Policy, Northeastern University (CURP), September 2005 of this case study

⁶¹ Glaeser, E. Schuetz, J., and Ward, B. (2006) *Regulations and the Rise of Housing Prices in Great Boston*, The Rappaport Institute for Greater Boston

⁶² Heudorfer, B and Bluestone, B, presentation entitled *The Greater Boston Housing Report Card 2004*, given at the Center for Urban and Regional Policy, Northeastern University (CURP), September 2005

⁶³ Heudorfer, B and Bluestone, B., *ibid*

⁶⁴ Glaeser, E (2003) *Reinventing Boston 1640-2003*, Rappaport Institute for Greater Boston, Harvard University, p2

⁶⁵ The Boston Herald, *And points of no return*, December 26, 2005 Pg. 24

⁶⁶ Heudorfer, B and Bluestone, *ibid*, slide 40

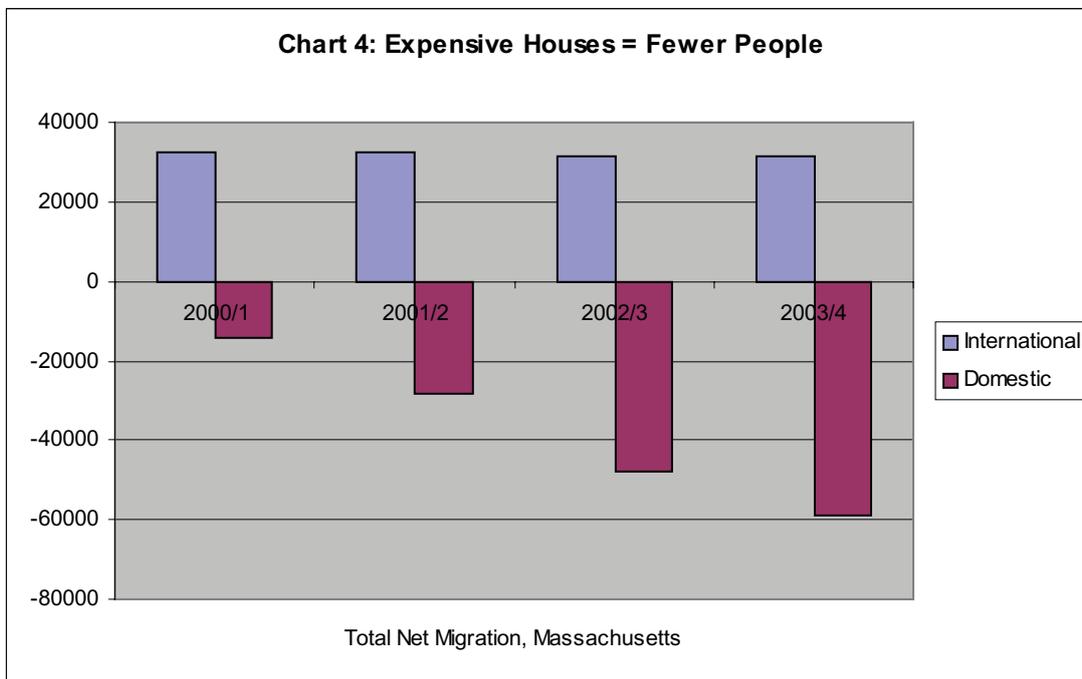
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Predictions until 2009 suggest slower price rises, but rises nonetheless.⁶⁷ Yet even with this slower growth, commentators think that the current crisis more damaging than previous housing shortages. Robert Keough of *Commonwealth Magazine* put the current difficulty aptly:

*In the 1980s it used to be a housing crisis for poor people. In the 1990s it became a housing crisis for middle class people. In the 1980s even though prices rose rapidly, the concern was about displacement and gentrification. There was no talk about recruitment. Now you hear this everywhere. The hospitals will tell you can't recruit doctors because they can't afford to buy a home. Jesus! What the hell has happened if a doctor can't afford to buy a home?*⁶⁸

Unless policy is changed, the continued rise in house prices is likely to constrain economic growth, discourage middle class families from settling in the Greater Boston area and make it harder for companies to attract workers. And as Barry Bluestone argues, these are exactly the factors that could exacerbate the housing problems in Boston: "In the long run, economic weakness, slow job growth, and demographic flight could lead to much weaker housing markets in Massachusetts."⁶⁹ If not fixed, such trends will slow future growth and damage the region's ability to attract the kind of workforce it requires to sustain its prosperity.



Source: The Greater Boston Housing Report Card 2004

⁶⁷ Bluestone, B (2005) *The Massachusetts Housing Challenge*, presentation given at the Center for Urban and Regional Policy, Northeastern University December 7, 2005, slide 26

⁶⁸ Original Project Interview

⁶⁹ Bluestone, B (2005) *The Massachusetts Housing Challenge*, presentation given at the Center for Urban and Regional Policy, Northeastern University December 7, 2005, slide 28

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Retaining People

Both the city of Boston and the state of Massachusetts have suffered domestic population loss in recent years. Population decline is a sensitive topic for city policy makers given the topic's association with long-term economic decline. Population increases during the 1980s and 1990s were welcomed, while recent falls—particularly among the working and middle classes—have been a cause for public concern. But even these latest losses hide a more complicated picture in which the city has remained attractive for the young, diverse pool of knowledge workers, but is increasingly losing middle income earners put off by the area's high cost of living and housing.

Both the state of Massachusetts and the city of Boston gained population over the course of the 1990s.⁷⁰ However, a recent report published by MassInc, *MassMigration*, shows that both the city and the state actually lost domestic population and grew only because of international immigration. The report's authors say: "If we consider the net-migration year-by-year over the last twelve years, however, we find that in every single year, Massachusetts lost more people than it attracted—including those years of extraordinary economic expansion."⁷¹

The city of Boston began to lose population again in 2000, and has done so every year since. Part of the problem is that middle class people with families are leaving the Greater Boston region in significant numbers, with a majority moving to neighbouring towns and states with lower costs of living. As liberal commentator

Joel Kotkin argues: "behind these numbers lies a broader demographic decline. Simply put, New England, especially Massachusetts, is not producing future citizens. Boston, in particular, is rapidly becoming a 'childless city'."⁷²

The figures back-up Kotkin's point of view. An interpretation of 2000 Census data revealed that locally born families with children were disproportionately likely to leave the state over the course of the 1990s.⁷³ Thus, while it is clear that Boston has maintained a good quality of life for some of its residents, they might have done so at the expense of working class families who did not have a place on the property ladder. In particular, Kotkin thinks that this represents something more fundamentally wrong with a model that benefits "the elite media, technology company executives, investment bankers, venture capitalists and, perhaps most the *professoriate*", but does not help those further down the social scale.

Even the normally growing rates of younger workers within the Greater Boston area have seen recent declines. Data from the 2000 Census revealed that Boston had positive net migration of young, single college educated workers between 1995 and 2000. But, this rate of migration (2.1%) was much lower than in many of its competitor cities, such as Seattle and San Francisco (both c19%) and is likely due to the fact that many young adults relocate to Boston to attend university and then leave following graduation.⁷⁴ Meanwhile, between 2000 and 2004, out-migration increased while in-migration remained static, a big cause of

⁷⁰ The Boston Globe, October 23, 2005, pE12, *A State Of Decline: Why Massachusetts Is Losing People*

⁷¹ Nakosteen, R., Goodman, M and Ansel, D. (2003) *Mass Migration*, The Massachusetts Institute for a New Commonwealth, and the University of Massachusetts Donahue Institute, p5

⁷² Kotkin, J (2004) *Massachusetts Moldy Miracle*

⁷³ Nakosteen, R., Goodman, M. and Ansel, D (2003) *Mass.Migration*, The Massachusetts Institute for A New Commonwealth (2003) p9

⁷⁴ U.S. Census Bureau (2003) *Migration of the Young, Single and College Educated: 1995 to 2000*, Special Report, p9

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Greater Boston's population drop (see chart 4). More concerning, as an analysis from economist Barry Bluestone shows, "the young prime working age cohorts experienced the largest net losses. Between 2001 and 2003, the 20-24 year old cohort declined by 11.5% while the number of 25-34 year olds fell by 7.2%. Nationally, the 20-24 year old cohort grew by 5.6% while the 25-34 cohort grew by 0.7%"⁷⁵. The suggestion is that, unless action is taken, Boston may soon see losses in precisely the sort of people it has traditionally been good at attracting.

Part of the decline is likely to be cyclical. The state's rate of net-migration improved throughout the 1990s, even if it never quite managed to break into positive figures (net of immigration from abroad.) This suggests, as might be expected, that migration is closely related to the economic cycle and, in particular, to the availability of employment following college graduation. As the local economy

declined in the recession of 2001 to 2003 it is likely that a poor job market discouraged immigration and led more people to leave the area post-graduation.

Equally, at least a portion of the population decline is due to specific demographic factors. John Avault, Chief Economist at the Boston Redevelopment Authority, argues that most of the loss is explained by a drop in the city's birthrate during the 1980s.⁷⁶ Once this is taken into account he claims the city remains "a magnet for young adults" and has increased its ability to attract young adults from outside the state. The state is also battling long-term trends across the US, in which population and economic movement is away from colder, Northern cities and towards warmer, Southern and Southwestern areas. Despite this, it is clear that the state's cost of living and its cost of housing does not help. Without action, it appears that Boston is unlikely to see fast-growing populations again any time soon.

Box C: The Office of New Bostonians

Immigration remains a vital source of human capital. More than a quarter of Boston's population are foreign-born immigrants, the fifth highest in America.⁷⁷ Immigrants have been vital in supporting Boston's booming economy, making up 82% of the state's labour growth since the mid 1980s.⁷⁸ However, the region's immigration profile is changing, while levels of immigration have flattened. A late 90s study by the McCormack Institute at the University of Massachusetts found highly significant changes to the ethnic make-up of Boston's immigrant community. After the Second World War the majority of the city's foreign-born residents were from Ireland, Italy and Canada. Today immigrants from Haiti and China are among the largest groups.⁷⁹

In 1998, Boston's Mayor Thomas Menino launched The Office of New Bostonians to counter the city's image as an unfriendly place for immigrants, and to develop the skills of Boston's immigrant population. While the top-end of immigrants have roughly the same skill level as native workers, about a quarter of the area's immigrants lack a high school diploma, compared with less than 1 in 10 of native born.⁸⁰ Located in City Hall, the office provides information to both American and foreign immigrants, including links to legal services, educational opportunities, skills and training opportunities, and health care. The office has supported a public private partnership called *English for New Bostonians* to provide English lessons for newcomers with language difficulties.

⁷⁵ Heudorfer, B and Bluestone, B, presentation entitled *The Greater Boston Housing Report Card 2004*, given at the Center for Urban and Regional Policy, North Eastern University (CURP), September 2005

⁷⁶ Avault, J. (2005) *Boston: Still A Magnet for Young Adults*, Mass Benchmarks, Vol. 7, #4, 2005, p31

⁷⁷ The Brookings Institution (2003), *Boston In focus: A profile from Census 2000*, p24

⁷⁸ Mass Inc (1999) *The Changing Workforce*. Boston, MA

⁷⁹ The Boston Globe, January 7, 1998, *Making it easier for immigrants; New office has roots in bequest*, pB1

⁸⁰ Sum, A, Mykhaylo T, and Neeta F (2003). *Imported Talent*. In Connection: The Journal of the New England Board of Higher Education, Summer, pp. 16-18

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Corporate Flight

More than almost any city in the US, Boston has lost a string of high profile, iconic corporate headquarters in recent years. The Boston Globe noted in the middle of 2005 that while its "Globe 100" survey was meant to "celebrate Massachusetts' biggest companies," it had "been mourning the loss of some of its corporate giants" more recently.⁸¹

John Hancock Financial Services, named after one of the city's most famous sons and owner of one of the skyline's most visible skyscrapers, was first to go in 2003 after being bought by the Canadian Manulife Financial Corp. In April 2004, FleetBoston Financial Corp, owners of Boston's high profile Fleet Bank, was bought by Bank of America for \$47 billion. The move, described as "one of the most important banking deals in the last decade"⁸², was also perhaps the most visible change for Bostonians. Fifteen hundred branches throughout the region were re-branded. Next up, Gillette, the cosmetics manufacturer, was sold to Procter and Gamble in January 2005 for \$59 billion. Although less important than the other three, the sale of Reebok, the shoe manufacturer headquartered in the Boston area, to Adidas for \$3 billion was widely reported as the latest in a seemingly never-ending trend of takeovers. Even more disheartening for Bostonians, the city's most famous department store, *Filene's*, is soon to be rebranded as a branch of New York City's *Macy's*. The various takeovers shook the city's confidence. It appeared that even the best of the city's commercial enterprises could be

picked off at will. One venture capitalist was quoted in The Boston Globe as saying that "it feels as if we are in a bowling alley watching all our pins fall down."⁸³ At the time of the mergers, John Barrett, director of research at the Beacon Hill Institute at Suffolk University, said: "I don't know if ultimately layoffs will have a huge economic impact on Boston. But it diminishes our image of our self."⁸⁴

Does it do anything more? The spate of high profile closures, led to local concerns that the city might be becoming, once again, a less friendly place for successful business. Robert Keough of *Commonwealth Magazine* admits that, at the very least, it gives the wrong impression:

*Both the city and the state continue to fight an image and a reality that they are tough places to do business. One administration after another says they will solve this problem, and they don't. Boston and Massachusetts are highly and inefficiently regulated. There is no way to avoid complex and multiple bureaucracies. It is just a very tough place to do business.*⁸⁵

Boston itself might no longer be a hub of corporate activity. (It is now home to only two of the state's largest companies, financial services group Street Corp and the utility company NStar.)⁸⁶ But, the Boston region still contains numerous headquarters of large companies, including the defence manufacturer Raytheon and retail giants Staples and TJMaxx.⁸⁷ The healthcare services sector has seen particular growth, with health and life-sciences companies

⁸¹ The Boston Globe, May 17, 2005, *State Seeks A Few Good Giants, After Fleet And Gillette, Local Corporate Titans Are Scarce* p.1

⁸² Daily Deal/The Deal, August 8, 2005 Monday, *Boston surprise*

⁸³ The Boston Globe, August 4, 2005, *Prospects For State Still Solid Despite Buyouts By Outsiders*, pE1

⁸⁴ Christian Science Monitor, February 3, 2005, *Cities adapt as employers relocate*, pg 3

⁸⁵ Original Project Interview

⁸⁶ The Boston Globe, January 30, 2005, *Gillette Merger Opens Wounds, Possibilities*, p. A1

⁸⁷ The Boston Globe, May 17, 2005, *State Seeks A Few Good Giants*, p. F1

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now making up four of the top 10 in *The Boston Globe's* "Globe 100" review of the area's largest business. Prominent among them is Boston Scientific, often cited in newspapers articles as a potential corporate titan, and recently crowned Massachusetts' largest company having more than doubled its sales since 2001.⁸⁸ Local retailers Staples and TJX have also grown well.⁸⁹

More importantly, however, is what the corporate changes say about the future structure of the local economy. The corporate purchases were on such a scale and felt so keenly in the local area that the President of the Boston Chamber of Commerce described

them as a "'paradigm shift' in Boston's historic economic profile and the very nature of its work force."⁹⁰ These sales make the city's permanent institutions – its universities and hospitals and the organizations located close to them – ever more important as sources of competitive advantage. And, as Paul Grogan, head of the Boston Foundation says, they made it clear that the city's approach to economic growth is changing: "Boston's old economic paradigm was: attract companies. Boston's new economic paradigm is: attract talent who will attract entrepreneurs and companies."⁹¹

Box D: Losing Companies on Route 128

Boston has lost significant companies in the past, none more traumatically than in its technology sector. In the mid 1980s, Massachusetts' politicians were so proud of their state's technological recovery that they voted to put up road signs along a stretch of road, known as Route 128, telling the world that it was "America's High-Tech Highway." The road, which arched around the city, was also known as the "golden horseshoe."⁹² Yet soon enough the road, and the industry that surrounded it, would become a by-word for missed opportunity, as Boston's technological dominance was quickly surpassed by California. The lessons of that failure, and the change it brought to Boston's business culture, are still felt today.

For much of the latter 20th century Boston's mainframe computing businesses, in combination with various defence contractors, were the most advanced technology cluster in America. However, beginning in the 1970s and accelerating through the 1980s, Boston lost its lead to Silicon Valley. In a now famous analysis, economist AnnaLee Saxenian argued in her book *Regional Advantage* that insularity in Boston's business culture was to blame. The advantages that Boston held in industrial and mini-computing were quickly lost as the east coast failed to take advantage of the move to personal and network computing.

Saxenian's analysis argued that the Boston hi-tech cluster was organized in autonomous, lumbering corporations quite in contrast to Silicon Valley's lean networks of entrepreneurs and venture capitalists. She argued that "at a time when skill and technology were continually being recombined in Silicon Valley, they were trapped within the boundaries of this handful of independent companies in Route 128."⁹³ While Silicon Valley was like a vast cross-pollinating rain forest, Route 128 was "more like a plantation", with too much centralized control. Recent times have been kinder to Boston's hi-tech sector. Although it has never regained its national leadership, it remains America's second most important technological centre, and drove growth in the New England economy throughout the 1990s. It is also interesting to note that today the roles are reversed: nimble Silicon Valley now averages 42 employees per technology company, much larger than the 29 per company in lumbering Boston.⁹⁴

⁸⁸ The Boston Globe, May 17, 2005, *Life Sciences: Fuel For Growth*, p. F1

⁸⁹ The Boston Globe, May 17, 2005, *State Seeks A Few Good Giants*, p. F1

⁹⁰ The Boston Herald, August 4, 2005, *Paradigm shift for Boston's economy*, p38

⁹¹ Hiestand, E. & Zellman A. (2004) *The Good City: Writers Explore 21st-century Boston*. Beacon Press: Boston. Quote taken from Introduction by Paul Grogan

⁹² USA TODAY, July 10, 1989, *Hi-tech highway in crisis; Route 128 is no longer road to riches*, p. 1B.

⁹³ Quote taken from a speech by AnnaLee Saxenian at *A Climate for Entrepreneurship*, XII International Conference of Private Business Associations, Center for Business and Policy Studies (SNS), Stockholm, Sweden, June 11-12, 1998 <http://stockholm.usembassy.gov/Silicon/text/saxenin.html>

⁹⁴ Yu, D (2003) "'What's in a name? Gauging high-tech activity'" *New England Regional Review*, Q4-Q1 2003/4, Federal Reserve Bank of Boston Regional Review, p10

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High Cost of Living

Boston is an expensive city. Indeed, on some measures it is now America's most expensive. Analysis from Centre for Urban and Regional Policy at Northeastern University suggests that Boston now has "the highest living costs of any metro area in the United States ... led by high housing costs (as well as by high medical and day care costs)". The same analysis suggests that a family of four in Boston needs to earn \$6,000 more than in New York City and \$7,000 more than in San Francisco to pay for basic needs like transport and health. *Forbes Magazine's* annual ranking of America cities placed Boston the city 139th, out of 150, on cost of living.⁹⁵ While surveys produce varying results on which cities have the highest cost of living, Boston is clearly one of the most expensive.

Cost of living, however, is not a new issue. Boston, like New York City, has always been an expensive city. An editorial in *The Boston Globe* from 1989 made a point which would not look out of place today: "No factor is mentioned more often in connection with New England's problems than the high cost of living here. The strength that was once its virtue is now cited as its chief defect: Boston wages are 20% higher than the national average; the price of buying a home here is higher than any place but California."⁹⁶ Yet this high cost of living did not stop the city booming in the 1980s or 1990s. And it is unlikely that Boston will become less expensive in the foreseeable future.

While a high cost of living is deleterious during times of economic prosperity, it is especially damaging during economic downturns and

recessions. The city's patchy population growth means that when the labour market is tight, it must rely upon inward migration to make-up the slack. The state of Massachusetts saw its labour market grow by less than 2% over the course of the 1990s, the fourth lowest in America. (During the same period the American labour market expanded by 14%.)⁹⁷ Even this number, however, looks better than it might: much of the population increase was made up from international immigration and from out-of-state workers who moved to Massachusetts because of job opportunities. The most that can be said is that cost of living might act as an upper bound on economic growth during times of economic growth such as the early 1980s and late 1990s. In less prosperous times, however, high costs of living seem to act as a pro-cyclical downward force and cities such as Boston become disproportionately less attractive to workers. Mike Goodman, of the University of Massachusetts Donahue Institute, suggests as much when argues that:

*The cost of living should be high in an environment where incomes are growing and opportunities are present for the population. It is much more of a problem when incomes are not growing, and there are no opportunities in the labour market. This seems to be the case for the last few years.*⁹⁸

The result? People leave. Rising prices and falling incomes are associated with out-migration, and Boston is no exception. This at least partially explains events of the last few years. It is worth remembering that cost of living declines only when costs increase less

⁹⁵ <http://www.forbes.com/lists/2005/1/2810.shtml>

⁹⁶ *The Boston Globe*, May 7, 1989, *Some miracles never cease*, p.20

⁹⁷ Nakosteen, R., Goodman, M and Ansel, D. (2003) *Mass Migration*, The Massachusetts Institute for a New Commonwealth, and the University of Massachusetts Donahue Institute, p12

⁹⁸ Original Research Interview

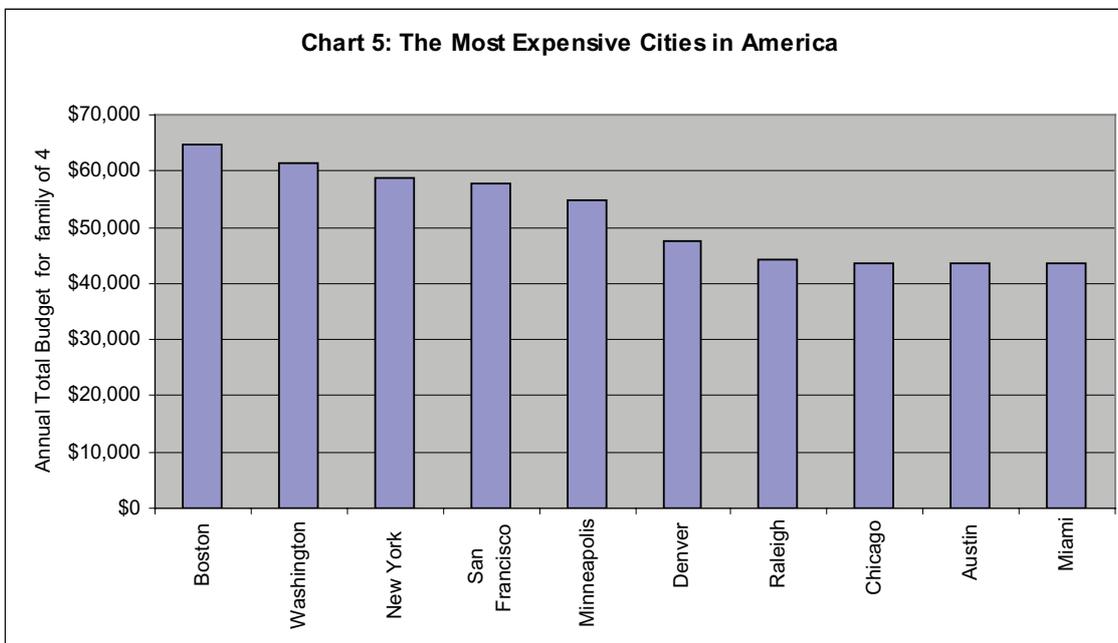
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than wages. Real median household income in Massachusetts, however, dropped in recent years, falling by 2.7% in 2003 and partially recovering in 2004 by 2.3%⁹⁹. At the same time the latest *Boston Indicators Report* shows that the area's consumer price index has risen "faster than the national average in each year between 1997 and 2003", even during the recent recession.¹⁰⁰ It might have come as no surprise, then, that both the city of Boston and the state of Massachusetts once again began again to lose population after the 2000 to 2003 recession.

The cost of living has other, more immediate, impacts than population loss. A survey by the Northeast Human Resources Association found that around 50% of its members had

difficulty attracting qualified job candidates to live in the city, citing high cost of living as a primary reason.¹⁰¹ And, a recent report from The Massachusetts Institute for a New Commonwealth released an often-quoted study of the area's quality of life which claimed that, "A quarter of current residents express a desire to leave Massachusetts, citing the need to relocate to a state with a lower cost of living."¹⁰² While increases in relocation outside of the Greater Boston area and Massachusetts would ultimately lower the cost of living as a result of lower demand for housing and, subsequently, lower prices. Not surprisingly, Boston's policymakers would like to lower housing costs without simultaneous population loss.



Source: Heudorfer and Bluestone, The Greater Boston Housing Report Card 2004

⁹⁹ Heudorfer, B and Bluestone, B, presentation entitled The Greater Boston Housing Report Card 2004, given at the Center for Urban and Regional Policy, Northeastern University (CURP), September 2005, slide 6

¹⁰⁰ The Boston Foundation, *A Summary of the Boston Indicators Report 2002-2004*, p20

¹⁰¹ The Boston Globe, October 9, 2005, Sunday, Pg. G2, *Hub's High Living Costs Turn Off Job Prospects*

¹⁰² The Massachusetts Institute for a New Commonwealth (2004) *The Pursuit of Happiness: A Survey on the Quality of Life in Massachusetts*, p4

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A Leadership Crisis

Boston's concern with its own leadership is a long-standing and often contradictory concern. On the one hand the city has a strong, high profile Mayor and a recent record of extremely significant civic improvement projects like the "Big Dig", and the Boston Harbour clean up. On the other hand, persistent questions remain about the nature of Boston's leadership culture and the role of business within it.

In modern times similar notions of leadership failure are common. Annalee Saxenian, an economist, accused Boston's business leadership of "secrecy, self-sufficiency and risk-aversion" in the mid-1990s (see box D)¹⁰³. A 2001 study by the city's Creative Industries project characterized Boston's "leadership elites" as "out of favor ... often seen as negative relics of the past.... limiting and negative."¹⁰⁴ More recently, a major report commissioned by the Boston Foundation to identify big challenges facing the city argued that a "new leadership paradigm" was needed.¹⁰⁵ Overall, Robert Tannenwald, Director, New England Public Policy Centre at the Federal Reserve Bank of Boston was emphatic in an interview for this report that there remains a significant problem.

Boston has a leadership crisis. I've been sitting in on a lot of meetings with people trying to deal with this. People are ready to sign up to a coherent agenda which will make the economy more competitive in the long-run. I characterize

*the leadership crisis as an inability, or a lack of willingness, to mobilize and commit to efforts to crystallize an economic development agenda, and to prevail upon policy makers to implement those changes.*¹⁰⁶

The role of business leaders in this crisis is a particular problem. In a famous analysis, academic John Mollenkopf's *The Contested City* described the extensive tradition of business and civic leadership in orchestrating city economic policies. What he called historic "growth coalitions" came together in US cities to decide what steps needed to be taken to ensure future economic prosperity.¹⁰⁷ These coalitions have been in long-term decline as members move away from the inner cities and into the suburbs. As a result, cities like Boston face the prospect of historically low levels of business leadership.

There are, of course, exceptions. The role of the "Artery Business Committee", a stakeholder group in Boston's "Big Dig", a massive redevelopment project in the city centre, has been highlighted as a major reason for the project's success¹⁰⁸, and even tentatively suggested as a possible "a harbinger of business leadership in the 21st century."¹⁰⁹ Yet, a recent analysis by consulting firm FutureWorks suggests that despite such examples, Boston has a particular problem with business leadership, or lack thereof. While cities across the US were finding new ways to engage

¹⁰³ Quoted in: The Economist, February 7th 2002, *Revenge of the Brahmins*

¹⁰⁴ Remarks By Linda Howell And James Howell, Ic² Institute Fellows Meeting, Lisbon, June 2001, *Creativity In Boston: Confronting The Loss Of Civic Leadership*

¹⁰⁵ Peirce, N. and Johnson, C. (2004) *Boston Unbound: Tapping Greater Boston's Assets and Talents To Create a World-Leading Citistate*, The Boston Foundation, Boston, p5

¹⁰⁶ Original Project Interview

¹⁰⁷ Mollenkopf, J (1983), *The contested city*, Princeton, N.J. Princeton University Press

¹⁰⁸ Luberoff, D. (2004) *Civic Leadership And The Big Dig*, Working Paper 11, Rappaport Institute For Greater Boston, Harvard University, p3

¹⁰⁹ Commonwealth Magazine, Summer 2004, *Easy as ABC: Did the Big Dig give birth to a new civic model?* By David Luberoff, p24

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business, the analysis suggested Boston's commercial leadership was "missing in action." The report offered several reasons: Boston's industry is too sharply divided between its three main industries - technology, finance and education, the city's business leaders are more focused on "global competition than on regional competitiveness and quality of life"¹¹⁰ and recent corporate restructuring has thinned out the ranks of corporate leaders with a background in Boston. As *The Boston Globe* put it: "the new generation of technology and biotech executives are often too consumed with their fiercely competitive industries to engage in broader issues."¹¹¹ Overall, persistent concerns about a lack of an open leadership and civic culture alongside growing issues around business leadership add up to a problem for the city of Boston.

Issue 1: The Impact of Public Policy on Boston's Renaissance

What role has public policy played in Boston's renaissance? It is an understandably complicated issue. The broad answer, however, seems to depend on the level of government in question. The Federal Government has been hugely important in Boston's turnaround. The state government has also helped by performing a good "housekeeping" role. Devolved local government throughout Massachusetts, on the other hand, is widely cited as one of the biggest obstacles faced by the city.

The Federal Government has been a significant player in Boston's long-term recovery. The city's economy has traditionally benefited from defence research contracts and still attracts significant federal research funding. For instance, the Federal Government sent nearly \$350 per resident to Massachusetts for healthcare R&D in 2002, more than three times that received by second place New York.¹¹² Equally, the Federal Government played a significant role in funding Boston's largely completed "Big Dig" project to revitalise the downtown area. The final price tag for the project, currently estimated at \$14.6bn, included a Congressional contribution of \$8.5bn.¹¹³ Robert Keough, Editor of the *Commonwealth Magazine*, concluded in an interview for this report that:

The Federal Government has often been a key element of Boston's success in the economy..... Below the surface the Federal Government is

¹¹⁰ Commonwealth Magazine, Volume 11, #1, 2006, *Envision This: Across the US, business leaders are grappling with growth issues. Why not here?* p95

¹¹¹ The Boston Globe, December 15, 2004, *Amid An Utterly Changed Business Landscape, Filling The Void Of Civic Leadership Will Be Hard*, PC1

¹¹² The Boston Indicator Project 2004, section 7.1.1 Research funding for health care, taken from Massachusetts Technology Collaborative (2002) *Index of the Massachusetts Innovation Economy*, http://www.mtpc.org/institute/the_index.htm

¹¹³ The Washington Post, March 1, 2005, pA13, *Minding The Cost Of Boston's Big Dig*

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*often critical to what works and what doesn't in Massachusetts and Boston.*¹¹⁴

At the state level, however, the role of public policy in promoting success in Boston seems much more mixed. Various tax credits, including a 1996 tax credit for the mutual fund industry and others to support R&D, are seen as having helped the economy. The 2003 launch of the state's "emerging technology fund", a \$25 million loan-matching fund for R&D¹¹⁵, was similarly welcomed.¹¹⁶

Perhaps most importantly, however, the state has recently gained a reputation for fiscal stability. Both the state of Massachusetts and the city of Boston endured periodic budget crises in the 1970s and 1980s. Today, the Massachusetts Commonwealth Stabilization Fund, more commonly known as the "rainy day fund", is among the largest and most successful in the US. The fund builds up money during boom years, in an attempt to avoid spending cuts or tax rises in more lean times. An analysis from a Washington, DC think tank, The Centre on Budget and Policy Priorities, found that while such funds failed most US states, Massachusetts managed to cover 60% of its 2002 budget shortfall by tapping into its fund.¹¹⁷ Overall, the US record during the 2001-3 recessions in largely avoiding both measures suggests that fiscal prudence has been largely successful. Nonetheless, in other areas such as work force development, there appears to be very little coordinated activity. Robert Keough comments that:

*The lament here is that the workforce development system is not a system at all. All we have is a patchwork of community colleges competing with other community institutions, but it is extremely uncoordinated.*¹¹⁸

Overall, a comprehensive analysis published in 1998 of 25 years of Massachusetts economic policy concluded that a plethora of initiatives and local politicians keen to take credit for disparate successes does not add up to a coherent public policy for economic development. The report concluded: "Massachusetts state government, like all state governments, actually has very limited power to influence the immediate condition of the economy."¹¹⁹

Local governments, on the other hand, have surprisingly extensive powers over decisions ranging from land-use policy and school funding. The long tradition of "home-rule" in the Greater Boston area is at once a democratic boon and brake on development. The system is often seen as the reason for the poor levels of housing supply, rising house prices and consequent concerns about the flight of middle class families outside of the Greater Boston area. Michael Goodman of the University of Massachusetts Donahue Institute, an academic think tank, suggested in an interview for this report that home rule was one of the biggest problems facing Boston:

We have a "too much democracy" problem. We have 351 little governments out there in MA. We get a Catch 22 in which the type

¹¹⁴ Original Project Interview

¹¹⁵ See http://www.masseconomy.org/html/2_3_11p_emergingtechp.html

¹¹⁶ See, for instance, The Boston Herald, April 23, 2003, *Techs could get \$ 100M to grow*, p34

¹¹⁷ Zahradnik, B. and Ribeiro, R. (2003), *Heavy Weather: Are State Rainy Day Funds Working?*, The Center on Budget and Policy Priorities, Washington DC, p4

¹¹⁸ Original Project Interview

¹¹⁹ The Massachusetts Institute For A New Commonwealth (1998) *Lessons Learned: 25 Years Of State Economic Policy*, p2

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*of development we need is resisted because the economic benefits of development accrue to the region and the state, while the costs in education and services accrue to the municipalities. But the system is just unsustainable.*¹²⁰

Dispelling the Myth of Home Rule, a report last year from Harvard's Rappaport Institute for Greater Boston, suggested that localism "in Massachusetts is structured in a way that limits local power and frustrates regionalism." The report argued that in the critical policy areas of housing, tax and education neither did towns have meaningful devolution nor did there exist anything approaching a cohesive "regional government."¹²¹ Whether or not the problem is too much democracy or localism run badly, most commentators seem to agree that the Boston area lacks the ability to plan on a regional basis. As the area struggles to recover from a long recession and faces up to the pressures of competition at home and abroad, the calls for a new "regionalism" are only likely to grow stronger.

Issue 2: Boston and the Ideopolis Framework

The document *Ideopolis International Case Studies – Case Study Frameworks* outlined five hypotheses that the overall project sought to test. Below are broad impressions of how Boston rates against these hypothesised criteria. Overall, the recent history of the city of Boston provides evidence to back-up the overall hypotheses of the Ideopolis project. (It is important to stress, however, that these are qualitative conclusions taken from a literature review and interviews. The relationship between the two key variables under review by the project is complicated. This study found no adequate data source to provide a good measure of "knowledge intensity or a good measure of quality of life in the region over time". Therefore linking the two key variables in any statistically useful way is not possible. What follows should be taken more as an educated estimate.)

1. Knowledge intensity (sectoral mix and/or occupations) in a city will increase the economic success of that city.

Boston's recent history seems to support this hypothesis. It is beyond doubt that the city's industrial base has become more reliant upon knowledge intensive industries during the last 25 years. Equally, it is also beyond question that the city has enjoyed a significant economic revival over the same period. While the strength of the city's economy has remained routed in the same industry groups over the last two decades - technology, financial services, education and health care - these industries have provided a sufficiently diverse industrial

¹²⁰ Original Project Interview

¹²¹ Barron, D., Frug, GR and Su, R. (2004), *Dispelling the Myth of Home Rule: Local Power in Greater Boston*, Rappaport Institute for Greater Boston: Cambridge, MA, pxii

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base for prosperity. The city has been punished occasionally for over-reliance on one industry. In particular, it suffered greatly during the recession of the late 1980s because of its over reliance on technology manufacturing. This was not repeated in the late 1990s, however, where the area's newly diversified technology industries fared better than competitors in California. Historically, Boston's ability to re-orient itself has depended on industrial diversity - in particular on the ability of its education and financial services institutions to provide a strong base upon which other newer industries may grow.

2. Knowledge intensity (sectoral mix and/or occupations) in a city will increase the quality of life of that city.

This hypothesis is too difficult to judge given the complexities forging links between the two constructs.

3. In knowledge cities an increase in economic success will cause an increase in quality of life and/or vice-versa.

Despite the lack of data, this proposition seems more supportable than (2). It is clear that the city and its surrounding region have enjoyed a significant economic revival in last two decades. Equally, at the end of this revival, Boston has maintained and strengthened its quality of life. In 2005, Boston was ranked the world's 36th best city for quality of life in Mercer Consultings' *Overall Quality of Living ranking*. This was not just up from 43rd the previous year, but also overcame New York City to become the 3rd city within the US for quality of life,

behind only San Francisco and tropical Honolulu.¹²² The report reflects a range of measures, including the city's physical infrastructure, walkable neighbourhoods, extensive cultural life, low crime rates and easy access to recreation. While it is difficult to link each of these specifically with the city's economic improvement, crime statistics, population movement, measures of racial tension and urban decay all strongly suggest that Boston's economic slump after the Second World War resulted in a relative decline in quality of life relative to current measures. Equally, if quality of life is partially determined by income, the absolute and relative rise in the city's per capita income since 1980 is also likely to have had a favourable influence. To that extent it seems highly unlikely that, since the 1980s, the city's economic revival is not positively correlated with an increase in quality of life for residents.

4. Policy interventions around knowledge can create, or increase the success of, a knowledge city.

Boston provides ambiguous evidence to test this hypothesis. On the one hand the city has seen a number of high profile infrastructure investments, notably the "Big Dig," suggesting strong civic leadership. For a time America's largest and most costly engineering "mega-project", the recently completed \$14 billion effort has completely reconfigured the city's centre, improving both transport within and to the city and the layout of its downtown. The "Big Dig" and similar projects are likely to benefit the city. More research is needed, however,

¹²² Mercer Human Resource Consulting (2005), *World-wide quality of life survey*. <http://www.mercerhr.com/pressrelease/details.jhtml/dynamic/idContent/1173105>

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to explore whether the benefits of these projects outweigh their huge costs. Public policy interventions from the city or state government are rarely credited with the cities revival, suggesting they were not the crucial drivers of change. Rather, it seems more common to assume that the city was well placed to capitalize on broader changes in economic circumstances: increasing returns to knowledge and education, the importance of world class research institutions and the growing importance of finance and venture capital.

5. **Successful knowledge cities increase the economic success and / or quality of life of cities within their city-region.**

Boston's recent history broadly seems to support this hypothesis. The city may no longer seem like "the hub of the universe," but it remains the dominant economic and cultural centre of the Northeast US. The economic footprint of the city has expanded further into the area over the last 25 years as economic activity suburbanised and regionalised during the 1990s. Less economic activity now occurs in the city's downtown, with more moving either to the surrounding suburban areas or a wider ring of towns and cities in neighbouring states such as New Hampshire and Rhode Island. Thus, it seems probable that Boston's direct influence over its region has increased in recent years. While that surrounding area has declined in relative terms when compared to other, faster growing areas of the United States, it has certainly prospered in absolute terms. In short, it seems highly improbable that Boston's economic revival has not increased the economic success of its city-region.

Issue 3: What can other cities learn from Boston?

What lessons can UK cities learn from Boston? Immediately, one must be wary. Elements of one city can be tremendously difficult to reproduce in another. Successful cities are the product of multiple overlapping factors, the combination of which is not easily repeated. Equally, some assets are nearly impossible to reproduce--not every city can be the home to MIT. One of the interviewees for this report put the point well in relation to other cities trying to copy Boston's success in biotechnology.

A colleague of mine used to say all you need is a number of first rate hospitals, a few world class research universities, and tens of billions of dollars of research funding. Then you just shake liberally, wait 10 or 20 years, and hope for the best. Not many places can do that.¹²³

Clearly not every town can replicate the institutions and traditions of Boston. The capabilities of any city – its policy responsibilities, financial resources and other endowments – will also differ greatly. Yet, some general lessons can be drawn from the Boston's general direction of travel and the way in which the city has rebounded from industrial decay to become a leading world knowledge city.

- **The holy trinity: education, finance and technology.** The basic lesson from Boston is that the three core industries behind its resurgence – education, finance, and technology – are just as valuable as they have been popularly made out to be. There is a sense in which a city with great universities, strong finance businesses and leading technology companies could hardly fail to succeed over the course of the last two decades. Yet, this doesn't tell the whole

¹²³ Original Project Interview

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picture. Boston's technology and finance industries have changed dramatically over the course of its resurgence, while its universities have also changed the way they do business.

- **Do the basics, and do them well.** Over the last 20 years, Boston's city government and Massachusetts' government have become competent fiscal and policy managers. They have concentrated on basic services that matter to people, particularly those highly skilled people who the city needs to attract. These include infrastructure projects like the "Big Dig", reasonable levels of taxation, competent management of resources and a concentration on education and schooling. Where the basics have been done poorly, as is the case with housing supply, the city has had problems.
- **Invest in People and Institutions.** Michael Goodman of the Donahue Institute suggested in an interview that this was the biggest lesson to draw from Boston's recent history.

The first principle for cities trying to learn from Boston should be to strengthen the skills and capacity of the local population, and reinvesting in the traditional institutional bases. Building local capacity is something that Massachusetts has proved is worthwhile in the long-run. There is no escaping the need to educate the population and making a region as welcoming as possible to the people you need to come in. And the more these advantages can be extended to local people, the better it will work ¹²⁴.
- **Change is inevitable, but human capital helps cities rebound.** Edward Glaeser's analysis of Boston draws a number of lessons. He concludes that no city can grow steadily forever. Instead, all urban centres must respond to changing circumstances and reinvent themselves. In Boston's case this meant, for instance, changing from being a city dominated by cod fishing to a city dominated by shipping and sailing, or leaving behind its strength in manufacturing for new technology. In particular, Glaeser makes a convincing case that Boston prospers because of its continued ability to attract and retain talented people. Throughout its history, Boston's tradition of investment in the education and human capital of its people has helped it respond to changing times, and been a strong basis for economic revitalisation.
- **Industrial diversity is helpful for cities.** Boston has changed its industrial model on many occasions. This in itself is not particularly noteworthy. (So, it might be argued, has almost every other big city in the world.) But the lesson from Boston is that industrial diversity helps a city take advantage of new opportunities and insulate against risks. Boston has seen both its more recent booms in technology and biotechnology benefit from industrial diversity. Glaeser's analysis also backs this up, showing that Boston's base of diverse industries including education and financial services provide a strong base from which other, newer industries may grow. The town of Lowell, 30 miles from Boston, provides a cautionary tale of over-reliance. It has twice

¹²⁴ Original Project Interview

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suffered calamitous decline because of over reliance on one industry. This once industrial capital collapsed after its cotton mills shut and suffered once again when its dominant employer, the minicomputer giant Wang labs, went bankrupt in 1992. The Federal Reserve Bank of Boston thinks that other areas can learn from this, and might want “rethink their working definitions of high technology and the economic development initiatives that promote it...Strategies that seek to diversify a region away from only a few high-tech sectors may help to insulate the region from severe recessions and long-term structural change.”¹²⁵

- **Act quickly when you see a growth area.** The city of Boston’s financial services sector gives the clearest example. Although the city has always had a large financial services sector, its make-up has changed considerably over time. It has managed to replace jobs in declining sectors such as insurance with those in growth areas including real estate or securities. In particular, the state acted aggressively to protect its role as a home for mutual fund investment. The provision of generous tax cuts for such companies has prevented mutual fund investors from relocating elsewhere, thus allowing Boston to hold onto the benefits of a strongly growing industry.
- **Understand that all universities are not equal.** Boston has eight research universities, but not all are of equal value to the area. Science and technology centres like MIT providing particular value in research and spin-off companies. Value

from universities comes from their ability to innovate and then create economic benefits for the local area. The Massachusetts Technology Road Map and Strategic Alliances Study makes this point forcefully in an intriguing comparison between California’s and Britain’s leading technology hubs.

*Massachusetts is at a crossroads. The state could remain primarily a major centre for high-level research—albeit one with less and less market share—and fail to capture downstream jobs from leading commercial research and early technology discovery efforts, similar to Cambridge, England. Or, the state can work smarter to drive broader economic activities across commercialization, product development and manufacturing through the type of technology collaborations, connecting activities and targeted capacity building found in leading new regions such as San Diego.*¹²⁶

- **Embrace localism, but not too much.** Boston’s radically decentralized brand of democratic control has much to recommend it. It controls excessive growth, empowers local communities and keeps decision making close to the people. But there is a general consensus that the price paid is too high. Excessive localism in the state of Massachusetts blocks developments, delays much needed investment and stops policy makers from acting strategically. Michael Goodman of the Donahue Institute put it simply: “The lesson about local democracy from Boston? Be Afraid, be very afraid”

¹²⁵ Yu, D (2003) “What’s in a name? Gauging high-tech activity” *New England Regional Review*, Q4-Q1 2003/4, Federal Reserve Bank of Boston Regional Review, p9

¹²⁶ The Massachusetts Technology Road Map and Strategic Alliances Study (2004), *Choosing to Lead: The Race for National R&D Leadership & New Economy Jobs*, p4

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- **Policy areas must be considered strategically.** Leading on from Boston's problems with localism is its difficulty planning strategically. Many of its problems are inter-related: local control creates a boom in housing prices, which in turn causes out-migration. Equally, many of the state's assets inter-relate in complex ways. Therefore any attempt to coordinate regional development would need to take these complexities into account, in a way that Boston's set-up seems unable to manage.