11.481J / 1.284J / ESD.192J Analyzing and Accounting for Regional Economic Growth
Spring 2009

The Merrimack Valley Region

CHALLENGES, ASSETS AND THE POTENTIAL FOR GROWTH

Photograph courtesy of Debmalya Guha. Used with permission.

11.481J: ANALYZING REGIONAL AND ECONOMIC CHANGE
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05.15.09

Introduction

The current economic crisis is consistently labeled as the worst economic shock that the United States has faced since the Great Depression. As a result, the concepts of economic "growth" and "decline" have become oft-discussed topics among leaders at the local, regional, and national levels. People in nearly all sectors of society are grappling with resource allocation decisions and attempting to mitigate the negative effects of the recession on their families, employees, firms, and communities. Important to consider, however, is the reality that "decline" is not a new or recent phenomenon for every community. While the nation as a whole is experiencing decline at a significant scale for the first time since the 1930s, there are some cities, states, and regions that have been grappling with decline and attempting to revitalize and spur growth for decades. The Merrimack Valley Region in the Commonwealth of Massachusetts -- and the cities and towns therein -- is one such case. The Region is also the focus of this report.

Using the framework of Product Cycle and Agglomeration theories, this report analyzes the challenges, assets, and current opportunities for growth in the Merrimack Valley Region in order to evaluate where within the region and how – in the backdrop of the current economic crisis -- resources should be focused, especially given the Region's history with decline. After defining the geographic boundaries and describing the history of growth and subsequent decline in the Merrimack Valley, we present a socio-economic analysis of the Region from the 1980s to the present. We use the 1980s as the beginning of our analysis because we find that it was during this period of time that the Region – as indicated by certain socioeconomic indicators – began recovering from decades of decline. It was also during this same time period, however, that the socio-economic trends of Lawrence, Massachusetts began to diverge from the rest of the region.

Since this report is concerned with how the Commonwealth should focus and prioritize resources for regional development in the context of the economic crisis, we argue that part of the strategy must target the areas that have struggled even during more prosperous times. Our research indicates that the Commonwealth's long-term economic prospects are tied as much to

supporting ostensibly high-growth sectors as to ensuring a geographic unevenness of economic activities. We attempt to address the reasons that have stymied its ability to revitalize while others in the region had relative success. Based on our analysis, we conclude with three major policy recommendations that draw on the Region's current assets and to better integrate the Merrimack Valley's economy into a broader Statewide recovery and growth strategy.

Defining the Region

The Merrimack Valley Region in the Commonwealth of Massachusetts is a cluster of towns and cities in Essex County that surround the Merrimack River in the northeast corner of the State. Figure 1 below delineates the boundary of Essex County with a bolded border and illustrates the Region in shaded yellow. While the Merrimack River originates in New Hampshire – flowing south into Massachusetts and swinging up through the northeast corner before emptying into the Atlantic Ocean – we do not include any part of New Hampshire in our analysis, thereby limiting the scope to the Commonwealth. We assume that jurisdictional and institutional differences between the two states have affected their respective development trajectories over time, and since we are primarily concerned with comparing the development experience of Lawrence with other cities in the Lower Merrimack Valley Region, it is more effective to control for differences in state laws and regulations by excluding New Hampshire. The area within Massachusetts is generally referred to as the *Lower* Merrimack Valley Region; for the remainder of this report, however, we will refer to the area of study as the Merrimack Valley or the Merrimack Valley Region.

Within the Merrimack Valley Region, we use the boundaries set by The Merrimack Valley Planning Commission (MVPC), which includes the following towns and cities: Amesbury, Andover, Boxford, Georgetown, Groveland, Haverhill, Lawrence, Merrimac, Methuen, Newbury, Newburyport, North Andover, Rowley, Salisbury, and West Newbury. As one of 12 regional planning councils in Massachusetts, we assume the MVPC's definition of the Region to be an agreed-up grouping of towns and cities that are tied together not only by spatial proximity, but also by common interests, activities, and issues.

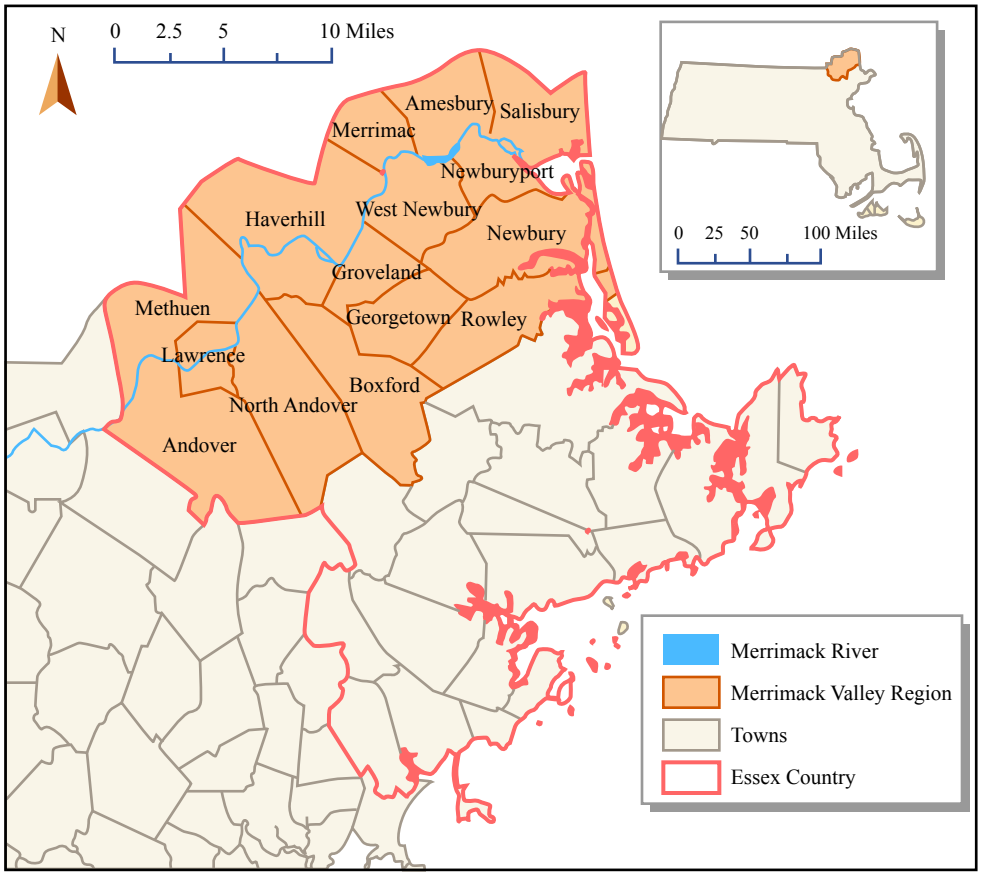

FIGURE 1: The Merrimack Valley Region and Essex County

Figure by MIT OpenCourseWare.

The Product Cycle and Agglomeration

The *product cycle* view of regional development essentially suggests that during early stages of product development, firms find it beneficial to cluster near suppliers and research and development firms to support flexibility in production (Vernon qtd. in Dawkins, 2003). Furthermore, *agglomeration theories* suggest that firms in a fledgling industry will tend to co-locate in order to take advantage of positive externalities, such as the nearby availability of intermediate goods and services. Opportunities for firms to share a labor market and exchange will also create positive externalities. Once critical investments are made, a path dependency will emerge, whereby firms of an industry begin to cluster in a location for a substantial period of time, attributable in large part to large capital sunk costs. A common result is city specialization (Henderson et al., 2001).

The *product cycle* view continues to explain that during mature product stages, firms are less dependent on clustering, and more dependent on economies of scale. Finally, as production becomes standardized, firms seek to relocate to lower cost regions (Dawkins, 2003).

Origins of Industry in the Merrimack Valley Region

In the early nineteenth century, a group of Boston-area merchants began experimenting with cotton mills using rivers as a power source. Beginning with a mill at Waltham on the Charles River, this group of elites -- the Boston Associates -- soon set their eyes on the more powerful Merrimack River to the north. After building the River's first dam and canal-system in Lowell, textile and other related industries soon spread along the Merrimack and its tributaries in towns such as Haverhill and Methuen (Warner, 1999).

Lawrence was the "final and most ambitious" of these factory towns (Brown, 2000; LHC, 2009). A powerful group of textile industry leaders created the Essex Company, which built a dam on the Merrimack River at Lawrence to power the textile mills, following a development pattern typical of other Merrimack Valley towns (LHC, 2009). At the same time, these entrepreneurs led in the development of railroad networks connecting the Merrimack Valley to consolidation and distribution centers in Boston (Brown, 2000).

This development of the Merrimack Valley, including Lawrence, illustrates the early stages of the product cycle and the benefits of agglomeration. The New England area already had skilled labor in the area of machine tools, and this industry flourished, creating the machinery necessary to improve textile and other manufacturing (Brown, 2000; Warner, 1999). This ready level of technological innovation allowed the Merrimack Valley (and New England as a whole) to lead in textile manufacturing.

As the textile industry grew, so did the Region's cities and towns, with Lawrence alone reaching a population near 100,000 before World War II. Lawrence became known over time as the "Immigrant City," referring to the make-up of its labor force—a phenomenon beginning with a large influx of Irish immigrants in the mid-19th century, followed by groups from

Southern Europe, Eastern Europe and the Middle East in the latter half of the century (LHC, 2009).

While Lawrence and the Merrimack Valley benefitted from technological innovations in production in these early years, over time the cost of production increased relative to other locations and benefits of agglomeration became less apparent. Norton and Rees describe the deindustrialization of the United States in the 1970s as a core-periphery phenomenon whereby the "industrial core" of the Northeast and Upper Midwest experienced sizeable job losses while other regions experienced gains. The authors contend that the main driving force behind the "core's" dominance in earlier periods was its capacity for technological innovation. This description illustrates how the core is at an advantage in the early stages of the product cycle. As production methods and products became standardized, peripheral regions gained a competitive edge due to lower costs (Norton and Rees, 1979).

Bluestone further describes how capital disinvestment in the US in the 1970s took many forms, only one of which was "the runaway shop" where "manufacturing firms literally [relocate] their plant and equipment into areas where wages are lower, unions are weaker, and local government provides the good business climate that corporate managers dream about." In analyzing plant opening and closings in US between 1969 and 1976, he found that "in every state in the Northeast, private industry destroyed more jobs through plant closings than it created through plant openings" (Bluestone, 1982).

Analysis by the Merrimack Valley Planning Commission regarding the economic history of the Region is analogous to the description of Norton and Rees. The 2000 Merrimack Valley Economic Development Study states:

> By the mid-twentieth century, competition from lower cost locations - first in the South and eventually overseas - began to weaken traditional industries. With the rapid expansion of the Boston metro area that characterized the 1960s and 1970s, and the construction of I-93, the region grew in population while employment stagnated (Weisbrod, et al, 2000).

Standardization of production led to the ability for firms to move to lower cost locations, but at the same time, a lack of technological innovation led to stagnation in the Region.

This deindustrialization, which began in force around World War II, also led to steady population declines for decades. At the same time, however, waves of immigrants came to Lawrence, beginning with Latinos (Puerto Rican, Cuban, Dominican) in the 1950s, followed by South East Asian and Central American immigrants, who began to arrive in the 1970s (LHC, 2009).

Lawrence diverges from the Region

During the period between 1980 and 1990 the city of Lawrence began to sharply diverge from the rest of the region based on a number of socioeconomic trends. Looking at population, employment, poverty, and racial composition changes, we find that while the Region as a whole followed similar trends as the State and the Country, Lawrence had a different experience that is, in part, the basis for many of the challenges the City faces today. Some of these characteristics are described below.

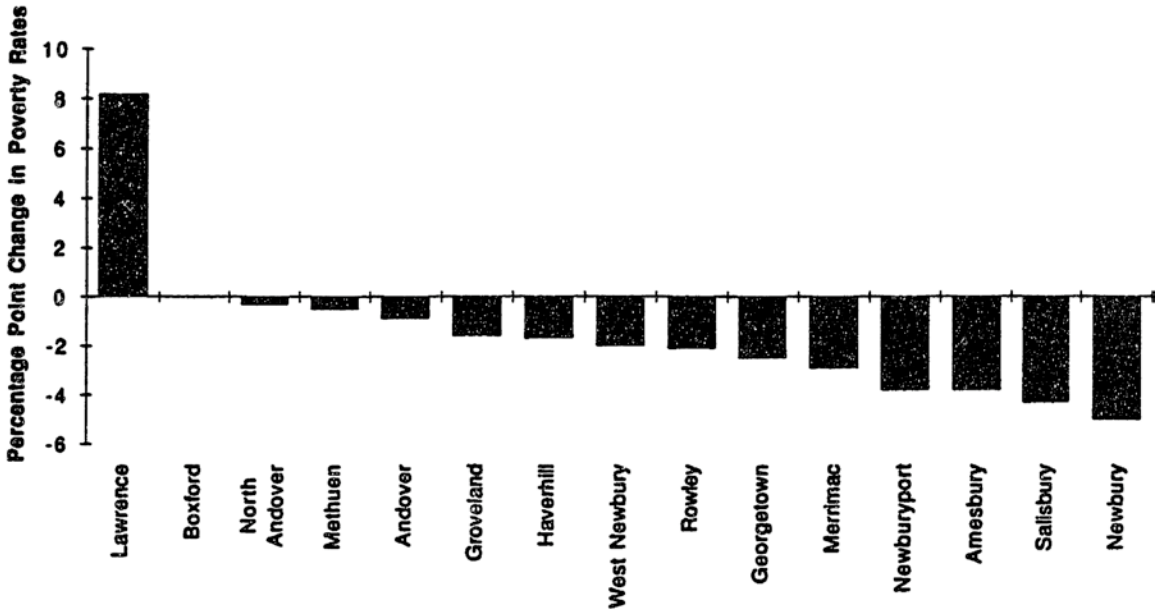

Figure 1: Change in Poverty Rates in Merrimack Valley Cities and Towns, 1980 to 1990
Source: Stevenson 1992 p. 56, data from 1980 and 1990 U.S. Census of Population and Housing

Courtesy of Kim Stevenson. Used with permission.

Prior to 1980 Lawrence held the highest poverty rate of any other city in the Region at 19.3 percent followed next by Salisbury at 12.6 percent. During the 1980s poverty concentration increased in Lawrence significantly relative to other Merrimack Valley cities. Poverty rates increased 8.2 percent during the Decade while other municipalities in the Region had constant or declining poverty rates. In general, the other municipalities had considerably lower poverty rates.

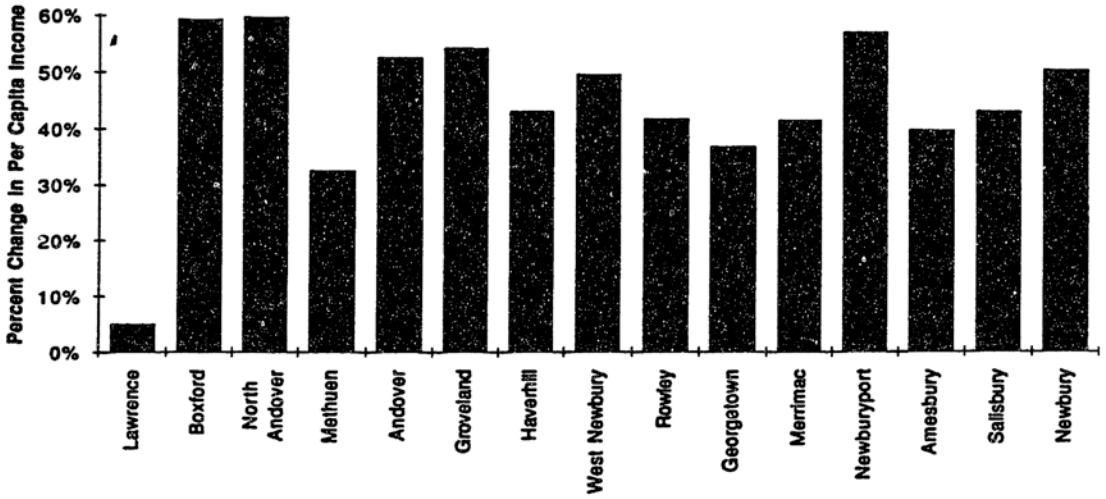

Figure 2: Change in Per Capita Income in Merrimack Valley Cities and Towns, 1980 to 1990
Note: Adjusted to 1980 dollars
Source: Stevenson 1992 p. 58, data from 1980 and 1990 U.S. Census of Population and Housing

Per capita income further illustrates the divergence of the City of Lawrence compared to the rest of the Region. While Lawrence began the decade with the lowest per capita income in the region ($5,485), the City did not experience the general trend in per capita income growth in the Region. While many municipalities' per capita income increased 40-50 percent, Lawrence experienced only a 5 percent increase.

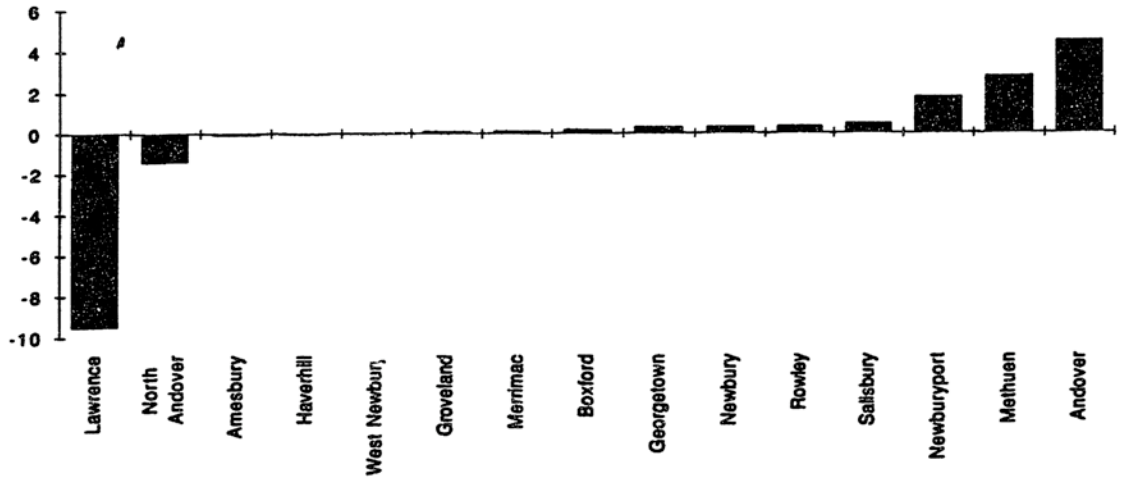

Figure 3: Change in Total Employment Share in Merrimack Valley Cities and Towns, 1980 to 1990
Source: Stevenson 1992 p. 78, data from the Massachusetts Department of Employment and Training

During this period, while Lawrence lost close to 7,000 jobs (5,733 from the manufacturing sector), the City experienced a net increase of nearly 7,000 people. This 11 percent increase was the highest among municipalities in the Region. The demographics of the City also changed significantly; the Latino population grew by 18,900 and the white population declined by 13,000.

Absent Lawrence, the Region experienced a 13.7 percent increase in jobs. Total employment grew in every city except Lawrence. Besides its net job losses, Lawrence lost a significant portion of its regional share of jobs. In 1980, the City held 29.5 percent of the Region's total employment. In 1990 Lawrence's share fell to 20 percent, and Andover had grown to become the largest supplier of jobs in the Region (Stevenson, 1992).

The primary shift in the industrial base that led to these changes came from the manufacturing sector. Although the general pattern of manufacturing loss matches the Region as a whole and the State, the levels of loss were more severe in Lawrence. Strikingly, manufacturing jobs actually increased during this time period in other cities in the Region.

	Lawrence		Andover	
	Number	% Change	Number	% Change
Construction	-170	-28%	203	53%
Manufacturing	-5733	-45%	2799	36%
Trans, Com, Util	-1013	-62%	211	86%
W&R Trade	-311	-6%	1103	52%
F.I.R.E.	-187	-14%	216	26%
Services	1281	24%	3053	152%

	Methuen		Newburyport	
	Number	% Change	Number	% Change
Construction	435	106%	45	57%
Manufacturing	223	17%	906	63%
Trans, Com, Util	296	144%	123	62%
W&R Trade	1265	41%	981	73%
F.I.R.E.	43	9%	59	27%
Services	1512	63%	836	60%

Note: Trans, Com, Util = Transportation, Commercial, Utilities. W & R Trade = Wholesale and Retail Trade. F.I.R.E = Finance, Insurance and Real Estate.

Table 1: Change in Total Employment by Sector for Selected Merrimack Valley Cities and Towns, 1980 to 1990
Source: Stevenson 1992 p. 79, data from the Massachusetts Department of Employment and Training

Demographics in Context

To explain the trends faced by the Region and Lawrence in their larger contexts, this section summarizes basic population and housing data for the Merrimack Valley and compares the Region to the rest of Essex County, Massachusetts, and the United States. On most variables, the Merrimack Valley seems comparable to the rest of Massachusetts. However, the City of Lawrence has more immigrants, higher poverty, higher unemployment, greater income inequality, and less affordable housing than the rest of the Region.

Population

As of the 2000 Census, 318,556 people, or about 5 percent of the Massachusetts population, lived in the Merrimack Valley Region. Lawrence is the largest city; it had nearly 23 percent of the Region's population in 2000. As shown in Figure 4, the population of the Merrimack Valley's cities has grown more slowly over time than in the rest of Essex County and

Massachusetts.[1] All of these areas have grown far more slowly than the United States population.

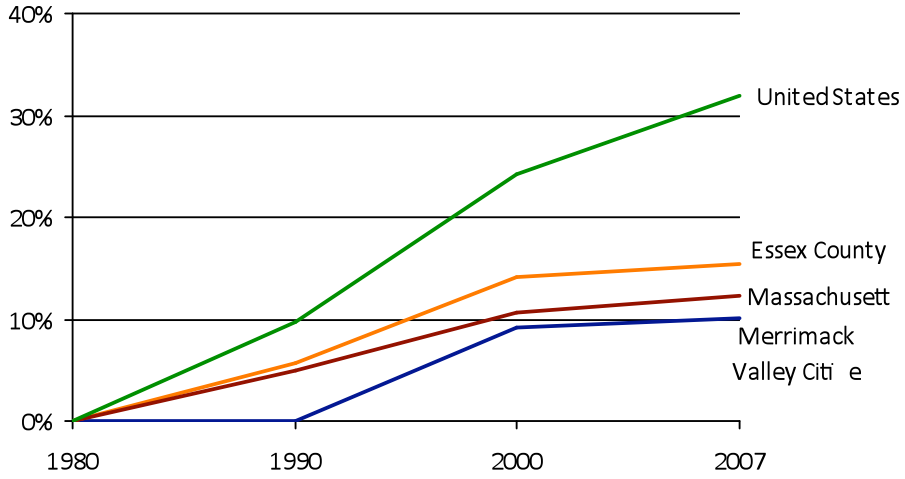

Figure 4: Percent Change in Population Since 1980
Source: Authors' calculations using data from the U.S. Census Bureau, 1980-2000 Censuses, 2005-2007 American Community Survey

Race and Ethnicity

Most of the Merrimack Valley's ethnic diversity comes from the large Latino population in Lawrence, and to a lesser degree in Methuen and Haverhill.

[1] 2007 American Community Survey (ACS) data are not available for towns with populations less than 20,000. For this reason, when 2007 data are used, only Merrimack Valley cities are included in the analysis. These cities have consistently made up about 75 percent of the Merrimack Valley region's population from 1980 to 2007. (When Merrimack Valley cities data from the ACS are reported, prior years' data for smaller towns are excluded in order to standardize the definition of the region.)

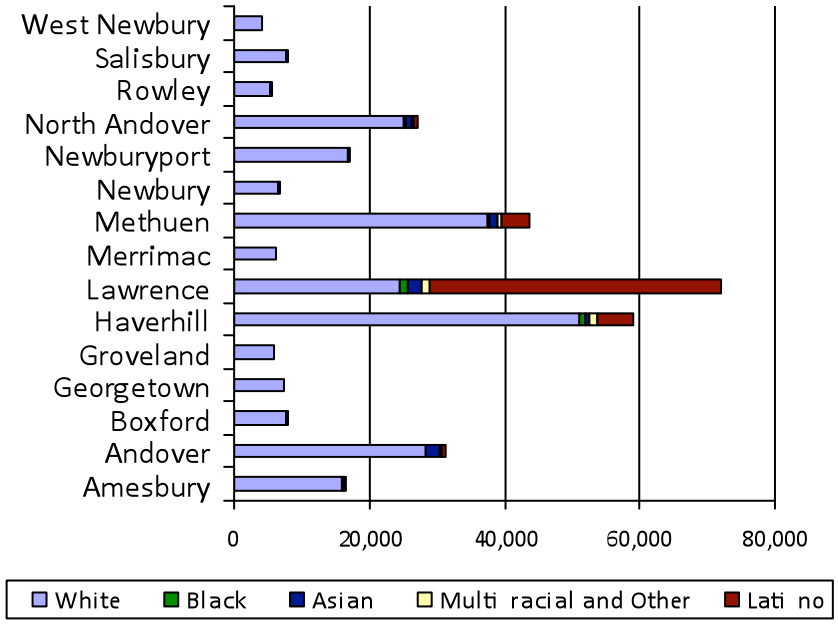

Figure 5: Race and Ethnicity in Merrimack Valley, 2000
Source: U.S. Census Bureau, 2000 Census Summary File 1

Table 2: Race and Ethnicity, 2000

	Percent White	Percent Black	Percent Other Non-Latino	Percent Latino	Total
Merrimack Valley	78.3%	1.0%	3.7%	17.0%	100.0%
Essex County	83.1%	1.9%	4.0%	11.0%	100.0%
Massachusetts	81.9%	5.0%	6.5%	6.7%	100.0%
United States	69.1%	12.0%	6.4%	12.5%	100.0%

Source: Authors' calculations using data from the U.S. Census Bureau, 2000 Census Summary File 1

Citizenship

A somewhat larger percentage of people in the Merrimack Valley's cities are foreign born as compared to the rest of Essex County, Massachusetts, and the U.S. Non-citizens also make up a slightly larger portion (9.8 percent) of the general population in the Merrimack Valley's cities. Most of the foreign born (and non-citizen) residents of the region live in Lawrence, where 35 percent of the population is foreign born and 22 percent of residents are not U.S. citizens.

Table 3: Foreign Born and Non-Citizen Population, 2007

	Percent Foreign Born	Percent Non-U.S. Citizens
Merrimack Valley Cities	18.0%	9.8%
Essex County	13.7%	7.3%
Massachusetts	14.2%	7.6%
United States	12.5%	7.2%

Source: Authors' calculations using data from the U.S. Census Bureau, 2005-2007 American Community Survey

Linguistic Isolation

As of 2000, approximately 6 percent of households in the Merrimack Valley region were linguistically isolated. A household is considered linguistically isolated if none of its members aged 14 or over speak English "very well" or better. With the exception of Lawrence, all Merrimack Valley cities and towns have linguistic isolation rates under 4 percent. In Lawrence, however, the rate is 19.8 percent. Approximately 87 percent of these households speak Spanish primarily. According to one study, "Linguistically isolated workers… get worse jobs and lower incomes than do other workers who are fluent but otherwise have similar human capital characteristics," though workers with limited English skills can serve as valuable resources for entrepreneurs of ethnic niche businesses (Evans, 1989).

Table 4: Linguistic Isolation, 2000

	Linguistically Isolated (LI) Households (%)	Percent of LI Households Speaking Spanish
Merrimack Valley	5.8%	73.6%
Essex County	4.9%	55.5%
Massachusetts	4.7%	33.1%
United States	4.1%	59.0%

Source: Authors' calculations using data from the U.S. Census Bureau, 2000 Census Summary File 3, P20

Educational Attainment

Educational attainment in the Merrimack Valley is low relative to Essex County, Massachusetts, and the U.S. Once again, Lawrence is an outlier within the Region. Nearly 20 percent of adult residents in Lawrence lack any high school education. As shown in Figure 6, about 37 percent lack a high school diploma, and only about 11 percent have 4-year college degrees or more education.

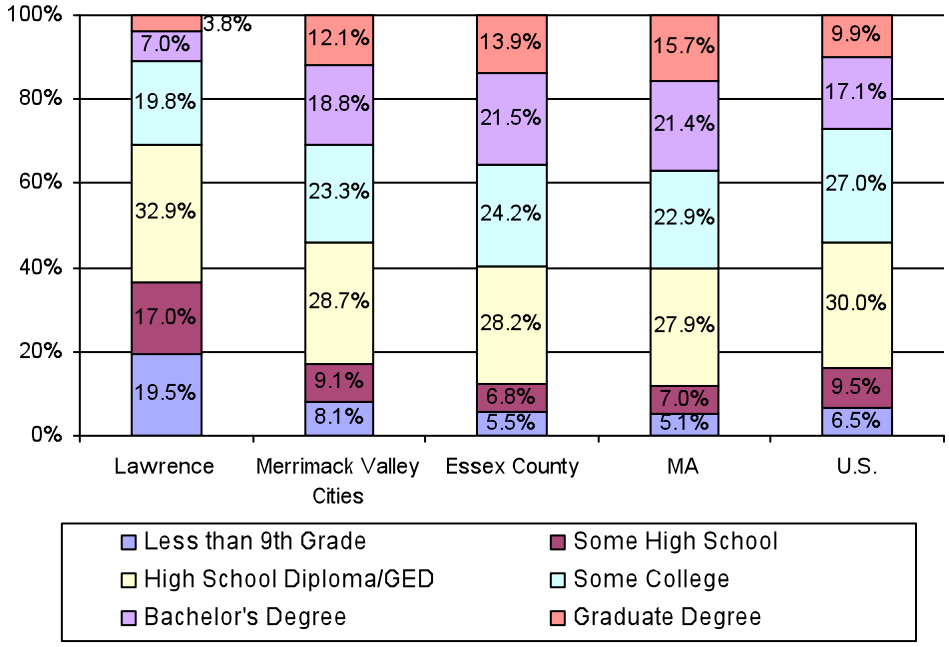

Figure 6: Educational Attainment for Population Aged 25+, 2007
Source: U.S. Census Bureau, 2005-2007 American Community Survey, C15002

Labor Force Status

The Merrimack Valley's unemployment rate has largely followed the cycles experienced by the rest of Massachusetts and the U.S. However, the Region has had a consistently higher unemployment rate. As shown in Figure 7, Lawrence, in particular, regularly faces unemployment rates 5 to 6 percentage points greater than state and national rates.

Figure 7: Unemployment Rates, 1990-March 2009
Notes: Civilian unemployment rates, data not seasonally adjusted
Source: Authors' calculations using data from the Bureau of Labor Statistics Local Area Unemployment Survey, accessed through Massachusetts Department of Labor and Workforce Development

Common Industries

As of 2007, the largest industries in the Merrimack Valley in terms of employment were manufacturing, health care and social assistance, and retail trade, respectively. As presented in Table 5, the location quotient (LQ) for manufacturing is large (1.83 for the region relative to the nation, from 2001 to 2007), indicating that there is a relatively high concentration of manufacturing employment in the Region. In other words, manufacturing makes up a higher percentage in the Region than it does in the Nation.

Table 5: Jobs by Industry, Merrimack Valley and U.S., 2001-2007

	Merrimack Valley			United States			
Industry (2-Digit NAICS)	2007 Jobs	% Change 2001 to 2007	2007 Share of Total Jobs	2007 Jobs	% Change 2001 to 2007	2007 Share of Total Jobs	Location Quotient
11- Agriculture, Forestry, Fishing & Hunting	155	-32.9%	0.1%	1,166,333	-0.4%	1.0%	0.13
21- Mining	0	-100.0%	0.0%	660,276	23.4%	0.6%	0.00
23- Construction	5,803	3.5%	5.1%	7,562,732	11.7%	6.6%	0.76
31-33- Manufacturing	25,461	-26.9%	22.3%	13,833,022	-15.6%	12.2%	1.83
22- Utilities	364	-11.9%	0.3%	549,539	-8.4%	0.5%	0.66
42- Wholesale Trade	4,365	-17.1%	3.8%	5,987,206	4.5%	5.3%	0.73
44-45- Retail Trade	11,377	-4.5%	10.0%	15,509,017	2.2%	13.6%	0.73
48-49- Transportation and Warehousing	1,616	-13.4%	1.4%	4,292,445	3.7%	3.8%	0.37
51- Information	3,155	-34.7%	2.8%	3,029,789	-15.7%	2.7%	1.04
52- Finance and Insurance	3,578	22.0%	3.1%	5,992,373	6.2%	5.3%	0.59
53- Real Estate and Rental and Leasing	1,339	7.2%	1.2%	2,153,608	5.8%	1.9%	0.62
54- Professional and Technical Services	9,707	30.6%	8.5%	7,635,062	11.1%	6.7%	1.27
55- Management of Companies and Enterprises	1,907	-40.7%	1.7%	1,839,616	7.2%	1.6%	1.03
56- Administrative and Waste Services	7,896	1.0%	6.9%	8,385,118	8.4%	7.4%	0.94
61- Educational Services	2,529	21.5%	2.2%	2,284,556	21.3%	2.0%	1.10
62- Health Care and Social Assistance	19,214	10.9%	16.8%	15,148,606	16.8%	13.3%	1.26
71- Arts, Entertainment, and Recreation	1,949	19.9%	1.7%	1,953,899	9.5%	1.7%	0.99
72- Accommodation and Food Services	8,891	7.7%	7.8%	11,373,660	12.6%	10.0%	0.78
81- Other Services, except Public Admin	4,938	21.2%	4.3%	4,438,439	5.5%	3.9%	1.11
All Industries	114,244	-5.6%	100.0%	113,795,296	4.4%	100.0%	1.00

Note: NAICS is the North American Industrial Classification System
Source: Authors' calculations using data from the Massachusetts Executive Office of Labor and Workforce Development and the Bureau of Labor Statistics Quarterly Census of Employment and Wages

Figure 8 compares the relative concentration of industries in the Region (using the location quotient) and the relative growth of the industries (using differential shift in employment). Industries in the top left quadrant of the graph, with negative differential shift and LQ > 1.0, are industries that have made up a large portion of the Region's economy, but that are shrinking relative to the Nation. For the Merrimack Valley, these industries include manufacturing and health care and social assistance. The top right quadrant shows highly-concentrated, high growth industries, including professional and technical services and other services.

The lower right quadrant (positive differential shift and LQ < 1.0) shows industries that are growing rapidly in the Region and may become major components of the regional economy in the future. These "emerging industries" may be a segment of the economy that regional policymakers will want to bolster. For the Merrimack Valley, these industries are finance, insurance, and real estate. The remaining quadrant shows declining industries that have not recently accounted for a large portion of the Region's employment, including retail trade, construction (obscured on chart), accommodation and food services, wholesale trade, and transportation and warehousing. Policymakers may want to take note of these declining industries and take steps to assist related firms. Even though these industries have not made up a large portion of the regional economy, their decline may threaten the balance and health of the Region.

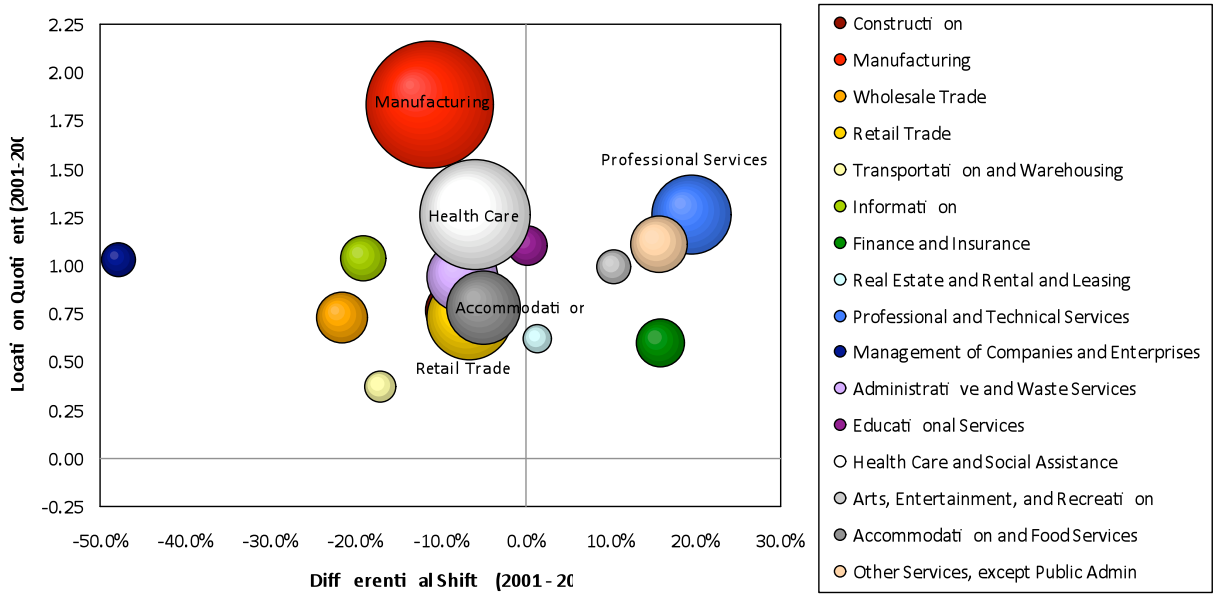

Figure 8: Relative Growth and Concentration of Merrimack Valley Industries, 2001-2007
Note: Size of bubble indicates number of workers employed in the industry in 2007; industries shown have at least 500 employees. Data are for private firms only and are not seasonally adjusted.
Source: Authors' calculations using data from the Massachusetts Executive Office of Labor and Workforce Development and the Bureau of Labor Statistics Quarterly Census of Employment and Wages

Income

Median household income in the Region's cities nearly approximates those of Essex County and Massachusetts, and it far exceeds that of the U.S. Latino households have significantly lower median household income in all areas reported, though it appears that in the Merrimack Valley Region there is more income equality between white and Latino households than in the rest of Massachusetts. There is also a large degree of inequality between Merrimack Valley cities; the 2007 median household income ranged from $31,718 in Lawrence to $102,762 in Andover.

Table 6: Median Household Income, 2007

	All Households	White, Non-Latino Households	Latino Households	Latino as % of White
Merrimack Valley Cities	$61,143	$66,070	$40,857	61.8%
Essex County	$61,505	$66,913	$30,313	45.3%
Massachusetts	$61,785	$65,939	$31,075	47.1%
United States	$50,007	$54,189	$39,852	73.5%

Note: values are in 2007 dollars
Sources: Authors' calculations using data from U.S. Census Bureau, 2005-2007 American Community Survey, C19001, B19013, B19013-H, B19013-I

The GINI coefficient of income inequality for 2007 indicates that many of the cities in the Merrimack Valley have somewhat greater income equality than in Massachusetts and the U.S. as a whole.[2] As shown in Chart 6, Lawrence, the Region's largest and poorest city, has the greatest degree of income inequality, though it is comparable to Massachusetts and the United States.

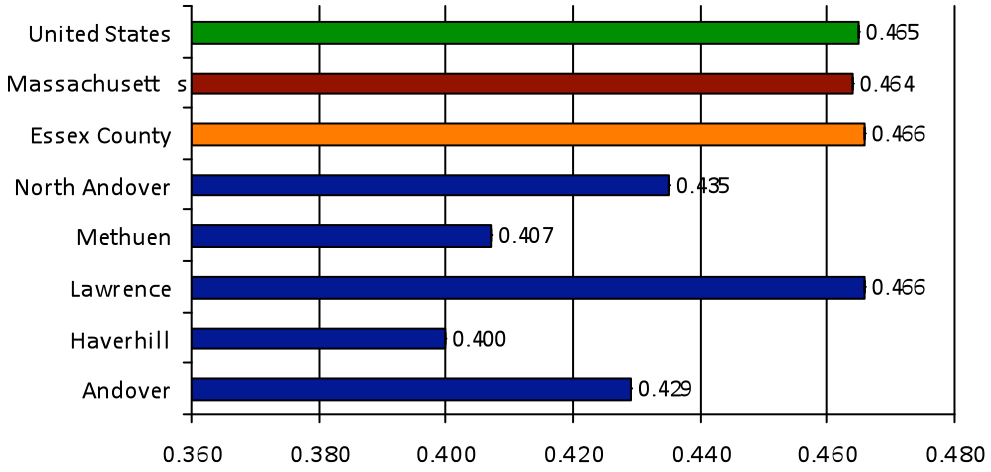

Figure 9: GINI Coefficients of Income Inequality, 2007
Source: U.S. Census Bureau, 2005-2007 American Community Survey

Poverty

As shown in Table 7, the poverty rate for the Merrimack Valley is slightly higher than in the rest of Essex County and Massachusetts as a whole, but it is still lower than the national poverty rate. Lawrence's poverty rate is the main factor driving the high regional rate. Figure 10 compares the poverty rate in Lawrence to that of the other cities in the Region over the period 1980 to 2007.[3] Poverty rates in the other cities have remained fairly steady, though in Lawrence the rate has increased substantially (from 19.3 percent in 1980 to 29.4 percent in 2007).

Table 7: Poverty Rates, 1980-2000

	1980	1990	2000
Merrimack Valley	10.3%	11.0%	10.1%
Essex County	8.9%	9.3%	8.9%
Massachusetts	9.5%	8.9%	9.3%
United States	11.5%	13.1%	12.4%

[2] The GINI coefficient ranges from 0 to 1, with 0 indicating perfect income equality and 1 indicating perfect inequality.

Source: Authors' calculations using data from the U.S. Census Bureau, 1980-2000 Censuses

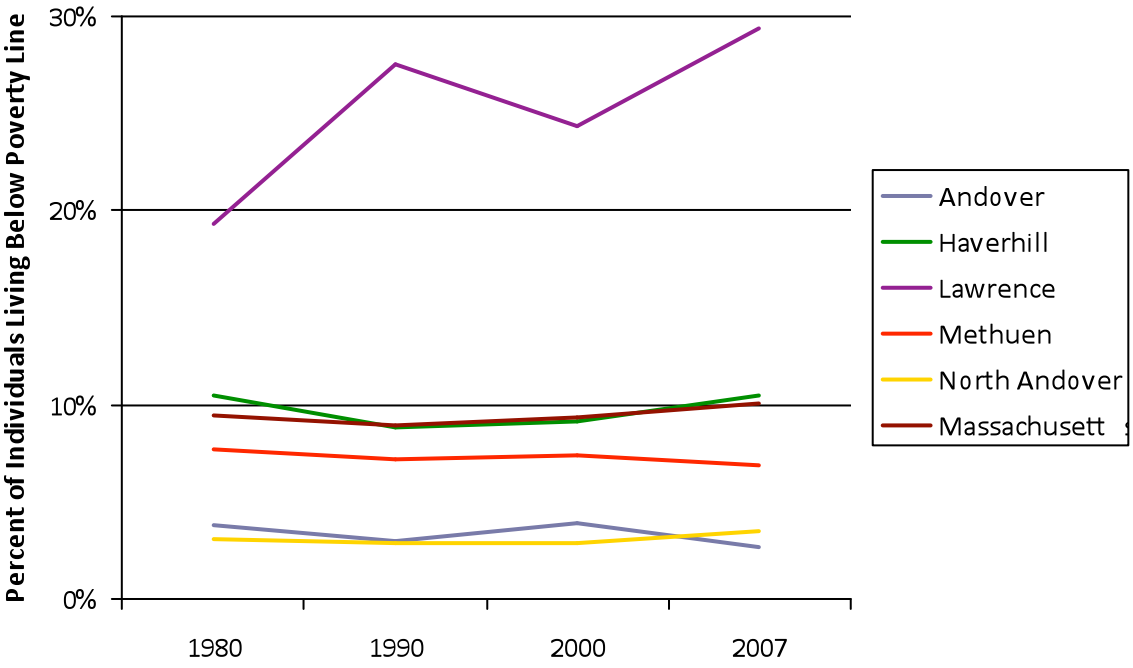

Figure 10: Poverty Rates in Merrimack Valley Cities, 1980-2007
Source: Authors' calculations using data from the U.S. Census Bureau, 1980-2000 Censuses, 2005-2007 American Community Survey

Costs of Homeownership and Renting

In most cities in the Merrimack Valley region, the affordability of homeownership and renting is comparable to Essex County, Massachusetts, and the U.S. In Lawrence, however, the costs of renting and homeownership (for units with a mortgage) make up a much higher percentage of household income. Typically, those who pay over 30 percent of income for housing are thought to have "unaffordable" housing; this appears to be common in Lawrence, as shown in Figure 11 (Fisher et al. 2007, p. 25). Housing prices are not particularly more expensive in Lawrence than in surrounding areas, though. According to the 2005-2007 American Community Survey, median gross rent for Lawrence was $922/month, as opposed to $862 in Methuen, $973 in Haverhill, and $952 in Massachusetts. Among owner occupied housing units, the median value in Lawrence was $274,100, as opposed to $328,300 in Methuen, $310,900 in Haverhill, and $366,200 in Massachusetts.[4]

[4] Rent and home values are expressed in 2007 dollars.

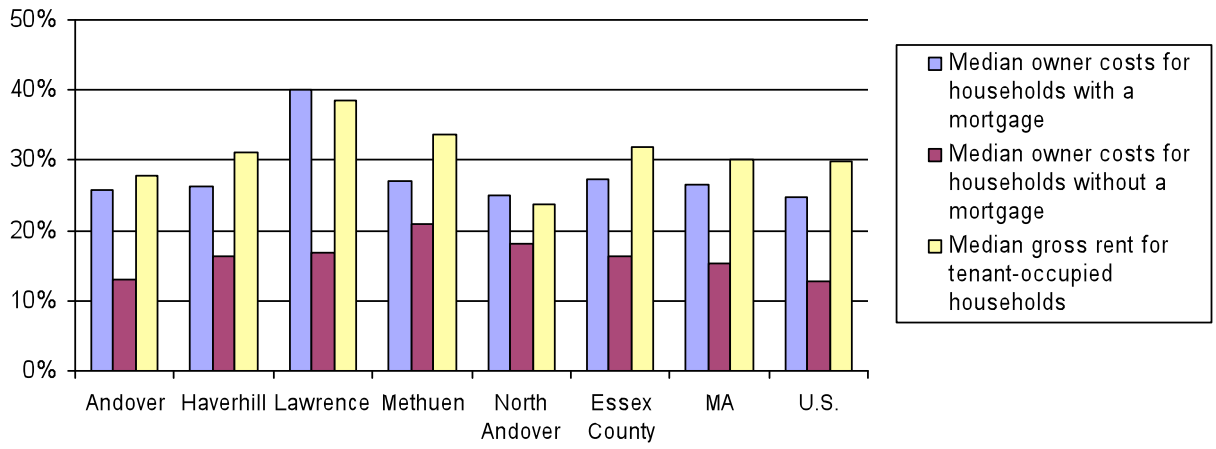

Figure 11: Housing Costs as a Percentage of Income, 2007
Sources: U.S. Census Bureau, 2005-2007 American Community Survey, B25071, B25092

Neighborhood Stabilization

A complicating factor in the Merrimack Valley housing market is the recent foreclosure crisis. Most cities in the Region have fared well relative to the State and U.S., with the noticeable exception of Lawrence. Foreclosure rates in Lawrence are nearly three times the state average, and high cost loans (often referred to as "subprime") have been nearly four times more prevalent.

Table 8: Estimates of Foreclosures and High Cost Loans for January 2007-June 2008

	Number of Foreclosures	Foreclosure Rate	Prevalence of High Cost Loans
Amesbury	96	2.9%	16.5%
Andover	12	0.6%	6.9%
Boxford	2	0.4%	6.6%
Methuen	463	4.1%	19.3%
Newburyport	39	0.9%	7.9%
Rowley	5	1.3%	9.6%
Salisbury	38	3.1%	16.1%
Haverhill	703	4.4%	22.5%
Lawrence	1,503	11.1%	44.7%
Massachusetts	53,399	4.2%	10.1%
United States	2,934,386	4.8%	11.8%

Source: U.S. Department of Housing and Urban Development, Neighborhood Stabilization Program data

Further Analysis

In order to adequately assess the region's priorities for economic revitalization, it is important to first evaluate the implications of the preceding data about the challenges and liabilities faced by the Region and Lawrence in particular. It is also important to highlight the assets and opportunities that currently exist in order to insure that the policy recommendation align with and tap into such assets.

Even though a large part of the Region – absent Lawrence -- reflects state and national averages for socio-economic indicators, the Region's legacy of declining manufacturing industries continues to hinder its growth opportunities. The location quotient analysis conducted in the previous section suggests that one of the primary challenges facing the entire Region concerns the high concentration of declining industries. Using a shift-share analysis, another study[5] explains how the Merrimack Valley Region's private employment levels in manufacturing (22.3 percent) far exceeded the state (10.7 percent) and national averages (12.5 percent). More specifically, the study identified high concentrations of employment in fabricated metals, communications equipment, semiconductor and electronic computer equipment, and electronic instruments, all of which had exhibited declining employment shares in Merrimack Valley. At the same time, the Region experienced poorer growth than national averages in financial services, wholesale, retail and non-durable manufacturing industries. Lastly, regional anchor employers in defense and computer manufacturing industries such as Raytheon and DEC, respectively, shed jobs in the 1990s.

Gaps between the skills of the local workforce and employment needs of high-tech and related industries and the uneven economic patterns threaten not only the economic viability of the Region but also the Commonwealth as a whole. Low levels of educational attainment in the Merrimack Valley, and Lawrence in particular, complicates efforts to attract employers to the Region who require highly-educated workers. Compounding this issue for Lawrence – as

[5] (MVPC 2007)

our data suggests -- is the fact that a large part of the population is linguistically isolated and low-skilled making it difficult to meet the demands of high-tech and other emerging industries. This issue hampers the City's ability to maintain or take advantage of the economic growth opportunities that such industries offer. Furthermore, there seems to be a spatial mismatch between jobs and residents, implied by the fact that many residents of Lawrence and the Merrimack Valley commute out of the City and Region for work, while many employees in Lawrence and the Merrimack Valley commute in from other cities and towns in the region (MVPC, 2008). The distribution of economic opportunities and affordable housing is a major concern for the long-term growth prospects of the Commonwealth (MassINC, 2007). Adding another spatial component to these challenges is that the Region as a whole sits between Boston's high-amenities and high-skilled population in the South, and lower-cost New Hampshire in the North.

Although the challenges are significant in number and magnitude, important assets do exist, which offer opportunities for growth. In 2000, the MVPC used a REMI model to analyze employment trends in the Region, and estimated that employment would grow faster in Essex County than in the rest of Massachusetts. In particular, the location of several large firms to office parks along the junction of Routes I-93 and I-495 in Andover appeared to help drive regional employment growth in the late 1990's. The report noted that the low costs of commercial rents, transportation access, low labor costs, infrastructure, and a favorable business environment have the potential to make the region more attractive than Metropolitan Boston (Weisbrod, et al, 2000).

In terms of physical and cultural assets, there are opportunities to retrofit mill buildings, particularly those located near high-speed telecommunications infrastructure, to absorb high tech and office demand. Furthermore, rents are much cheaper in the Merrimack Valley than elsewhere in Metropolitan Boston, and access to major transportation assets is a major amenity to attract firms (Weisbrod, et al, 2000).

With respect to Lawrence, there are two primary economic development assets. First, the high cost of living in Metropolitan Boston has created a need for more affordable

residential space. Second, proximity to transportation and transit could help disadvantaged cities such as Lawrence tap into residential opportunities for commuters into Metropolitan Boston and commercial opportunities to commercial enterprises seeking to operate in Massachusetts, but at a lower cost of facilities. The Merrimack Valley can potentially serve as a key outlet to relieving housing and quality of life issues that threaten statewide growth in heretofore the robust knowledge industries throughout Massachusetts (MassINC, 2007).

Strategies

Even given these assets, however, the aforementioned challenges imply that that the Merrimack Valley, and Lawrence in particular, lack a natural place in the product cycle of high-growth and emerging industries. In response to this combination of challenges and assets, we offer three targeted policy recommendations for the Commonwealth of Massachusetts: 1) integrate Massachusetts Life Sciences Initiative investments into redevelopment and infrastructure improvement programs, 2) take an active role in Statewide transportation planning to ensure the long-term accessibility of the Merrimack Valley Region, and 3) by collaborating with the Massachusetts Congressional Delegation, encourage the U.S. Small Business Administration to open a new Small Business Development Center and/or a Women's Business Center in Lawrence.

In making these recommendations we make three major assumptions. First, we assume that the current economic crisis limits the Commonwealth's ability to fund entirely new initiatives; second, we assume that public investment in life sciences, education, and technology will be politically palatable, indicated by existing resource commitments made by the Governor; lastly, we assume that regional inequity challenges statewide prospects for long-term economic growth. The first and second assumptions allow us to focus on the existing framework for development set forth by the Governor, while the third assumptions allows us to dig deeper into addressing Lawrence's more unique challenges.

Integrate Life Sciences Investments and Infrastructure Improvements

In June 2007 Governor Deval Patrick signed into law a ten-year, $1 billion investment, grant, and tax incentive program to encourage the development of life sciences industries in Massachusetts. Among other features, the legislation provides financing for the construction of new facilities and grants for workforce development (McDermott Will & Emery, 2008). In his Fiscal Year 2010 budget proposal, Governor Patrick strongly defends the merits of continuing to fund the Life Sciences Initiative, announcing that funding has already spurred private investment in life sciences in the State of Massachusetts, including the location of a new Genzyme manufacturing plant to the Town of Framingham, which like Lawrence, has experienced decades of industrial decline. Furthermore the Governor cites independent studies suggesting that the employment multiplier effect for each job created in the State of Massachusetts in life sciences industries is between 3.6 and 5 (Patrick and Murray, 2009).

Through the Life Sciences Initiative, the Commonwealth could encourage life sciences firms, particularly those engaged in medical supplies manufacturing, to locate in renovated industrial buildings. This could be achieved by awarding priority points in grant and tax incentive programs to those firms willing to locate in former mill properties, including those in Lawrence, or by prioritizing infrastructure investment programs in these areas. Life sciences manufacturing firms can benefit from the Merrimack Valley's strength in manufacturing, its low cost of commercial space, and its proximity to nearby research and development centers in Greater Boston, which require close contact with manufacturers. Furthermore, the affordability of the region's housing will serve as an additional draw for firms seeking to escape high-cost areas to attract workers, while at the same time desiring proximity to R&D centers.

Beyond state life science funds, acquisition and rehabilitation of underutilized mills can be subsidized through the federal New Markets Tax Credit and Historic Rehabilitation Tax Credit programs. Locating life sciences manufacturing firms in these redeveloped properties will create jobs in the region while encouraging additional investment in area mills, a priority identified by the Merrimack Valley Planning Commission (Weisbrod, et al, 2000). In addition to encouraging the reuse of former mill properties, the Commonwealth can give priority to firms

using capital financing to construct or acquire buildings near underutilized commuter rail stops. Such a program would tie into a statewide strategy of enhancing transportation accessibility to the Merrimack Valley Region.

The State can also use Life Sciences Initiative funding intended for workforce development to create programs that support industry partnerships with local high schools. Many of the high-skilled jobs that the life sciences industry demands will require workers with university degrees in science and technology fields. If the State hopes to bridge the gap between the skills of residents of Lawrence and the Merrimack Valley and future high-skilled jobs, intervention must begin before residents graduate from high school. Fostering industry partnerships with local high schools will be beneficial for all involved. Industry will receive State funding in exchange for developing a local workforce, which will reduce the costs of recruiting workers from greater distances. Massachusetts will be better able to attract and retain life science firms, whose hiring of State residents carries high multiplier effects for the State economy. Finally, young residents will benefit from mentorship and summer job opportunities with local firms, and through corporate scholarship programs, disadvantaged residents may receive financial assistance from local industries to pursue relevant university studies.

Establish Transportation Priorities to Ensure Regional Accessibility

One of the Merrimack Valley's current strengths is its access to I-93, I-495, and the Massachusetts Bay Transportation Authority (MBTA) commuter rail. However, increasing highway congestion, deteriorating roadways, and potential drastic cuts to commuter rail service may impair the region's accessibility. To ensure the quality of transportation accessibility to the region, we recommend that the Commonwealth take aggressive steps to include infrastructure repair and continued commuter rail service and capital improvements in the coming years.

One method of setting transportation priorities is through the State Transportation Improvement Plan (STIP), in which projects must be included to qualify for most federal highway and transit funds. The State does not directly control the planning process that is intra-urban in scope; however, the Governor can take the lead in coordinating planning for

inter-city and rural transportation investments (U.S. Department of Transportation, 2007). Given the impending reauthorization of the federal transportation spending, there are opportunities to secure new federal investment in infrastructure critical to economic development in the Merrimack Valley. Beyond setting priorities for these major inter-city and rural transportation investments, the Governor can work to unite the Massachusetts Congressional Delegation in support of this funding in Washington.

Transportation access is crucial to the Merrimack Valley, both in terms of connecting local firms to the larger Metropolitan economy as well as providing housing for Massachusetts residents working at firms located closer to Boston and along the I-95 and I-495 corridors. In a fiscally constrained environment, federal transportation funding is likely to present one of the few opportunities for capital investment in the near future.

Create a New Small Business or Women's Business Center in Lawrence

One way to strengthen the Merrimack Valley's economy is to invest in small businesses. As of 2006, 98.0 percent of employers in Massachusetts were small businesses (enterprises with fewer than 500 employees), providing 48.3 percent of the state's private-sector jobs (Small Business Administration, 2008). Particularly in Lawrence, where immigration and linguistic isolation are high, promoting ethnic entrepreneurship and asset building can create job opportunities. In Lawrence currently, there are few firms certified by the State as Minority Business Enterprises (MBEs), Women Business Enterprises (WBEs), or Disadvantaged Business Enterprises (DBEs). In particular, there seem to be a disproportionately small number of MBEs, relative to the City's ethnic makeup. In 2000, Lawrence had 23 percent of the region's population and 68.8 percent of the region's non-white population (including Latinos), but only 30 percent of the region's MBEs.

Table 9: Certified Minority, Women, and Disadvantaged Business Enterprises

	Minority Business Enterprises (MBEs)	Women Business Enterprises (WBEs)	Disadvantaged Business Enterprises (DBEs)
Lawrence	24	16	5
Merrimack Valley	80	158	54
Massachusetts	1,767	2,565	1,102
Lawrence as % of Merrimack Valley	30.0%	10.1%	9.3%
Merrimack Valley as % of Massachusetts	4.5%	6.2%	4.9%

Source: Massachusetts State Office of Minority and Women Business Assistance

Massachusetts could strengthen businesses owned by under-represented entrepreneurs, as well as small businesses generally, by making Small Business Administration (SBA) resources more easily accessible. Currently, the closest SBA office serving Lawrence is the "Northeast Region" Small Business Development Center (SBDC) in Salem. Governor Patrick should work with the Massachusetts Congressional Delegation, and Congresswoman Niki Tsongas in particular, to secure funding for a new Small Business Development Center (SBDC) and/or a Women's Business Center (WBC) in Lawrence. The Small Business Committee of the U.S. House of Representatives recently approved the Job Creation through Entrepreneurship Act of 2009, which will expand lending and increase funding for SBDCs and WBCs (Velazquez, 2009). It may be possible for Congress to set aside funding for a new center in Lawrence as a part of this legislation.

A new small business center could provide Merrimack Valley entrepreneurs with technical assistance in business development, securing small business loans, and marketing to federal customers. In addition, the centers are frequently located on college and university campuses. We recommend that the center be located on the Lawrence campus of Northern Essex Community College, which would encourage partnerships between the college and local businesses.

Conclusion

Taken together, our recommendations attempt to tap into the assets that the region as a whole provides and simultaneously address the specific challenges faced by Lawrence. These

recommendations also take into consideration practical limitations of the Commonwealth's fiscal environment.

This report analyzed the current challenges in the context of the Merrimack Valley's historical development trajectory. It also acknowledges the critical importance of addressing the specific challenges faced by Lawrence. The report offers three strategies for leveraging existing and anticipated programs and funding that integrates the Merrimack Valley into statewide economic growth strategies.

Tying Life Sciences Initiative funding to spatially-based economic development strategies would encourage firms to take advantage of lower-cost infill redevelopment assets in Lawrence and the Merrimack Valley, while also creating opportunities for partnerships between businesses and residents to meet long-term workforce needs. The second recommendation suggests that forthcoming federal transportation funding must be coordinated with spatially-based land-use strategies designed to link the Merrimack Valley to industry clusters in Greater Boston. Lobbying for anticipated new SBA funding to locate an SBDC or WBC to Lawrence would provide the technical assistance needed to bridge the gap between the entrepreneurial spirit of the residents and the continuing demands of the larger economy.

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