Geographic Segregation

The Role of Income Inequality

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A half century ago, Massachusetts was one of the country's most egalitarian states. Today it has one of the most unequal income distributions. As income inequality has grown, so too has the degree of income segregation in regions across the state.

The clustering of rich and poor into separate neighborhoods may have been a largely unavoidable symptom of the growing income gulf between rich and poor. But there are other potential explanations for increasing income segregation. For example, changes in land-use regulation and housing policy may lead to greater income segregation, too. Moreover, if income segregation acts as a drag on economic mobility, so that families in poorer neighborhoods fall further behind economically, or if it gives those in wealthier neighborhoods advantages that help them get further ahead, it may in itself lead to greater income inequality.

We know surprisingly little about the factors that shape income segregation and how it interacts with income inequality, but new research exploring the relationship is starting to provide a better indication of how the state's changing income distribution may contribute to neighborhood change.

New Research

Research shows that income inequality in U.S. metropolitan areas has grown quite rapidly over the last several decades. Income segregation has also increased, closely mirroring the growth in inequality.[1]

Two recent studies, which use measures of economic segregation that are mathematically independent of rising inequality in a metro area's income distribution, provide evidence that increasing inequality contributes directly to increasing income segregation. Analyzing change between 1970 and 2000, Tara Watson of Williams College found that a one-standard-deviation increase in inequality drove up income segregation by 0.4 to 0.9 standard deviations.[2] Using a different method, Sean Reardon at Stanford University and his colleagues found that income inequality's impact on income segregation over the 30-year period was somewhat lower than Watson's findings suggest, but that growing inequality nevertheless accounted for approximately 60 percent of the rise in income segregation across the nation's 100 largest metro areas.

The studies concur in finding that the connection between rising inequality and increasing income segregation is largely driven by the fact that families at the top of the income distribution are geographically separating themselves as they become more affluent. Reardon's research includes geographic models that show wealthy families are increasingly segregating themselves by significant distances. That finding could help explain why income segregation runs higher in larger metropolitan areas. Smaller ones may simply lack the scale for affluent families to cluster away from others.

Consider how income distribution has changed in Massachusetts, for example. Recent research by MassINC and Northeastern University's Center for Labor Market Studies shows that the change has largely been in the form of increased *upper-tail inequality*—the people at the top getting wealthier. Between 1989 and 2009, families at the 99th percentile of the distribution experienced a 47 percent gain while families in the middle of the distribution saw their income rise just 4 percent.[3]

Estimates published last year in the journal *MassBenchmarks* show that growth in upper-tail inequality has been most pronounced in Greater Boston, the region in the state with the largest and fastest-growing income disparities.[4] But although Greater Boston exhibits a high degree of income inequality, income segregation is surprisingly similar to other regions in the state and has actually risen at a slower pace over the last two decades. (See "Changes in Regional Income Segregation, 1990 to 2007.")[5]

Boston's modest increase in economic segregation despite steep increases in inequality stands in marked contrast to other large metro areas nationally. Greater Boston's inequality level ranks 10th highest among metro areas with more than 1 million residents, yet it has much less family-income segregation relative to other places with uneven income distributions. (See "Income Segregation and Income Inequality by Region, 2007.") A common measure of income inequality, the Gini Index, shows that Boston is similar to Chicago, Philadelphia, and Detroit in that regard.[6] Nevertheless, the latter three metro areas have far higher levels of income segregation. In Philadelphia, for example, 43 percent of residents live in either a poor or an affluent neighborhood. A mere 30 percent of Greater Boston's residents live in such extremely income-segregated neighborhoods.[7]

Isolation in Smaller Cities

Boston's relative income diversity is perhaps testimony to the exceptional efforts of those working to build mixed-income neighborhoods. The region is known for some of the nation's most productive community development corporations, for example. And inclusionary zoning has helped maintain diversity in the urban core, while the state's innovative 40B statute has helped provide affordable-housing opportunities in exclusive suburbs.[8] Although such efforts are pronounced in Greater Boston, the same cannot be said of other regions in the Commonwealth, where income segregation is steadily growing. The rise in income segregation has been particularly intense in the state's so-called Gateway City regions and should be a concern.[9]

In 1990, the state's Gateway City regions contained predominantly middle-class neighborhoods. Around two-thirds of residents in Greater New Bedford, Springfield, and Worcester lived in middle-income neighborhoods. Over the last two decades, that ratio has fallen precipitously. In 2007, Worcester's middle-income neighborhoods were down to 55 percent of metro area residents. Middle-income neighborhoods were home to less than half of all residents in New Bedford.

In regions across the state, middle-income neighborhoods have been replaced by both poor and affluent neighborhoods over the last two decades. (With the exception of Greater Worcester, the increase in the share of residents living in poor census tracts has outpaced the growth in residents living in affluent neighborhoods.) In Gateway City regions like Greater New Bedford, poor neighborhoods invariably multiplied within the central city, while more affluent neighborhoods appeared in the surrounding suburbs.

When families with limited means become geographically isolated, the jurisdictions where they live have reduced tax capacity, and that in turn means there will be

Changes in Regional Income Segregation, 1990 to 2007

	Segregation index			Percent of residents living in each type of neighborhood												
				1990					2007					change		
Metro area	1990	2000	2007	poor	low income	middle	high income	affluent	poor	low income	middle	high income	affluent	poor	affluent	poor or affluent
Boston	0.111	0.134	0.137	11	10	58	10	11	17	9	47	13	13	6	2	8
New Bedford	0.070	0.083	0.141	9	12	65	9	5	24	5	40	17	15	14	10	24
Springfield	0.101	0.110	0.132	11	6	68	11	4	17	13	42	22	7	6	3	9
Worcester	0.087	0.117	0.118	11.4	6.4	66.2	14	2.2	15	9	55	12	8	4	6	10

Source: Authors' estimates using decennial Census and 2006-2010 American Community Survey (labeled 2007) from Sean Reardon and Kendra Bischoff, "Income Inequality and Income Segregation," *American Journal of Sociology* 116, no. 4 (2011).

Income Segregation and Income Inequality by Region, 2007

Metropolitan area	Gini index (2008)	Segregation index (2007)	Percent of residents living in poor or affluent neighborhood
Boston*	0.47	0.137	30
Chicago	0.47	0.170	33
Philadelphia	0.47	0.208	43
Detroit	0.46	0.194	46

Sources: Census 2007-2009 American Community Survey (ACS) estimate; 2005-2009 ACS (labeled 2007) from Sean Reardon and Kendra Bischoff, "Income Inequality and Income Segregation," *American Journal of Sociology* 116, no. 4 (2011).

*Author's calculations following Reardon and Bischoff.

fewer good-quality public services for those families. (Such phenomena may be particularly pronounced in states like Massachusetts, where virtually all local government services are provided by cities and towns with small geographic spread.) The most obvious area where we would expect to see this have an impact is in education. Indeed, research nationally finds that increasing economic segregation increases the performance of children from high-income families and reduces the educational attainment of students from low-income families.[10]

As the quality of public services begins to vary more across communities, neighborhoods may have a difficult time attracting middle-income residents, and the potential for a downward spiral becomes very real. Over time, the process of neighborhood change can concentrate poverty in a few neighborhoods. A body of work by the Federal Reserve System and the Brookings Institution documents the negative implications of living in severely distressed neighborhoods.[11] Since 1990, as the number of poor people in Massachusetts has growth by one-fifth, the number of Massachusetts residents trapped in neighborhoods with highly concentrated poverty has increased by even more, nearly one-third.[12]

Given mounting state and federal budget deficits, low-income communities are unlikely to see the support from higher levels of government that would be needed to help address the effects of growing economic segregation. Retaining economic diversity in the face of increasing inequality will be key to the quality of service delivery of local governments, and by extension, the economic stability and upward mobility of lower-income residents.

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Endnotes

1 Sean Reardon and Kendra Bischoff, "Income Inequality and Income Segregation," *American Journal of Sociology* 116, no. 4 (2011): 1092-1153. See also Sean Reardon and Kendra Bischoff, *Growth in the Residential Segregation of Families by Income, 1970-2009* (Providence: Russell Sage Foundation and Brown University, November 2011).

2 Tara Watson, "Inequality and the Measurement of Residential Segregation by Income in American Neighborhoods," *Review of Income and Wealth* 55, no. 3 (2009).

3 Andrew Sum et al., "Recapturing the American Dream: Meeting the Challenges of the Bay State's Lost Decade" (white paper, MassINC, Boston, 2011).

4 Michael Goodman and Robert Nakosteen, "Diverging Destinies: The Commonwealth's Relatively Robust but Imbalanced Economic Recovery," *MassBenchmarks* 13, no. 2 (2011).

5 The segregation index is Reardon's Rank-Order Information Theory Index, which compares the variation in family incomes within census tracts to the variation in family incomes in the metro area. The index ranges from zero (no segregation) to one (total segregation). Professor Reardon graciously shared syntax and assistance that enabled the authors to produce these estimates. Regions are defined using 2010 New England City and Town Area (NECTA) definitions. The 2007 estimate represents the middle year in the blended 2005-to-2009 American Community Survey sample.

6 The Census Bureau provides Gini values for all metro areas using American Community Survey data. The Gini Index is a common measure of income inequality. A Gini Index of zero equals a distribution in which all households have the same income; one signifies a distribution in which a single household earns all of the income. Although the Segregation Index has been calculated using family income and the census derives Gini values using household income, household and family measures of inequality tend to be relatively consistent across regions.

7 Census tracts were classified on the basis of median family income as a percentage of metro-area median family income following Reardon and Bischoff. Accordingly, poor = <67 percent median family income; low-income = 67 percent to 80 percent; middle income = 80 percent to 125 percent; high income = 125 percent to 150 percent; affluent = >150 percent of median family income.

8 See http://www.mass.gov/hed/community/40b-plan.

9 See http://www.massinc.org/Programs/Gateway-Cities.aspx.

10 Susan Mayer, "How Economic Segregation Affects Children's Educational Attainment," *Social Forces* 81, no. 1 (2002).

11 For example, see Alan Berube and Elizabeth Kneebone, *The Enduring Challenge of Concentrated Poverty in America: Case Studies from Communities across the U.S.* (Washington, DC: Federal Reserve System and the Brookings Institution, 2008).

12 Highly concentrated poverty is defined as a census tract in which more than 40 percent of residents fall below the federal poverty threshold. In 1990, 42 census tracts with 100,838 residents met the definition in Massachusetts. The 2005-2009 American Community Survey data show this figure has increased to 53 census tracts housing 132,425 residents.