

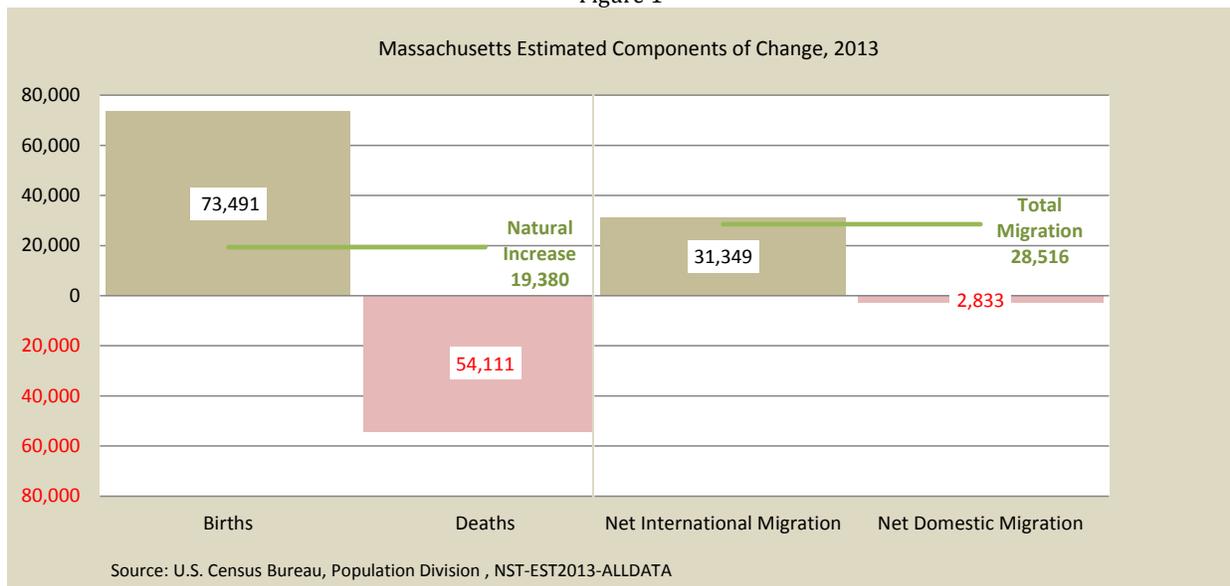
UMass Donahue Institute Summary of The U.S. Census Bureau's 2013 State-Level Components of Change Estimates

Components of Change

On January 23, 2014 the U.S. Census Bureau released estimated *components of change* for July 1, 2013 for the United States, Puerto Rico, and U.S. States. The U.S. Census Bureau produces revised population estimates each year by adding the updated components of change to the Census 2010 base. The components include both the numbers of **births** and **deaths**, which together constitute **natural increase**. Also included are **net domestic migration** (migration to and from other states within the U.S.) and **net international migration** (migration to and from other countries) which sum to **total net migration**. A fifth component, the group quarters population, is factored into the estimates base for the previous year, but is not broken out as a separate number in the Bureau's published release.

According to the U.S. Census estimates, during the July 1, 2012 to July 1, 2013 period Massachusetts experienced 73,491 births and 54,111 deaths, for a net natural increase of 19,380. At the same time, Massachusetts experienced a net outflow of 2,833 persons to other states in the U.S. and a net inflow of 31,349 persons from other countries, for total net migration of 28,516 persons. Figure 1 below displays the extent to which a higher number of births over the number of deaths results in a positive natural increase and how positive international migration offsets negative domestic migration to sum to positive migration overall in Massachusetts during this period.

Figure 1

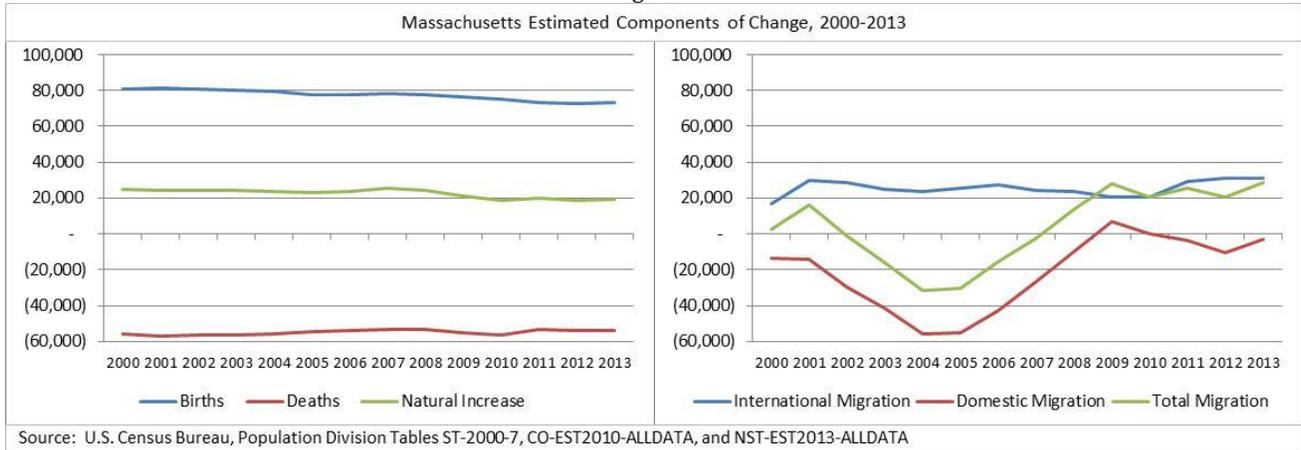


Trends

Massachusetts has long experienced, to a greater or lesser degree, component patterns similar to those seen above. Figure 2 below shows the trends in these components from 2000 through 2013. More births than deaths and positive international migration offsetting negative domestic migration have all contributed to overall population increase this decade and last - with the exception of just one recent year (2009) in which net migration on the domestic side was also positive, though only slightly. Domestic out-migration from Massachusetts peaked in the middle of the last decade with an estimated net outflow of 55,077 persons leaving Massachusetts for other parts of the United States in 2005. This outflow was

reduced significantly in 2007 (by 37%) and again in 2008 (by 63%), and then finally reversed to a positive in-flow in 2009, with an estimated 3,614 net persons moving into Massachusetts from other U.S. states. Births and deaths throughout this period were much less variable from year to year than migration, with births showing a slight overall decline through the years and deaths slightly increasing by the end of the series.

Figure 2



Regional and State Comparisons

An examination of the components of change data begins to answer the question of why some states or regions are racing ahead in growth while others lag behind. Massachusetts, for instance, is growing twice as fast as the Northeast region on average, and faster than any other Northeast state. The estimated components data suggest that while Massachusetts shows a reasonable rate of natural increase compared to other Northeastern states, it's total positive migration – specifically the large number of international in-migrants offsetting a relatively small number of domestic out-migrants – explains why the state leads the region in growth, as shown in Table 1 below.

Table 1

Estimated Components of Change for United States, U.S. Regions, and Northeast States, 2013						
Geography	Vital Events			Migration		
	Births	Deaths	Natural Increase	International Migration	Domestic Migration	Total Migration
United States	3,952,937	2,540,928	1,412,009	843,145	0	843,145
Northeast Region	640,702	471,058	169,644	227,173	(208,633)	18,540
Midwest Region	827,949	576,261	251,688	110,489	(127,900)	(17,411)
South Region	1,510,183	983,638	526,545	309,637	280,755	590,392
West Region	974,103	509,971	464,132	195,846	55,778	251,624
Connecticut	37,172	29,249	7,923	15,702	(17,224)	(1,522)
Maine	12,566	12,866	(300)	1,042	(1,423)	(381)
Massachusetts	73,491	54,111	19,380	31,349	(2,833)	28,516
New Hampshire	12,732	10,497	2,235	1,781	(2,355)	(574)
New Jersey	104,769	70,752	34,017	46,373	(45,035)	1,338
New York	240,299	152,088	88,211	101,778	(104,470)	(2,692)
Pennsylvania	142,753	126,975	15,778	24,996	(30,718)	(5,722)
Rhode Island	10,911	9,405	1,506	3,688	(3,922)	(234)
Vermont	6,009	5,115	894	464	(653)	(189)

Source: U.S. Census Bureau Population Division NST-EST2013-ALLDATA

Regional and State Comparisons by Rate

An easier way to look at this data comparatively for different geographies is to first convert it to a rate –so that larger and smaller geographies can be evaluated together. Table 2 below shows the rate, per 1,000 persons, of each change component for the United States, U.S. Regions, and the Northeast States including Massachusetts.

Table 2

Estimated Components of Change Rates for United States, U.S. Regions, and Northeast States, 2013						
Geography	Vital Events			Migration		
	Births	Deaths	Natural Increase	International Migration	Domestic Migration	Total Migration
United States	12.5	8.1	4.5	2.7	0.0	2.7
Northeast Region	11.5	8.4	3.0	4.1	(3.7)	0.3
Midwest Region	12.3	8.5	3.7	1.6	(1.9)	(0.3)
South Region	12.8	8.3	4.5	2.6	2.4	5.0
West Region	13.2	6.9	6.3	2.7	0.8	3.4
Connecticut	10.3	8.1	2.2	4.4	(4.8)	(0.4)
Maine	9.5	9.7	(0.2)	0.8	(1.1)	(0.3)
Massachusetts	11.0	8.1	2.9	4.7	(0.4)	4.3
New Hampshire	9.6	7.9	1.7	1.3	(1.8)	(0.4)
New Jersey	11.8	8.0	3.8	5.2	(5.1)	0.2
New York	12.3	7.8	4.5	5.2	(5.3)	(0.1)
Pennsylvania	11.2	9.9	1.2	2.0	(2.4)	(0.4)
Rhode Island	10.4	8.9	1.4	3.5	(3.7)	(0.2)
Vermont	9.6	8.2	1.4	0.7	(1.0)	(0.3)

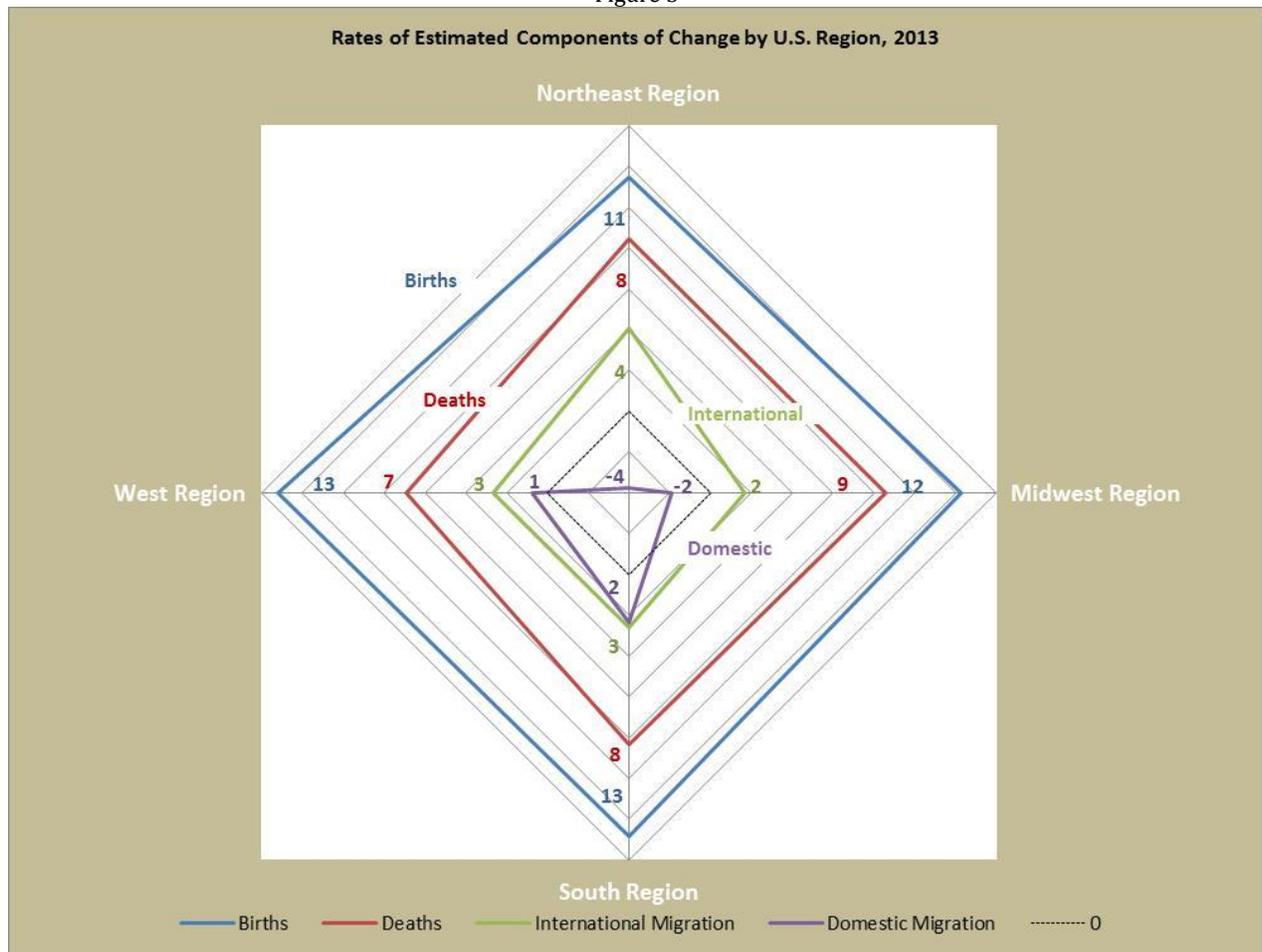
Source: U.S. Census Bureau Population Division NST-EST2013-ALLDATA. Rates per 1,000 average population.

These component rate estimates indicate that in Massachusetts, births are occurring at a lower rate (11.0) than in the United States as a whole (12.5) as well as all of the U.S. region averages. Deaths in Massachusetts are occurring at a lower rate (8.1) than other regions of the U.S. except the West (6.9), but are on par with the U.S. average. Combined, these vital events lead to a natural increase rate (2.9) that is below that of the U.S. as a whole (4.5) and all of its regions, though very close to the Northeast average of 3.0. Note that all other states in the Northeast except for New Jersey and New York are showing even smaller rates of natural increase.

Within the migration component, we see that the Northeast and Midwest regions experience net domestic out-migration (-3.7 and -1.9, respectively) while the Southern and Western regions have positive domestic migration (2.4 and 0.8). The domestic migration rate of -0.4 in Massachusetts is less than that of the Northeast and Midwest regional averages (-3.7 and -1.9), but still indicates at least some net domestic outmigration to Southern and Western states. On the other hand, the international migration rate for Massachusetts of 4.7 is higher than the U.S. as a whole (2.7) as well as all of its distinct regions.

Figure 3 below demonstrates the magnitude of each of the change components on population change, graphing component rates by U.S. region. Births represent the component with the greatest influence on population change, and are more heavily weighted to the West and South. Deaths are the second most “influential” component, and are most prominent in the Midwest, followed by the Northeast and South. International migration is heavily weighted to the Northeast, while domestic migration adds to the South and West with losses in the Midwest and especially the Northeast. These current rates echo the component trends of the last decade. From 2000 to 2010, two areas of the United States - the South and the West - showed positive internal migration for the whole decade, meaning that a net influx of persons from other states in the Northeast and Midwest added to their population over those years.

Figure 3



Additional Information and estimates data can be found on the U.S. Census Bureau’s website at <http://www.census.gov/popest/data/index.html>.

Additional UMass Donahue Institute Massachusetts summaries of U.S. Census Bureau releases can be accessed at <http://www.massbenchmarks.org/statedata/news.htm> and appear in chronological order.

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