

# Summary of the U.S. Census Bureau's 2016 State-Level Population Estimate for Massachusetts

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On December 20, 2016, the U.S. Census Bureau released population and components of change estimates for the nation, states, and Puerto Rico for July 1, 2016. According to the new release, the Massachusetts population increased by an estimated 27,539 persons from July 1, 2015 to July 1, 2016 to a new total of 6,811,779, making it the 15<sup>th</sup> most populous state in the U.S. again this year. This 0.41% annual increase puts Massachusetts' growth at approximately ten times that of the Northeast average of 0.04% and ranks it as the fastest growing state in New England for the sixth consecutive year since the 2010 Census. At the national level, Massachusetts ranked 17<sup>th</sup> for annual population change compared to 16<sup>th</sup> last year, and ranked 25<sup>th</sup> in terms of annual percentage growth in the 2015 to 2016 period. Since the last Census in April of 2010, the Massachusetts population has increased by 263,966 persons cumulatively, or 4.0%, compared to a 1.6% cumulative increase for the Northeast region and a 4.7% cumulative increase for the U.S. as a whole. Table 1 below shows the numerical growth and rankings for the United States, U.S. regions, and the Northeast states including Massachusetts, for the period April 1, 2010 through July 1, 2016. Table 2 shows this information in terms of percentage change.

Table 1. Estimated Population, Population Change, and Rankings for the United States, Regions, and Northeast States, April 1, 2010 to July 1, 2016

Geographic Area	April 1, 2010 Estimates Base	Population Estimate (as of July 1)							Single Year Population Change July 1, 2015 to July 1, 2016	Cumulative Population Change April 1, 2010 to July 1, 2016	National Ranking by Population Size 2016	National Ranking by Population Change 2015-2016
		2010	2011	2012	2013	2014	2015	2016				
United States	308,758,105	309,348,193	311,663,358	313,998,379	316,204,908	318,563,456	320,896,618	323,127,513	2,230,895	14,369,408	(X)	(X)
Northeast	55,318,353	55,388,056	55,632,766	55,829,059	55,988,771	56,116,791	56,184,737	56,209,510	24,773	891,157	4	4
Midwest	66,929,825	66,978,602	67,153,331	67,332,320	67,543,948	67,726,368	67,838,387	67,941,429	103,042	1,011,604	3	3
South	114,563,005	114,863,114	116,061,801	117,299,171	118,424,320	119,696,311	121,039,206	122,319,574	1,280,368	7,756,569	1	1
West	71,946,922	72,118,421	72,815,460	73,537,829	74,247,869	75,023,986	75,834,288	76,657,000	822,712	4,710,078	2	2
Connecticut	3,574,114	3,579,899	3,589,893	3,593,795	3,596,003	3,591,873	3,584,730	3,576,452	-8,278	2,338	29	49
Maine	1,328,364	1,327,730	1,328,231	1,328,895	1,329,076	1,330,719	1,329,453	1,331,479	2,026	3,115	42	39
Massachusetts	6,547,813	6,565,524	6,611,923	6,658,008	6,706,786	6,749,911	6,784,240	6,811,779	27,539	263,966	15	17
New Hampshire	1,316,461	1,316,872	1,318,473	1,321,182	1,322,687	1,328,743	1,330,111	1,334,795	4,684	18,334	41	36
New Jersey	8,791,953	8,803,729	8,841,243	8,873,211	8,899,162	8,925,001	8,935,421	8,944,469	9,048	152,516	11	33
New York	19,378,110	19,402,640	19,519,529	19,602,769	19,673,546	19,718,515	19,747,183	19,745,289	-1,894	367,179	4	47
Pennsylvania	12,702,857	12,712,343	12,744,293	12,771,854	12,781,338	12,790,565	12,791,904	12,784,227	-7,677	81,370	6	48
Rhode Island	1,052,940	1,053,337	1,052,451	1,052,901	1,053,033	1,054,480	1,055,607	1,056,426	819	3,486	43	41
Vermont	625,741	625,982	626,730	626,444	627,140	626,984	626,088	624,594	-1,494	-1,147	50	46

UMass Donahue Institute. Source data: Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2016 (NST-EST2016-01) and NST-EST2016-03. U.S. Census Bureau, Population Division. December 20, 2016.



Table 2. Estimated Percent Change in Population and Rankings for the United States, Regions, and Northeast States, April 1, 2010 to July 1, 2016

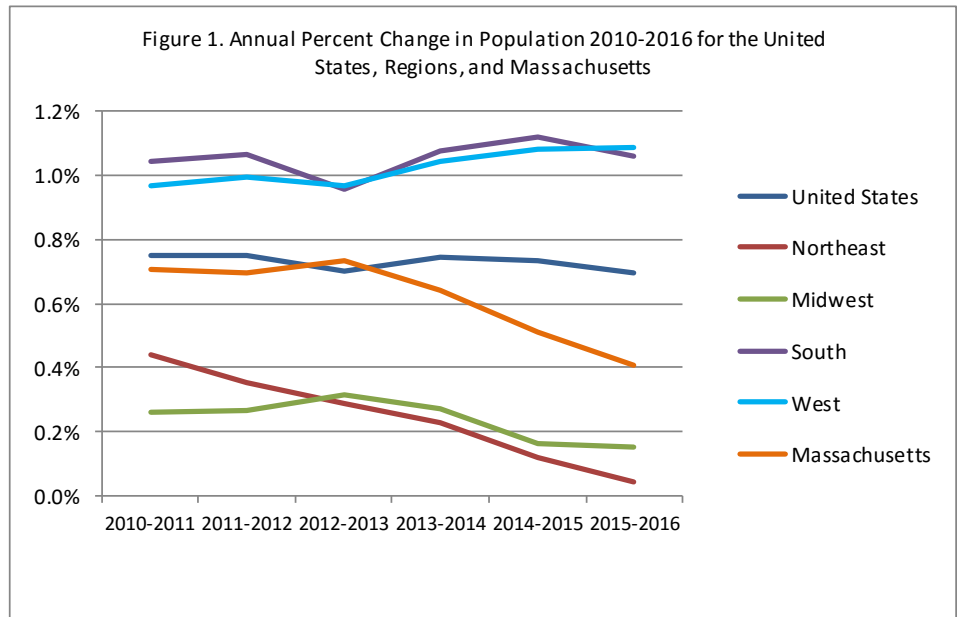
Geographic Area	April 1, 2010 to July 1, 2010	July 1 to July 1						National Ranking of Single Year % Change 2015-2016	Cumulative % Change April 1, 2010 to July 1, 2016	National Ranking of Cumulative % Change
		2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016			
United States	0.19%	0.75%	0.75%	0.70%	0.75%	0.73%	0.70%	(X)	4.65%	(X)
Northeast	0.13%	0.44%	0.35%	0.29%	0.23%	0.12%	0.04%	4	1.61%	3
Midwest	0.07%	0.26%	0.27%	0.31%	0.27%	0.17%	0.15%	3	1.51%	4
South	0.26%	1.04%	1.07%	0.96%	1.07%	1.12%	1.06%	2	6.77%	1
West	0.24%	0.97%	0.99%	0.97%	1.05%	1.08%	1.08%	1	6.55%	2
Connecticut	0.16%	0.28%	0.11%	0.06%	-0.11%	-0.20%	-0.23%	48	0.07%	48
Maine	-0.05%	0.04%	0.05%	0.01%	0.12%	-0.10%	0.15%	36	0.23%	47
Massachusetts	0.27%	0.71%	0.70%	0.73%	0.64%	0.51%	0.41%	25	4.03%	27
New Hampshire	0.03%	0.12%	0.21%	0.11%	0.46%	0.10%	0.35%	27	1.39%	40
New Jersey	0.13%	0.43%	0.36%	0.29%	0.29%	0.12%	0.10%	39	1.73%	38
New York	0.13%	0.60%	0.43%	0.36%	0.23%	0.15%	-0.01%	44	1.89%	35
Pennsylvania	0.07%	0.25%	0.22%	0.07%	0.07%	0.01%	-0.06%	46	0.64%	44
Rhode Island	0.04%	-0.08%	0.04%	0.01%	0.14%	0.11%	0.08%	41	0.33%	46
Vermont	0.04%	0.12%	-0.05%	0.11%	-0.02%	-0.14%	-0.24%	49	-0.18%	49

UMass Donahue Institute. Source data: Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2016 (NST-EST2016-01), NST-EST2016-02, and NST-EST2016-03. U.S. Census Bureau, Population Division. December 20, 2016.

### Regional Comparisons

Massachusetts' cumulative population increase of 4.0% is now approaching the national average of 4.7%, while its single year percentage of 0.4% now lags behind the U.S. average of 0.7%. While its annual percent growth has started to slow, falling below the U.S. average again in recent years, Massachusetts continues to increase in population at a much faster rate than the Northeast and Midwest regions on average, which grew by just 0.04% and 0.15%, respectively, from 2015 to 2016. The Southern and Western regions meanwhile continue to lead the U.S. in terms of percentage growth, at 1.1% each over the last year (Figure 1).

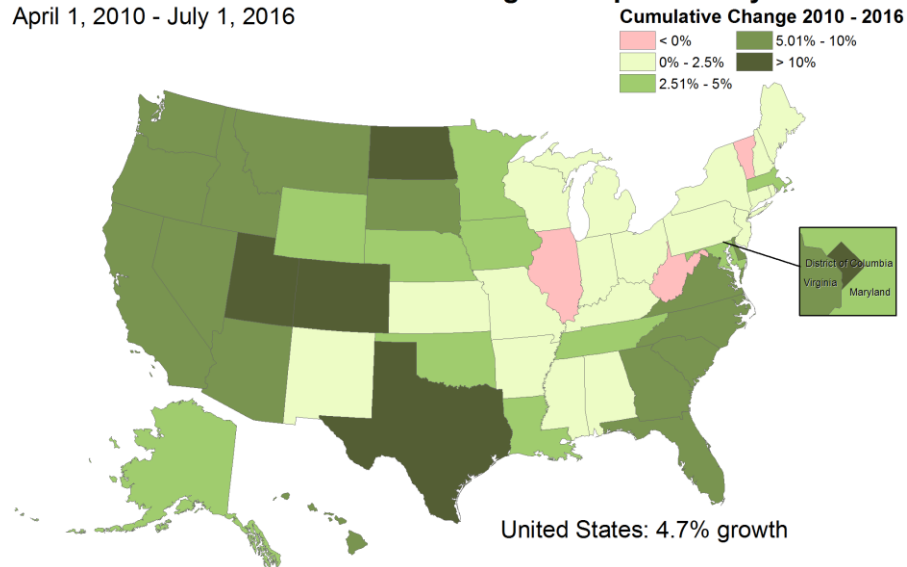
The map below (Figure 2) clearly demonstrates that Massachusetts stands apart from the rest of the Northeastern and Midwestern states in terms of overall percentage growth since 2010, and even surpasses some states in the South and West.



The single-year percent change map (Figure 3) shows less pronounced growth in Massachusetts in the most recent 2015-2016 period.

Figure 2.

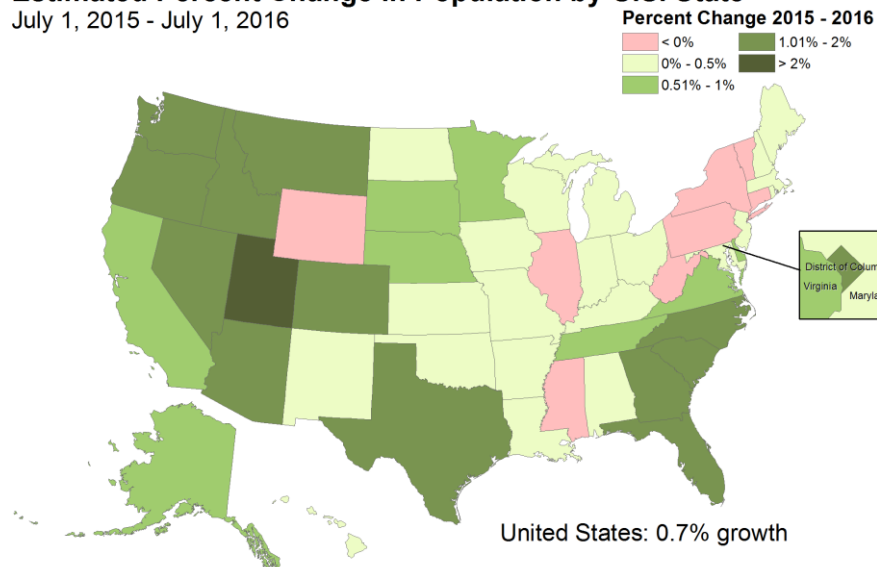
**Estimated Cumulative Percent Change in Population by U.S. State**  
 April 1, 2010 - July 1, 2016



UMass Donahue Institute  
 Source: U.S. Census Bureau, Populations Division.  
 Table NST-EST2016-01: Annual Estimates of the Resident Population for the United States, Regions, States,  
 and Puerto Rico: April 1, 2010 to July 1, 2016.  
 Release date: December 20, 2016.



**Estimated Percent Change in Population by U.S. State**  
 July 1, 2015 - July 1, 2016



UMass Donahue Institute  
 Source: U.S. Census Bureau, Populations Division.  
 Table NST-EST2016-01: Annual Estimates of the Resident Population for the United States, Regions, States,  
 and Puerto Rico: April 1, 2010 to July 1, 2016.  
 Release date: December 20, 2016.



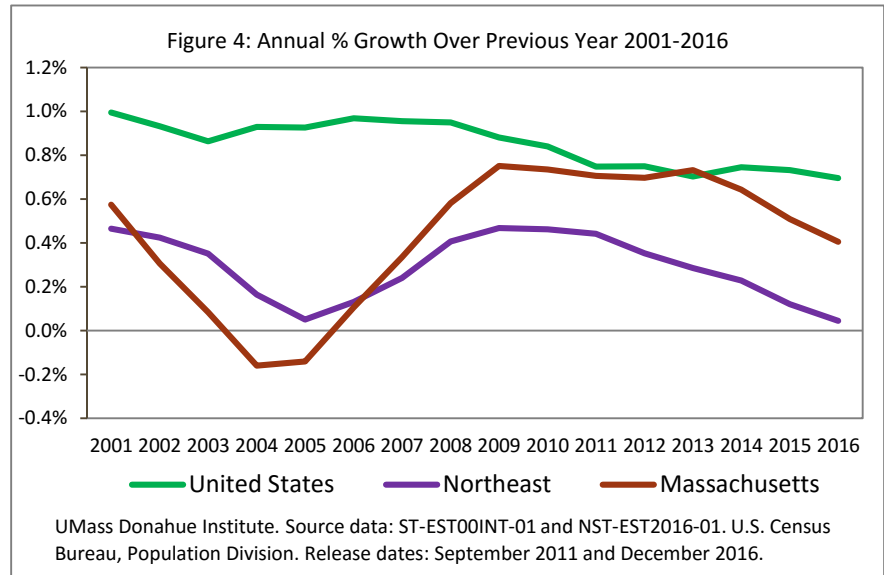
Figure 3.



## Long Term Trend

In the last decade, from July 1, 2000 to July 1, 2010, the average growth for Massachusetts was about 0.3% per year, with an average population increase of just 19,245 per year. From 2001 to 2004, Massachusetts' growth rates, along with the Northeast rates, were actually declining, and only turned around after 2005, due in part to a reversal of domestic out-migration. Starting in 2007, the Massachusetts annual growth rate overtook the Northeast rate, at 0.5% for Massachusetts compared to 0.3% for the Northeast for that year, and by an increasing percentage thereafter. Since the 2010 Census, Massachusetts has increased its population by an average of 42,235 persons, or 0.6%, per year.

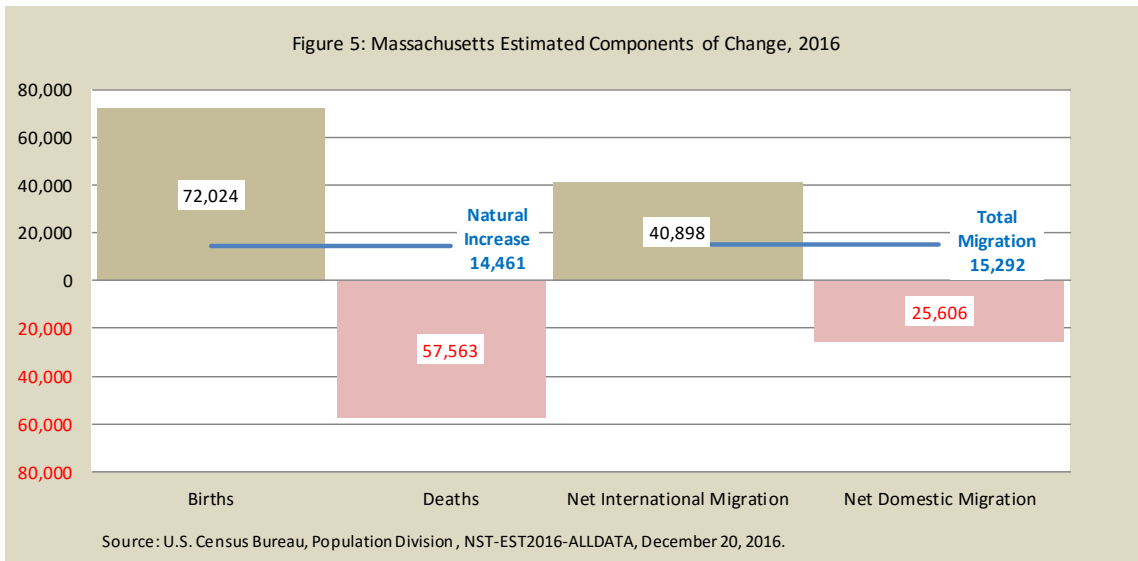
While the population change in Massachusetts from 2015 to 2016 represents a deceleration in the growth rate experienced by Massachusetts since 2010, it is still growing more rapidly as it did on average in the last decade. Figure 4 shows the percentage growth for Massachusetts as compared to the U.S. and Northeast region averages from 2001 through 2016.



## Components of Change

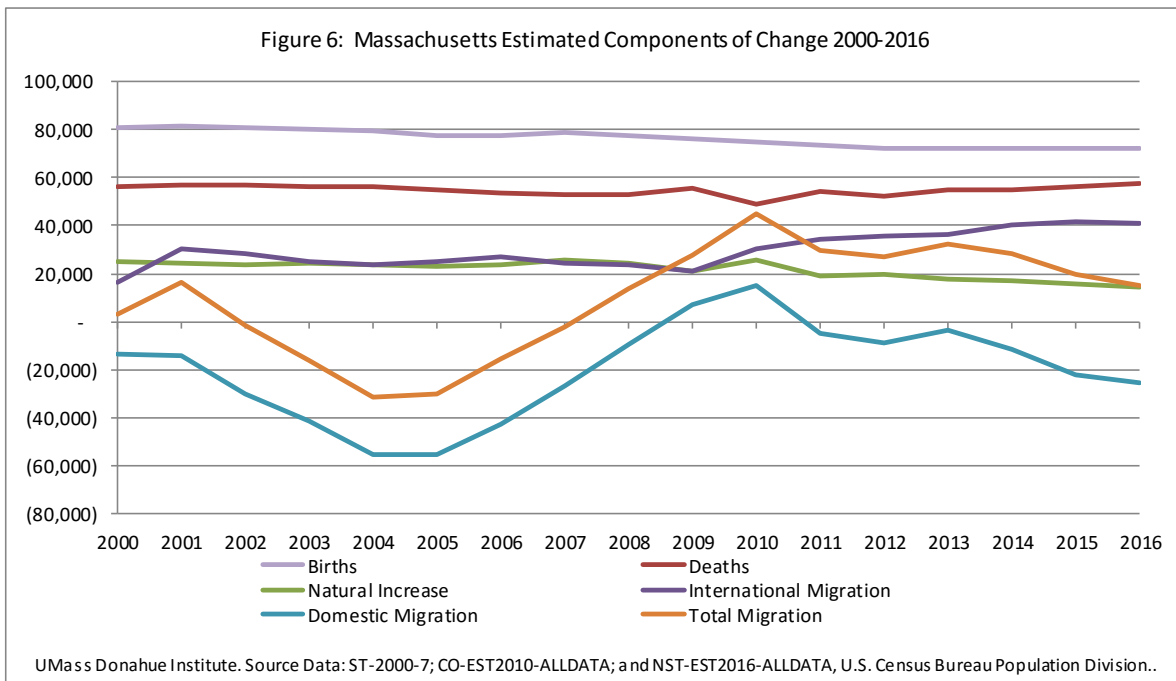
The U.S. Census Bureau produces revised population estimates each year by adding updated *components of change* to the Census 2010 base. These components include both the number of **births** and **deaths**, which together constitute the **natural increase**. They also include **net domestic migration** (migration to and from other states within the U.S.) and **net international migration** (migration to and from other countries) which sum to the **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, from July 1, 2015 to July 1, 2016 Massachusetts experienced 72,024 births and 57,563 deaths, for a net natural increase of 14,461. At the same time, Massachusetts experienced a net outflow of 25,606 persons to other states in the U.S. and a net inflow of 40,898 persons from other countries, for total net migration of 15,292 persons. Figure 5 displays the extent to which a higher number of births offsets the number of deaths and how positive international migration offsets negative net domestic migration to sum to positive population change in Massachusetts during this period.



### Components of Change: Trends 2000-2016

Massachusetts has long experienced, to varying degrees, component patterns similar to those seen above. Figure 6 below shows the trends in these components from 2000 through 2016.



A greater number of births over deaths and positive international migration offsetting negative domestic migration have all contributed to an overall population increase this decade and last. 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 6,843 net persons moving into Massachusetts from other U.S. states. In the years since 2010, domestic migration reverted to a negative value again, but the outflow has been moderate compared to the peak outflow over the last decade. Births and deaths throughout the 2000-2016 period have been much less variable from year to year than migration, with births showing a slight overall decline through the years and deaths continuing at about the same level over the course of the time series.

### Components of Change: 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 about 10 times as fast as the Northeast region on average, and faster than any other New England state. The estimated components data suggest that, while Massachusetts shows a reasonable rate of natural increase compared to other Northeastern states, its 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 overall percent growth since 2010, as shown in Table 3 below.

Geography	Vital Events			Migration		
	Births	Deaths	Natural Increase	International Migration	Domestic Migration	Total Net Migration
United States	3,977,745	2,746,013	1,231,732	999,163	0	999,163
Northeast Region	629,063	497,539	131,524	270,317	(361,502)	(91,185)
Midwest Region	828,188	612,414	215,774	133,716	(231,532)	(97,816)
South Region	1,540,837	1,075,479	465,358	367,865	423,042	790,907
West Region	979,657	560,581	419,076	227,265	169,992	397,257
Connecticut	35,848	30,638	5,210	17,058	(29,880)	(12,822)
Maine	12,542	13,842	(1,300)	1,785	2,169	3,954
Massachusetts	72,024	57,563	14,461	40,898	(25,606)	15,292
New Hampshire	12,274	11,572	702	2,175	2,187	4,362
New Jersey	102,166	74,762	27,404	50,087	(66,791)	(16,704)
New York	236,507	160,713	75,794	118,478	(191,367)	(72,889)
Pennsylvania	140,897	133,053	7,844	34,678	(45,565)	(10,887)
Rhode Island	10,770	9,849	921	4,203	(3,784)	419
Vermont	6,035	5,547	488	955	(2,865)	(1,910)

UMass Donahue Institute. Source U.S. Census Bureau Population Division NST\_EST2016\_ALLDATA. Release Date December 20, 2016.

## Regional and State Comparisons by Rate

Another way to compare this data over different geographies is to first convert it to a rate –so that larger and smaller geographies can be evaluated together. Table 4 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.

Geography	Vital Events			Migration		
	Births	Deaths	Natural Increase	International Migration	Domestic Migration	Total Net Migration
United States	12.4	8.5	3.8	3.1	0.0	3.1
Northeast Region	11.2	8.9	2.3	4.8	(6.4)	(1.6)
Midwest Region	12.2	9.0	3.2	2.0	(3.4)	(1.4)
South Region	12.7	8.8	3.8	3.0	3.5	6.5
West Region	12.8	7.4	5.5	3.0	2.2	5.2
Connecticut	10.0	8.6	1.5	4.8	(8.3)	(3.6)
Maine	9.4	10.4	(1.0)	1.3	1.6	3.0
Massachusetts	10.6	8.5	2.1	6.0	(3.8)	2.2
New Hampshire	9.2	8.7	0.5	1.6	1.6	3.3
New Jersey	11.4	8.4	3.1	5.6	(7.5)	(1.9)
New York	12.0	8.1	3.8	6.0	(9.7)	(3.7)
Pennsylvania	11.0	10.4	0.6	2.7	(3.6)	(0.9)
Rhode Island	10.2	9.3	0.9	4.0	(3.6)	0.4
Vermont	9.7	8.9	0.8	1.5	(4.6)	(3.1)

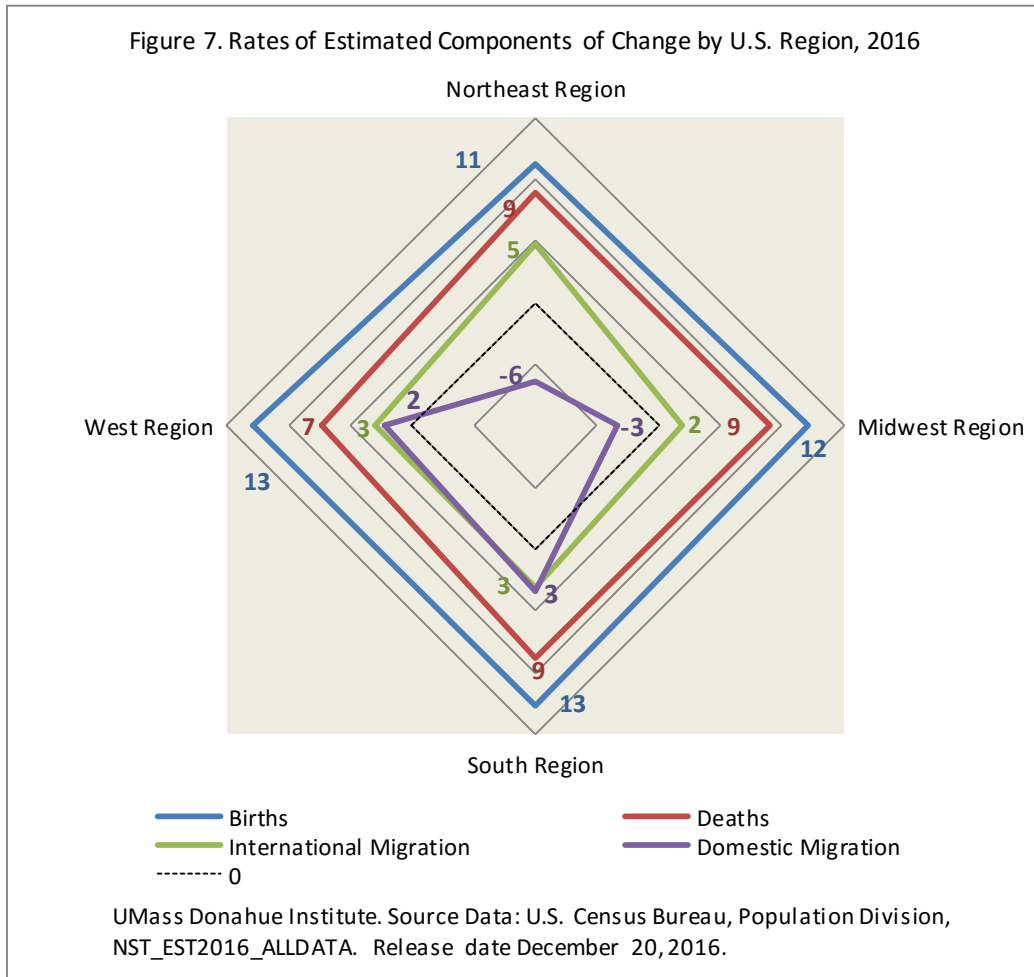
UMass Donahue Institute. Source U.S. Census Bureau Population Division NST\_EST2016\_ALLDATA. Release Date December 20, 2016. Rates per 1,000 average population.

These estimated component rates indicate that in Massachusetts, births are occurring at a lower rate (10.6) than in the United States as a whole (12.4) as well as in all of the U.S. regions, on average. Deaths in Massachusetts are occurring at a lower rate (8.5) than other regions of the U.S. except the West (7.4), but are on par with the U.S. average. Taken together, these vital events lead to a natural increase rate (2.1) that is below that of the U.S. as a whole (3.8) and all of its regions, though very close to the Northeast average of 2.3. 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 (-6.4 and -3.4, respectively) while the Southern and Western regions have positive domestic migration (3.5 and 2.2). The domestic migration rate of -3.8 in Massachusetts is less than the Northeast regional average of -6.4, but still indicates net domestic outmigration to Southern and Western states. On the other hand, the international migration rate of 6.0 for Massachusetts is almost twice that of the U.S. as a whole (3.1) and exceeds all U.S. regional averages. As a result, Massachusetts total migration sums to a positive rate of 2.2 in-migrants per 1,000 population - higher than both the Northeast and Midwest regional averages.

Figure 7 demonstrates the magnitude of each of the components of 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 and Northeast. International migration is heavily weighted to the Northeast, while domestic migration adds to the West and especially to the South, with losses in the Midwest and 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.



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