



# U.S. States and the Growth Implications of an Aging Population

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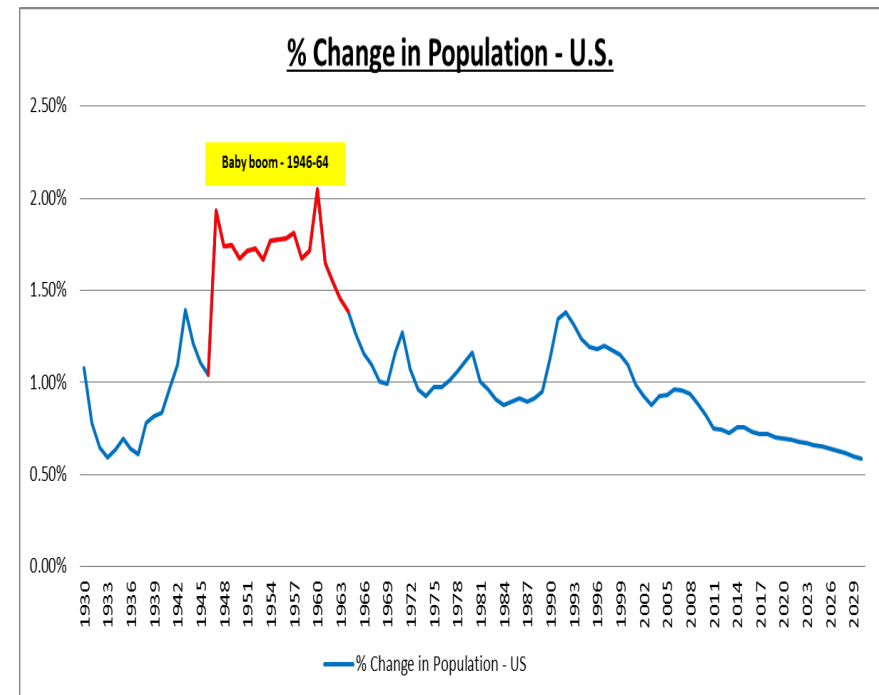
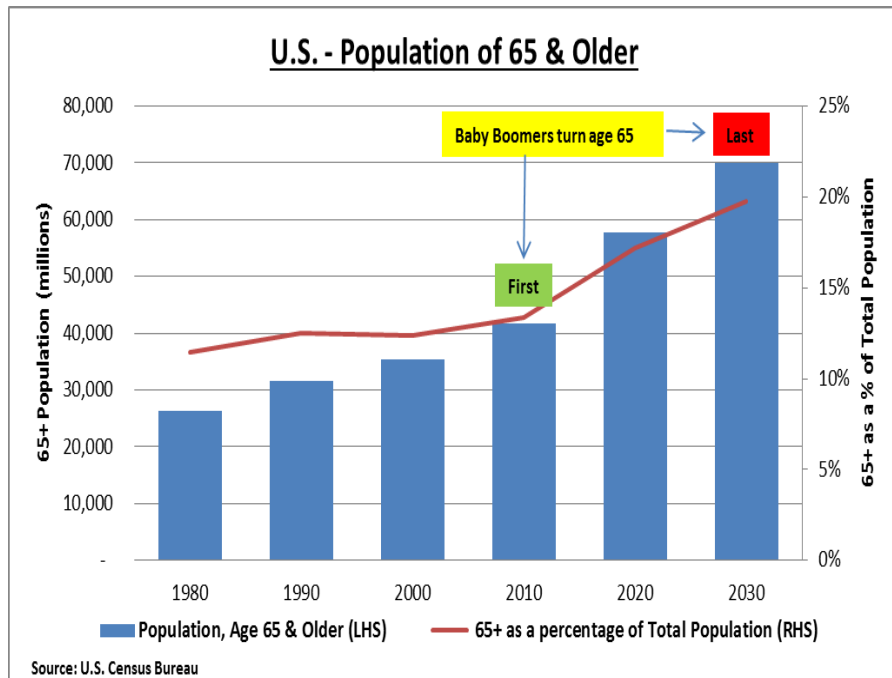
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**Fitch**Ratings

# Why Does Aging Matter?



- U.S. Transitions from 'Aging' to 'Super Aged' between 2010 and 2030.
  - Rising life expectancies
  - Lower birth rates
  - Aging of the baby boom generation



# Why Does Aging Matter?



- UN definition of aging societies:
  - Not Aging - percentage of the population aged 65 and older is **less than 7%**
  - Aging - percentage of the population aged 65 and older **is at least 7%**
  - Aged - percentage of the population aged 65 and older is **at least 14%**
  - Super Aged - percentage of the population aged 65 and older is **above 20%**
- An aging population ultimately affects the finances of state governments in two ways:
  - The working-age population shrinks as the population ages, constraining economic growth
  - Increased public expenditures related to healthcare and retirement costs

<b>U.S. States - Projected Transition from Aging to Super Aged – Summary</b>			
	2000	2016	2026
Not Aging (65 plus < 7%)	1 (AK)	0	0
Aging (65 plus > 7%)	41	6	1 (UT)
Aged (65 plus > 14%)	8	44	32
Super Aged (65 plus > 20%)	0	0	17

Source: Fitch Ratings, U.S. Census Bureau.

# Why Does Aging Matter?



## U.S. States — Projected Transition from Aging to Super Aged — Detail 2006–2026

(%) States	2006	2016	2026
Maine	14.7	19.4	24.0
Vermont	13.4	18.2	23.9
New Hampshire	12.4	17.1	22.9
West Virginia	15.5	18.9	22.8
Florida	16.6	19.8	22.4
Delaware	13.5	17.6	22.1
Montana	14.0	17.7	21.6
Michigan	12.7	16.3	21.2
Pennsylvania	15.1	17.5	21.1
New Mexico	12.5	16.4	20.9
Connecticut	13.6	16.4	20.8
Wisconsin	13.2	16.1	20.7
South Carolina	12.8	16.8	20.6
Hawaii	13.6	17.3	20.5
Ohio	13.4	16.3	20.5
Oregon	13.2	16.7	20.3
Rhode Island	13.9	16.5	20.3
South Dakota	14.2	15.9	20.0
Iowa	14.7	16.4	20.0
Arizona	13.0	16.8	19.9
Missouri	13.4	16.1	19.6
Massachusetts	13.3	15.8	19.5
Alabama	13.2	16.2	19.5
New Jersey	13.0	15.5	19.4
Minnesota	12.3	15.1	19.3
New York	13.1	15.6	19.3
Kentucky	12.8	15.6	19.2
North Carolina	12.3	15.5	19.1
Illinois	12.1	14.8	19.0
Arkansas	13.9	16.3	19.0
Tennessee	12.7	15.7	19.0
Mississippi	12.3	15.1	19.0
Wyoming	12.2	15.2	18.8
Louisiana	12.0	14.5	18.7
Kansas	13.0	15.1	18.7
Idaho	11.7	15.1	18.7
Indiana	12.5	15.0	18.6
Maryland	11.5	14.6	18.4
Nebraska	13.3	15.1	18.4
Washington	11.5	14.8	18.2
Virginia	11.5	14.7	18.2
Nevada	11.1	15.0	18.0
Oklahoma	13.2	15.1	17.7
California	10.8	13.6	17.2
Colorado	10.2	13.4	16.9
North Dakota	14.6	14.6	16.8
Georgia	9.9	13.2	16.5
Texas	10.0	12.0	14.9
Alaska	6.9	10.6	14.4
Utah	8.8	10.6	13.4
Average — All States	12.9	15.6	19.3
Median — All States	12.7	15.6	19.3

■ Not Aging. ■ Aging. ■ Aged. ■ Super aged.

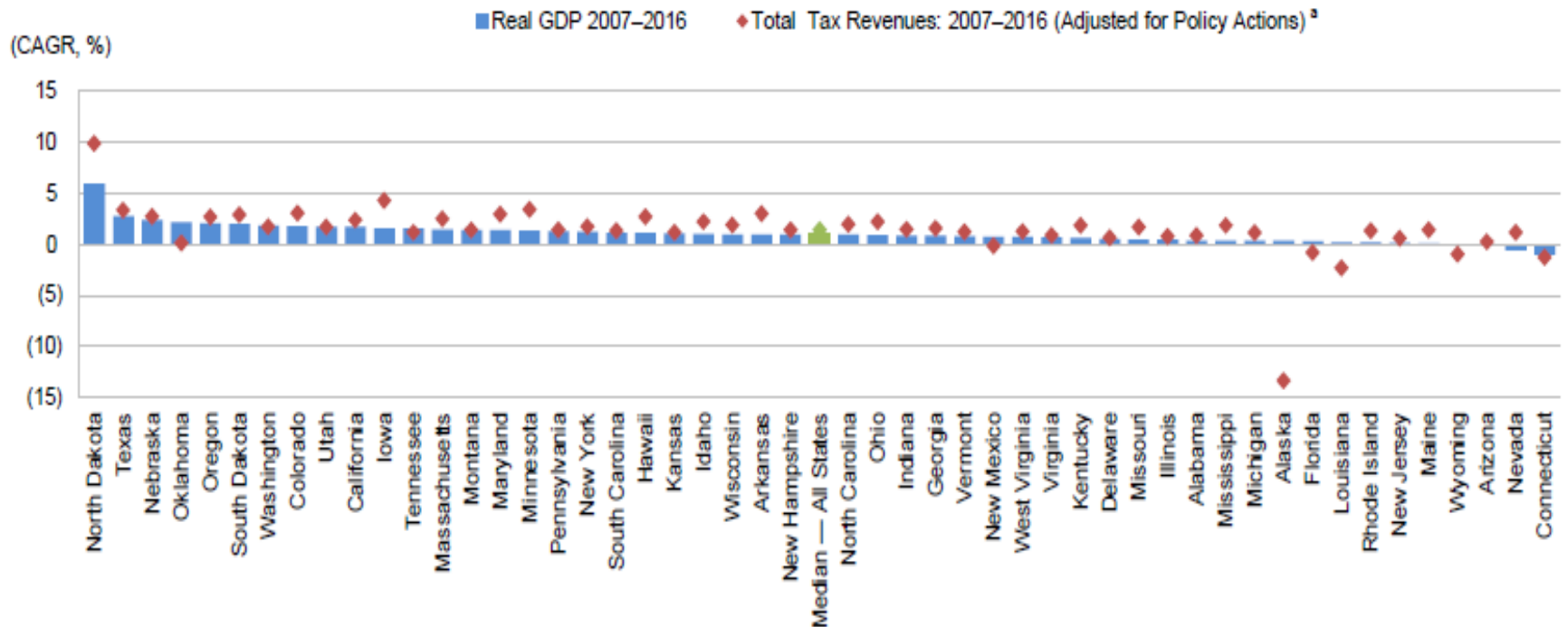
Source: U.S. Census Bureau, Fitch Ratings.

# Why Does Economic Growth Matter?

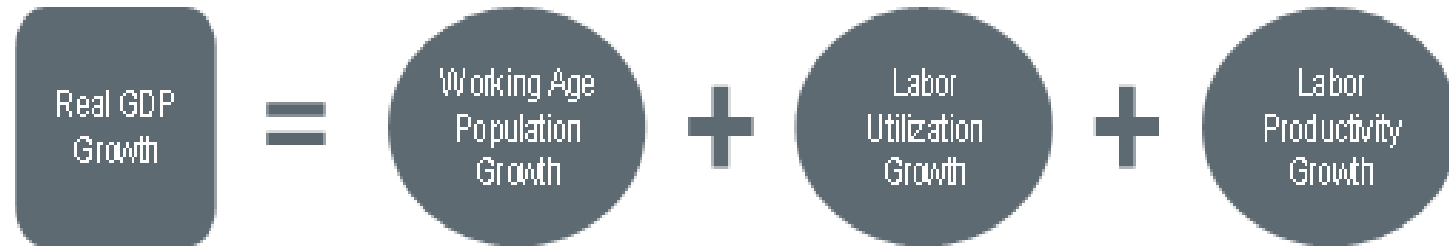


- Assessment of growth prospects for state revenues is driven largely by expectations for an issuer's economic performance
  - Positive relationship between state economic growth and tax revenues
  - Median 10 Year CAGR: GDP growth = 0.9%, Total tax revenues = 1.39%

## Real GDP Growth versus Total Tax Revenues — All States



<sup>a</sup>Adjusted for estimated changes in tax policy actions, as provided by the National Conference of State Legislatures (NCSL). Source: Fitch Ratings, U.S. Census Bureau, NCSL.



**Working Age Population Growth** - Number of population between age 15 to 65

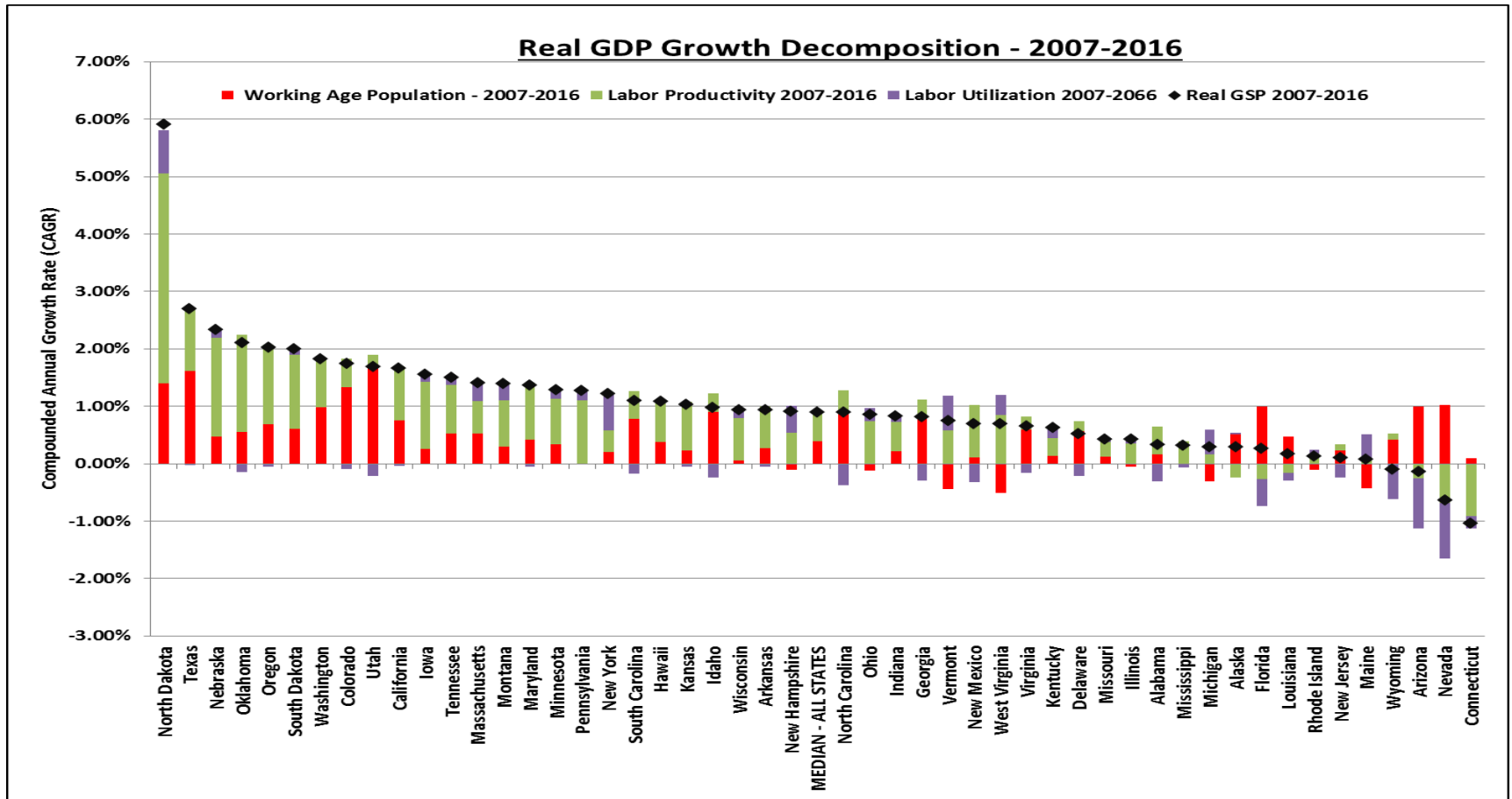
**Labor utilization** is measured in terms of total employment per total working age population

**Labor productivity** is measured in terms of output per total employment.

# Demographic Drivers of Economic Growth



- The decomposition approach is a starting point for more in-depth analysis of drivers of economic growth and the impact of demographics



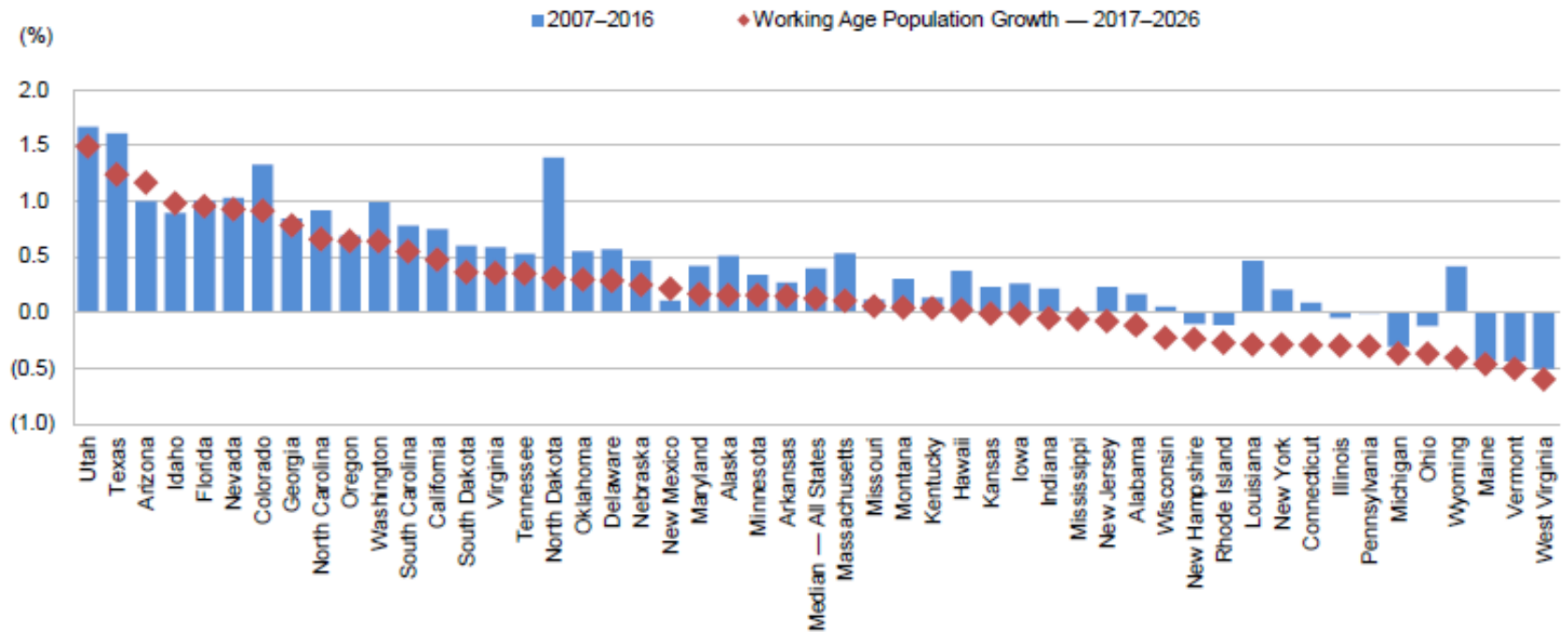
Source: Fitch Ratings, U.S. Census Bureau.

# Working Age Population Growth Trends



- Working age population is the primary demographic component underlying GDP growth in this framework

Working Age Population Growth – Historical and Projected (CAGR)

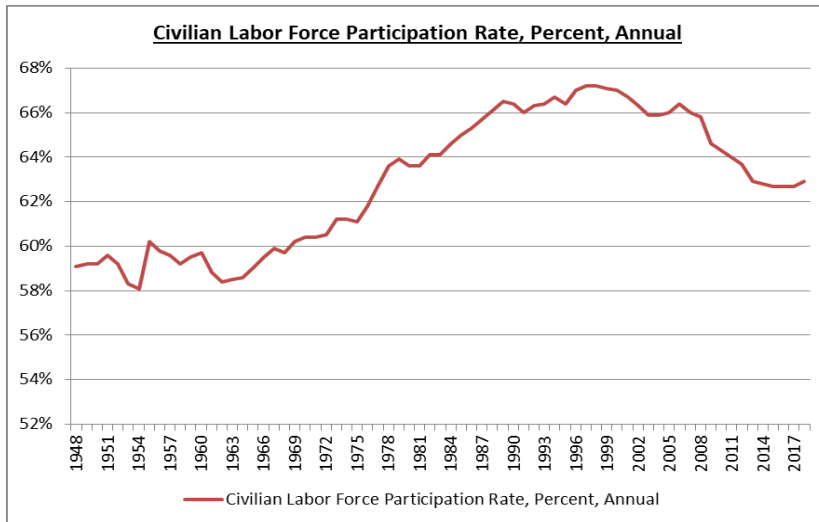




# Labor Utilization - Unlikely to Mitigate Decline in Working Age



- Growth in labor utilization was flat to negative for most states from 2007 to 2016
- Improvements to labor utilization could potentially mitigate the risks
- Requires sustained growth in labor participation and employment
  - All time peak was 66.7% in January 2000, 63.1% in December 2018
- Growing trend of delayed retirement is likely to support growth in labor utilization
- Likely offset by the decline in the participation of population between age 16 - 24
- Participation expected to decline over the next decade



**Civilian labor force participation rate, by age, 1996, 2006, 2016, and projected 2026 (%)**

Group	Participation rate			
	1996	2006	2016	2026
Total, 16 years and older	66.8	66.2	62.8	61.0
16 to 24	65.5	60.6	55.2	52.5
25 to 54	83.8	82.9	81.3	81.6
55 to 64	57.9	63.7	64.1	66.6
65 and older	12.1	15.4	19.3	21.8
Age of baby boomers	32 to 50	42 to 60	52 to 70	62 to 80

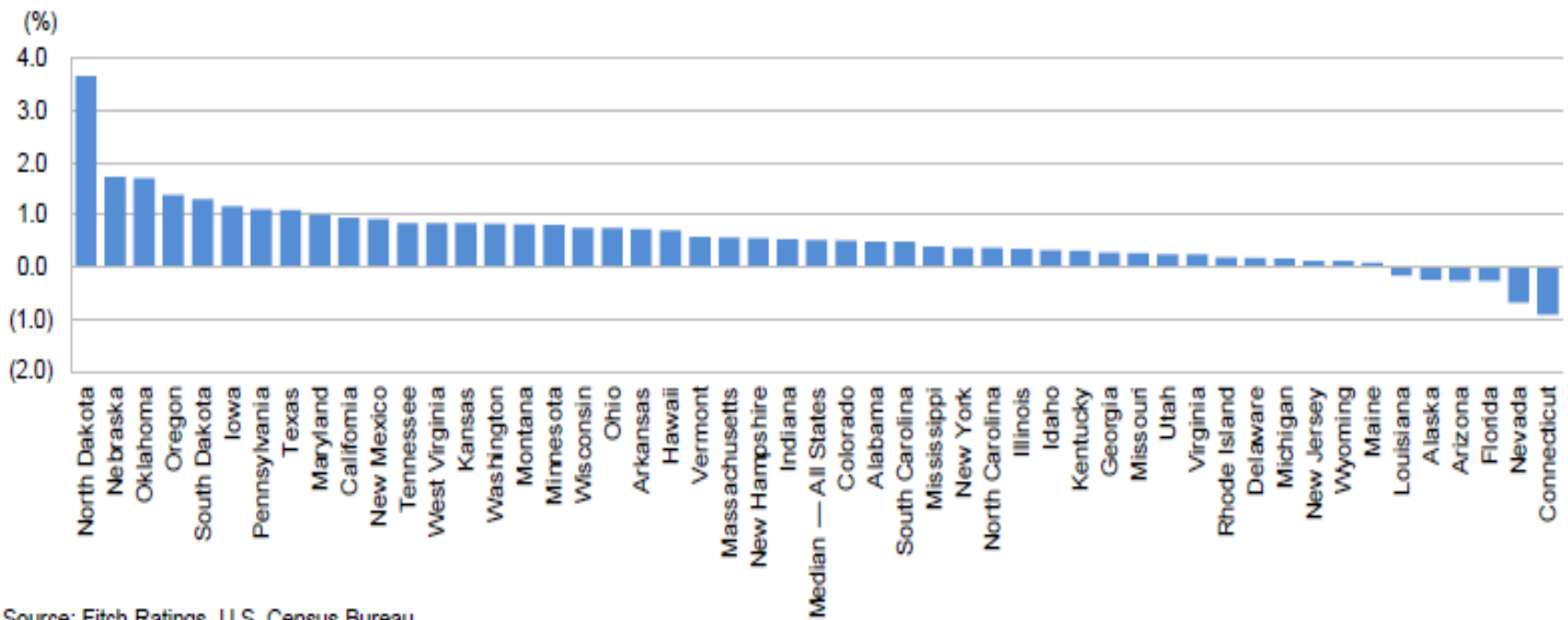
Source: Employment Projections program, U.S. Bureau of Labor Statistics

# Labor Productivity - Could Mitigate Decline in Working Age



- Economic growth prospects for many states with negative demographic trends will likely hinge on improvements to labor productivity
- The uncertainty related to advancing technology and changes in regulatory and fiscal policies clouds the outlook for labor productivity growth

**Labor Productivity Growth — CAGR**  
(2007–2016)



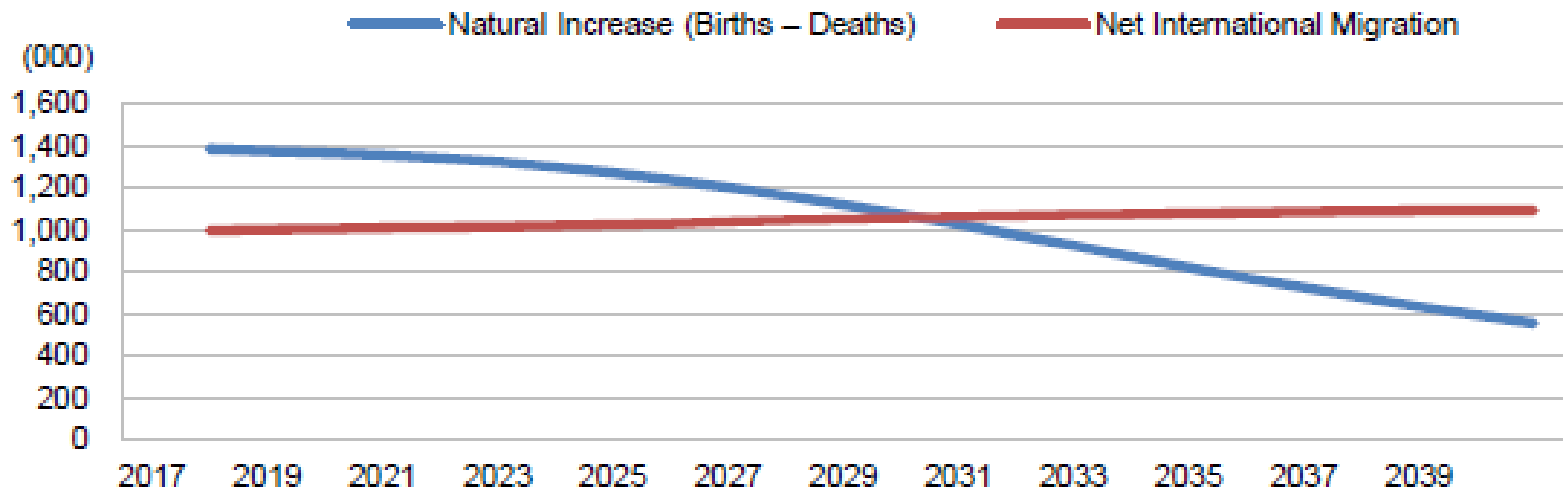
Source: Fitch Ratings, U.S. Census Bureau.

# Immigration May Prove to be the Wildcard



- Immigrants generally provide an immediate boost to the working age population
  - Immigrants tend to be relatively younger than the native population
  - 78% of the foreign-born population in the U.S. was of working age vs 59% of the native born population
- Beginning in 2030, net international migration is projected to be primary driver of population growth in the U.S. as the natural growth in population slows
- Net international migration should dampen the pace of transitioning to a super-aged nation

## Projected Increase in U.S. Population (Natural Increase vs. Immigration) (2017–2040)

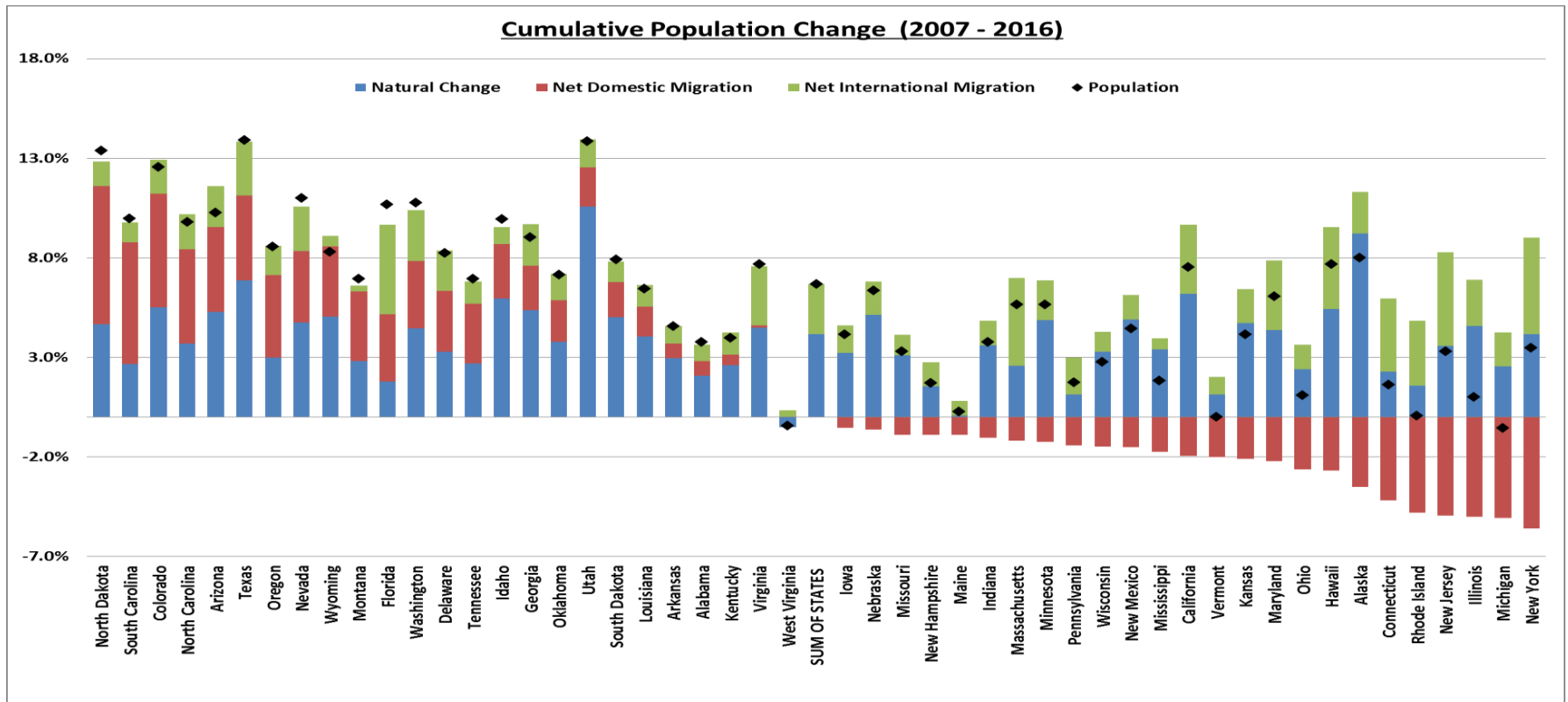


Source: Fitch Ratings, U.S. Census Bureau.

# Immigration May Prove to be the Wildcard



- Broad based population estimates provide some insight.
- The variation in migration levels, both domestic and international is notable for states
- International migration has offset domestic migration in many states
- A more restrictive national immigration policy will likely accelerate population and working age population declines in states like NY, NJ, IL, MA, RI, PA



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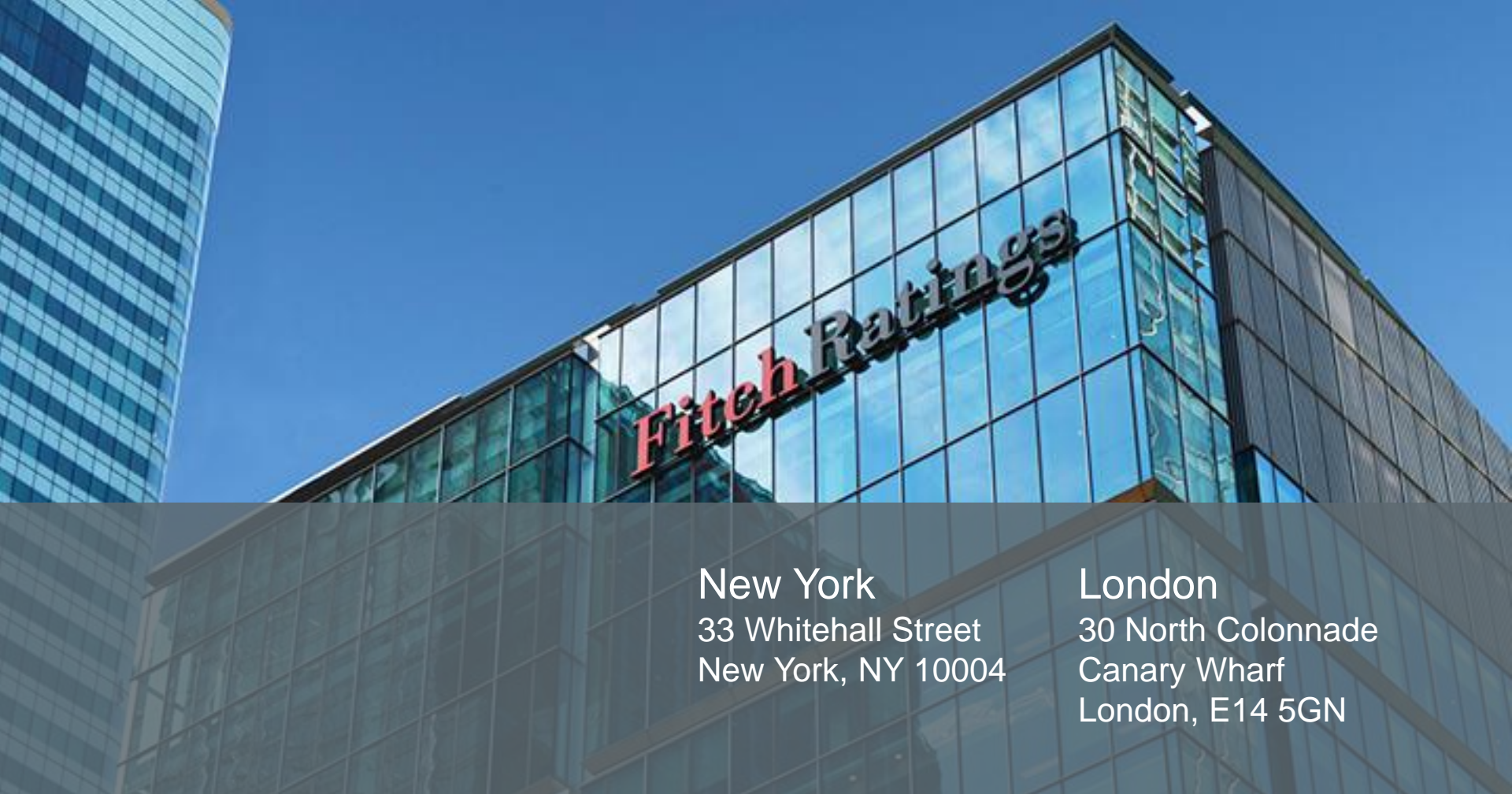
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