

# What Does Population Aging Mean for Growth and Investments?

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## Presentation Highlights

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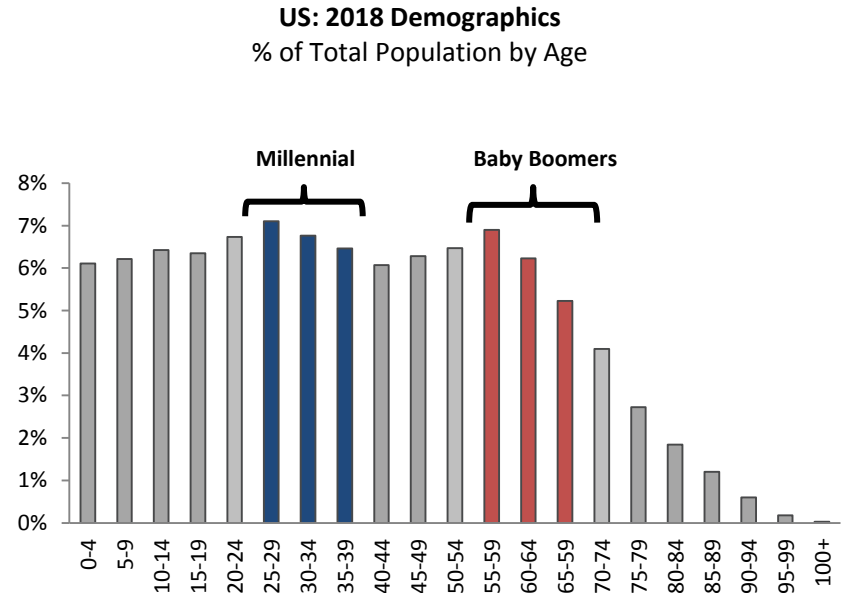
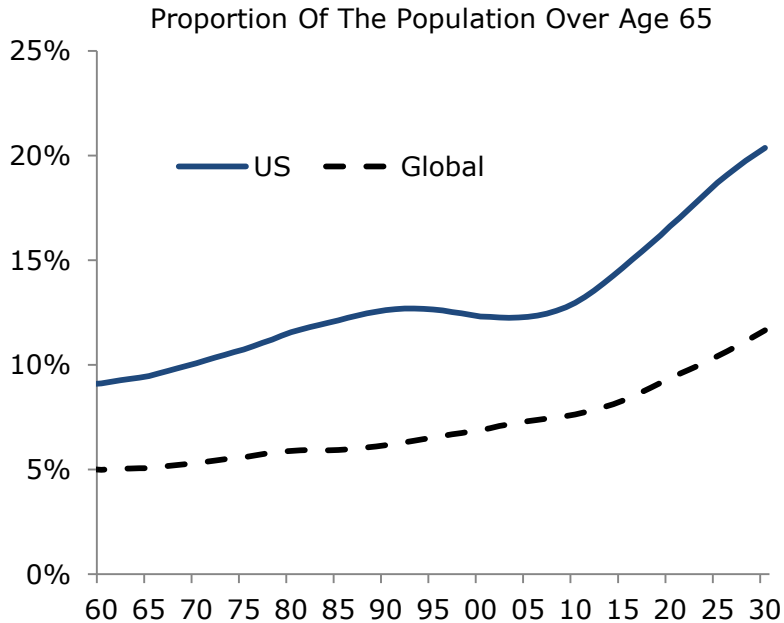
- Impact of population aging on growth and rates
- Growing importance of 65+, Millennial and Hispanic Cohorts
- Fragile state of the average Millennial consumer
- Select investment themes:
  1. Healthcare
  2. Food
  3. Rentership
  4. Auto sector disruption
  5. E-commerce
  6. Infrastructure

# Aging of the Population

# We Are In the Midst of Significant Demographic Shifts

65+ Proportion of the Population Reaching New Peaks

Millennials And Baby Boomers will Remain The Two Largest Demographic Cohorts

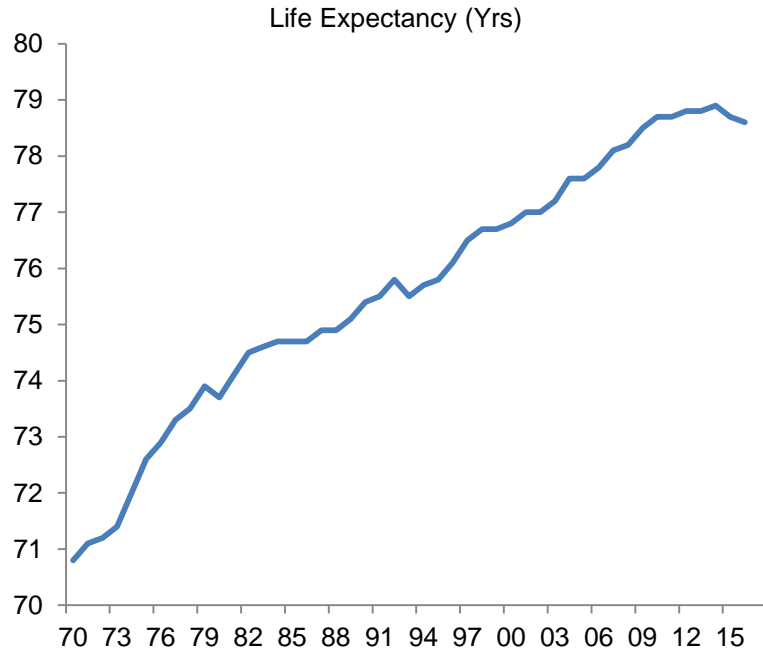


Data as at December 31, 2017. Source: US Census, CDC.

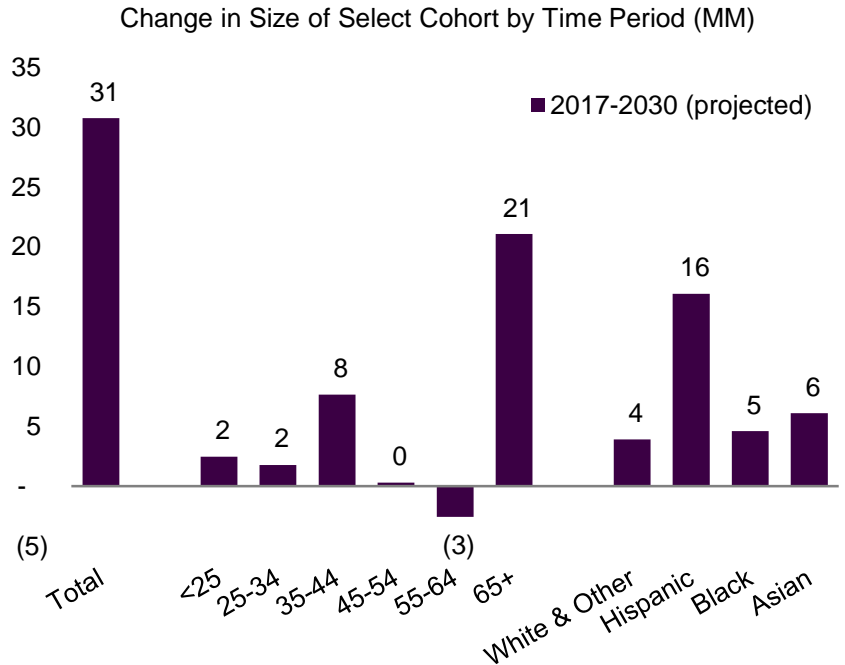
Data as at December 31, 2017. Source: US Census, Morgan Stanley, KKR GMAA Estimates.

# We Are Living Longer And Becoming More Diverse

## We Are Living Longer



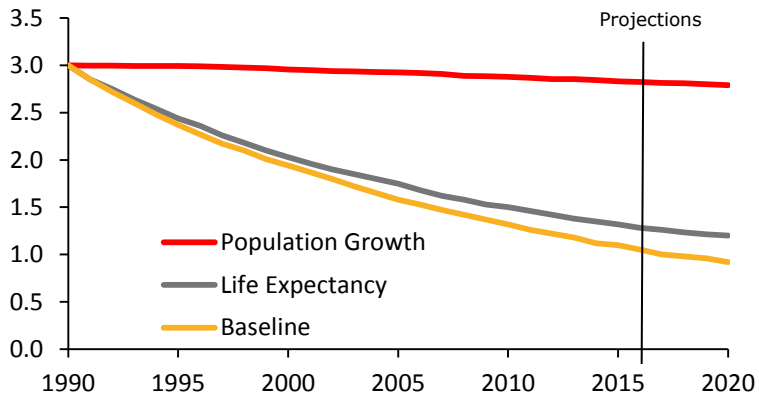
## 65+, Hispanic and Millennial Populations Will Grow Disproportionately



# The Result Will Likely Be a Net Negative Effect on the Natural Rate of Interest And Economic Growth, All Else Being Equal

Increased Life Expectancy May Depress Rates, All Else Being Equal

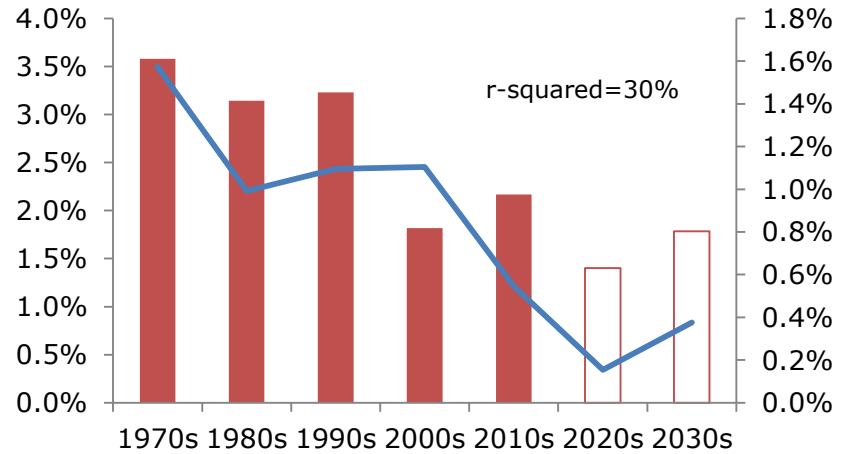
Changing Demographics and R-star in the United States, %



Note: The above depicts three scenarios of the impact of demographics on the neutral rate: The yellow line depicts the total decline in the neutral rate from 3% in 1990 to 1% by 2016. The purple line corresponds to the impact driven only by the decline in population growth from 1% in 1990 to 0.3% in 2100. The blue line corresponds to what the neutral rate would be if we accounted only for the increase in life expectancy from 75 to 91 years over that period, while holding population growth constant. Data as at March 2016. Source: Carlos Carvalho, Andrea Ferrero, and Fernanda Nechio, "Demographics and Real Interest Rates: Inspecting the Mechanism," Federal Reserve Bank of San Francisco.

Holding Productivity Constant, Demographics Alone Will Pressure GDP Growth To Slow Over The Next Decade

US Real GDP Vs Working Age Pop Growth, %

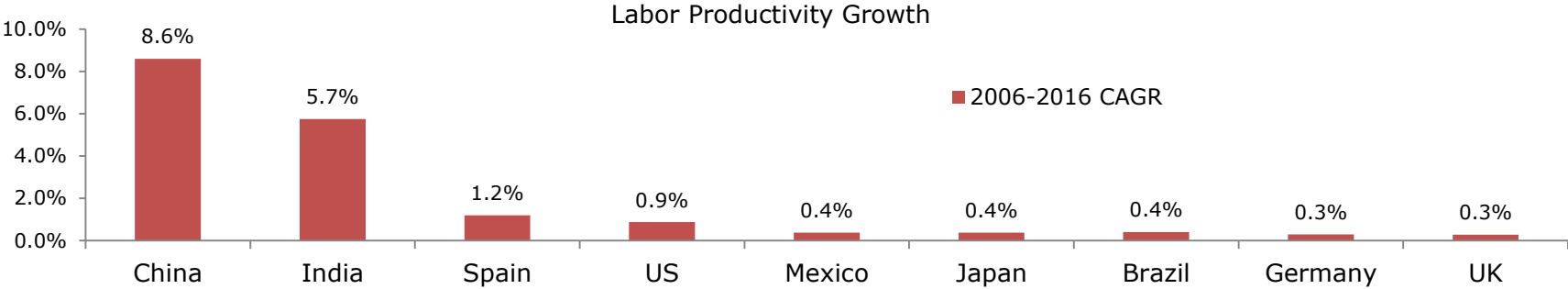


Real GDP, Estimated (LHS)  
 Real GDP, Actual (LHS)  
 Working Age Population (RHS)

Data as at March 30, 2018. Source: United Nations, Haver Analytics.

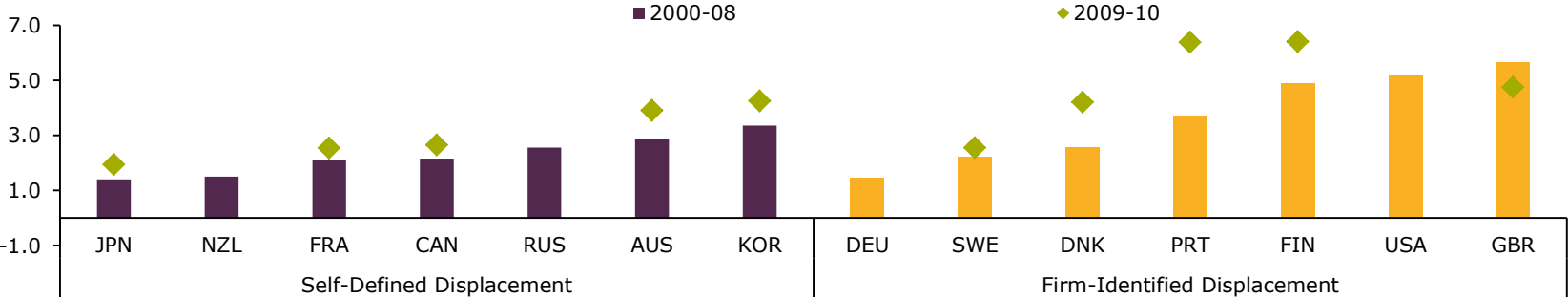
# Technological Innovation Can Improve Productivity, But May Also Increase Worker Displacement

## Productivity Increases Can Mitigate Some of the Decline In Labor Force Growth



## Worker Displacement Is High in the U.S. and U.K.

Percentage of Employees Aged 20-64 Who Are Displaced From One Year to the Next, Averages, 2000-10





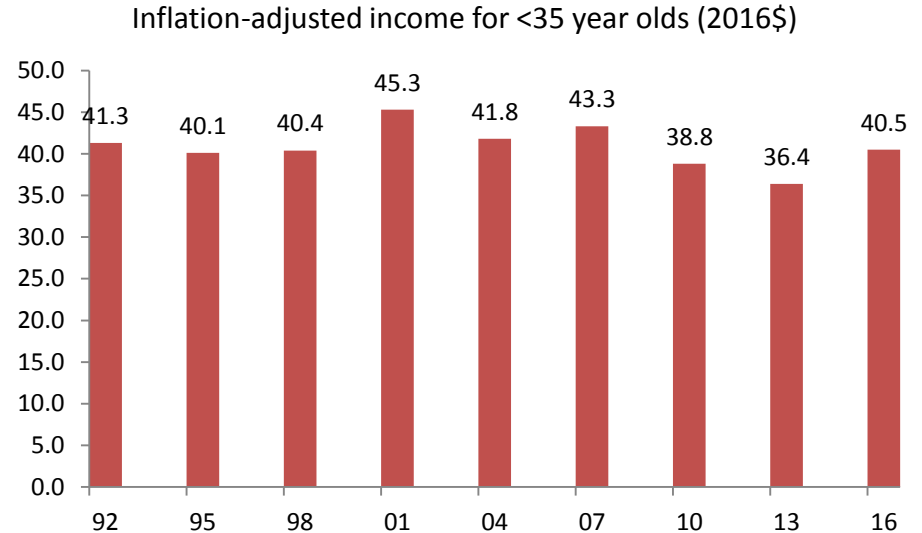
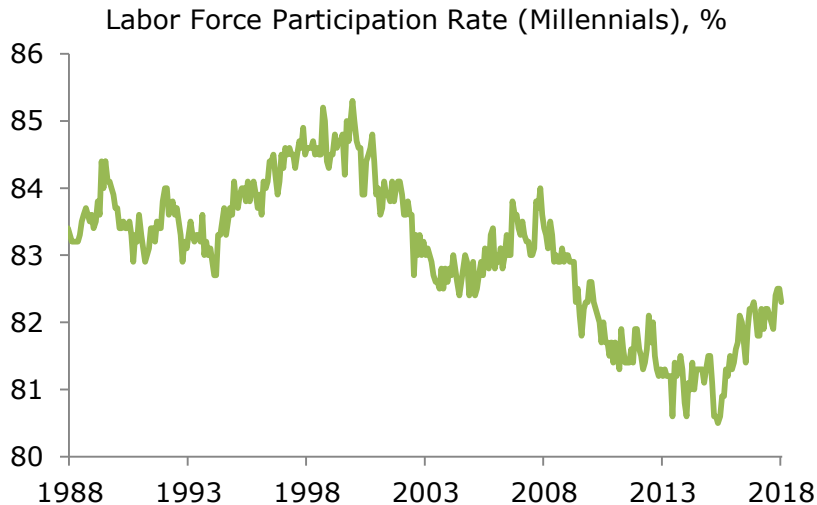
## Profile of Average Millennial Consumer

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# Millennials Are Underemployed and Under-earning

Despite recent improvements, the LFP among millennial households remains below long-term averages

Millennial households earn less than their counterparts did ten years ago



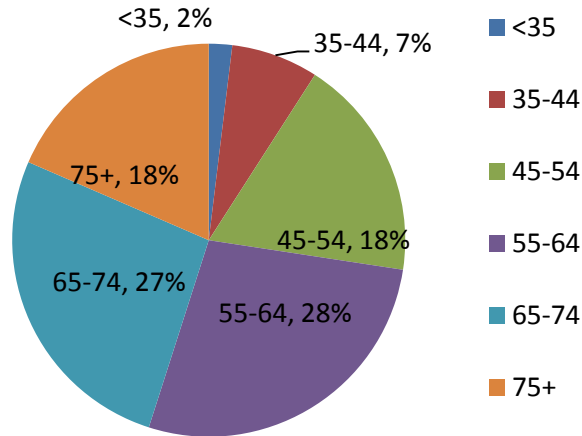
Data as at December 3, 2016. Source: Federal Reserve Board.

Data as at December 31, 2016. Source: Bureau of Labor Statistics.

# Baby Boomers Still Hold The Bulk Of US Household Wealth

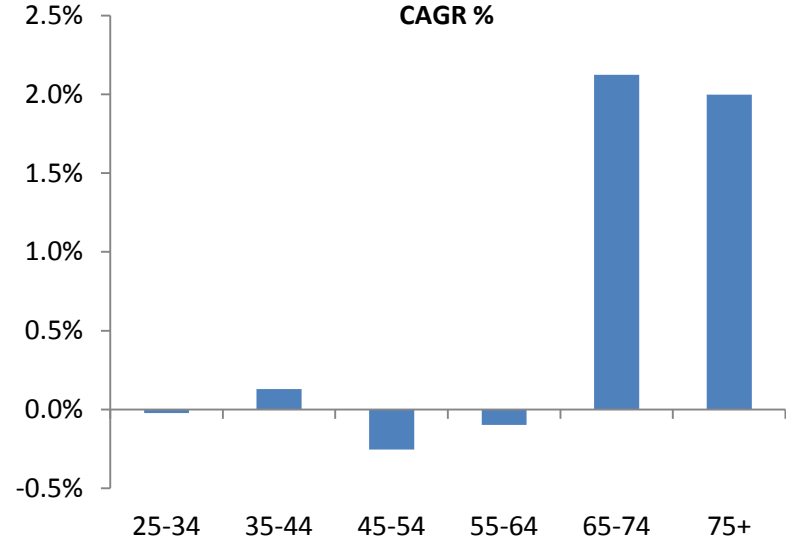
The Bulk Of Household Wealth Is Held By Older Cohorts

Total Household Net Worth By Age Cohort, 2013



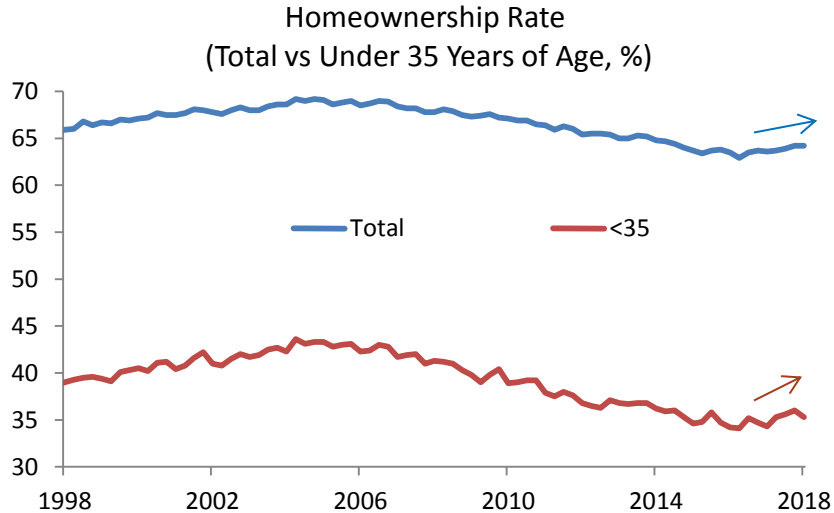
The 65+ Population Has Experienced Higher Income Growth Relative To Other Age Cohorts

Median Inflation-Adjusted Household Income, 10YR



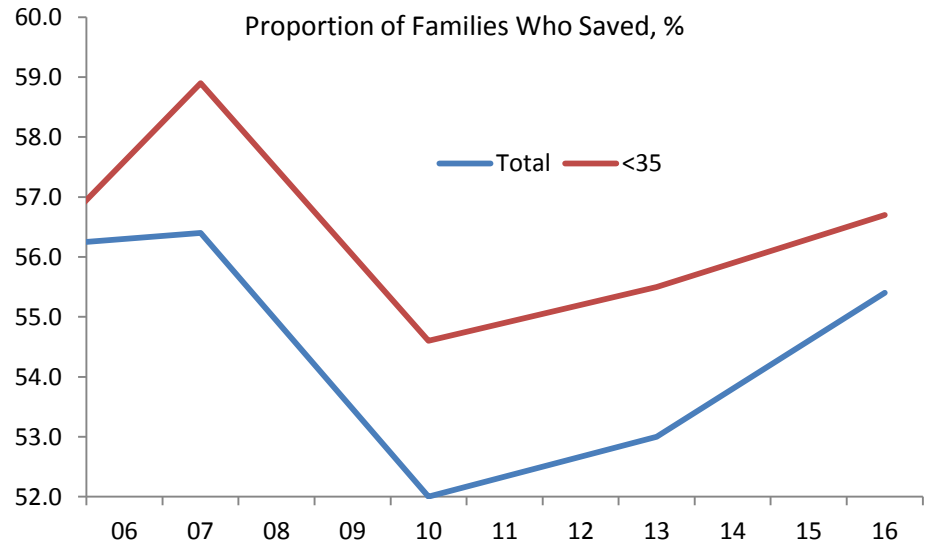
# Lower Homeownership and Savings Prevalence Among Millennials

Homeownership Rates Appear to Have Bottomed But Remain Below Long-Term Averages



Data as at December 3, 2016. Source: Federal Reserve Board.

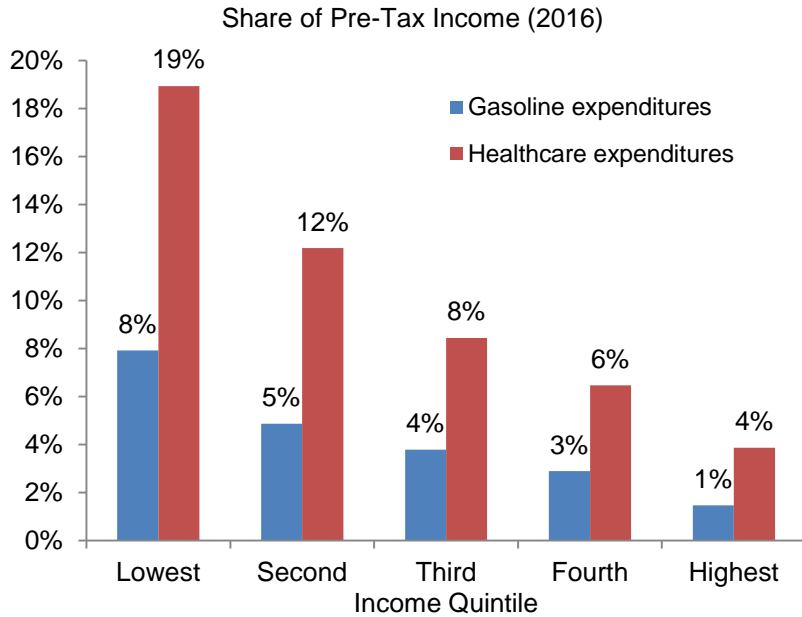
A Lower Proportion of Millennial Households Are Saving



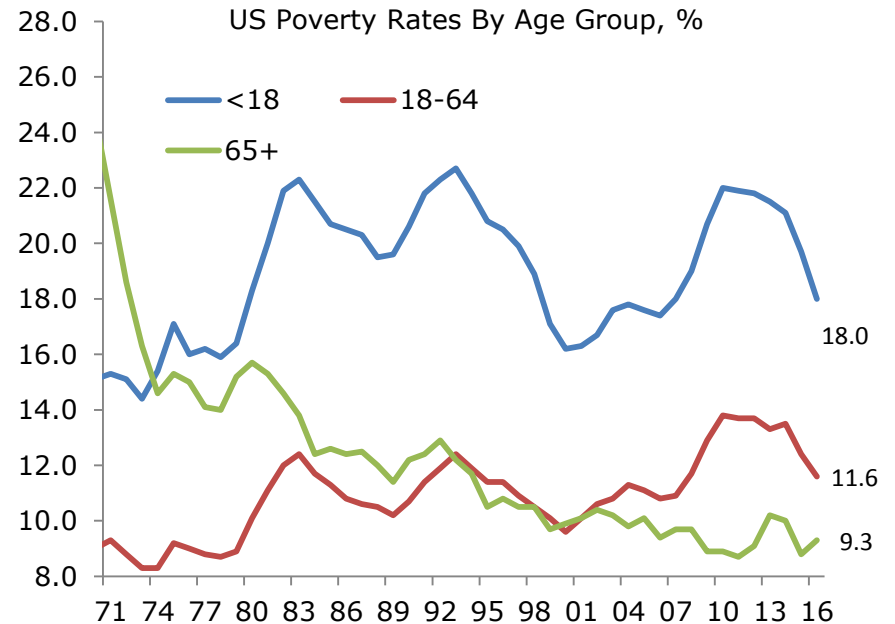
Data as at December 31, 2016. Source: Bureau of Labor Statistics.

# Healthcare and Energy Inflation Are Among The Pressures On Lower And Middle Income Households

Healthcare and Gas Spending Represent a Significant Proportion of Lower and Middle Income Household Income



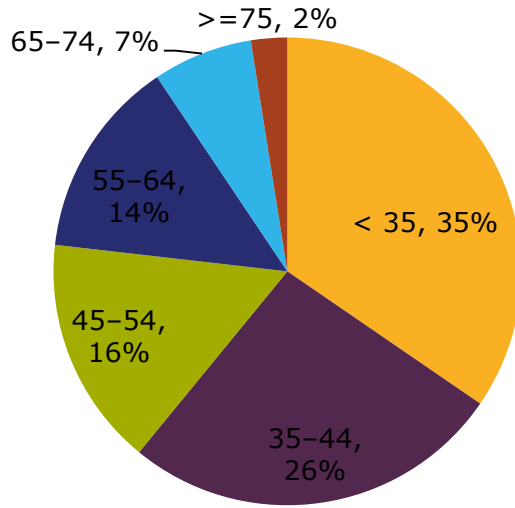
Elevated Poverty Rates For The Working Age Population



# Millennials and Those Without a Higher Degree Face Higher Default Risk

21-34 Year Olds Make Up the Greatest Share of US Consumer Default Risk

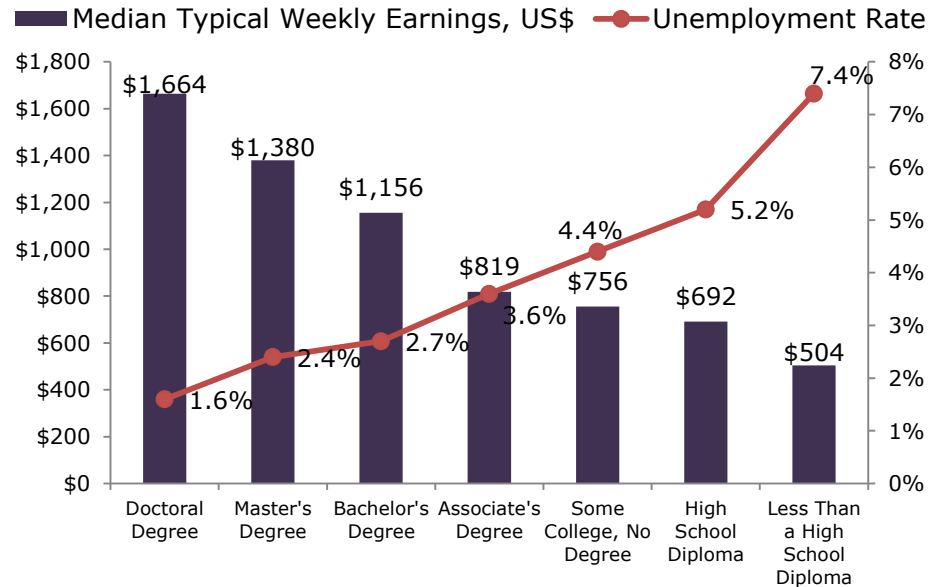
Estimated Proportion of Total Consumer Debt ex-Mortgages by Age



Data as at December 3, 2016. Source: Federal Reserve Board.

The Unemployment Rate and Education Levels Go Hand-in-Hand

2016 Unemployment Rate and Earnings by Educational Attainment



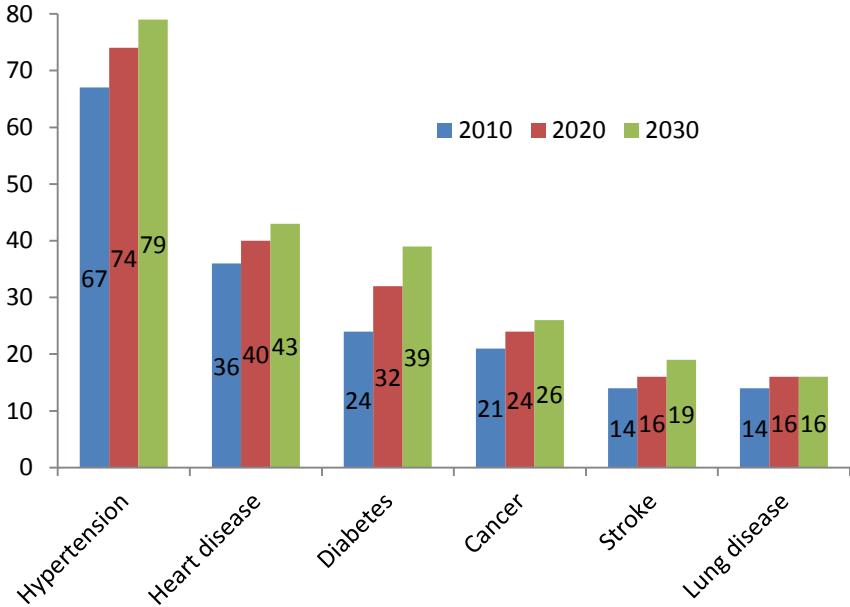
Data as at December 31, 2016. Source: Bureau of Labor Statistics.

## Implications for Investing

# #1) Increased Life Expectancy Will Likely Lead to Higher Healthcare and Social Security Costs That Will Strain Government Budgets

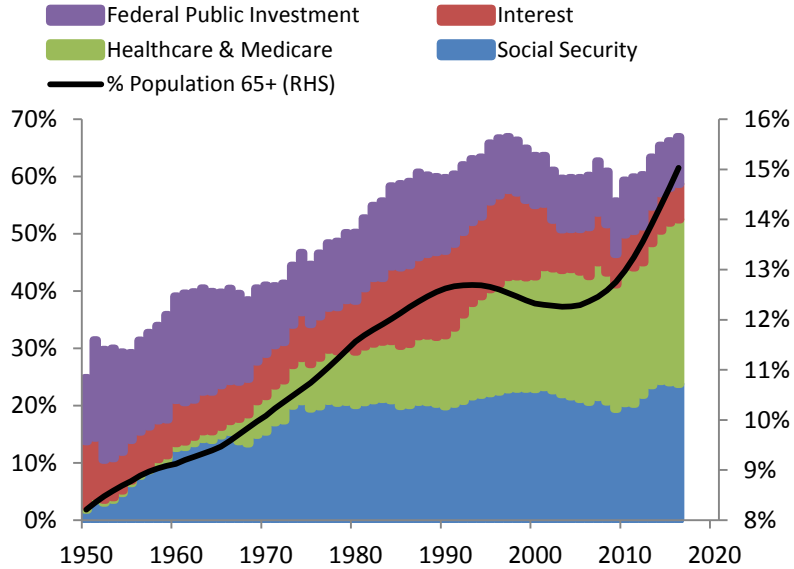
The Prevalence of Chronic Disease Is Increasing

Proportion of 65+ Population with Chronic Disease, %



The Expected Increase in the Dependency Ratio Will Likely Lead to Increased Healthcare and Social Security Costs

US Total Government Expenditure, %

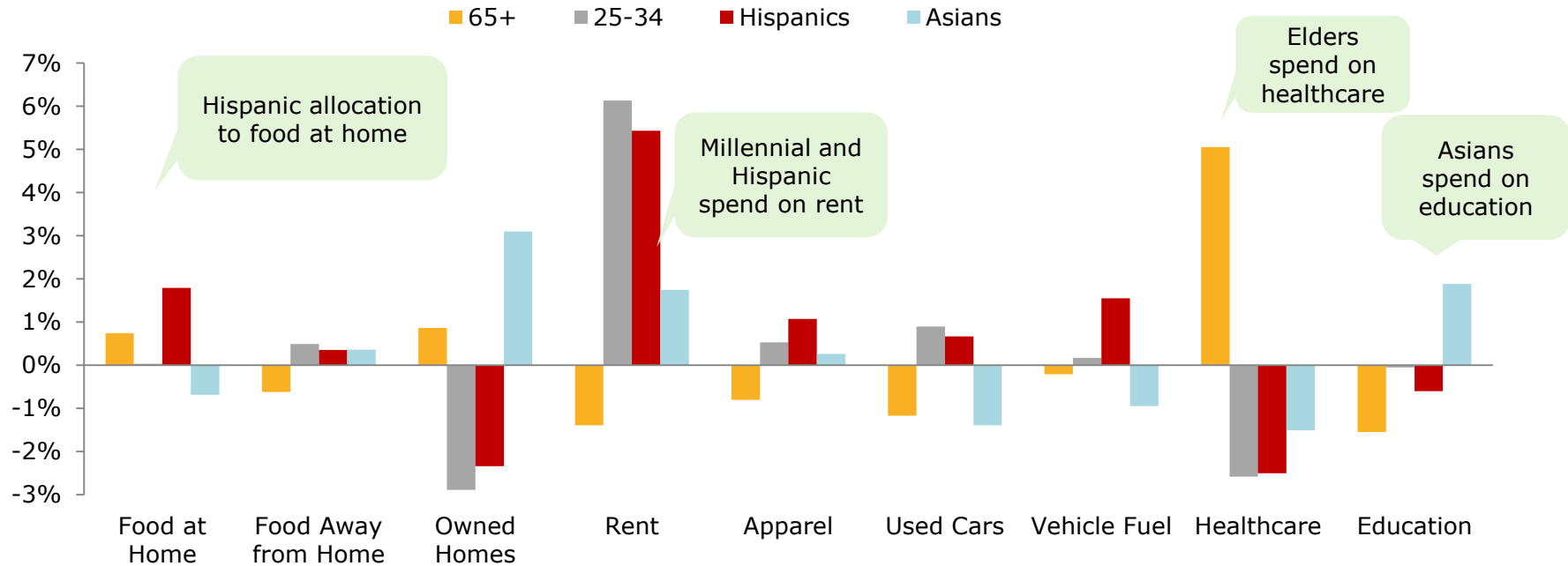




## #2) Spending on Food and Rental Properties Is Also Likely to Increase

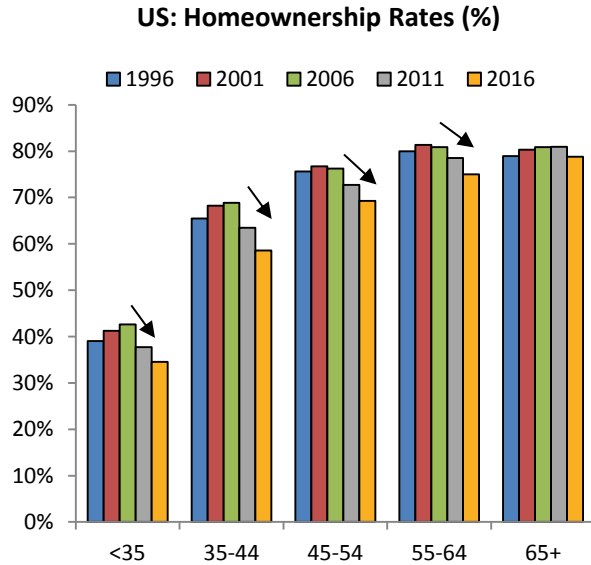
Asians Spend More On Education, Elders Spend More On Healthcare, While Hispanics & Millennials Spend On Rent

US Consumer Wallet Allocation vs Benchmark (2016)

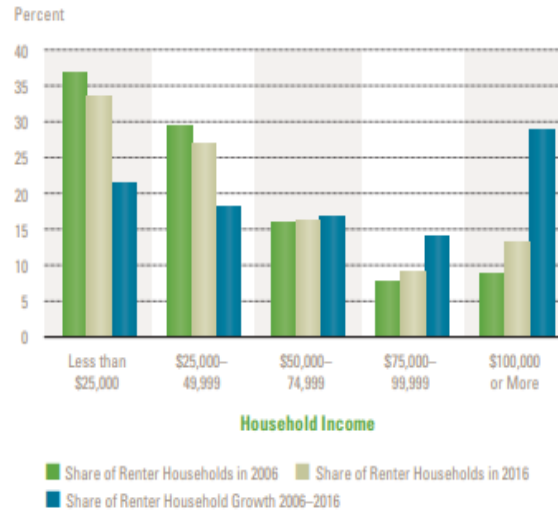


# #3) Higher Rentership Prevalence Is Likely Here to Stay

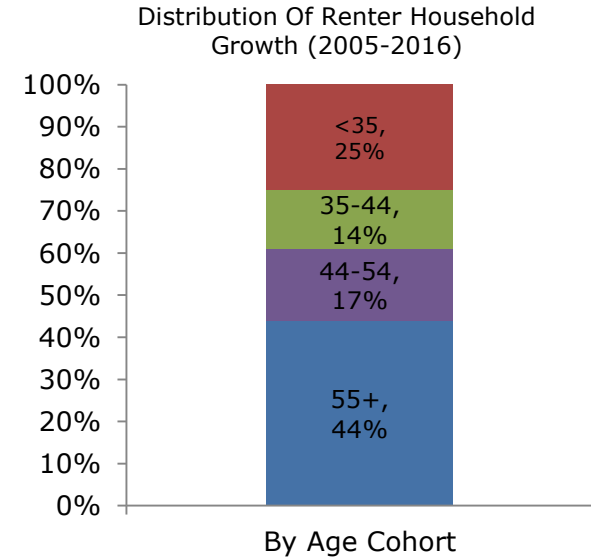
## Decline In Homeownership Rates Across Age Categories



## Surge in High Income Renters



## Surge in Senior Renters

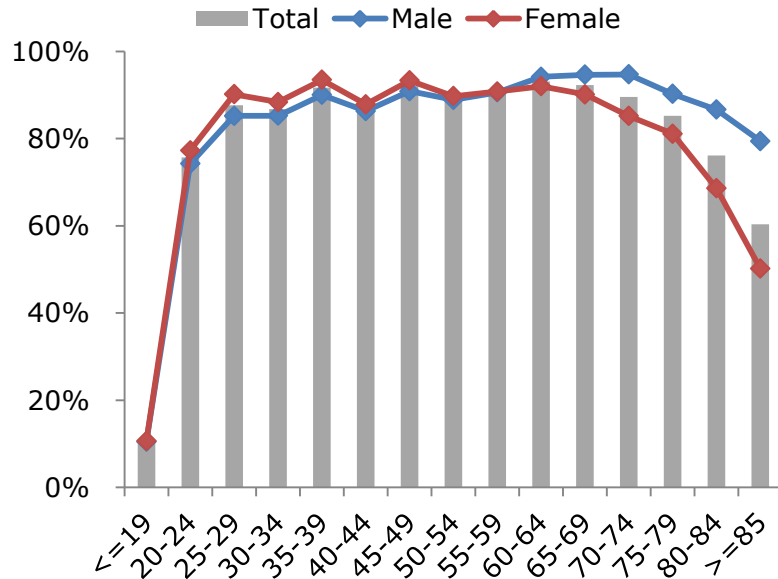


# #4) Further, The Sharing Economy Will Continue To Disrupt Sectors, E.g., Autos

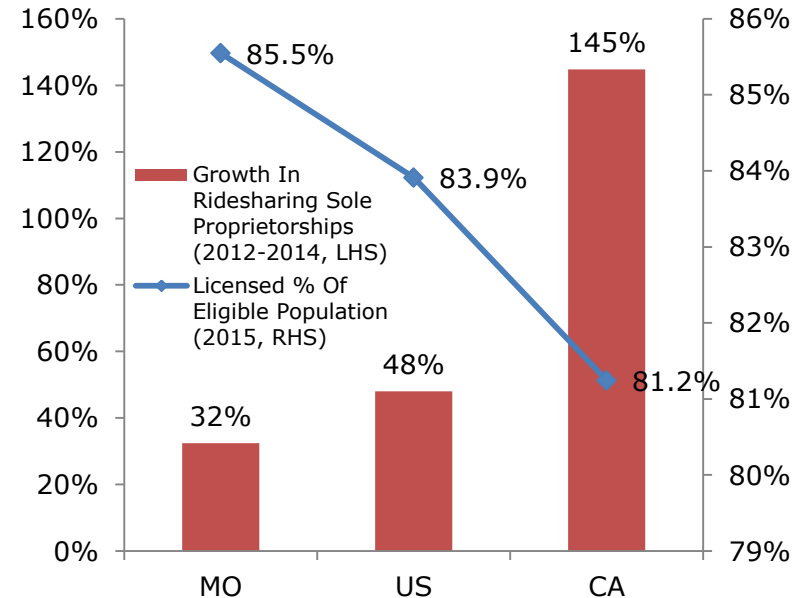
Driver Penetration Falls With Age; Gender Gap In Drivers Begin To Widen Once Retirement Hits

Increased Ridesharing Penetration May Lead To Even Lower Proportions Of Licensed Drivers

US Drivers as % of Population By Age (2015)

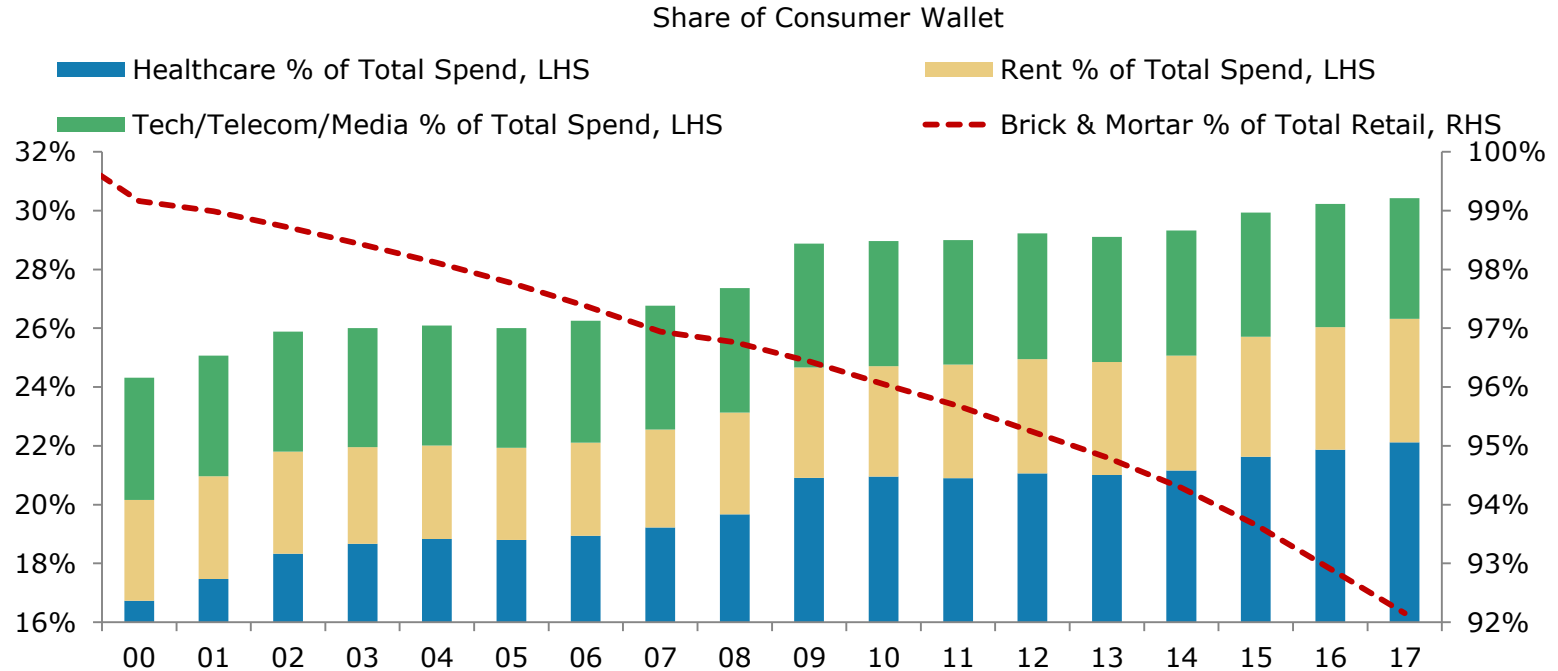


Licensed Driver % Vs Ridesharing Growth



## #5) There Has Also Been A Shift in Consumer Spending via E-commerce

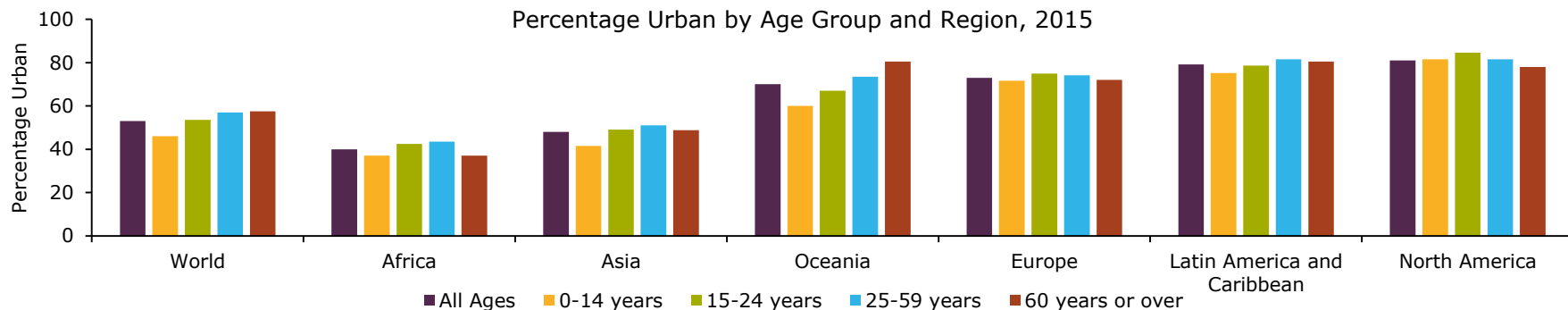
Disposable Income Available For Traditional Things is Waning At a Time of Significant Change in Consumer Spending



Data as at December 31, 2017. Source: Bureau of Economic Analysis, KKR GMAA analysis.

## #6) Finally, Rapid Urbanization and Aging Assets Are Driving Increased Demand for Infrastructure Investment

We Expect Urbanization to Continue With 66% of the Population In Urban Areas By 2050, from 47% in 2000



\$3.7 Trillion Annual Infrastructure Investment Needed To Keep Pace With Projected GDP Growth

### The Network Infrastructure Necessary to Support Global Economies Projected GDP Growth, 2017-2035

	Average Annual Need, 2017-2035, USD Trillions	Annual Spending as a % of GDP	Aggregate Spending, 2017-35, USD Trillions
Ports	0.1	0.1	1.6
Airports	0.1	0.1	2.1
Rail	0.4	0.4	7.9
Water	0.5	0.5	9.1
Telecom	0.5	0.6	10.4
Roads	0.9	1.0	18.0
Power	1.1	1.3	20.2
<b>Total</b>	<b>3.7</b>	<b>4.1</b>	<b>69.4</b>

Data as at December 31, 2017. Source: McKinsey, Census Bureau, KKR GMAA analysis.

## Q&A and Discussion

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## Key Themes Discussed

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- Impact of population aging on growth and rates
- Growing importance of 65+, Millennial and Hispanic Cohorts
- Fragile state of the average Millennial consumer
- Select investment themes:
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