

First American

The State of the Housing Market:

Macroeconomics, Growing Demand, A Nation of Homebodies and Builder Woes



January, 2020



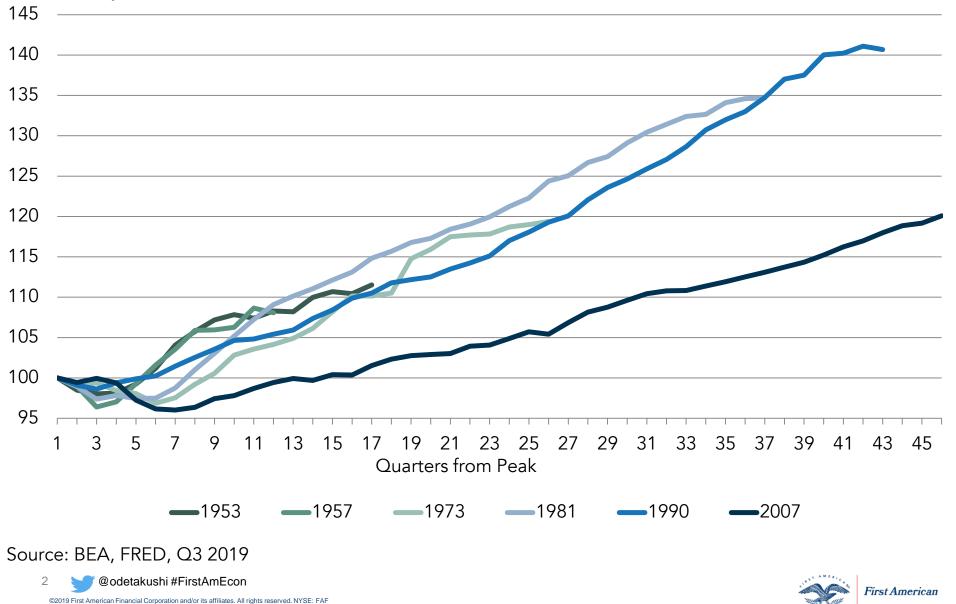
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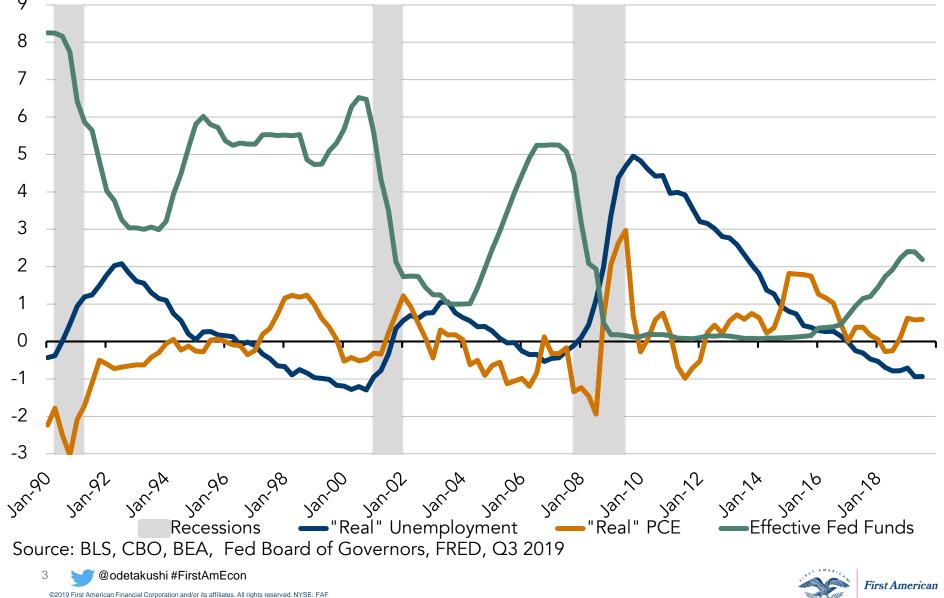
Measuring the Business Cycle- Recession, Expansion and Duration

Real Quarterly GDP (SA, %, Recession Peak = 100)



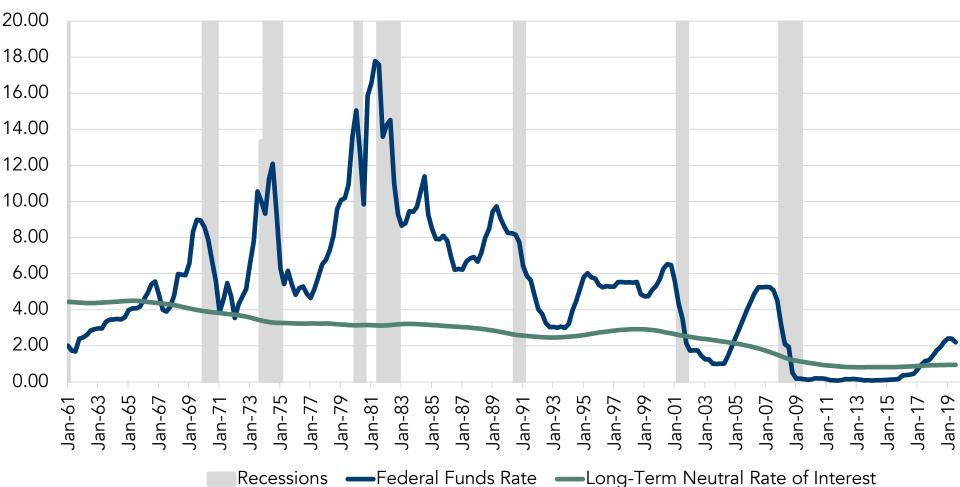
Fed Monetary Policy- Too Hot, Too Cold or Just Right





Not Too Hot, Not Too Cold

Federal Funds Rate, Long-Term Netural Rate of Interest, %



Source: Federal Reserve Bank of New York, FRED, Q3 2019



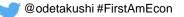


Risking the Upside Down

10-Year Constant Maturity Minus 2-Year Constant Maturity Yields (%, NSA)



Source: Federal Reserve, FRED, November 2019

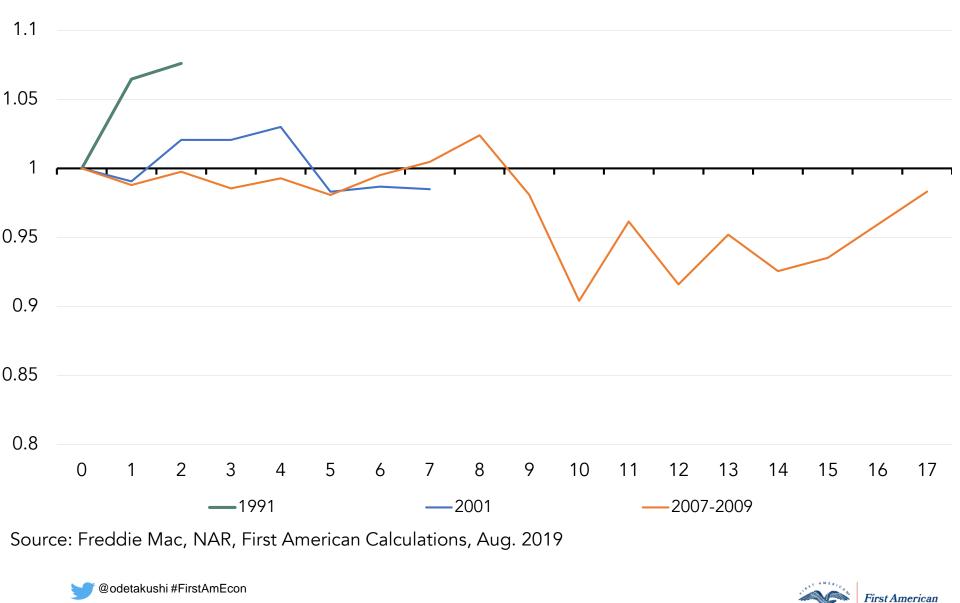




Existing-Home Sales During Recessions

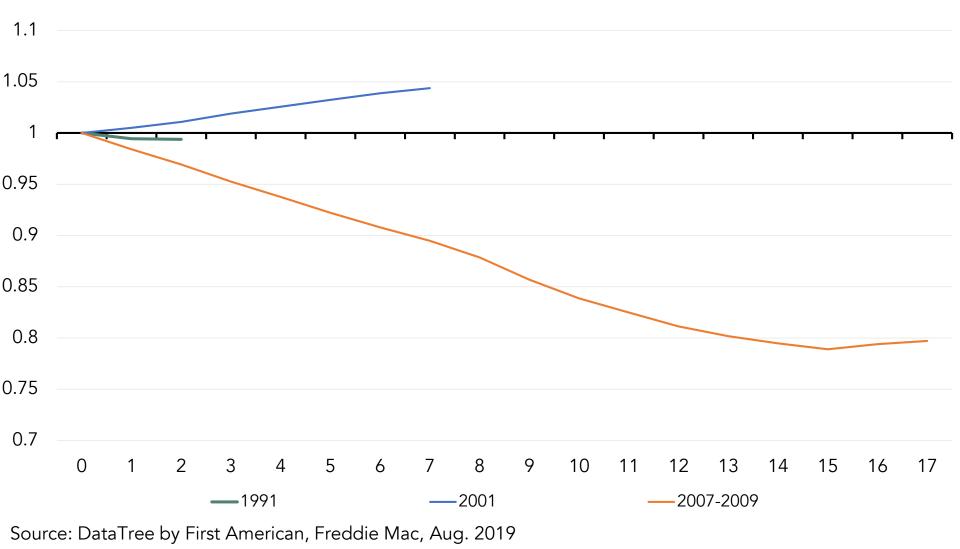
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Monthly Change in EHS (%, Index=1 in Beginning Period of Recession)



House Prices During Recessions

Monthly Change in HPI (%, Index=1 in Beginning Period of Recession)

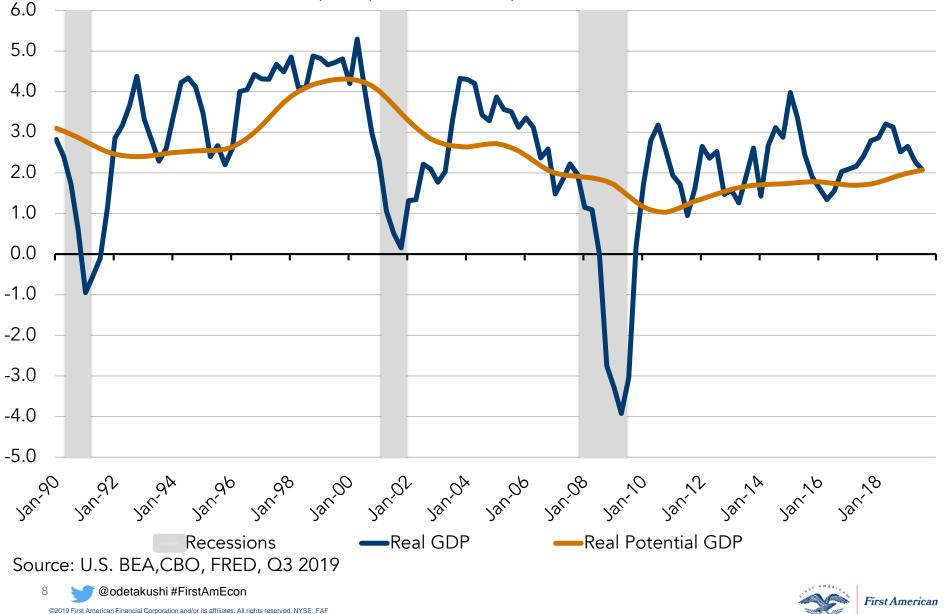






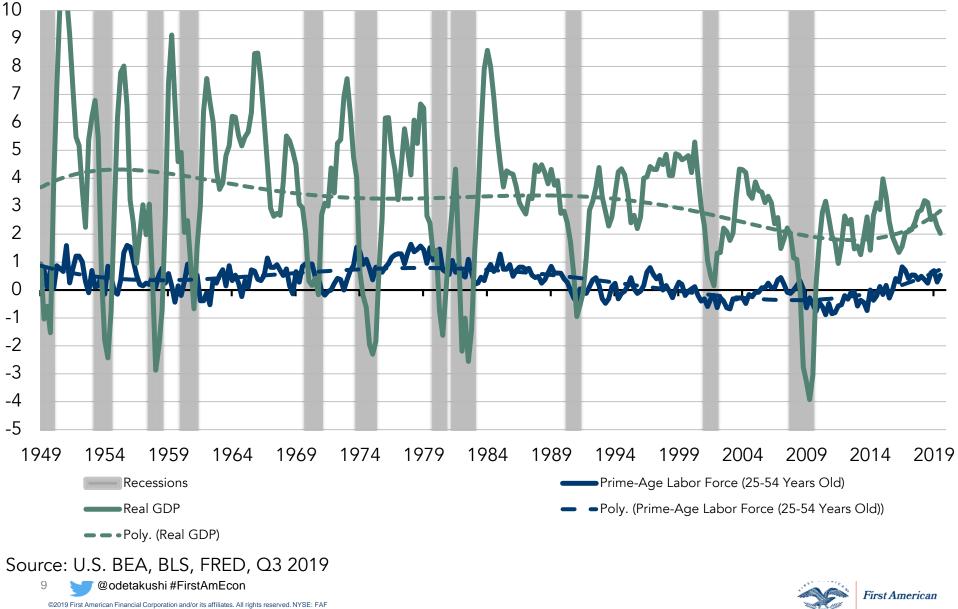
Not too Cold, Not too Hot, Just Right GDP Growth

Real & Potential GDP Year-Over-Year (SAAR, Chained 2009 \$)



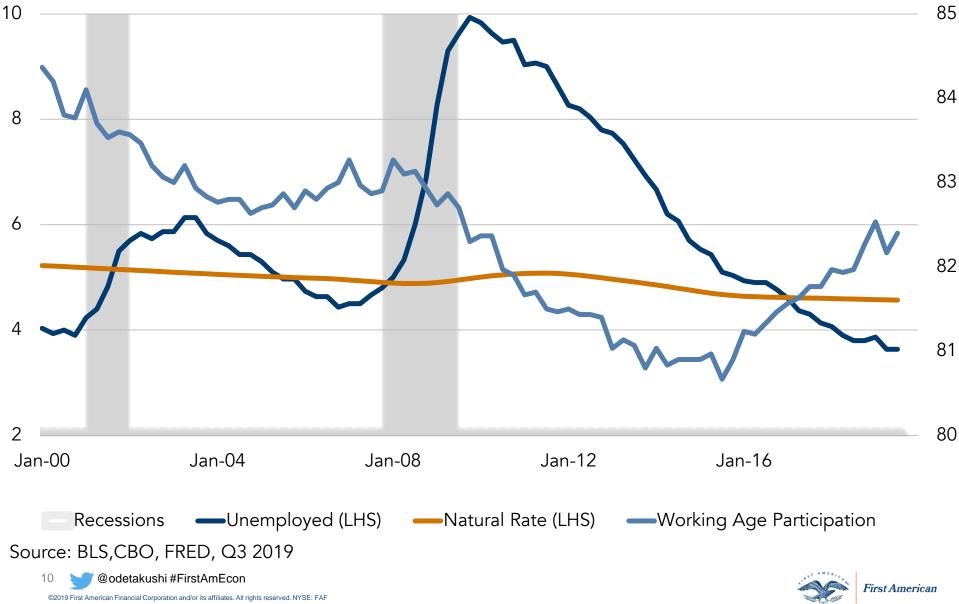
Labor Force Expansion Drives Economic Growth

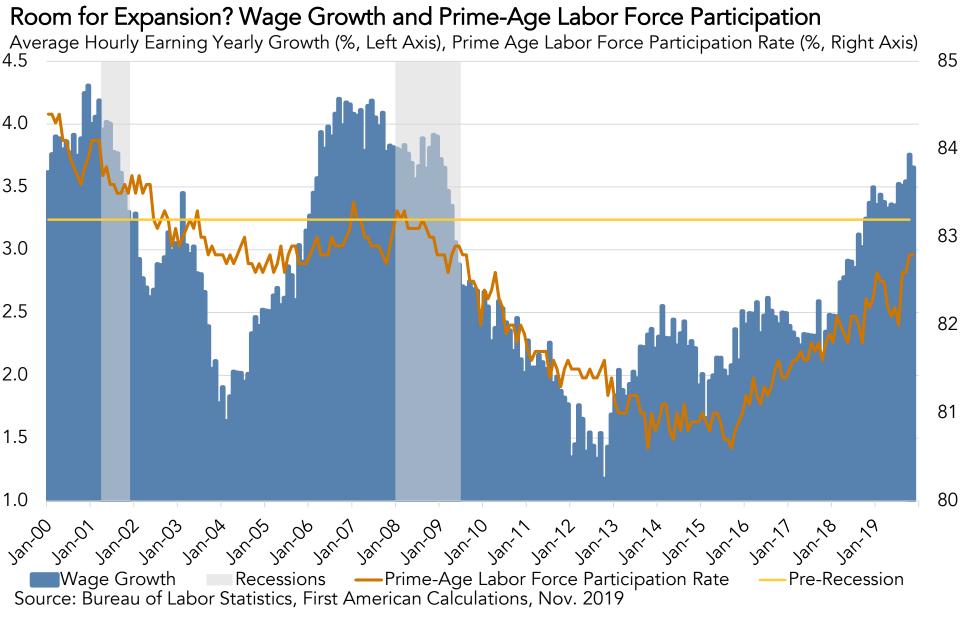
Percent Change from a Year Ago (SA)



Labor Force – Underemployed, Educating or Aging?

Unemployment Rates and Labor Force Participation (%,SA)



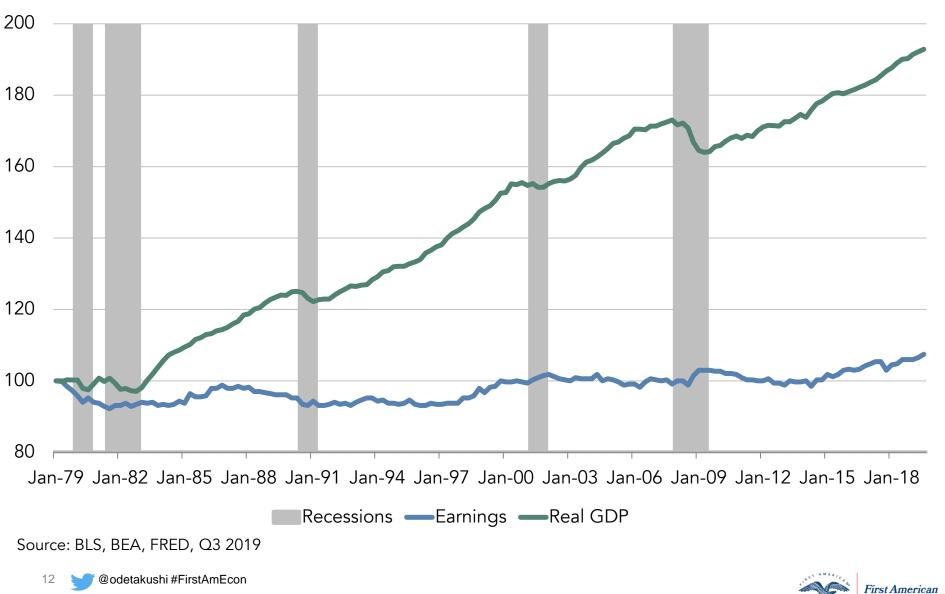






Does GDP Growth Imply Welfare Improvement?

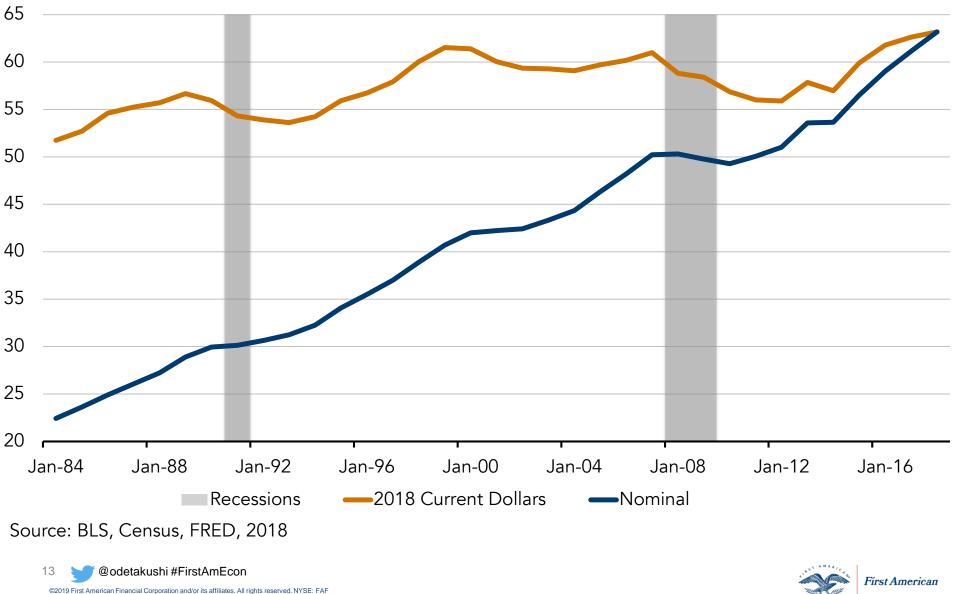
Real GDP Per Capita and Full Time Employed Median Earnings (SA, Q1 1979 = 100)



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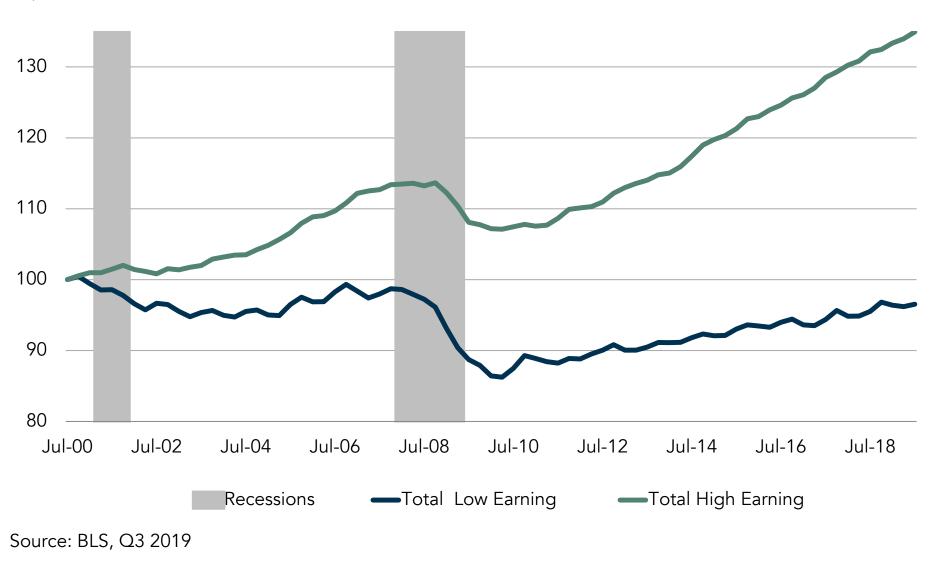
Household Income Stagnating for Decades

Median Household Income (\$ Thousands, Annual)



Job Polarization- Job Creation is Skill Skewed

Employment Count of Full Time Workers (Q3 2000 = 100)

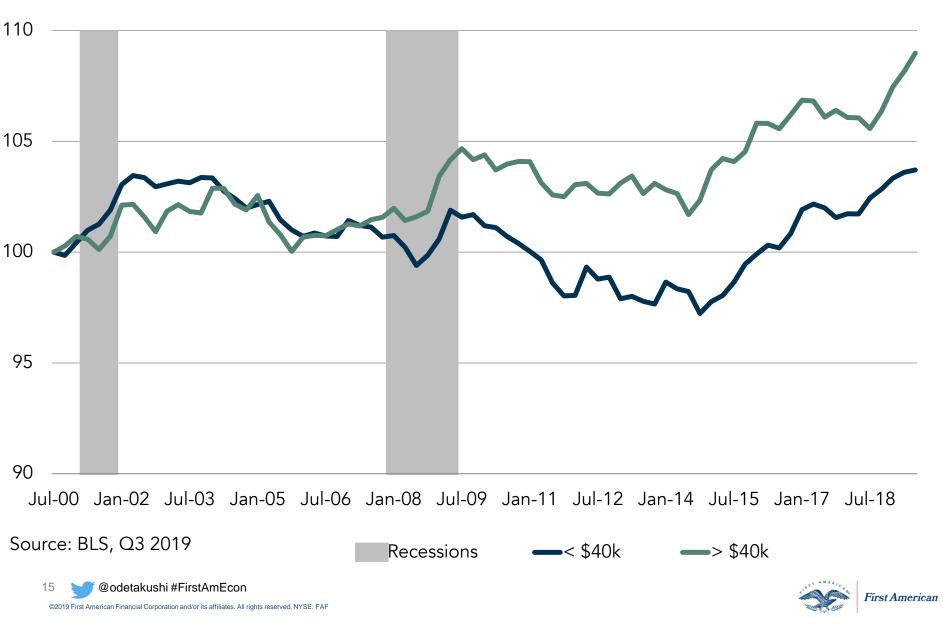






Robot Maker or Wage Taker

Median Usual Weekly Earnings (Inflation Adjust Q1 2016, Q3 2000 = 100)



The Changing Face of Shopping

Yearly Growth in the Number of Employees, % 16% 14% 12% 10% 8% 6% 4% 2% 0% -2% -4% -6% 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 —Traditional Retail —E-Commerce Recession

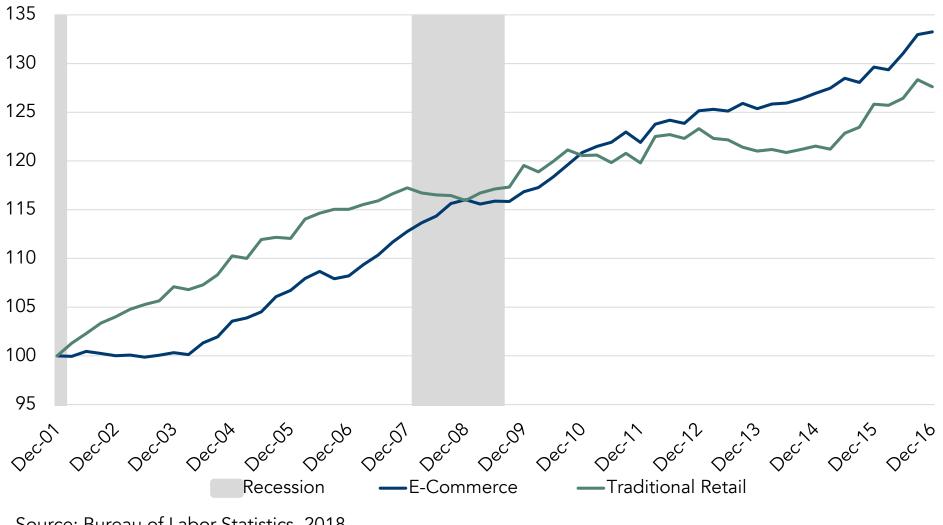




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More Destruction, More Pay

Weekly Wages, Index Q1 2001=100



Source: Bureau of Labor Statistics, 2018





"It ain't what you don't know that gets you into trouble. It's what you know for sure that just ain't so."

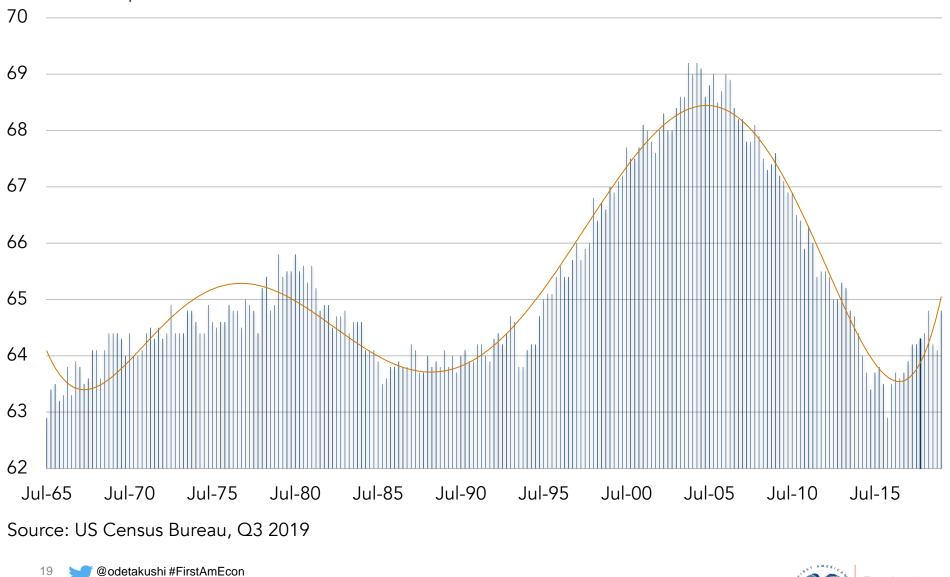
- Mark Twain



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Homeownership Demand Resurgent

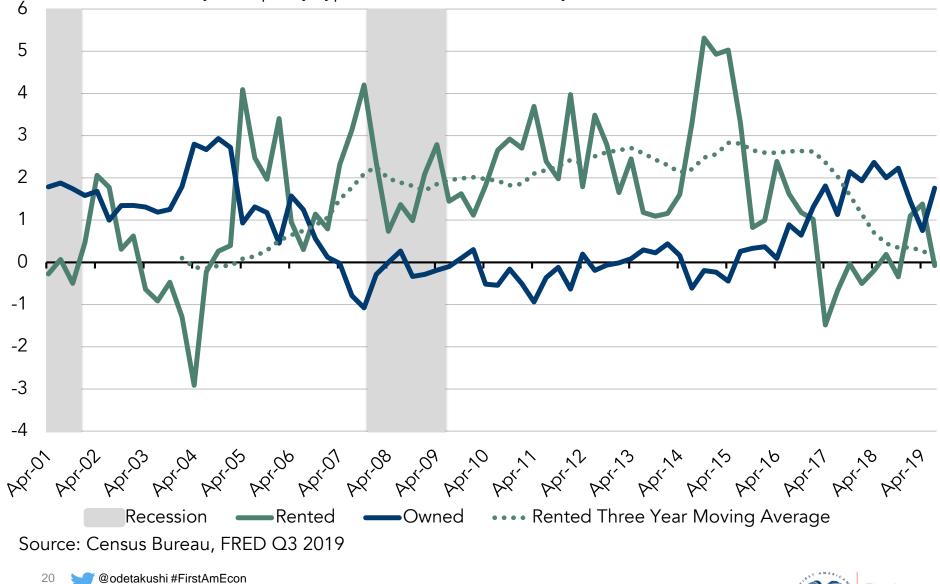
Homeownership Rate (%)



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The Tenure Choice Transition is On Again

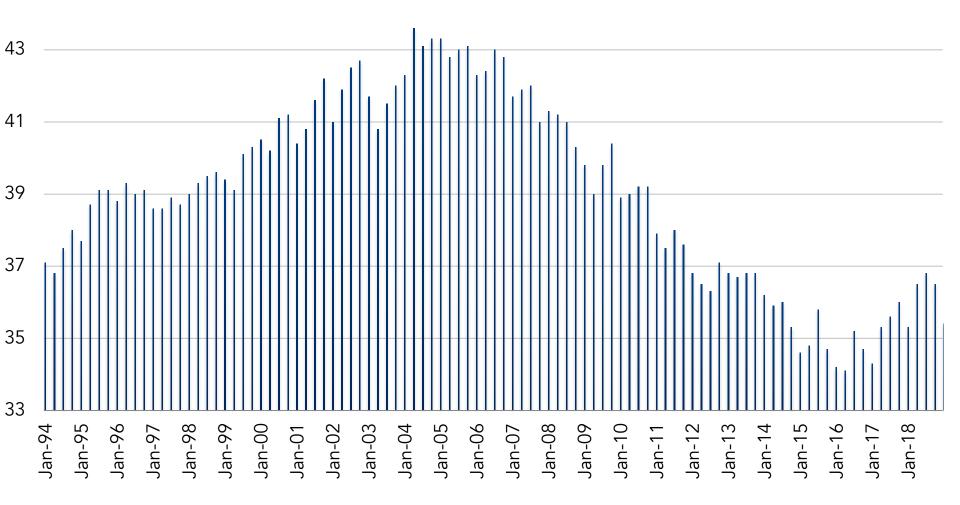
Household Formation by Occupancy Type (Year-Over-Year Inventory Growth, %)



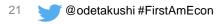
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Gen Why? Why Own a Home?

Homeownership Rate for Households Under 35



Source: Census Bureau CPS/HVS, Q3 2019

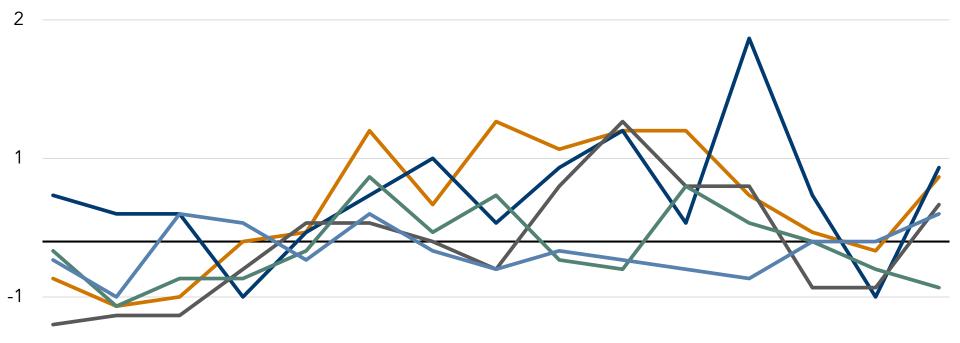




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Millennials Drive Homeownership Growth

Homeownership Rate by Age Cohort (%)





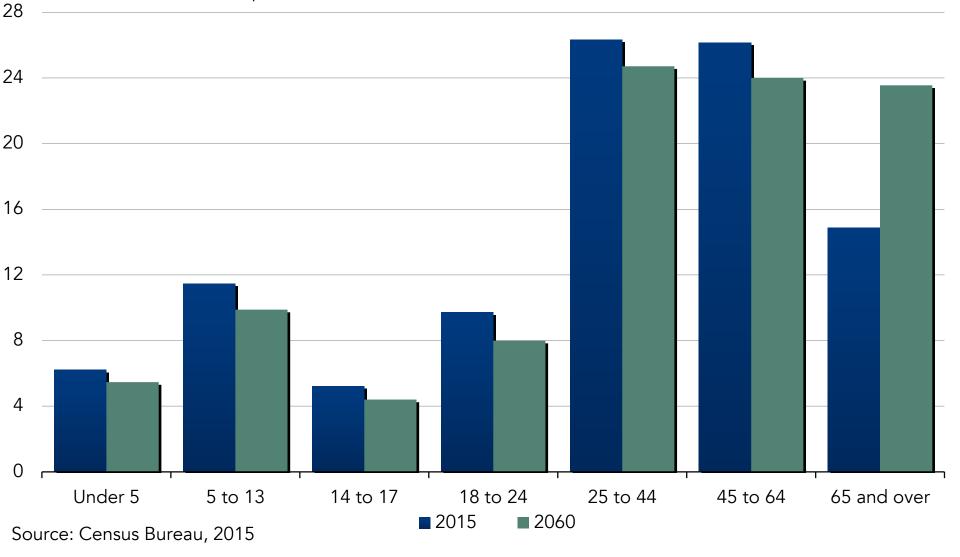
Source: Source: US Census Bureau, Q3 2019





The Dawning of A New Age of Homeownership

Percent Share of Total U.S. Population

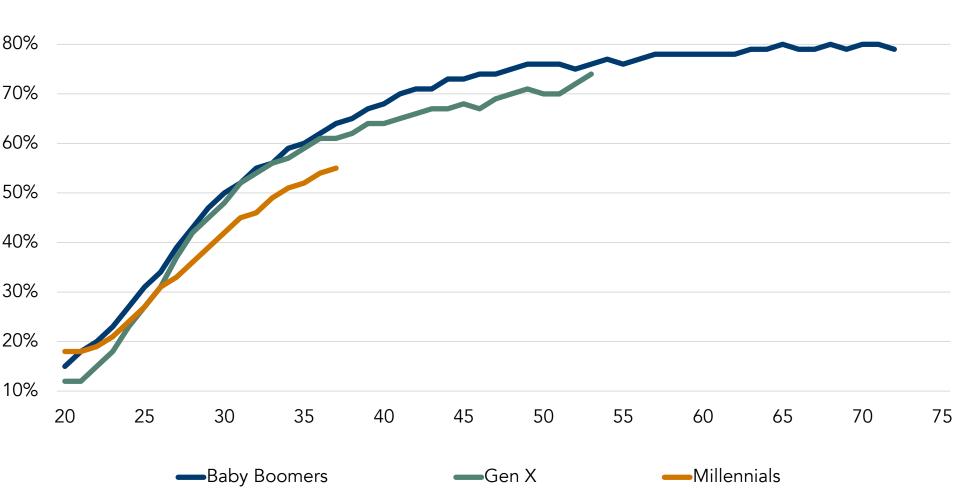






Millennials Playing Catchup

Homeownership Rate by Generation 90%



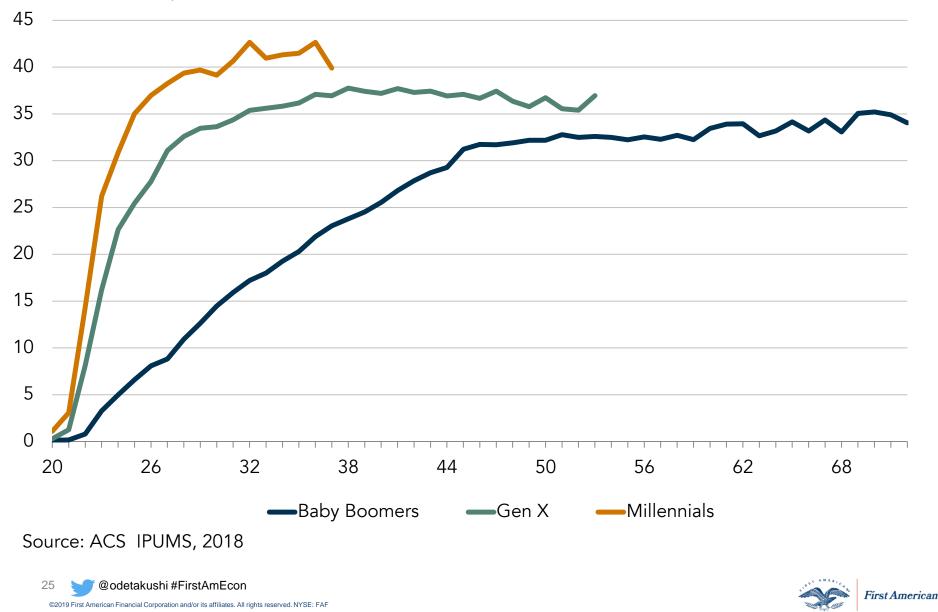
Source: IPUMS CPS, First American Calculations, 2018





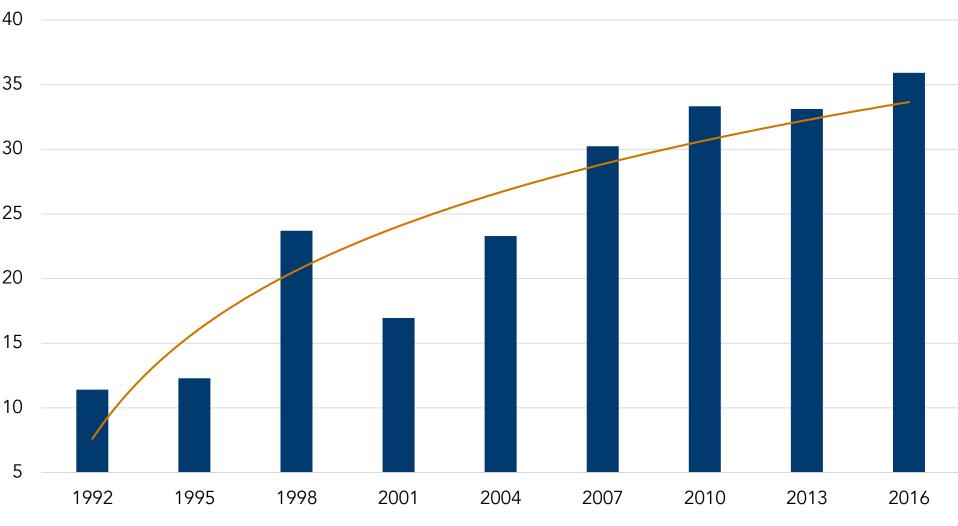
Delaying Homeownership- Education Takes Time

Percent Share of Population with Bachelors Degree or Higher



Rising Student Loan Burdens

Average Outstanding Balance for all Student Loans, \$ (Thousands)

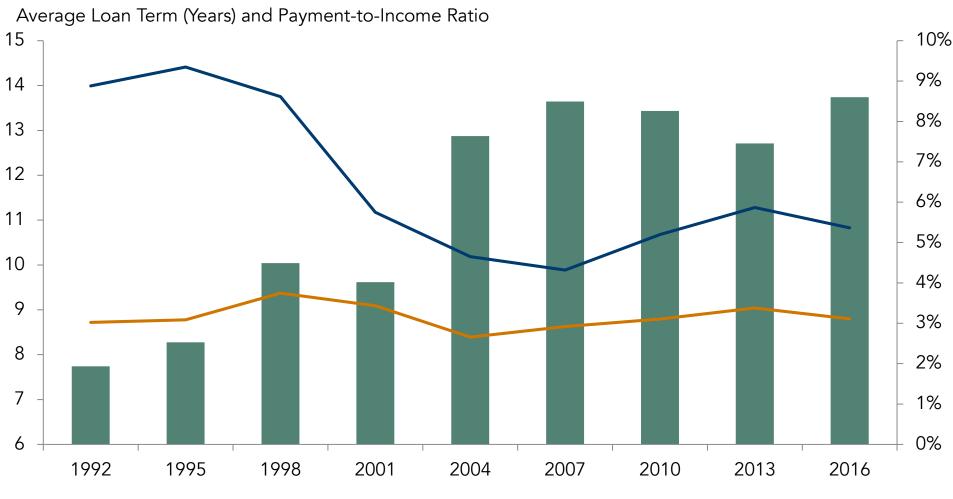


Source: Federal Reserve Board of Governors SCF, 2017





Where's the Burden



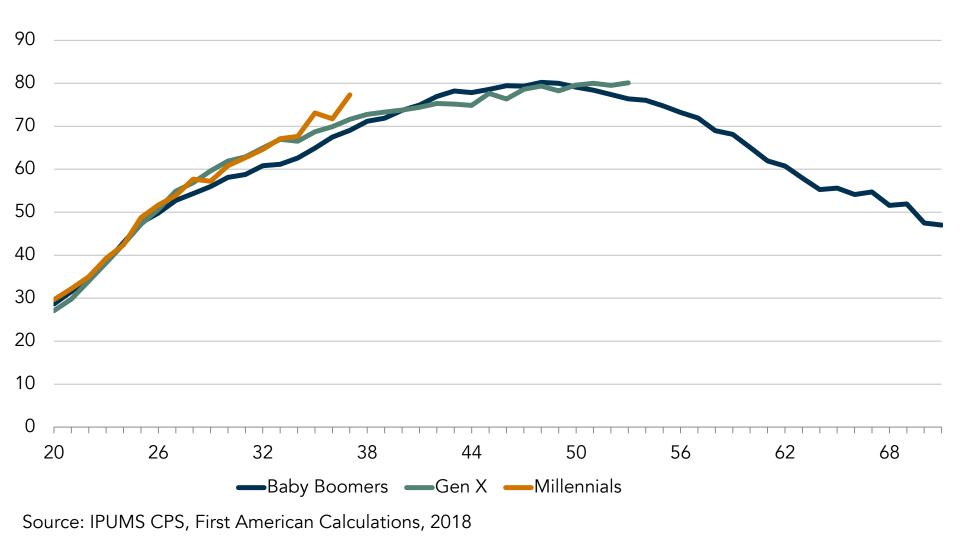
Average Repayment Term for Largest Student Loan — Mean P/I (Right Axis) — Median P/I (Right Axis)

Source: Federal Reserve Board of Governors SCF, 2016



Millennials Outpace Baby Boomers

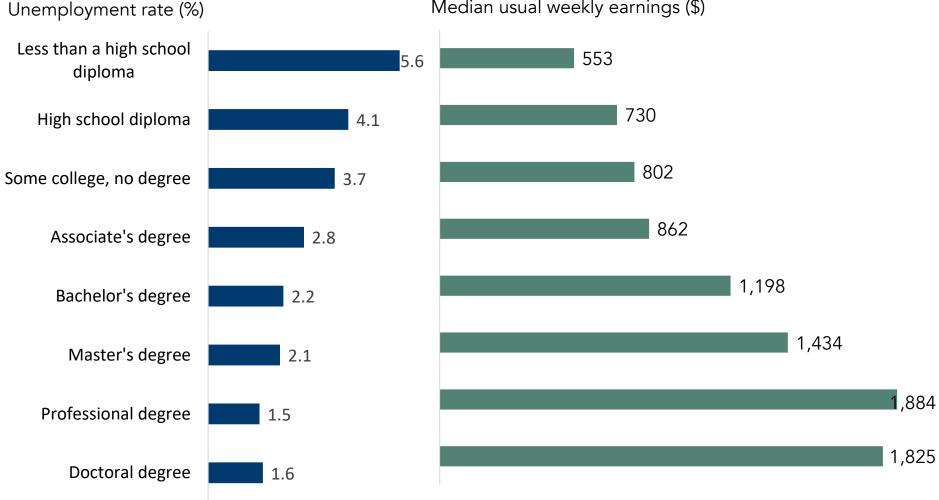
Median Income by Generational Cohort, Thousands (\$)



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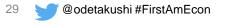


But is It (Education) Worth it?



Median usual weekly earnings (\$)

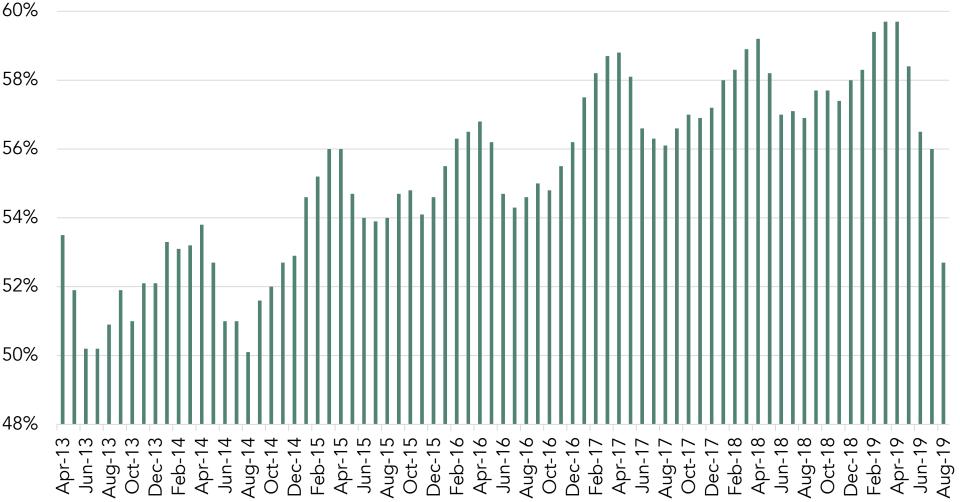
Source: IPUMS CPS, 2018





Know Your Customer?

First-Time Homebuyer Market Share (%)



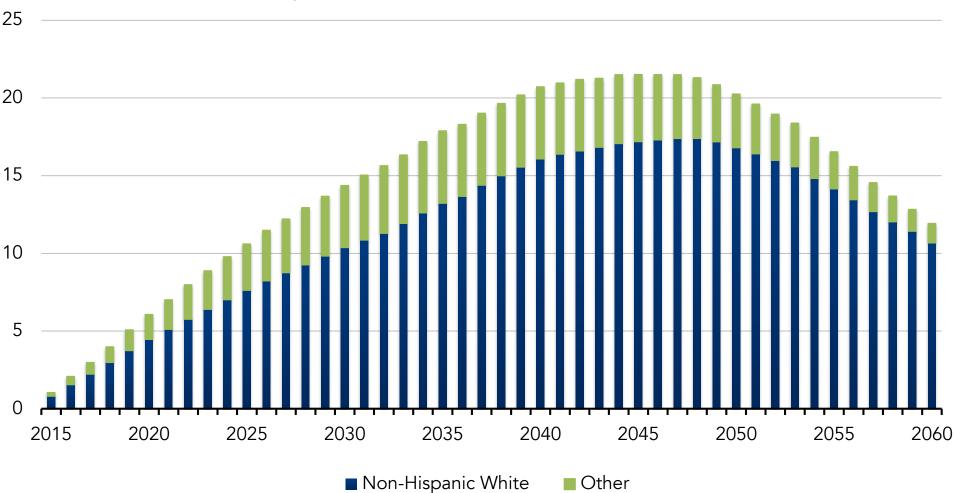
Source: AEI International Center on Housing Risk , Aug. 2019





Wait For it....

Cumulative Net New Owner-Occupied Households (17-35 Yrs. Old in 2015, Millions)



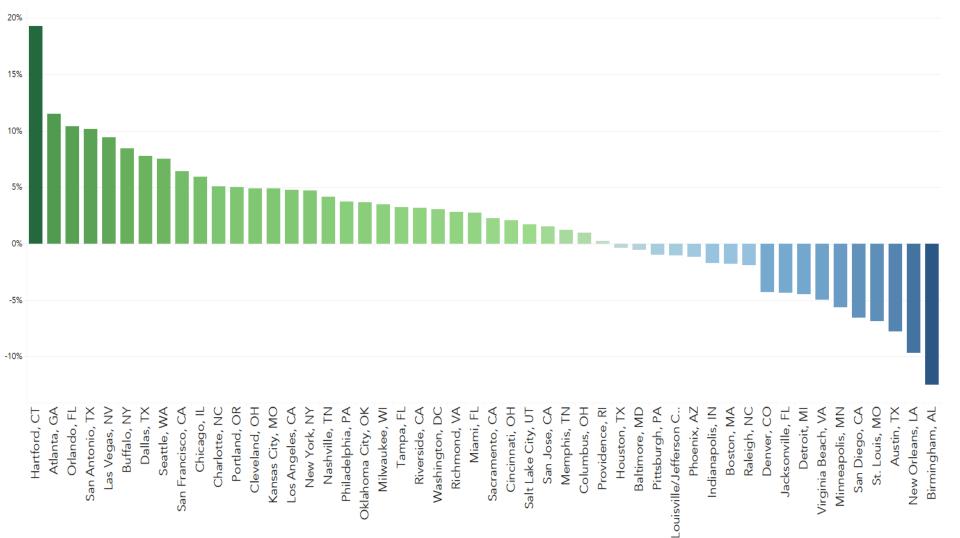
Source: Census Bureau, FirstAm Calculations





Where, Oh Where Are Millennials Buying Homes?

Yearly Change in the Share of Millennial Homeowners, %



Source: IPUMS CPS, 2018



The Existing Owner's Dilemma

A Nation of Homebodies

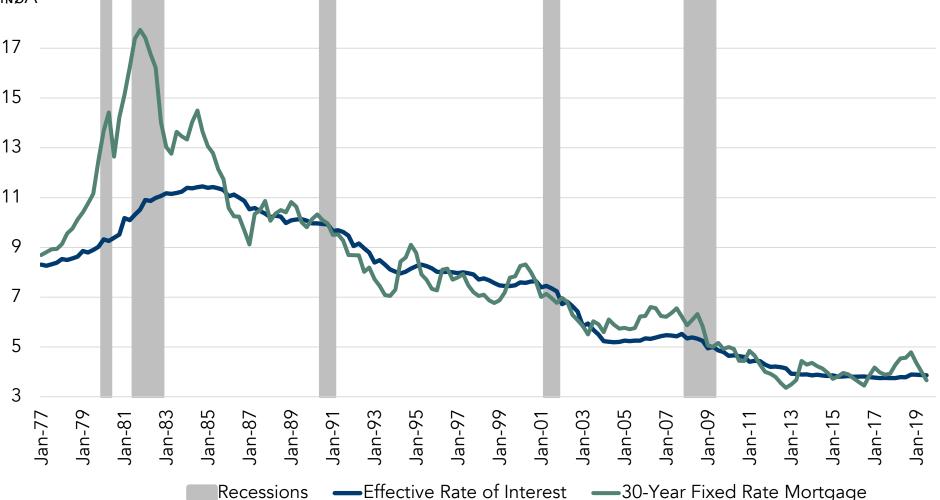




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Never Shall We See Those Rates Again

30-year Fixed Rate (%), Effective Rate of Interest on Mortgage Debt Outstanding Residential Housing (%), INSA



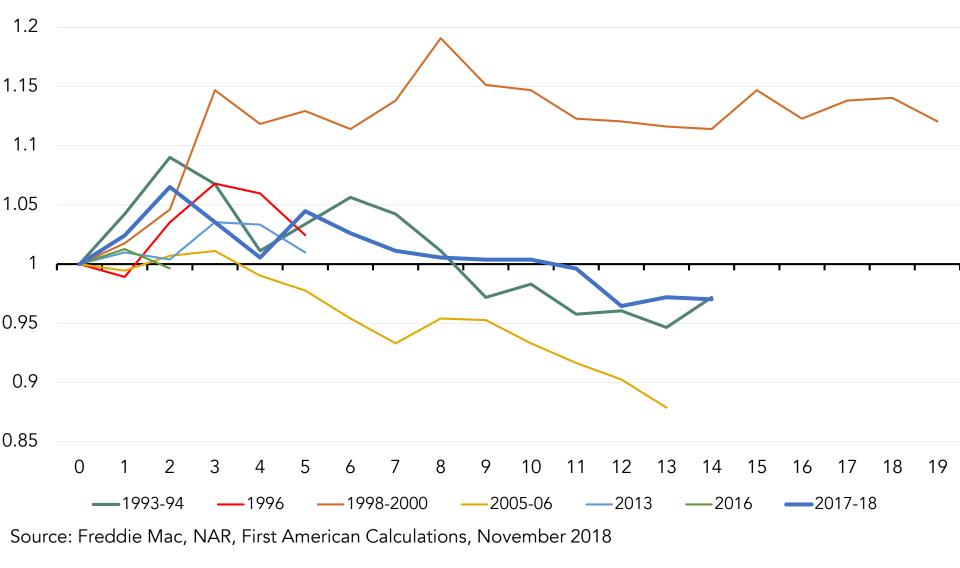
Source: Bureau of Labor Statistics, FRED, Q3 2019





Existing-Home Sales When Mortgage Rates Rise

Monthly Change in EHS (%, Index=1 in Beginning Period of Rising Rates)

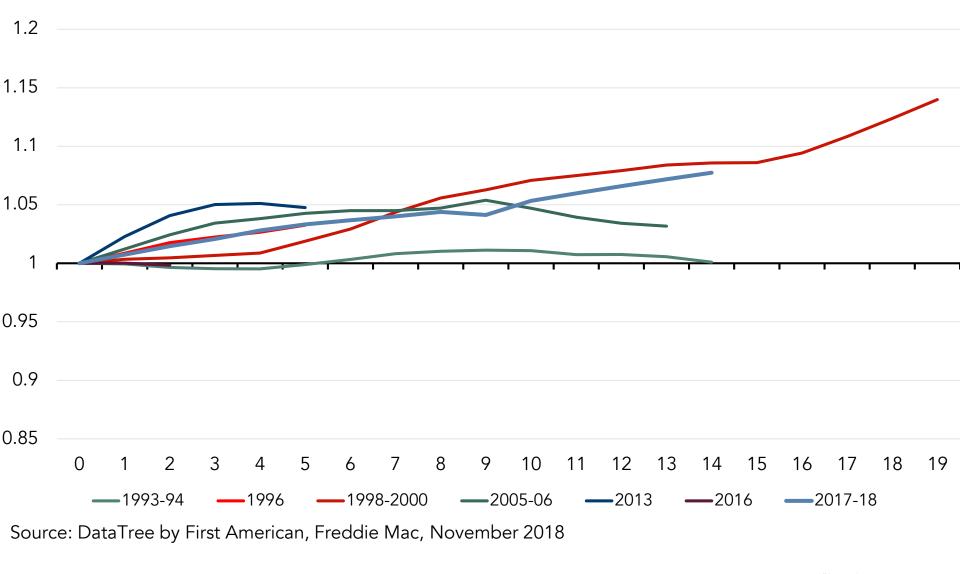






House Prices When Mortgage Rates Rise

Monthly Change in HPI (%, Index=1 in Beginning Period of Rising Rates)

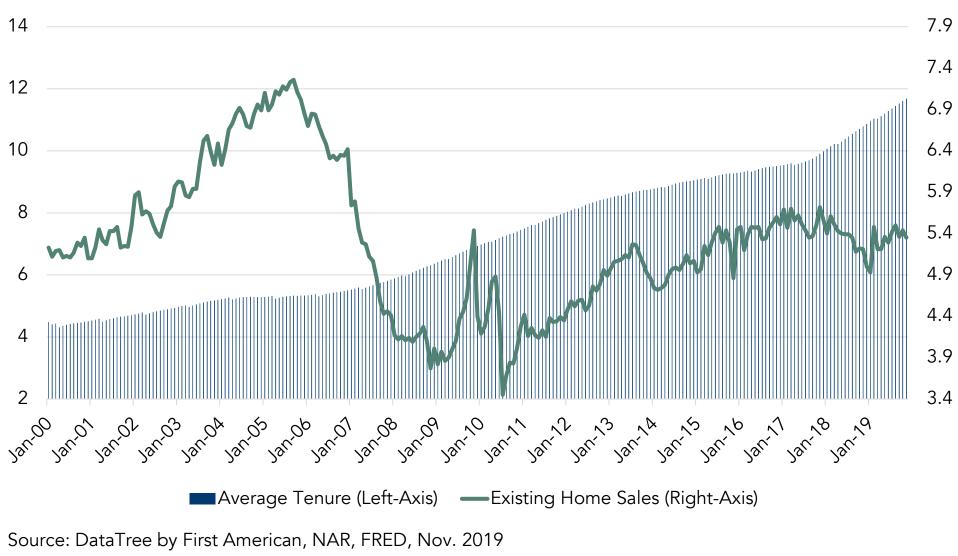


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A Nation of Homebodies

Average Tenure Length (Years), Existing Home Sales (SAAR, Millions)

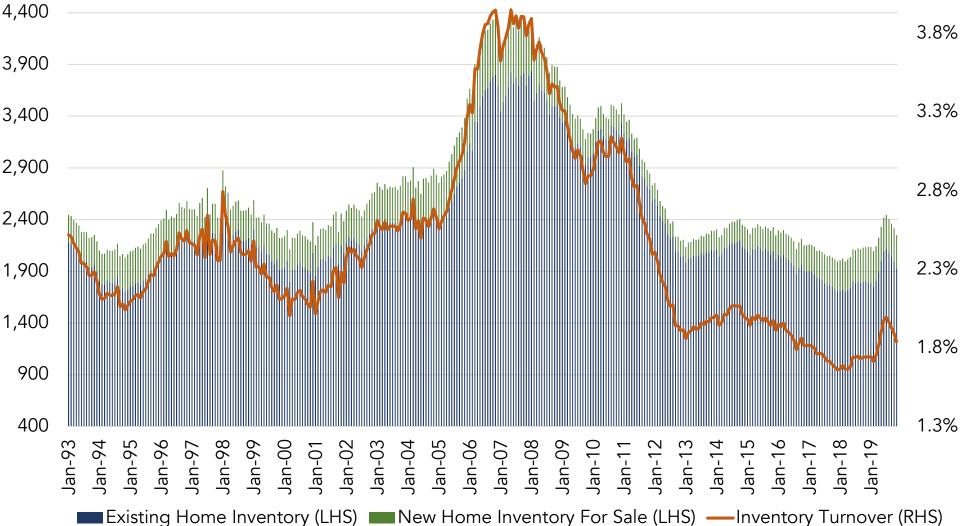






Supply At Quarter Century Low

New and Existing Inventory for Sale (Thousands, SA, % of Households)

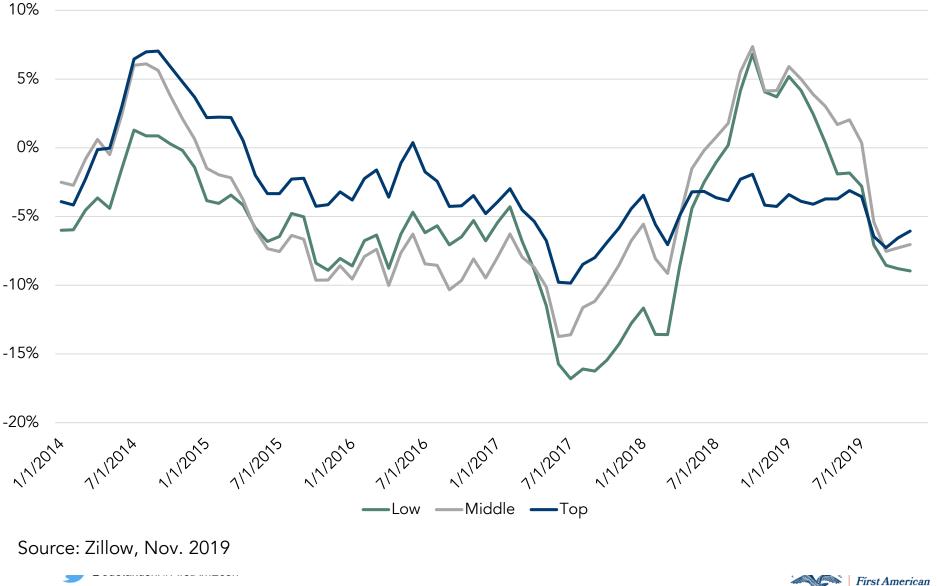


Source: NAR, Census, FRB St. Louis, First American Calculations, Nov. 2019



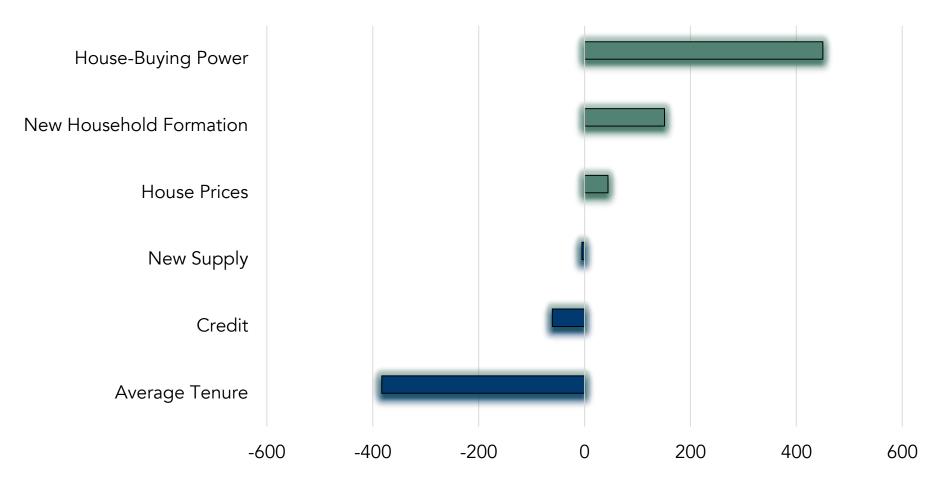
What's For Sale?

For-Sale Inventory by Price Tier, YoY Growth



A Year in Review: The Fundamentals Influencing Housing Market Potential

Number of Sales, Yearly Change Contributed by Components, Thousands



Source: DataTree by First American, First American Calculations, NAR, FRB St.Louis, Nov. 2019





Builders' Woes

The Challenges of Building More Homes

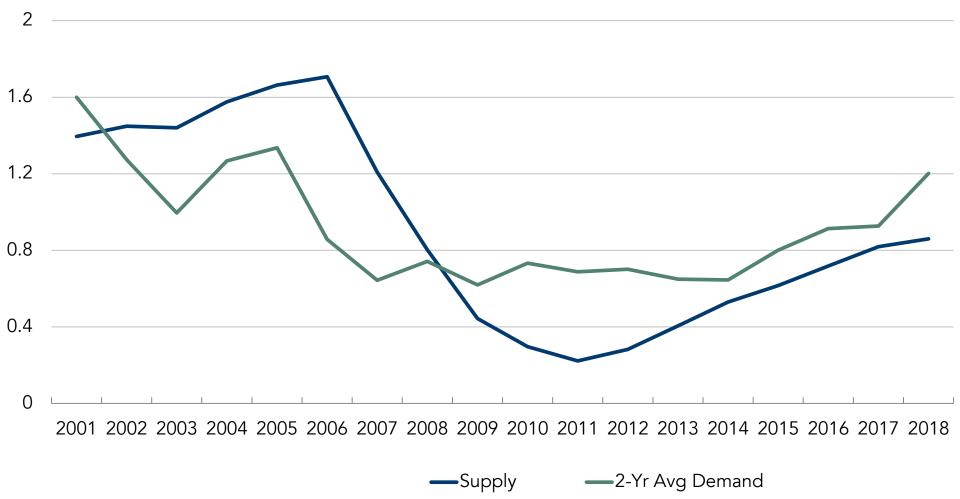


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Keeping Up With Increasing Demand

New Housing Units and Households (Year-Over-Year, Millions)



Source: Census Bureau, HUD (obsolescence rate of 0.31% of existing stock), 2018



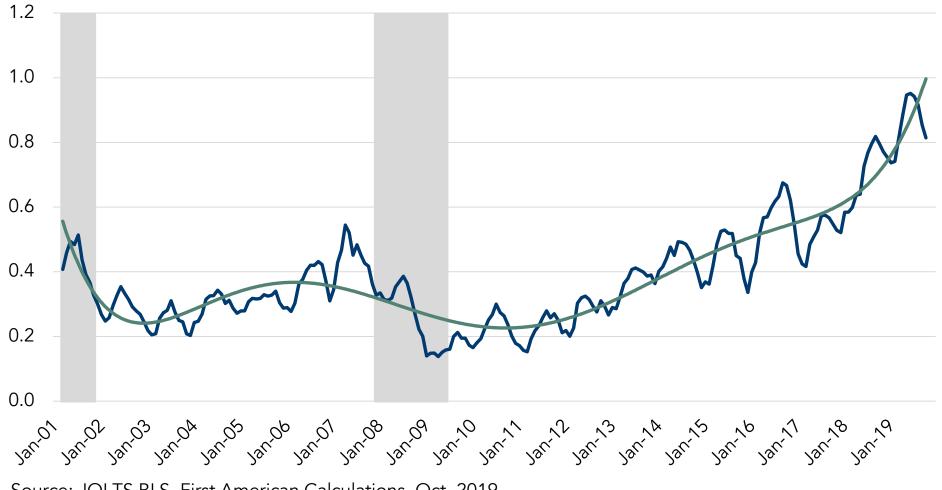
A Building Boom, Of Only One Kind

Single and Multifamily Housing Starts ('000s, Units) 2000 1800 1600 1400 1200 1000 800 600 400 200 0 400,29 4ebbb $\epsilon^{e^{2}}$ 5- 61 Feb.61 400-11 · +e0/15 5e019 **—**5+Units Recessions -1-4 Units Source: US Census Bureau, FRED, Nov. 2019 43 @odetakushi #FirstAmEcon



A Lack of Labor

Months Supply- Ratio of Construction Job Openings to Hires (Thousands, SA)



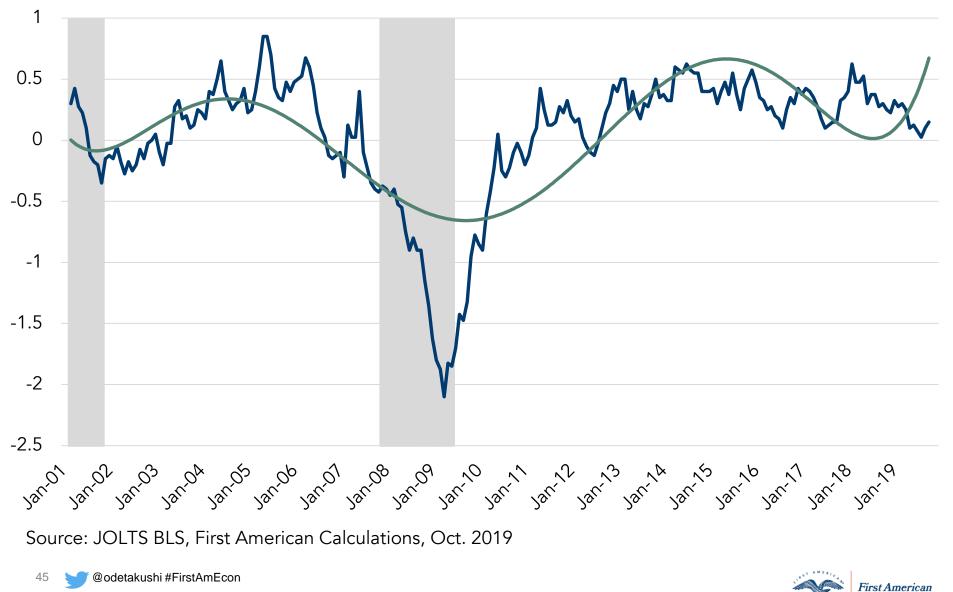
Source: JOLTS BLS, First American Calculations, Oct. 2019





Can't Find More Labor? Retain the Ones You Have

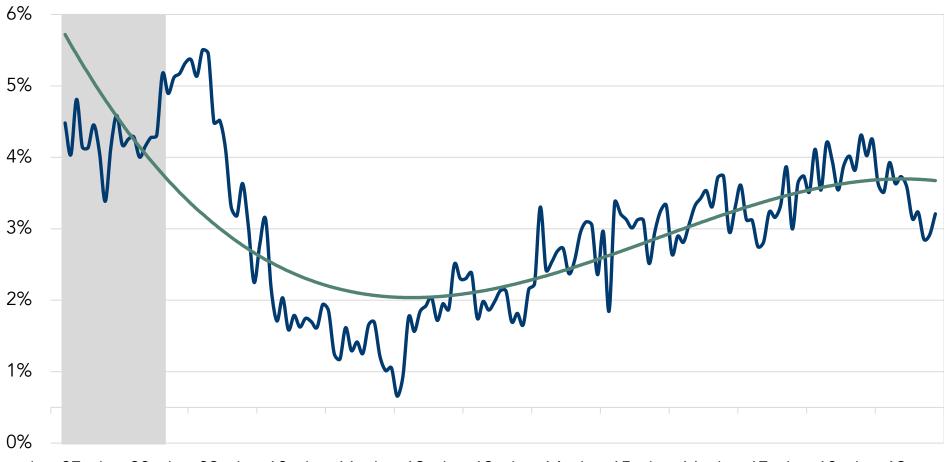
Rate of Hires-Rate of Separations, SA



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Best Retention and Attraction Policy? Pay More

Average Hourly Earnings of All Employees, Construction, SA



Jan-07 Jan-08 Jan-09 Jan-10 Jan-11 Jan-12 Jan-13 Jan-14 Jan-15 Jan-16 Jan-17 Jan-18 Jan-19

Source: BLS, Nov. 2019





The Process Costs More Too

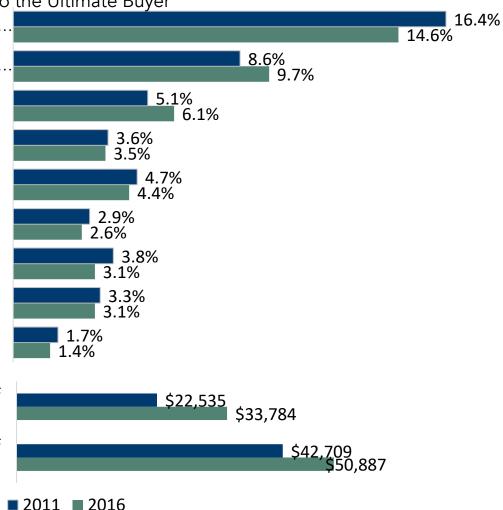
Costs as a Share of Final Price of the Home Sold to the Ultimate Buyer

Regulatory cost as a share of home price during... Regulatory cost as a share of home price during... Changes in codes/standards over past 10 year Permit, hook-up, impact, other fees paid by builder Impact of changes in development standards Value of land dedicated/left unbuilt Costs incurred after approval/before construction Cost of applying for zoming/subdivion approval "Pure" Cost of Delav

> Average cost of regulation in the price of a new home during construction

> Average cost of regulation in the price of a new home during development

Source: NAHB, 2016





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What is "Normal" Regulation?

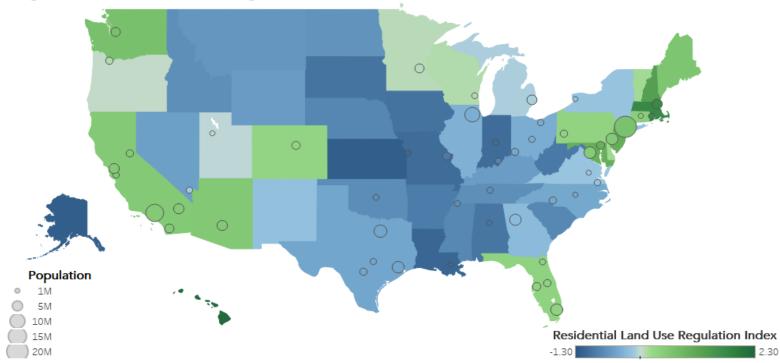
- Local and state pressure groups are much more likely to be involved in the regulatory process in the more highly regulated places.
- More than 50% of the highly regulated communities have a 1 acre minimum lot size rule in at least one neighborhood, whereas less than 5% of lightly regulated communities have such a rule.
- The average delay time between application and approval for a standard project in the highly regulated communities is three times longer than in the lightly regulated communities (10.2 months vs. 3.2 months, respectively)
- The WRLURI is the strong positive correlation across its component indexes. Essentially, if a community is rated as highly regulated on one dimension, it is likely to be highly regulated along other dimensions.





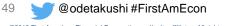
Residential Land Use Regulation Index

(Higher Values Indicate More Regulation)



CBSA Name	Residential Land Use Regulation Index	State	Residential Land Use Regulation Index
Providence-Warwick, RI-MA	1.8436	HI	2.30
Baltimore-Columbia-Towson	1.8189	RI	1.83
Boston-Cambridge-Newton,	1.7472	MA	1.73
Memphis, TN-MS-AR	1.2106	NH	1.29
Seattle-Tacoma-Bellevue, WA	1.0802	NJ	1.03

Gyourko, Joseph, Albert Saiz, and Anita A. Summers, "A New Measure of the Local Regulatory Environment for Housing Markets: The Wharton Residential Land Use Regulatory Index", Urban Studies, forthcoming. First American Calculations





Supply or Demand Restricted?

A Supply Restricted Market Drives up Prices

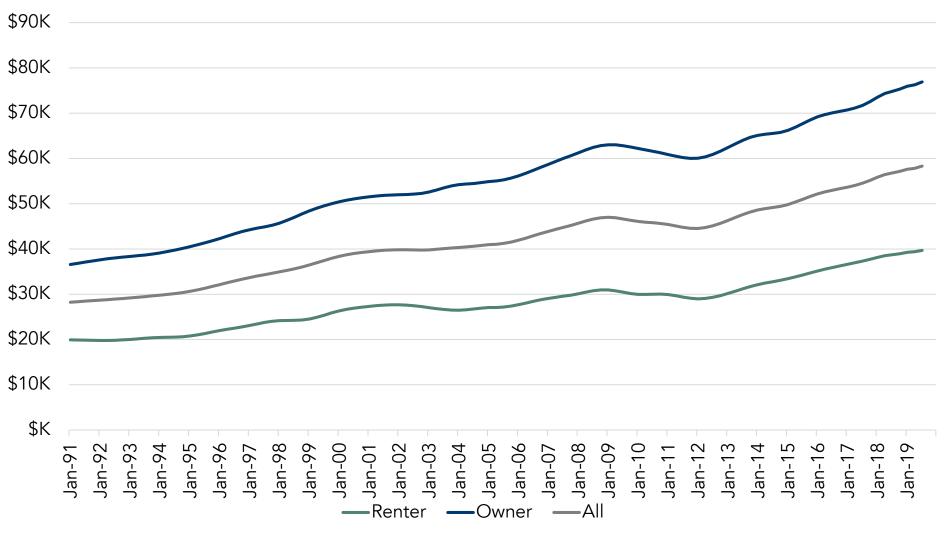




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Mind the Income Gap

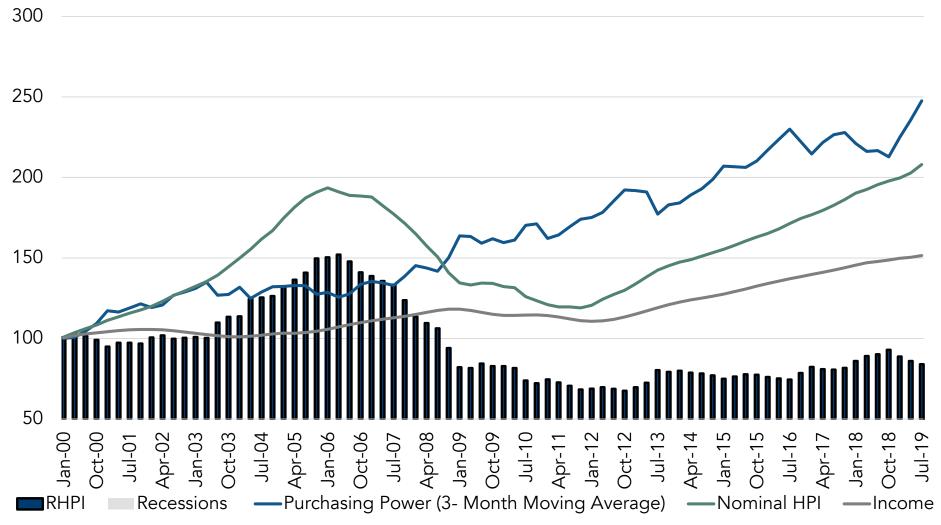
Median Income, National



Source: IPUMS, BLS, First American Calculations, Q3 2019

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How Much Home Can A Renter Buy? Index= 100, Jan. 2000



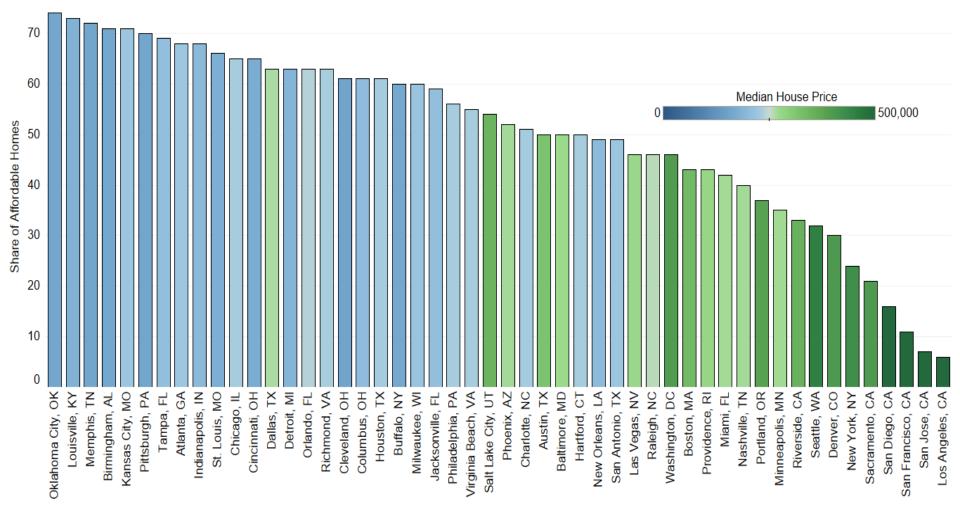
Source: First American Calculations, BLS, Census, Q3 2019



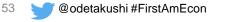


Where Can Renters Find the Largest Supply of Affordable Homes?

Median Renter: Share of Affordable Homes



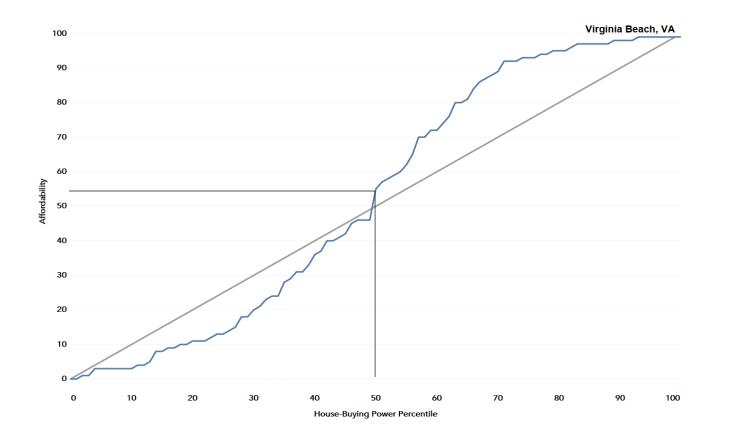
Source: DataTree by First American, Standard & Poor's, Freddie Mac, Census, IPUMS CPS, Q3 2019



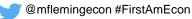


When It Comes to Affordability, Place Matters

Median Renter: Share of Sold Homes



Source: DataTree by First American, Standard & Poor's, Freddie Mac, Census, Q3 2019



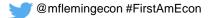


80/50

 \rightarrow The 80^{th} percentile renter in Los Angeles can only afford 51% of homes for sale, with a house buying power of 654,179 and an income of 105,080

 \rightarrow This same renter could afford 98% of homes for sale in Detroit, Cleveland, and Oklahoma City





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