

***SOM** Macro Strategies*
State Of the Markets: Opportunities In US Housing

August 26, 2020

Alan Brazil

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State Of the Markets: Opportunities In US Housing

- ***Step 1: Macro Theme: Opportunities In US Housing***
 - Focus on housing delinquencies misses the power of the coming housing cycle
 - Opportunity 1: Housing Starts Continue To Accelerate To Historical Highs To Make Up For Underbuilding
 - Opportunity 2: Mortgage Originations Could Surge If Ownership Rates Normalize To Higher Level
- ***Step 2: Fundamental Economic Framework***
 - The US has seen a decade of underbuilding of houses versus the growth in the US population
 - Housing prices and rental rates are rising, and vacancies are falling reflect this supply/demand imbalance
 - Tighter mortgage underwriting standards since the GFC
 - Tighter standards has potentially gone too far
 - Historical lows in homeownership
 - Pushed mortgage risk to the rental markets putting pressure on low income households
 - Reduced access to homeownership to younger adults and minorities creating a barrier to wealth creation
- ***Step 3: Identify Potential Catalysts***
 - Catalysts for more home building: increasing demand for housing and pushes prices higher
 - Demographic driven demand
 - De-urbanization driven demand
 - Low mortgage rates driven demand
 - Catalyst for growth in home ownership and mortgage originations: Dodd-Frank reform
 - Dodd-Frank has pushed banks and the GSEs to tighten mortgage underwriting reflecting the loss rates in the "Severe Adverse Scenario"
 - Dodd-Frank rules on qualified mortgages (QM) and the lack of litigation projection for underwriters has shut down non-prime mortgage originations
- ***Step 4: Find Asymmetric Trades***
 - Trade1: Buy home builders, housing related and "For Rent" equities
 - Trade 2: Buy GSEs, mortgage insurers, and mortgage bankers/selected REITs

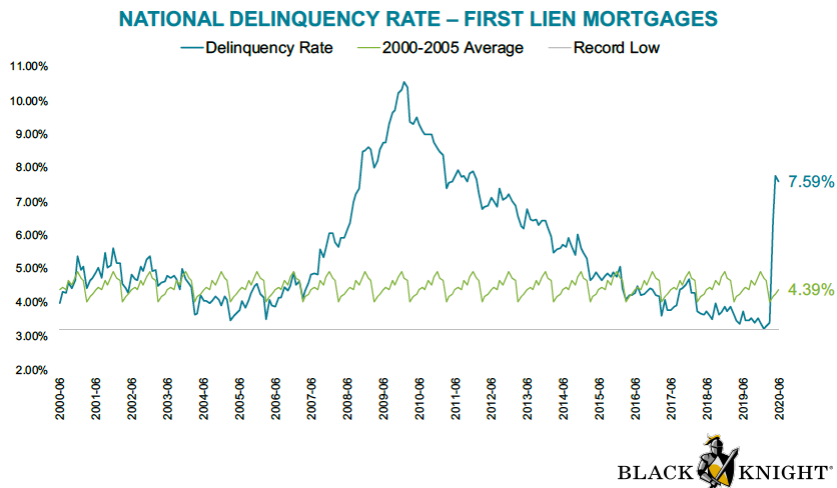
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Step 1: Macro Theme

Many Opportunities In The Housing Market Even With The COVID Stress

Mortgage Delinquencies Have Surged¹



Renter Looks Under Even More Stress Than Owners...²

	Made Last Months Payment			
	Respondents (MM)	Yes	No	Deferred
Renters	69.7	78%	19%	2%
Owners	99.9	87%	8%	4%

While Next Month. Could Be Even Worse²

	Confidence Of Making Next Months Payments			
	Respondents (MM)	Little Or No Confidence	Moderate Confidence	High Confidence
Renters	69.7	34%	27%	37%
Owners	99.9	15%	23%	59%

1. Black Knight Monthly Report

2. U.S. Census Bureau Household Pulse Survey, Week 12.

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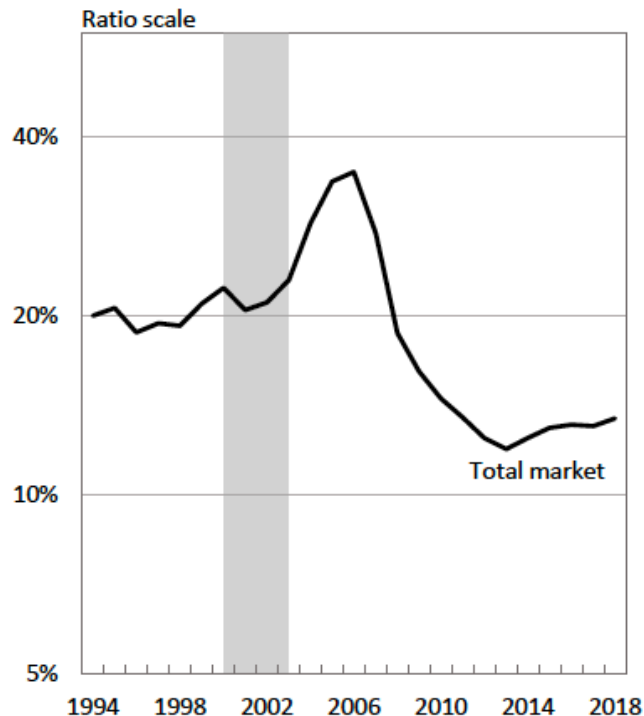
Step 2: Fundamental Economic Framework

Homeowners Can Better Weather The COVID Stress Than During The GFC

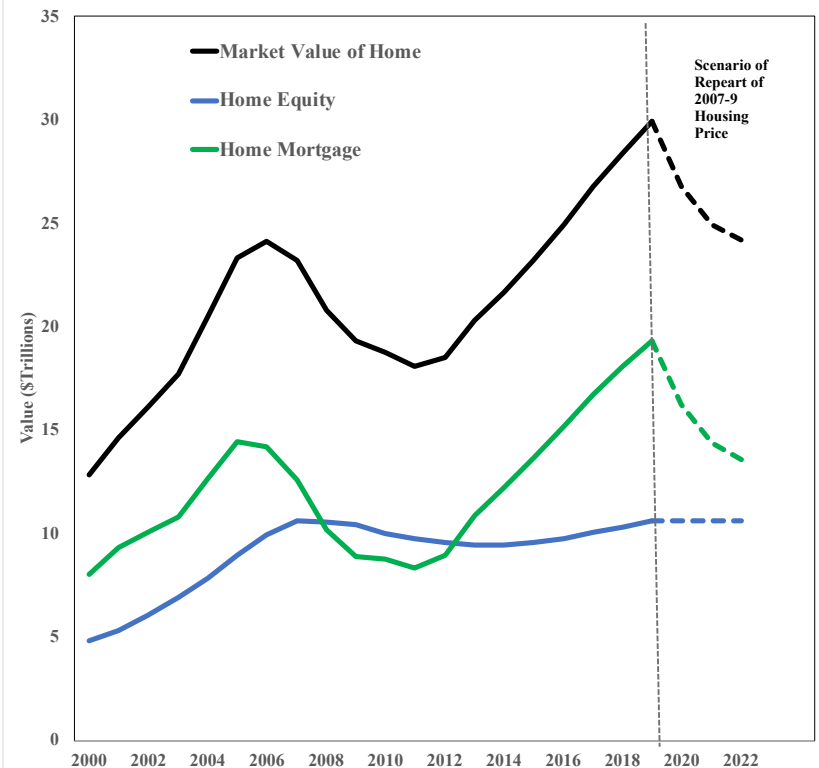
Mortgage Stress Loss From A Repeat of GFC Less Than During The GFC¹

LTVs Still Substantially Below 100% In A GFC Scenario^{2,3}

Stressed Default Rate for Home Purchase Loans, 1994-2018



Historical And Scenario Household Home Equity



1. Davis, Larson, Oliner, Smith, "A Quarter Century of Mortgage Risk", October 2019, FHFA Staff Working Paper Series, 19-02
2. Board of Governors Flow of Funds Data
3. Author's Calculation

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Step 2: Fundamental Economic Framework

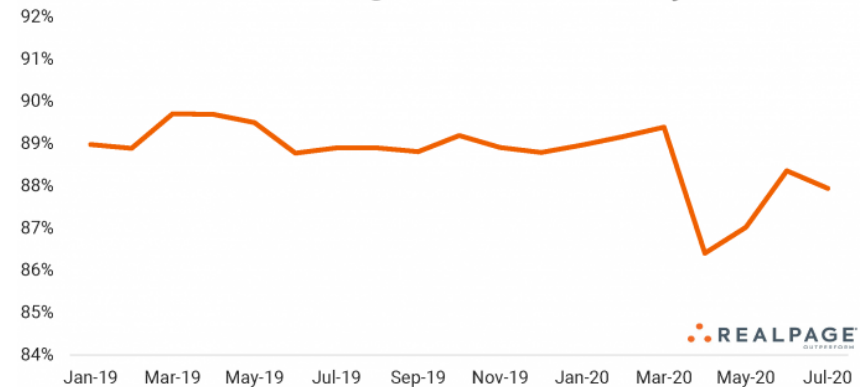
Early In The Month Renter Data Overstate Delinquencies, Which Are Only Slightly Higher Than Normal

Rental Delinquencies Are Up Slightly Vs Normal¹

Even Low Income Rental Delinquencies Look Similar²

Periods	Timing Of Rental Payments During Month				
	6th* of Month	13th of Month	20th of Month	27th of Month	End of Month
Avg April - July 2019	81.5%	89.7%	93.0%	95.2%	96.7%
Avg April - July 2020	79.1%	87.3%	90.9%	93.1%	95.3%
August 2019	80.3%	88.9%			
August 2020	79.3%	86.9%			

Affordable Housing Rent Collections by Month



Source: RealPage, Inc.

1. NMHC Rent Payment Tracker, August 2020
 2. Parsons, "In Affordable Housing, Rent Collection Trends Mirror Market-Rate Apartments", August 20, 2020, REALPAGE

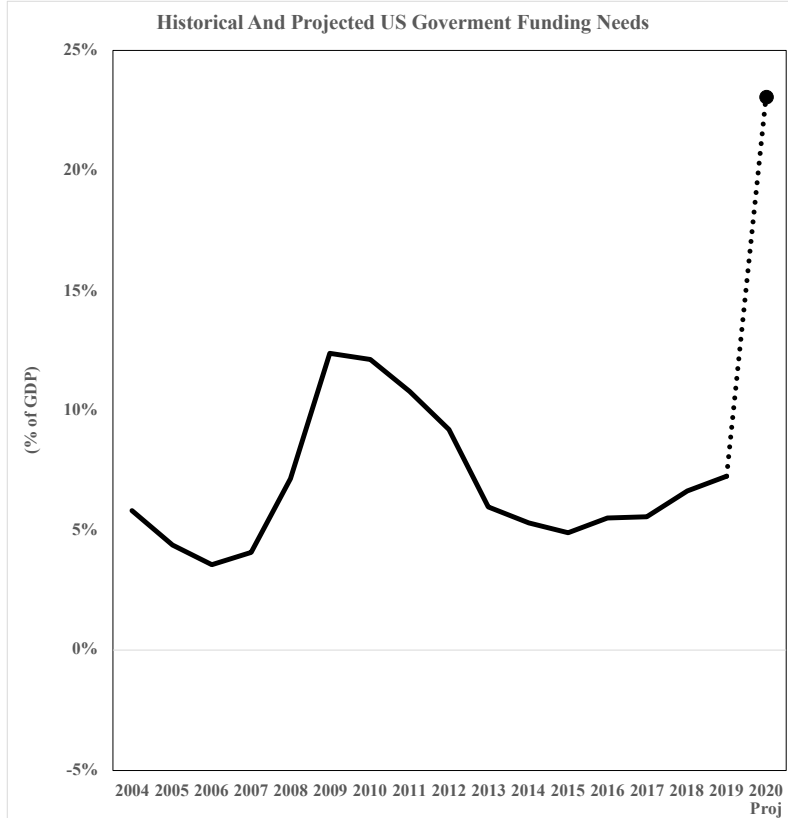
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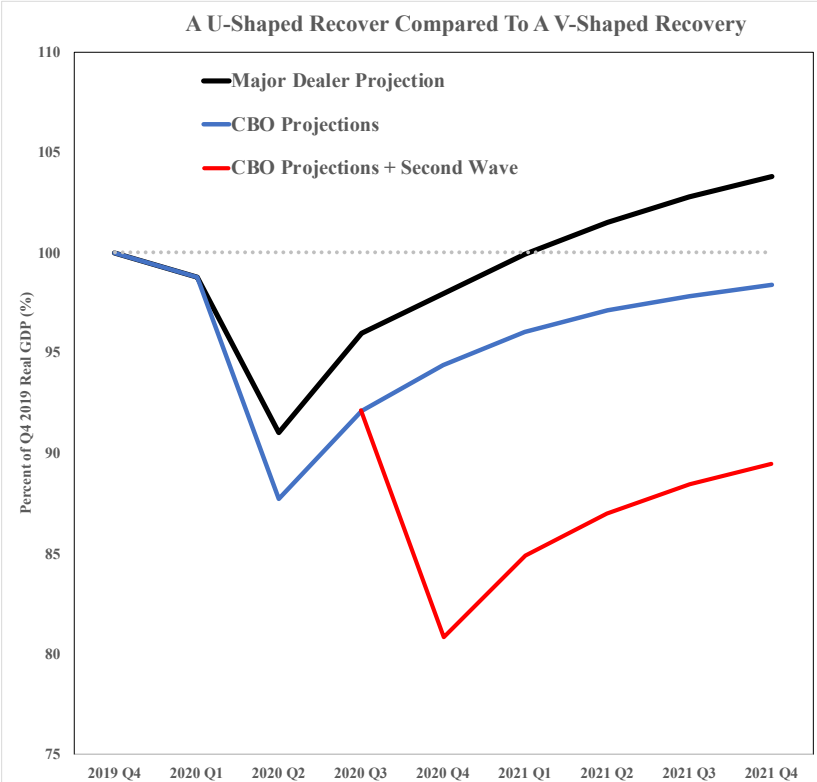
Step 2: Fundamental Economic Framework

Virus Stimulus Will Continue To Support The Economy, Particularly If It Is A U-Shaped Recovery¹

Project US Deficit Will Surge With Virus Stimulus In 2020



Deficit Could Still Be Substantial In 2021 As Well



1. CBO Budget Projections 2020

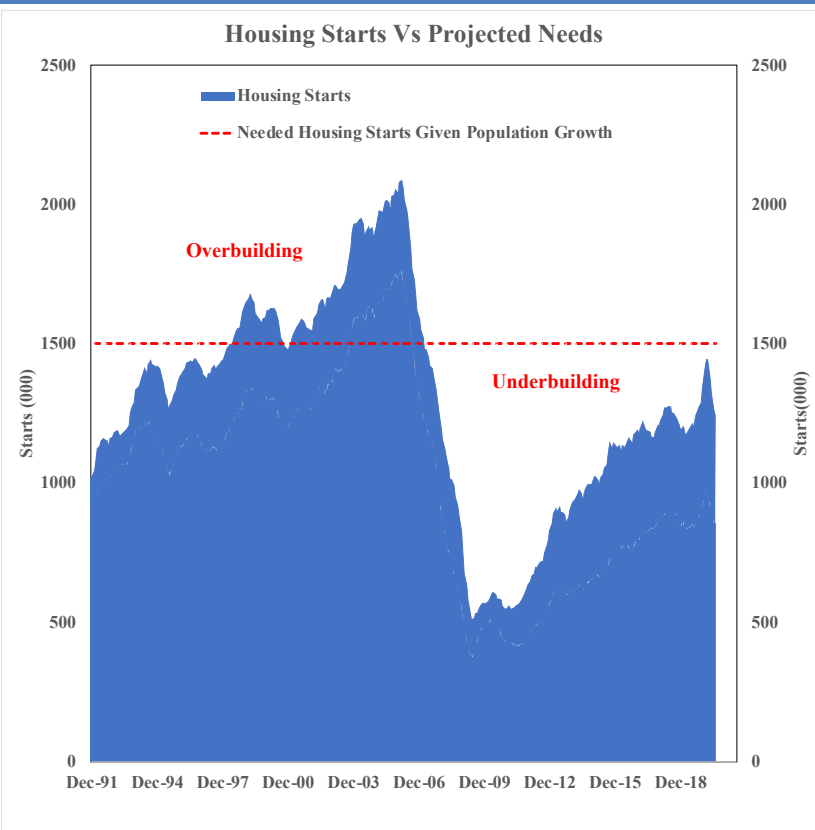
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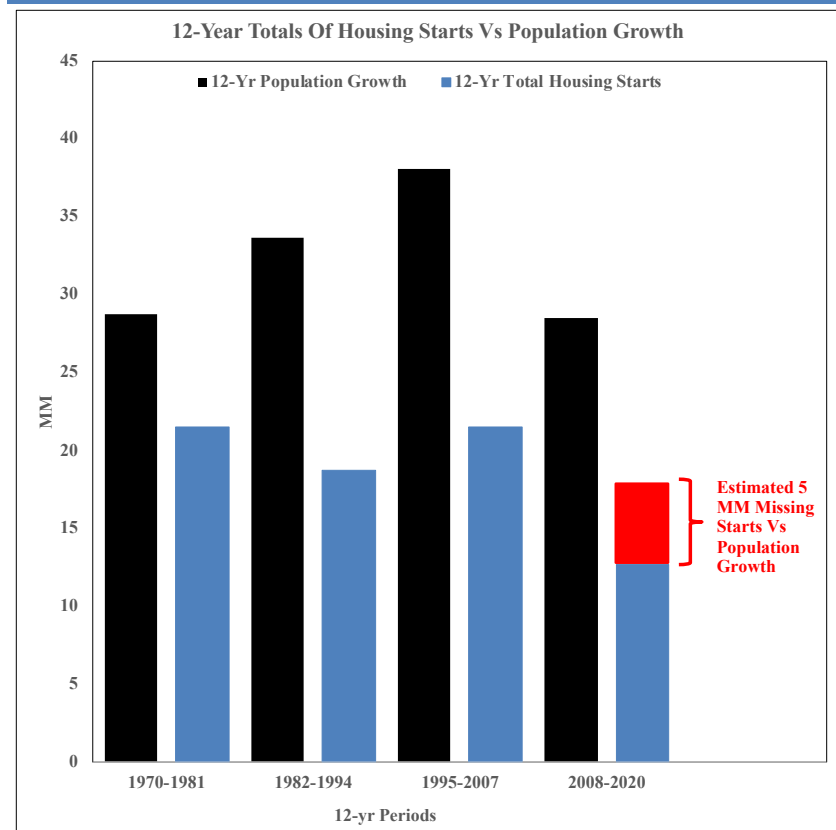
Step 2: Fundamental Economic Framework

Opportunity 1: Housing Starts Continue To Accelerate To Historical Highs To Make Up For Underbuilding

Years Of Underbuilding After The GFC¹



Building Have Not Kept Up With Population Dynamics^{1,2}



1. Federal Reserve Bank of St. Louis, Fred Data Base
2. Author's Calculations, Using average housing starts per 12-year period 1970-2007 per population growth

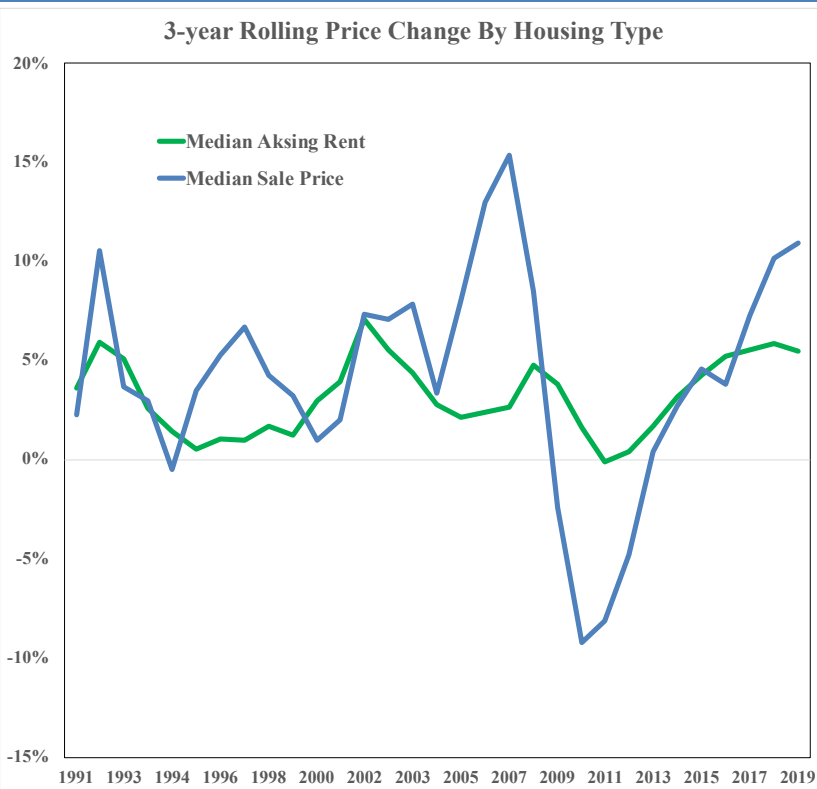
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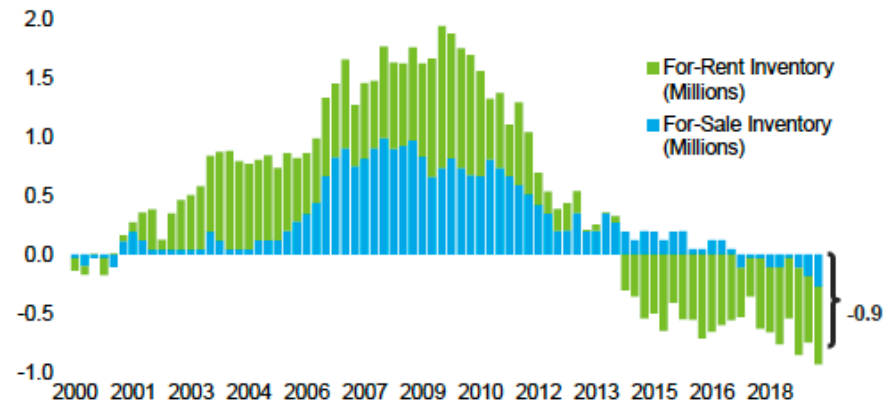
Opportunity 1: Rising Housing Prices And Rentals Rates Reflects Growing Demand Swamping Supply

Rental Rates And Housing Pries Are Rising...¹



Reflect Rising Scarcity Of Places To Live²

Vacant Housing Over/Undersupply⁸



Source: Freddie Mac calculations using U.S. Census Bureau data. Data as of June 30, 2019.

1. Federal Reserve Bank of St. Louis, Fred Data Base
2. Freddie Mac Investor Presentation, July 2020

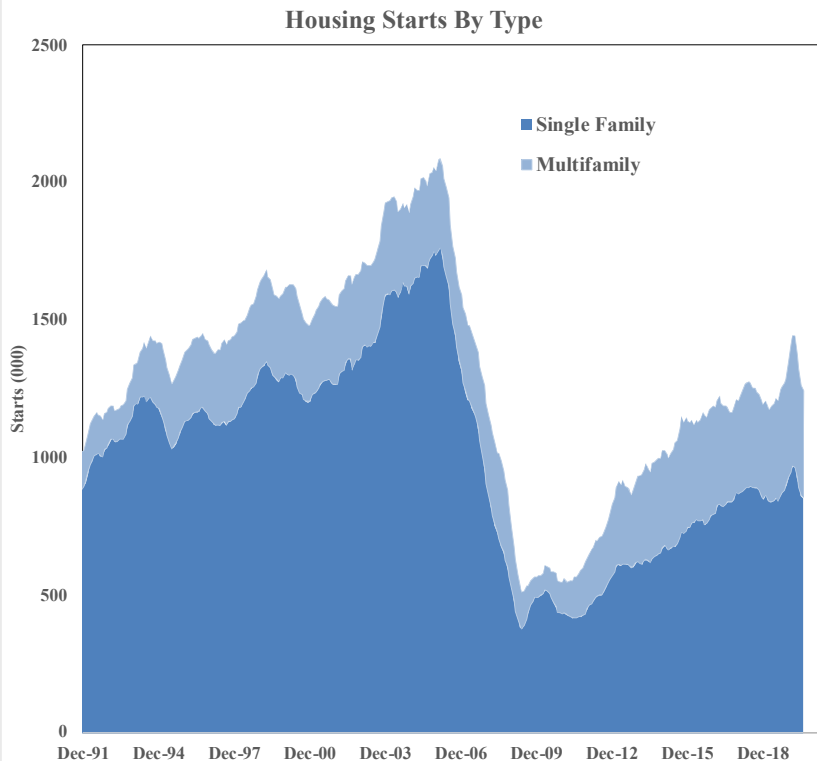
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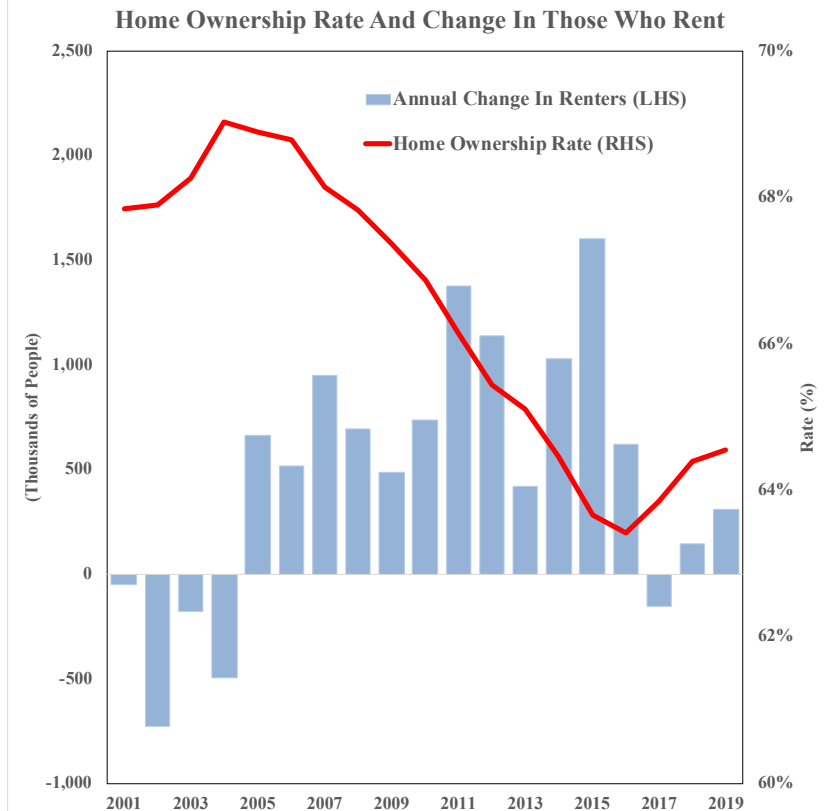
Step 2: Fundamental Economic Framework

Opportunity 2: Mortgage Originations Could Surge If Ownership Rates Normalize To Higher Levels

Multifamily Building Surged After The GFC¹



Home Ownership Rate Fell²



1. Federal Reserve Bank of St. Louis, Fred Data Base
2. Census Survey Of Housing

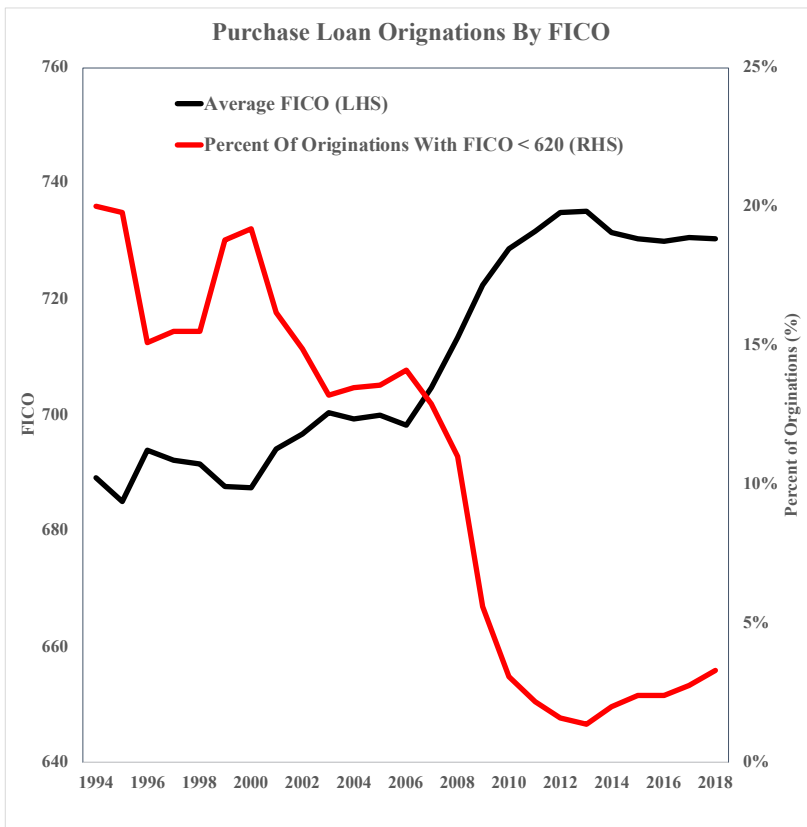
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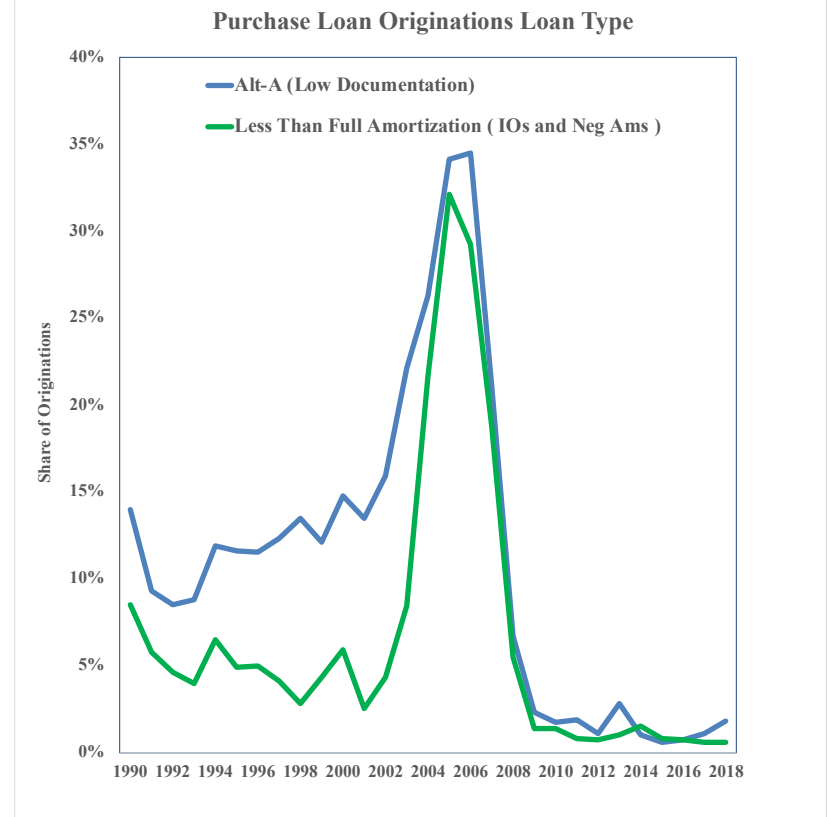
Step 2: Fundamental Economic Framework

Opportunity 2: Lower Ownership Rate Reflects The Tightening Of Mortgage Underwriting Post-GFC¹

Only Prime Borrowers Need Apply...



And You Can't Be Self Employed



1. Davis, Larson, Oliner, Smith, "A Quarter Century of Mortgage Risk", October 2019, FHFA Staff Working Paper Series, 19-02

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Step 2: Fundamental Economic Framework

Stricter Mortgage Underwriting Has Resulted In Better Quality Loans But At A High Cost....

More Risky Lending Products Evaporated After The GFC¹

Less Risky Products And Borrowers = Lower Defaults ²

Default Risk Taken by the Mortgage Market, 1998Q1–2020Q1

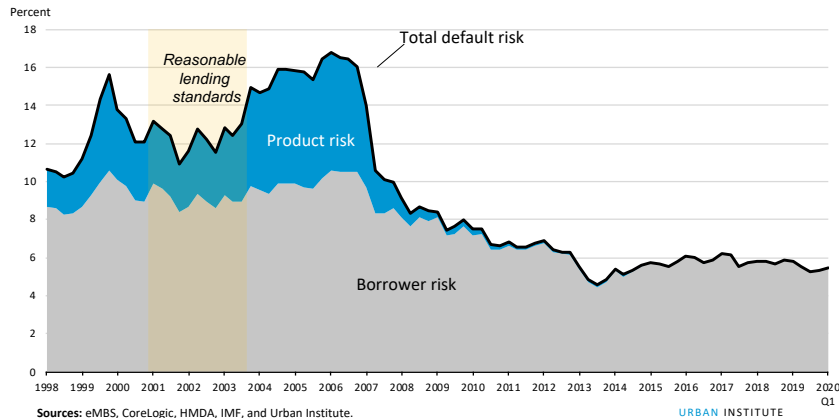
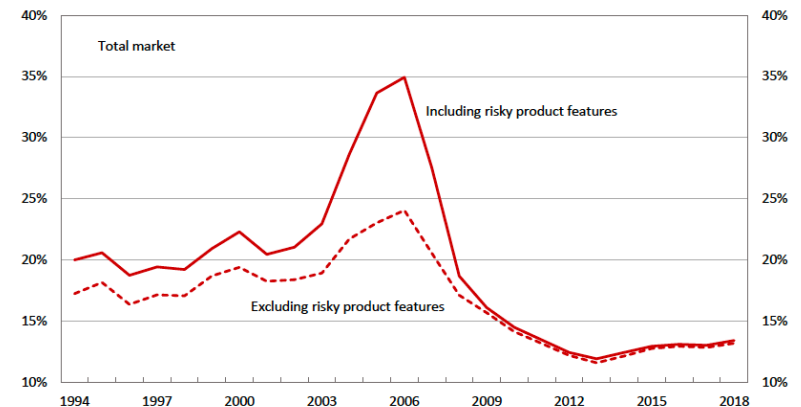


Figure 10: Influence of Risky Product Features on the Stressed Default Rate for Home Purchase Loans, Total Market, 1994-2018



Note: Results pertain to 1-4 unit purchase-money mortgages. Risky product features include low/no documentation, less than full amortization, and a loan term greater than 30 years. The stressed default rate without risky product features uses the same loans as the rate with risky product features but runs those loans with those features through the default tables as full doc, full amortization, 30-year loans. Data for PLS loans are available through 2017.

Source: Authors' calculations using data from FHFA (for Enterprise loans), Black Knight, Inc. (for portfolio and FHA/VA loans), CoreLogic (for portfolio, PLS, and FHA/VA loans), and Ginnie Mae data processed by the AEI Housing Center (for FHA/VA loans).

1. Urban Institute

2. I. Davis, Larson, Oliner, Smith, "A Quarter Century of Mortgage Risk", October 2019, FHFA Staff Working Paper Series, 19-02

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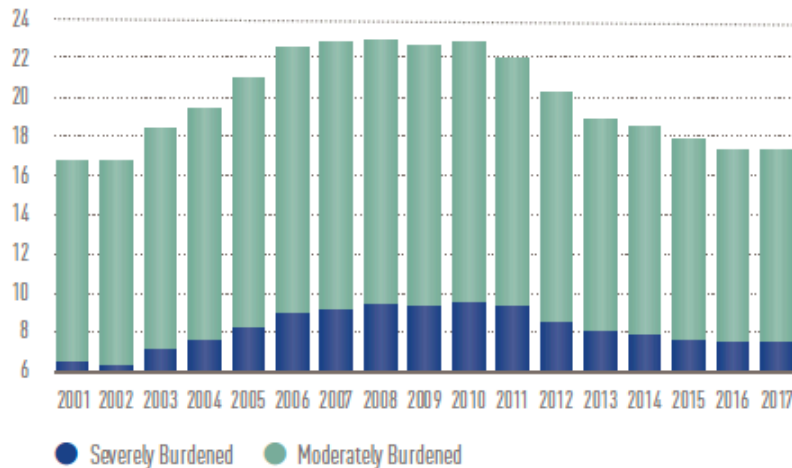
Step 2: Fundamental Economic Framework

Shift To Renting Has Pushed The Risk To the Rental Markets And....¹

The Number of Cost-Burdened Homeowners Has Receded...

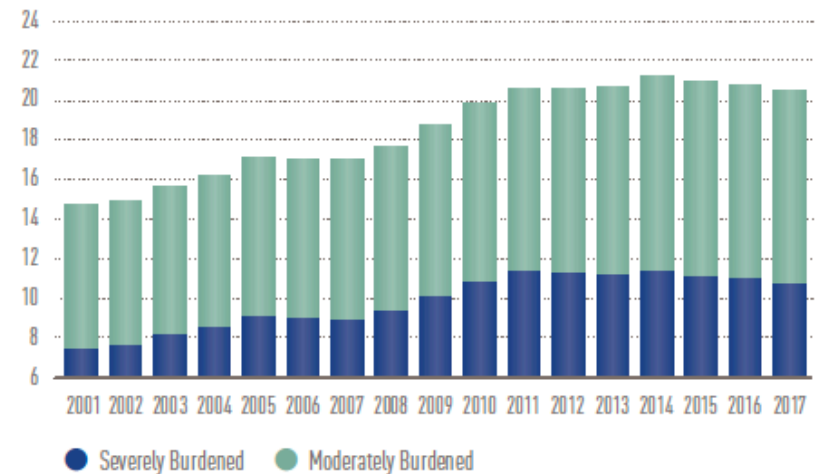
But The Number of Cost-Burdened Renters Are At Peak Levels

Owners with Cost Burdens (Millions)



Notes: Cost-burdened (severely cost-burdened) households pay more than 30% (more than 50%) of income for housing. Households with zero or negative income are assumed to have burdens, while households paying no cash rent are assumed to be without burdens. Source: JCHS tabulations of US Census Bureau, American Community Survey 1-Year Estimates.

Renters with Cost Burdens (Millions)



Notes: Cost-burdened (severely cost-burdened) households pay more than 30% (more than 50%) of income for housing. Households with zero or negative income are assumed to have burdens, while households paying no cash rent are assumed to be without burdens. Source: JCHS tabulations of US Census Bureau, American Community Survey 1-Year Estimates.

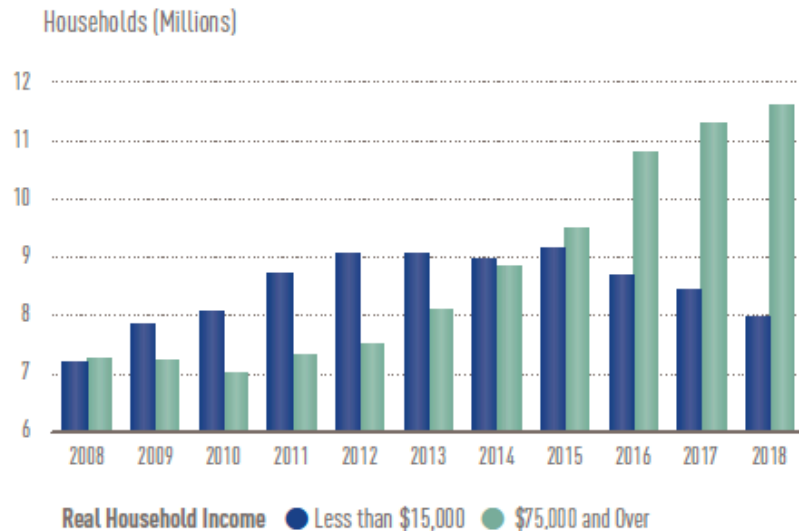
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...Putting Additional Pressures On Those Least Able To Pay Higher Rents And Find A Place To Live¹

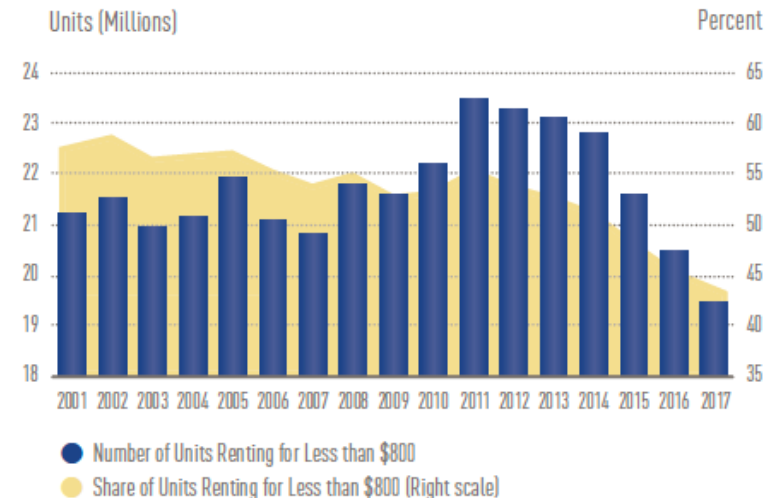
Building Has Shifted To Higher Income Rental And As A Result...



Note: Income categories are adjusted to 2017 dollars using the CPI-U for All Items.

Source: JCHS tabulations of US Census Bureau, Current Population Surveys via IPUMS CPS.

The Low Rent Stock Has Shrunk By Four Million Since 2011



Note: Contract rents are adjusted to 2017 dollars using the CPI-U for All Items Less Shelter.

Source: JCHS tabulations of US Census Bureau, American Community Survey 1-Year Estimates.

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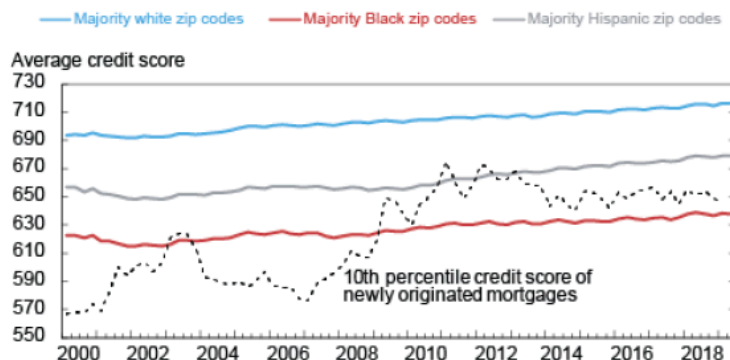
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Step 2: Fundamental Economic Framework

Tightening Mortgage Underwriting Is Yet Another Barrier to Home Ownership To Minorities

Higher FICO's Means Few Minorities Can Qualify For A Mortgage¹

Tightening in Mortgage Underwriting Has Affected Communities Unevenly



Minorities Already Have A Lower Ownership Rate Vs Whites²

	White	Black	Hispanic
Education			
No high school	73%	37%	45%
High school	74%	44%	50%
Some college	72%	46%	53%
College	79%	61%	62%
Income			
Bottom fifth	48%	21%	26%
Second fifth	62%	35%	37%
Middle fifth	73%	49%	51%
Fourth fifth	82%	65%	65%
Top fifth	90%	79%	78%
Age			
25–34	55%	30%	38%
35–44	72%	42%	47%
45–54	80%	53%	58%
55–64	84%	59%	64%
65–74	87%	65%	67%

1. Andrew Haughwout, Donghoon Lee, Joelle Scally, and Wilbert van der Klaauw. "Inequality in U.S. Homeownership Rates by Race and Ethnicity." Federal Reserve Bank of New York Liberty Street Economics, July 8, 2020.

2. Solomon, Maxwell, Castro, "Systematic Inequality" Displacement, Exclusion, And Segregation", Center For American Progress, August 2019

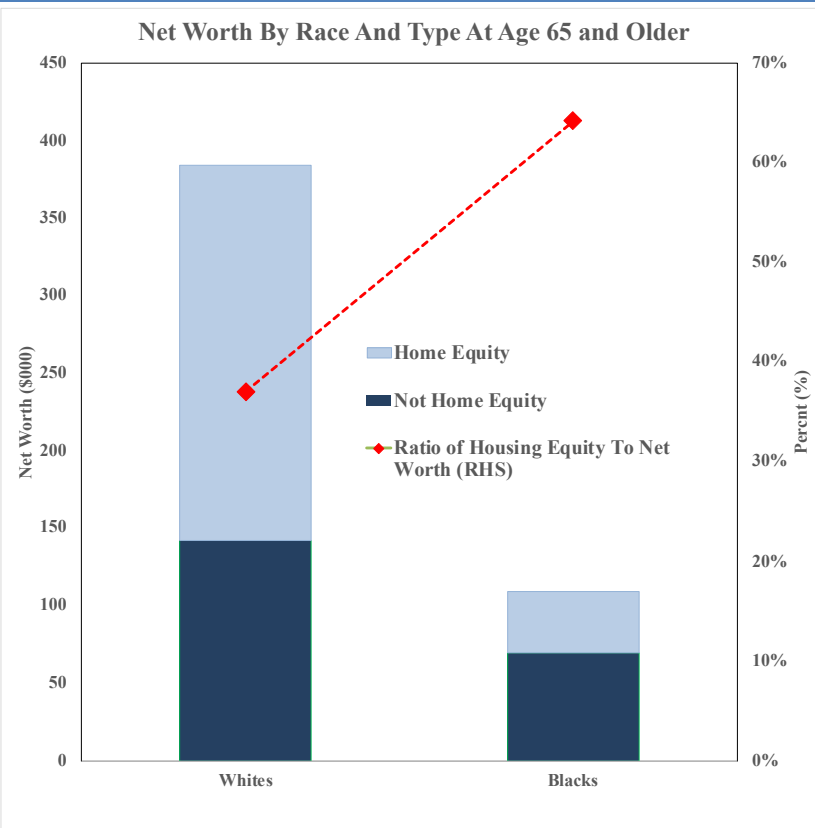
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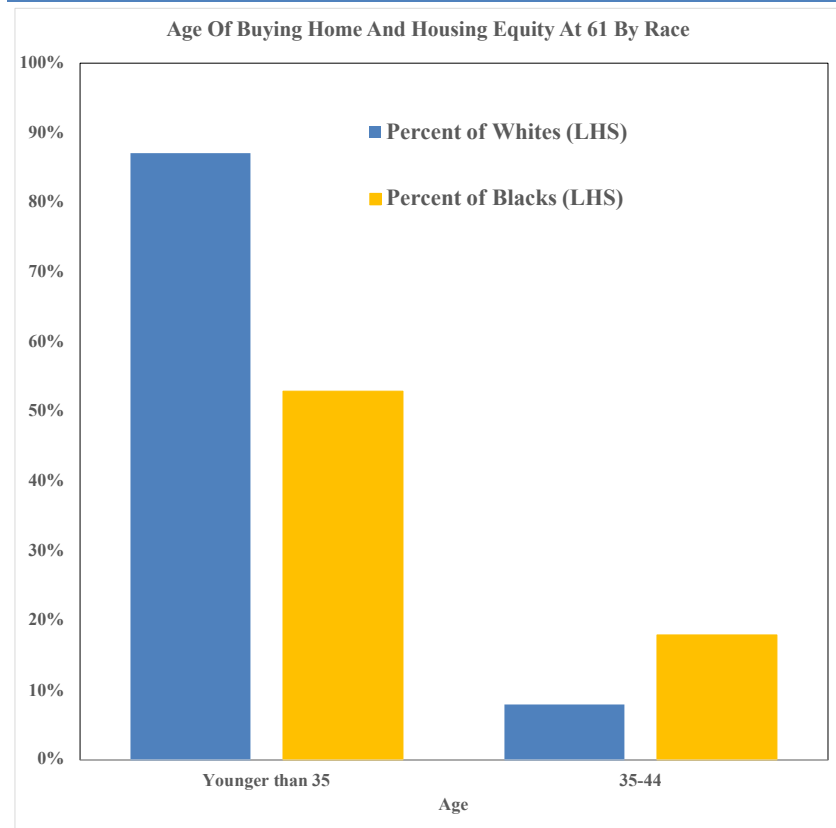
Step 2: Fundamental Economic Framework

Barriers To Owning A Home Has Constrained The Ability Of Minorities To Create Wealth¹

Most of The Net Worth Of Blacks Is Home Equity...



One Reason Is That It Takes Blacks Longer To Own Homes Latter In Life²



1. Goodman, Kaul, Zhu, "What the 2016 Survey of Consumer Finances Tells Us About Senior Homeowners", Urban Institute, November 2017
2. Choi, McCargo, Goodman, "Three differences between black and white homeownership that add to the housing wealth gap", Urban Institute, 3/13/2019

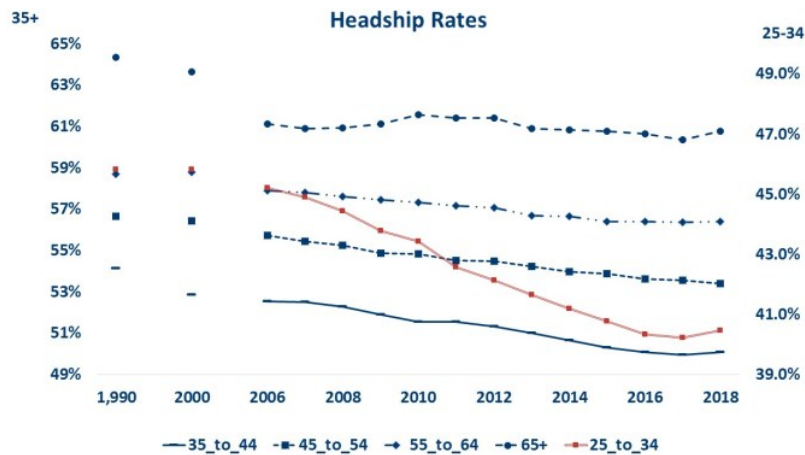
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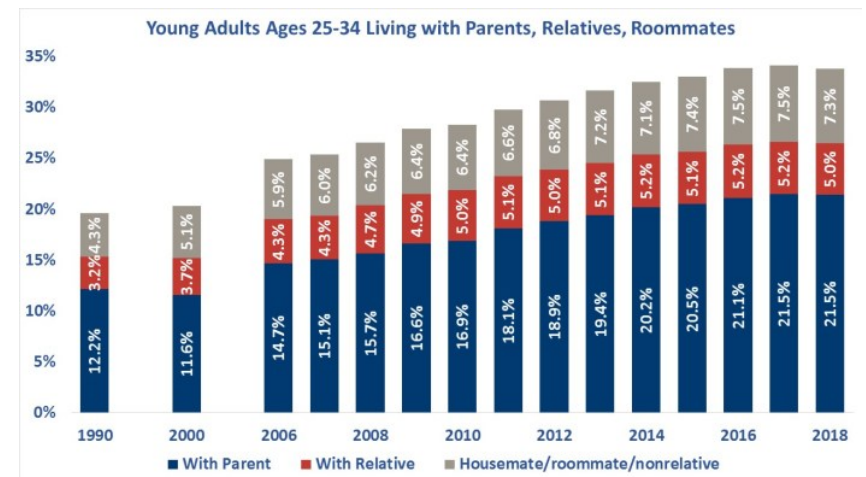
Step 2: Fundamental Economic Framework

Barriers To Getting A Mortgage Has Reduce Household Formation By Young Adults¹

Young Adults Living On Their Own Is At Historical Lows



They Have Moved Back Home Reducing Demand For New Building



1. Siniavskaja, "Young Adults Headship Rates Hit New Lows", NAHB, February 26, 2019

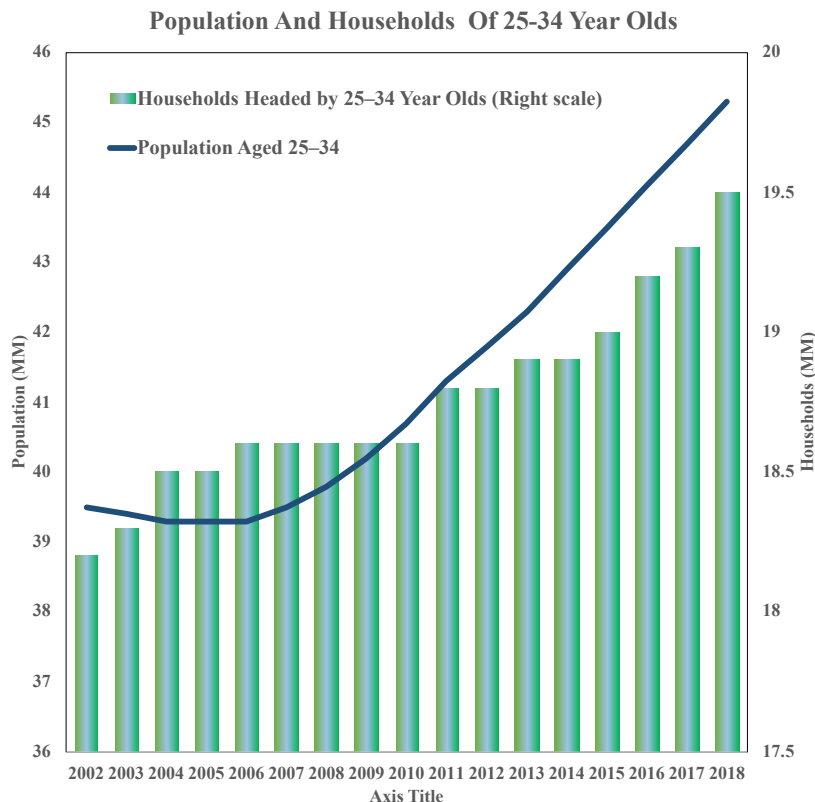
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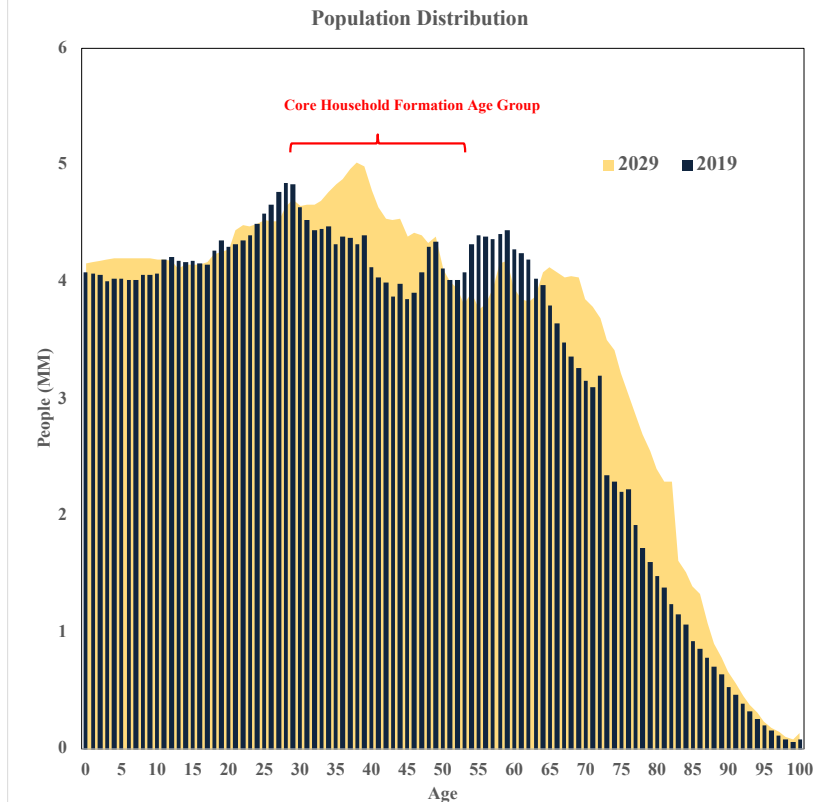
Step 3: Identify Potential Catalysts

Catalyst For More Home Building: Demographic Driven Demand¹

Prime Household Formation Cohort Growing...



Will Dominate The Demand For Housing The Next 10 Years



1. State of The Nation's Housing 2019, Joint Center For Housing Studies of Harvard University, 2019

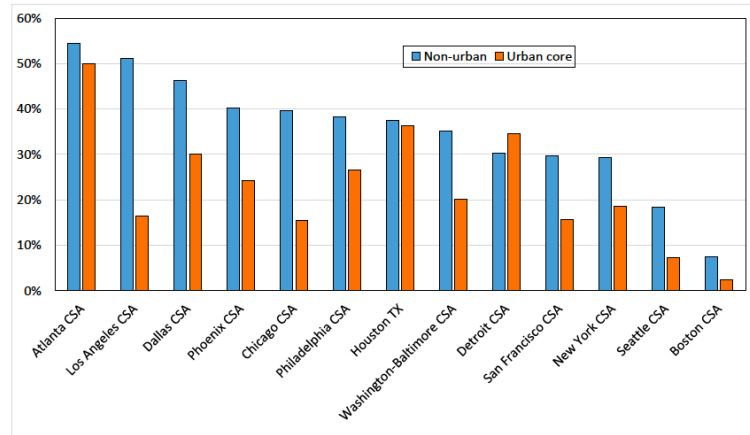
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Step 3: Identify Potential Catalysts

Catalyst For More Home Building: "De-Urbanization" Demand¹

Chart 2: 2020 Year-over-Year Change in Urban Core and Non-Urban Purchase Rate Locks: Week 21-24



Zipcode Density (1-least/ 5 most)	YoY Change (%)	Share of Orignations	
		2019	2020
1,2,3	42%	20%	21%
4	34%	43%	44%
5	23%	37%	35%
All	31%		

Zipcode Density (1-least/ 5 most)	YoY Change (%)	Share of Orignations	
		2019	2020
1	33.6%	7.5%	8.3%
2	33.9%	25.5%	28.5%
3	25.1%	27.9%	29.2%
4	7.4%	25.0%	22.4%
5	1.1%	14.1%	11.6%
All	23.3%		

1. Peter, Tobias, "Special Housing Market Nowcast: Americans on the Move", AIE Housing Center, June 17, 2020

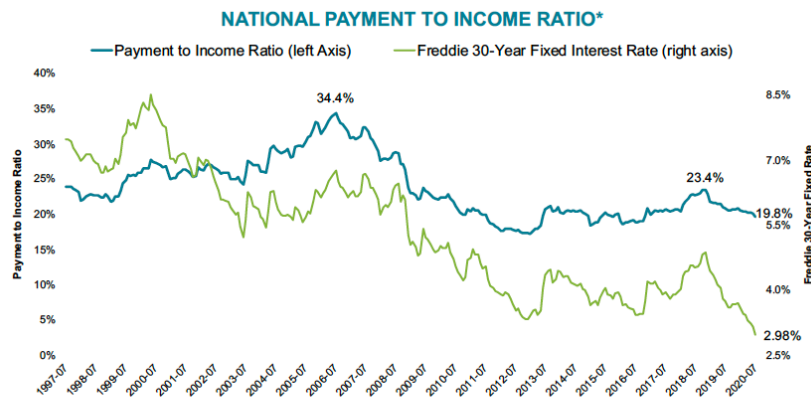
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Step 3: Identify Potential Catalysts

Catalyst For More Home Building: Low Mortgage Rates Driven Demand

Affordability Is At Historical Highs¹



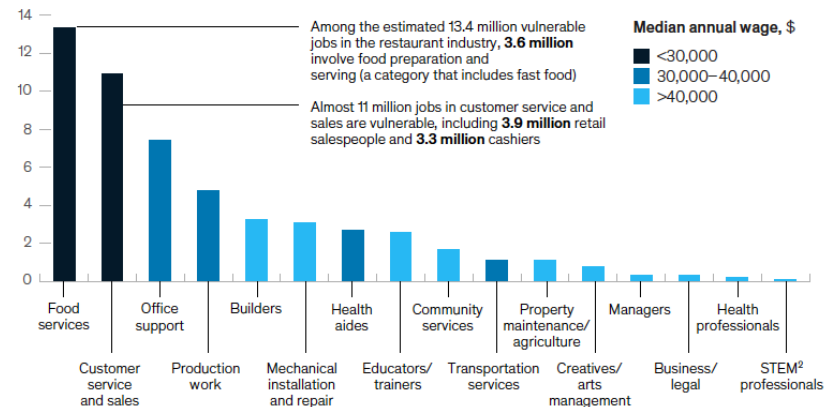
*The National Payment to Income Ratio is the share of median income needed to make the monthly principal and interest payment on the purchase of the median priced home using a 20% down 30-year fixed rate mortgage at the prevailing interest rate



Potential Buyers Less Affected By COVID Unemployment²

Forty-six percent of vulnerable jobs are in food service, customer service, and sales.

Vulnerable jobs,¹ by occupation, millions



¹"Vulnerable" jobs are subject to furloughs, layoffs, or being rendered unproductive (for example, workers kept on payroll but not working) during periods of high physical distancing.

²Science, technology, engineering, and mathematics.
Source: LaborCube; McKinsey Global Institute analysis

1. Black Knight, July 2020

2. Lund, Ellingrud, Hancock, Manyika, Dua, "Lives and livelihoods: Assessing the near-term impact of COVID_19 on US Workers", McKinsey Global Institute, April 2020

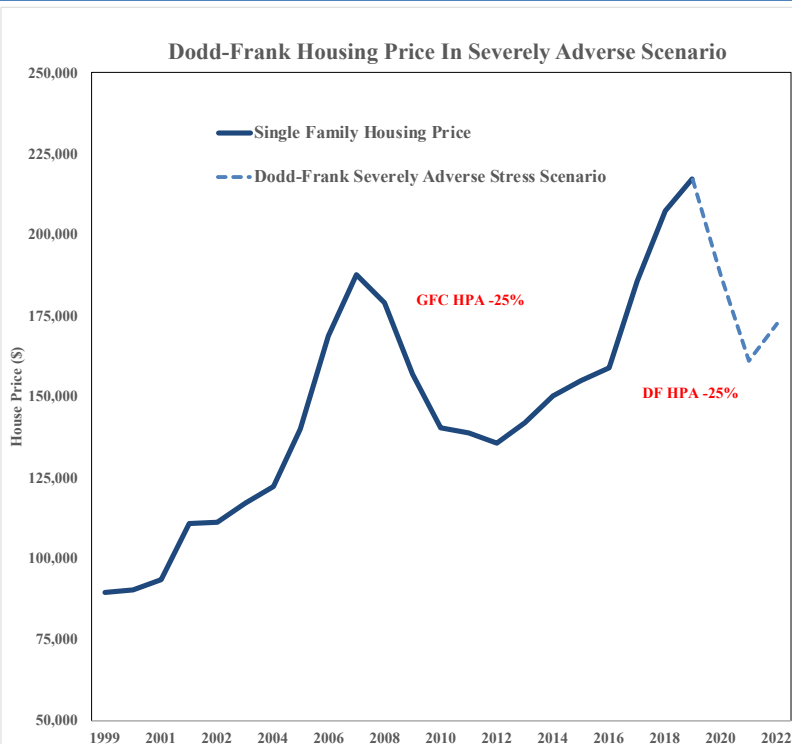
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Step 3: Identify Potential Catalysts

Catalyst For Growth In Home Ownership And Mortgage Originations: Dodd-Frank Reform

Risk-Based Capital Based On Scenario of A Repeat of GFC¹



Ability-to-Pay Concept The QM Mortgage²

- Qualified Mortgage (QM)
 - DTI < 43% or underwritten by FHA/GSE(GSE Patch)
 - No risky products: low-doc, balloons, neg-am, or IO loans
 - Limits on points and fees
 - **Safe Harbor** against borrower/regulator lawsuits if mortgage rate no more than 1.50% above the prime mortgage rate
 - Higher than 1.5% potentially exposed to litigation even if DTI < 43%
- Non-Qualified Mortgage
 - DTI > 43%, 5% risk retention for securitization
 - **No Safe Harbor**
 - *Defaulting borrower can sue lender for not knowing they could not payback their mortgage, and the lender pays expenses if borrower wins*

1. Board of Governors Of The Federal Reserve
2. Consumer Financial Protection Bureau

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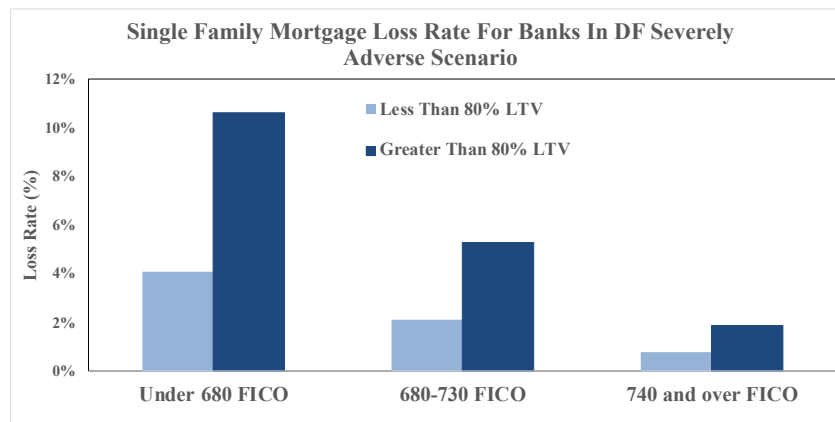
Step 3: Identify Potential Catalysts

Catalyst For Growth In Home Ownership And Mortgage Originations: Dodd-Frank Reform

GSE's DF Severely Adverse Scenario Purchase Loan Losses ^{1,2}

Banks Are Faced With The Same Incentives To Reduce Risky Loans³

FICO\LTV	75-80	80-85	95-100
620	8.0%	9.8%	16.5%
660	4.8%	5.9%	10.7%
720	3.6%	4.3%	8.3%
760	2.0%	2.4%	4.9%
720 Alt-A	4.6%	5.6%	10.8%



1. FHFA, Federal Register, Vol 95, No. 126, June 30, 2020
 2. Author's calculations converting risk weights to loss rates
 3. Board of Governors of The Federal Reserve, "Dodd-Frank Act Stress Test 2020: Supervisory Stress Test Methodology", March 2020

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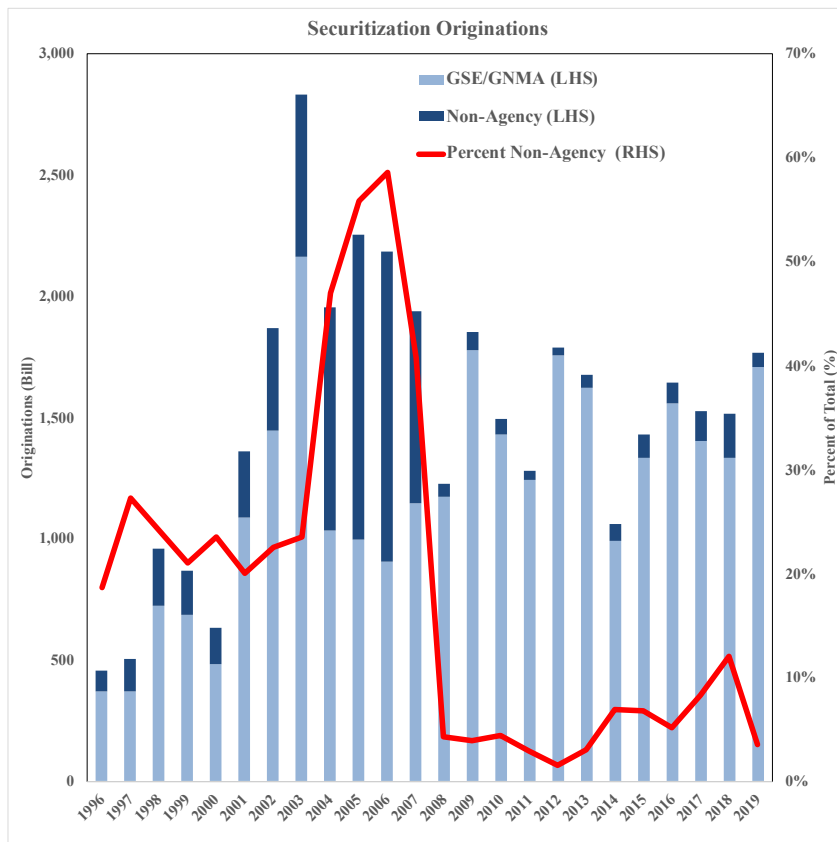
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Catalyst For Growth In Home Ownership And Mortgage Originations: Dodd-Frank Reform

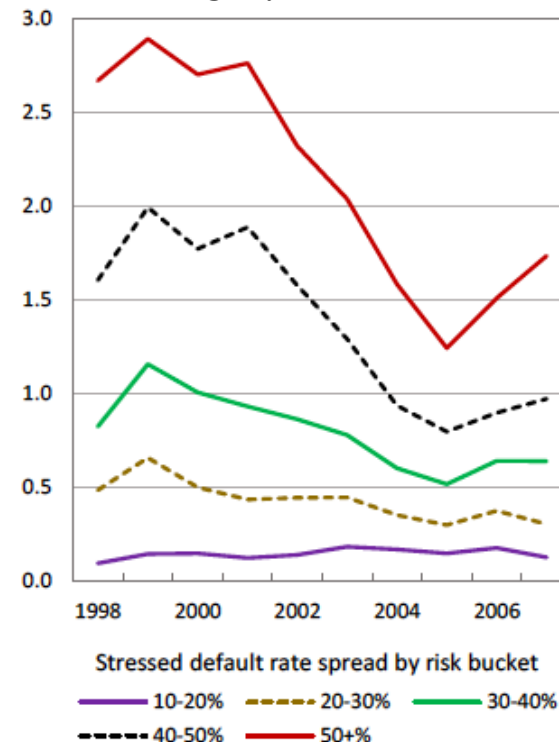
Reform Could Ignite Non-Agency Securitizations¹

Also Unlock Riskier Loan Underwriting By Allowing Wider Margins²



Margin
Above
Prime

Non-Agency Securitization



1. SIFMA Data Base
2. Davis, Larson, Oliner, Smith, "A Quarter Century of Mortgage Risk", October 2019, FHFA Staff Working Paper Series, 19-02

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Step 4: Identify Asymmetric Trades

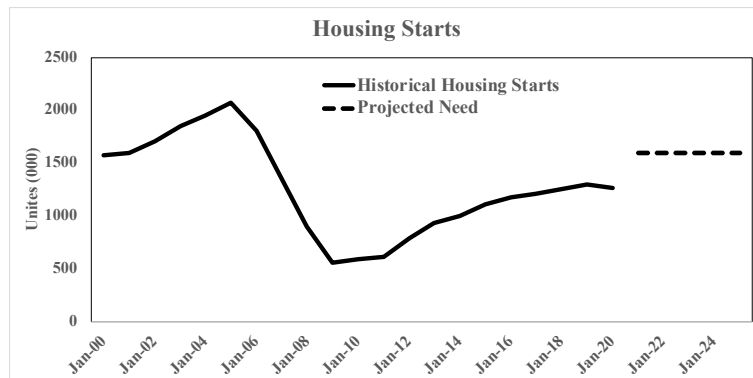
Trade 1: Buy Home Builders, Housing Related And “For-Rent” Equities

Trade Thesis

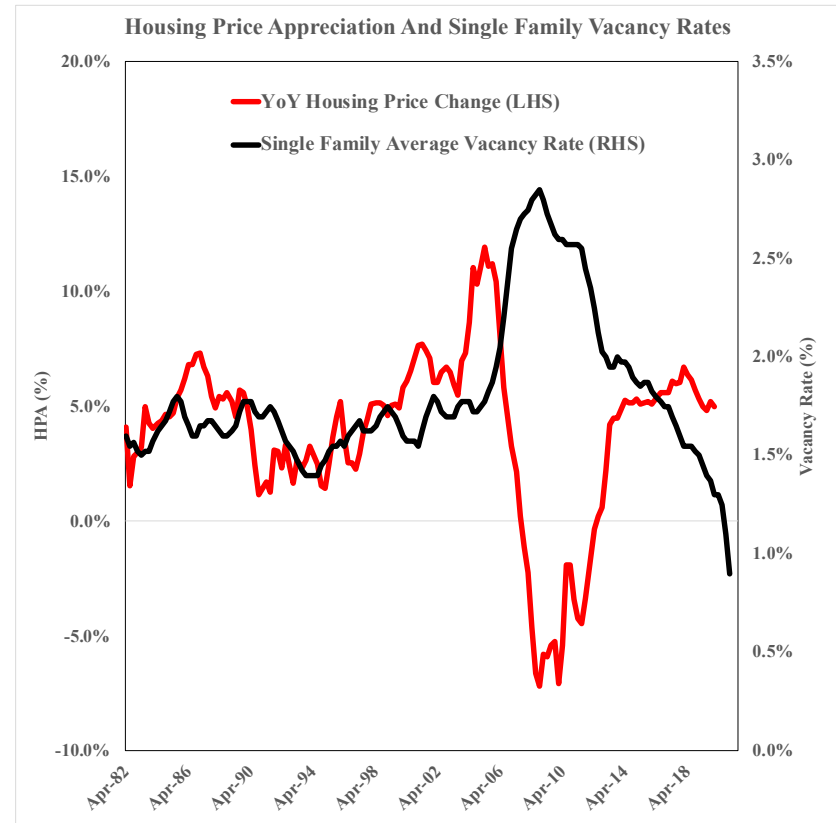
- Housing prices will continue to rise driving higher home asset values and rent rates from building and existing portfolios
- Prices and rental rates will continue to rise even in a stress economy reflecting the rising demographic driven demand and ten years of underbuilding
- Value of land banks of home builders will rise with higher housing prices, while “For Rent” companies underlying home assets will rise along with rental income

Risk is economy does not recover

Even With The Recent Spike, Starts Sill Below Needed Levels¹



Declining Vacancies Supports Rising Housing Prices And Rent Rates²



1. Freddie Mac Projections
2. Federal Reserve Bank of St. Louis, Fred Data Base

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Step 4: Identify Asymmetric Trades

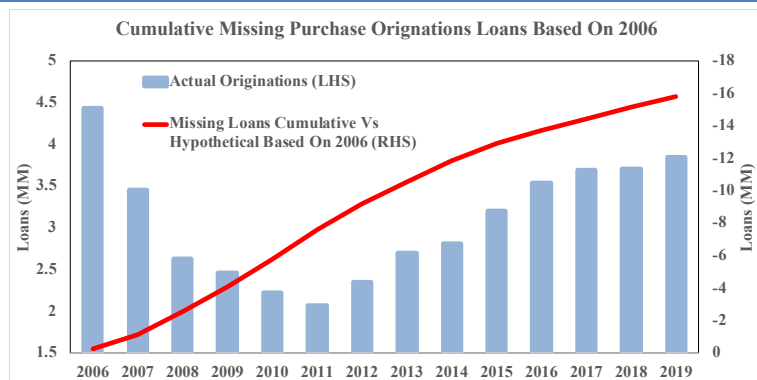
Trade 2: Buy GSEs, Mortgage Insurers, And Mortgage Bankers/Selected REITs

Trade Thesis

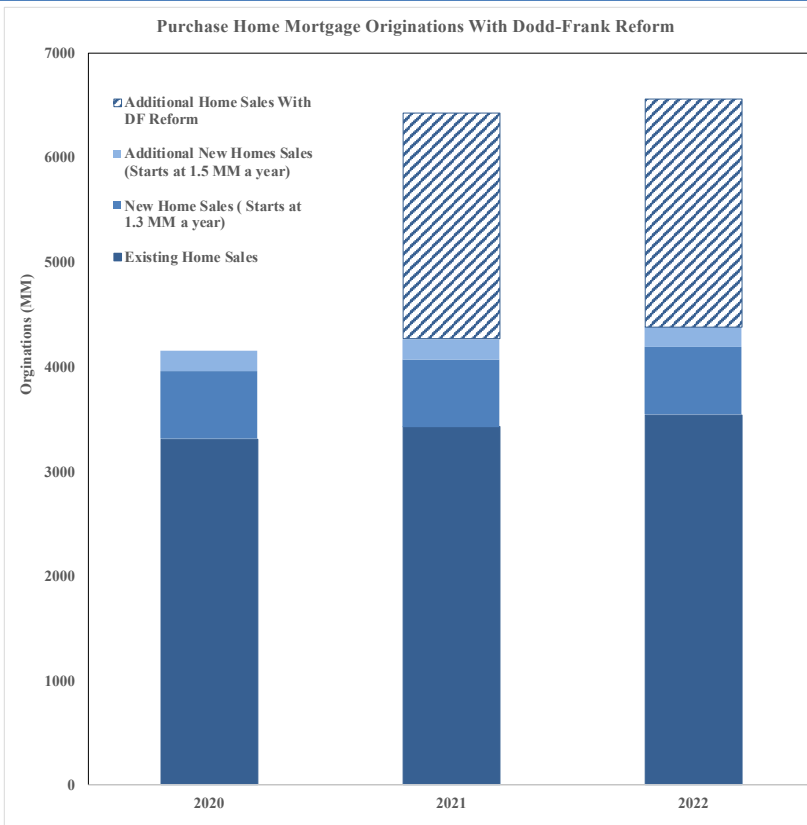
- Dodd-Frank reform unleashes another home ownership surge
- Reform could be driven by many factors
 - Support low income housing and minority access to homeownership
 - Response to the barriers for first time ownership of a sizable cohort of the US population
 - Reduce the pressure from rising housing prices on affordability from too little building
- Housing starts rise to historical levels as mortgage financing relaxes
 - Starts need to accelerate to offset the historical underbuilding
- Think the 2003-6 housing boom

Risk is nothing gets done to loosen lending standards

Mortgage Originations/Revenue During Last 10-yrs Artificially Low¹



Return To Normal Home Ownership Means A Mortgage Revenue Boom²



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