

SOM Macro Strategies

State Of the Markets: Inflation---Higher For Longer

Part 2: Housing Market Dynamics Have Returned To The 70s

July 25, 2021

Alan Brazil

SOM Macro Strategies

State Of the Markets: Inflation---Higher For Longer

Part 2: Housing Market Dynamics Have Returned To The 70s

Step 1: Identify A Macro Theme

It Is Back To The 70s--- Inflation Will Be Higher For Longer Because This Time Its Different t

Three Factors That Have Been Headwinds To Inflation Are Now Tailwinds

Part 1: Labor Market Dynamics Have Reversed

- Since the 70s, inflation reflects the impact from labor dynamics that have held down inflation by holding down wage inflation
- *This time its different: labor dynamics have reversed from behavior of the last 30 years and will unleash wage inflation*

Part 2: Housing Market Dynamics Have Returned To The 70s

- From the early 80s through the 2010s, housing prices appreciation (HPA) has not been a driver of reported inflation
- *This time its different: the housing and labor market dynamics, augmented with government policy, are all pointing in the same positive direction as during the 70s when inflation surged*

Part 3: Savings And Fiscal/Monetary Stimulus

- Since The 70s, rise in domestic savings has kept inflation in check even with the massive fiscal and monetary stimulus
- *Fiscal and monetary stimulus dwarfs that of prior periods, creating huge stockpiles of savings that are now turning into a tsunami of consumption as the economy recovers*

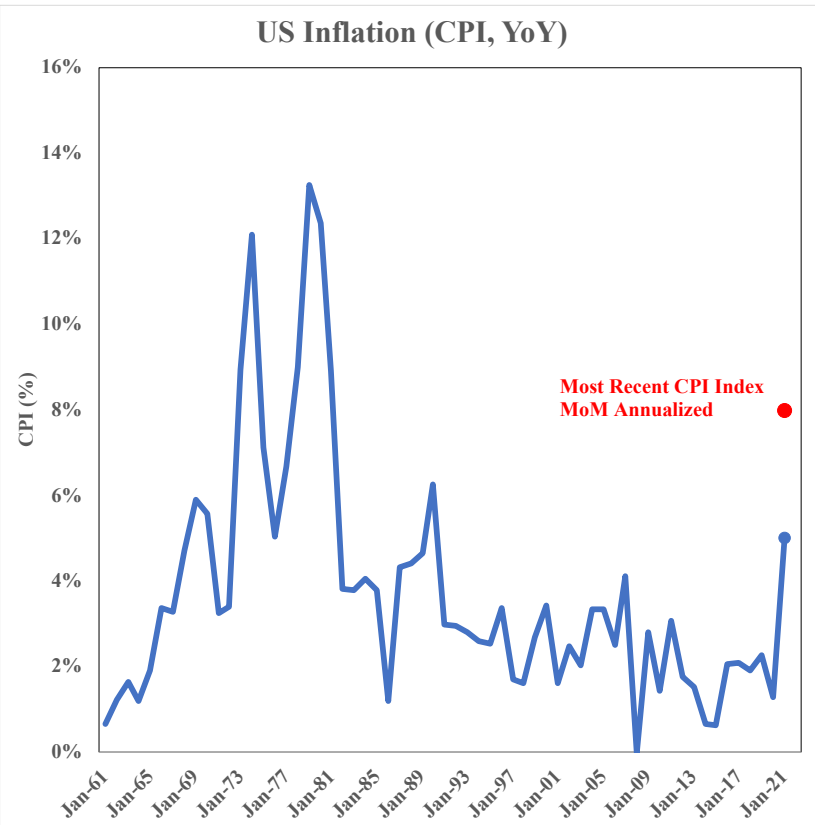
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State Of the Markets: Inflation---Higher For Longer Part 2: Housing Market Dynamics Have Returned To The 70s

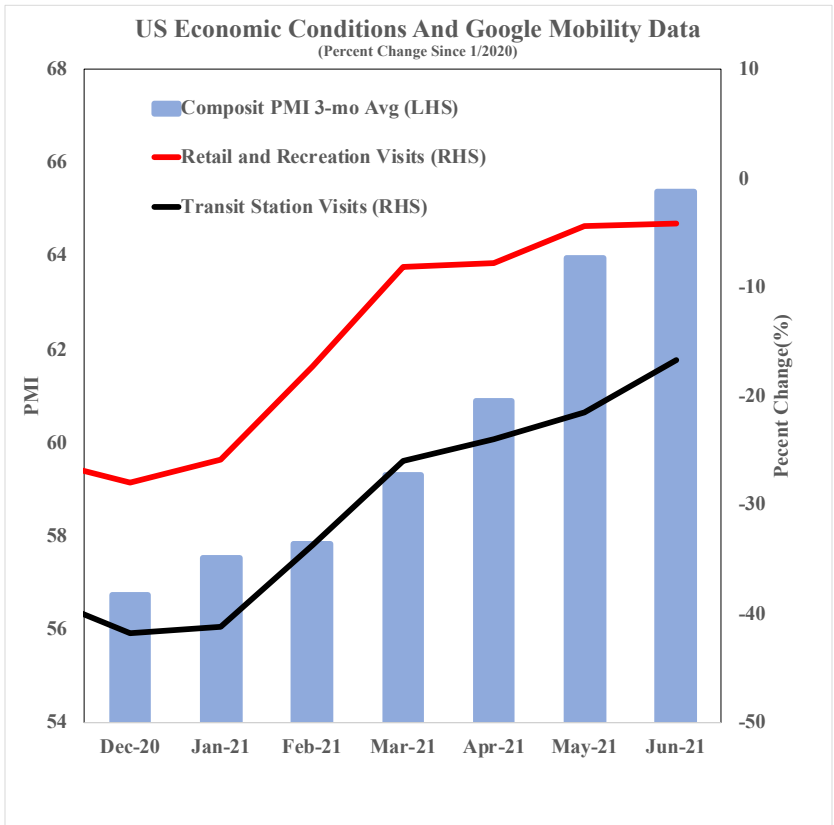
Step 1: Identify Macro Theme

Is Inflation Headed Back To the 70s Or Is It Temporary, And Will Recede As It Has Every Other Time?...

CPI Has Reach Levels Last Seen In The 70s Inflation Period¹



The US Economy Is Emerging From COVID Could Explain It²



1. BEA
2. Our World In Data, Google Mobility Data

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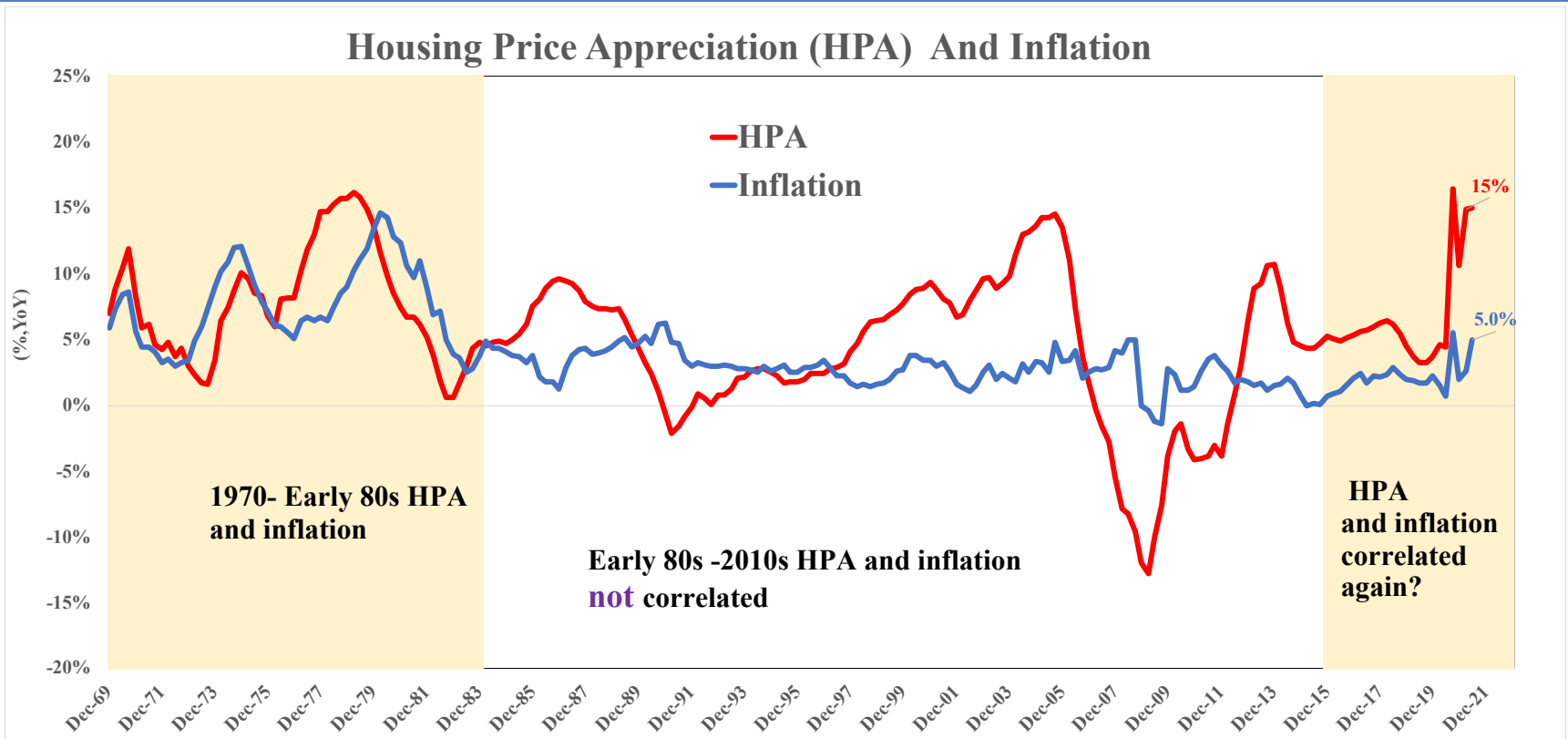
Part 2: Housing Market Dynamics Have Returned To The 70s

Does

Step 1: Identify A Macro Theme

Does Recent HPA Change That View, Or Is it a Non-Factor As It Has Been In The Last 30 Years?¹

The History Of Housing Price Appreciation (HPA) And Consumer Inflation (CPI)



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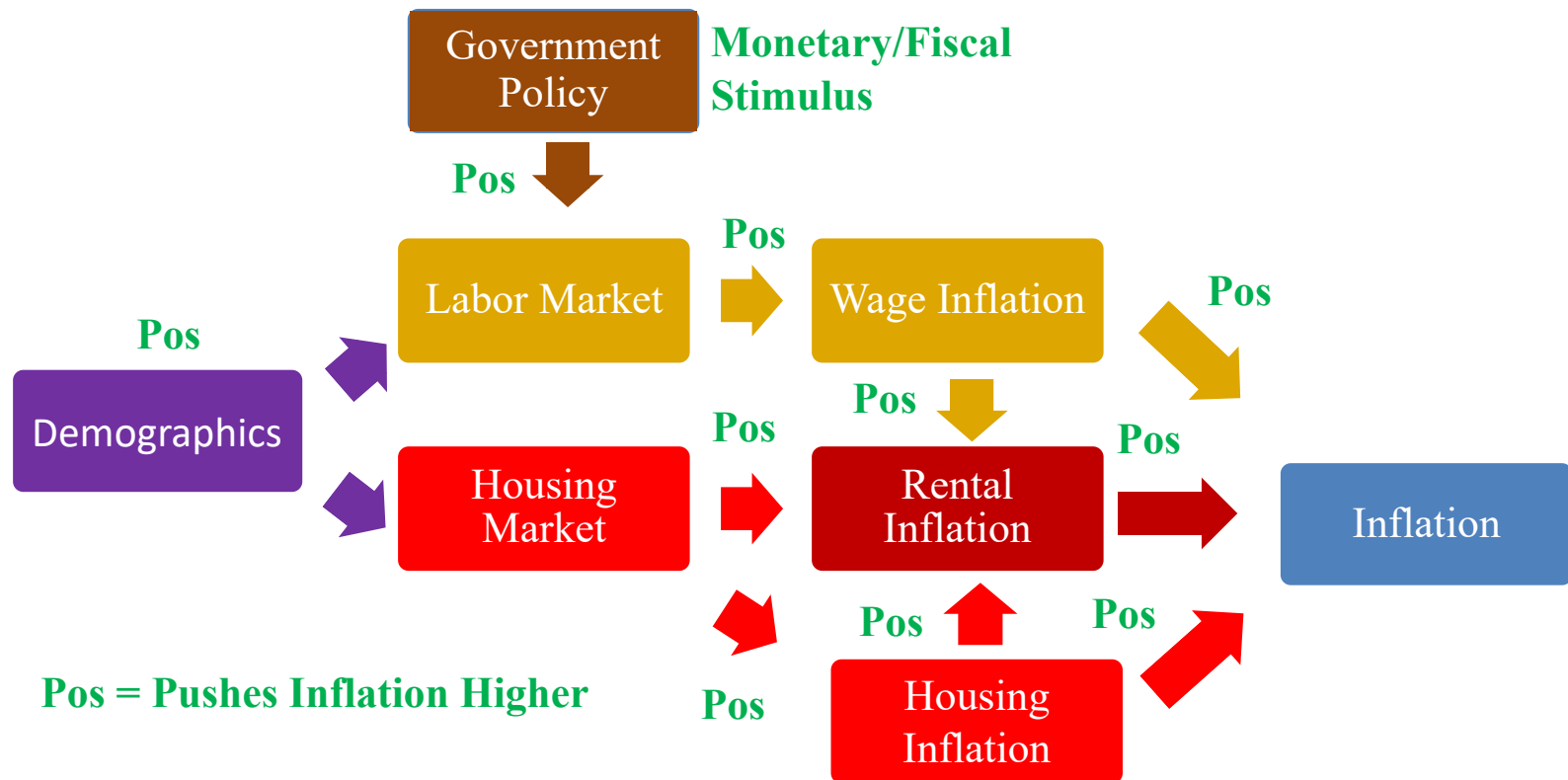
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Part 2: Housing Market Dynamics Have Returned To The 70s

Step 2: Fundamental Economic Framework

The Answer Is The Surge In HPA Points To A Return To The Dynamics That Drove The 70s Era Of Inflation

Fundamental Factors And Channels That Potentially Affect Consumer Inflation



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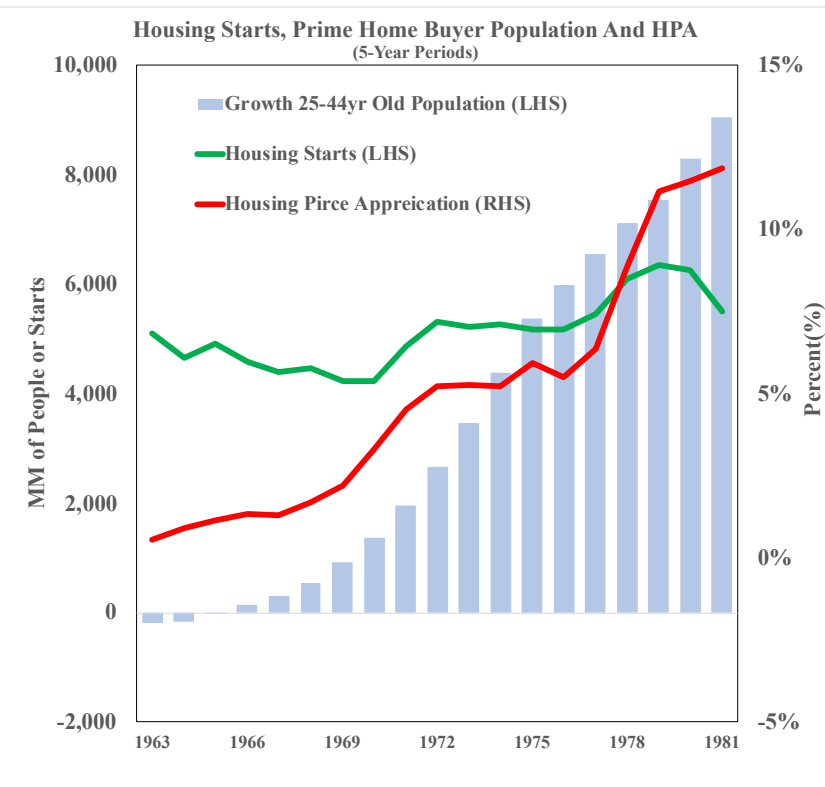
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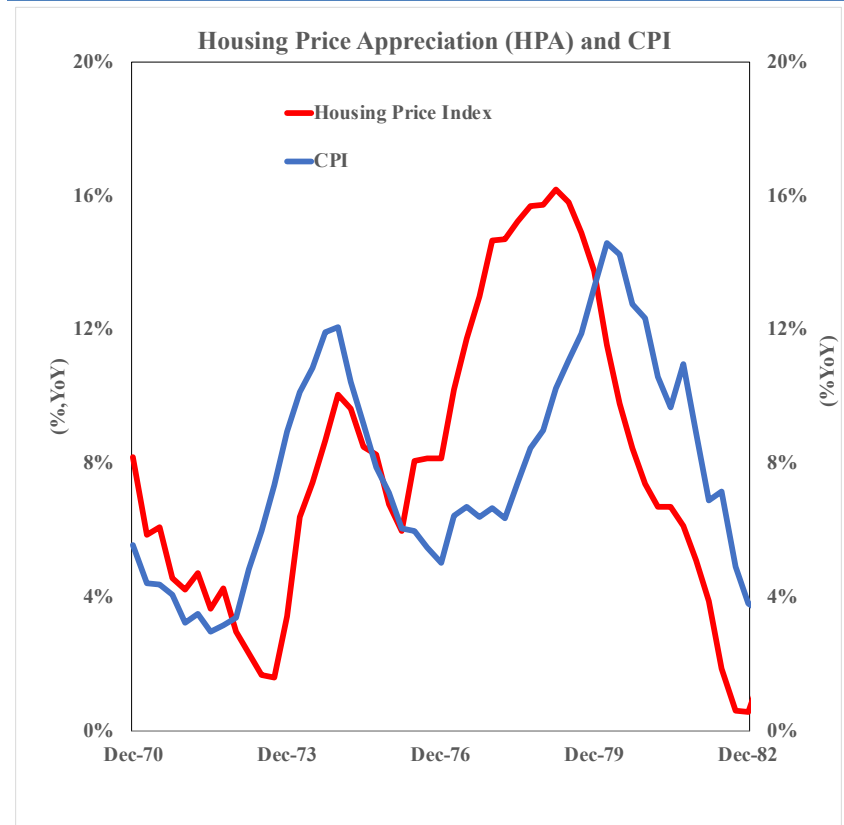
Step 2: Fundamental Economic Framework

In The 70s, Housing Demand Outstripped Supply Pushing Up HPA Which Drove Inflation Higher¹

Demographics Driven Demand For Housing Was Growing Which



Drove Housing Prices And Inflation Higher



1. Federal Reserve Bank of St. Louis, Fred Data Base

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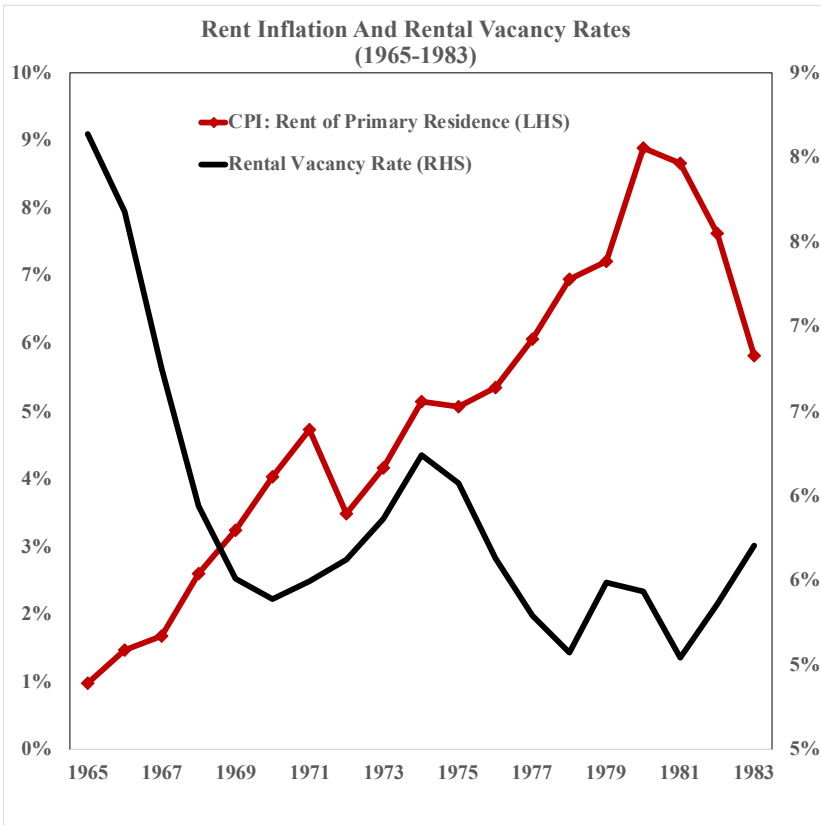
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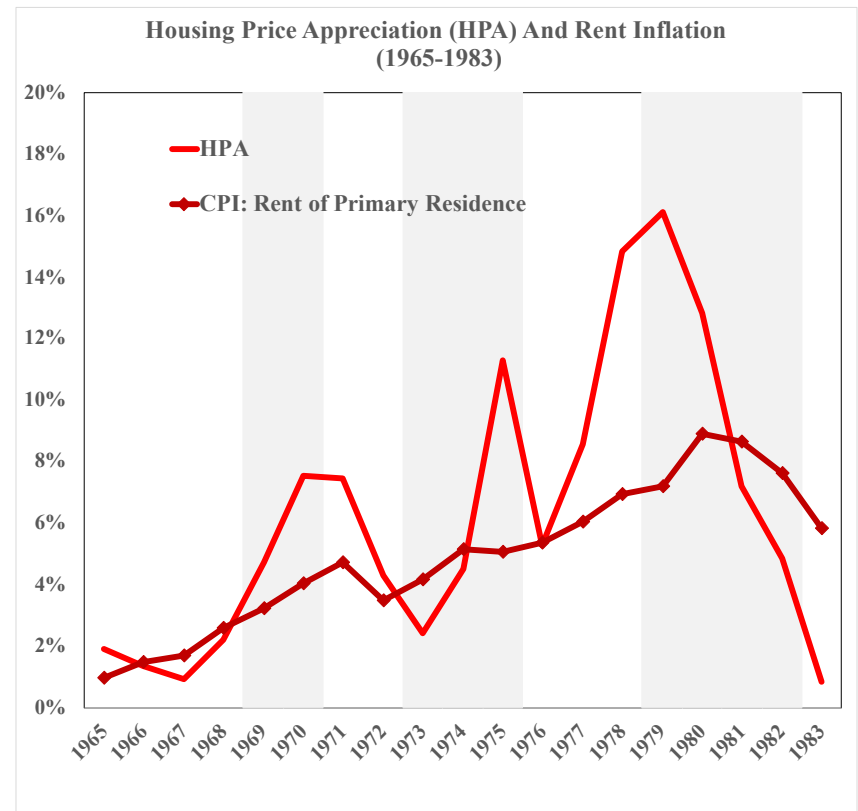
Step 2: Fundamental Economic Framework

Strong Housing Dynamics Also Pushed Up Rent Inflation Another Factor Leading To Higher Inflation

Rental Inflation Surged As Vacancies Fell^{1,2}



HPA And Rental Inflation Were Highly Correlated¹



1. BEA
2. Census Housing Survey

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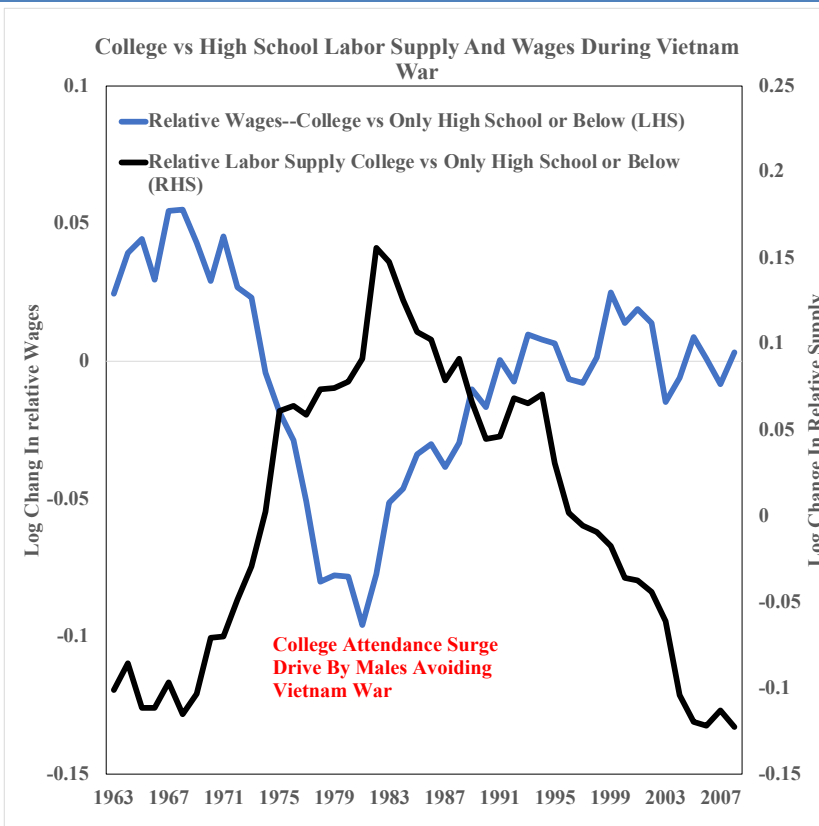
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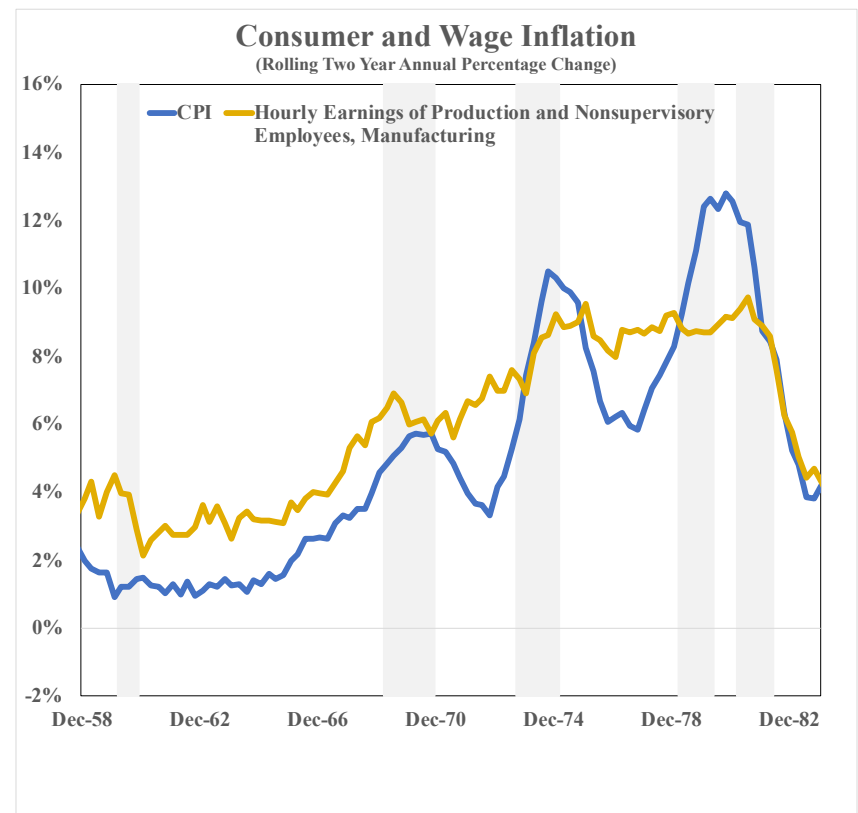
Step 2: Fundamental Economic Framework

Labor Market Strength Led To Wage Inflation That Was Another Channel That Pushed Up Inflation

The Labor Market For Service Workers Was Tight....¹



And That Led To Wage And Consumer Inflation²



1. BLS
2. BEA

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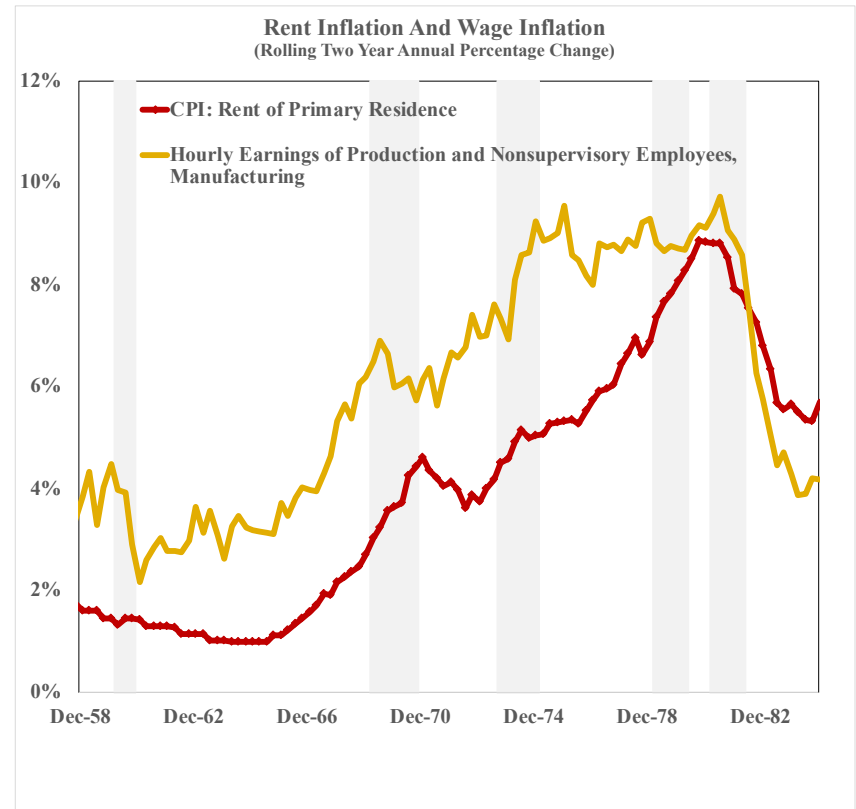
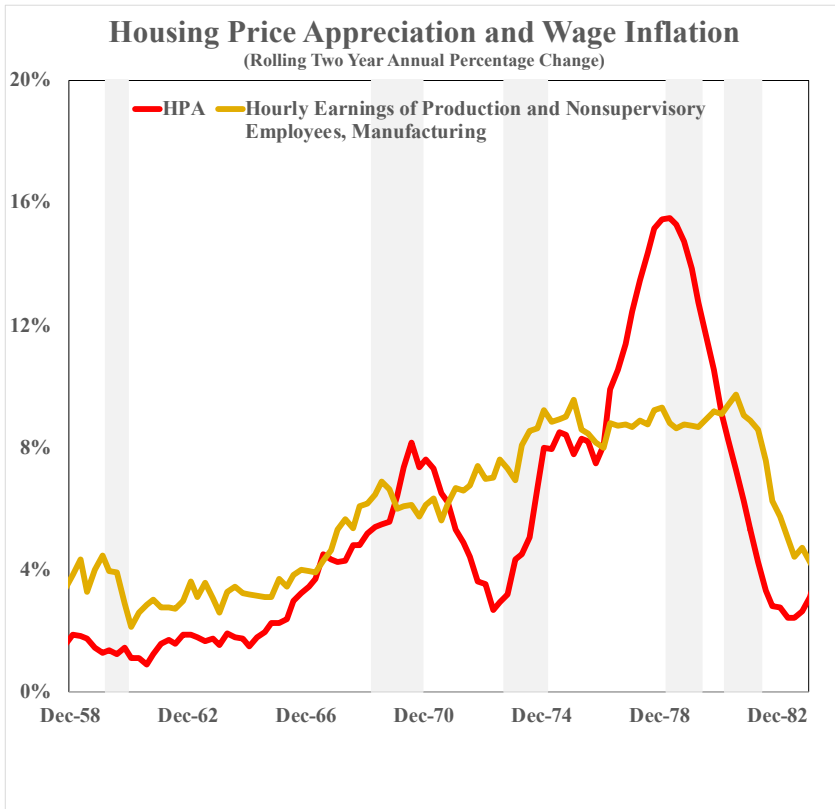
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Step 2: Fundamental Economic Framework

Interaction Amongst These Factors Also Contributed To Pushing Inflation Higher

Workers Demanded Higher Wages To Pay For Higher Housing Prices ...^{1,3}

To Afford Rising Rent Inflation²



1. Federal Reserve Bank of St. Louis, Fred Data Base
2. BEA
3. BLS

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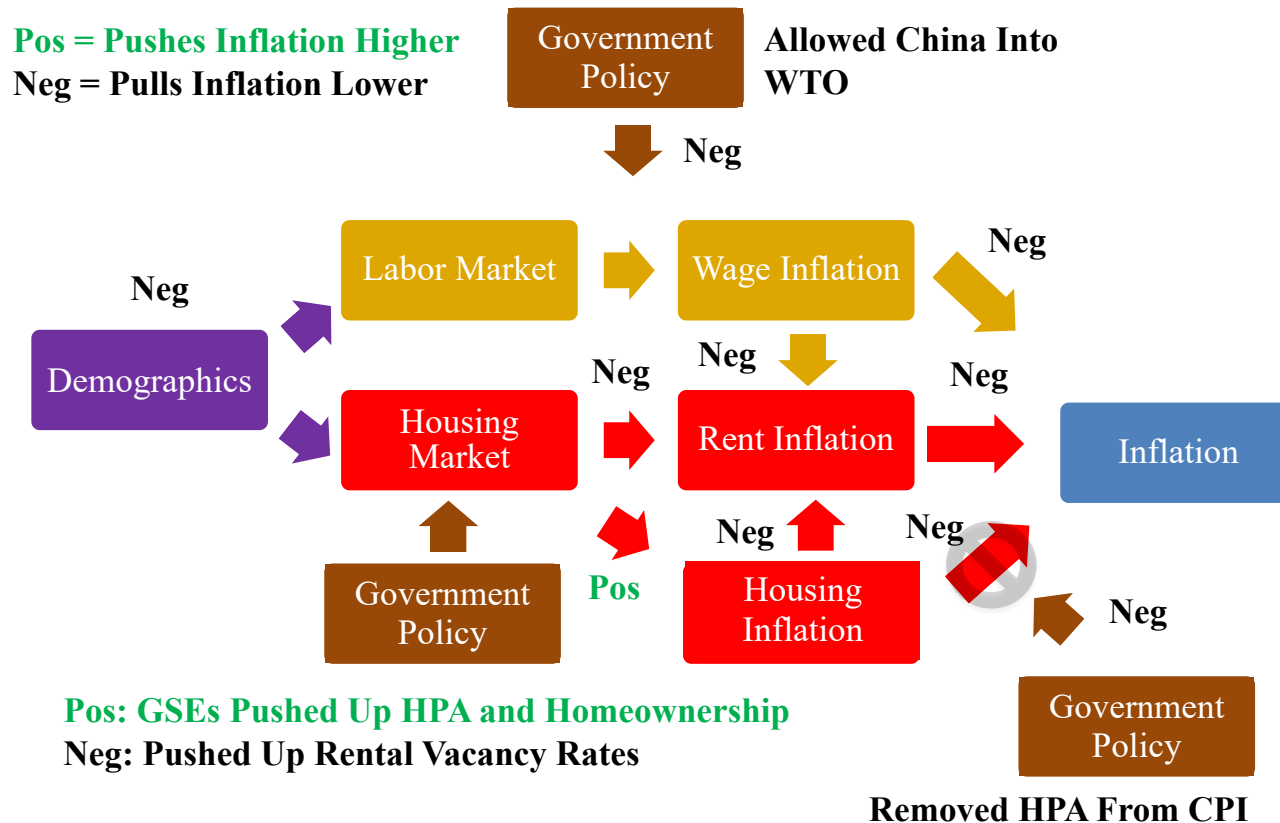
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Step 2: Fundamental Economic Framework

In Contrast to the 70s, Almost All The Factors From The Early 80s Through 2010s Held Down Inflation

Fundamental Factors And Channels That Potentially Affect Consumer Inflation



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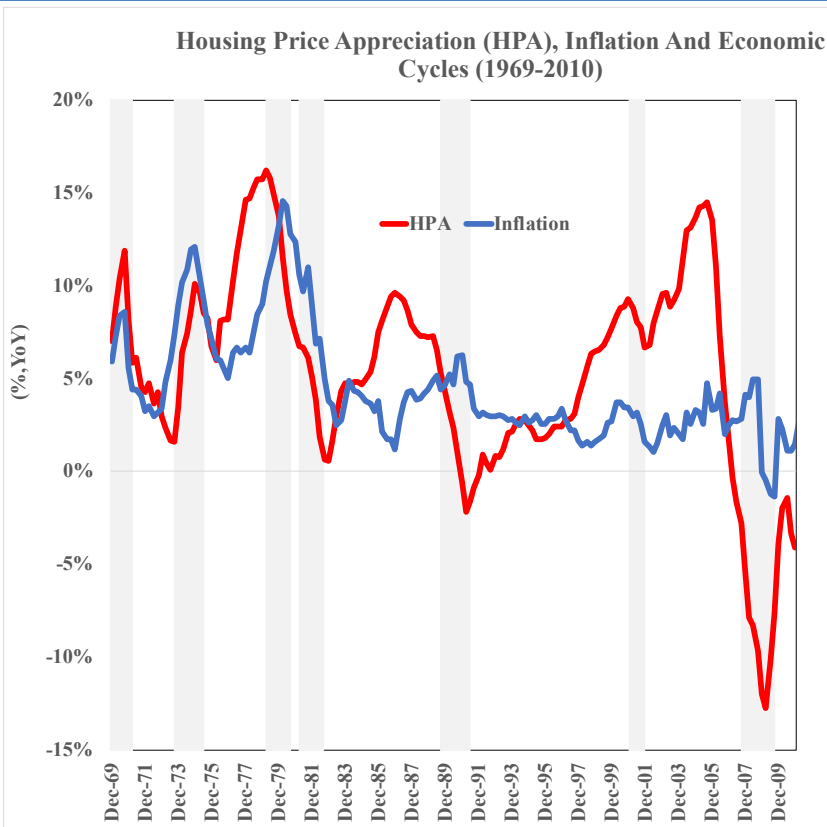
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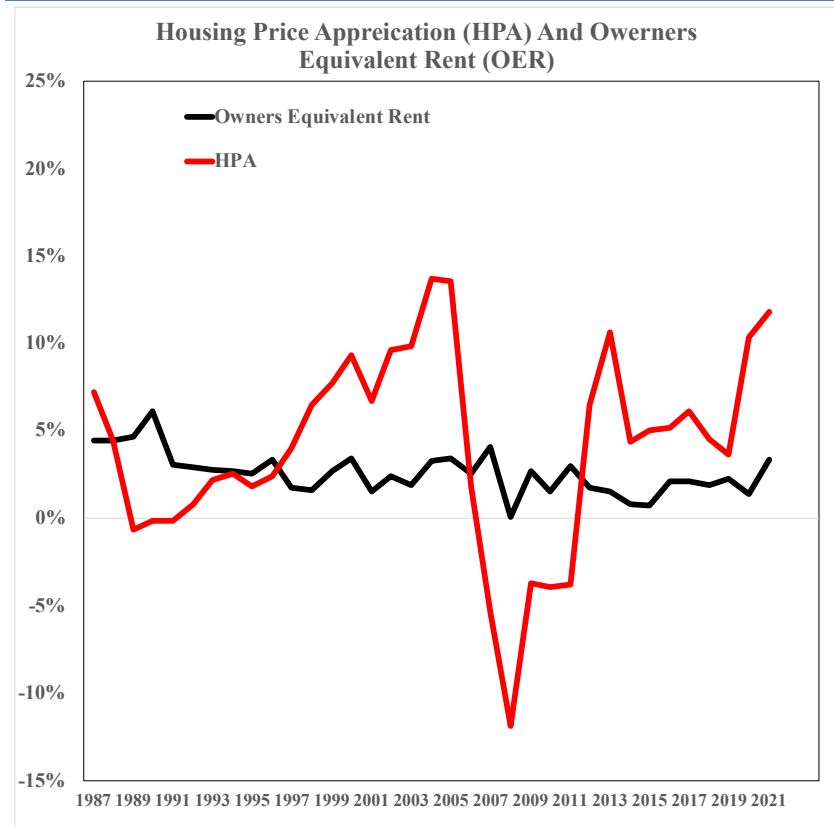
Step 2: Fundamental Economic Framework

HPA Did Not Drive CPI After 1983 Because It Was Removed From CPI And Replaced With Owners Equivalent Rent^{1,2}

HPA And Inflation Decoupled After 1983...



As BEA Replaced HPA With Owners Equivalent Rent



1. Federal Reserve Bank of St. Louis, Fred Data Base
2. BEA

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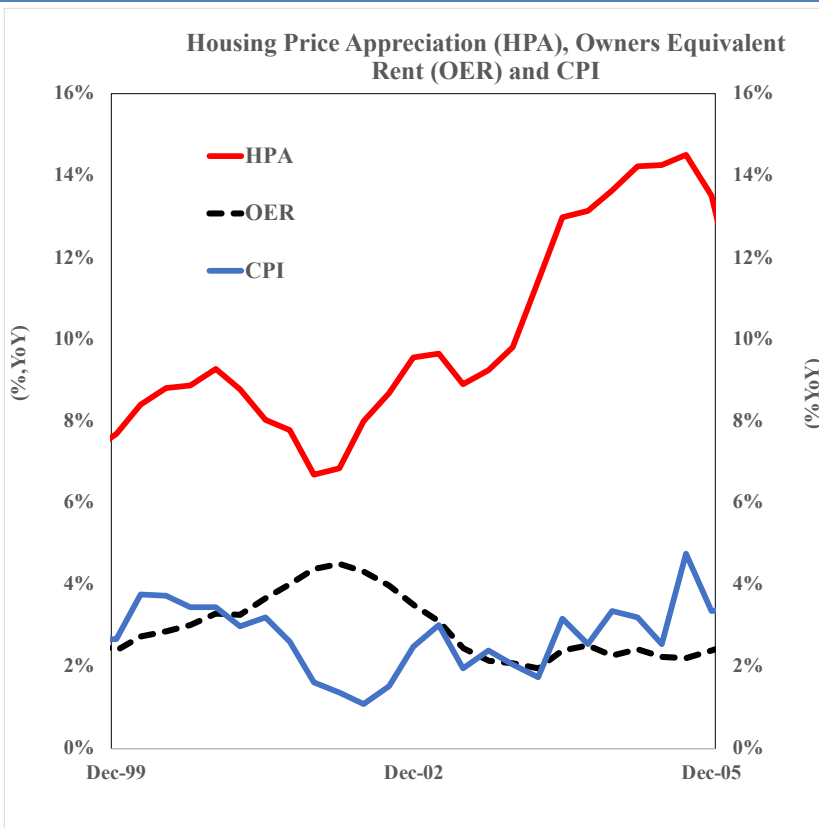
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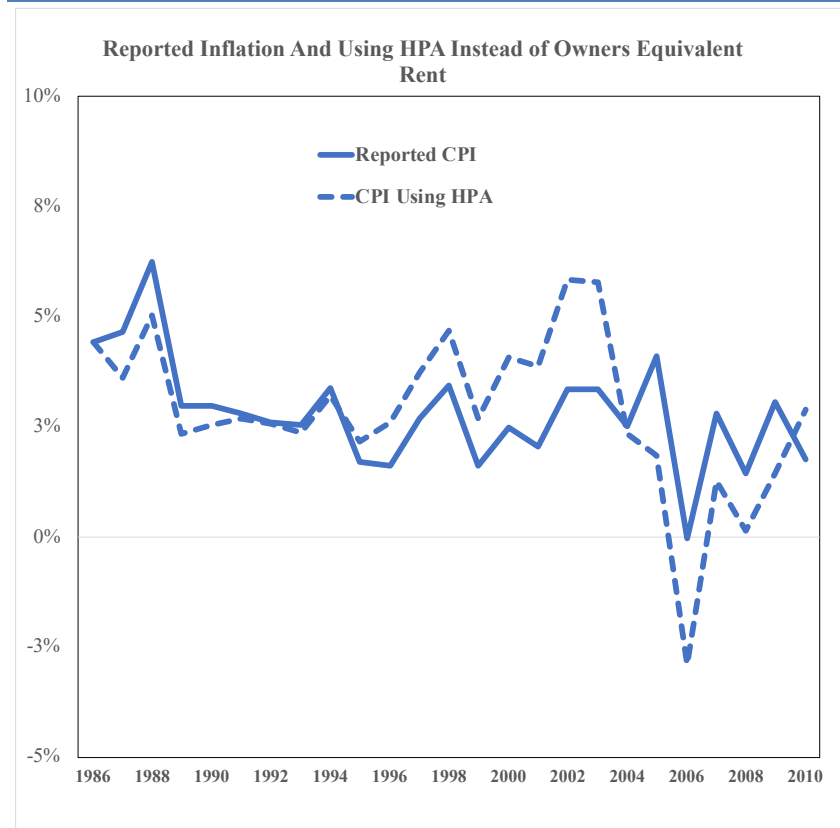
Step 2: Fundamental Economic Framework

Most Notable Was That The Housing “Bubble” Of 2000-2007 Did Not Result In Higher Inflation^{1,2,3}

OER Did Not Move As HPA During The “Bubble”... But



CPI Would Have Been Higher Using The Old Calculations



1. Federal Reserve Bank of St. Louis, Fred Data Base
2. BEA
3. Author's calculations

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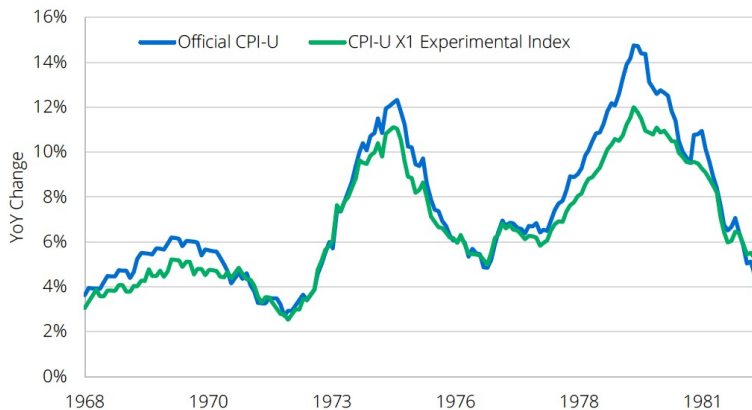
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Step 2: Fundamental Economic Framework

The Government Did Not See This As An Issues Since CPI Looked Pretty Much The Same

Initial Estimates Was That The Change Would Not Matter...¹

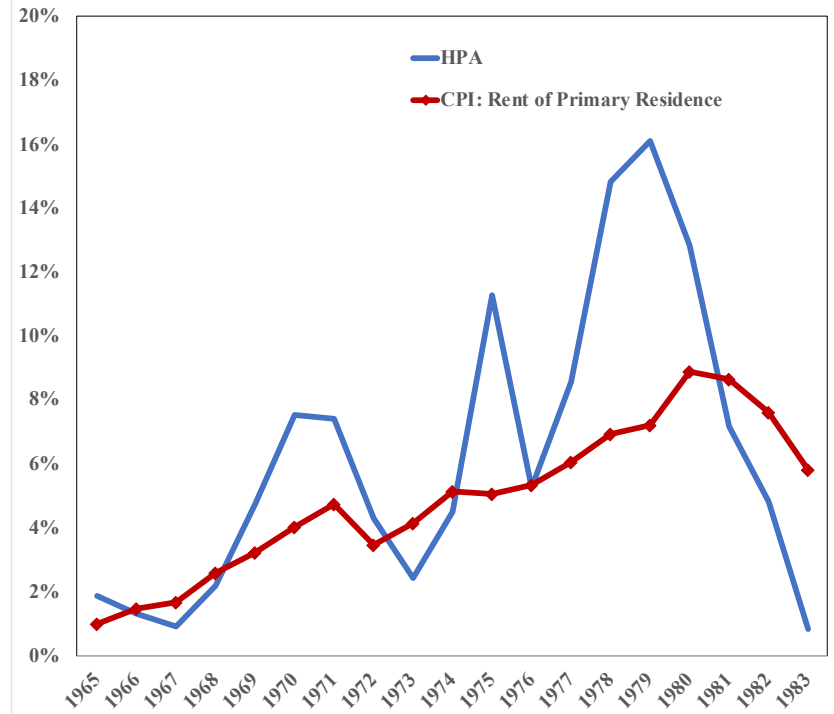
Figure 8. Comparison of the official CPI-U against an experimental CPI-U X1 Experimental series, which used OER in lieu of the Cost of Purchase approach for homeownership. Source: BLS



The government's scrutiny of CPI diminished in the 1980s, after the BLS completed the switch to a

As Rent Inflation Looks Consistent With HPA ^{2,3}

HPA And Rent Component of CPI (1965-1982)



1. Lookabaugh, Gay, and Rafay, "Measuring Inflation" Unison Investment management, January 31, 2018
2. BEA
3. 1. Federal Reserve Bank of St. Louis, Fred Data Base

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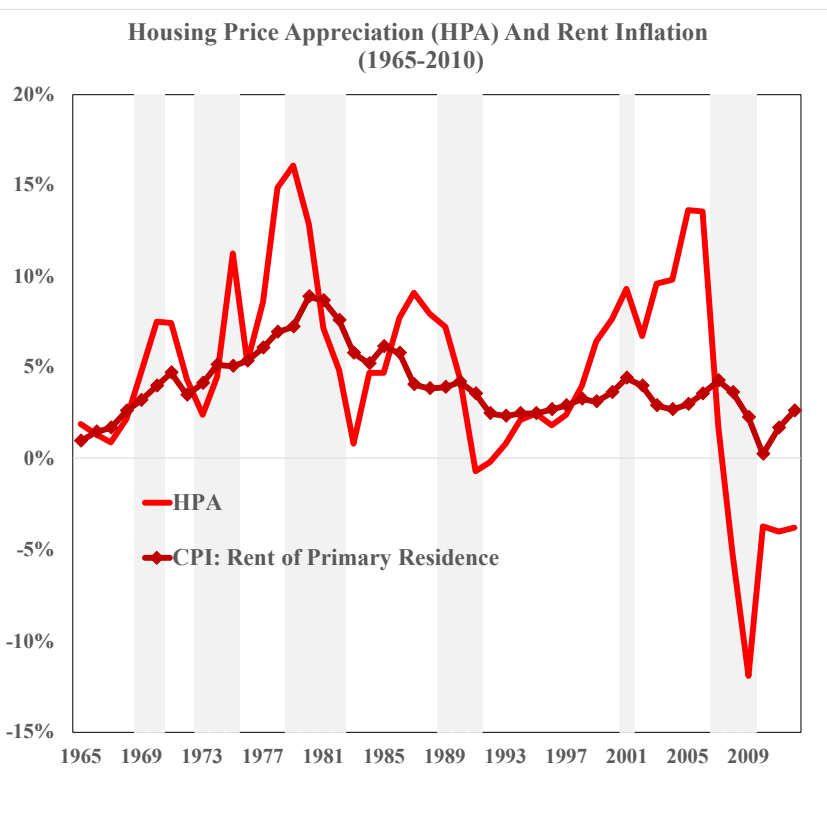
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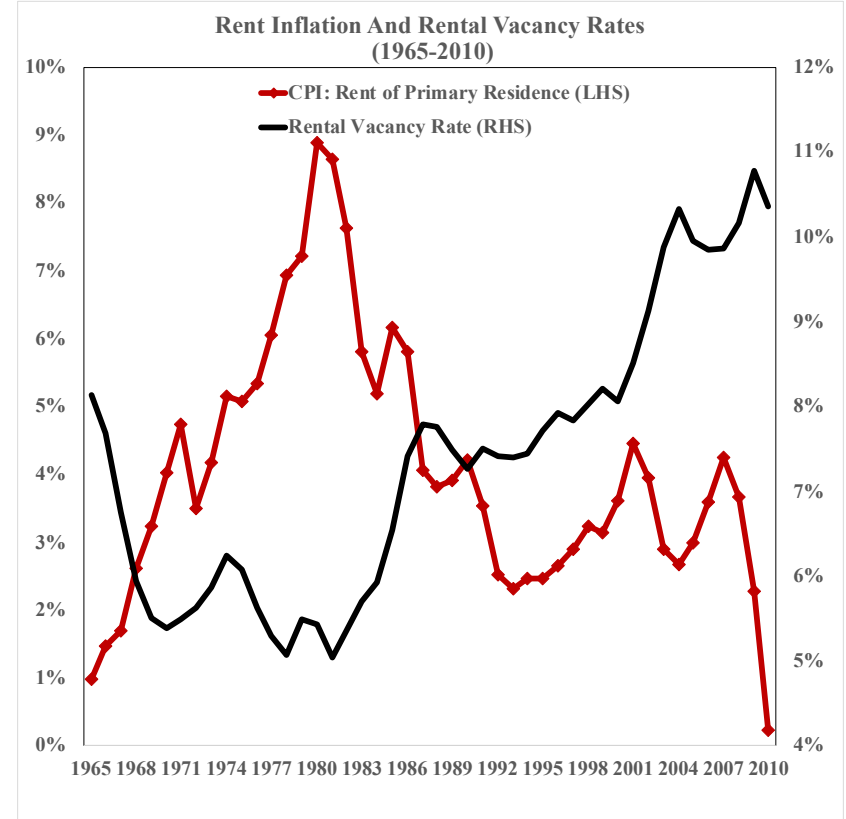
Step 2: Fundamental Economic Framework

However, Rent Inflation Fell Post The Change As Rental Vacancy Rates Soared Even While HPA Rose

Post The Early 80s, HPA Had Little Impact On Rent Inflation...^{1,2}



As Rent Inflation Fell As Rental Vacancy Rates Rose^{1,3}



1. Federal Reserve Bank of St. Louis, Fred Data Base

2. BEA

3. Census Housing Survey

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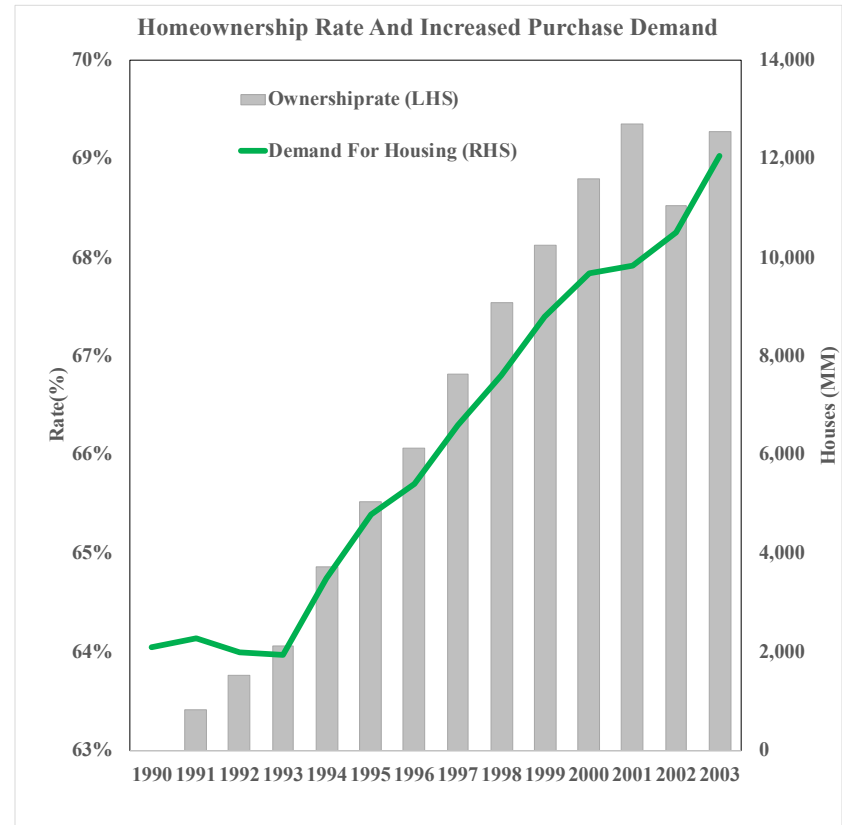
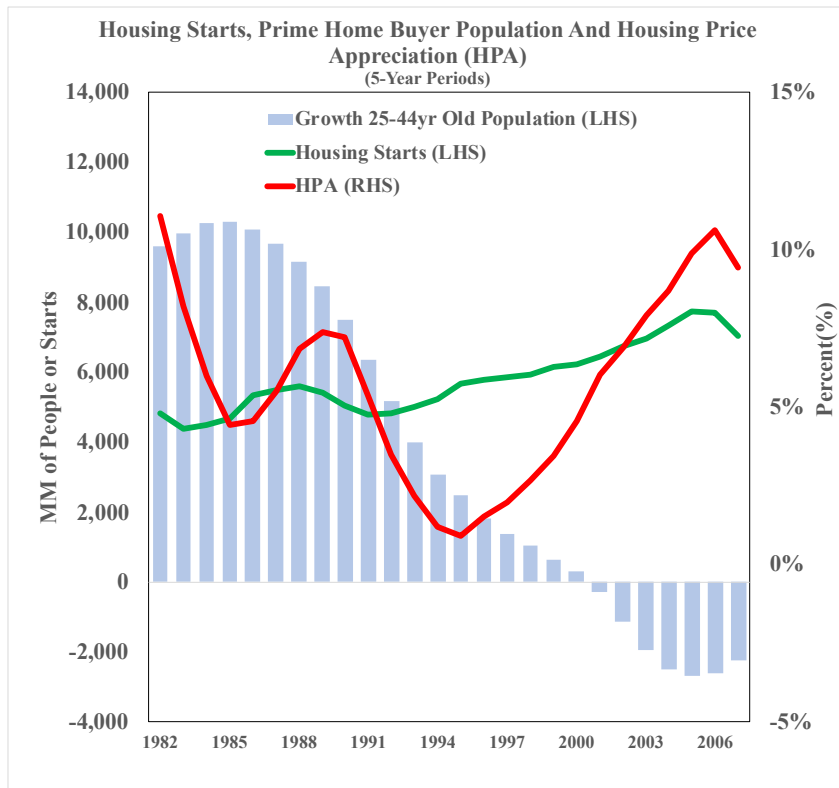
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Step 2: Fundamental Economic Framework

Housing Prices Rose Reflecting Rising Demand For Homeownership Not Demographics, Which Was...

Demographics Turned Negative Post 80s Yet....

Homeownership Demand Surged



1. Federal Reserve Bank of St. Louis, Fred Data Base
2. Author's calculations

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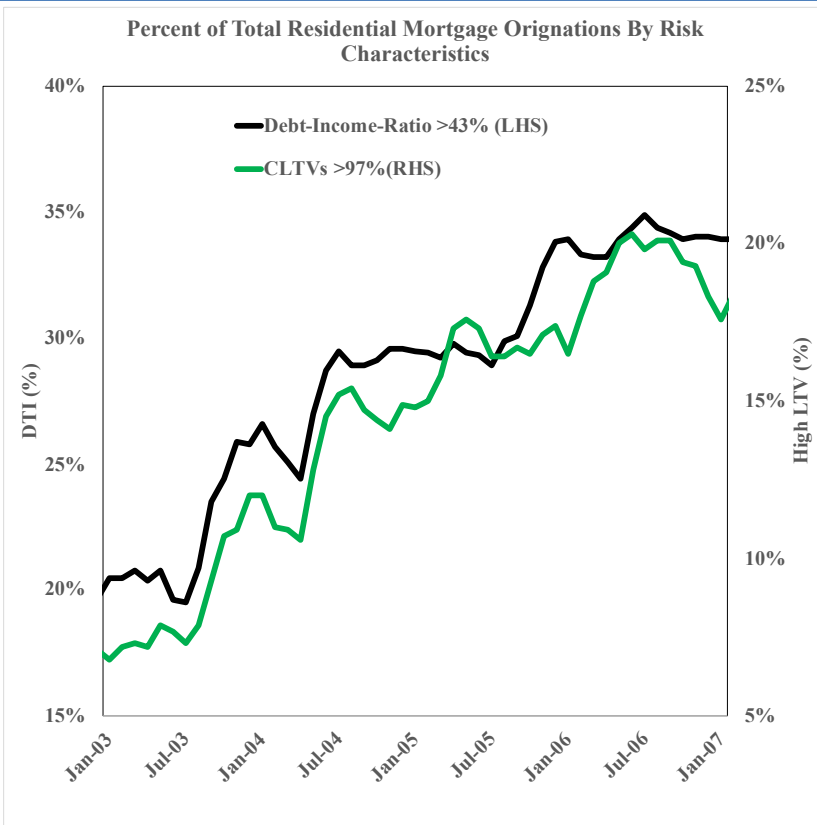
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...Driven By The Loosening Of Mortgage Underwriting Standards That In Turn Was Supported By...

Loosening Standards Allowed Borrowers To Afford Rising HPA ¹

And Created The Subprime Crisis²



US mortgages originated



Source: Inside Mortgage Finance

1. FHFA, National Mortgage Data Base
2. Economist "Rising Damp", Mar 10, 2007

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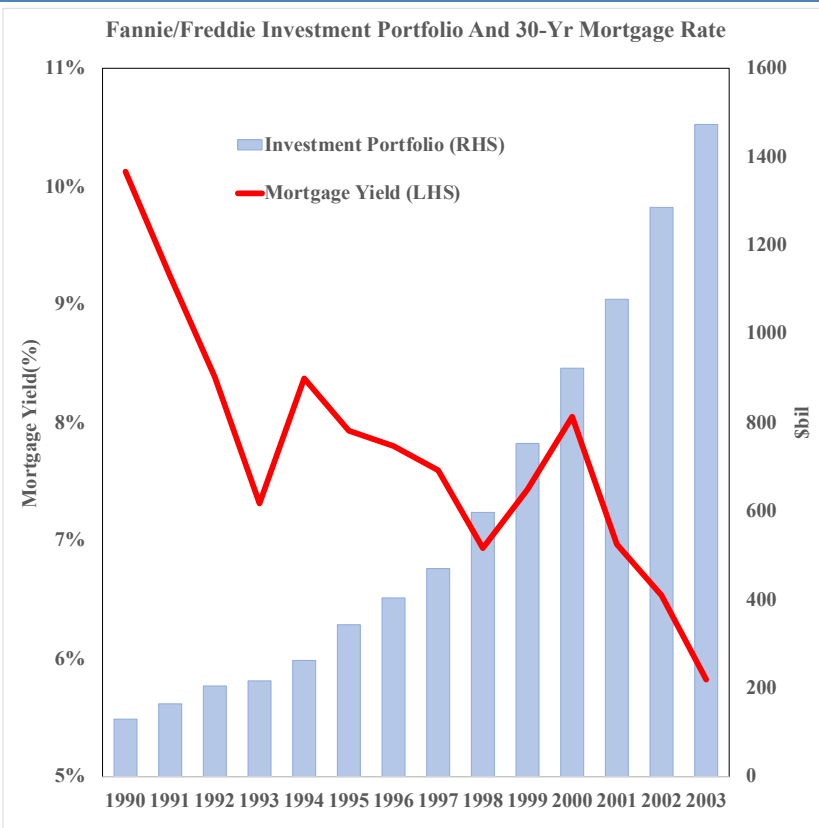
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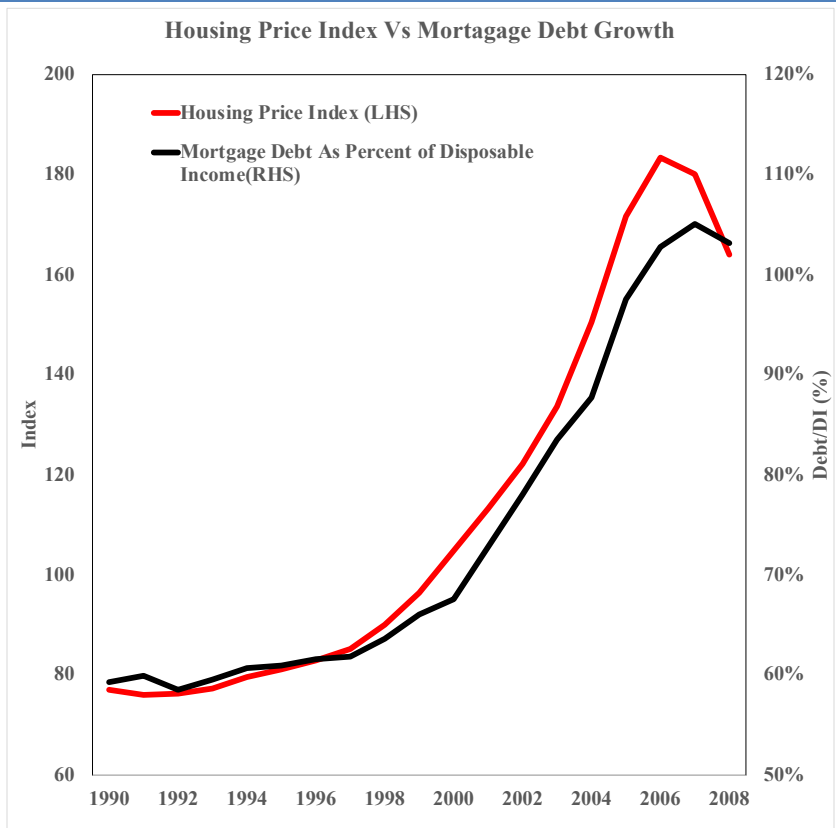
Step 2: Fundamental Economic Framework

By Falling Mortgage Rates And Buying By The GSEs But That Left Mortgage Borrowers Strapped...

The GSE's Supported The Expansion Of Homeownership¹



However, Mortgage Debt Far Outstripped Incomes^{1,2}



1. Federal Reserve Bank of St. Louis, Fred Data Base
2. Board of Governors, Z1 Data base

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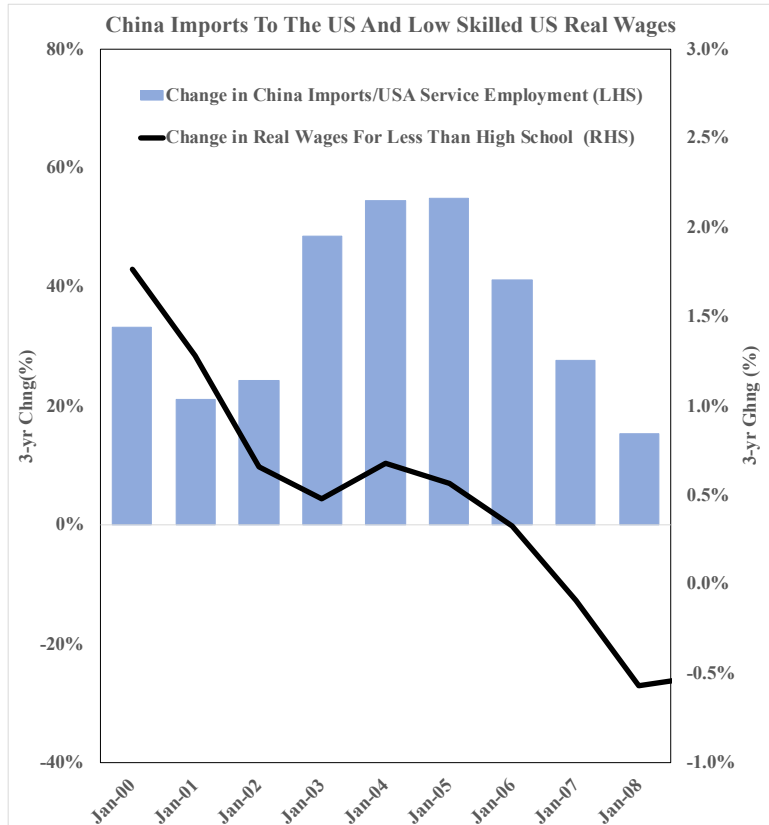
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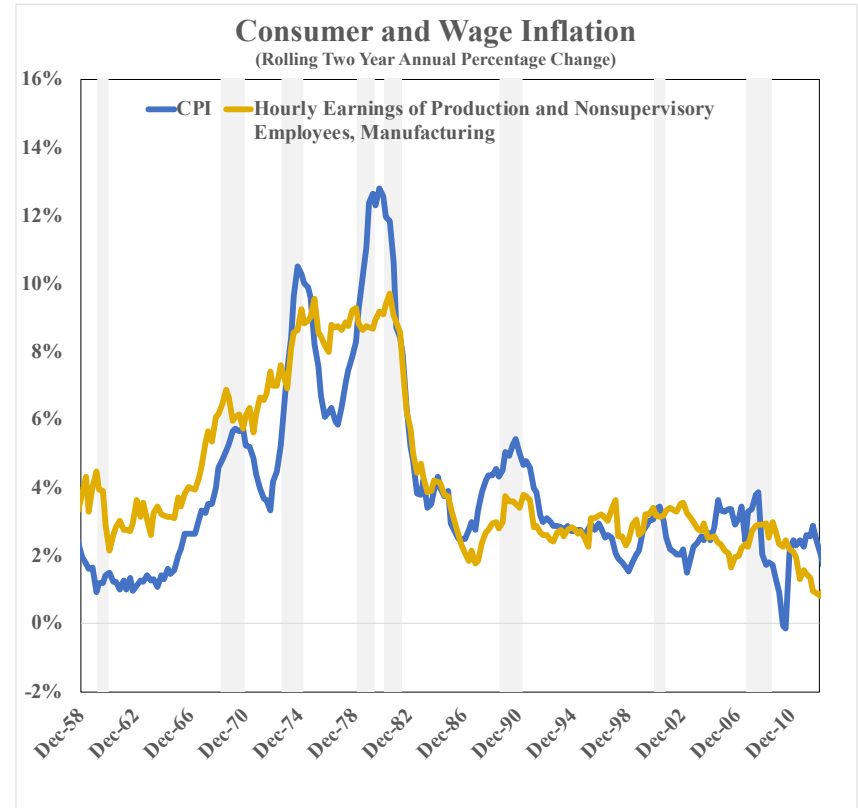
Step 2: Fundamental Economic Framework

But They Were Unable To Demand Higher Wages Because Of The Weight Of Cheap Chinese Labor

Cheap Chinese Labor Drove Down US Wages...¹



Leading To Lower Wage And Consumer Inflation^{2,3}



1. Federal Reserve Bank of St. Louis, Fred Data Base

2. BEA

3. BLS

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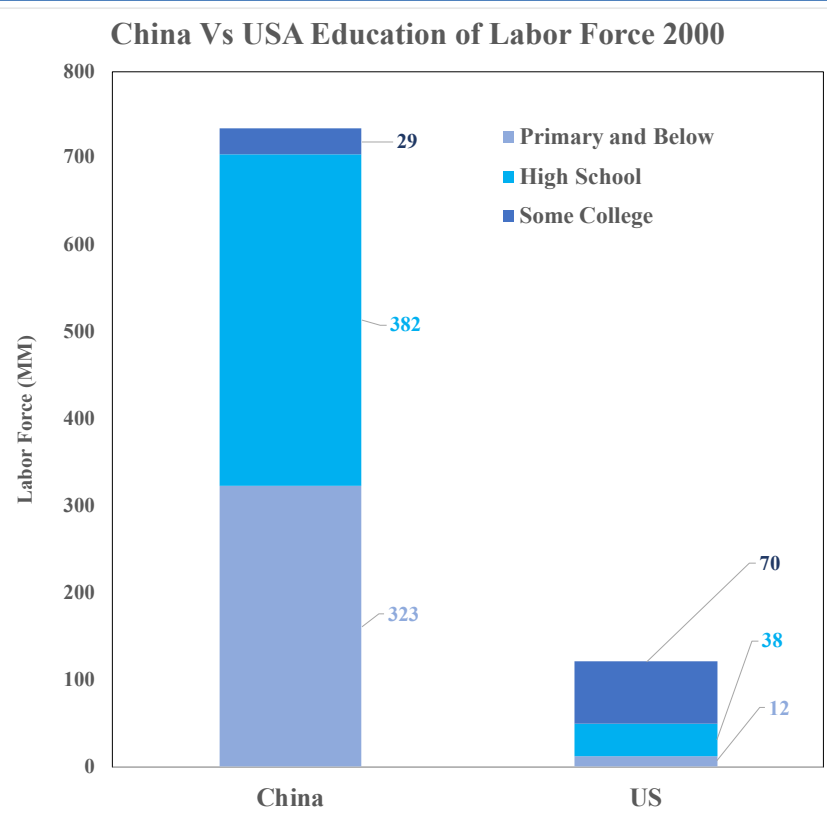
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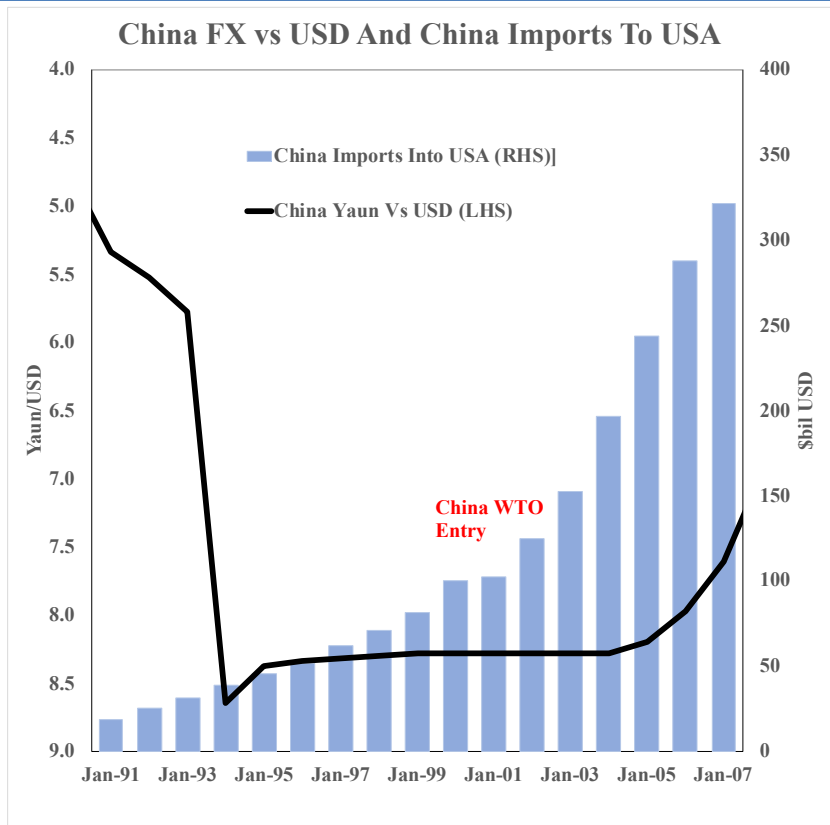
Step 2: Fundamental Economic Framework

China's Cheap Currency Combined With Cheap Labor Created Cheap Imports...

China's Supply of Cheap Labor Dwarfed That Of The US^{1,2}



China FX Currency Made Chinese Labor Even Cheaper³



1. BES
2. China NBS
3. Federal Reserve Bank of St. Louis, Fred Data Base

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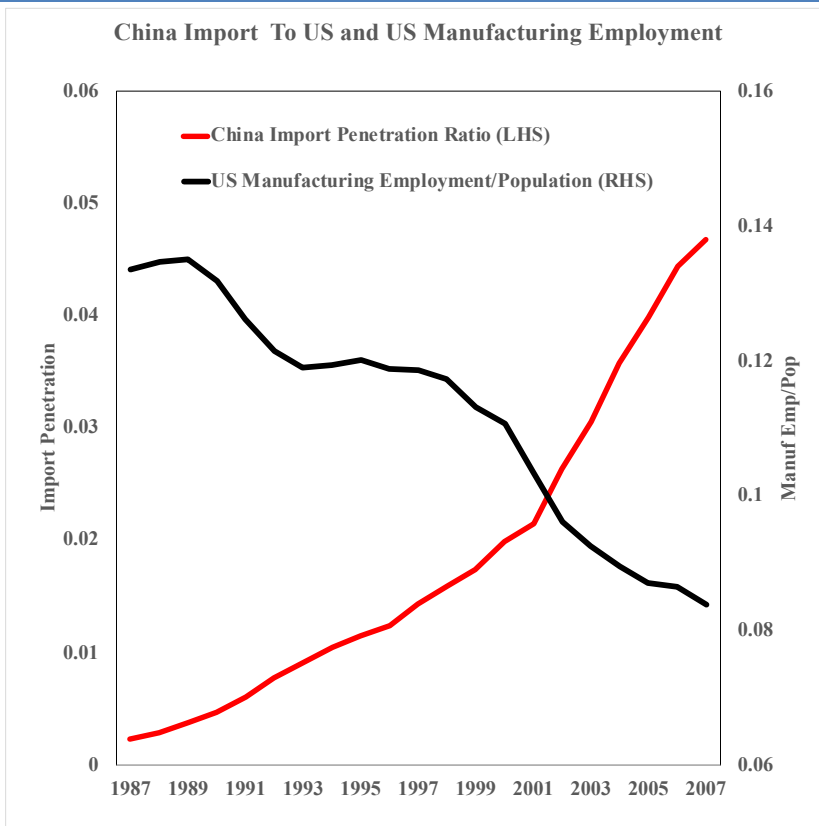
Part 2: Housing Market Dynamics Have Returned To The 70s

Step 2: Fundamental Economic Framework

Created The Economic Downward Spiral Of The "Rust Belt" With Job Loss And Lower Wages

US Manufacturing Was Gutted And Created The Rust Belt With¹

Median Incomes Below the Pre-China Era And Vs The Rest of The US



Median Household Incomes

City	1970	2015	Change
Pittsburgh	41.3	40.7	-1%
Cleveland	45.9	26.2	-43%
Buffalo	42.3	31.9	-25%
Detroit	51.1	25.7	-50%
USA	41.3	51.4	24%

1. Federal Reserve Bank of St. Louis, Fred Data Base

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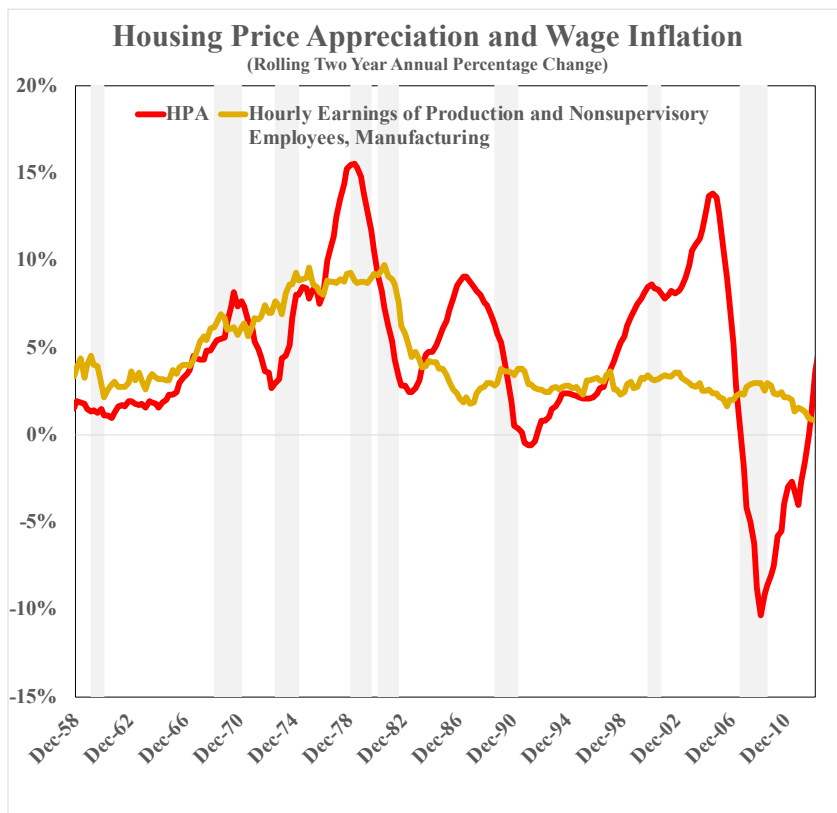
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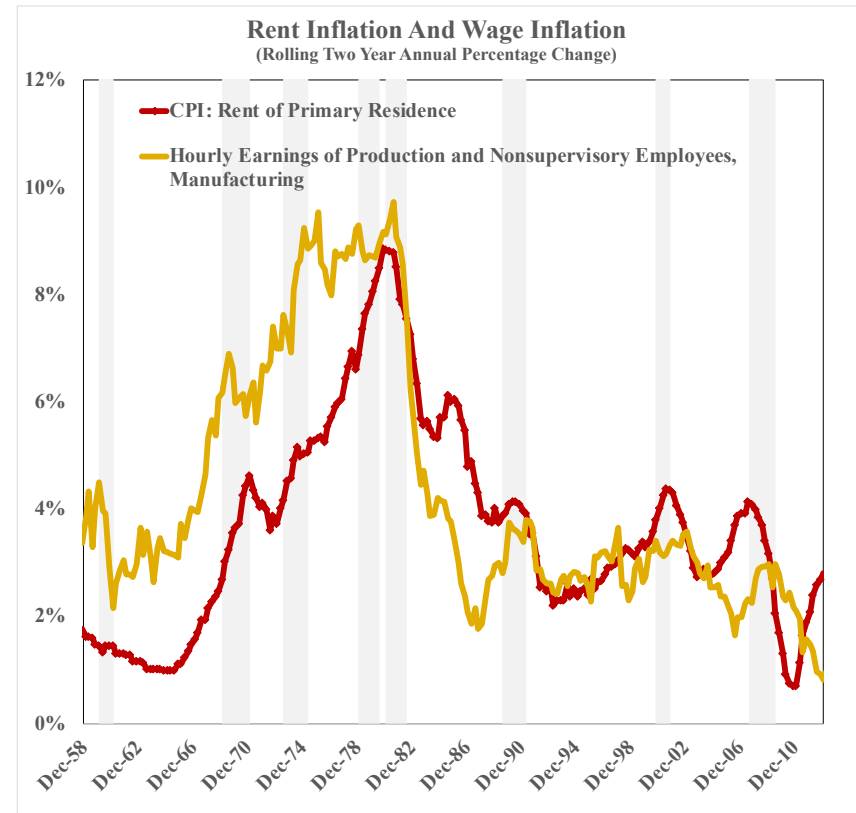
Step 2: Fundamental Economic Framework

From The Early 80s-2010s, All Factors And Interrelationships Were Headwinds To Inflation^{1,2}

In Contrast To The 70s, HPA Had Little Impact On Wage Inflation



As A Result, Wage And Rent Inflation Were Stagnant



1. BEA
2. Federal Reserve Bank of St. Louis, Fred Data Base

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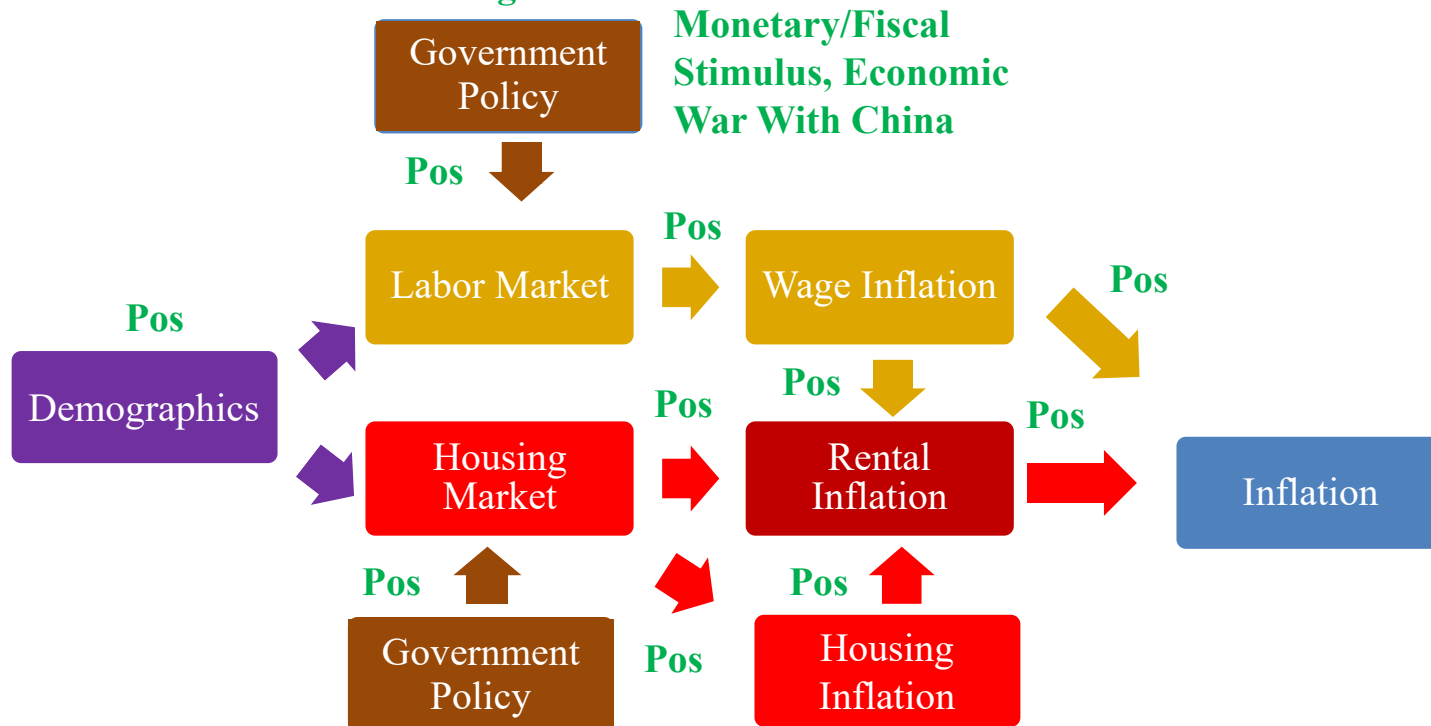
Part 2: Housing Market Dynamics Have Returned To The 70s

Step 2: Fundamental Economic Framework

However, This Time Its Different As All Factors Are Now Pointing To Higher Inflation As They Did In The 70s

Fundamental Factors And Channels That Potentially Affect Consumer Inflation

Pos = Pushes Inflation Higher



Biden's Support For Housing Market

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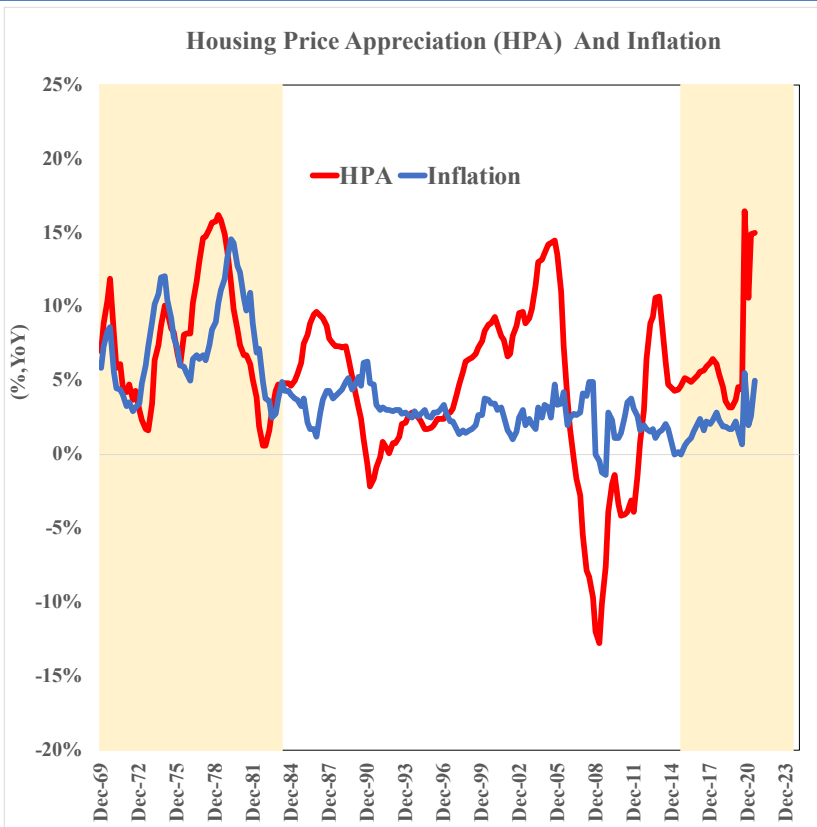
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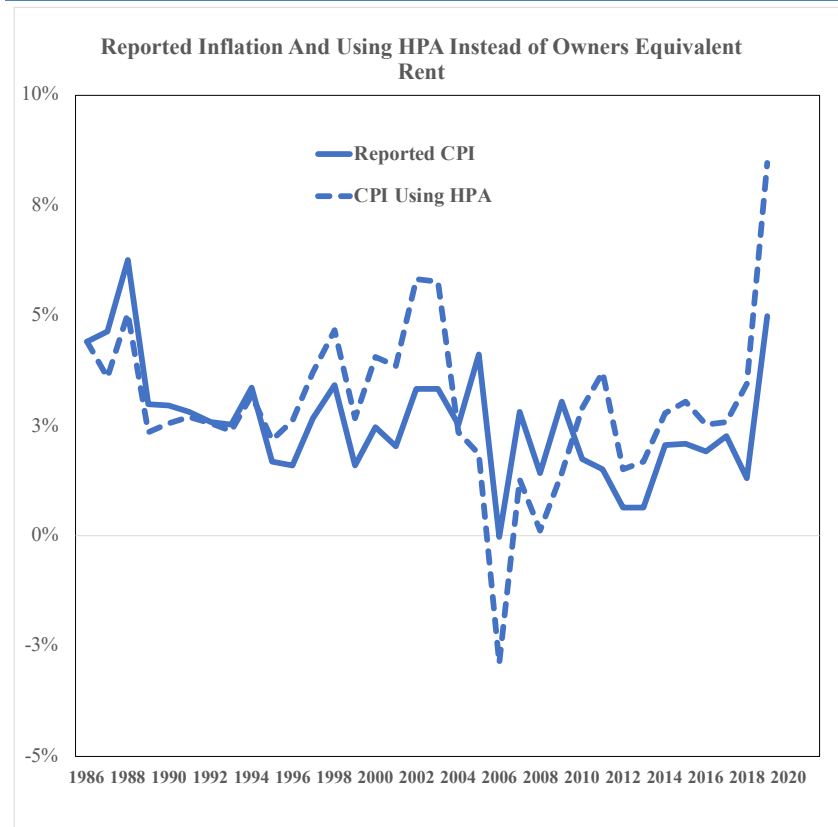
Step 2: Fundamental Economic Framework

Underlying Inflation Dynamics Are Substantially Stronger Using HPA As An Indicator

As In The 70s, Inflation And HPA Are Going Up Together¹



If This Was The 70s, Inflation Would Be Much Higher^{1,2}



1. BEA
2. Author's calculations

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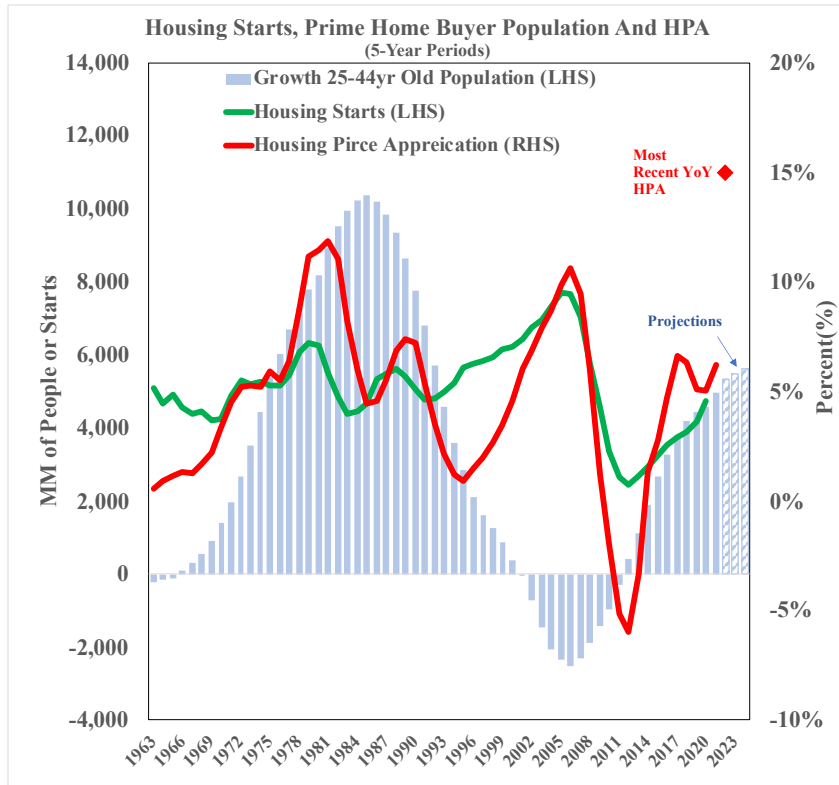
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Step 2: Fundamental Economic Framework

As In the 70s, Housing Prices Appreciation Has Accelerated Driven By Positive Demographic Factors

As In The 70s, Demographics Are Increasing Housing Demand¹

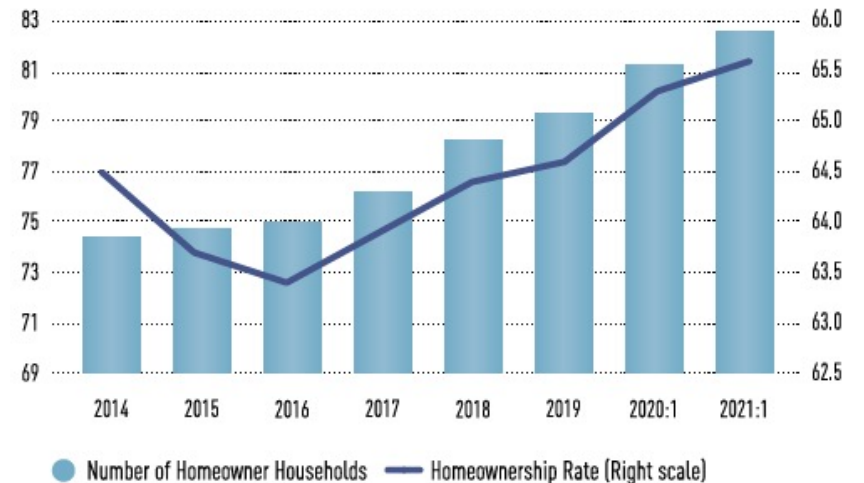
Homeownership Is Already Reflecting These Demographics²



Despite the Pandemic, the National Homeownership Rate Remained on the Rise Over the Past Year

Homeowner Households (Millions)

Homeownership Rate (Percent)



Notes: Data for 2014–2019 are annual. Data for 2020 and 2021 are for the first quarter.
Source: JCHS tabulations of US Census Bureau, Housing Vacancy Surveys.

1. Federal Reserve Bank Of St. Louis, Fred Data Base
2. "The State Of The Nation's Housing 2021" Joint Center of Housing Studies of Harvard University, 2021

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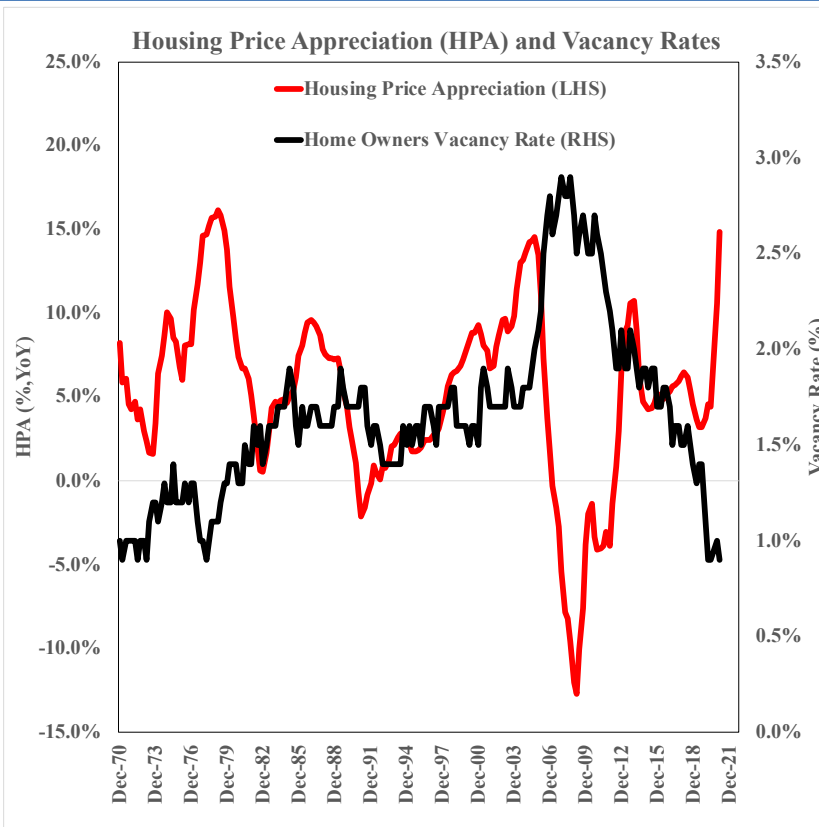
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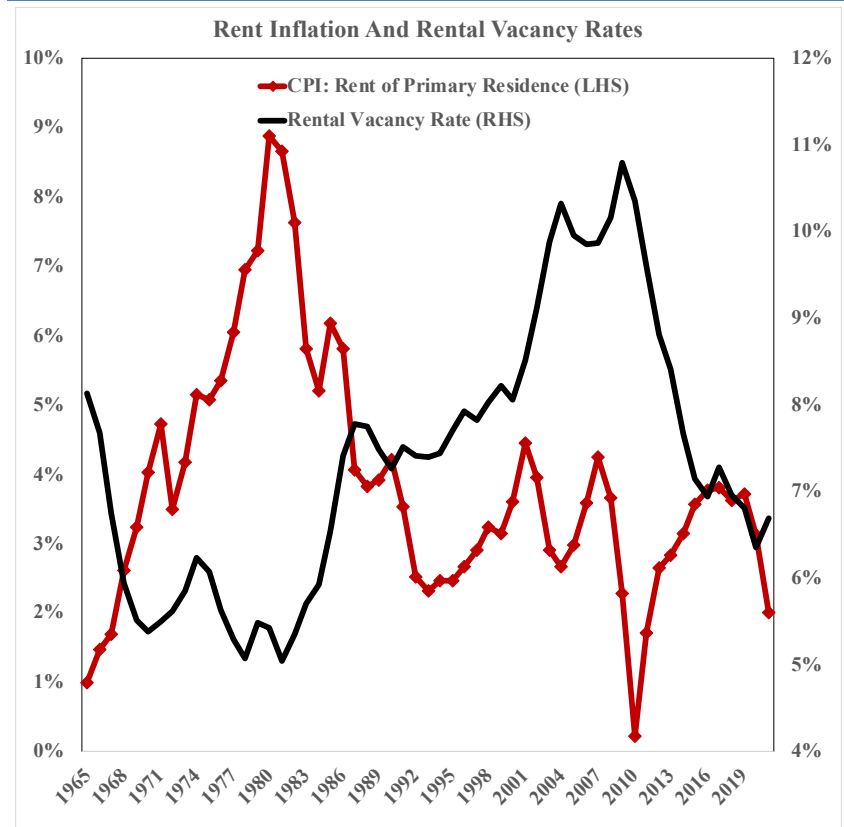
Step 2: Fundamental Economic Framework

Vacancy Rates Have Fallen Reflecting Rising Demand Against A Supply That Reflects Years Of Underbuilding¹

Housing Vacancy Rates Are Similar Levels Of The 70s...



As Are Rental Vacancy Rates



1. Federal Reserve Bank of St. Louis, Fred Data Base

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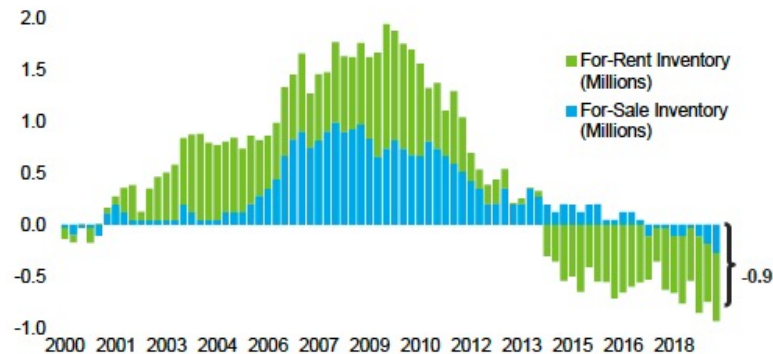
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Undersupply of For-Rent Homes Is More Acute And Is Now Pushing Rental Rates Higher

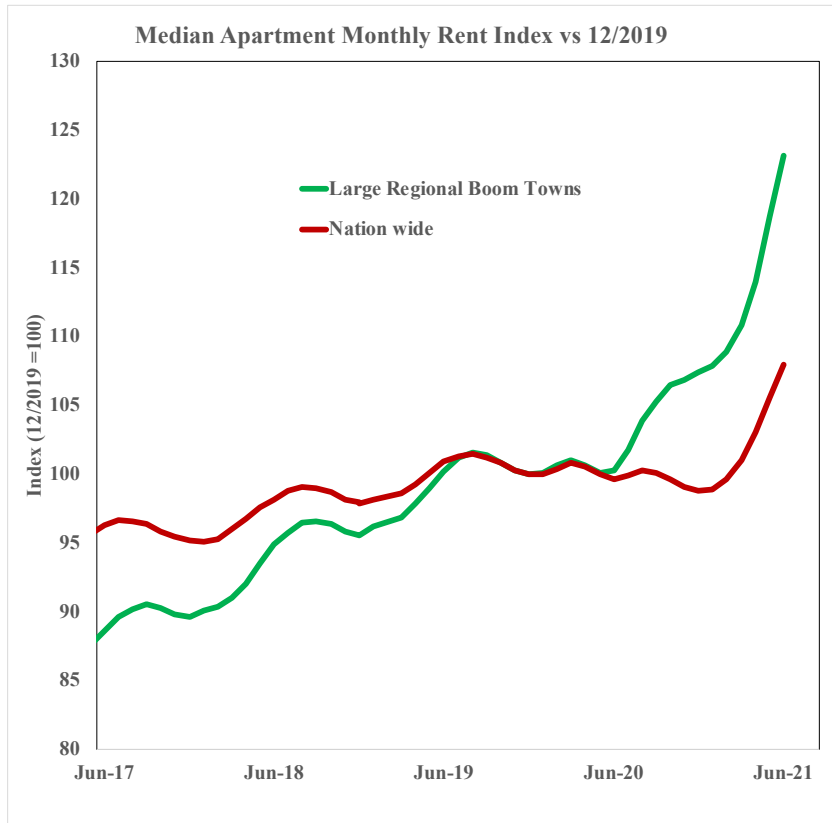
For-Rent Dynamics Are Even Tighter than For-Sale...¹

Vacant Housing Over/Undersupply⁸



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

As Result, Apartment Rental Rates Are Surging²



1. Urban Institute
2. Apartment List Rent Data Base: <https://www.apartmentlist.com/research/category/data-rent-estimates>

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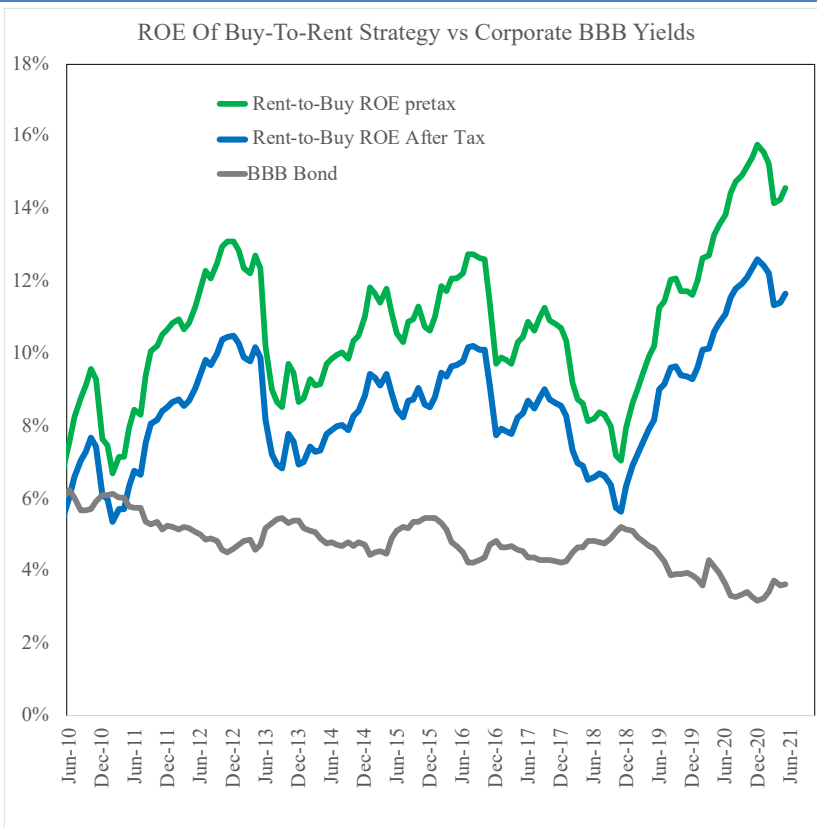
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Demand Could Also Increase from For-Rent Investors And Demand From "De-Urbanization"

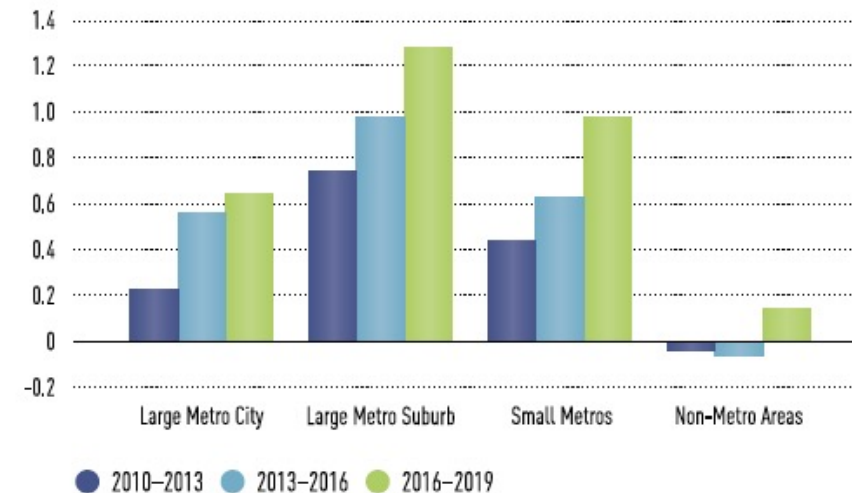
Purchase Demand From For-Rent Investors Still Look Compelling¹



In Addition, The Move To The Suburbs And Smaller Cities Is Growing²

Household Growth Outside the Cities of Large Metro Areas Was Accelerating Well Before the Pandemic

Change in Households (Millions)



1. Author's calculations using tax rate of 20%, expenses of 50% of rent income, and leverage of 80%

2. The State Of The Nation's Housing 2021" Joint Center of Housing Studies of Harvard University, 2021

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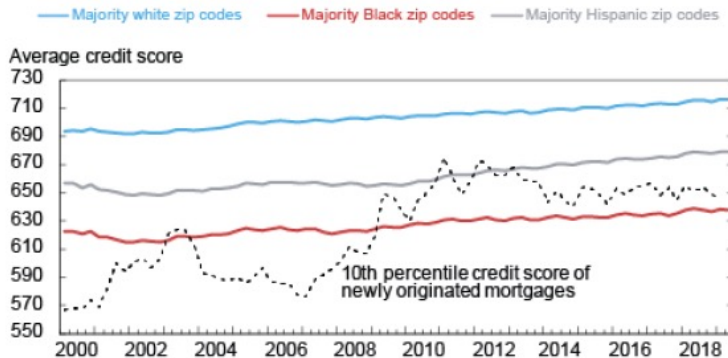
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Step 2: Fundamental Economic Framework

Biden Policy Could Increase Housing Demand By Unleash The GSEs To Support Minority Ownership

Higher FICOs Means Few Minorities Can Qualify For A Mortgage¹

Tightening in Mortgage Underwriting Has Affected Communities Unevenly



Sources: New York Fed Consumer Credit Panel / Equifax; U.S. Census Bureau.

Note: Credit score is Equifax Risk Score 3.0.

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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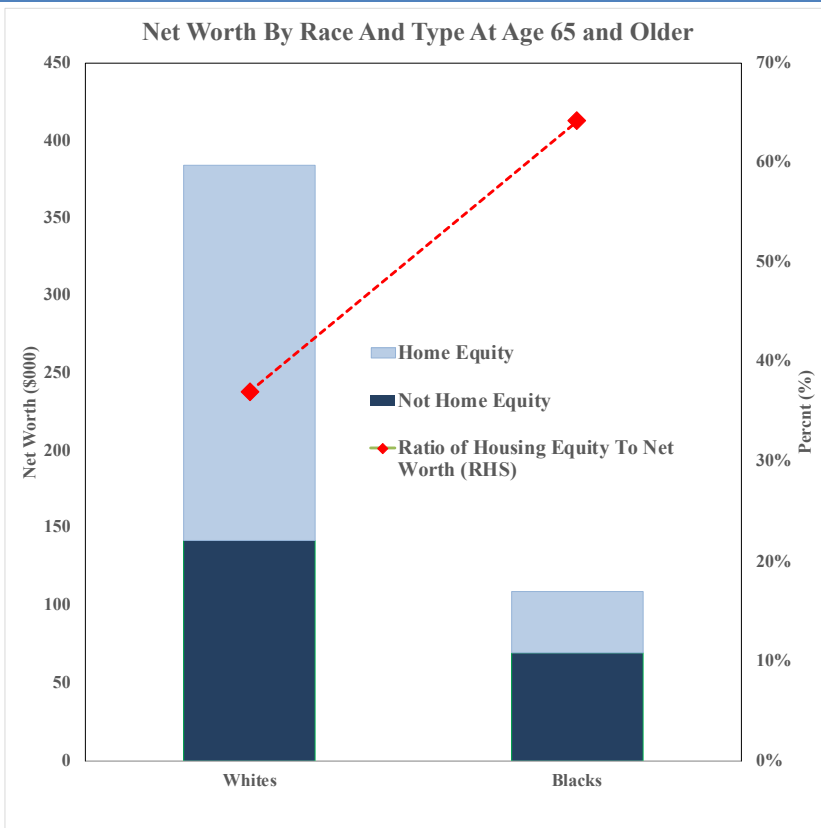
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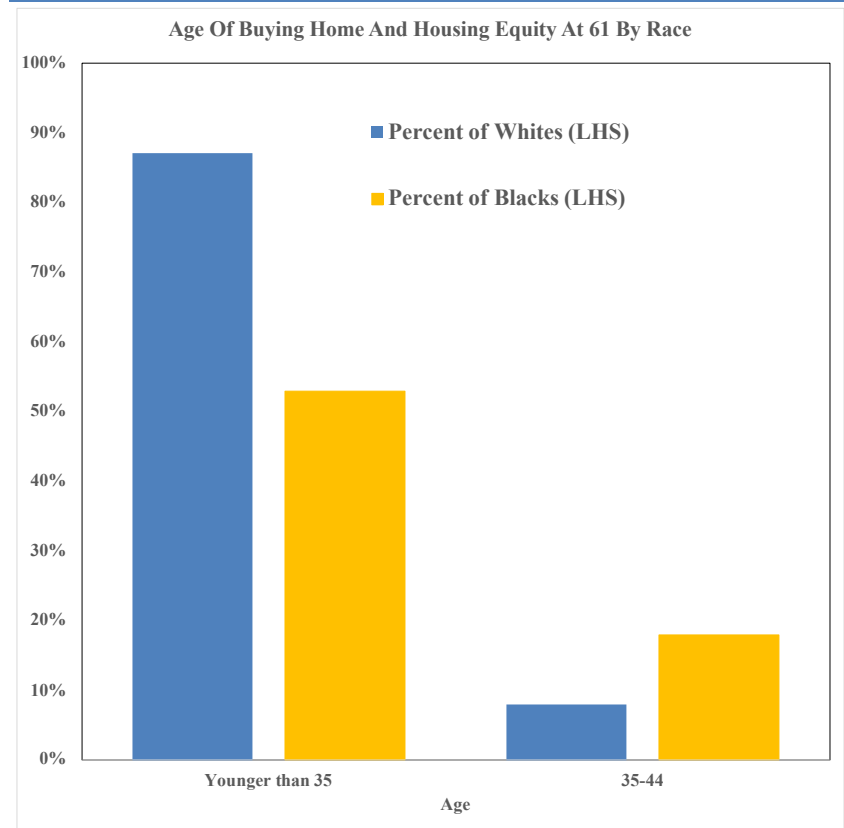
Step 2: Fundamental Economic Framework

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 Later 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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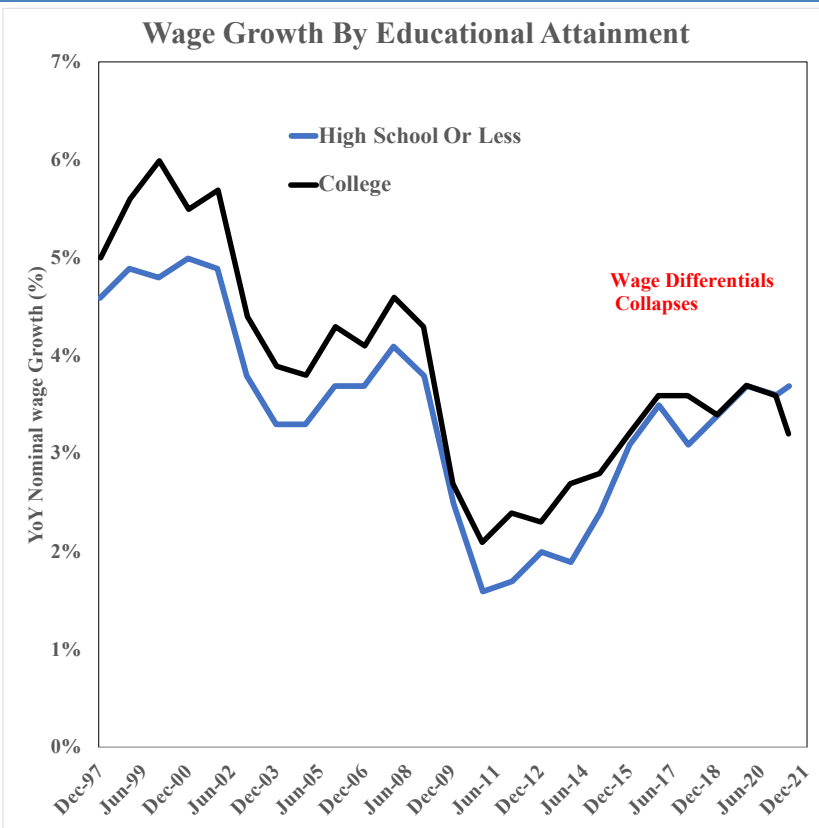
State Of the Markets: Inflation---Higher For Longer

Part 2: Housing Market Dynamics Have Returned To The 70s

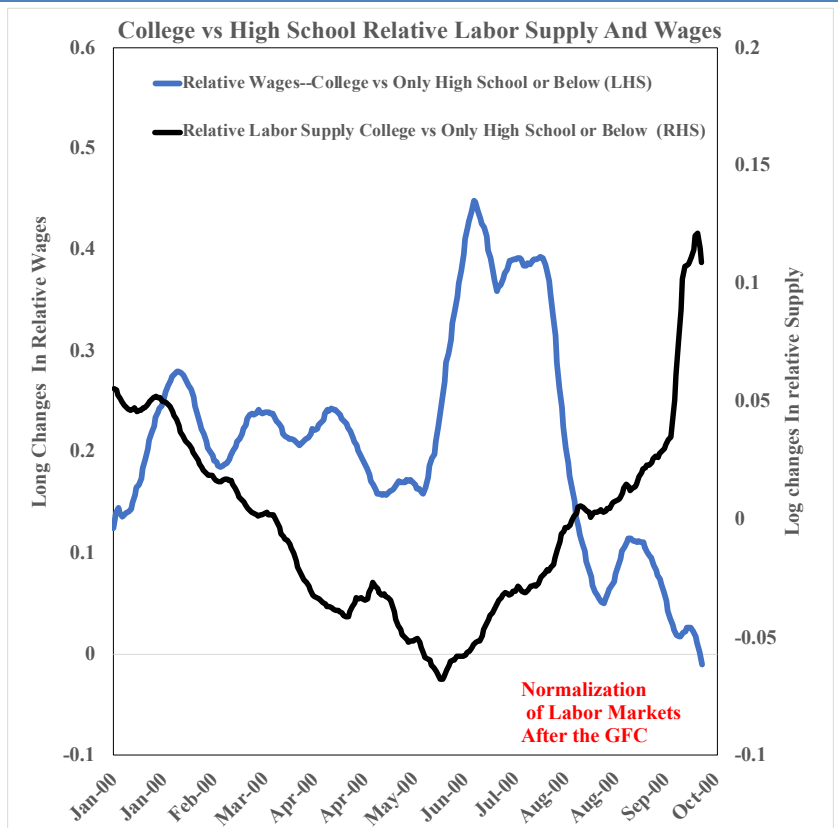
Step 2: Fundamental Economic Framework

Wages For Servicer Workers Are Going Up As The Relative Supply Less Educated Has Tightened¹

Lagging Wage Growth Of Low Skilled Workers Has Reversed....



Reverses Is Being Driven In Part By Surge In Supply of College Grads



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State Of the Markets: Inflation---Higher For Longer

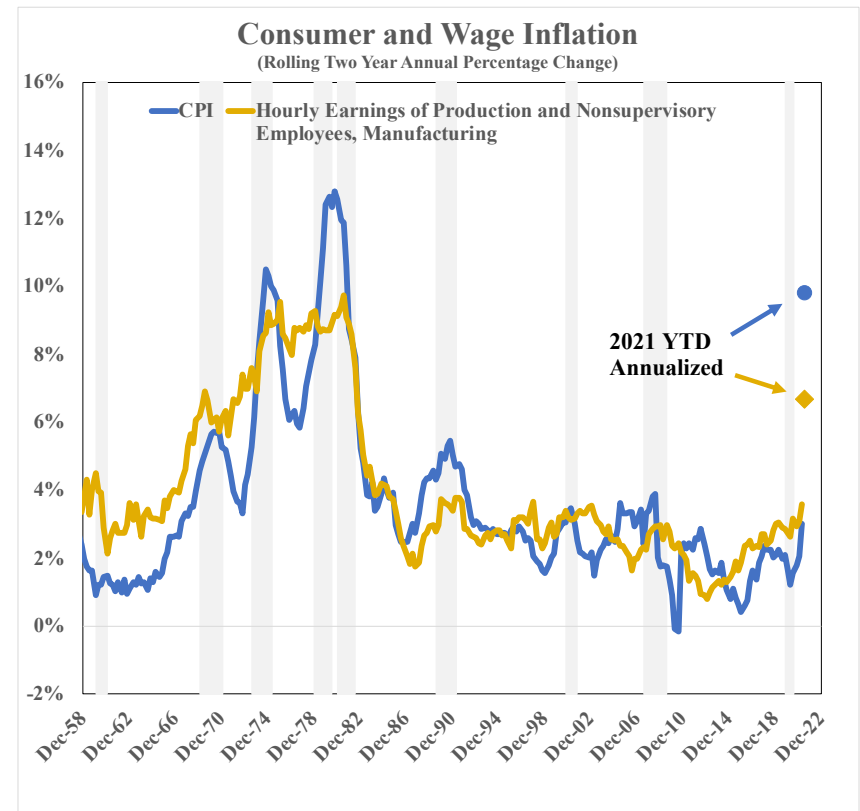
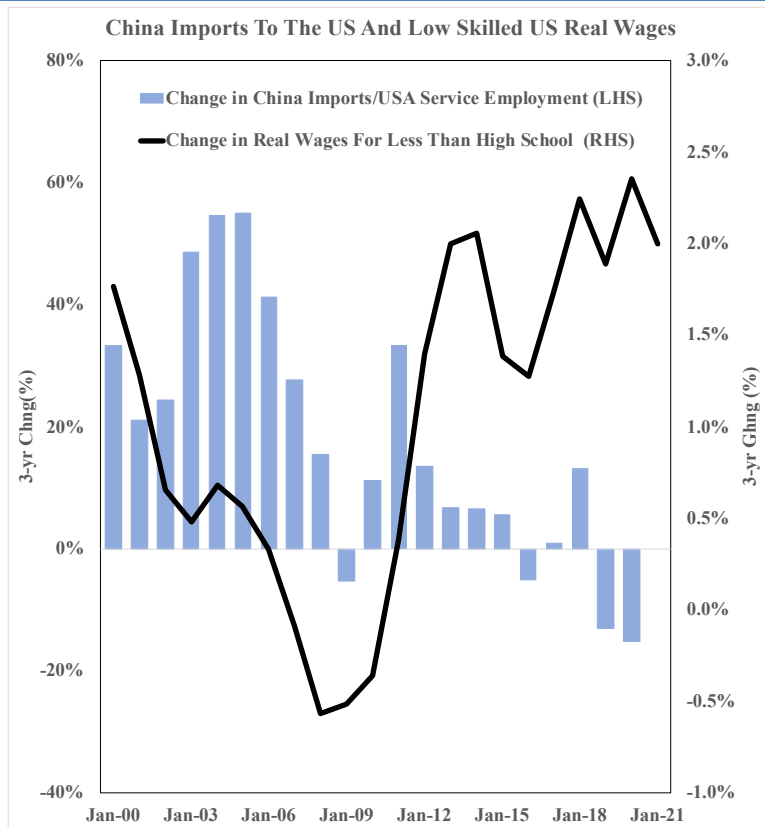
Part 2: Housing Market Dynamics Have Returned To The 70s

Step 2: Fundamental Economic Framework

Chinese Headwinds To Inflation Has Reversed, Allowing Servicer Workers To Demand Higher Wages

Supply Of Cheap Labor From China Is Falling That Has...¹

Led To Imports Flatlining And Rising US Wages Inflation²



1. Federal Reserve Bank of St. Louis, Fred Data Base
2. BLS

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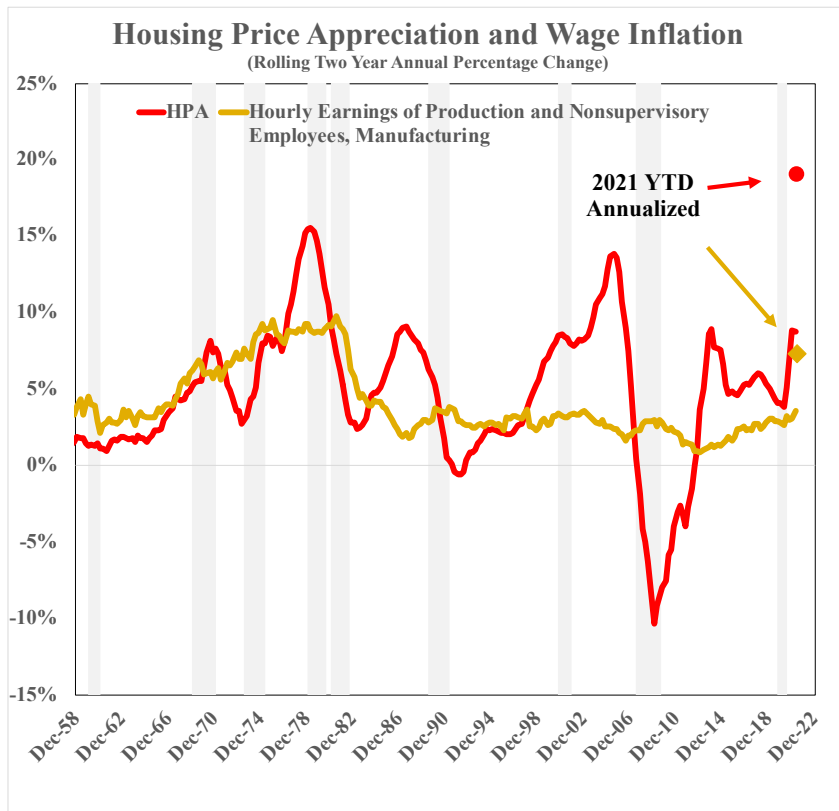
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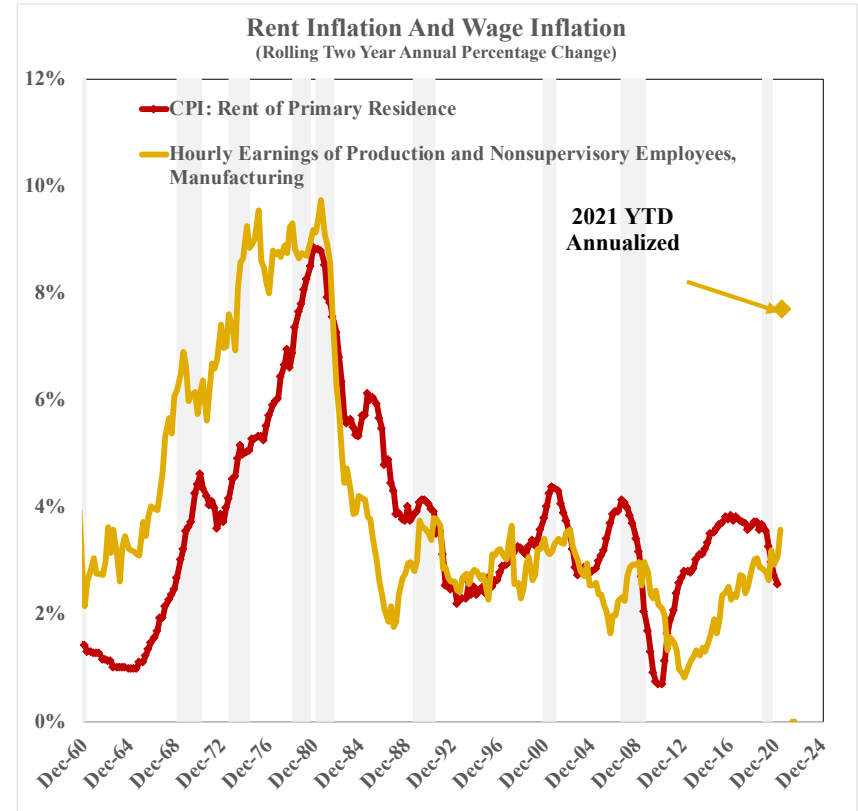
Step 2: Fundamental Economic Framework

All These Factors, Including Interaction Effects, Points To A Return Of The Inflation Of the 70s¹

Wage Inflation And HPA Is Accelerating, While



Rental Inflation Could Soon Follow Wage Inflation



1. Federal Reserve Bank of St. Louis, Fred Data Base

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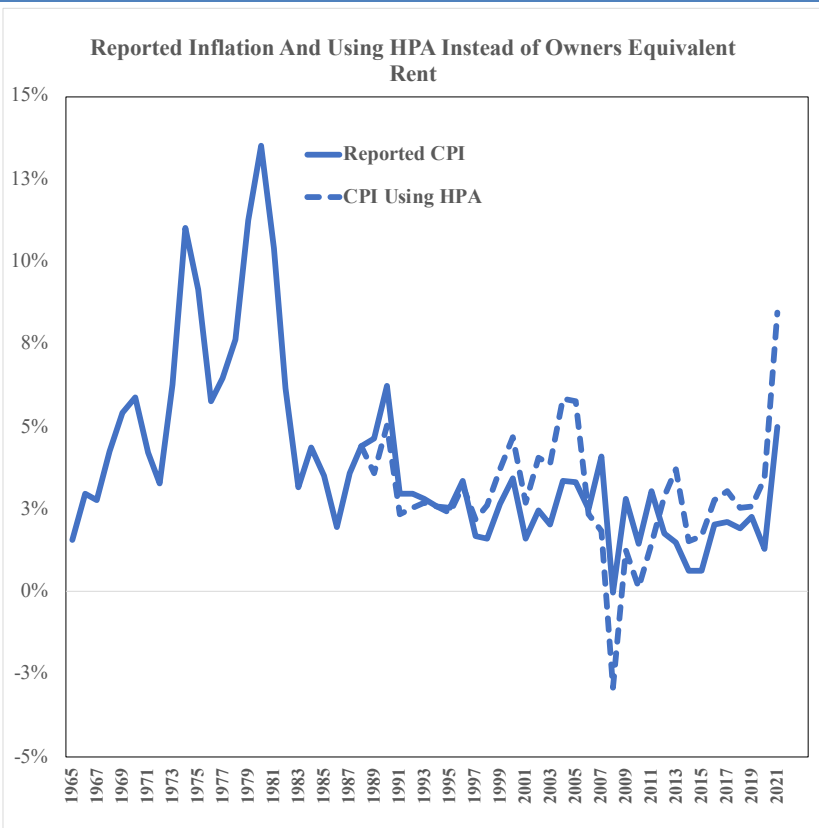
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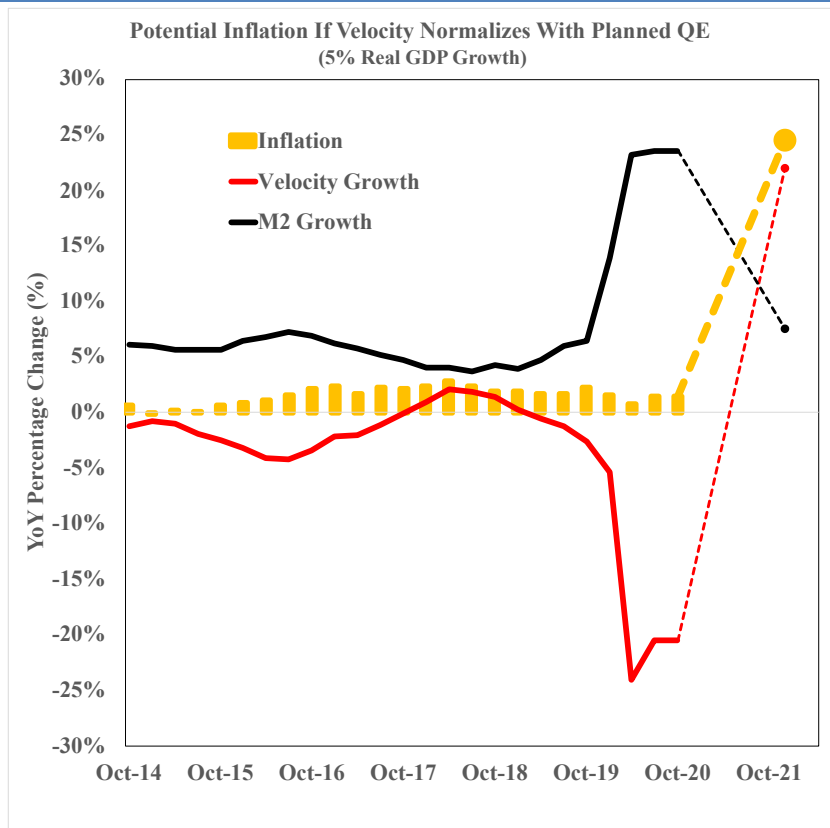
Step 2: Fundamental Economic Framework

Using Inflation Could Be Headed Higher Using HPA As Proxy And Incorporating The Velocity

HPA As A Proxy, Suggests Inflation Could Reach 70s Levels, But..



Could Surge Even Higher If Money Supply Turns To Consumption



1. BEA
2. Using Quantity Theory of Money Identity: $MV = PY$ or $\text{Money Supply} * \text{Velocity} = \text{Price} * \text{Real GDP}$. Then, $\text{Inflation} = \% \text{change of Money} + \% \text{change in Velocity} - \text{Real GDP Growth}$

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