

SOM Macro Strategies
State Of the Markets: Inflation---Higher For Longer

October 21, 2021

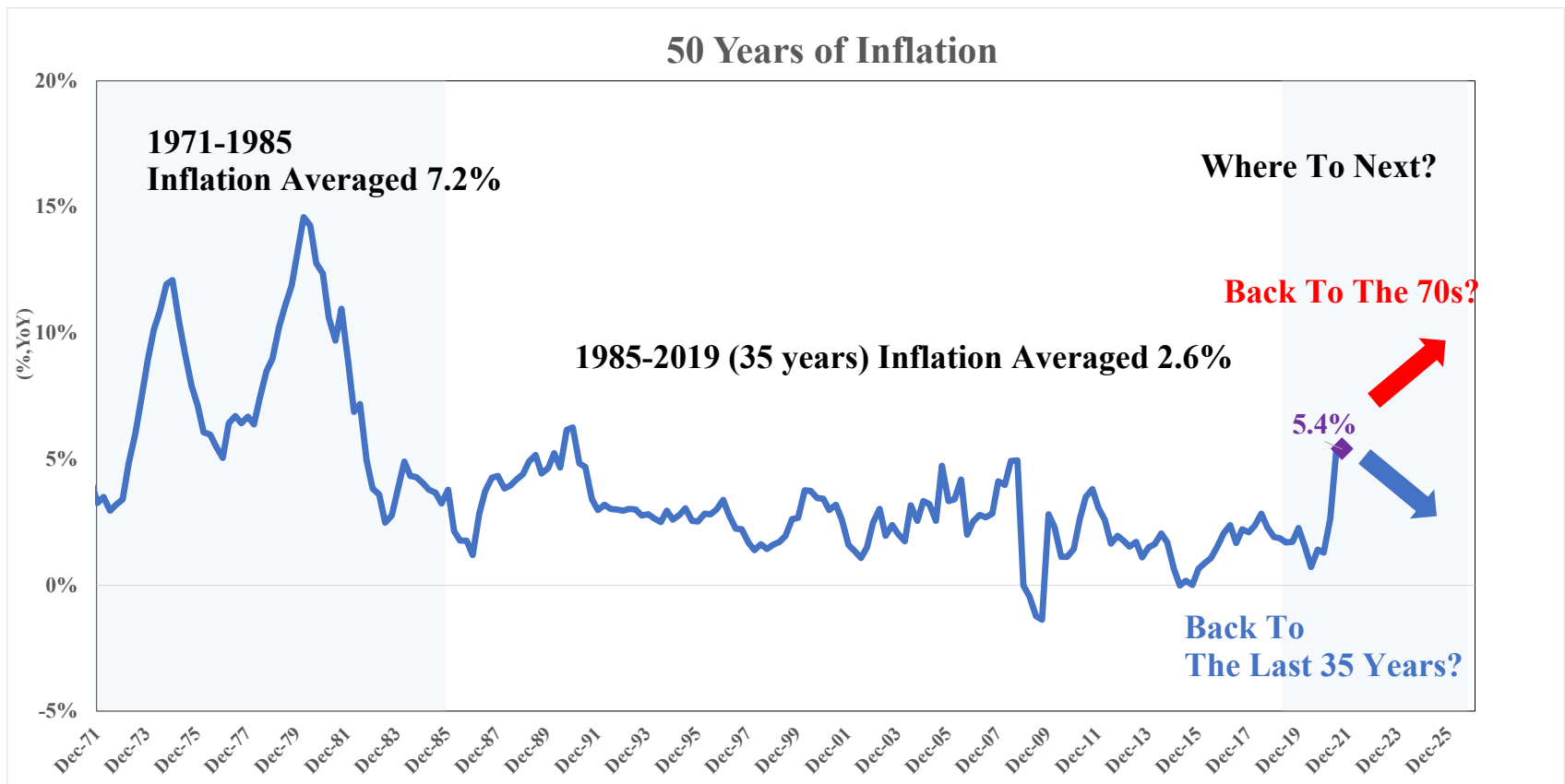
Alan Brazil

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

Step 1: Identify A Macro Theme

Is the Recent Spike In Inflation Transitory Or Is Inflation Higher For Longer¹



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

Step 1: Identify A Macro Theme

Three Factors Could Push Inflation Higher For Longer

Three Factors That Have Been Headwinds To Inflation Are Now Tailwinds

Part 1: Era Of Cheap Labor Is Over

Part 2: Current Tight Housing Markets Reflect The Same Demographics Factor As The 70s

Part 3: Mountain of Stimulus Driven Cash/Wealth Turns Into Consumption

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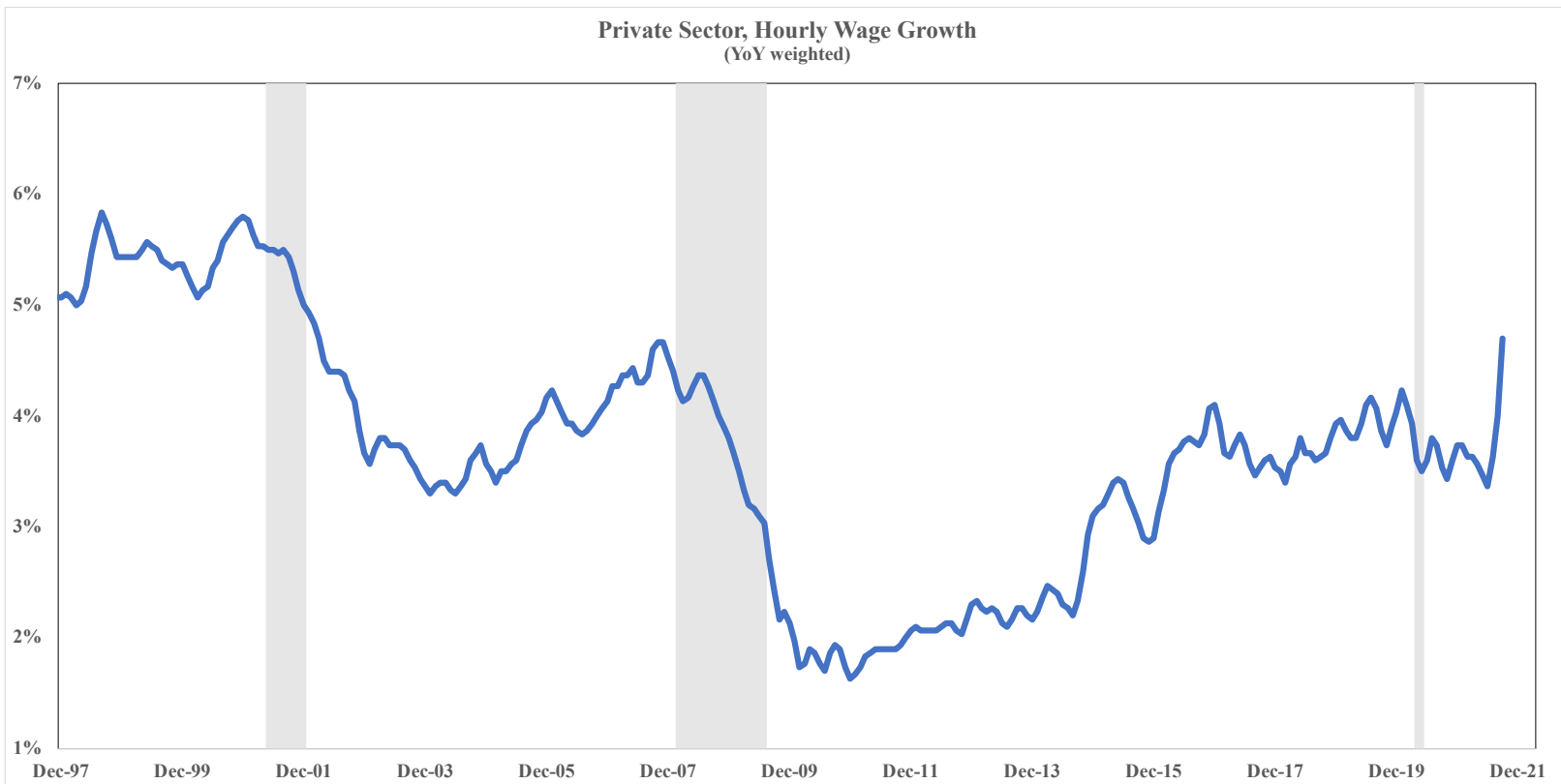
State Of the Markets: Inflation---Higher For Longer

Part 1: Era Of Cheap Labor Is Over

Step 2: Fundamental Economic Framework

Nominal Labor Wage Growth Has Started To Accelerate After Decline Starting In The Late 90s

Non Farm Private Sector Production And Non-Supervisory Hourly Wages1



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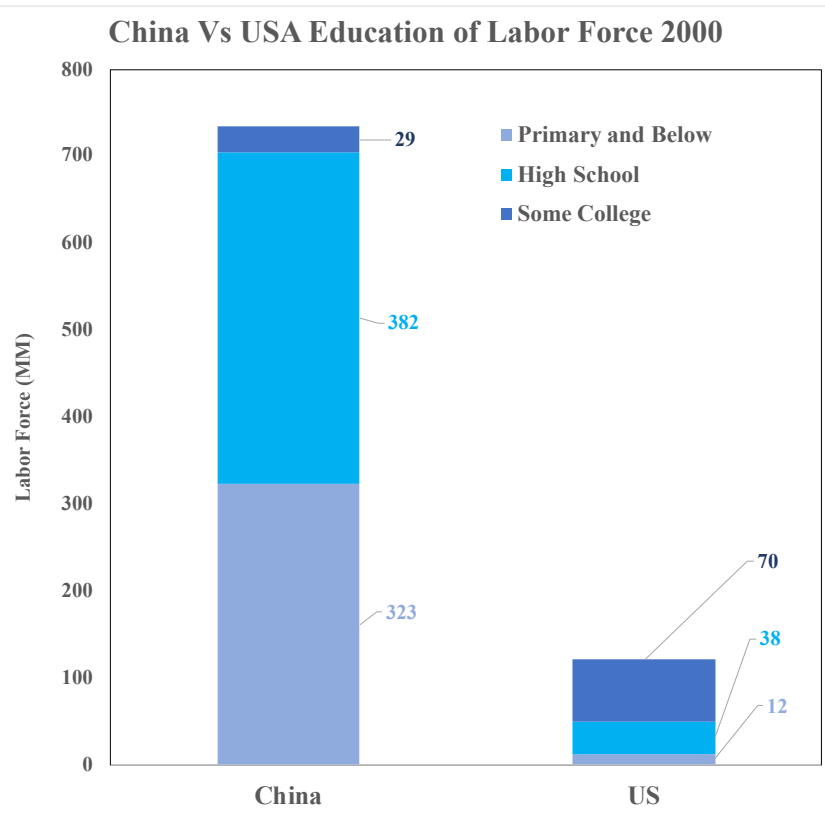
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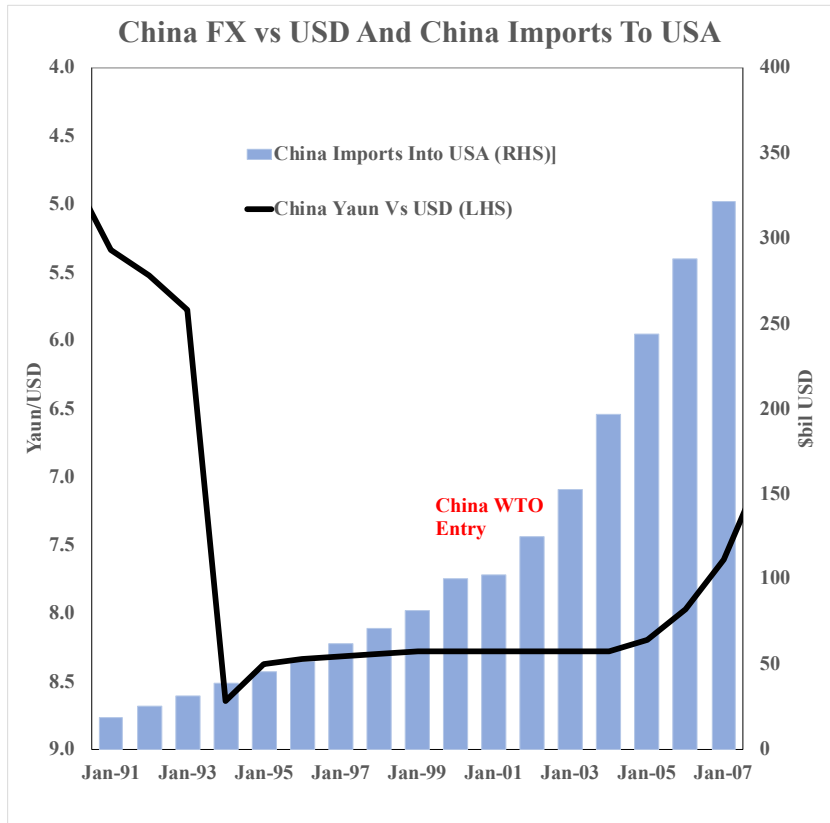
Step 2: Fundamental Economic Framework

China's Entry Into WTO Unleashed 700 MM Cheap Laborers Onto the US Labor Markets ^{1,2,3}

China's Supply of Cheap Labor Dwarfed That Of The US



China FX Currency Made Chinese Labor And Exports Even Cheaper



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

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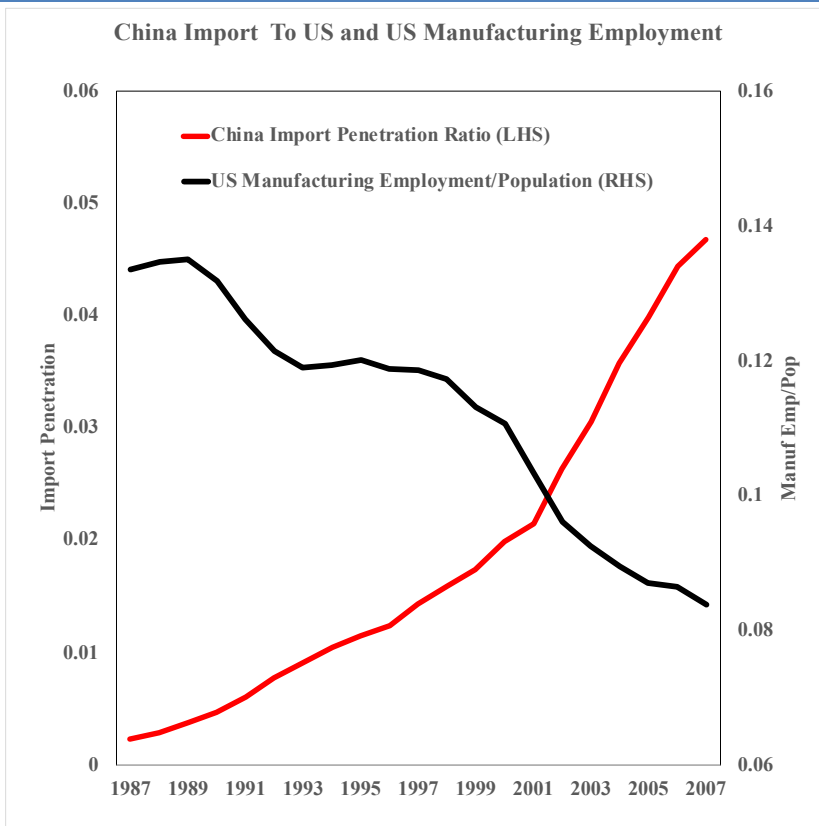
Part 1: Era Of Cheap Labor Is Over

Step 2: Fundamental Economic Framework

Cheap Cheap Imports Put Pressure On US Labor Wages And Jobs Creating The “Rust Belt”

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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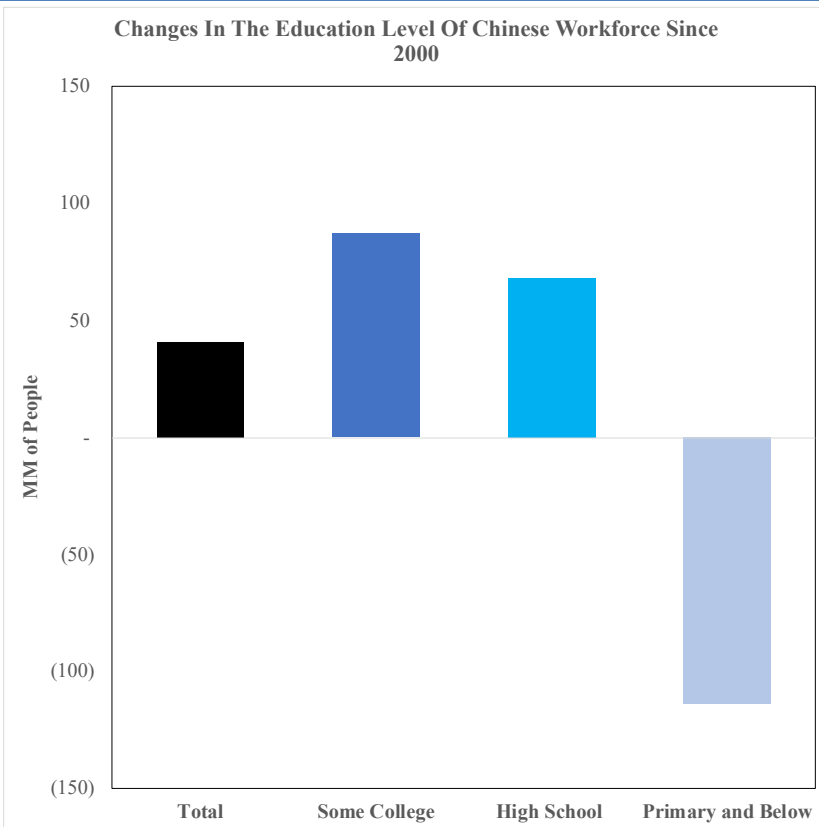
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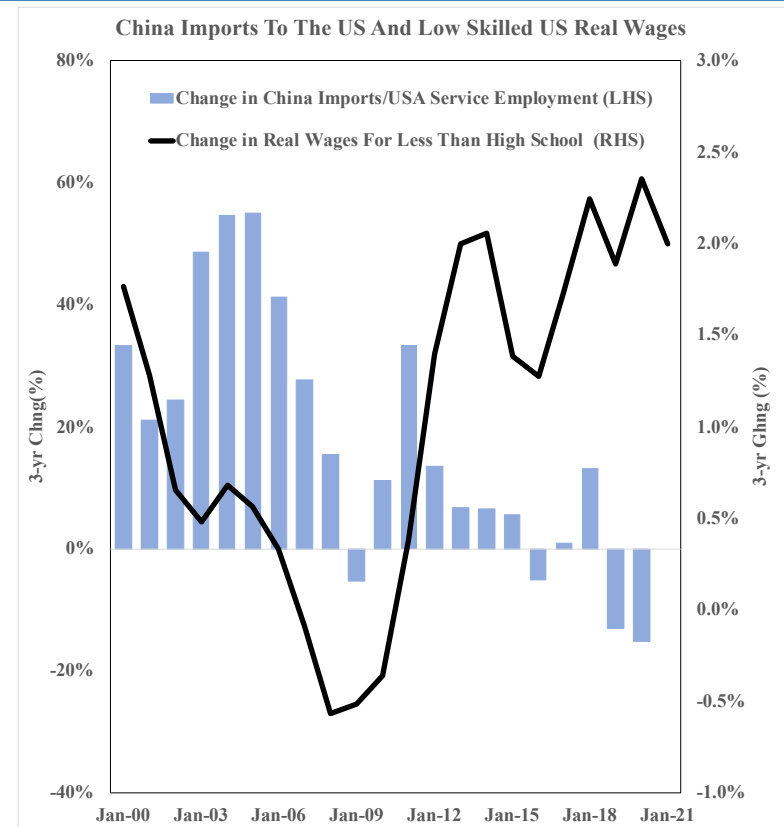
Step 2: Fundamental Economic Framework

Chinese Export Pressure Has Ebbed Reducing The Downward Wage Pressure On US Labor Wages

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



Has Lead To Imports Flatlining And US Wages Inflation²



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

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Step 2: Fundamental Economic Framework

Tariffs, Inflation, and Stronger FX Has Helped As Well By Increasing Import Costs From China

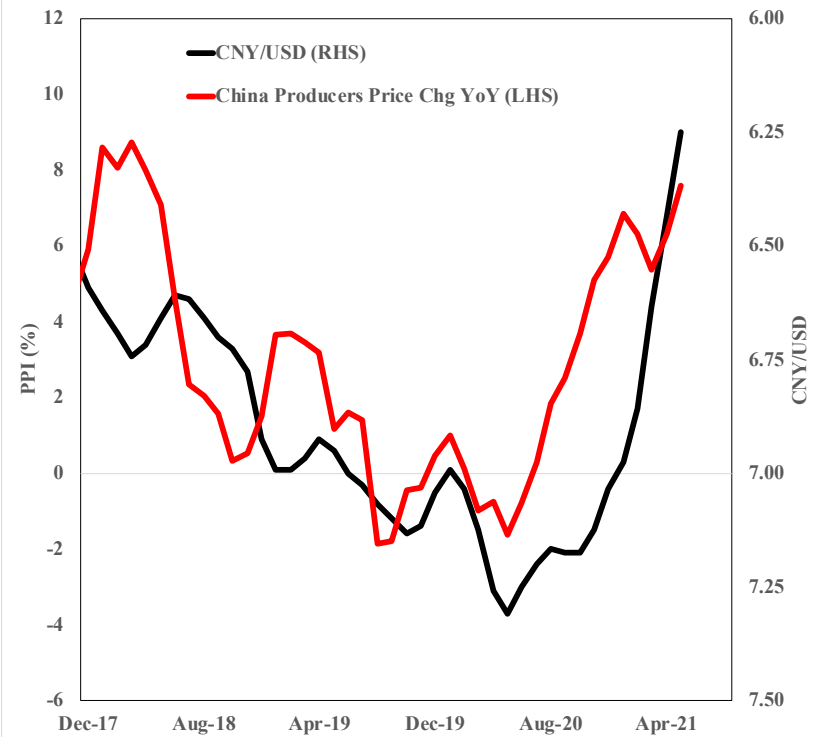
Cost Of Imports Have Risen With Tariffs and With

a. US-China tariff rates toward each other and rest of world (ROW)



Appreciating Currency and Higher Production Costs In China

China FX and Producer Price Index



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

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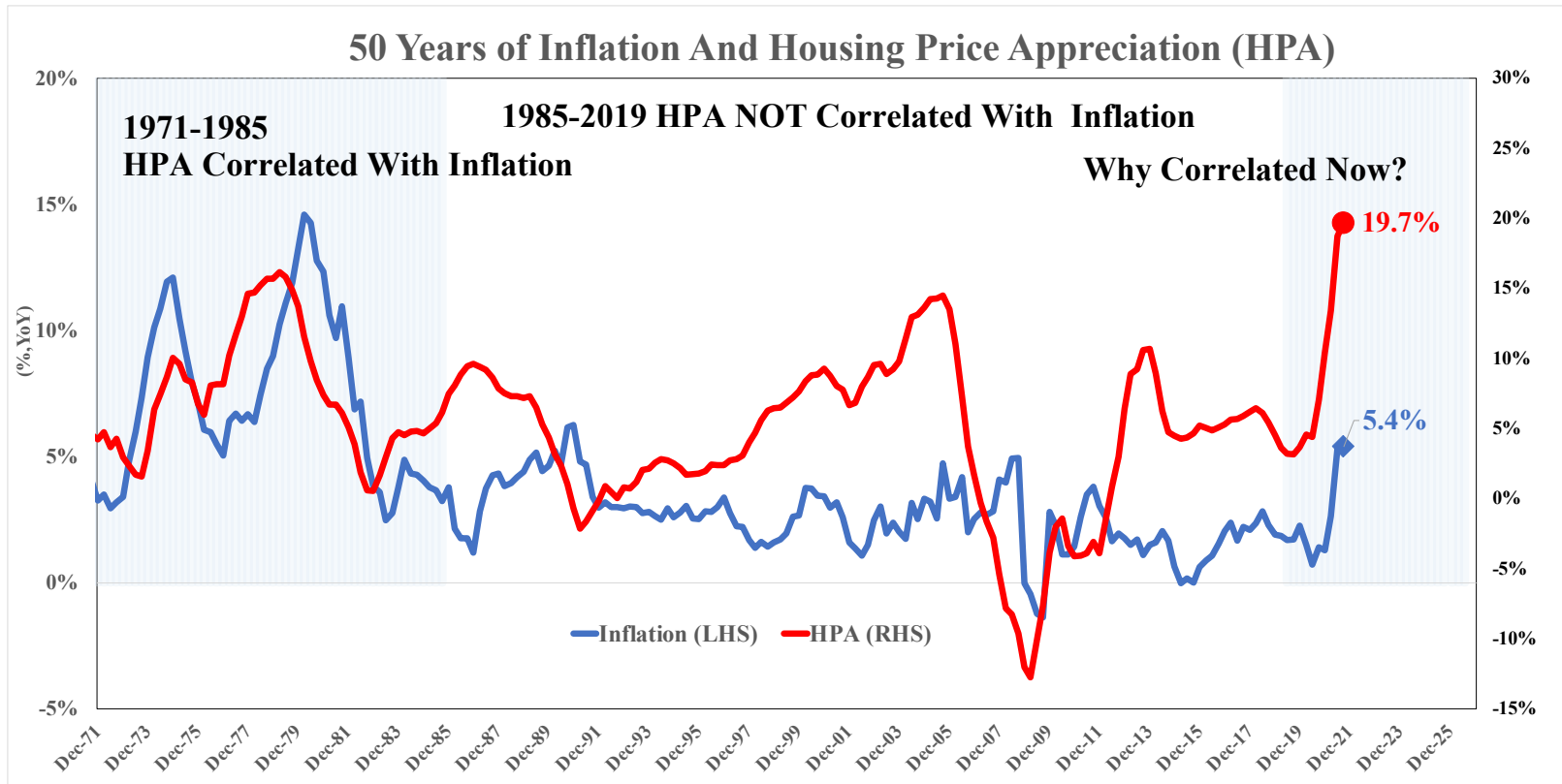
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Part 2: Current Tight Housing Markets Reflect The Same Demographic Factor As The 70s

Step 1: Identify A Macro Them

Does The Spike In HPA Mean Inflation Is Headed To The 1970s, In Contrast To The Last 35 Years?¹

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



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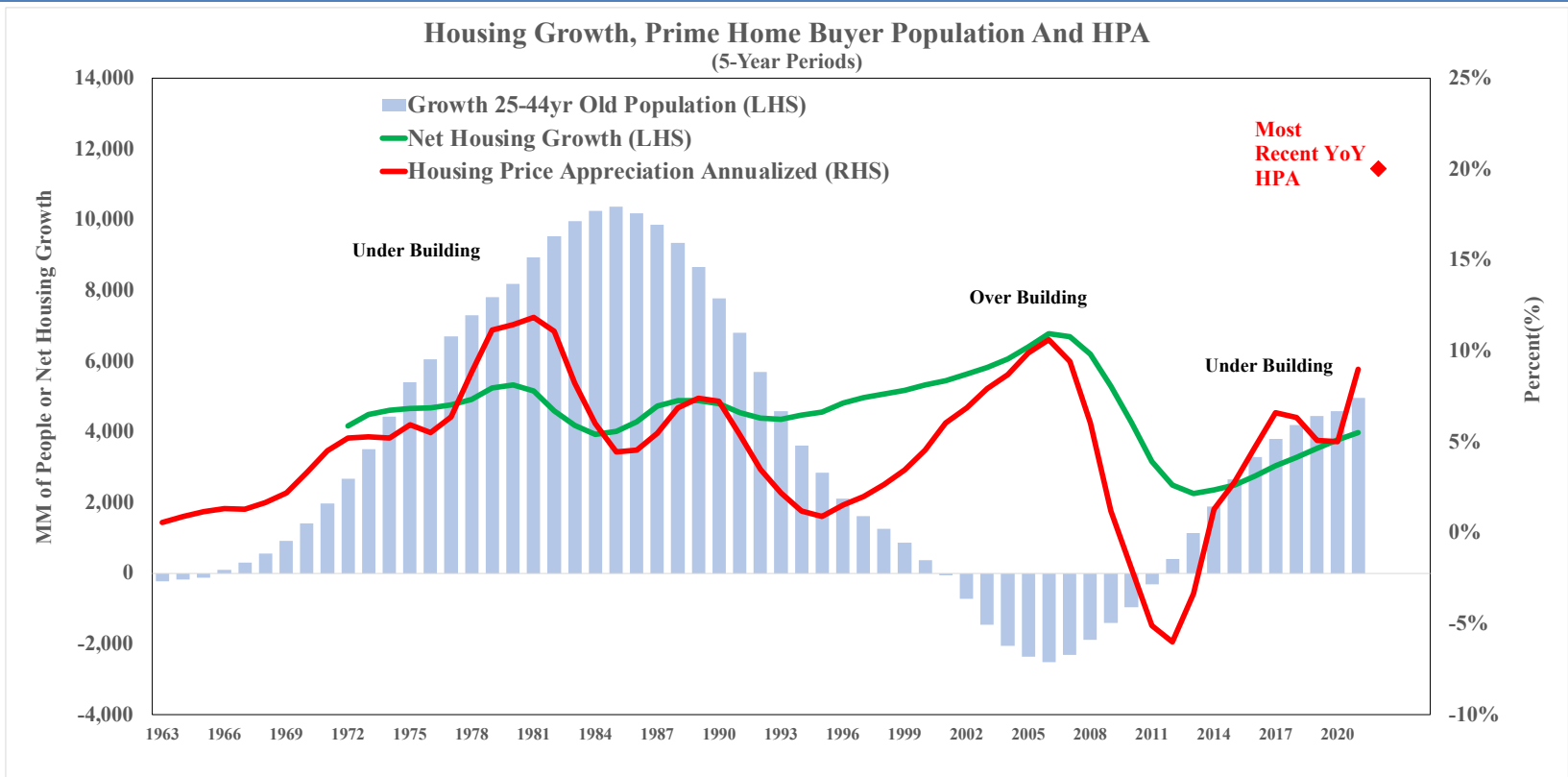
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Step 2: Fundamental Economic Framework

Yes, It Could: Then As Now, The Housing Market And Inflation Reflect The Same Demographic Factor

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



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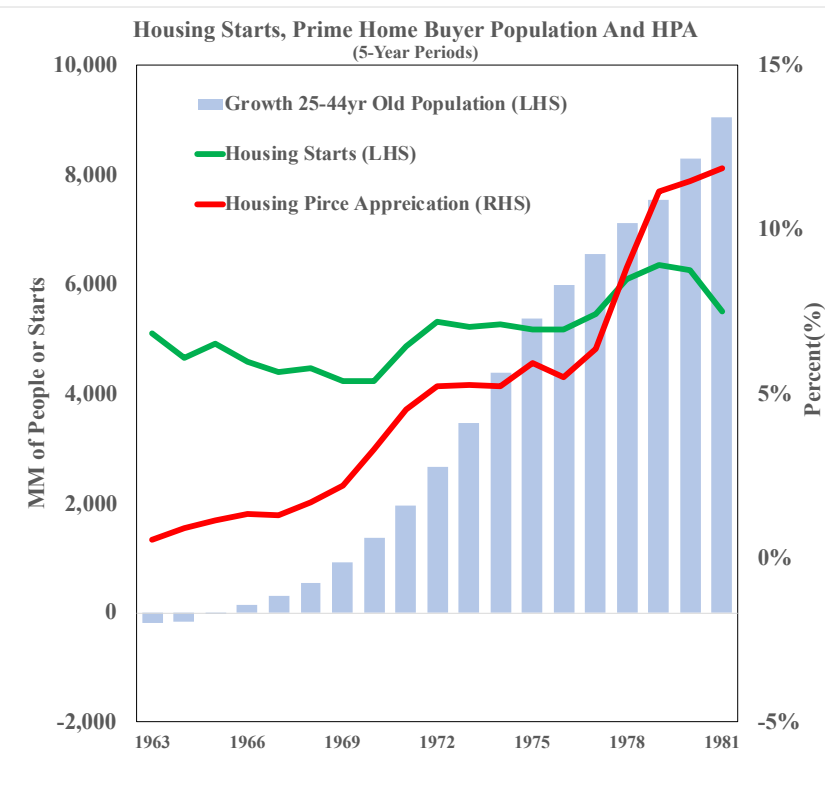
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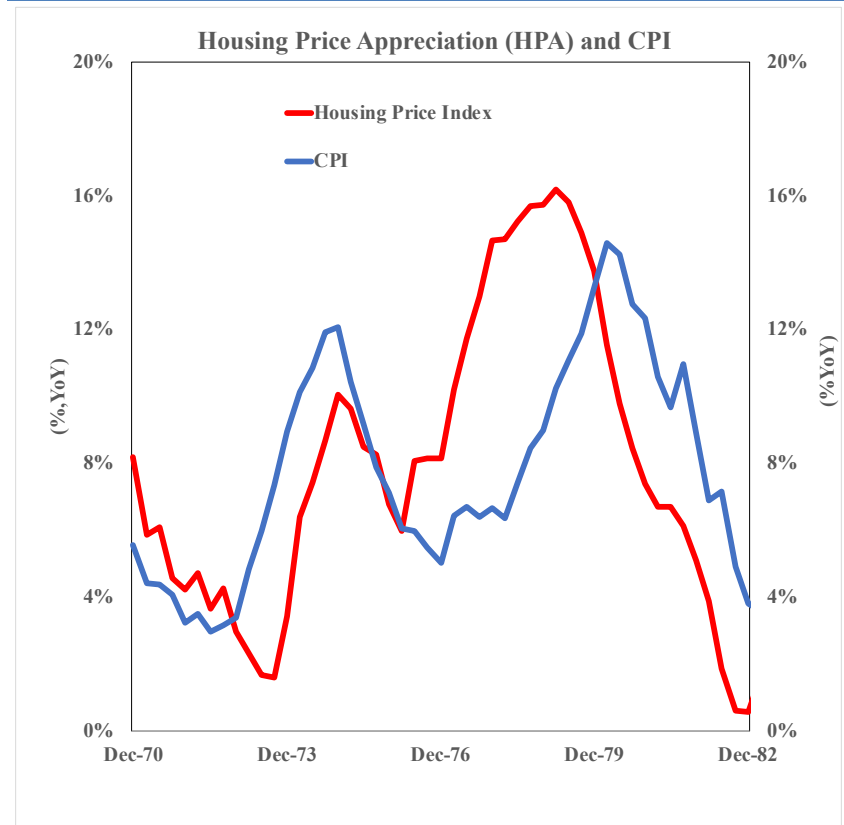
Step 2: Fundamental Economic Framework

In The 70s, Housing Demand Outstripped Supply Pushing Up HPA¹

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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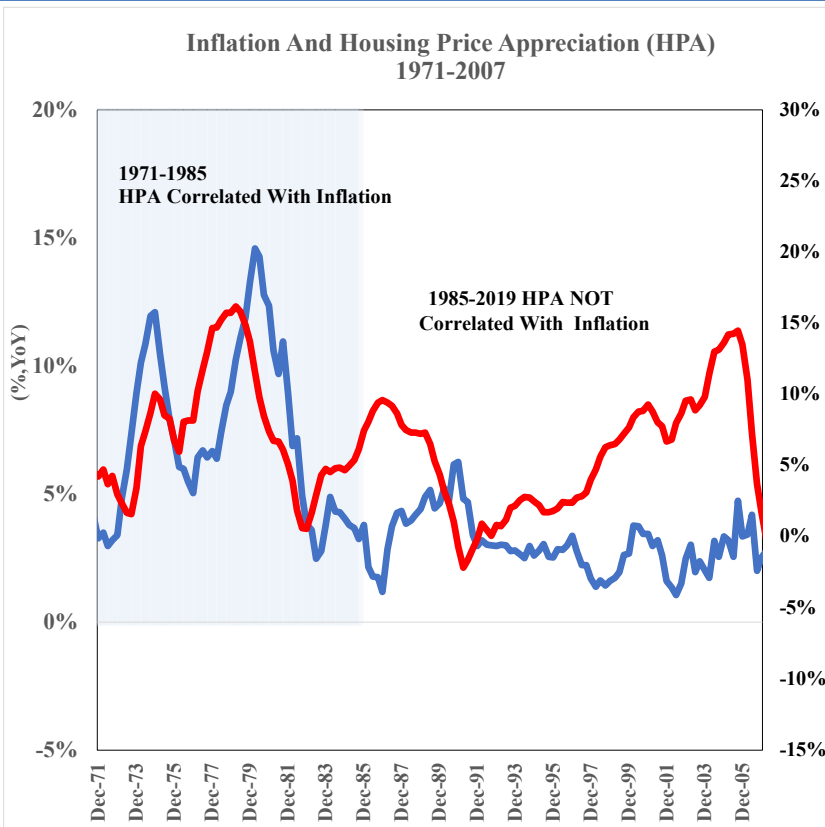
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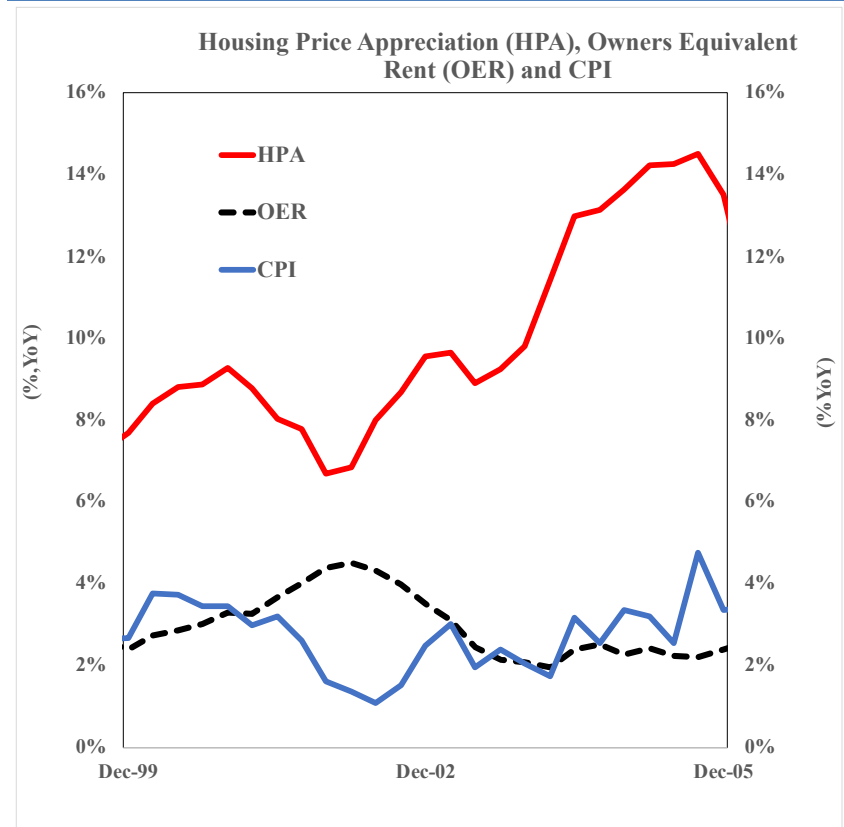
Step 2: Fundamental Economic Framework

So, What happened The Last 35 Years?... Changes In Calculation of CPI And Demographics¹

HPA And Inflation Have NOT Been Correlated Since 1985 Because..



HPA Was Replaced In CPI With Owners Equivalent Rent (OER)



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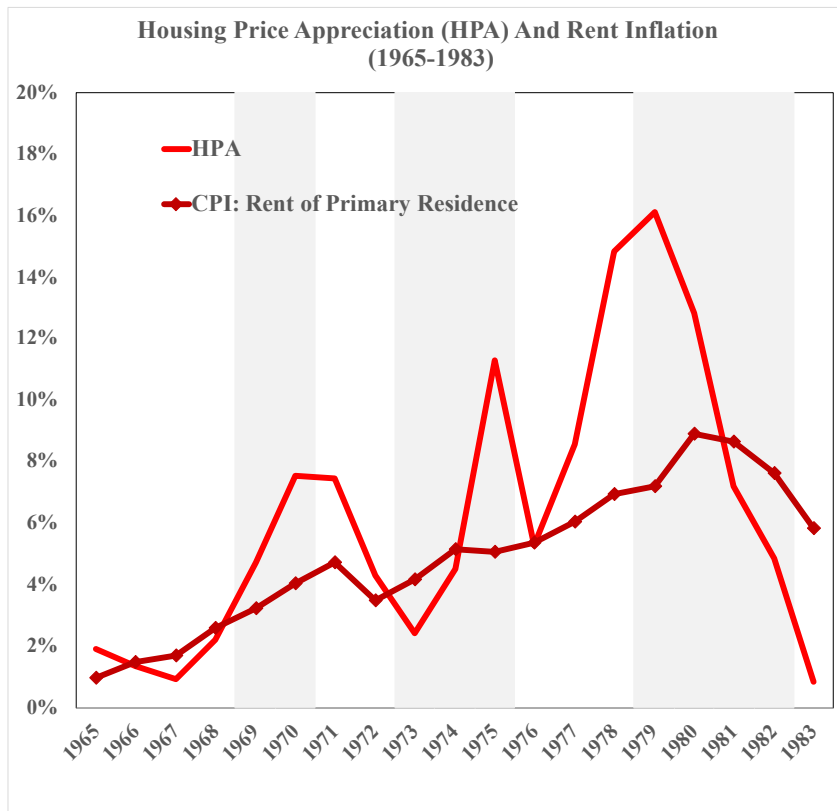
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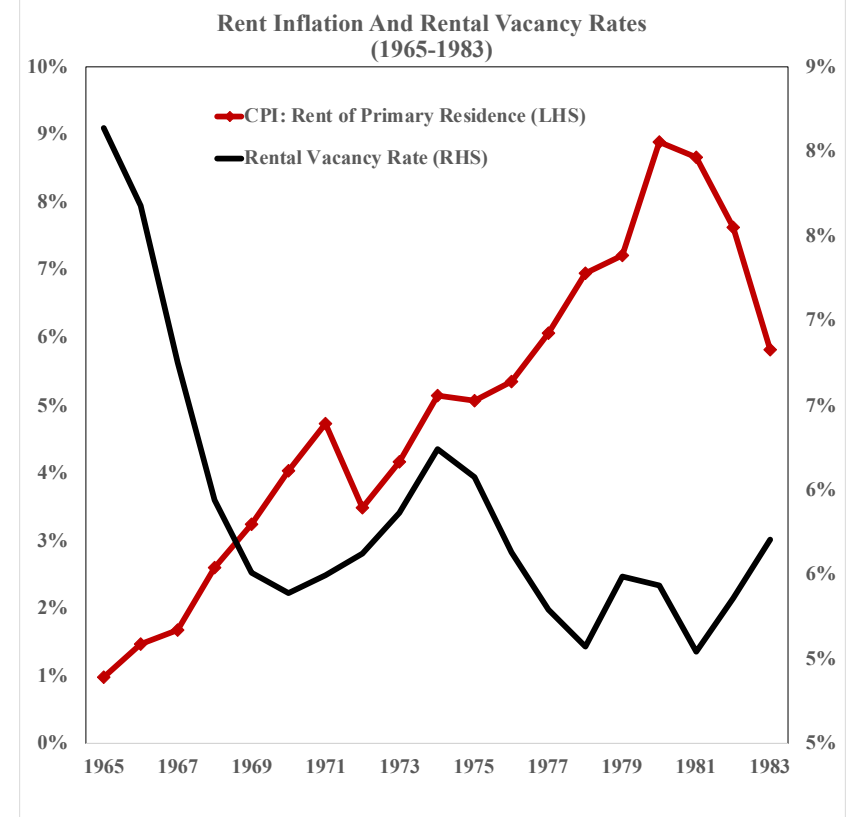
Step 2: Fundamental Economic Framework

In The 70s, Using HPA or OER Did Not Matter Because Both Went Up Reflecting Demographics

Rental Inflation Followed HPA Higher...^{1,2}



As Tight Housing Markets Pushed Down Rental Vacancy Rates²



1. BEA
2. Census Housing Survey

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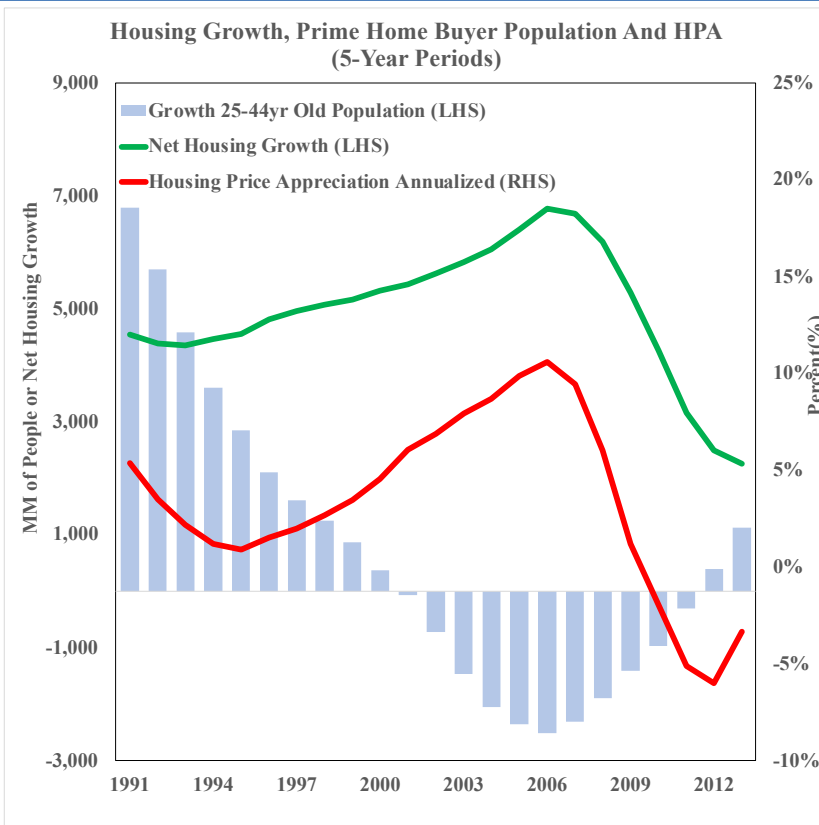
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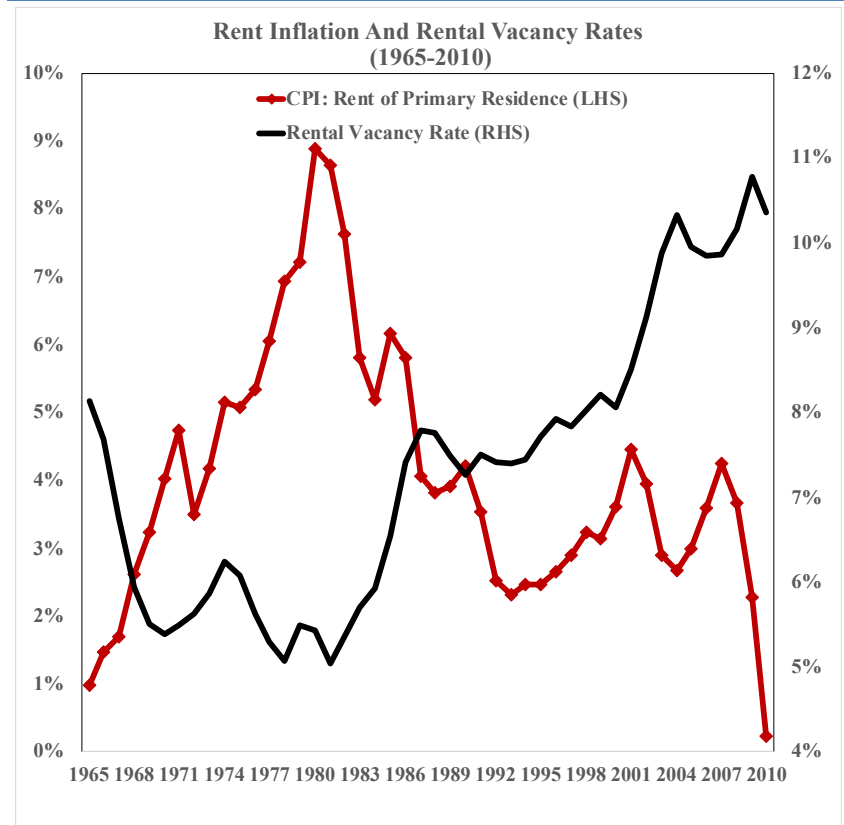
Step 2: Fundamental Economic Framework

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

Post The Early 80s, HPA Did Not Impact Rent Inflation...^{1,2}



Because 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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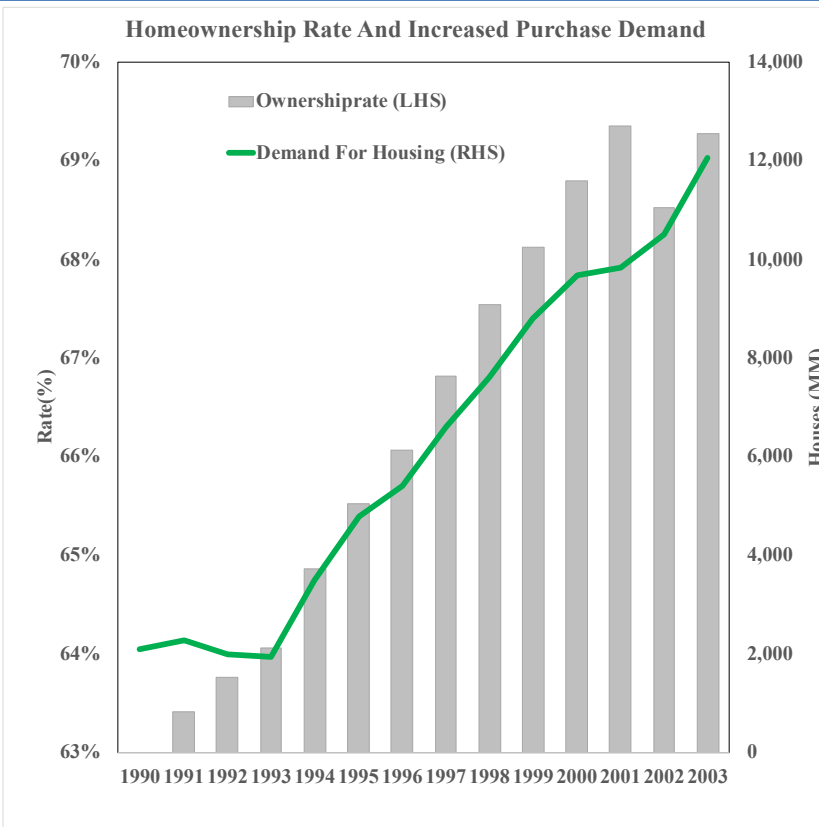
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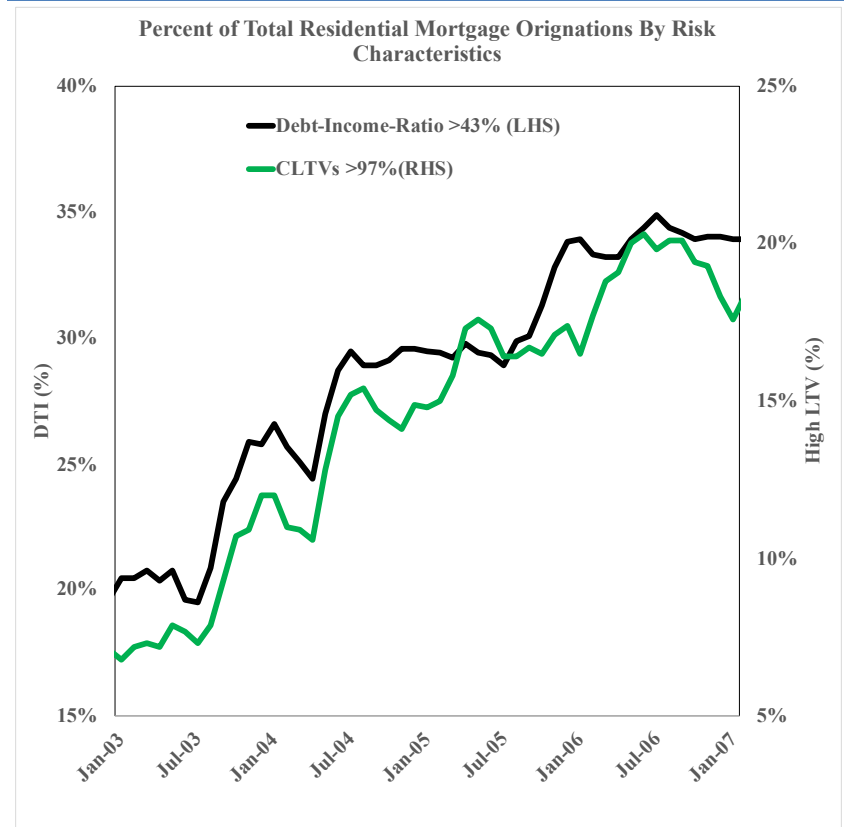
Step 2: Fundamental Economic Framework

Driven By The Subprime Underwriting That Pushed Ownership Rates Up, Pushing Down Rental Demand

Loosening Standards Allowed Borrowers To Afford Rising HPA¹



And Created The Subprime Crisis²



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

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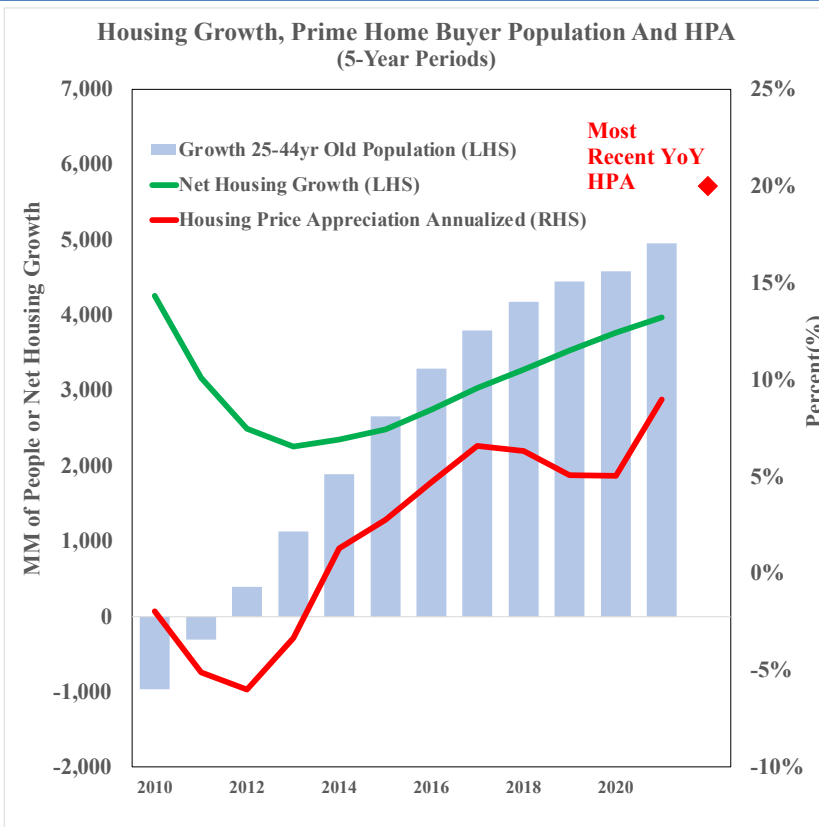
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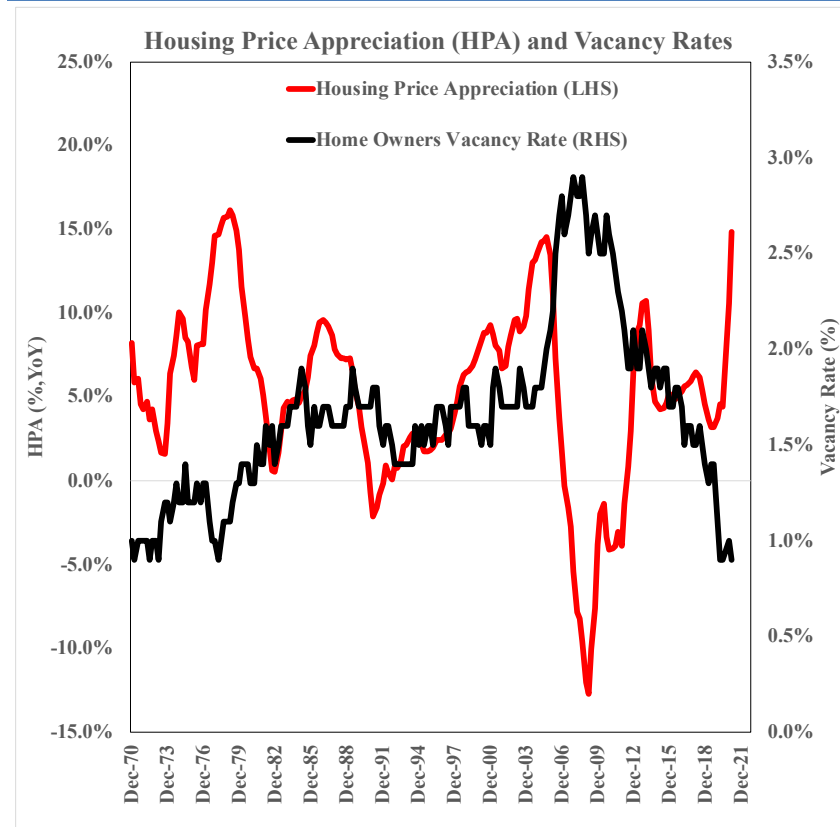
Step 2: Fundamental Economic Framework

However, That Has Changed As The Housing Market Reflects Similar Demographic Factor As The 70s

As In The 70s, Demographics Are Increasing Housing Demand..¹



Tightening Housing Market And Driving Down Vacancy Rates²



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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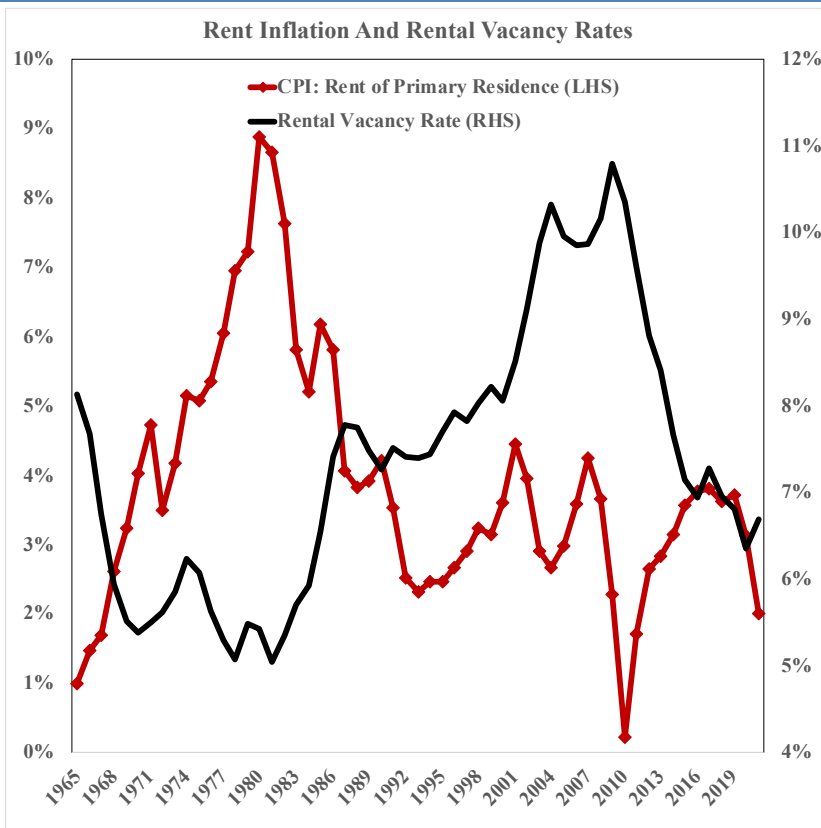
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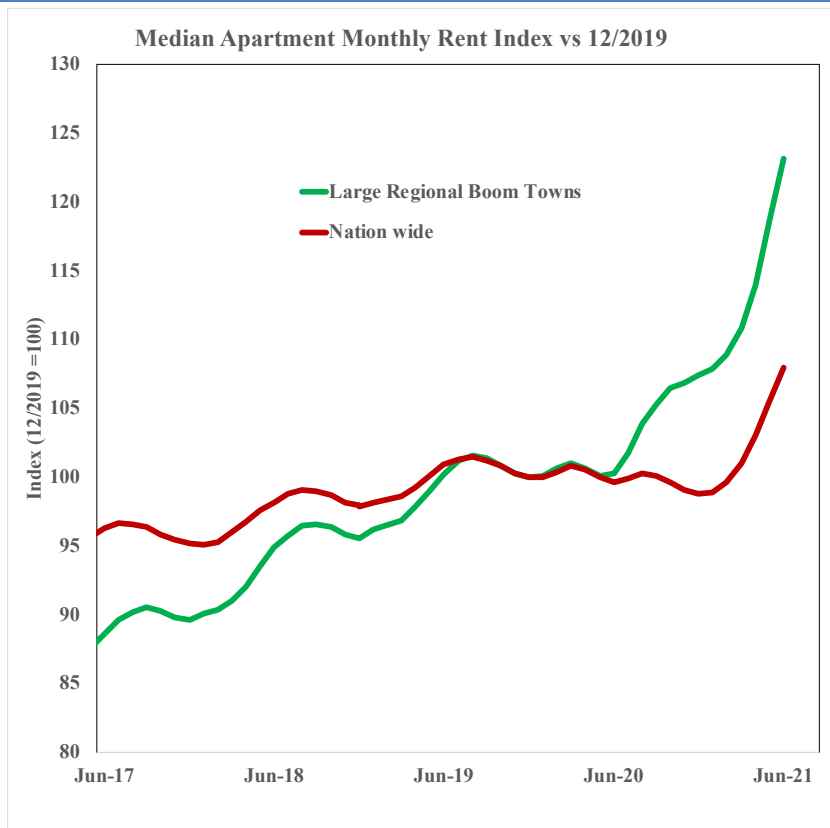
Step 2: Fundamental Economic Framework

Inflation Should Rise As Falling Rental Vacancy Rates Are Just Now Being Reflecting In Rental Rates

Housing Vacancy Rates Are Similar Levels Of The 70s...¹



As Are Rental Vacancy Rates²



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

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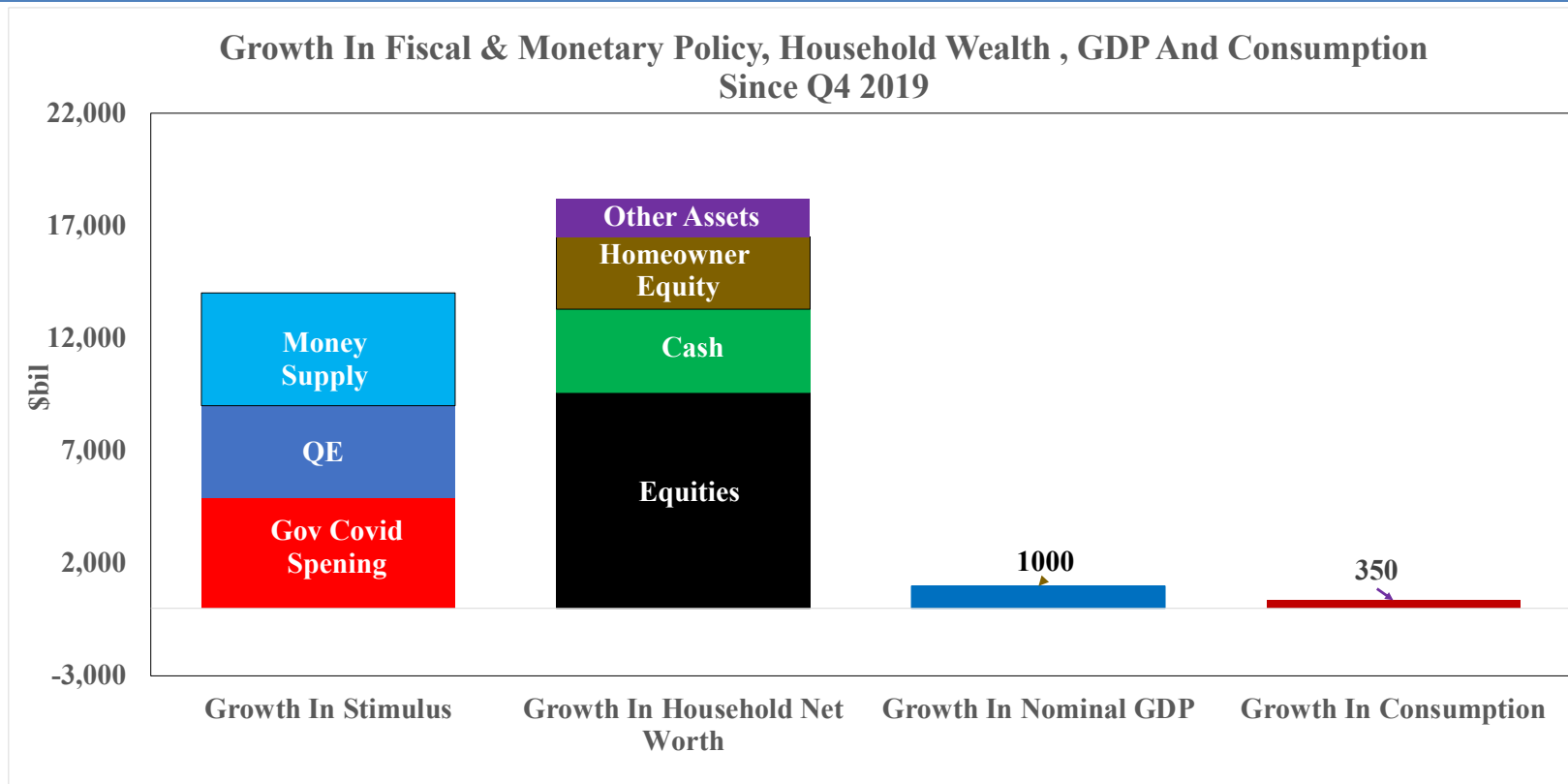
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Part 3: Mountain of Stimulus Driven Cash/Wealth Turns Into Consumption

Step 1: Identify A Macro Theme

What Happens If The Mountain Of Stimulus Driven Cash/Wealth Turns Into Consumption?

Stimulus/Wealth Creation Has Had Little Impact On Consumption^{1,2,3}



1. Federal Reserve Bank of St. Louis, Fred Data Base
2. Federal Reserve Board Z1, H6, H8 reports
3. BEA

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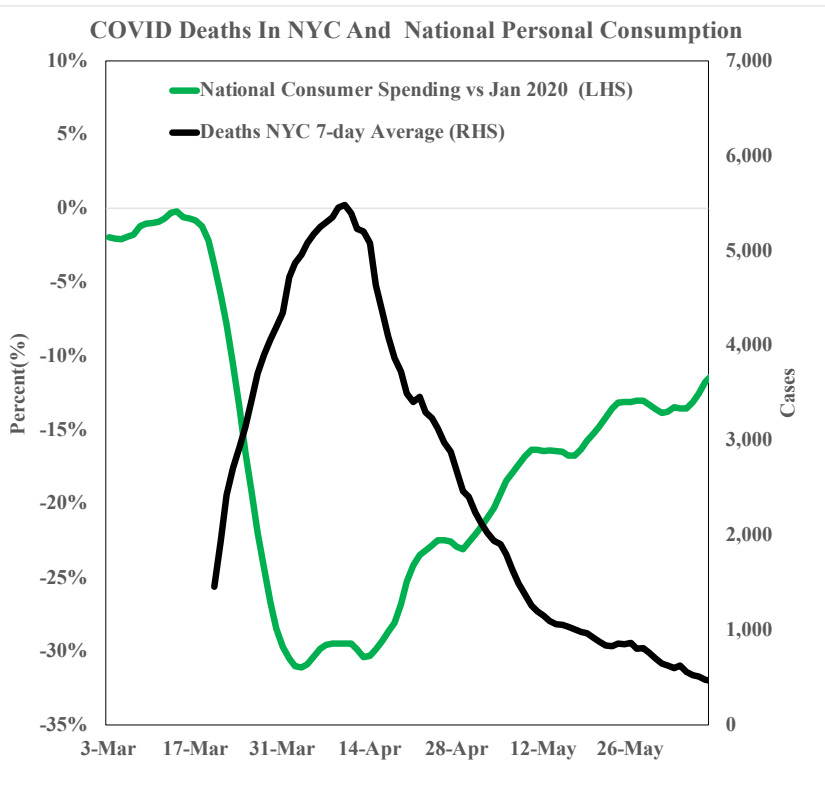
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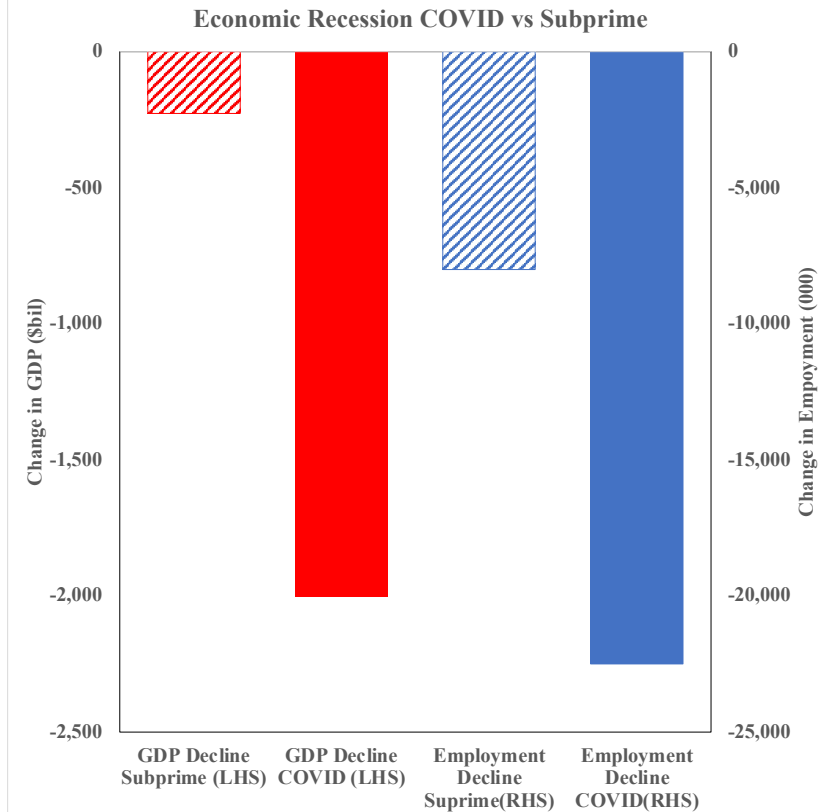
Step 2: Fundamental Economic Framework

Historical Levels of Stimulus Were Needed To Offset The Depression Level Economic Impact Of COVID

Consumption Fell As The Risk of COVID Was Revealed In NYC^{1,2}



The Economy Fell Substantially More Than In The GFC^{2,3}



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

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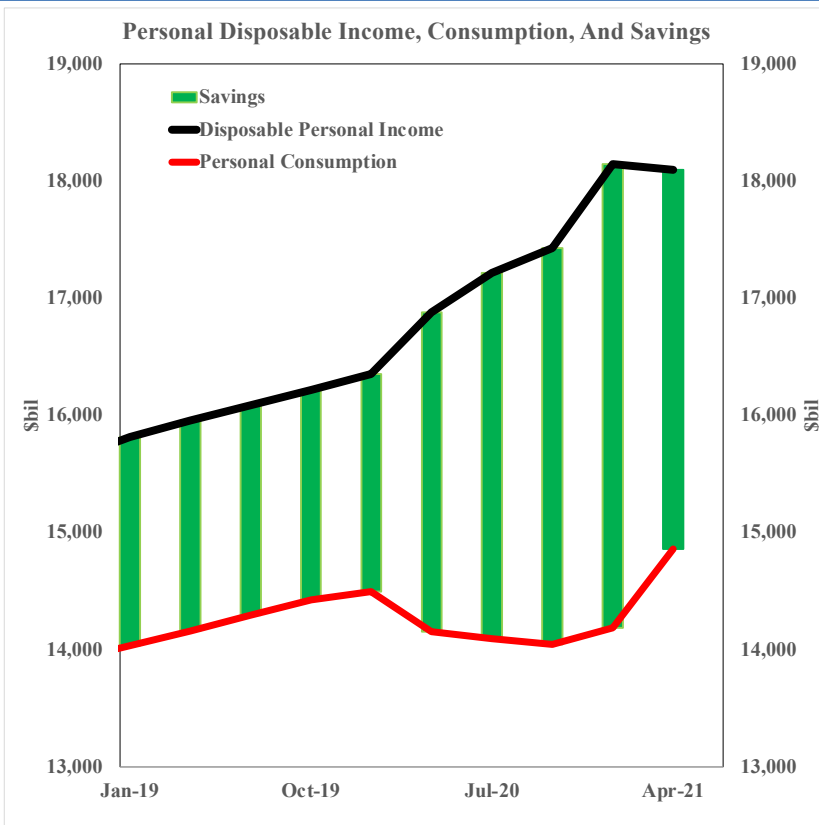
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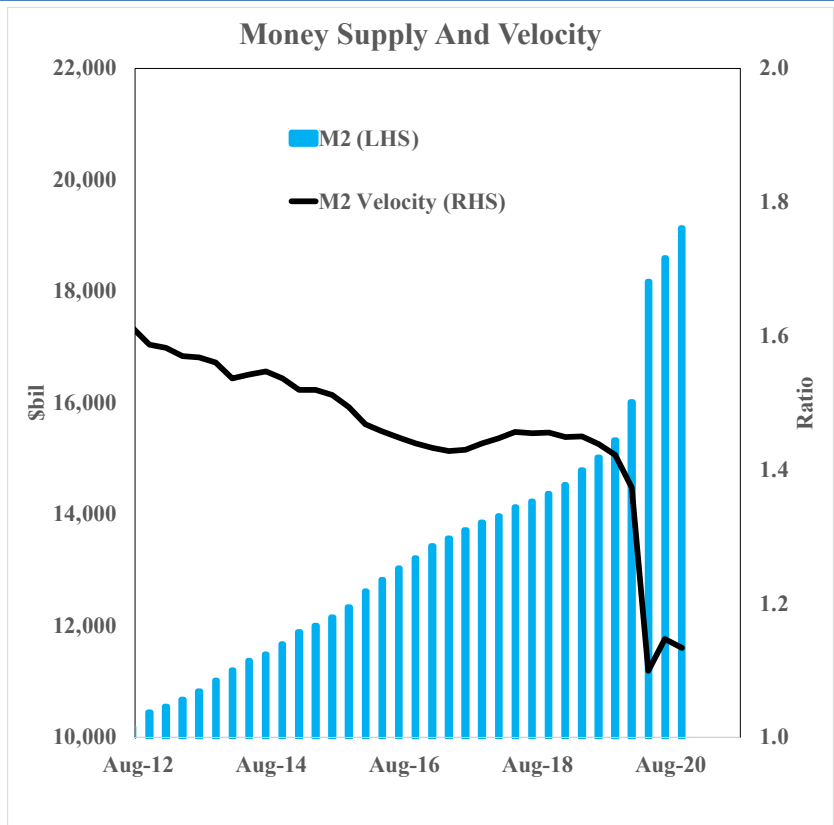
Step 2: Fundamental Economic Framework

Stimulus Fail To Hold The Fall In Consumption Resulting In The Plunge in Velocity of Money

Consumption Fell Even Though Incomes Rose=Savings Rose...¹



As A Result, Velocity Fell to Historical Lows^{2,3,4}



1. BEA
2. Federal Reserve Board H6 reports
3. Federal Reserve Bank of St. Louis, Fred Data Base
4. Velocity of Money (V) comes from the identity of $V * \text{Money Supply} = \text{Prices} * \text{Real GDP}$.

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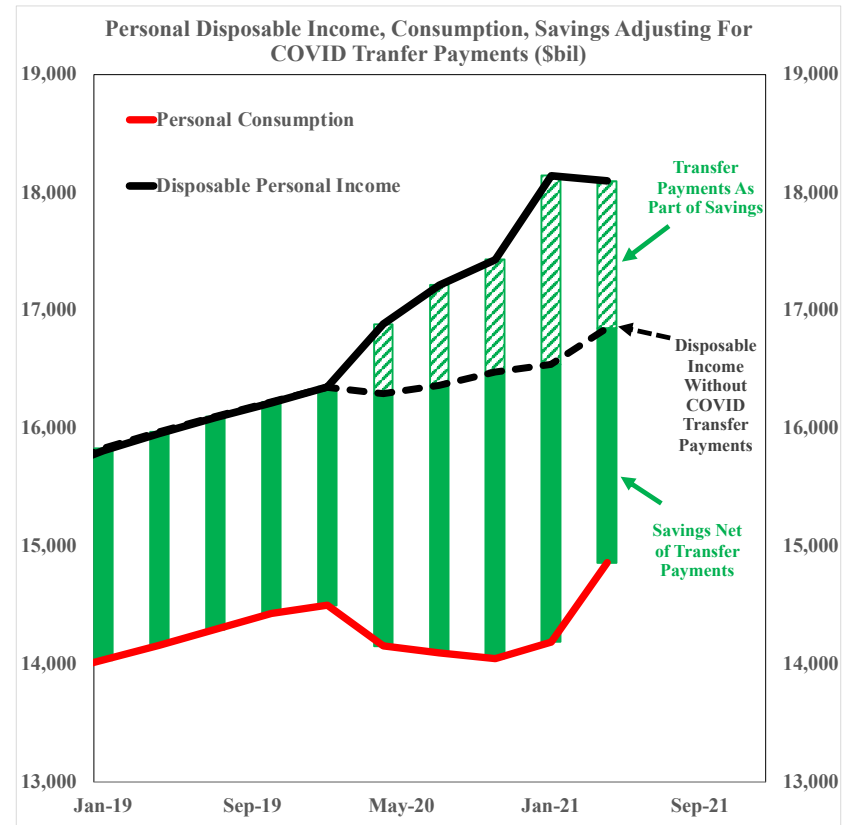
Step 2: Fundamental Economic Framework

As A Result, Increase Savings Completely Offset The Impact Of The Rise in COVID Transfer Payments

Net Savings Has Followed Government Deficits¹



Increases Savings Has Offset The Impact of Transfer Payments^{1,2}



1. BEA
2. Author's calculations

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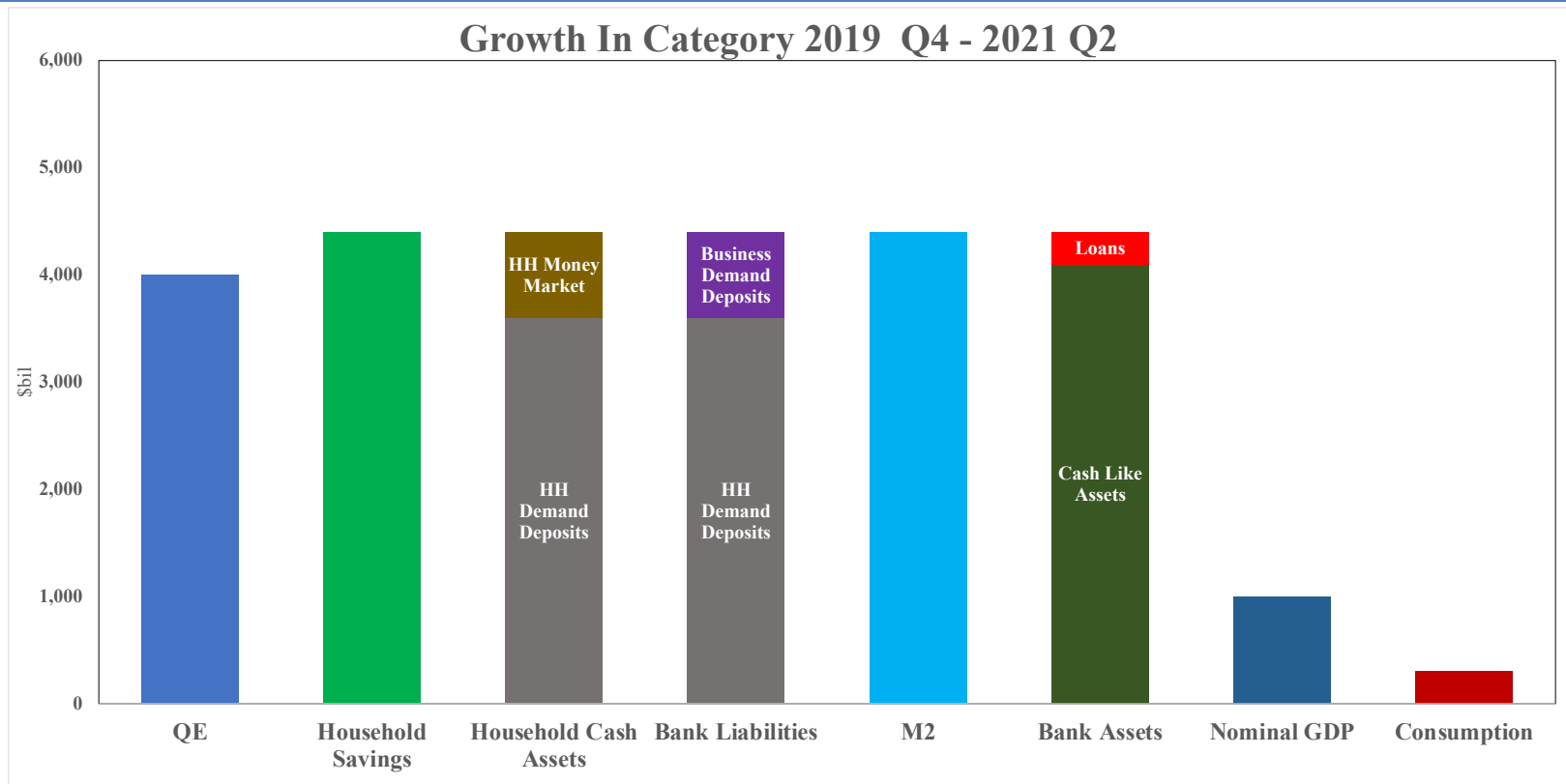
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Step 2: Fundamental Economic Framework

Stimulus Failed To Push Up Consumption Because Households Saved And Banks Did Not Lend^{1,2,3}

The Failure of QE: QE Increased Cash, Households Saved It And Deposited In Banks, But Banks Chose To Hold It As Cash And Not Lend It Out



1. Federal Reserve Bank of St. Louis, Fred Data Base
2. Federal Reserve Board Z1, H6, H8 reports
3. BEA

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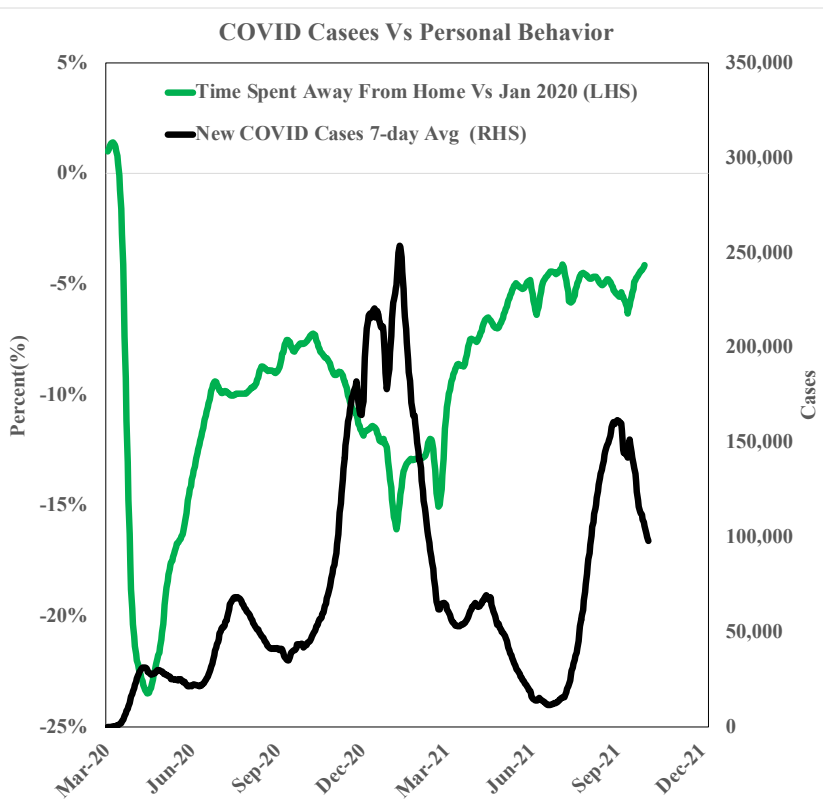
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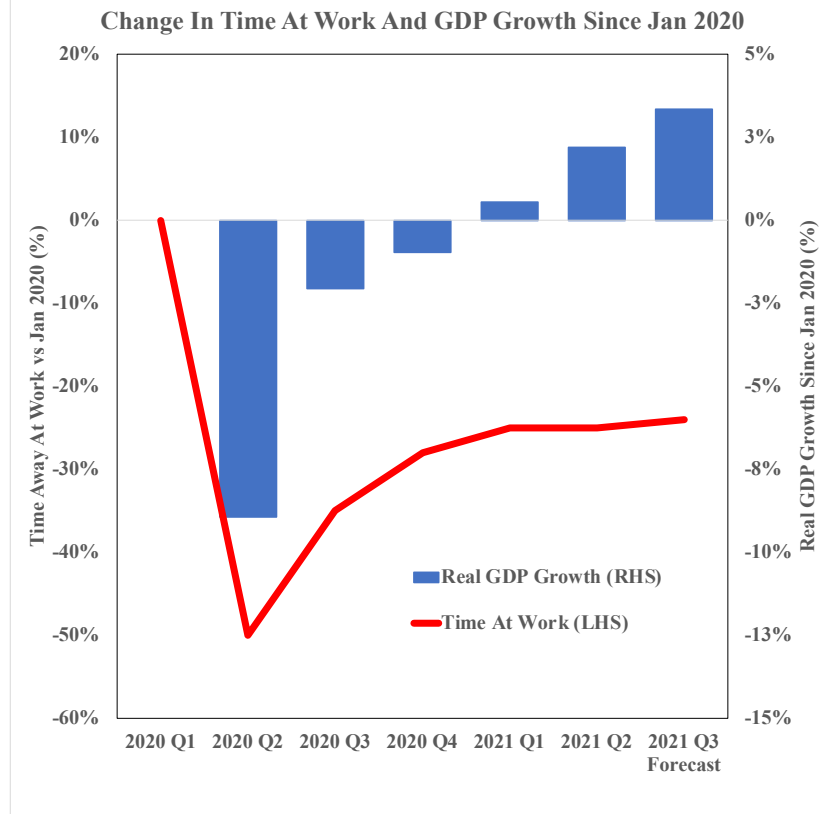
Step 3: Identify Potential Repricing Catalysts

The Deployment of Vaccines And The Ebbing of Covid Could Provide A Tailwind To Growth....

Exposed Population Fall As Cases And Vaccine Rates Rise....^{1,2}



Accordingly, The Wave Will Soon Burnout^{2,3}



1. CDC
2. Google mobility data
3. BEA

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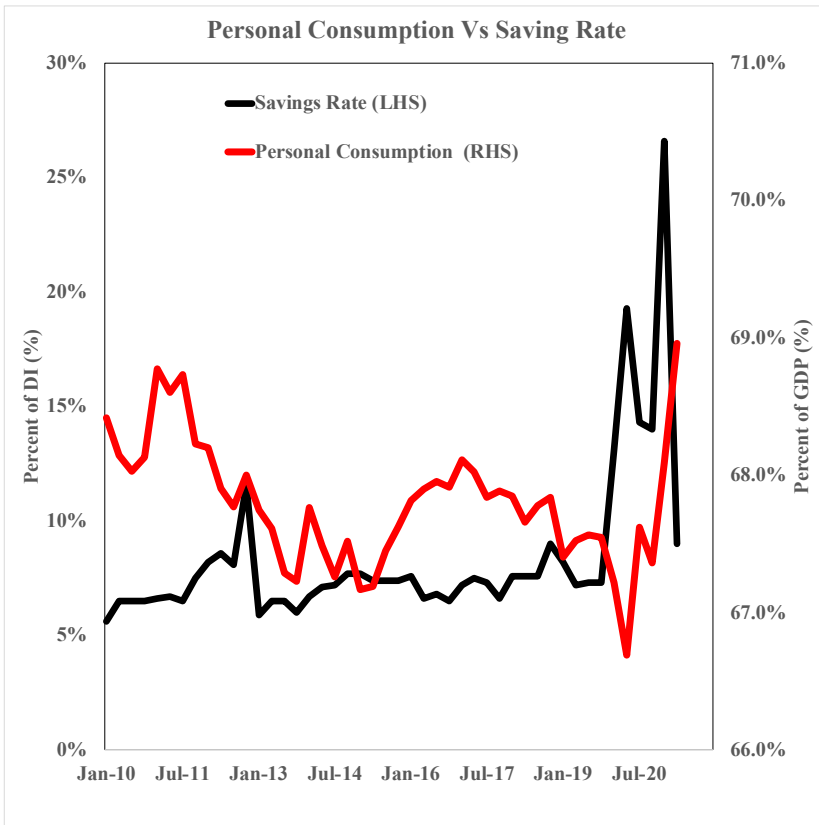
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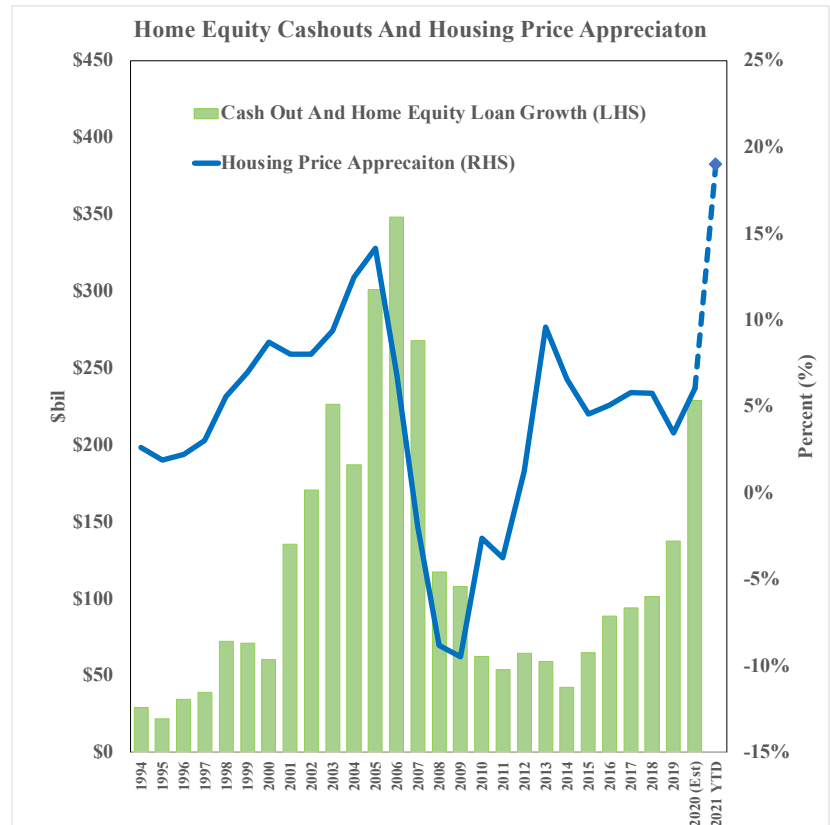
Step 3: Identify Potential Repricing Catalysts

Savings And Wealth Are Beginning To Be Turned Into Consumption With The Fall In COVID Concerns

Income Decline For Top Earners Will Be Subnational...¹



Deficits Will Be Difficult To Fund As Top Earners Have Less To Save^{2,3}



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

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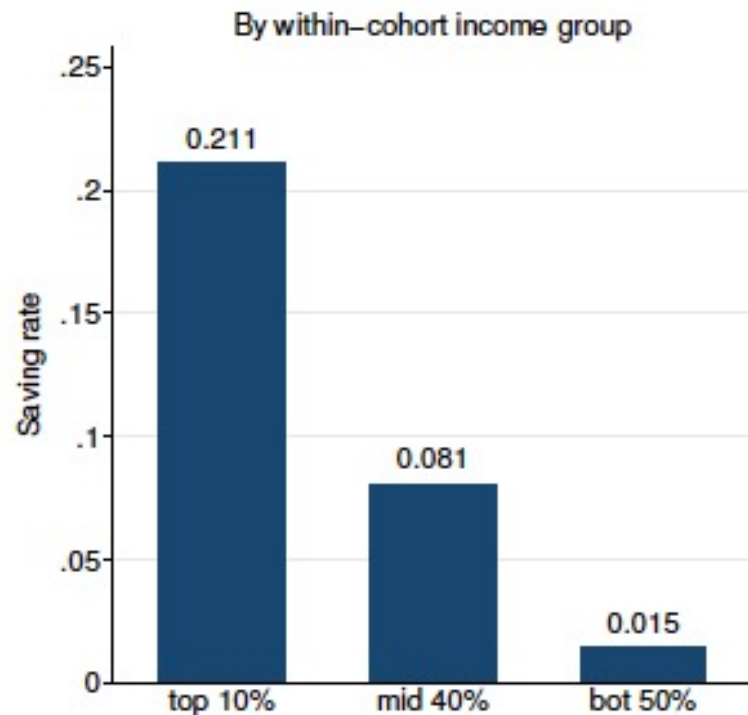
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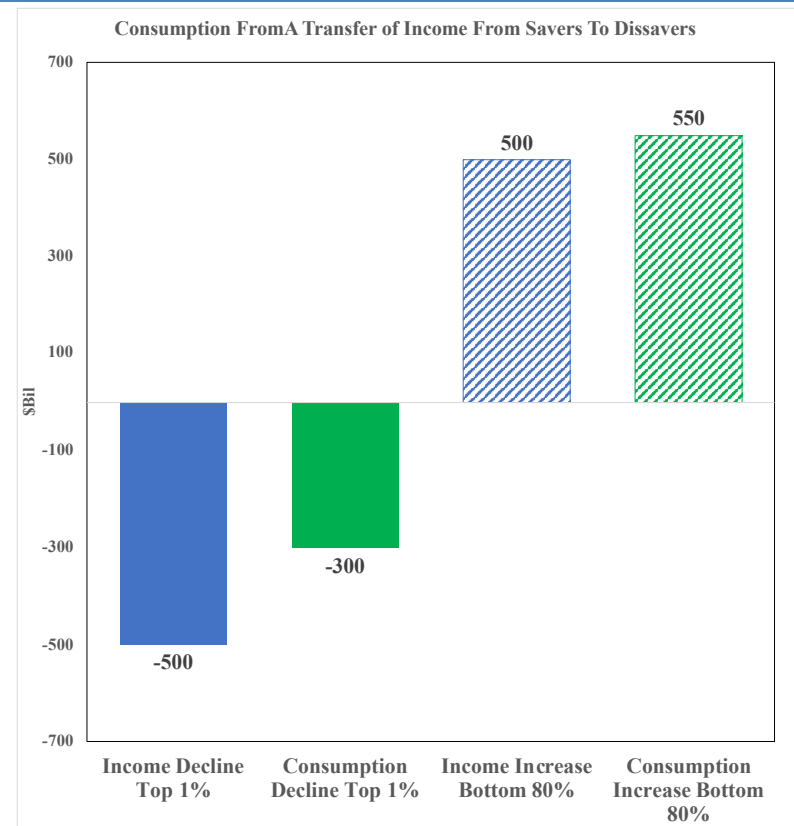
Step 3: Identify Potential Repricing Catalysts

As It Moves Income From Savers To Spenders

The 1% Are The Savers, While Lower Incomes Consume¹



Tax The 1% Could Spur Total Consumption²



1. Mian, Straub, and Sufi, "What explains the decline in r*? Rising income inequality versus demographic shifts", Paper presented at the Jackson Hole Economic Policy Symposium: Macroeconomic Policy in an Uneven Economy, August 27, 2021

2. CBO, "The Distribution of Household Income, 2017", October 2020

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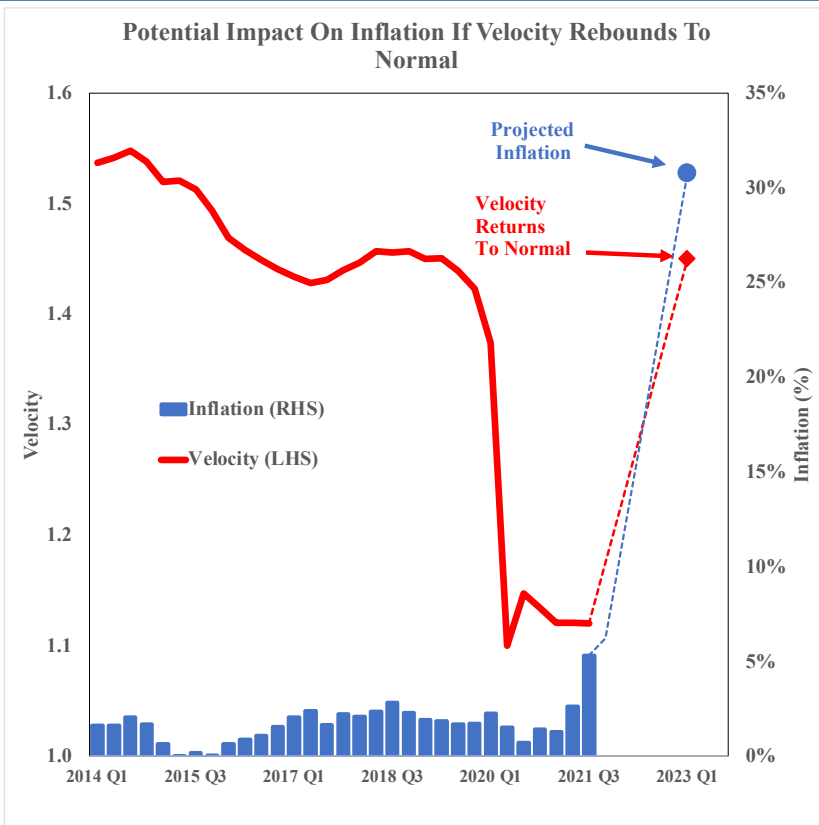
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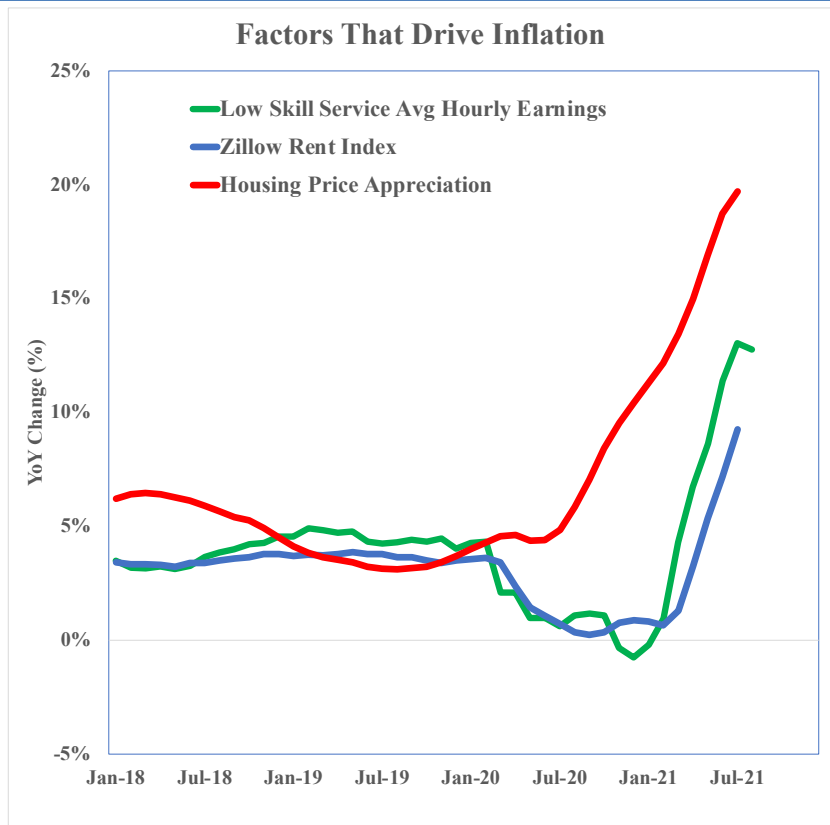
Step 3: Identify Potential Repricing Catalysts

Turning The Mountain of Cash/Wealth Into Consumption Adds To Forces Already Driving Up Inflation

Inflation Could Surge If Households Turn Cash Into Consumption¹



Adding A Tailwind For Inflation To That of Labor And Housing^{2,3}



1. Assumes that money supply is unchanged from current levels, real GDP is 4%, and velocity goes to pre-COVID levels
2. Federal Reserve Bank of St. Louis, Fred Data Base
3. Zillow rent index

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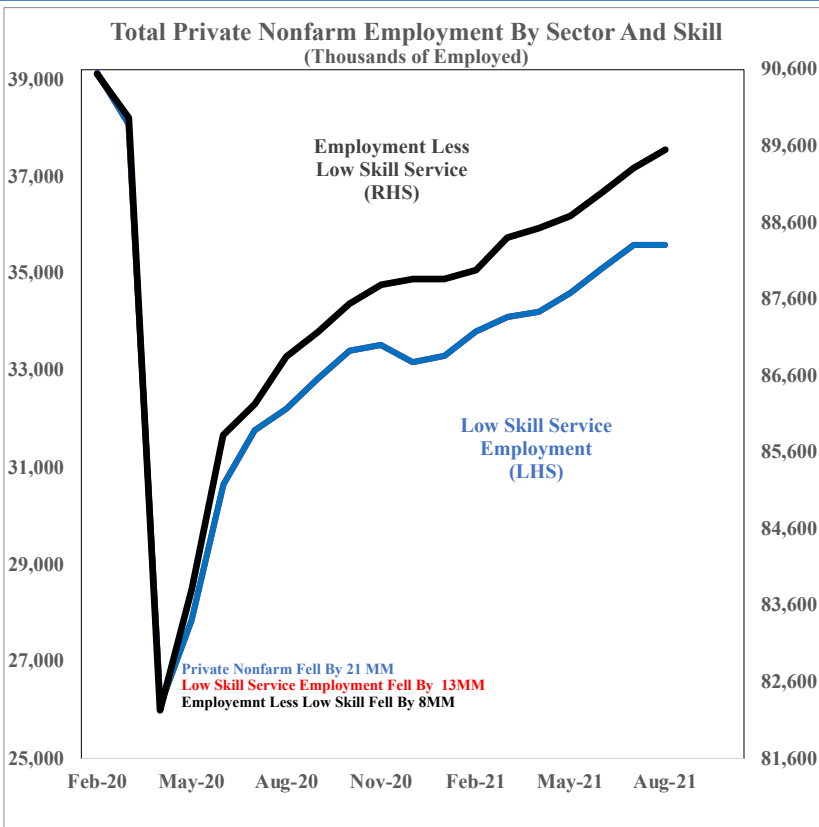
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Part 1: Era Of Cheap Labor Is Over

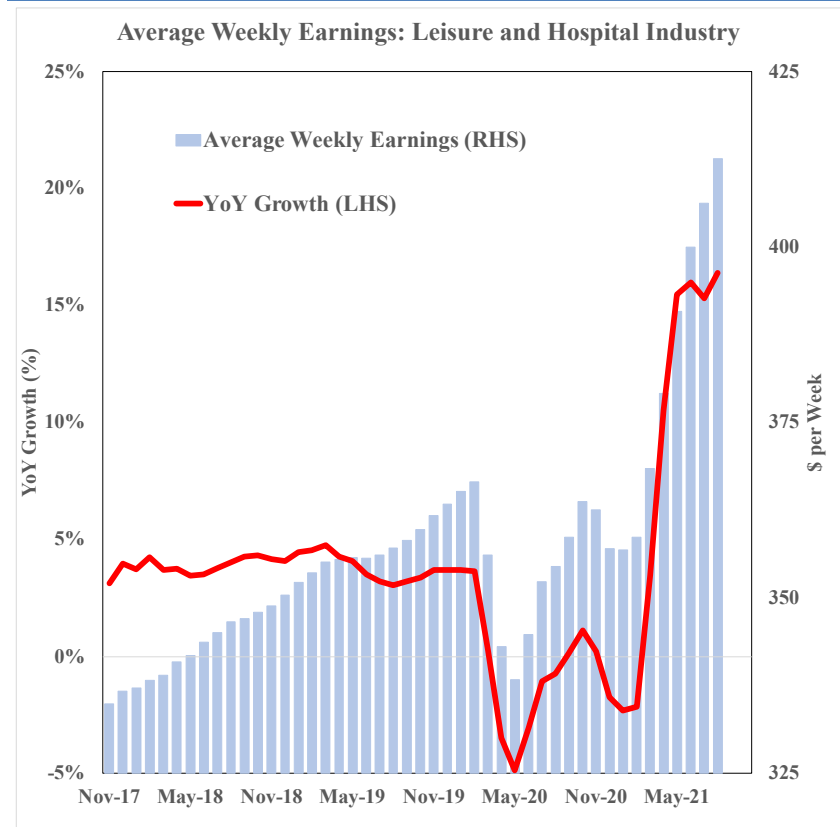
Step 3: Identify Potential Repricing Catalysts

The Ebbing Of The COVID Wave Revealed The Growing Pricing Power of Low Skill Labor¹

Low Skill Labor Is Still Below Pre-COVID Levels...



Even As Wages For Unskilled Labor Are Up 15% From Pre-COVID



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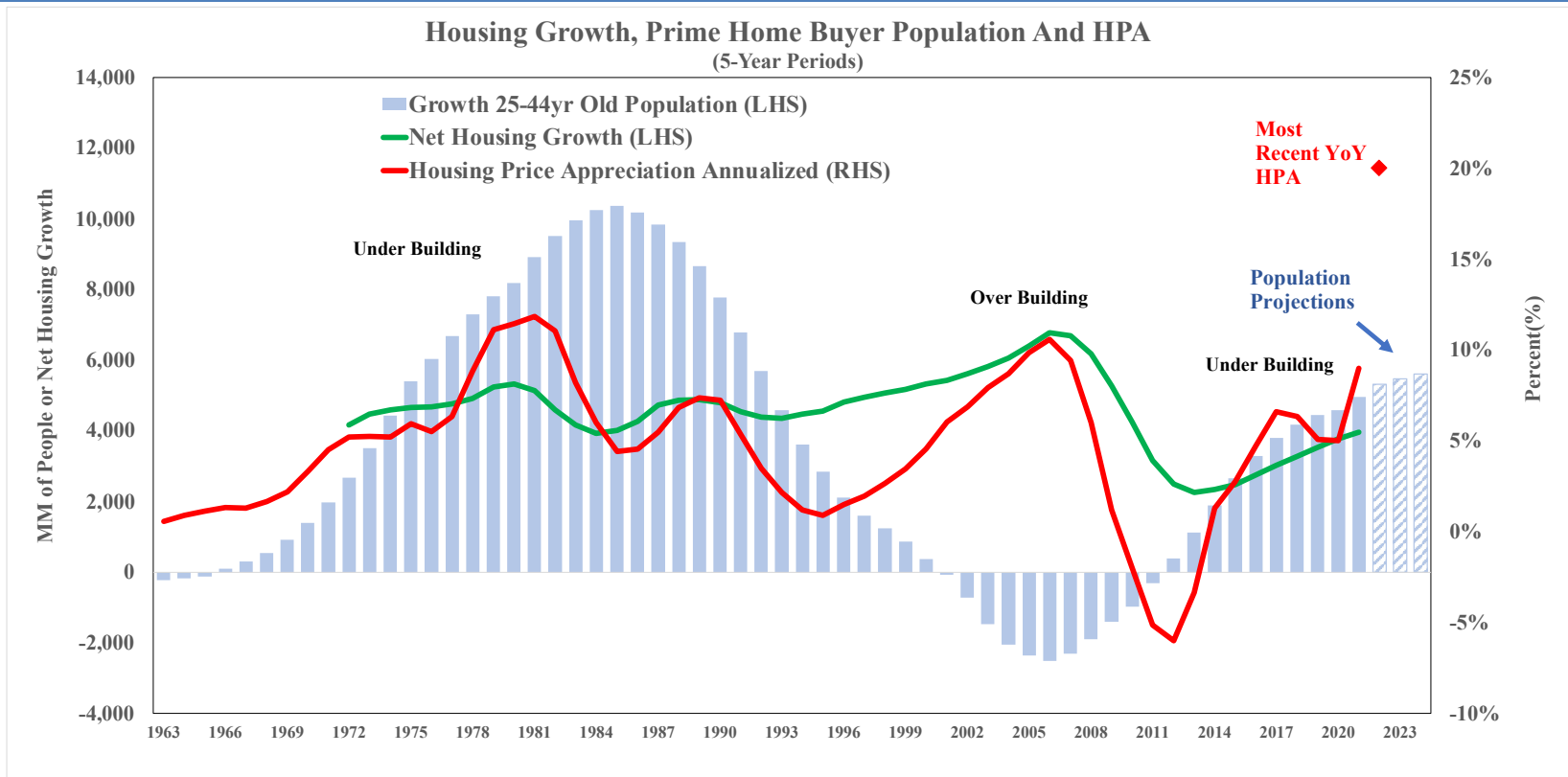
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Part 2: Current Tight Housing Markets Reflect The Same Demographic Factor As The 70s

Step 3: Identify Potential Repricing Catalysts

Boomer “Boomlet” Will Continue To Create Increasing Demand For Housing And Push Up Inflation

Growth In Prime Home Buyer Populations And Continue To Tighten The Housing Market Pushing Up Rental Rates^{1,2}



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

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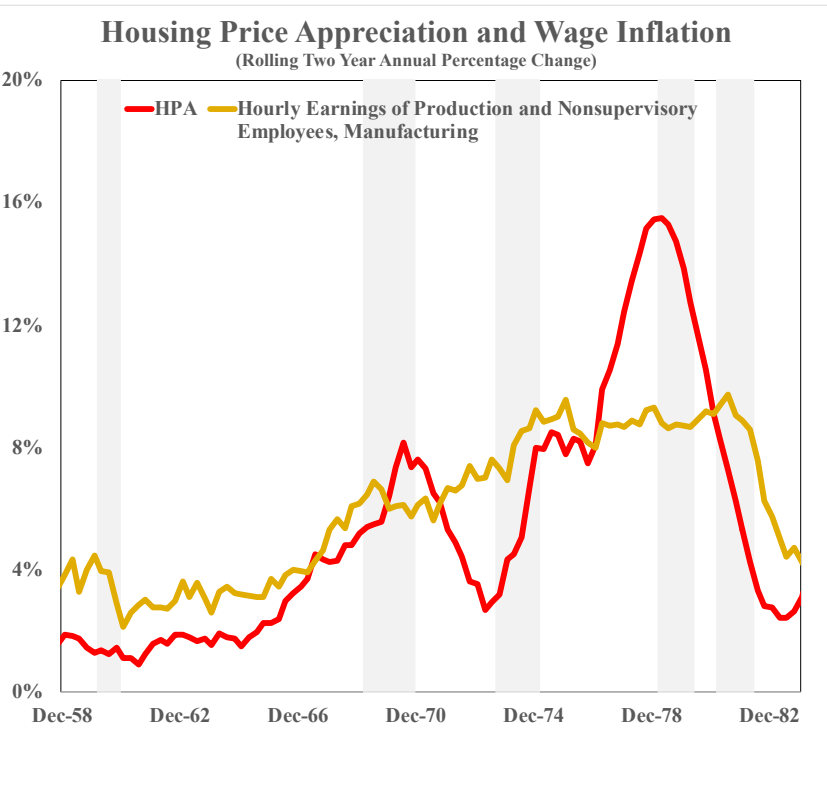
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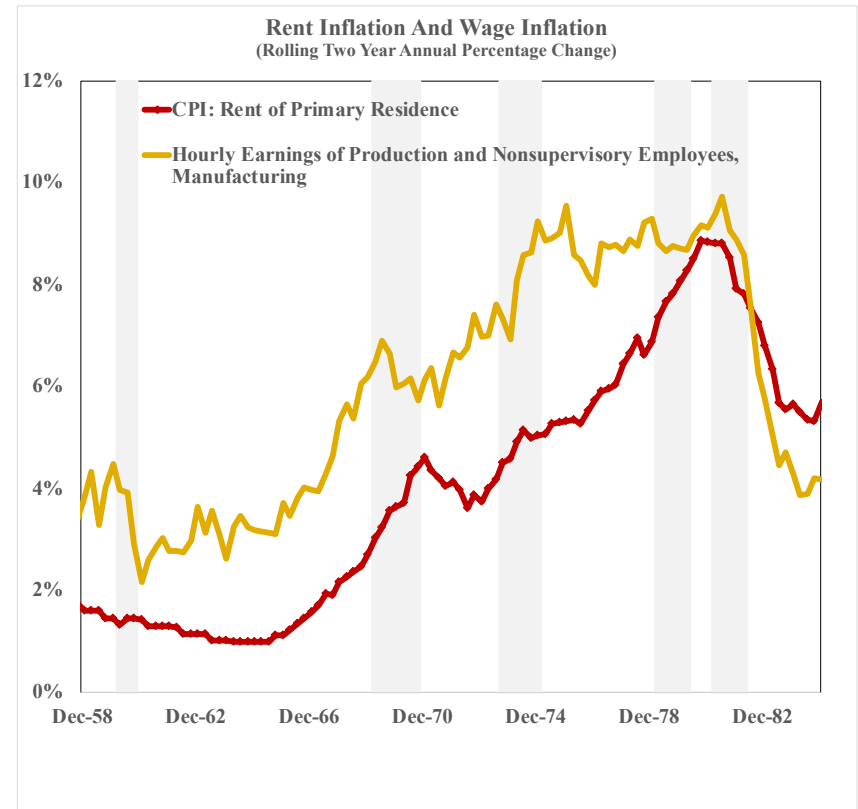
Step 3: Identify Potential Repricing Catalysts

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

Step 4: Identify Asymmetric Trades

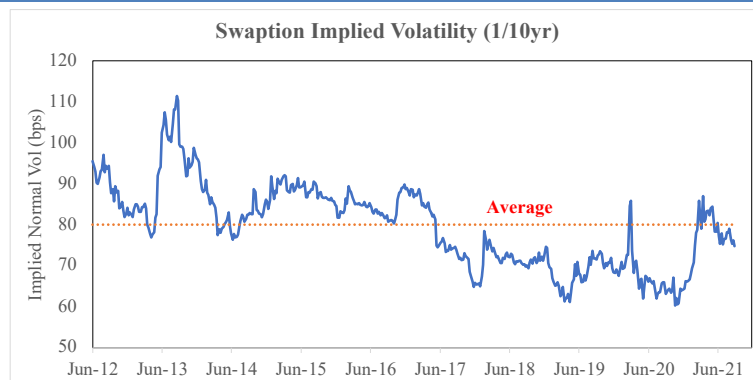
Trade 1: Buy Payer Swaptions¹

Trade Thesis

Buy 2/10 50 bp OTM payer swaption

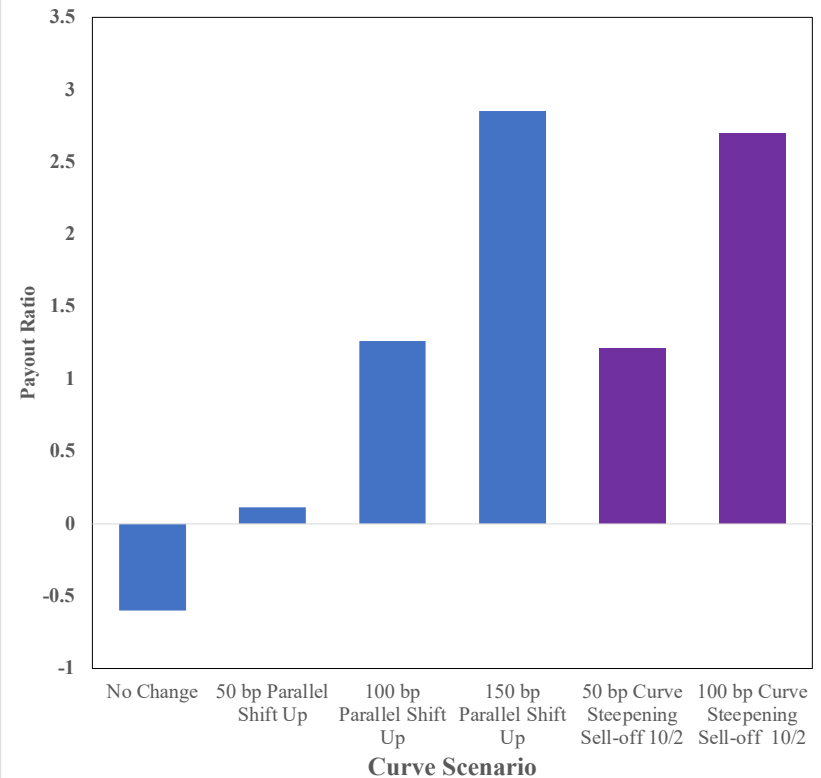
- Biden tax polices/spending or inflation will drive interest rates substantially higher
- Tax policies could push real rates higher by reducing income inequality and putting more pressure on deficit financing
- Inflation could rise
 - US wages could rise from the ebbing of the downward pressure from cheap China labor
 - Housing HPA leads to rental inflation
 - Massive money supply/government spending/wealth growth turns into a surge of consumption

Swaption Vol Is Are Below Average Levels After The Sell-off



Payouts Look Attractive For Big Rate Moves

Payout Ratio On 50 bp OTM 2/10 Payer Swaption In 1-year



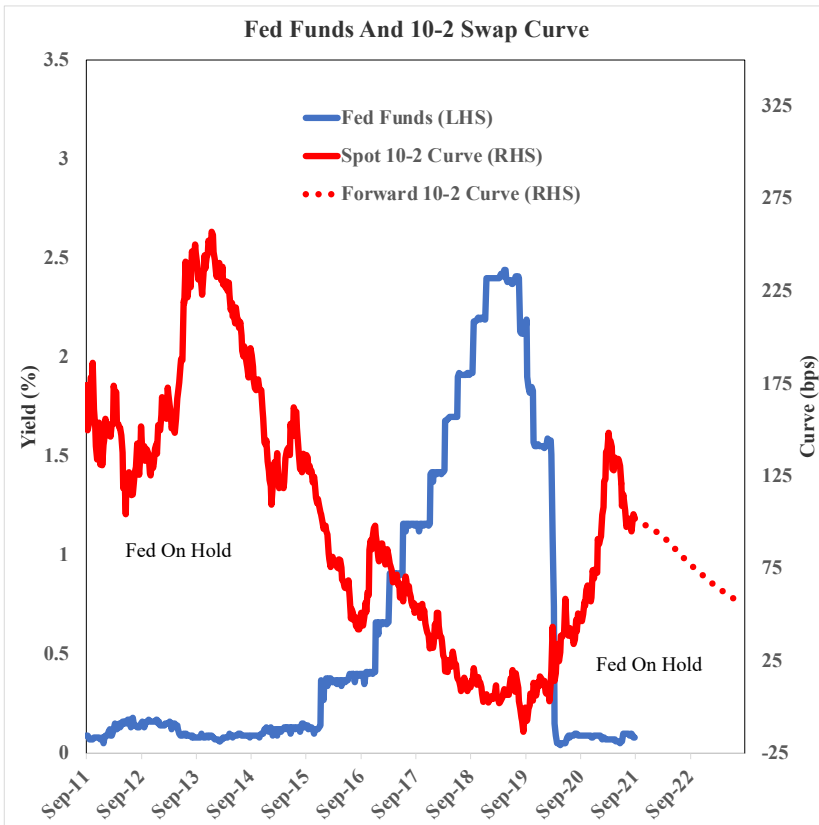
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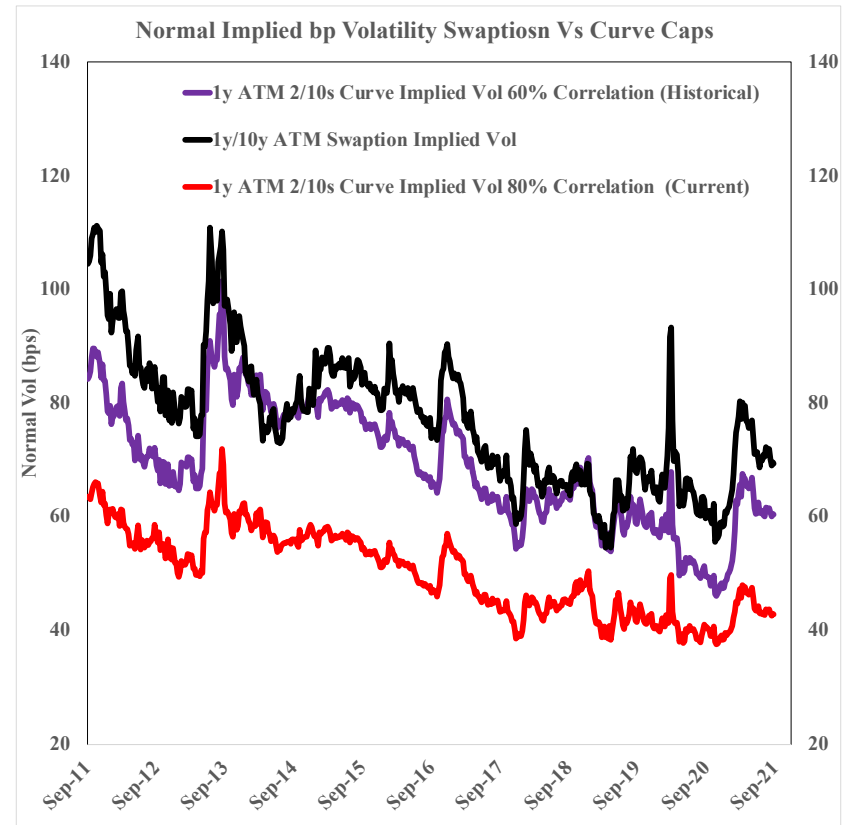
Step 4: Identify Asymmetric Trades

Trade 2: Buy Curve Caps¹

Curve Could Steepen If The Fed is On Hold And Longer End Sell-off



Implied Vol On Curve Caps Are Cheap Because of Correlations



1. Bloomberg

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