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Inflation, Debt and the Government

WUTIS Summer project

Team Overview

Chief Investment Office

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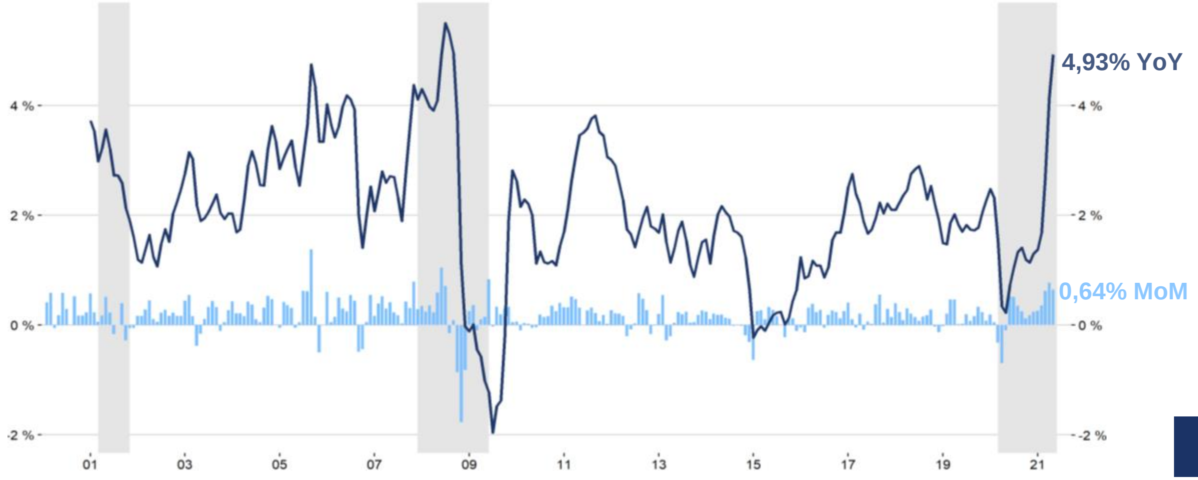
What's going on in markets?

Economies in recovery mode on steroids are boosting inflation expectations

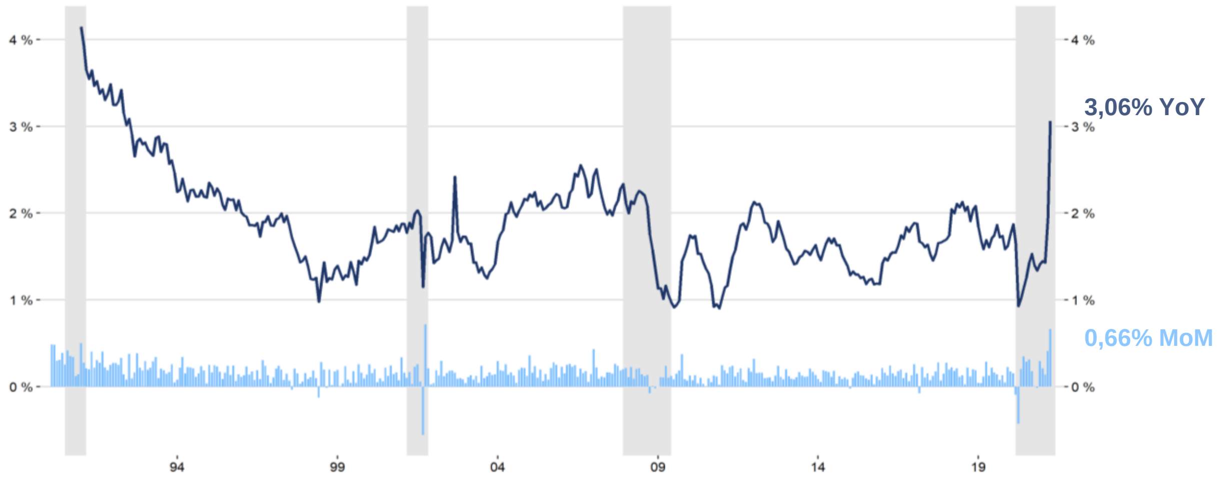
Latest unexpectedly high CPI print brought back angst of the 70's



- **May CPI Print (all items) came in higher than expected, re-igniting the inflation concerns**
- While month on month change sunk slightly to 0,64%, year on year rose to nearly 5%

- **"Core" PCE price index is defined as personal consumption expenditures (PCE) prices excluding food and energy prices**
- Levels not seen since the early 90's

Core PCE hasn't been this high for a while



What's going on in markets?

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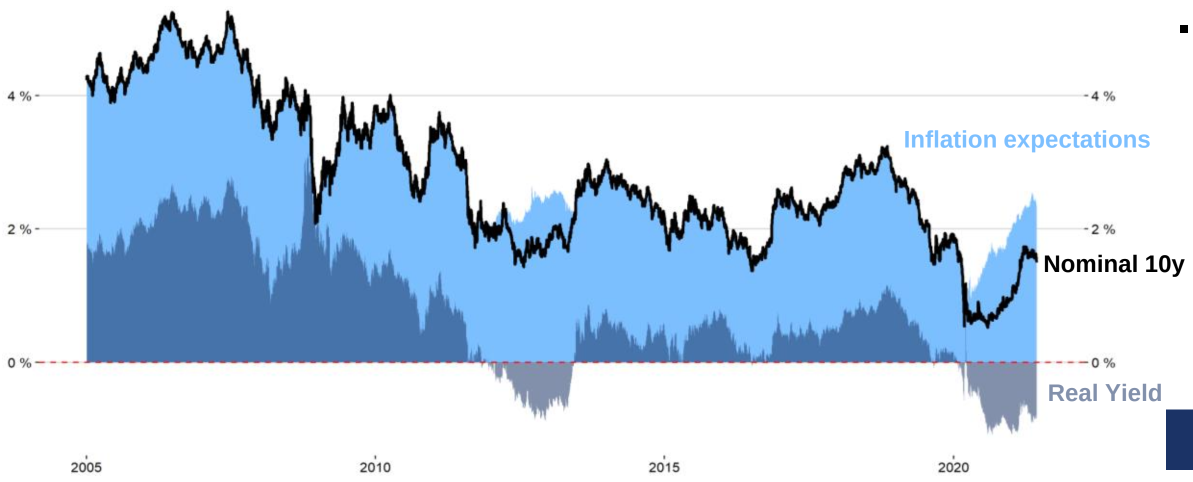
Economies in recovery mode on steroids are boosting inflation expectations

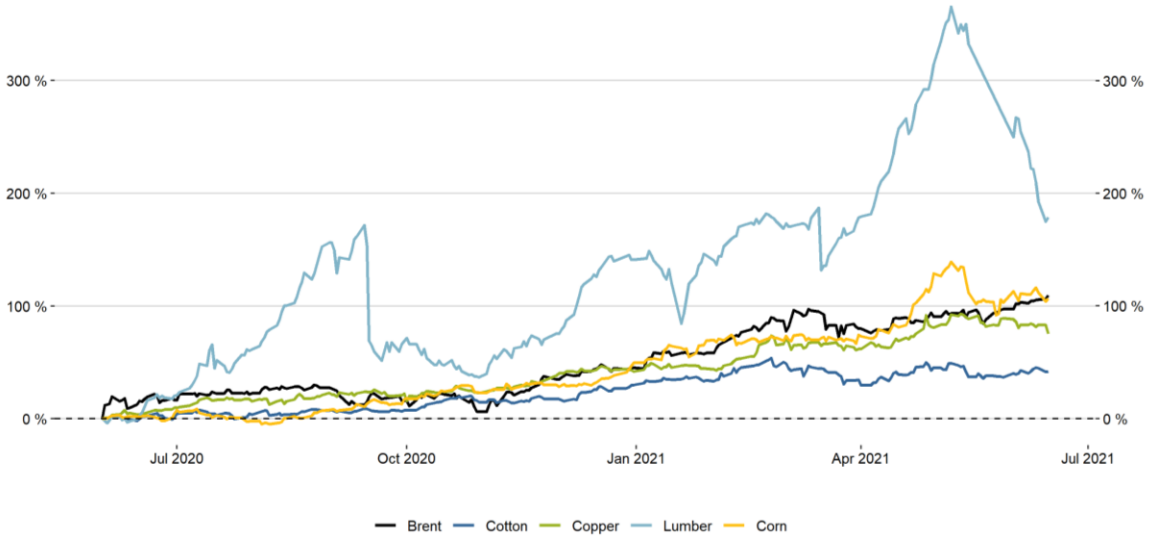
Inflation expectations higher than nominal yields (US)



- **Inflation expectations currently far exceed nominal yields**
- Market participants expect and want higher nominal yields, but low end of curve is anchored until at least 2022 - 2023

- **Commodities, especially lumber, have been rallying since the pandemic low and are a massive contribution to the current CPI**
- Global supply changes experience bottlenecks as they grapple with large demand

Commodities rally has slowed down a bit



What's going on in markets?

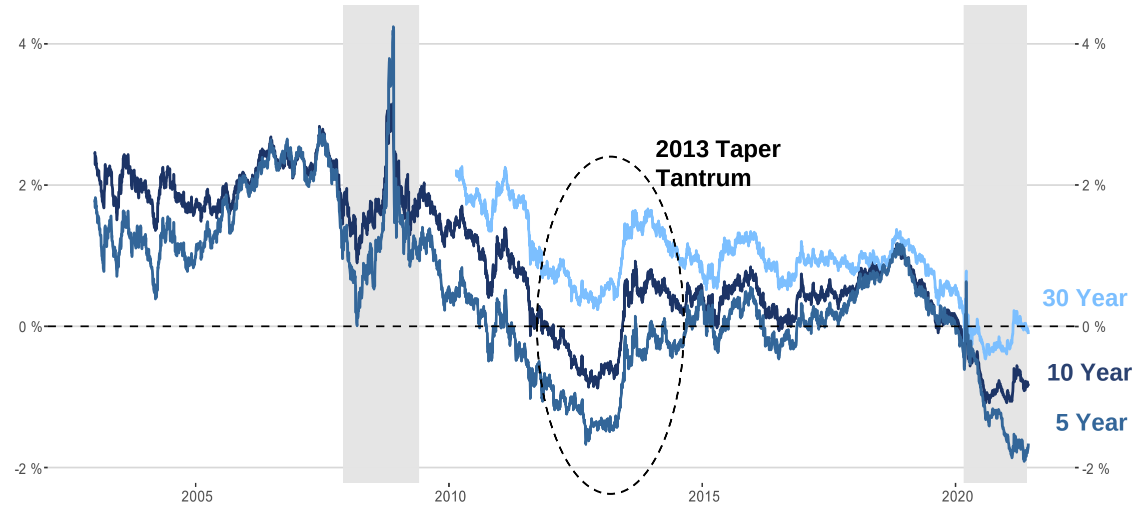
Inflation expectations up, Real yields under pressure

Global 10y breakevens signal high long-term inflation expectations

- **Real rates are defined by nominal yields – inflation, essentially what you earn on the bonds when accounting for inflation**
- In 2013 the FED was under similar pressure to raise rates because real yields were low

- **Breakeven rates are derived from nominal yields and inflation indexed yields**
- Give an indication of inflation expectations over the tenor of the bond and have been the primary focus of market participants since COVID

US Real yields are facing downwards pressure

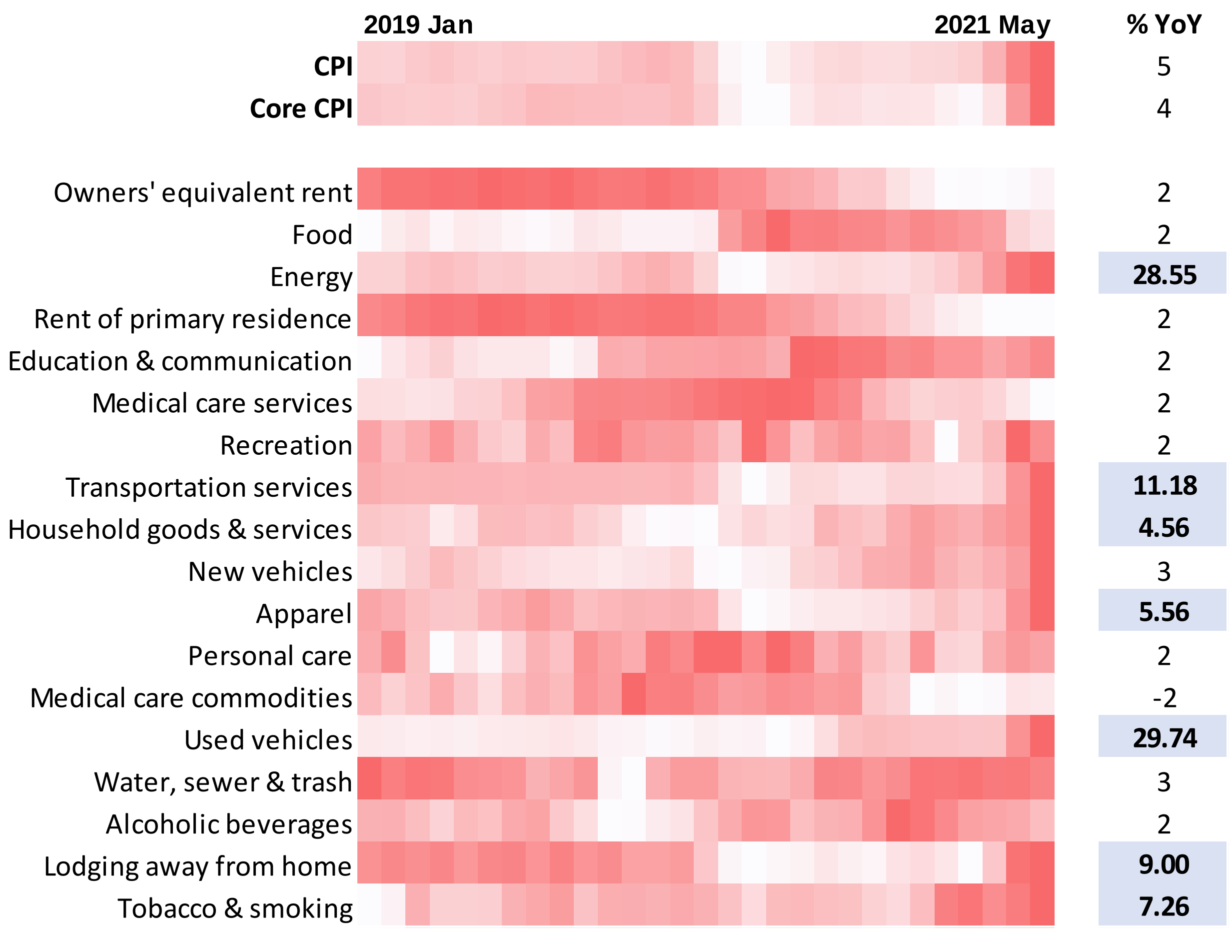


Why is the CPI print so high?

Sectors that still have not recovered to pre-pandemic levels are driving inflation

- Used vehicles dealerships struggling
- Global Supply channels still failing to adapt to turbocharged demand
- Lodging away from home & tobacco are also being pushed up

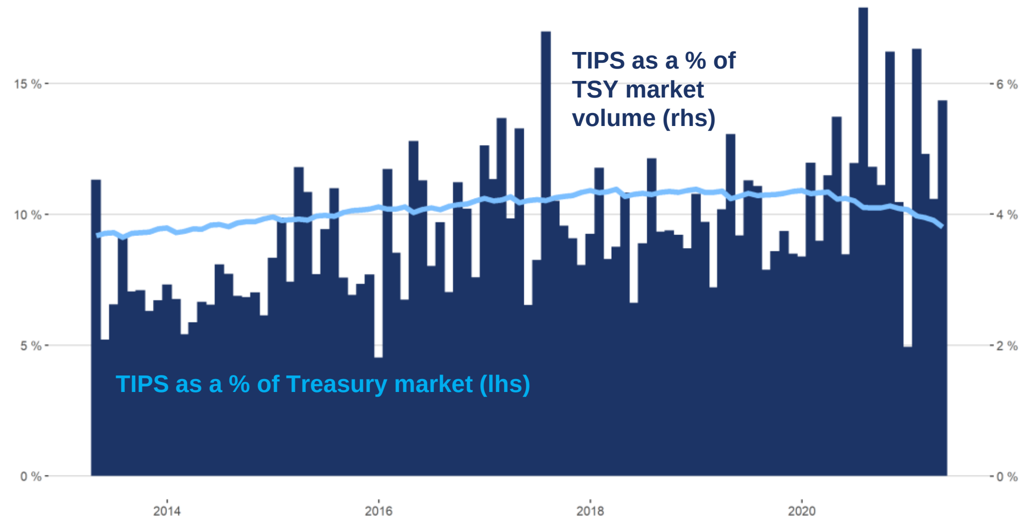
High May CPI print due to used cars & commodity push



Why we think inflation is currently at the levels we are seeing

Base effect was to be expected and FED is skewing the picture

TIPS as % of Treasury market and volume outstanding

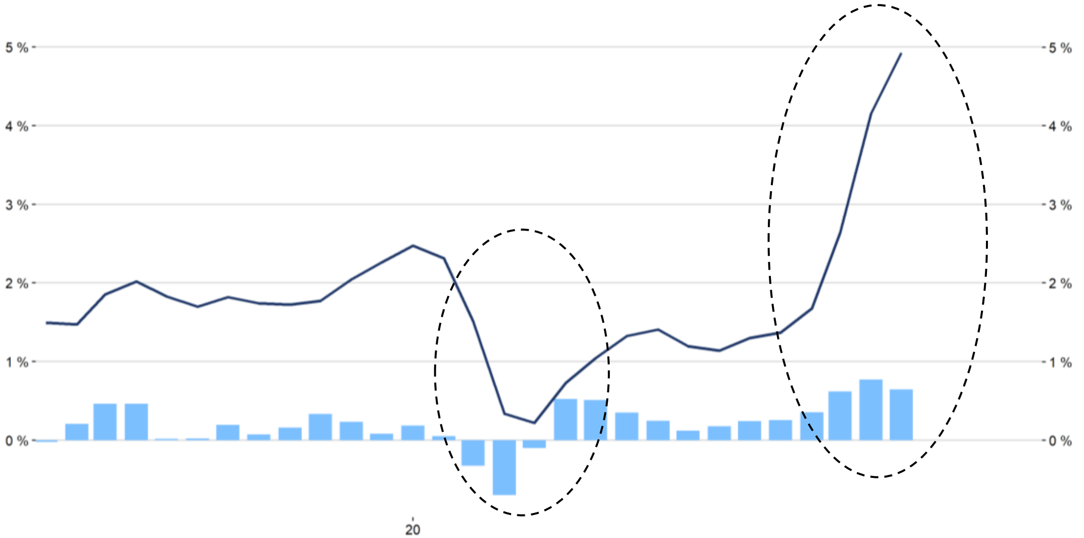


Source: Bloomberg

- **Base effect: YoY change appears very strong due to the lows of 2020 covid price implosion**
- While the base effect might skew the picture, it is not the prime reason for the high CPI print

- **TIPS: Treasury Inflation Protected Securities**
- TIPS are highly volatile and therefore not the best inflation measure
- % of total treasury market has dropped recently
- FED is big buyer of TIPS (~25% of entire market) slightly skewing inflation expectations as real yields are pushed down

Base Effect – abruptly low 2020 prints result in exaggerated YoY changes



The Money Supply Argument

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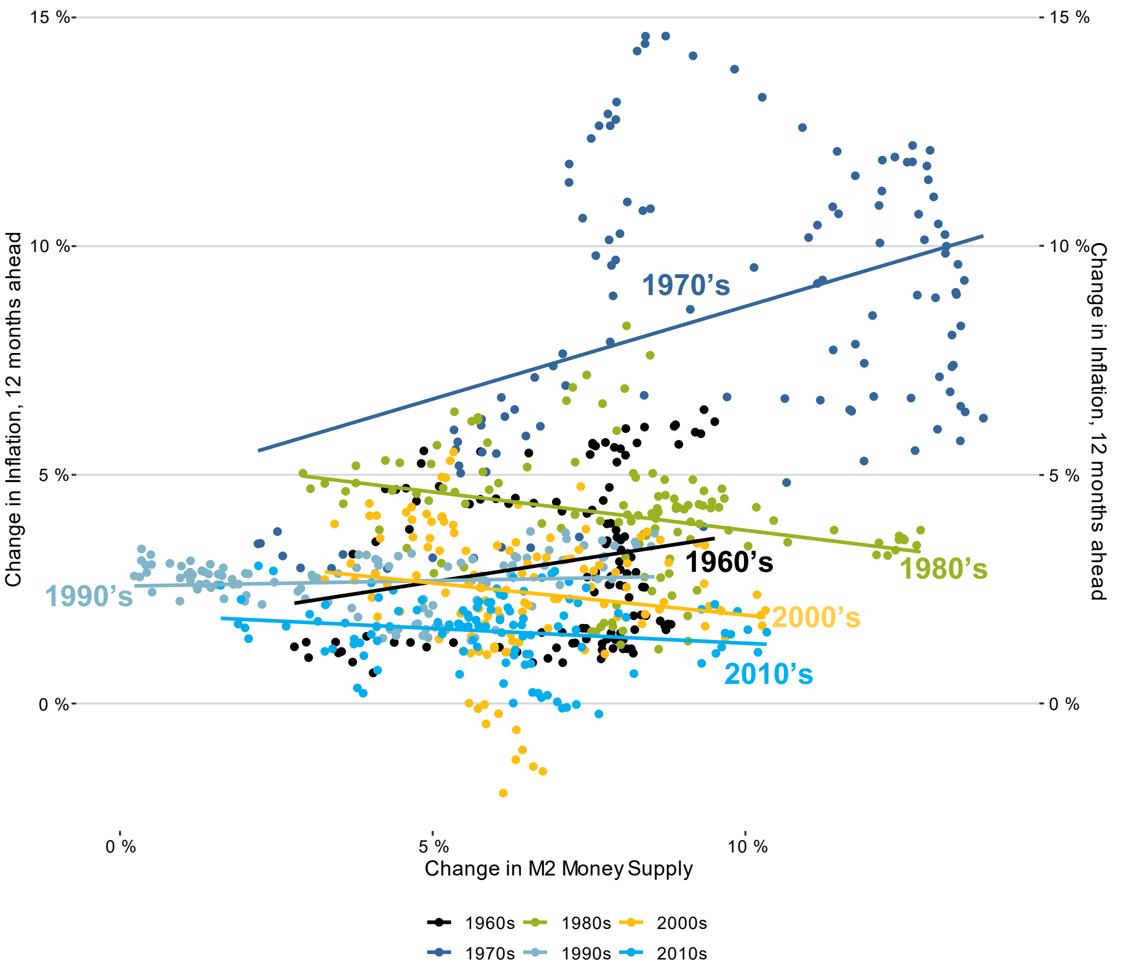
Money Supply might not necessarily directly cause inflation

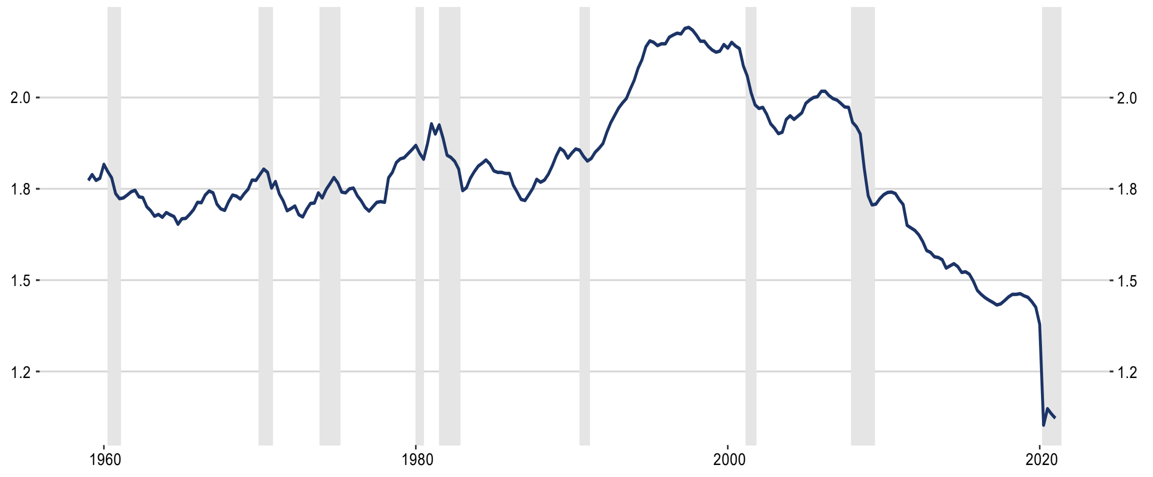
Change in M2 vs 12 month forward change in CPI



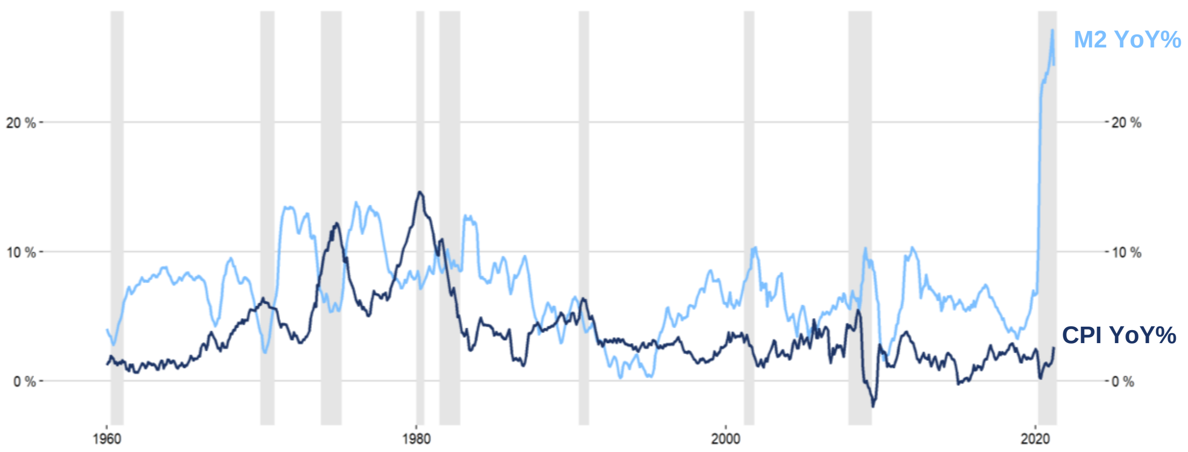
Source: Bloomberg

M2 Velocity Ratio

Ratio of quarterly nominal GDP to the quarterly average of M2 money stock



M2 YoY% and CPI YoY%



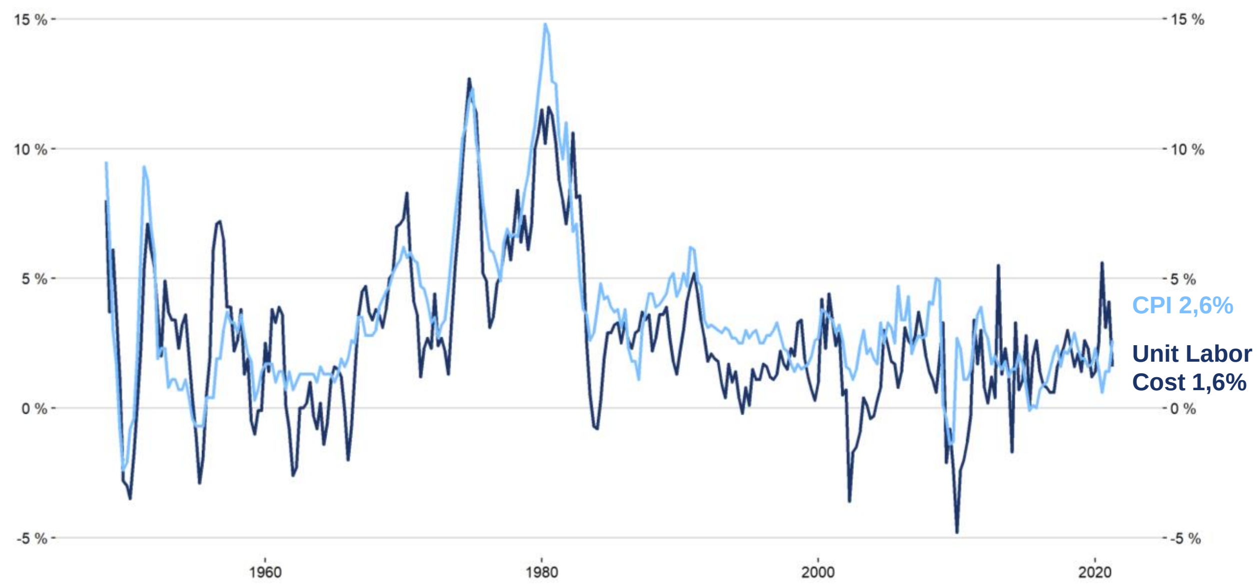
US Wage growth and the labor market

Unless there isn't a large increase here, we do not see inflation to be a threat

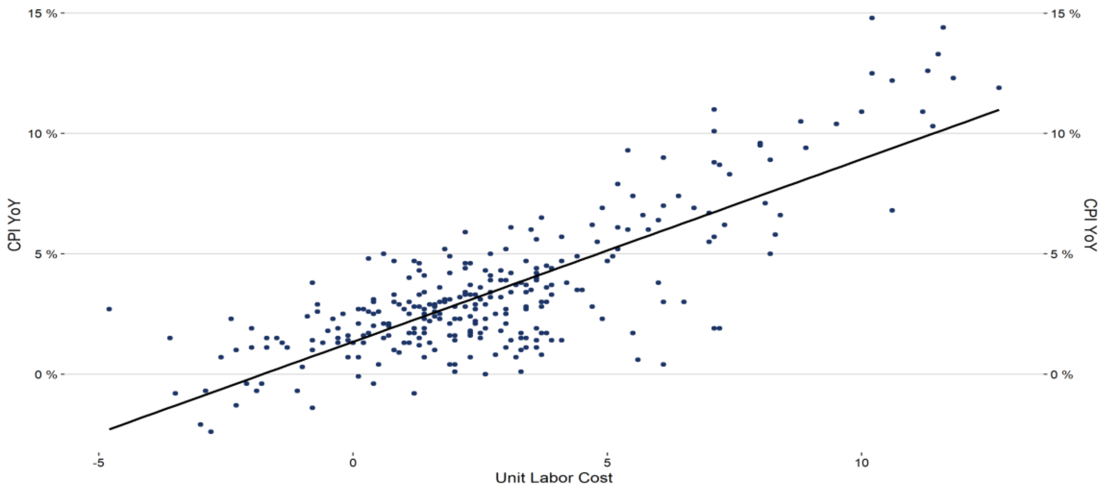
- **Unit Labor Cost = (Compensation per hour) / (Output per hour)**
- Deflationary pressures that existed before the pandemic have not vanished

ULC & CPI (Quarterly)

ULC = (Compensation per hour) / (Output per hour)



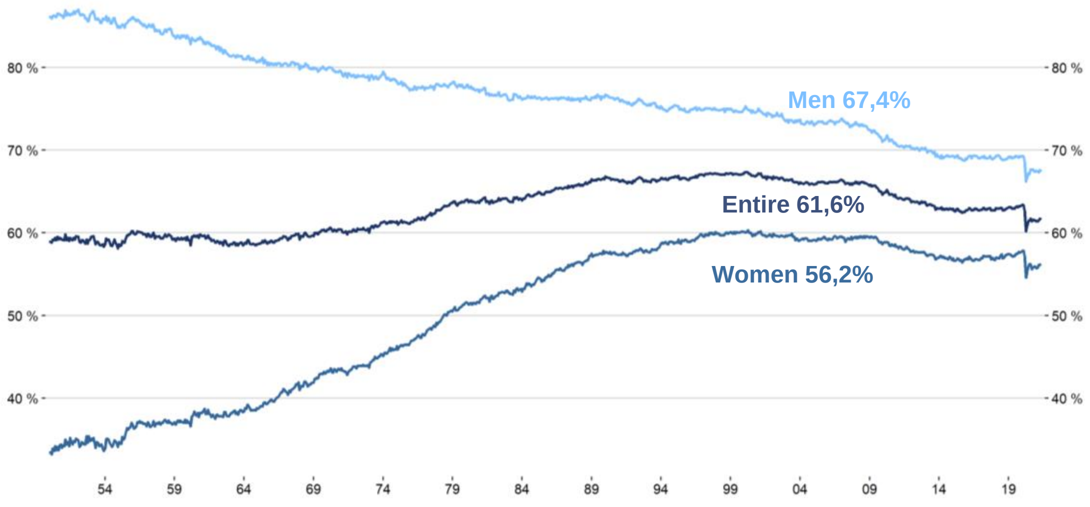
ULC & CPI (Quarterly)



US Wage growth and the labor market

Unless there isn't a large increase here, we do not see inflation to be a threat

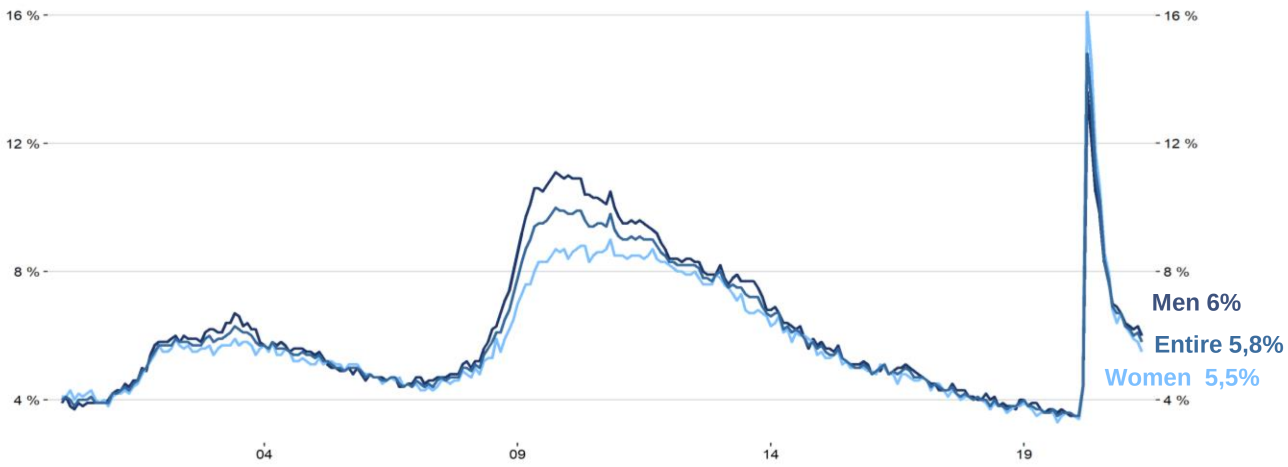
US labor force participation rate %



- Labor force participation peaked mid 90's and has been on steady decline

- Unemployment is still above pre-pandemic levels

Unemployment



Inflation conclusion

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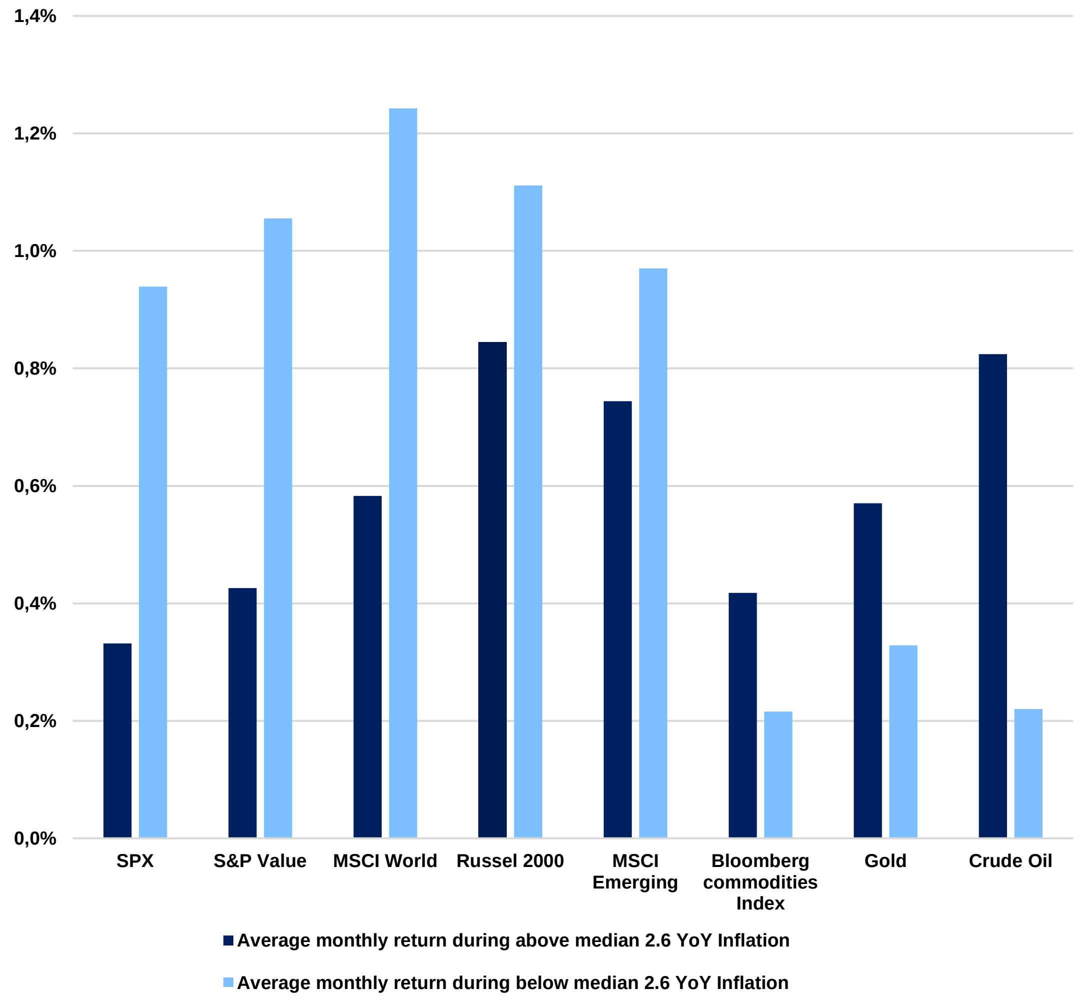
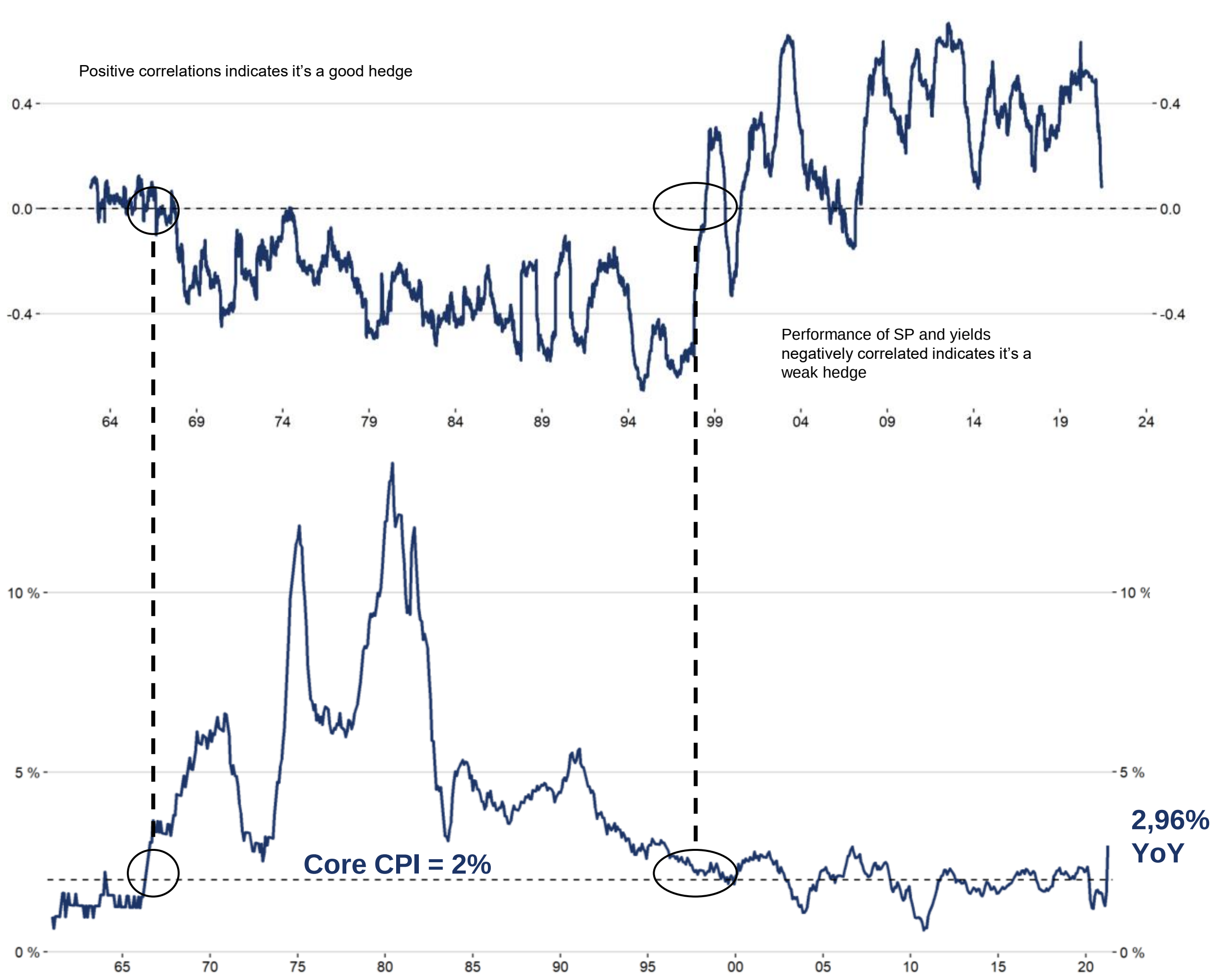
Hedging with commodities and correlation breakdown

Average monthly return during periods of high and low inflation



NOTE: *Since Index Inception. Source: Bloomberg

Rolling 220 Session correlation of 10y yield to SP500 & Core CPI YoY%



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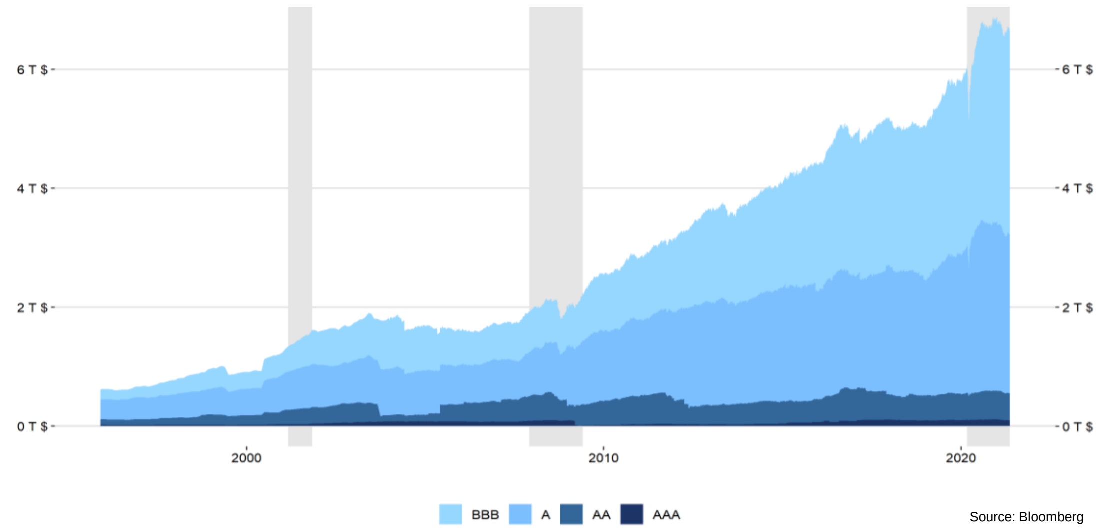
Debt

Corporates

Too much cash, too much debt, spreads are compressed and balance sheets exploding

- Most of investment grade tranche is being issued at lowest bracket, implying companies might not have the incentives to maintain good credit rating

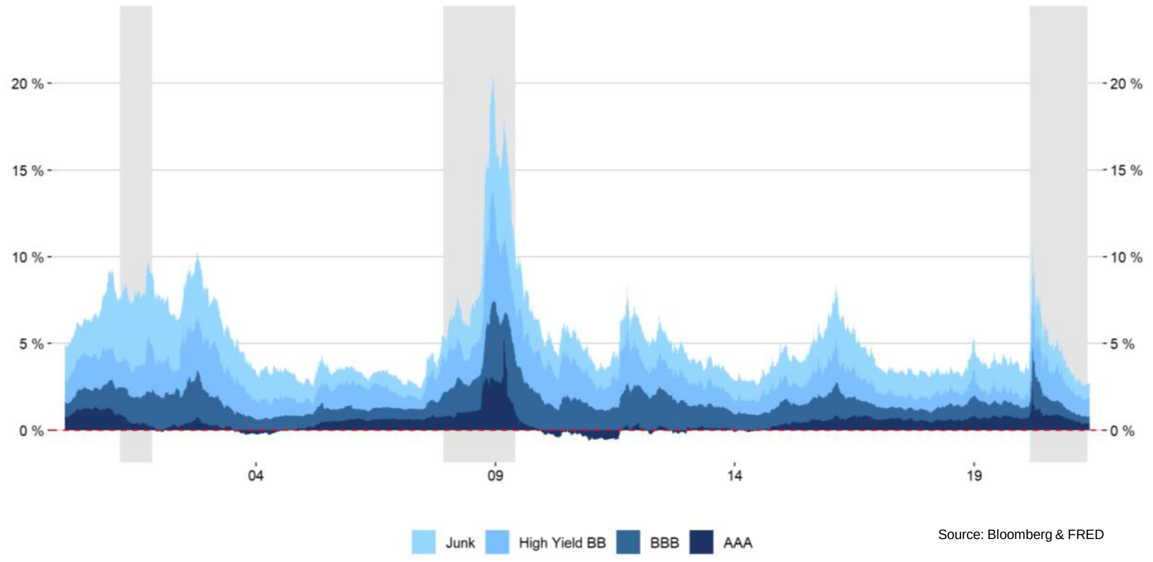
Market cap of US IG tranches



Source: Bloomberg

- Spreads have already reached pre-pandemic lows, implying huge demand for fixed income

US IG yield spreads to 10y

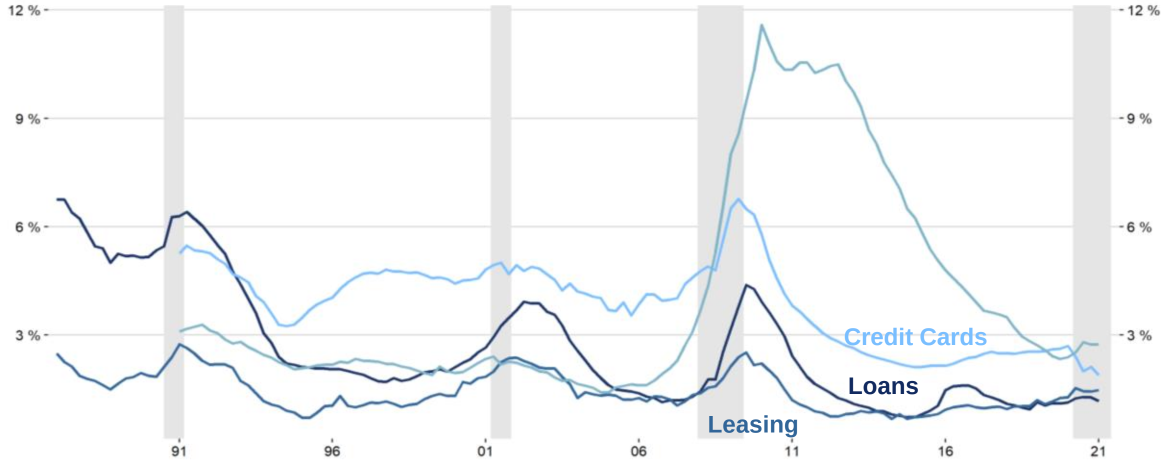


Source: Bloomberg & FRED

Yields and Delinquencies

Surprisingly low delinquencies in covid pandemic

Delinquencies at lows



- Delinquency rates (ie. failing to make payments on time) have been low this pandemic

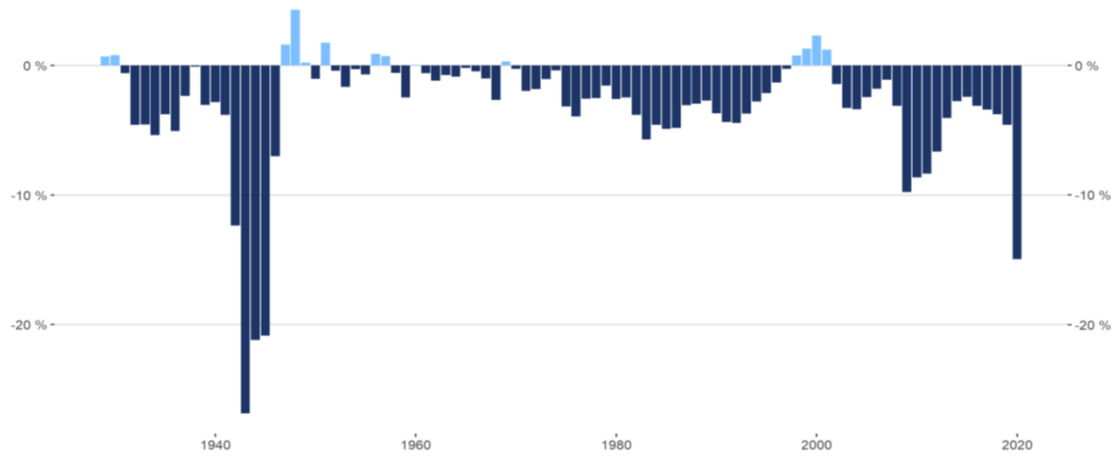
- Developed economy yields are at record lows

Global 10y yields

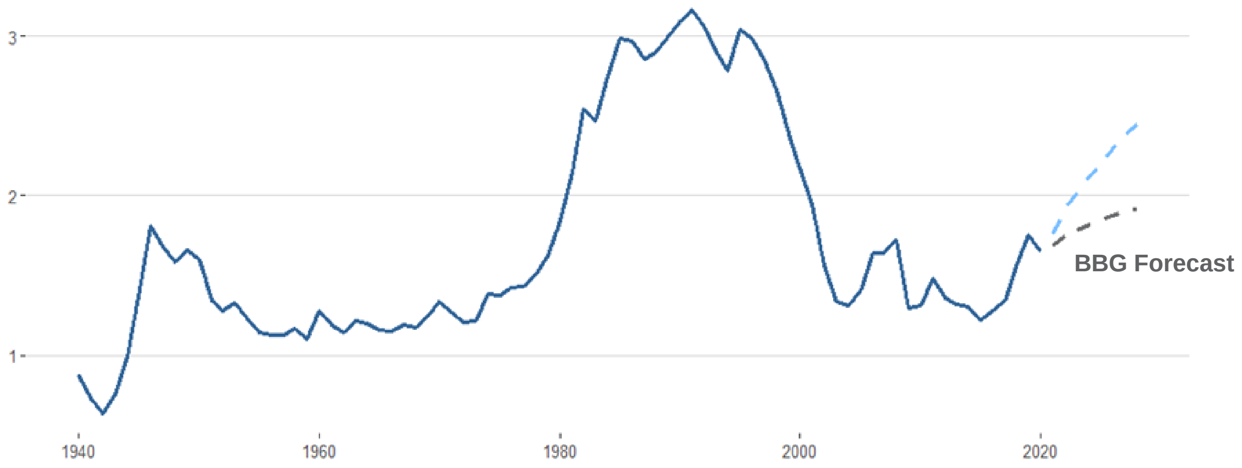
No limits

No one really knows how high the debt-to-GDP ratio can get. We can only know once we get there

US deficit as % of GDP



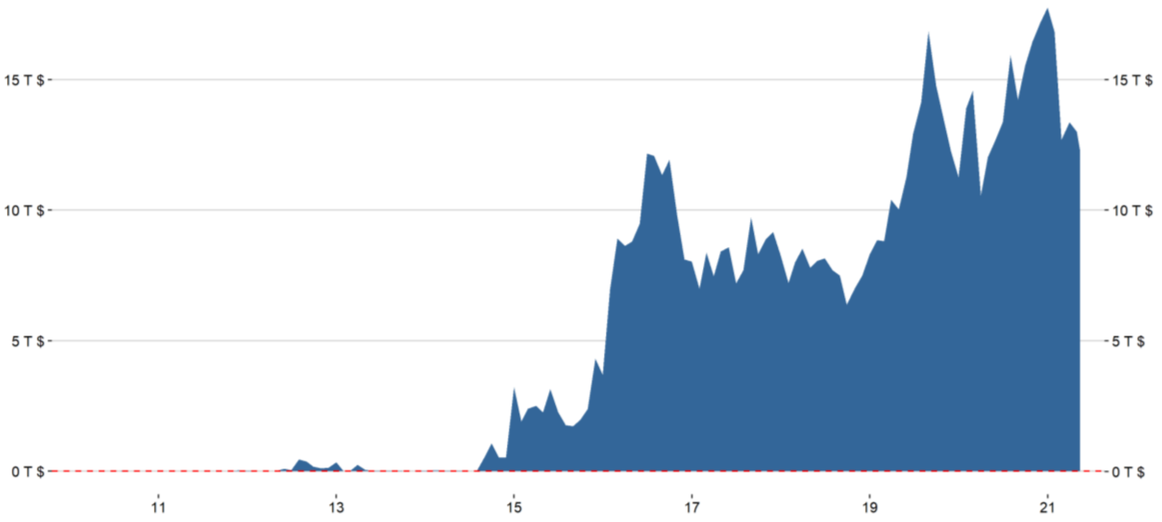
US cost of debt servicing



Central Banks & Debt

Central Bank involvement

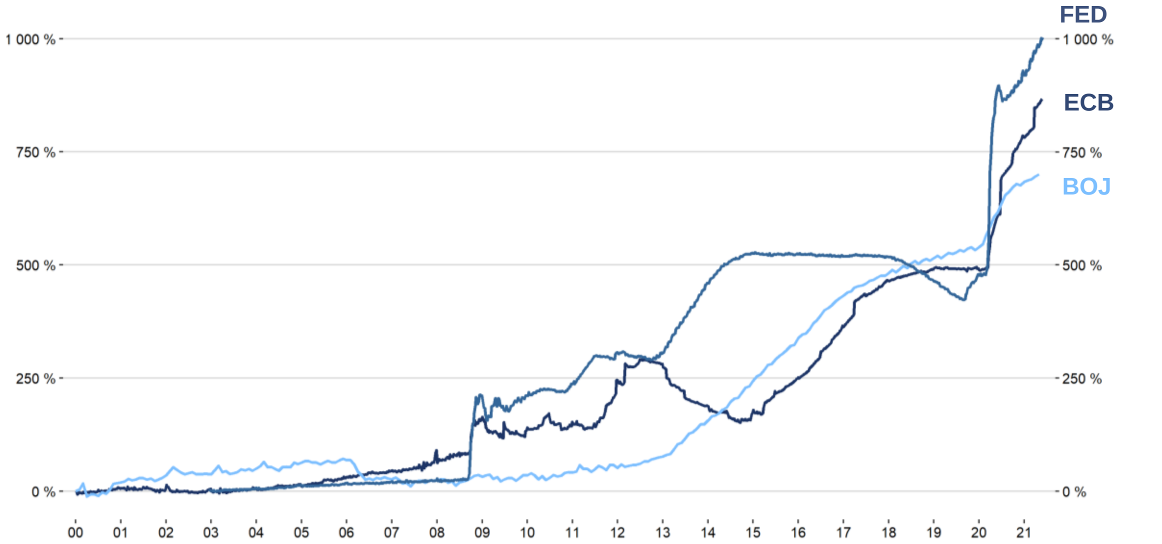
Global negative yielding debt (USD)



- Monetary policy co-movement very apparent over last decade

- Global negative yielding debt hit new milestone thanks to the pandemic

FED, ECB, BOJ Total Assets % change

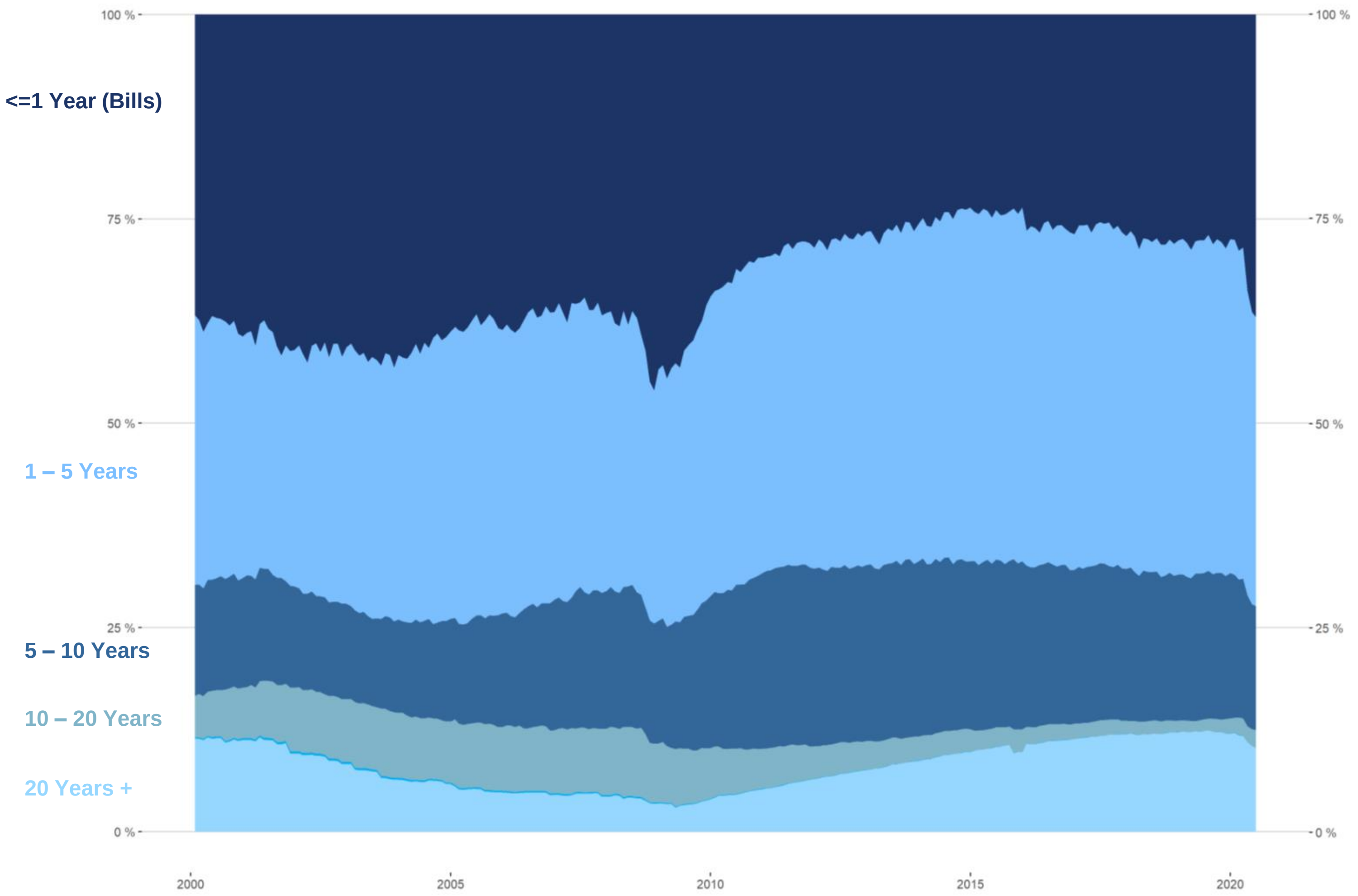


Maturity Mismatch

Market needs more bills

- T-bills are being issued in larger amounts in a crisis to have immediate funding available
- Demand for bills is high however and market participants are yearning for short term cash deposits
- FED is issuing still majority in longer maturities

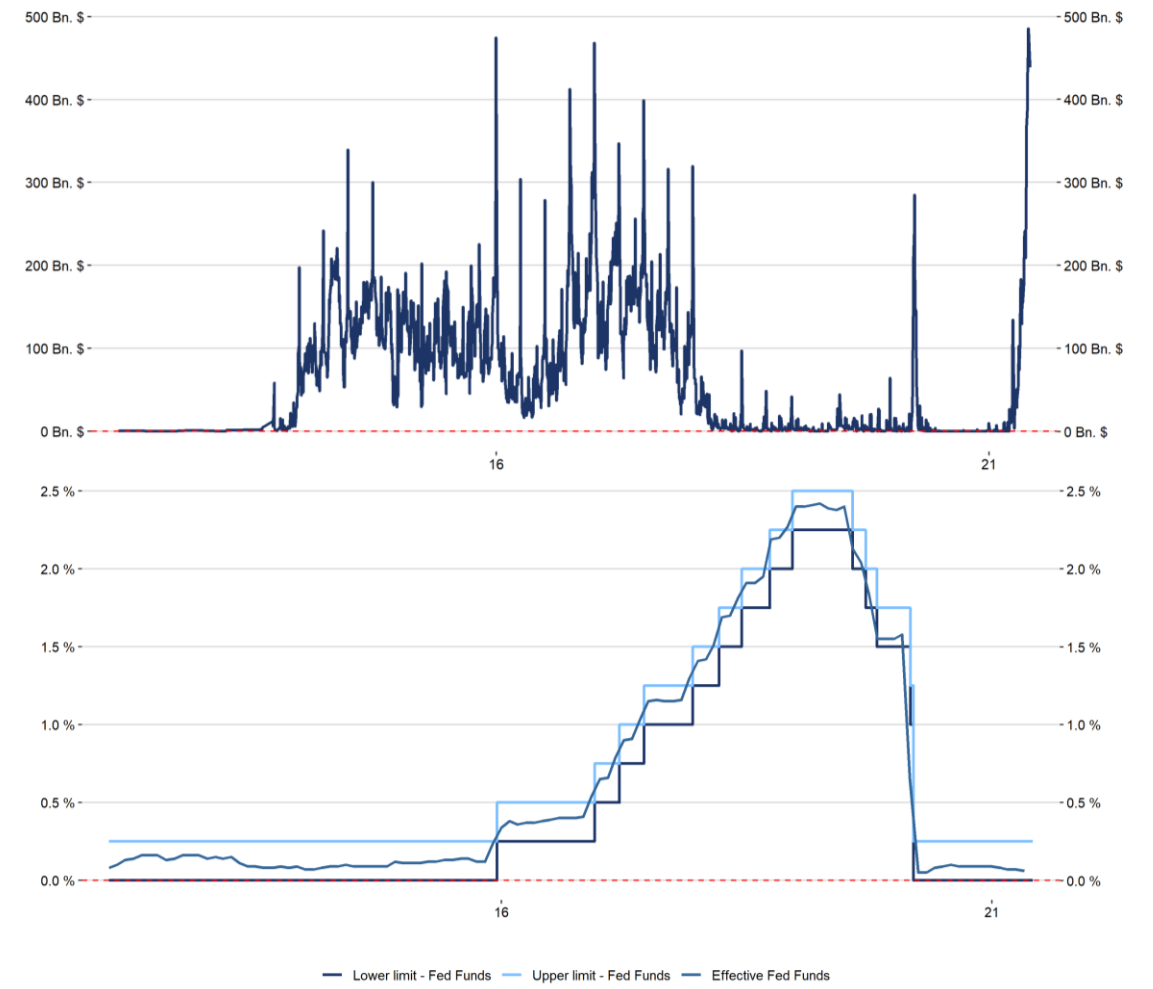
Treasury Issuance by Maturity



Excess liquidity

Reverse Repos & FED Funds

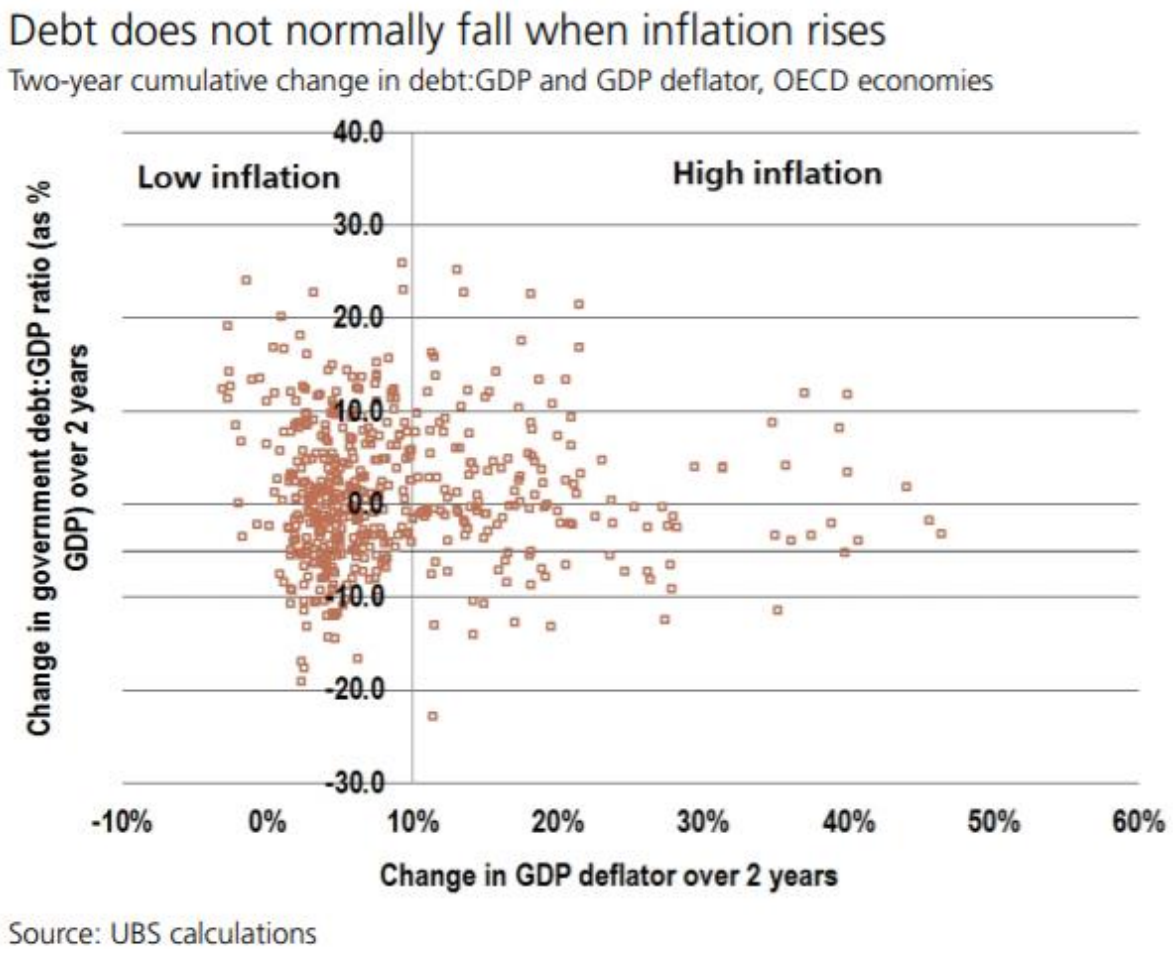
Reverse Overnight Repo & effective FED Funds (+upper/lower limit)



- **Reverse Repo:** A reverse repo is a short-term agreement to purchase securities in order to sell them back at a slightly higher price.
- Overnight Rate: 0,00%
- FEDs attempt to keep rates from hitting negative territory

Tackling the mountain of debt

What options are there?



Different Types of YCC

Policy Signaling		Incremental (RBA Style)		Long-Term (BOJ Style)	
Pros	**Cons**	**Pros**	**Cons**	**Pros**	**Cons**
Complement forward guidance	Focus on short term securities may result in limited effects for long rates	Gradually moving along the yield curve depending on economic conditions	Effect on longer term securities limited	Directly lowers long-term rate	Adds long-term securities to central bank balance sheets
Natural expiration date, facilitating exit		Natural expiration date		Lowers term premium and reduces the amount necessary to keep long term rate at desired level	Capital losses if short-term rate move first
		Easy to understand, natural extension targeting overnight rate		Likely spillovers to other asset classes	

Source: Bloomberg Intelligence & FRED

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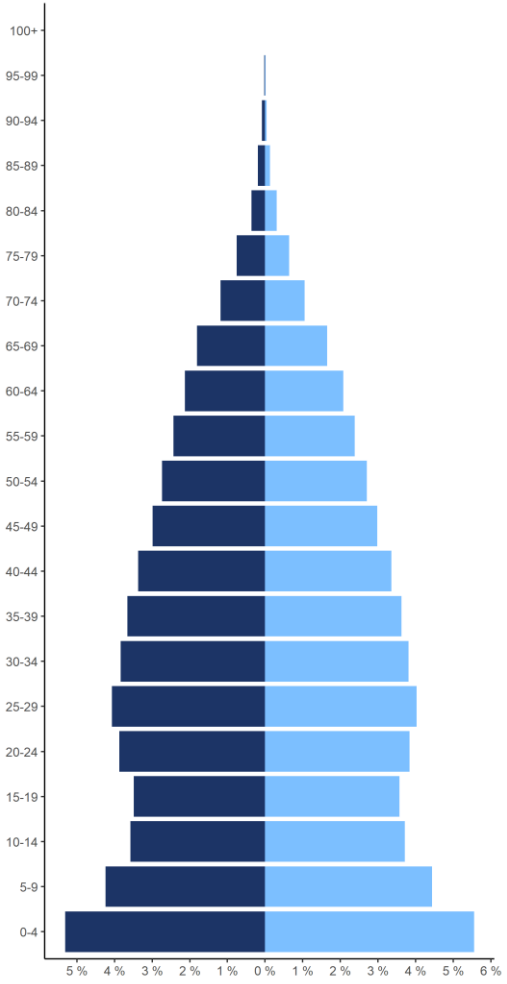
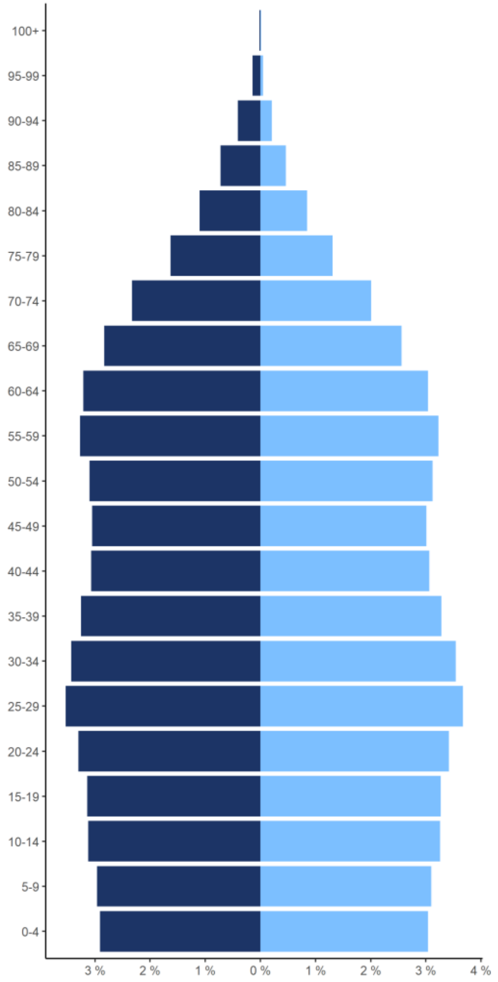
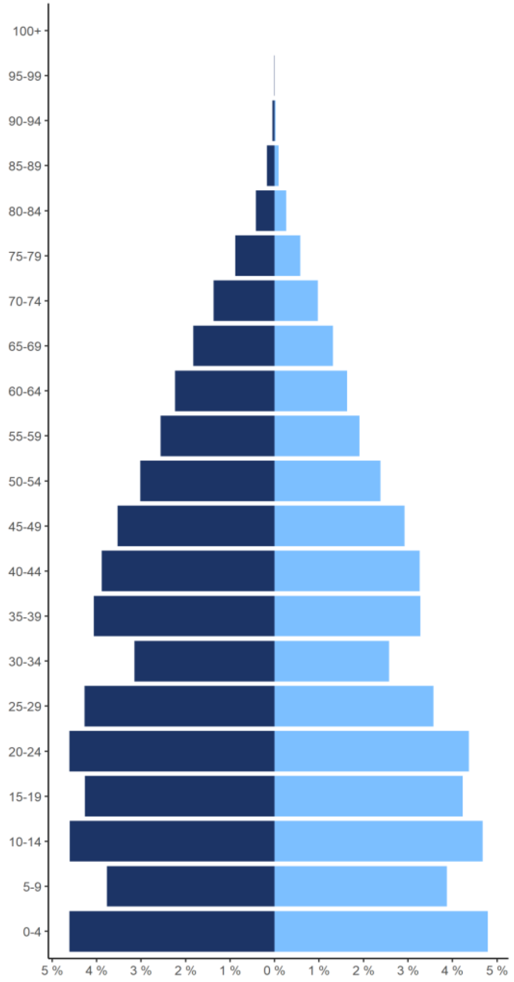
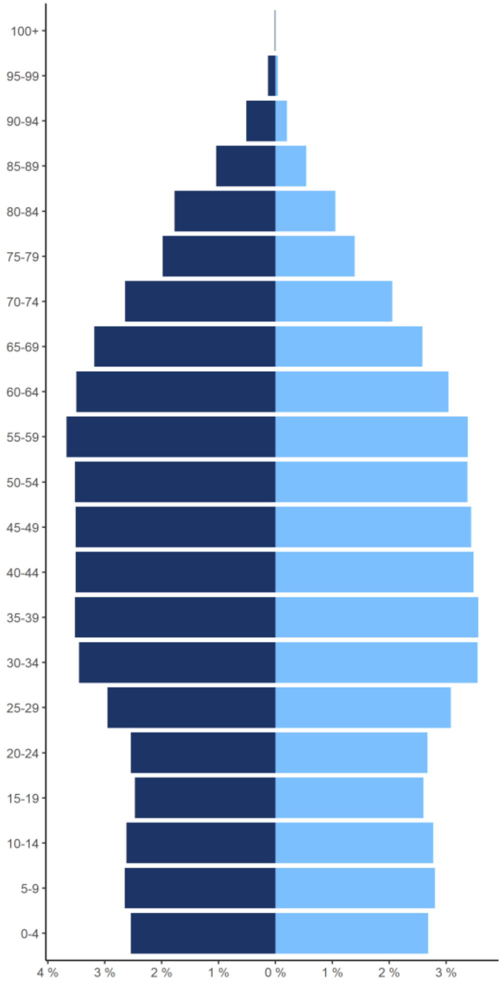
The Conclusion

Trouble is brewing

Aging society, more requirement for funding and debt piles are calling for structural changes

US 1950's	US 2020	EU 1950's	EU 2020

To conclude

What is our outlook?

Inflation

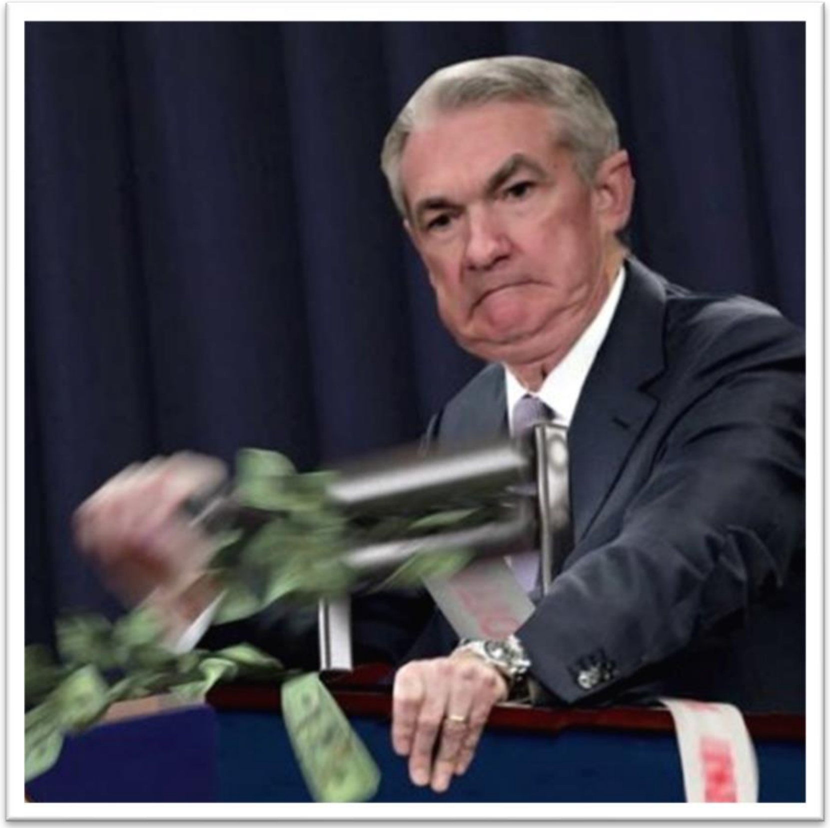
- We do not think hyperinflation is coming, but a solid stable inflation rate of 2 -3% p.a. is very realistic
- Inflationary pressures that existed before pandemic have not gone away
- Commodities best hedge for inflation

Debt

- Massive piles of debt unlikely to reduce given challenges
- FED will think twice before hiking rates
- Low interest rate environment likely to remain

Structural changes

- Aging population will be a burden on economies
- Tax hikes are imminent
- Governments needs to increase income



Thank you for your attention!