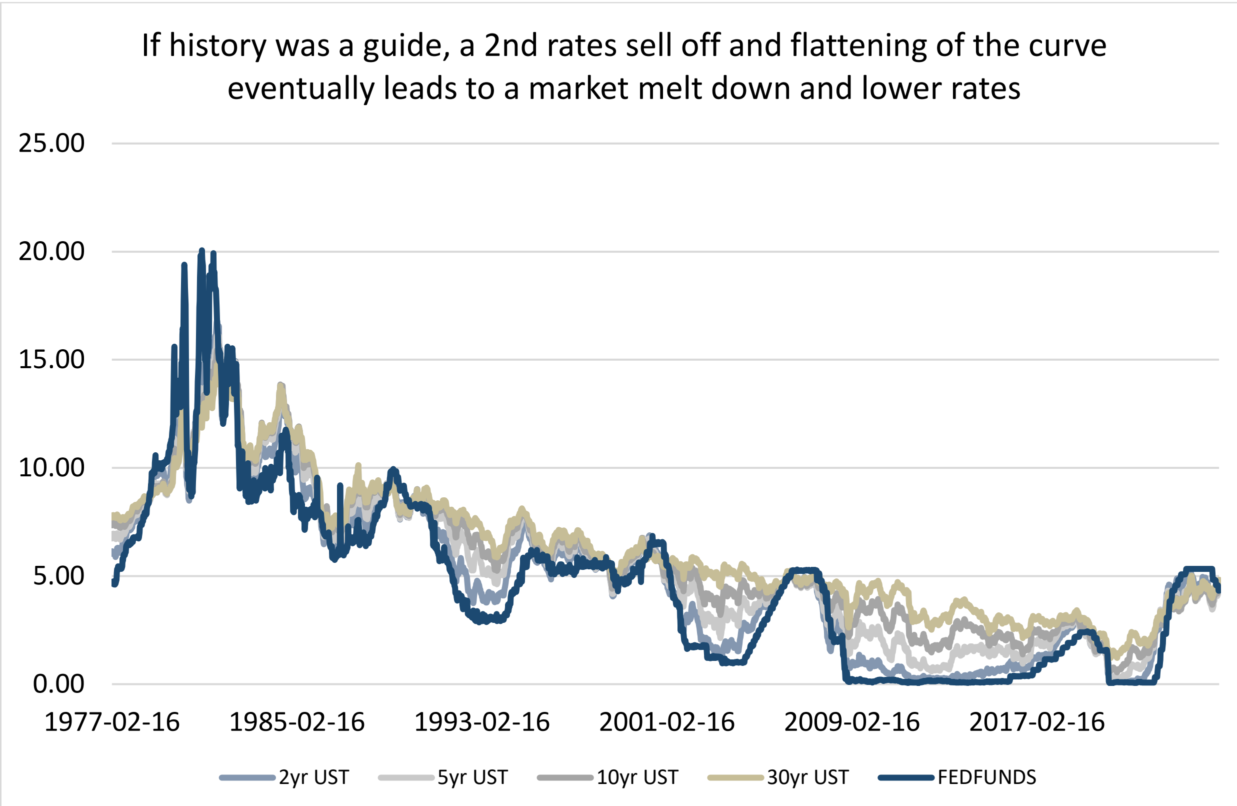
13th January 2025

US yield curve history



As the US yield curve ended its inversion at the end of 2024, this note is trying to seek clues on how historic end of yield curve inversions played out. I'm comparing inflation, GBPUSD, oil prices and S&P 500 movements from 1 year before the inversion ended until 1 year after the inversion ended. In conclusion, this period is somewhat unique: The Fed hiked rates to such a degree that the yield curve was highly inverted, in fact the deepest inversion since the 1980s with 10yr UST vs. Fed Funds at -1.7% at one point. This is significant, because during the 1980s the Fed had a reserve targeting approach. Only in 1982 the Fed shifted to an interest rate targeting approach and only as of the early 2000s, the interest rate targeting approach was refined by setting and communicating the target rate. With over 2 years of yield curve inversion, this was also the longest lasting yield curve inversion on record (1970s/80s were more volatile, not consistently inverted, 1928/29 were 12-18 months). On Wednesday, US CPI is expected to come in at 2.9%, which would be an unwelcomed development after hitting a low of 2.4% earlier in September 2024. The good thing is that month-on-month inflation began climbing from January, which makes it less likely that inflation will top 3% over the coming months. This would give a real interest rate of above 1.43% -

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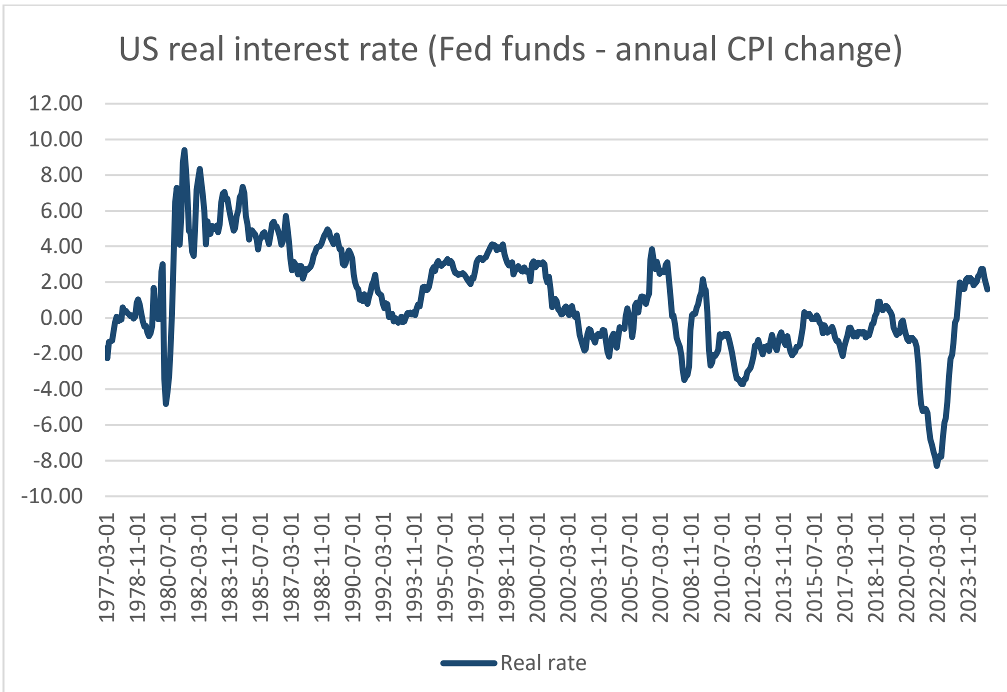
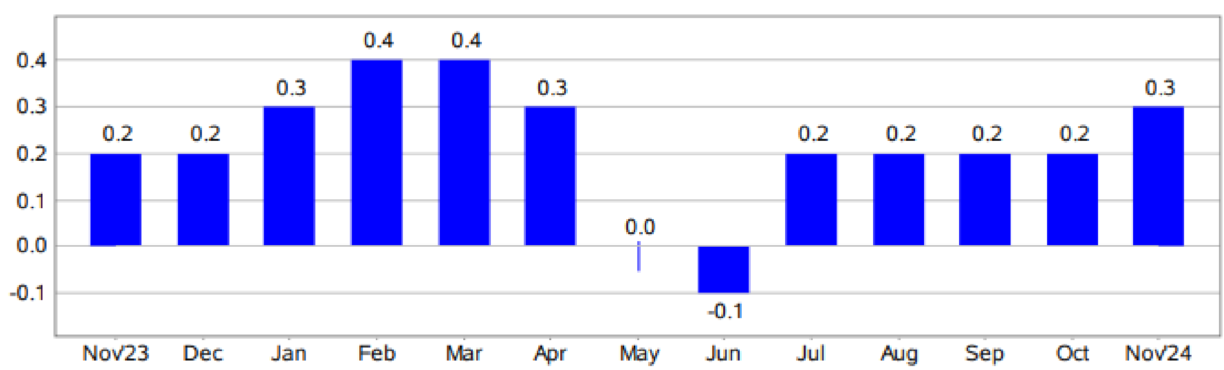
since 2000, there were only few periods were real interest rates were this high. Below is also a table summarising the different periods when a yield curve inversion stopped. Overall, this research note is slightly disappointing, as there is no perfect historic guidance on what could happen next. Oil and gas equities are attractively valued, as gas prices will likely move higher into the summer refill season and oil will be entirely driven by geopolitics.



Source: FRED St. Louis, US Bureau of Labor Statistics

<u>US CPI monthly % changes: Nov 2023 – Nov 2024</u>

Chart 1. One-month percent change in CPI for All Urban Consumers (CPI-U), seasonally adjusted, Nov. 2023 - Nov. 2024
Percent change



Source: US Bureau of Labor Statistics

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US yield curve history: End of inversion

Date when yield curve ended inversion	Fed Funds rate	Reason	S&P 500 in weeks following	Oil in weeks following	Comment
1980-06-25	9.08	Fed cut rates by multiple % points, then hiked rapidly	Climbed steadily	Prices peaked end 1979 from Iranian Revolution, then steadied, declined slightly	Fed hiked because of 2nd round effects from 1979 oil price shock
1990-01-24	8.23	Fed cuts by 25bps, then stable for 10 months, then cut	Rose until Iraq invaded Kuwait	Fell until Iraq invaded Kuwait, then rose sharply	Fed did not hike because of oil price shock, but cut quickly when oil prices retreated
1998-12-30	4.48	Fed cut by 25bps and then began hiking afterwards again	Steady, then rose	Steady for 3 months, then doubled in <1 year	Fed hiked because economy was strong, Dotcom bubble formed
2001-04-25	4.42	Fed cut by 50bps, and continued cutting	Steady for a month, then declined	Steady for 5 months, then declined	Fed cut, because dotcom bubble burst, economic weakness
2008-03-26	2.18	Fed cut by 50bps, then 25bps, held stable before cutting more	Went up and down, after 3 months decisively down	Went up steadily and rapidly	Fed continued cutting because of mortgage crisis and financial instability
2019-11-08	1.56	Last 25bps cut	Climbed steadily	Climbed steadily	Fed cut under pressure from Trump, which saved the economy
2020-03-20	0.47	Fed cut to zero	Hit low, then climbed rapidly	Moved to all-time low and only months later recovered	Fed cut because of lockdowns and Treasury-bond future basis blow up, potential financial instability
2024-12-27	4.33	Fed cut rates by 25bps			"All hell might break out in Middle East", driving oil prices higher, but I'd expect it to be short-lived, no shock

Source: FRED St. Louis

Yield curve inversion and inflation

For the first time in over 20 years, we come out of a yield curve inversion with Fed Funds rate being higher than annual CPI % change. The real interest rate is higher than compared to 2001, but lower than in 1998 and 1990, which followed the high-interest rate environment after the 1980s. The most recent steepening of the curve, however, is exceeding inflation rates as the 5yr UST climbed 1% from the lows compared to 50bps of inflation from the lows. This dynamic looks most similar to 1998/99 when the economy was still strong after the Fed has cut rates, which then followed a period of no cut or hikes.

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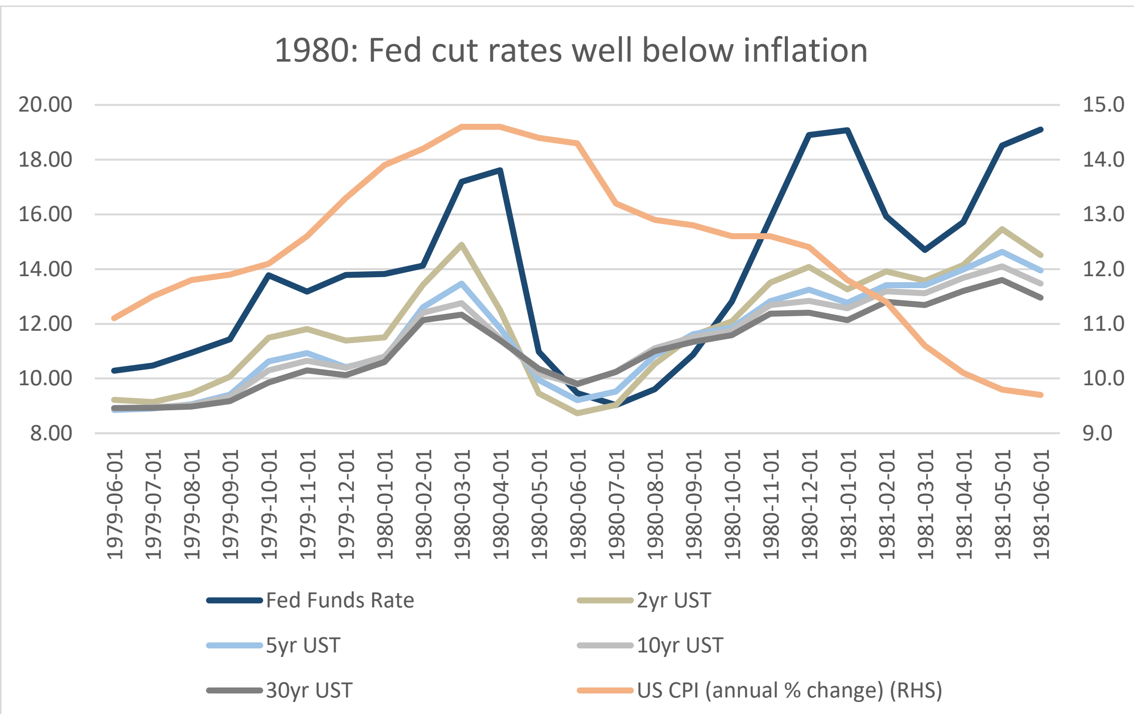
US yield curve history: End of inversion vs. inflation

Date when yield curve ended inversion	Fed Funds rate	CPI annual % change	Real rate
1980-06-25	9.08	13.20	-4.12
1990-01-24	8.23	5.30	2.93
1998-12-30	4.48	1.70	2.78
2001-04-25	4.42	3.60	0.82
2008-03-26	2.18	3.90	-1.72
2019-11-08	1.56	1.70	-0.14
2020-03-20	0.47	1.50	-1.03
2024-12-27	4.33	2.90*	1.43

Source: FRED St. Louis, US Bureau of Labor Statistics, *estimated December CPI print



Source: FRED St. Louis, US Bureau of Labor Statistics

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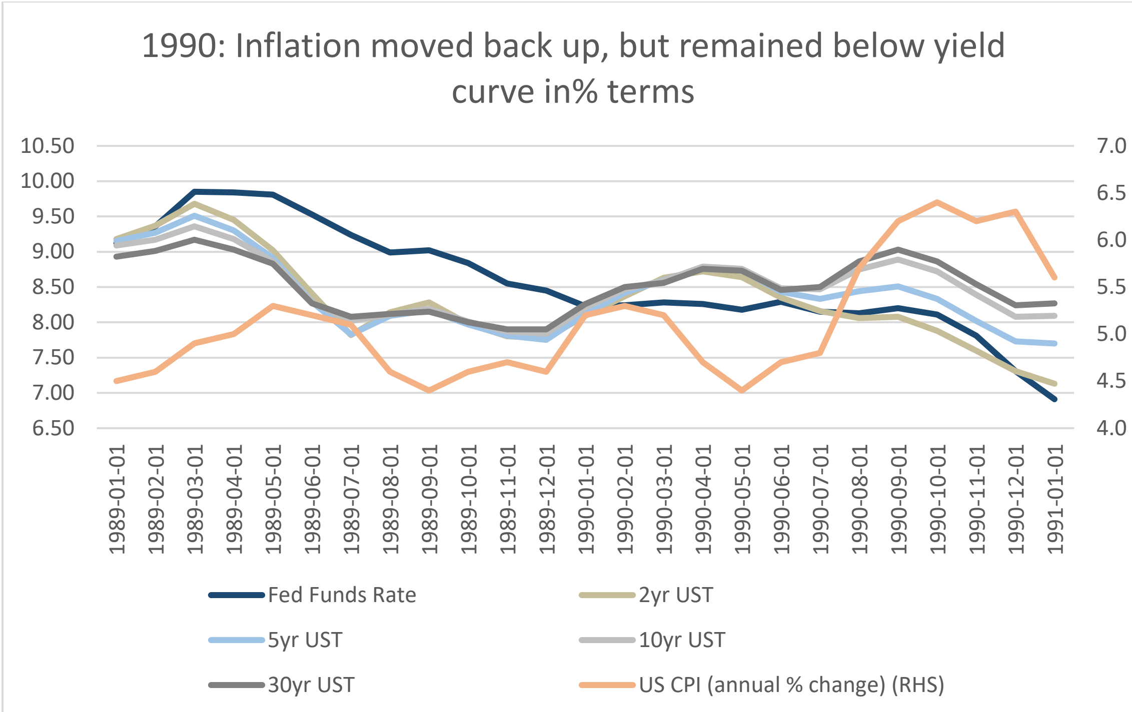

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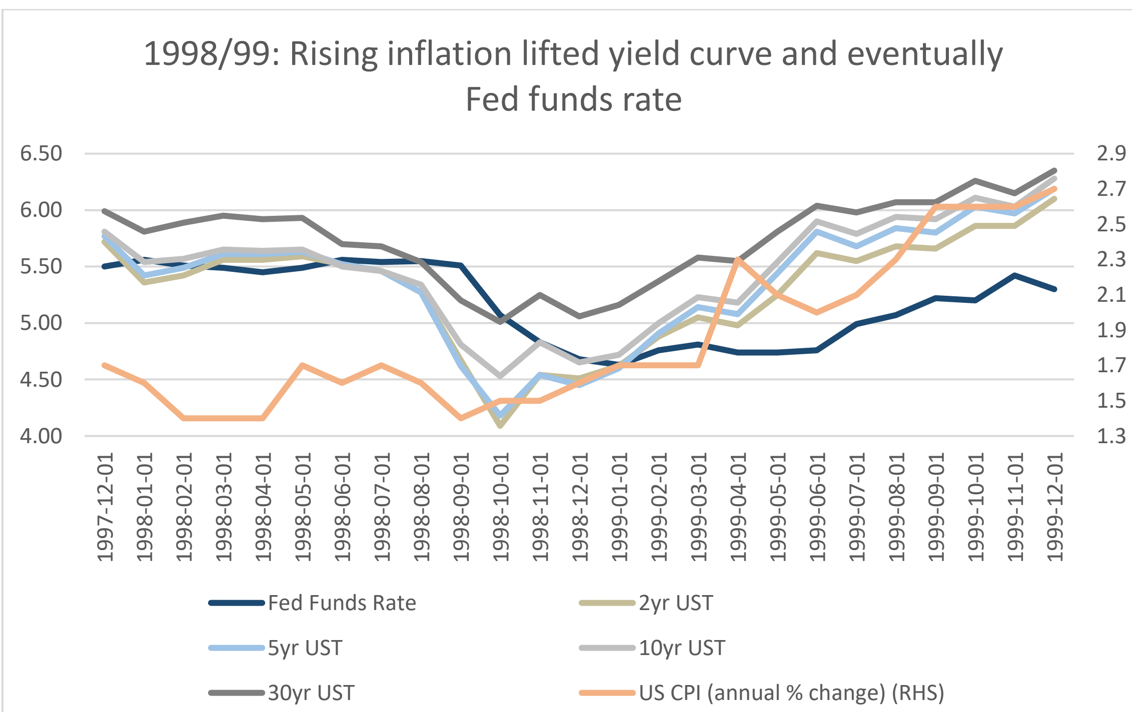

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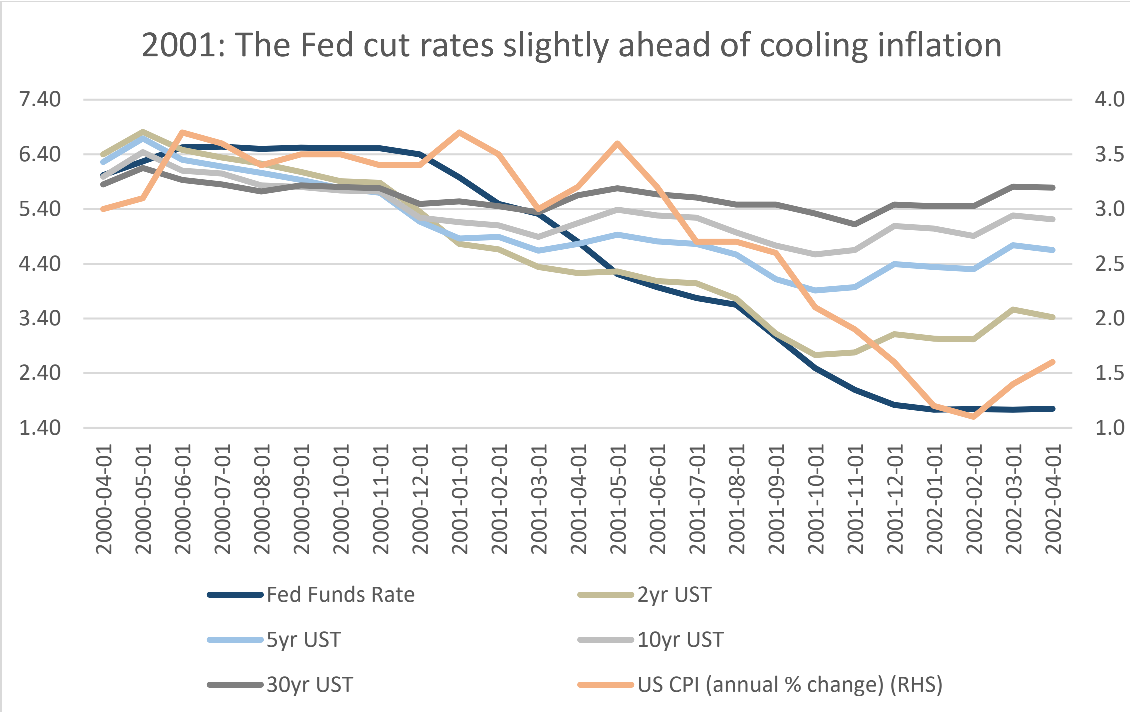

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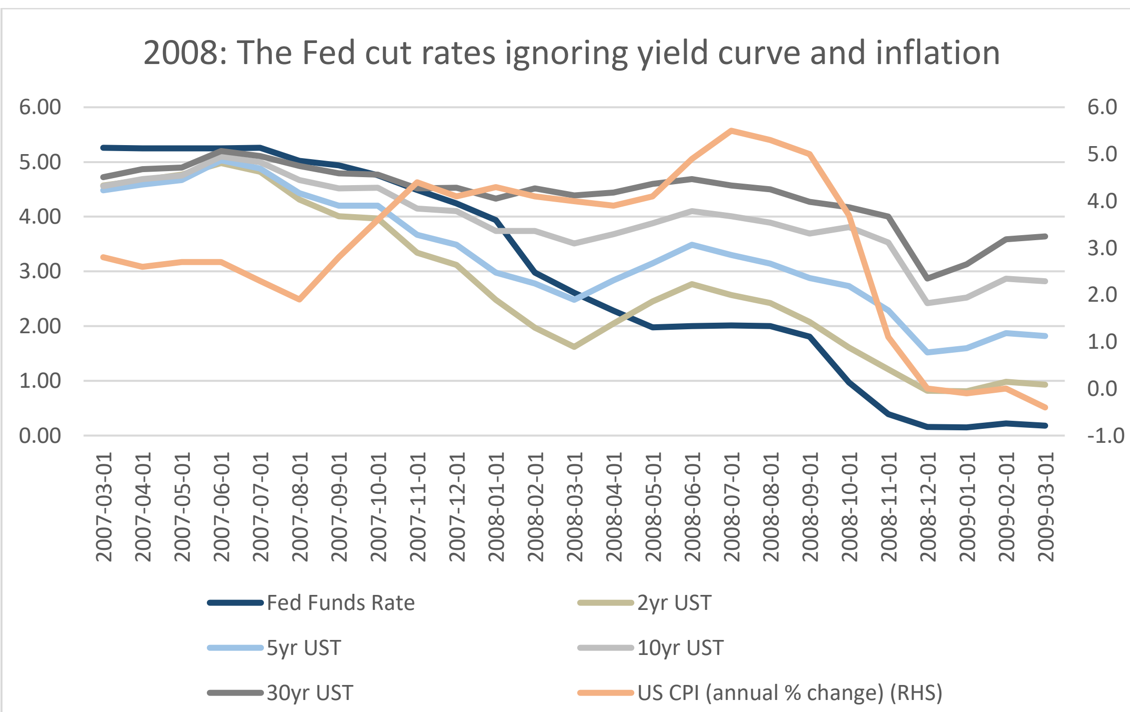

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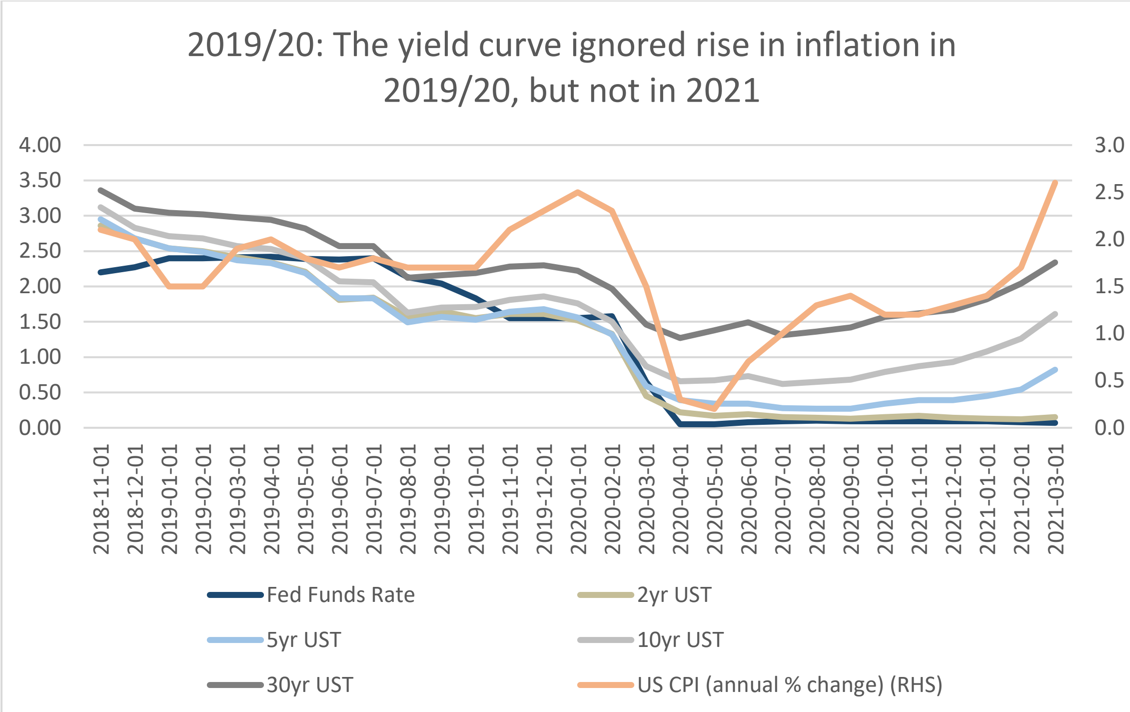

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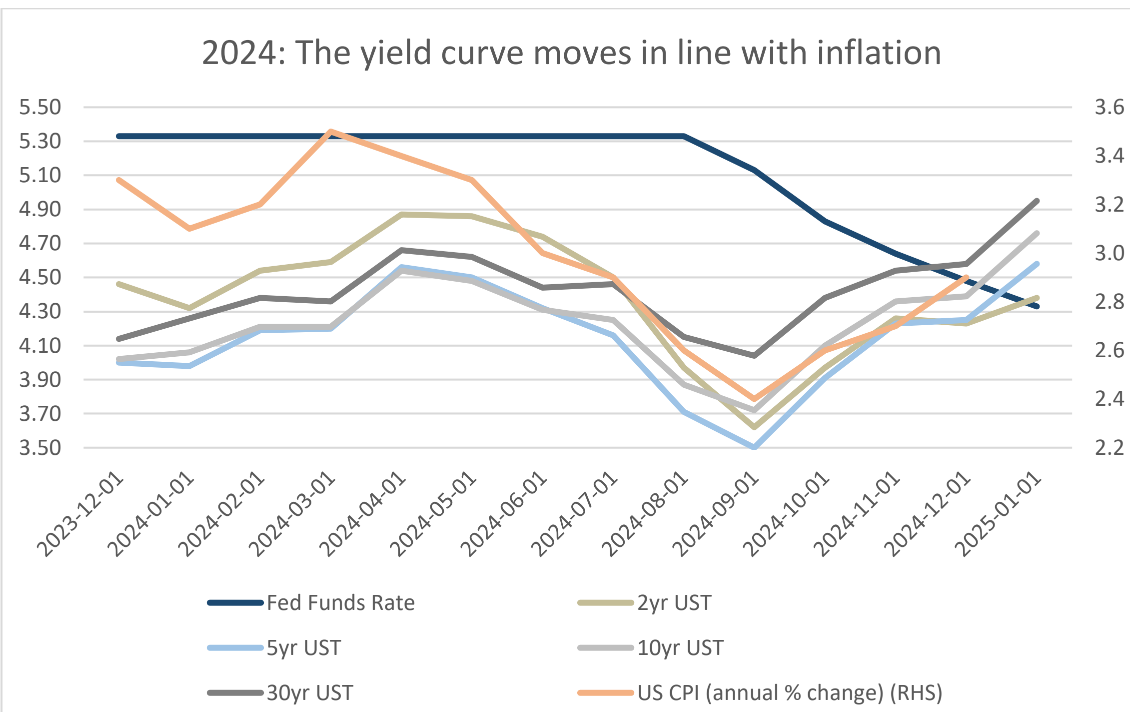

Source: FRED St. Louis, US Bureau of Labor Statistics

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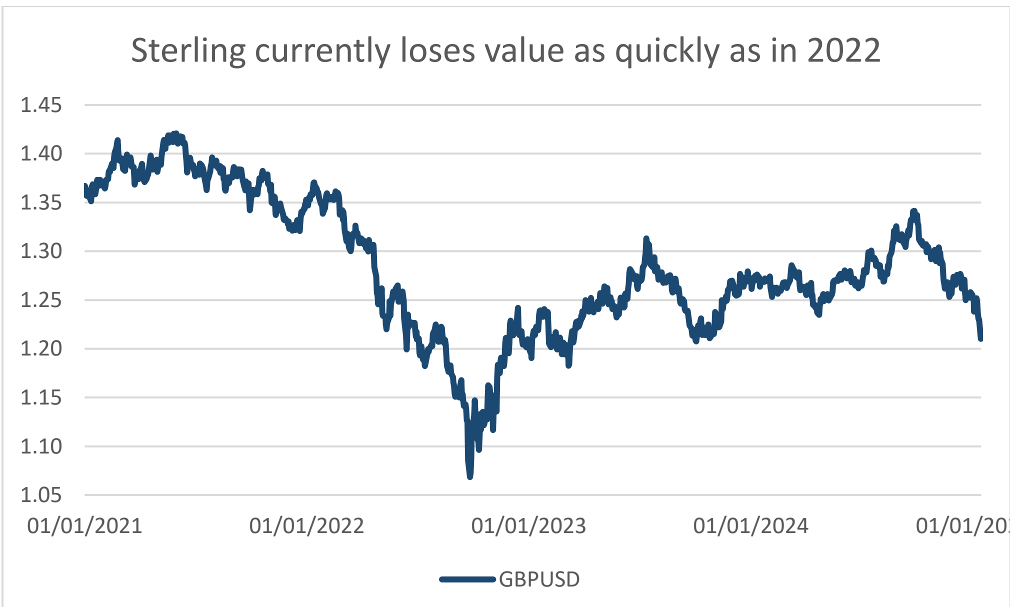
Yield curve inversion and USD strength

Pretty much from the moment the Fed began interest rate cuts in 2024, the USD began to strengthen, not weaken. Before the first rate cut, however, the USD weakened. Both is again most similar to the 1998/99 historic comparison and even a bit similar to 2008. The other periods saw either a general USD strengthening or a weakening when the yield curve ended its inversion. Right now, we have seen a significant strengthening of the USD, which is unusual at the point of yield curve steepening. Only in March 2020 we have seen an equivalent USD strength compared to GBP. If the USD were to strengthen further, it would be counterintuitive to hike interest rates. Movements in GBPUSD currently appears most similar to April/May 2022, after Russia invaded Ukraine or ahead of the Mini Budget in September 2022.



Source: Investing.com

US yield curve history: End of inversion vs. GBPUSD

Date when yield curve ended inversion	Fed Funds rate	GBPUSD
1980-06-25	9.08	2.34
1990-01-24	8.23	1.65
1998-12-30	4.48	1.67
2001-04-25	4.42	1.44
2008-03-26	2.18	2.00
2019-11-08	1.56	1.29
2020-03-20	0.47	1.23
2024-12-27	4.33	1.26

Source: FRED St. Louis

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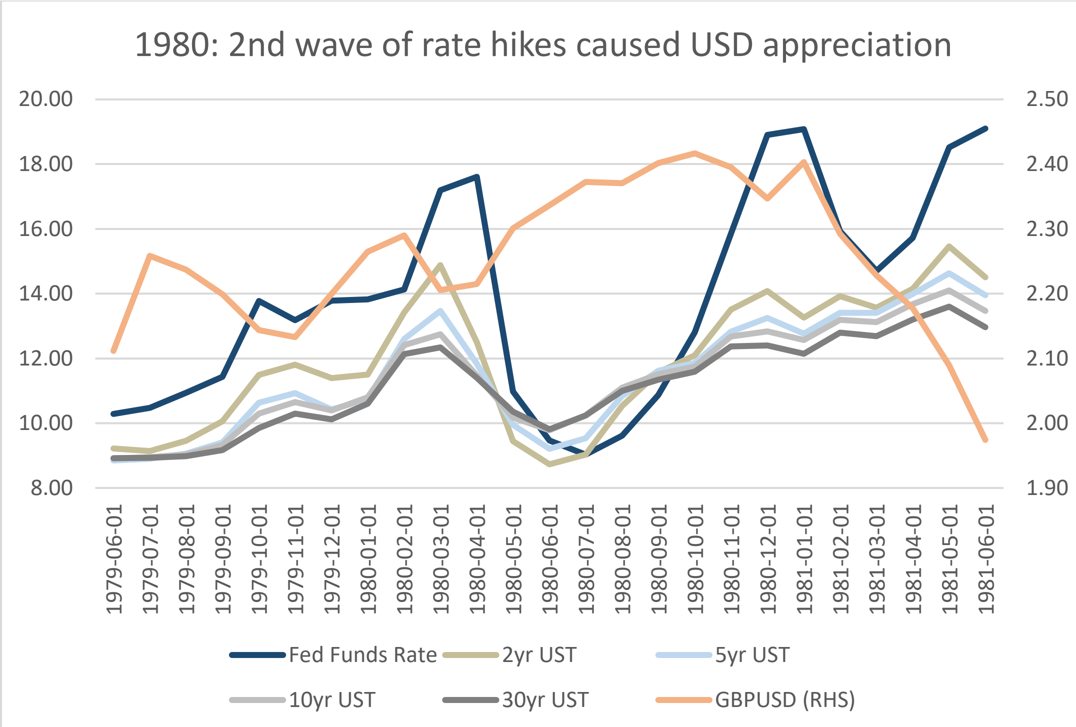

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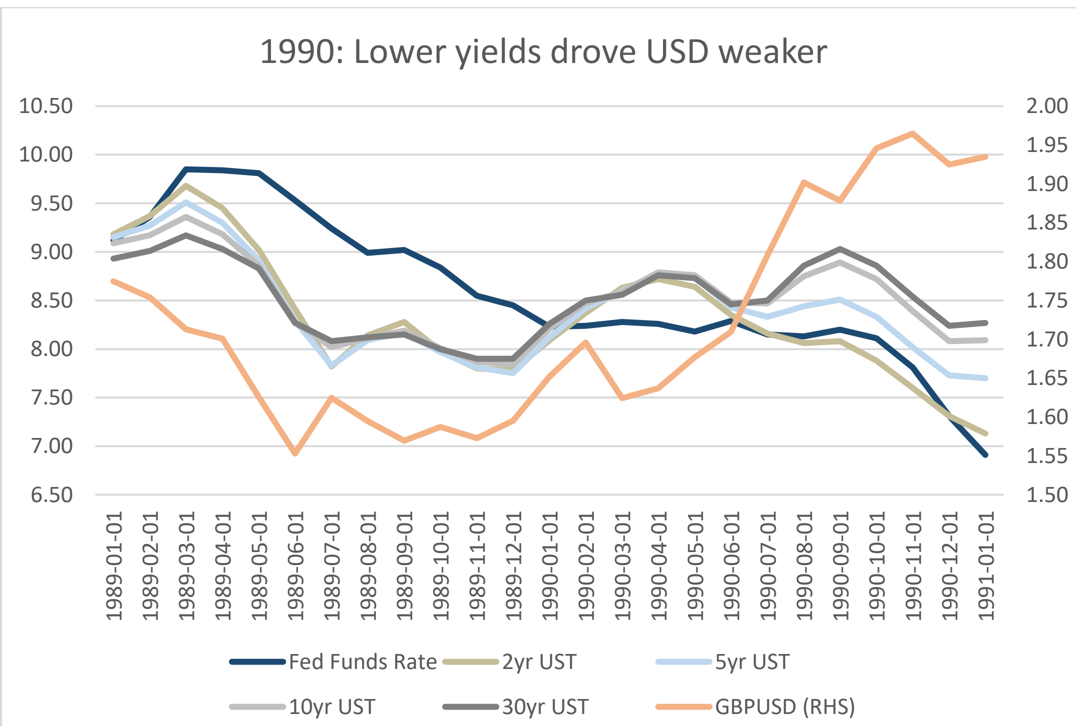

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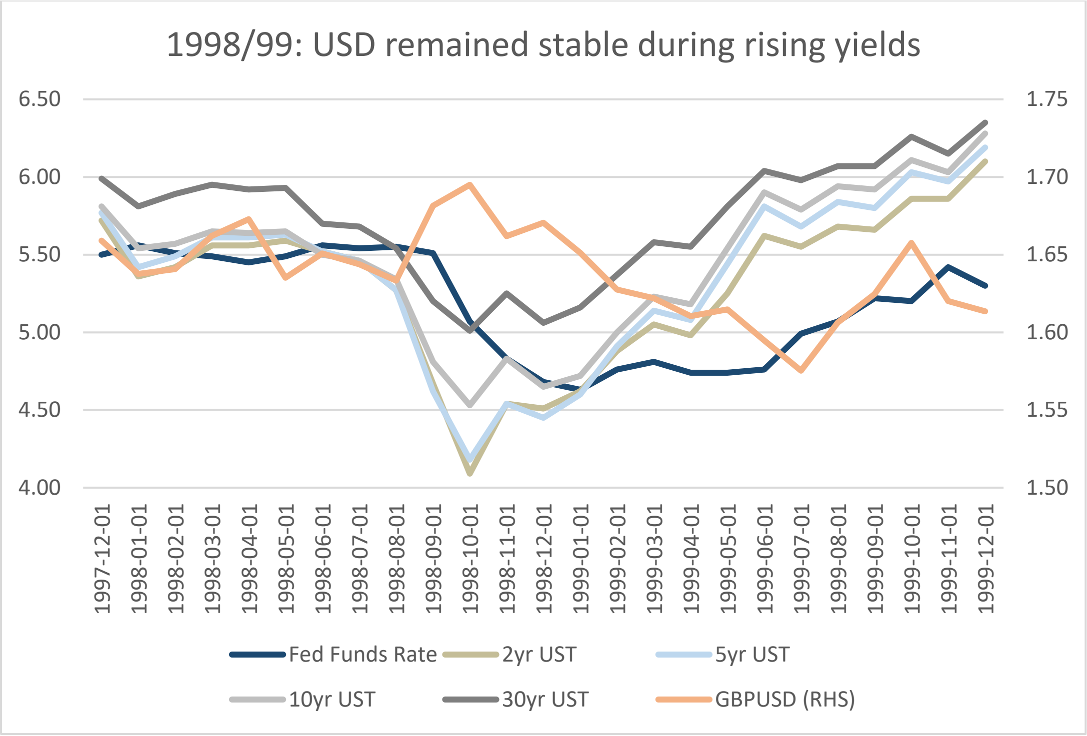

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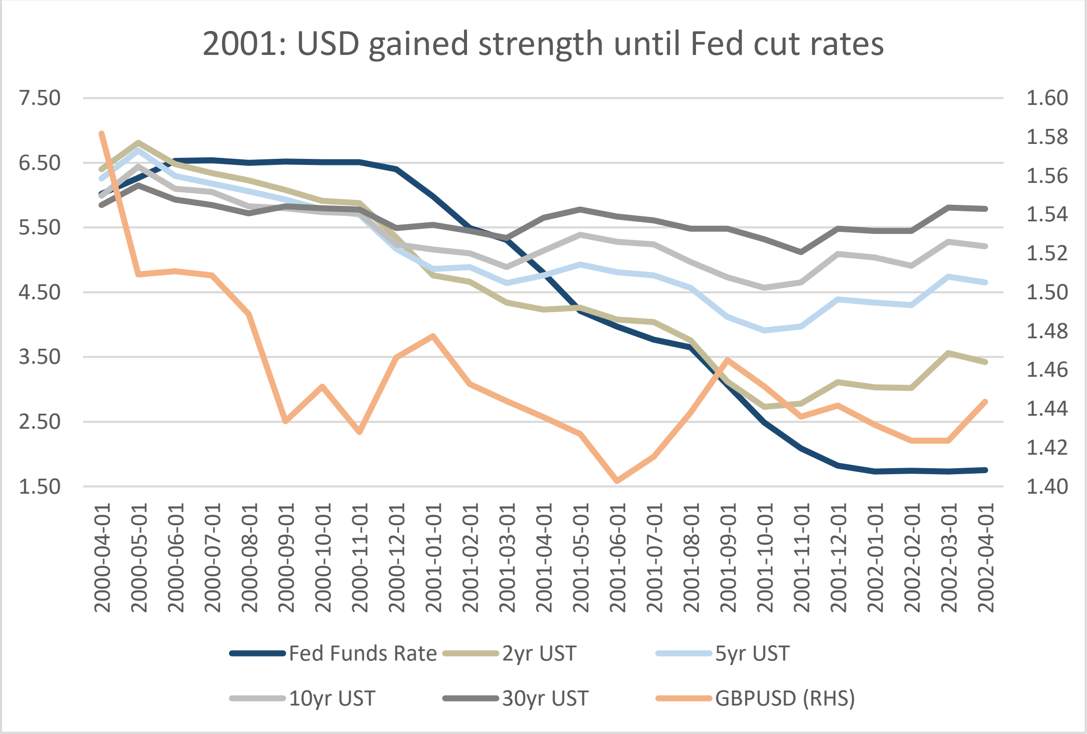

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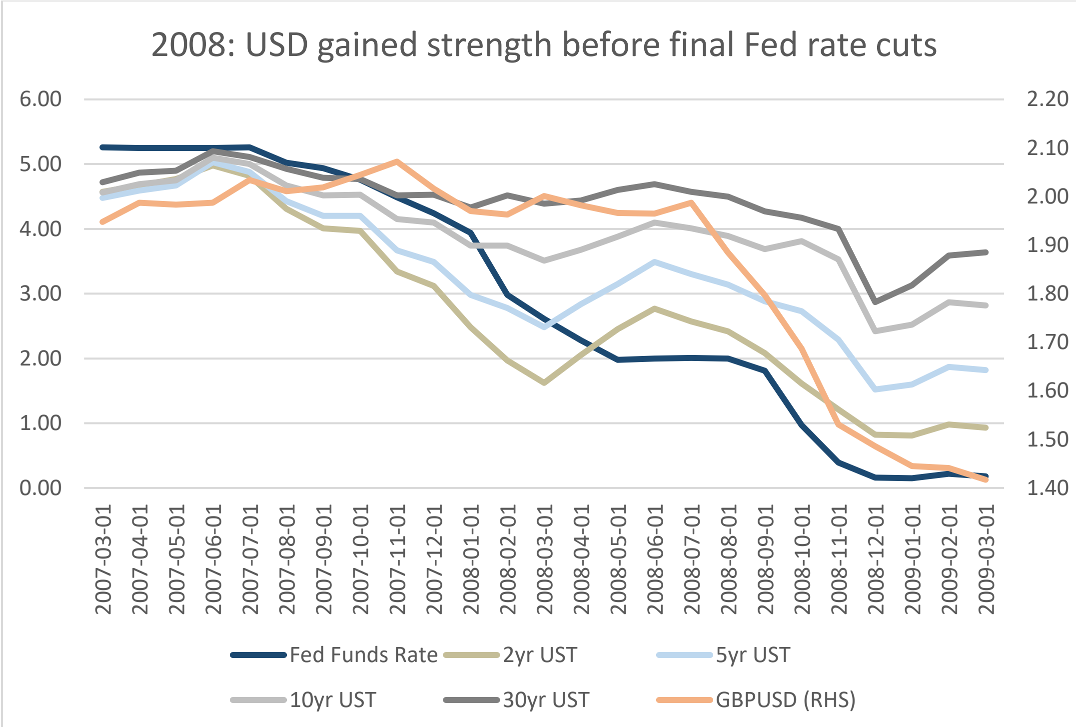

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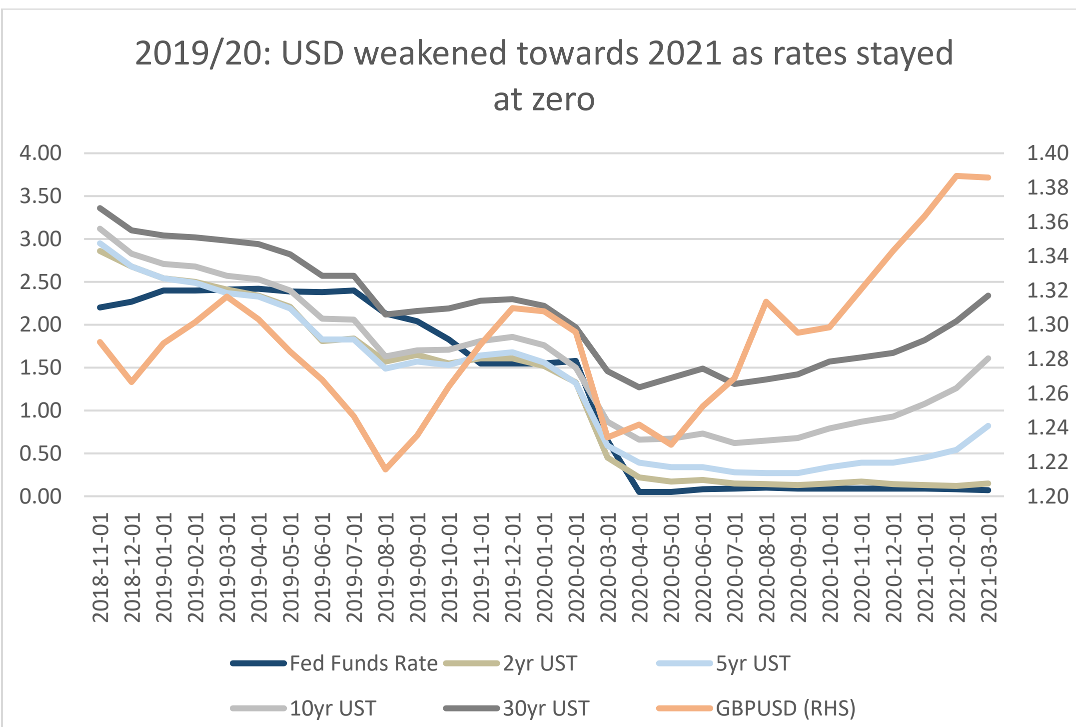

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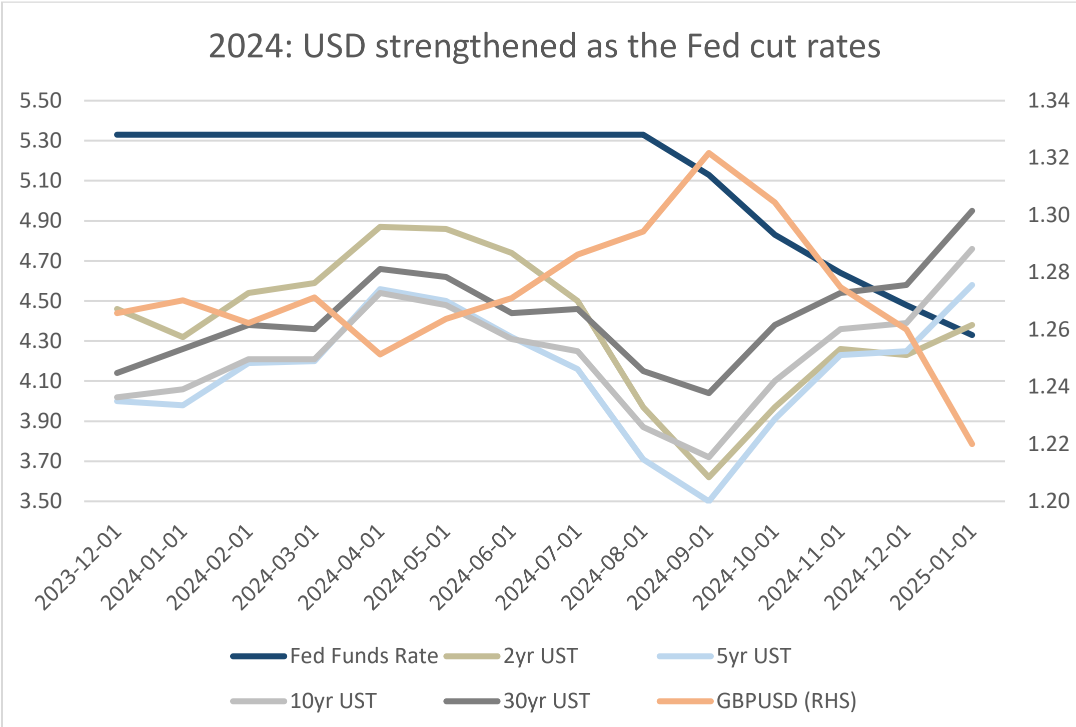

Source: FRED St. Louis

Yield curve inversion and oil prices

The yield curve steepened towards the end of 2024 before oil prices rose. This steepening was likely related to fears of the Trump tariffs. Overall, the 1998/99 comparison is again the most similar with oil rising steadily roughly in line with yields. It also becomes clear that Volcker made a massive mistake in 1980 when he lowered interest rates despite oil prices remaining at elevated levels. Therefore, Powell should not have used Volcker as a template for the developments over the last two years as the Fed could have cut rates due to oil prices coming down significantly after spiking in 2022. The key will be how the 2yr UST yield evolves. If 2yr yields climb 50bps above Fed Funds rate, it will likely trigger the Fed to hike rates, as they did in 1999. There is added pressure on oil prices amidst new US sanctions against Russian tankers affecting 45% of Russian crude exports[1].

[1] https://splash247.com/us-unveils-largest-russian-shipping-sanctions-package/

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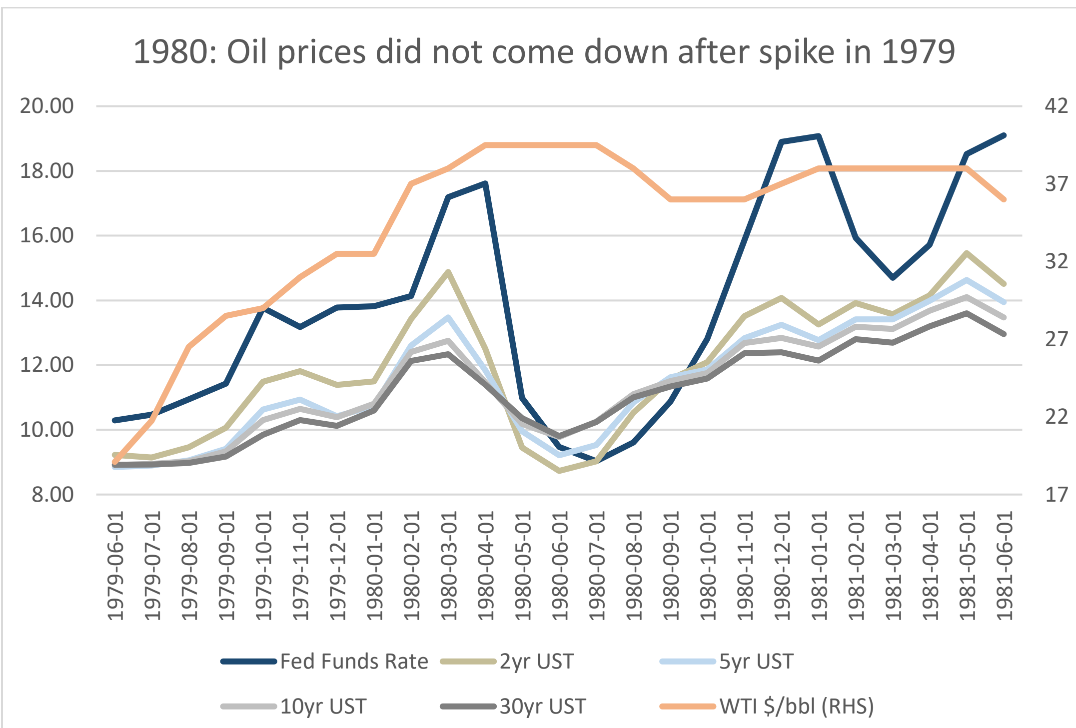
US yield curve history: End of inversion vs. Oil $/bbl

Date when yield curve ended inversion	Fed Funds rate	Oil $/bbl
1980-06-25	9.08	39.50
1990-01-24	8.23	22.64
1998-12-30	4.48	11.28
2001-04-25	4.42	27.41
2008-03-26	2.18	105.56
2019-11-08	1.56	57.03
2020-03-20	0.47	29.21
2024-12-27	4.33	70.12

Source: FRED St. Louis



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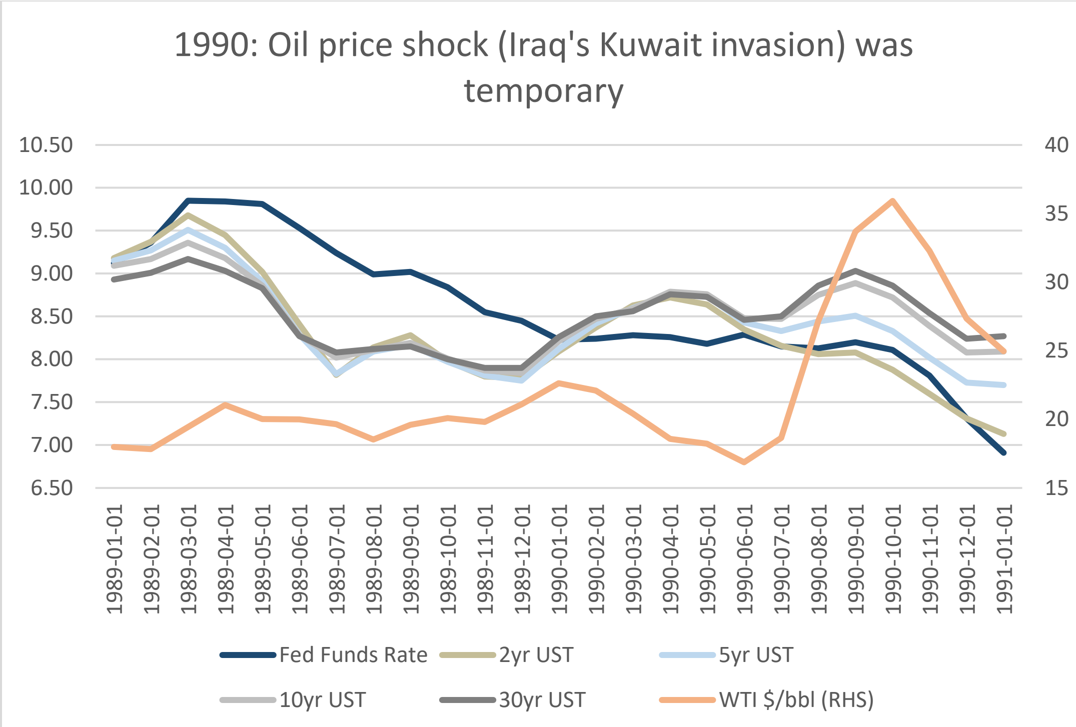

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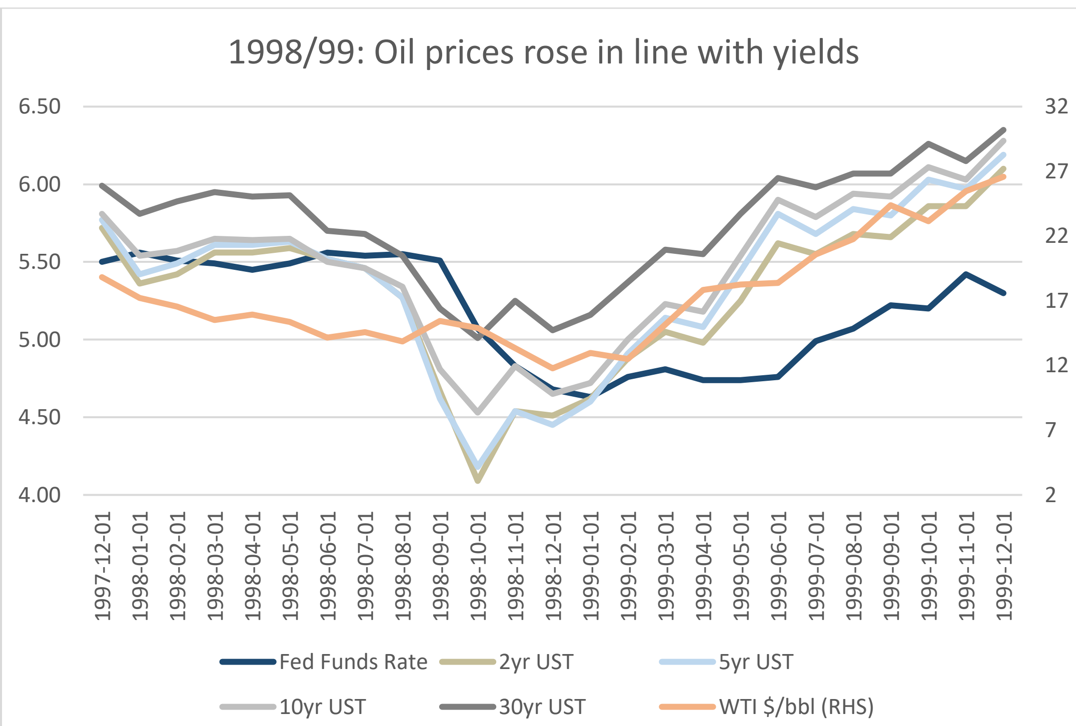

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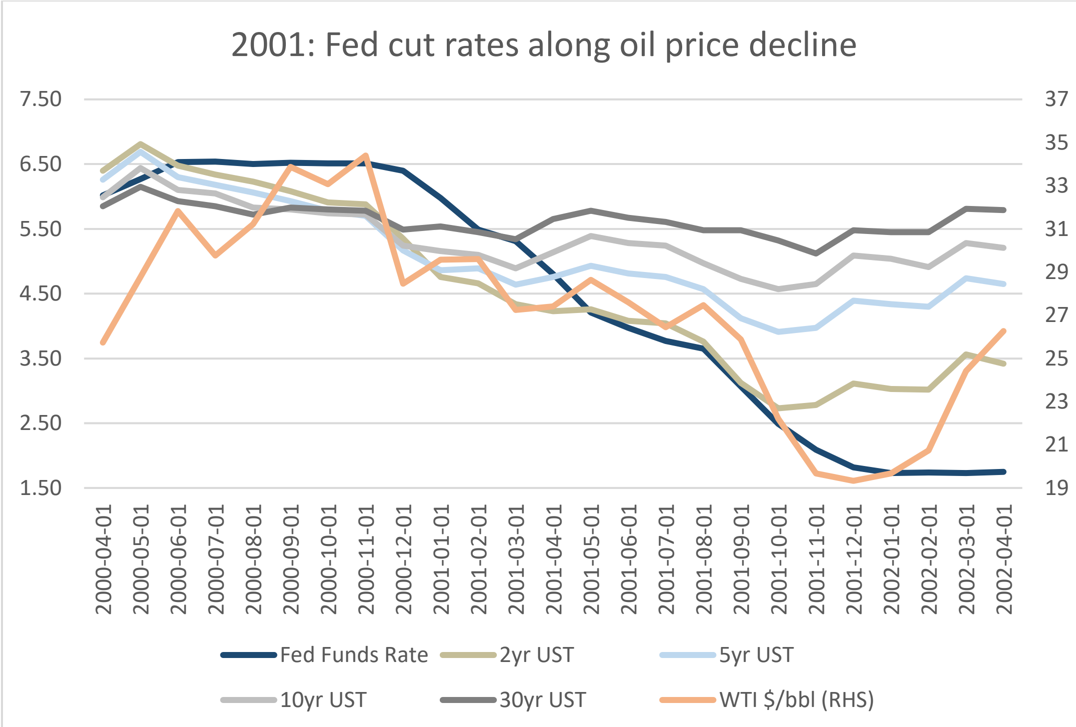

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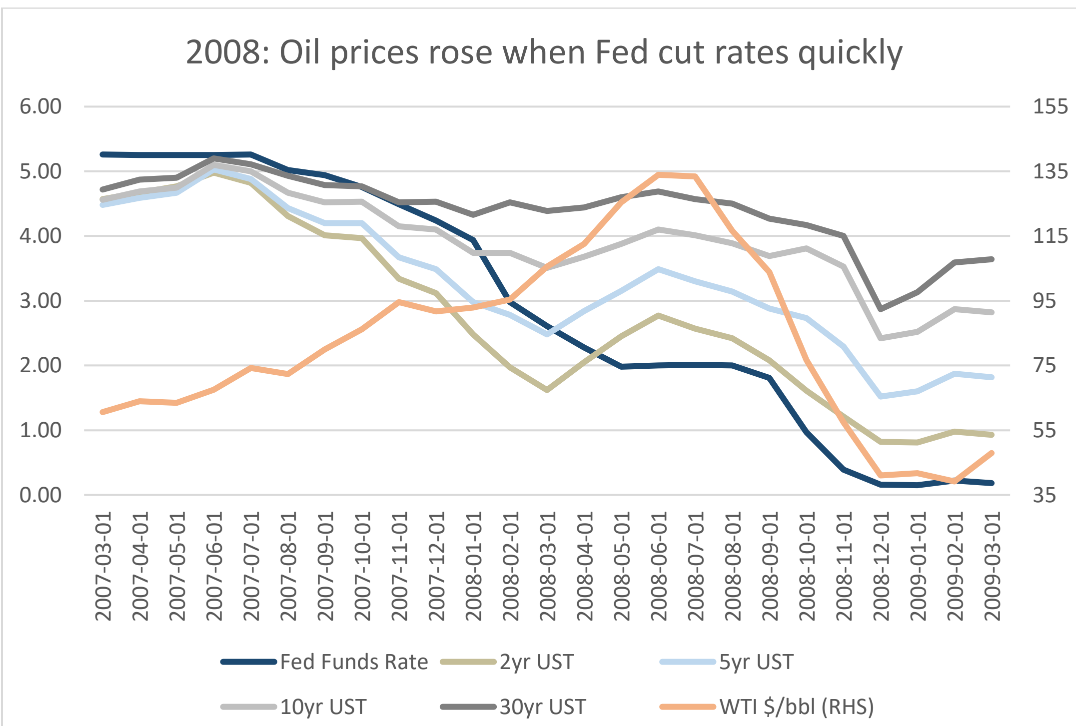

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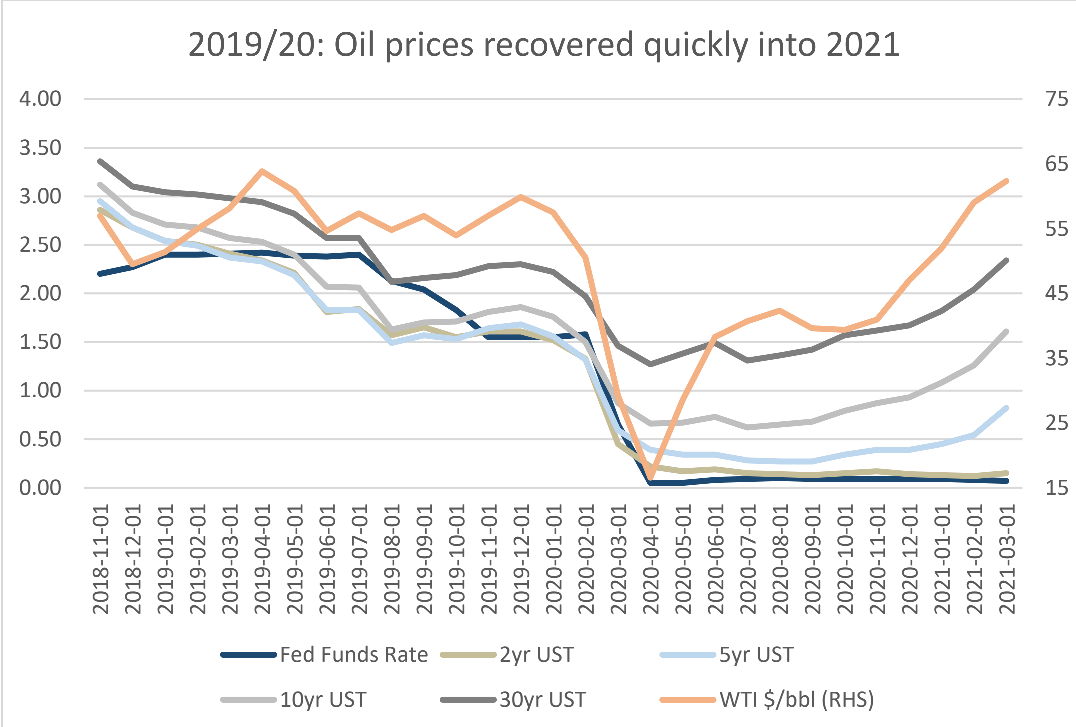

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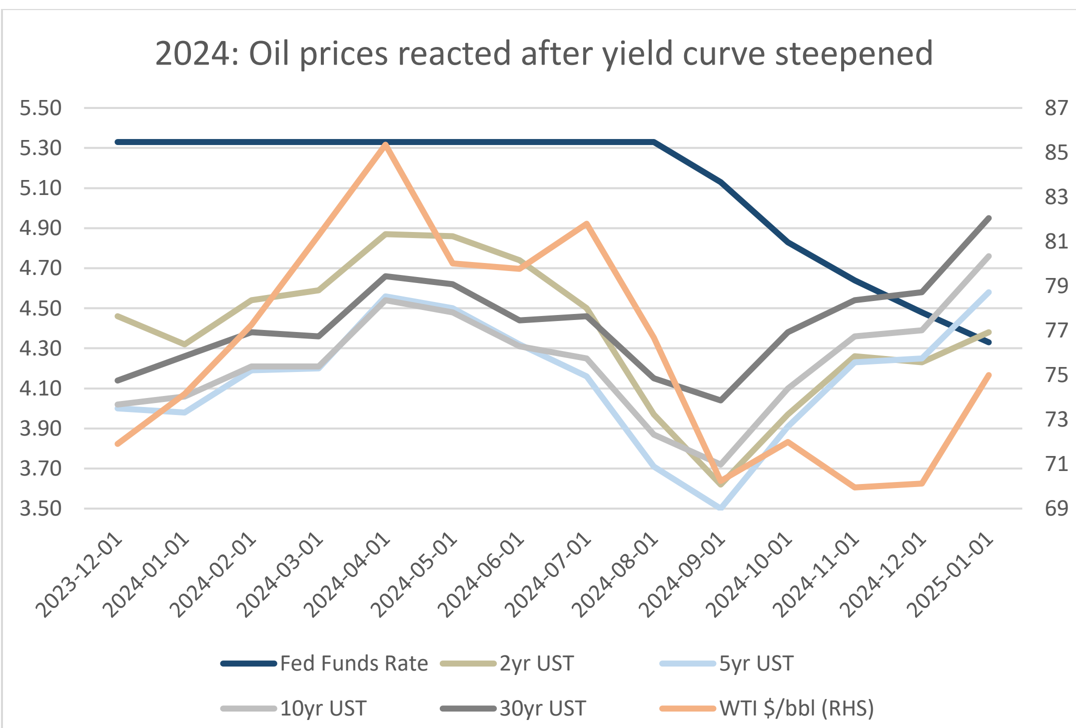

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Yield curve inversion and S&P 500

Different to other periods, the S&P 500 rallied quite strongly into the end of the yield curve inversion. After the yield curve steepened further, the S&P 500 began to sell off. This is what makes this current time so interesting. We have expensive valuations in the US, increasing tariffs, more sanctions, and yet the economy remains relatively strong, partly due to heavy fiscal deficits. Whilst the 1998/99 period appears similar to the current period for other variables, if the S&P 500 would begin to rally from here as it did in 1999, it could become the biggest bubble the world has ever seen. This appears hard to imagine. As the magnificent 7 make up a 1/3 ($17.5trn) of the entire S&P 500 market cap ($52trn), they already trade at a weighted average P/E of 44.5. Even when annualising the latest quarter's operating cash flow, the magnificent 7 trade at 28x Price/Operating cash flow. This leaves a lot of risk to the downside, as a 50% decline in mag 7 valuations would trigger a 17% decline in the S&P 500. If all the remaining 493 companies fall in valuation by just 15%, the S&P 500 would be down 27%.

Magnificent 7 Market Cap 13th January 2025

Mag 7	Market Cap in $bn as of 18th Oct 2024	P/E
Apple	3,580	39
Nvidia	3,330	54
Microsoft	3,110	35
Amazon	2,300	47
Alphabet	2,360	26
Meta	1,550	29
Tesla	1,240	108

Source: Quarterly reports of individual companies

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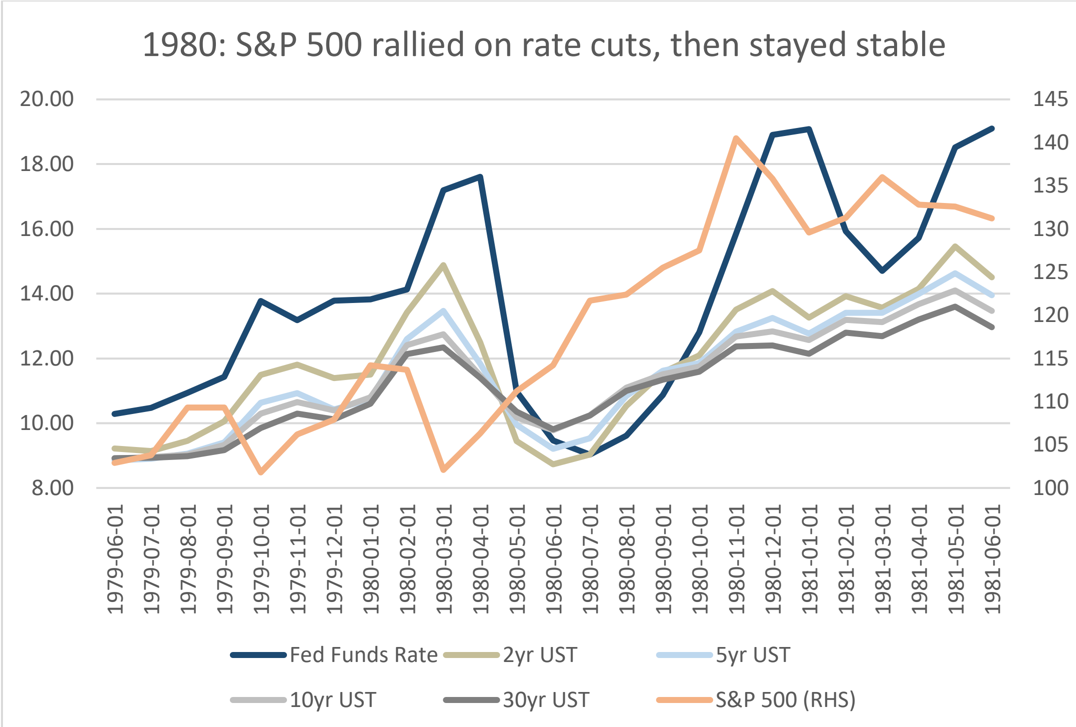
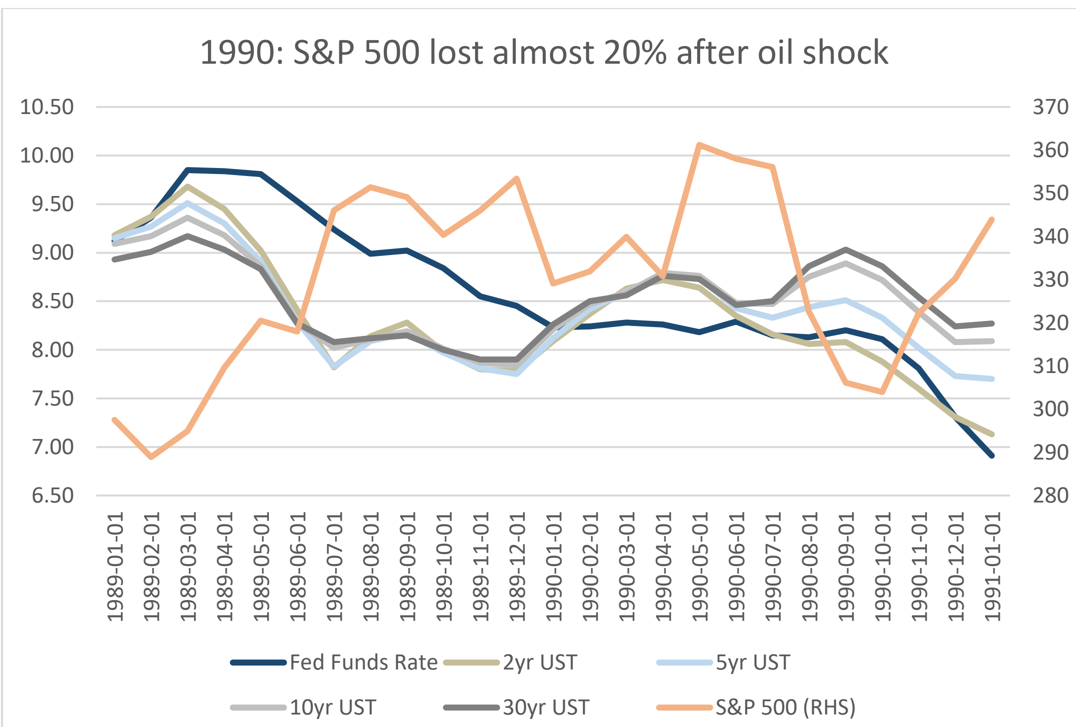


Source: FRED St. Louis, Investing.com



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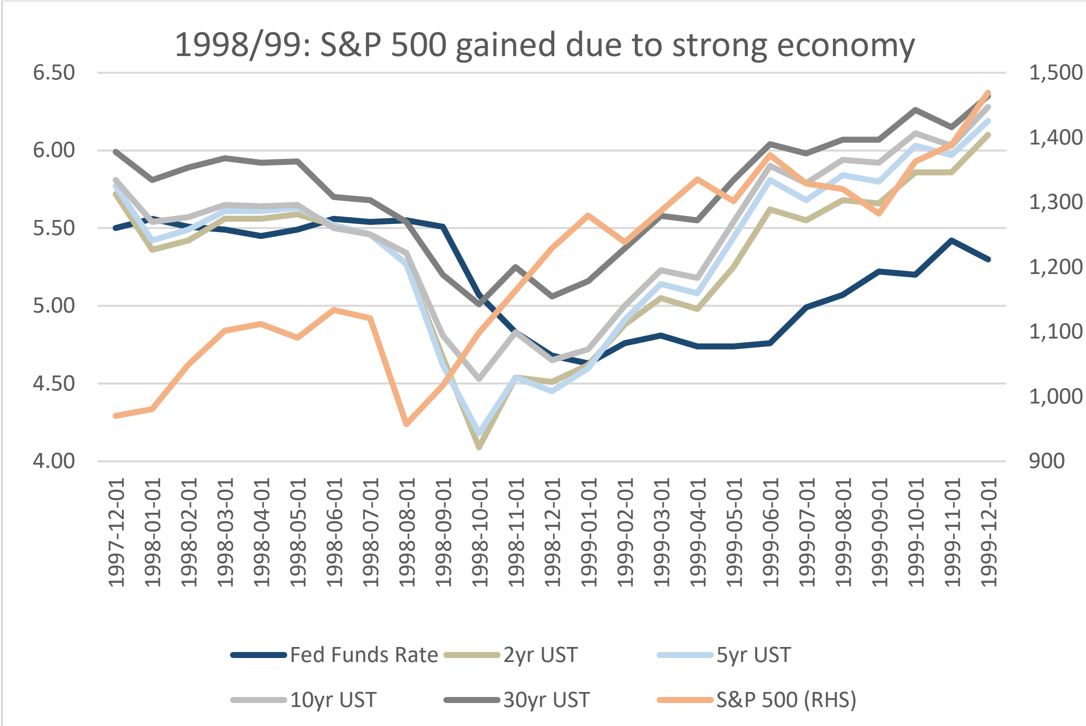

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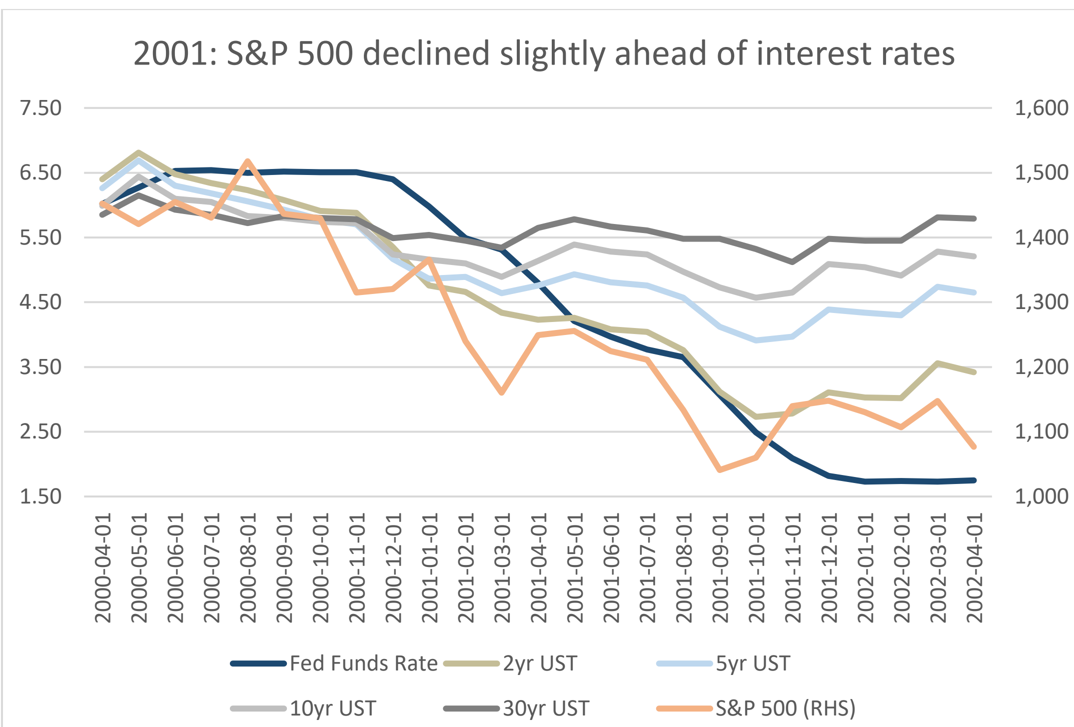

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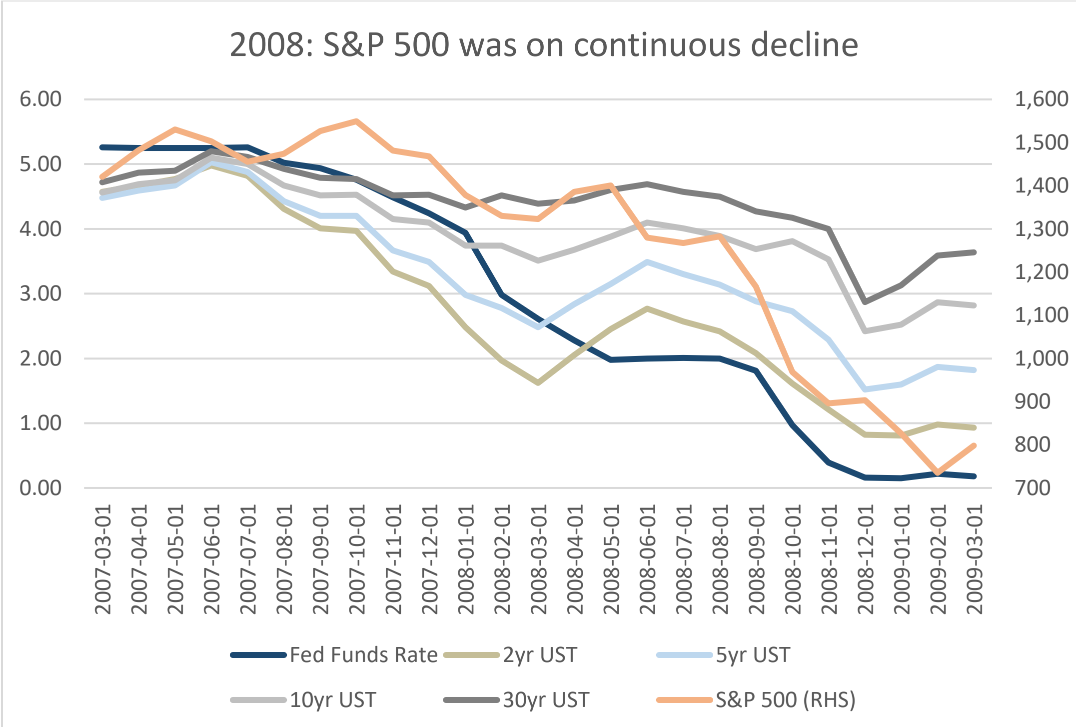

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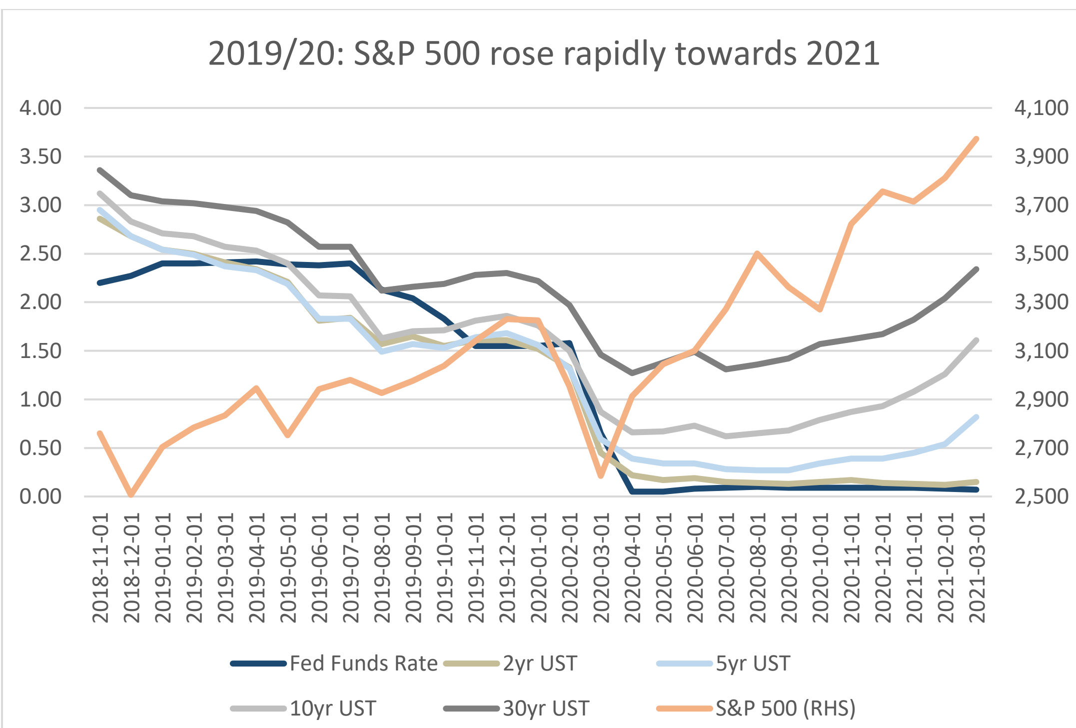

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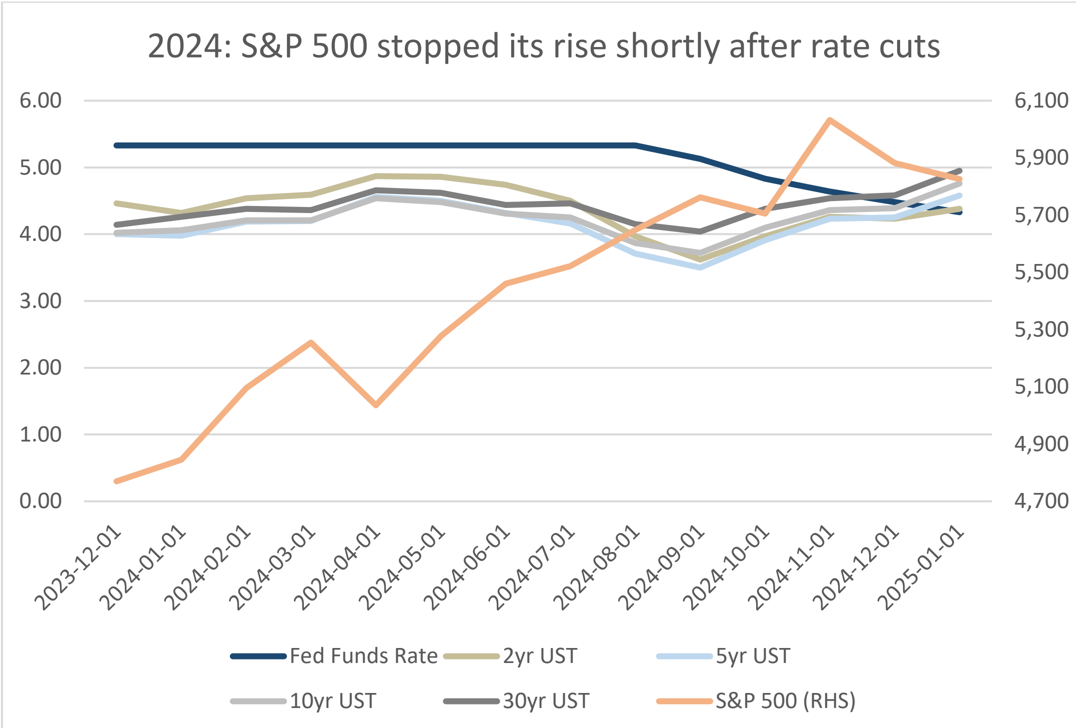

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