BITFINEX Alpha

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EXECUTIVE SUMMARY

Last week, macro economic headlines again dominated the market agenda. Inflation showed very little signs of abating in the US, while poorly explained fiscal policies in the UK resulted in a sharp decline in sterling and unprecedented intervention into the UK government bond market by the Bank of England.

And for a day, the beneficiary of these developments was Bitcoin. Unprecedented trading volume was generated on the BTC/GBP and the BTC/EUR pairs on Bitfinex and other major exchanges. We provide an insight into the exact figures and why traders sought to sell sterling against BTC.

In our special learning section in this week's Bitfinex Alpha, we provide an in-depth analysis of an unprecedented week in the UK financial markets, which saw interest rates rise at their fastest rate since 1976 - the year the UK was bailed out by the International Monetary Fund (IMF).

In the US, the labour market remains tight in what is the most perplexing economic question in recent times, and is undoubtedly the principal driver of sustained inflation.

With such pronounced and persistent price rises, the future economic agenda of most countries around the world is uncertain as the strong dollar exports inflation to other countries.

And even in the UK, where the Bank of England is trying to keep gilt yields down through actively purchasing bonds in the market, following the unveiling of the government's poorly-received mini-budget, it's macro inflation policy aimed at raising rates to subdue inflation remains unchanged. A puzzling dichotomy.

Perhaps even more interesting for the crypto investor was that long-term Bitcoin holders continue to hold crypto at an average price that is higher than short-term holders. In our analysis of the so-called 'realised price crossover', we note that anyone who purchased BTC more than two years ago is still sitting on a cost basis that is lower than those of short-term holders. Those however in the 1-2 year time bracket, are holding BTC at a significant premium to those who have only held Bitcoin for six months or less. Historically, the cross-over has proven to be a good entry point for spot positions.

Similarly, our evaluation of the HODL Wave Tool, which provides an indication of where we are in the cycle, shows that because long-term holders are sitting on a loss, these investors are unlikely to sell and hence we are very likely not to see further steep sell offs in BTC.

Even by weighting different HODL cohorts, almost three-quarters is held by longer-term holders sitting on losses. For now, it appears, we are safe from further heavy selling.

Happy trading!

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GENERAL MARKET UPDATE

Fed Inflation Measure is still High

Consumers have been increasingly forced to dig deeper into their wallets to catch up with the rising costs of commodities while central banks around the world are racing to raise interest rates. The era of cheap liquidity and low-interest loans, that even survived the worst times of the pandemic, is now coming to an end as inflation is becoming a prominent risk in the global economy. The degree to which inflation impacts economies is as concerning as its apparent persistence.

The preferred US inflation gauge remained elevated in new data released Friday, September 30. Personal Consumption Expenditure or PCE showed that inflation accelerated more than expected in August. The headline personal consumption expenditures price index increased by 0.3 per cent for the month. The PCE report was greater than the 0.1 per cent estimate indicating that inflation is broadening. The report's specifics were even more unsettling. Though the price increase is somewhat moderate, this was partly because of a decrease in fuel prices. By excluding the effects of food and fuel price swings (core PCE), we can better gauge underlying inflationary pressures, and we find that the index increased 4.9 percent in the year through August, picking up speed from the 4.7 percent increase in the previous month. The monthly increase in the core index was 0.6 per cent, the highest growth rate since June.

The Federal Reserve generally prefers core PCE as the broadest measure of where prices are headed as it adjusts for consumer behaviour. (link - https://bit.ly/3dWH05u) In the case of either core or headline, data shows inflation running well above the central bank's two percent long-term target. The numbers released on Friday underscored the Federal Reserve's difficult task of steering the US economy toward lower inflation. Consumers continued to spend in August, indicating that the economy's momentum has not weakened even as central bankers boost interest rates in an attempt to bring down demand-driven inflation.

Job Market Tightens

The most pressing question on the current economic agenda remains the labour market. Why is the labour market so tight despite sluggish growth, high inflation, and rising recession fears? This remains a perplexing economic puzzle.

The first half of the year saw GDP growth fall into negative territory. The Federal Reserve has raised interest rates significantly in an effort to slow inflation, which has led to a sharp increase in the cost of borrowing money. Nevertheless, the average monthly payroll increase (or number by which jobs grew) from January through August was 438,000, about three times the level seen before the 2019 economic crisis.

Small-scale layoffs have been more common in recent months. Major corporations are expanding certain roles while cutting jobs in another. Nothing about this seems to add up to the enormous layoffs that have occurred during previous recessions.

Every recession in recent history has been foreshadowed by a sharp and sustained increase in people filing for unemployment benefits. It is a leading indicator of the labour market experiencing considerable problems.

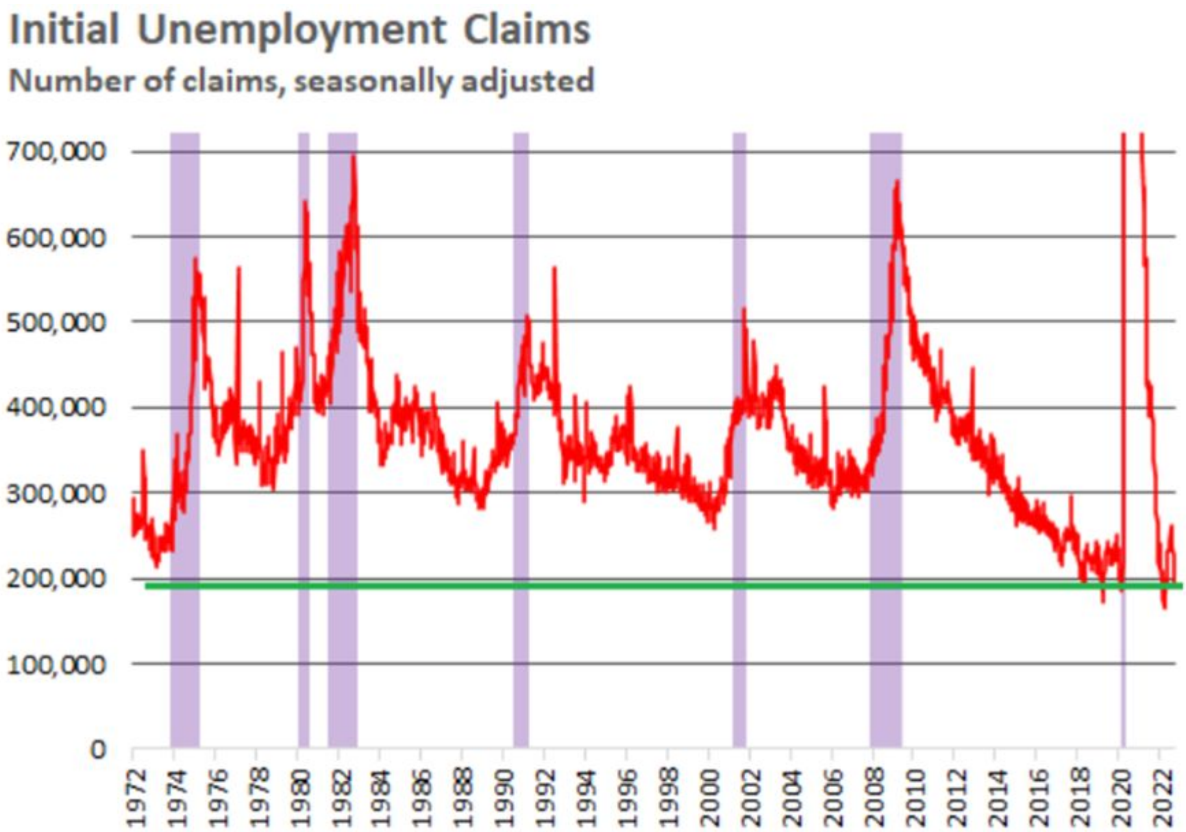


Figure 1. *FOMC Meeting Probabilities for the Federal Funds Rate*

Unlike other forms of labour market data, initial unemployment claims come from actual applications for unemployment benefits filed by persons who have recently lost their jobs and haven't been able to replace their income. Initial unemployment claims are the most immediate measure of the labour market, and they refuse to show any weakness.

Initial claims for state unemployment insurance fell by 16,000 to 193,000 in the week ending September 24 marking the current low for the metric. Claims have fallen for six of the last seven weeks and are at their lowest level since April 23. Last week, the four-week average fell to 207,000. The data is more evidence that the labour market is still robust since it indicates that most workers being laid off either have a new job set up for them when they leave their old one or are rapidly finding a new one. The tight labour market is a crucial component of the economy because it supports consumer spending. As the demand for labour stays strong, the elevated prices are more likely to be persistent.

A Closer Look at the Rising US Dollar

With a tight job market, and inflation showing signs of its persistence, the Federal Reserve’s aggressive rate hikes support the dollar's rise. For foreign investors, the higher rate of return on their US dollar assets is one reason the currency appreciation has made investing in the US more appealing. Capital flows into the United States are boosted as a result.

Another factor contributing to the dollar's rise is its status as a haven asset when markets are volatile. Investors are getting more worried about the possibility of a slowdown or recession as the Federal Reserve continues to hike rates into restrictive territory. As a result, investors seek safe-haven assets, with the US dollar playing a pivotal role in this regard.

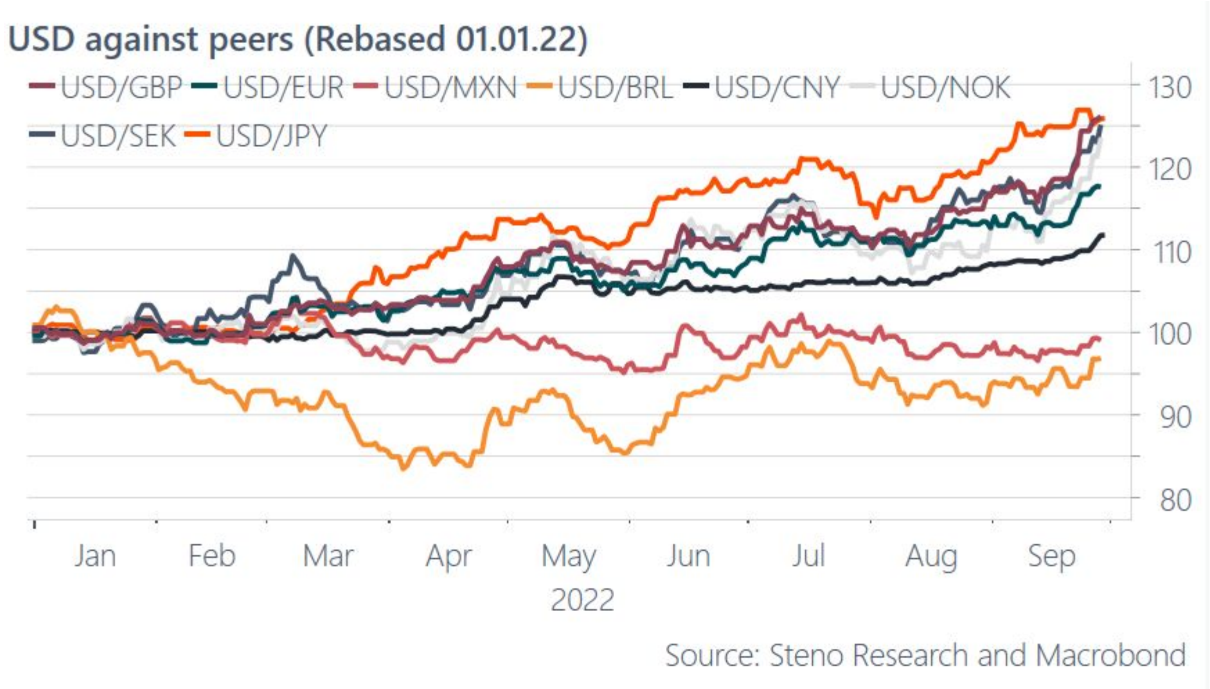


Figure 2 *: The USD wrecking ball in full swing outperforming major currencies.*

Keeping an eye on US dollar dominance is important because of its major role in international trade and financial transactions. The US inflation problem is exported as rising interest rates and a rapidly appreciating dollar, makes prices in local currencies more expensive. Rising rates in the United States will continue to cause instability overseas as long as the Federal Reserve's mandate remains solely on domestic inflation and employment, disregarding international spillovers.

UK's "Mini" Budget

The strengthening of the dollar is also contributing to the rise of inflation in the UK and throughout much of Europe. The British pound hit its lowest level against the dollar since 1985 on Monday, September 26, caused by the unveiling of the government's mini-budget on Friday, September 23. The budget turned out to be anything but little, which comprised tax cuts and energy subsidies.

At a time when the country is experiencing sharp inflation, an energy crisis, and the possibility of a recession, the tax cuts will essentially offer top incomes a significant boost to their discretionary income. Government liability from energy subsidies may also be practically unlimited.

The energy package is estimated to be £90 billion per year. The annual value of the tax reduction is estimated at approximately £40 billion. Such a move in the current economic conditions is completely unprecedented. We have covered how the government is implementing easing as well as tightening simultaneously in our learning section.

Altogether, the package could add approximately 1.5 percent of GDP to the long-term deficit, and it will likely cost 5-6 percent of GDP in the first year in the UK. Long-term interest rates have risen above GDP growth, suggesting that debt levels as a percentage of GDP will continue to rise.

Figure 3 *: UK 5-year Gilts and GBP/USD Spot Exchange Rates (Source: Brandywine Global, Macobond)*

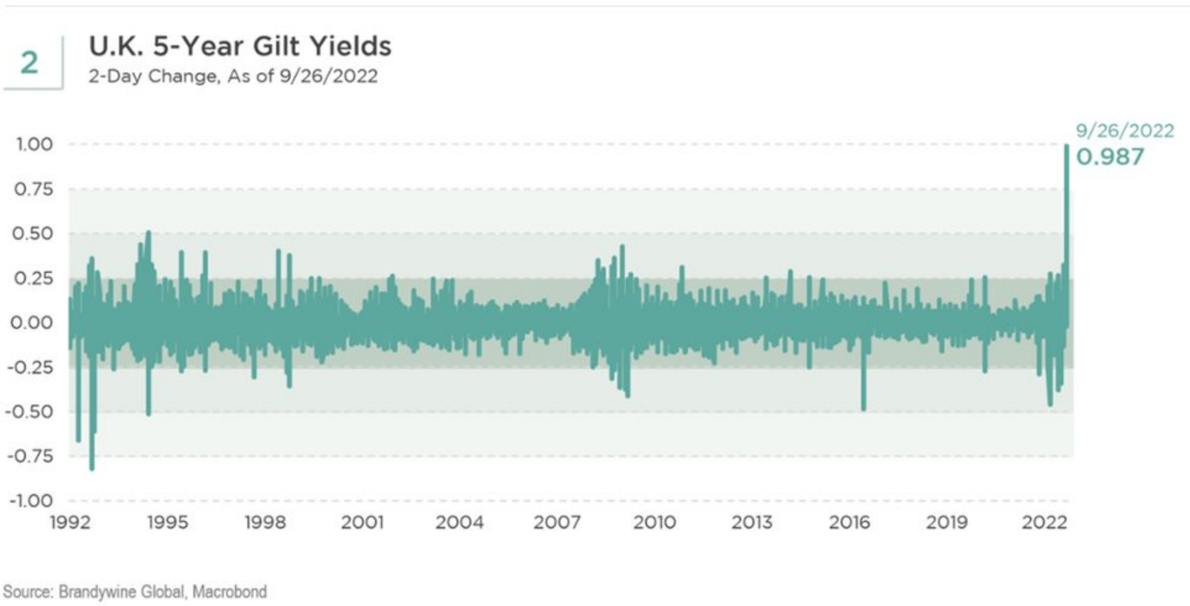


Figure 4. *UK 5-year Gilt Yields (Source: Brandywine Global, Macrobond)*

The markets reacted ferociously to the news. The yield on UK government bonds (gilts) rose dramatically, and the value of the pound dropped to historic lows against the US dollar. UK gilt liquidity has been low all year, but it had worsened significantly in the past week when the budget was announced.

Bank of England Intervenes

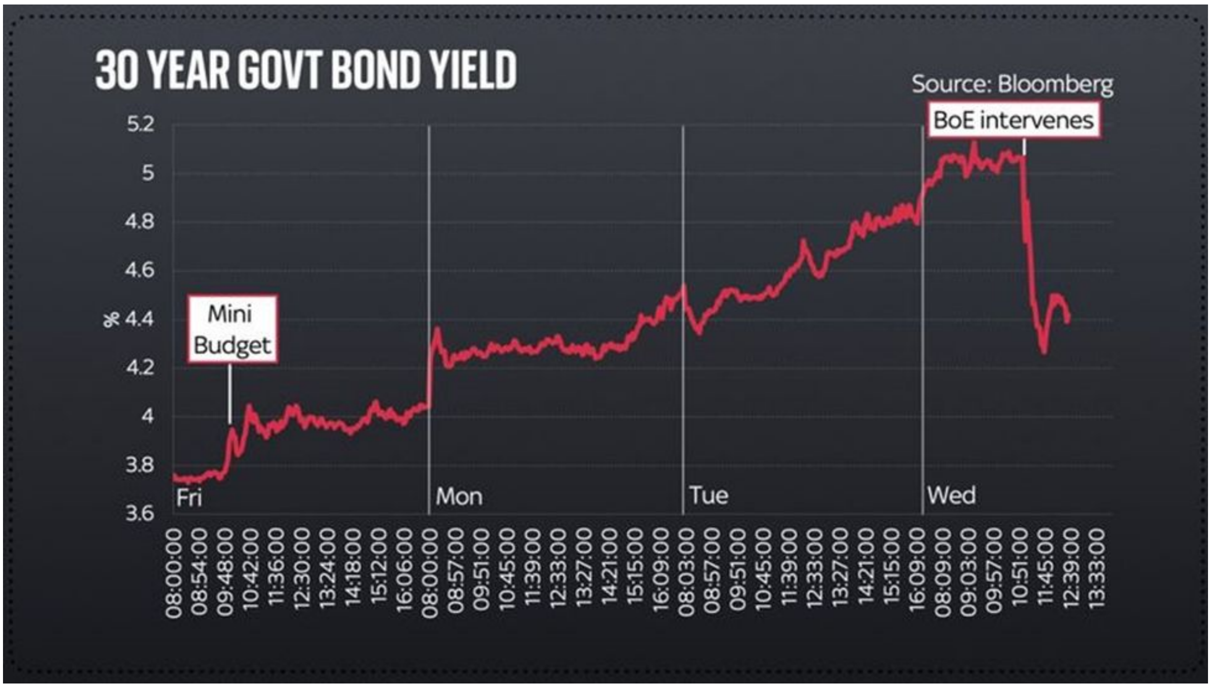


Figure 5 . *30-Year UK Government Bond Yield: BOE's intervention (Source: Bloomberg)*

Following the sharp spike in gilt yields, the Bank of England (BOE) stepped in. It began purchasing long-term bonds on September 28 to inject liquidity and reverse the "unwarranted" tightening of financial conditions. These purchases are expected to be short-term, ending on October 14, and will be changed once the BOE determines that normal market behaviour has been restored. The BOE made it clear that this was a decision made for reasons of financial stability and a change in the direction of its current stance on monetary policy.

These actions have brought short-term stability. However, after dropping by over a hundred basis points on day one, 30-year gilt yields are still higher than they were before the budget announcement.

Equities and Bonds

Figure 6 . *S&P 500, Dow Jones Industrial Average and Nasdaq Composite*

In a bumpy trading week, US shares closed down, adding to last week's sell-off that took the major indices back to their lowest levels of the year. The markets had a turbulent week, ending the third quarter with a third-straight weekly loss, digesting new economic data that confirmed continued solidity in the labour market, amid persistent inflation. The Dow Jones Industrial Average slid 500 points (1.7 percent) to 28,726, the S&P 500 Index dropped 55 points (1.5 percent) to 3,586, and the Nasdaq Composite dropped 162 points (1.5 percent) to 10,576.

Figure 7 . *US 10 Year & 2 Year Treasury Bond*

The word of the week was volatility, notably in the currency and bond markets, which was exacerbated by the Bank of England's (BOE) statement mid-week that it will buy long-term bonds to try to stabilise its financial markets. As the US currency continued to rise, Treasury yields jumped as a result, particularly at the short end of the yield curve.

Summary

- Core inflation rose 4.9 percent from a year ago in August and 0.6 percent monthly, according to a measure the Federal Reserve watches closely. Headline inflation, including food and energy, also accelerated, despite a sharp drop in gasoline prices.
- Initial claims for regular state unemployment insurance fell by 16,000 for the week ending September 24, coming in at 193,000. The overall low level of claims combined with the high number of open jobs suggests the labour market remains strong.
- The US inflation problem is being exported by rising interest rates and a rapidly appreciating dollar.
- The UK government's mini-budget caused turmoil in the markets and a sharp sell-off in UK assets. Gilt rates are rising, while the pound is falling, reaching a record low against the US dollar.
- Bank of England intervened to stem the bond sell-off by buying longer-dated maturities.
- The equities market had a turbulent week, ending the third quarter with a third-straight weekly loss.

WHAT'S ON-CHAIN THIS WEEK?

Realized Price Crossover

n aggregate, long-term Bitcoin holders now have a higher cost basis than short-term Bitcoin holders on ggregate. As discussed in our previous issue, the realised price crossover for short-term holders vs ng-term holders finally materialised last week.

ealised price by age visualises the average price at which current unspent BTC belonging to each ategory of HODLers were purchased for.

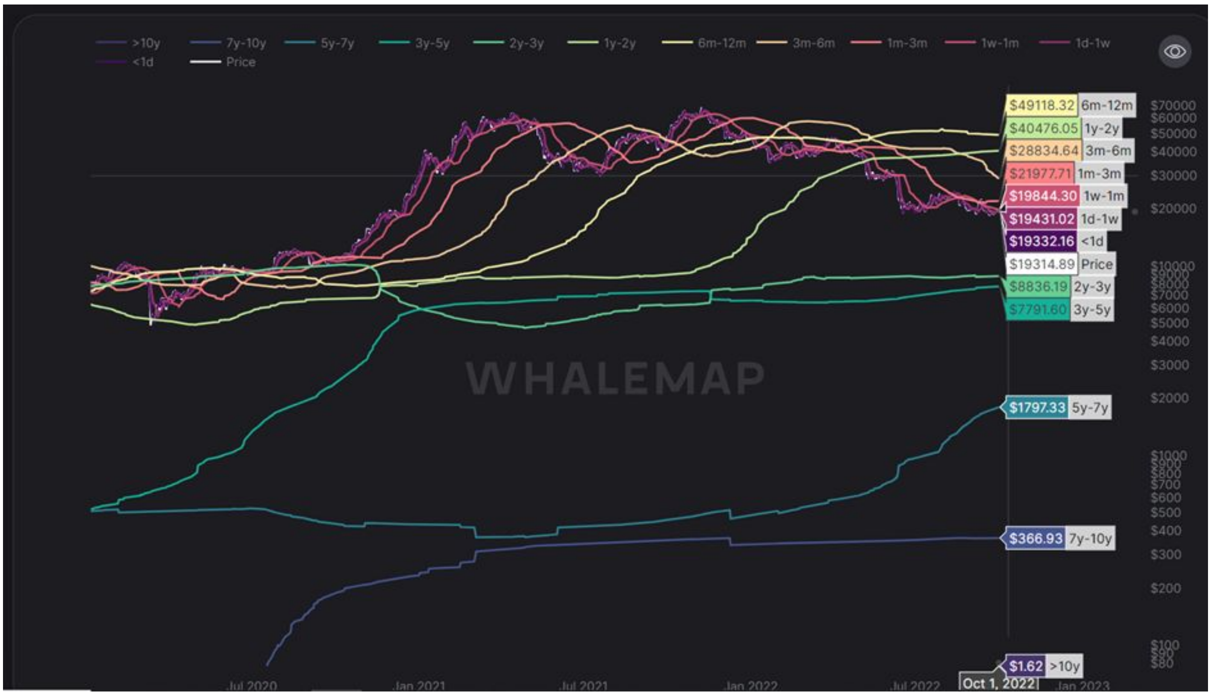


Figure 8. *Realised price by age for unspent Bitcoin. (source: Whalemap.io)*

/hile the longer time horizon HODLers, specifically BTC purchased more than 2 years ago still have a wer cost basis than most of the short-term holders, the BTC holders in the 1-2 year period have a gnificantly high-cost basis than all the holders in the 1-6 month period.

ong Term Holders tend not to sell their BTC, and they most certainly do not sell at a loss. Since they ave a tendency to average down spot positions in longer time intervals, these crossovers have proven be a good entry point historically.

Circulating Bitcoin Supply Distribution

In our analysis of the HODL Wave tool, we do not see it as a short-term trading indicator. Rather, it is meant to help navigate market cycles at a macro level by visualising changes in long-term trends among different HODLer cohorts.

By viewing the data for the 2017 cycle top, we have seen that there is a sharp increase in short-term activity during periods of rapid price appreciation and an increase in HODLing during bear markets. This can be useful for navigating market cycles in real-time, as a sudden increase in short-term activity (and a corresponding decrease in older Unspent Transaction Output values) can be a strong sentiment indicator. If a large number of long-dormant coins are suddenly moving, it could tell us that we are nearing a top or that the market is in profit-taking mode.

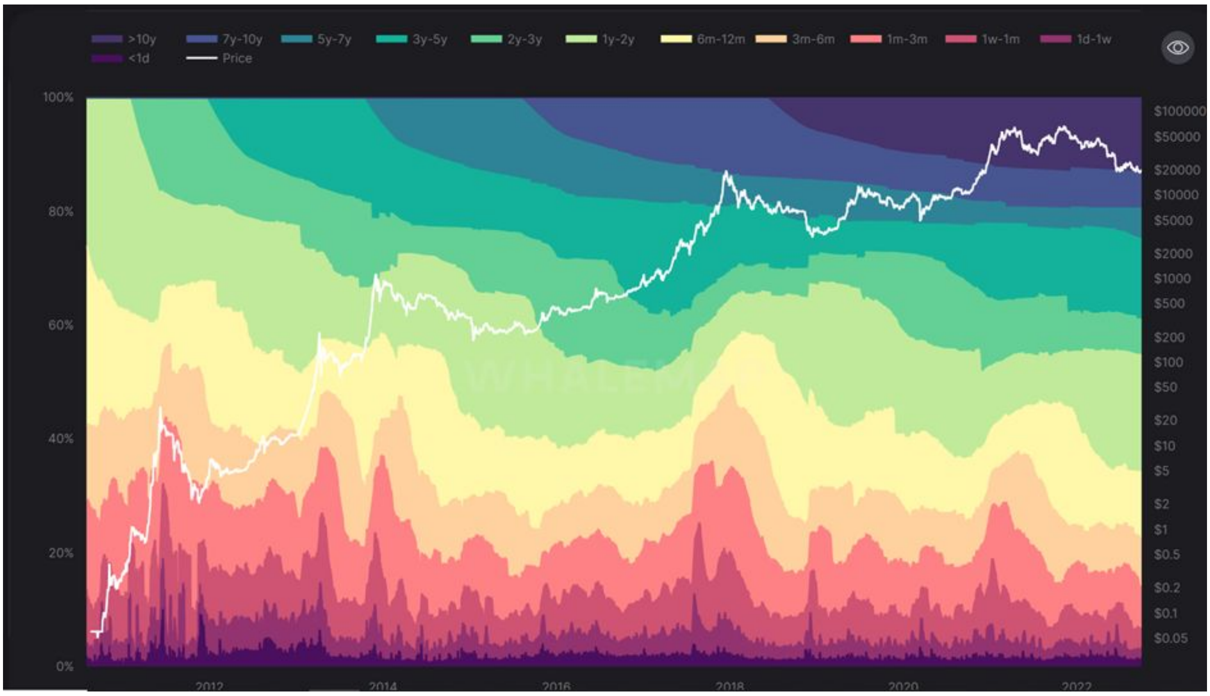


Figure 9: *BTC HODL Waves (source: Whalemap.io)*

From the data in the figure above, we notice that approximately 62 percent of the BTC supply has not moved in more than a year. This adds to the confluence of our previous conclusion that long-term holders have a tendency not to sell their BTC spot positions (apart from profit-taking at levels much higher than their cost basis).

The long-term holders have a significant amount of BTC supply and as per the realised price data, we now know that their positions are currently underwater. Even in the case of a recession and further declines in the equity markets, we believe that the steep sell-offs of the bear market are over, and any further drawdown is expected to be less extreme than the initial fall to $20k on BTC

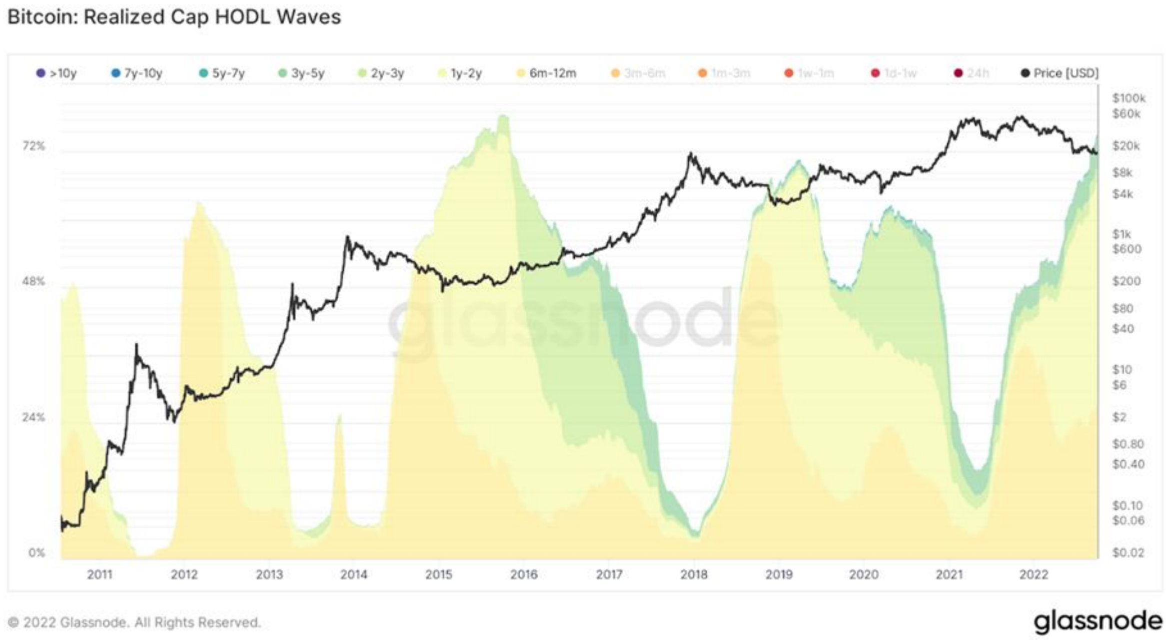


Figure 10: *Realised Cap HODL Waves (source: glassnode)*

Realised Cap HODL Waves are the same as HODL Waves except the HODLing cohorts are weighted by their realised price.

Therefore, Realized HODL waves show the proportion of the Realized Cap that is attributable to each cohort, whereas HODL waves show the percentage of coins that belong to each hodler cohort.

Approximately 74 percent of the Realized Cap that is currently underwater is made up of long-term holders who don't frequently sell at a loss. That is a large portion of the network's cost basis that is not up for grabs.

Achieved Cap HODL Waves at these levels have usually indicated the bottom of downturn markets.

BTC spot buys resulting from European turmoil

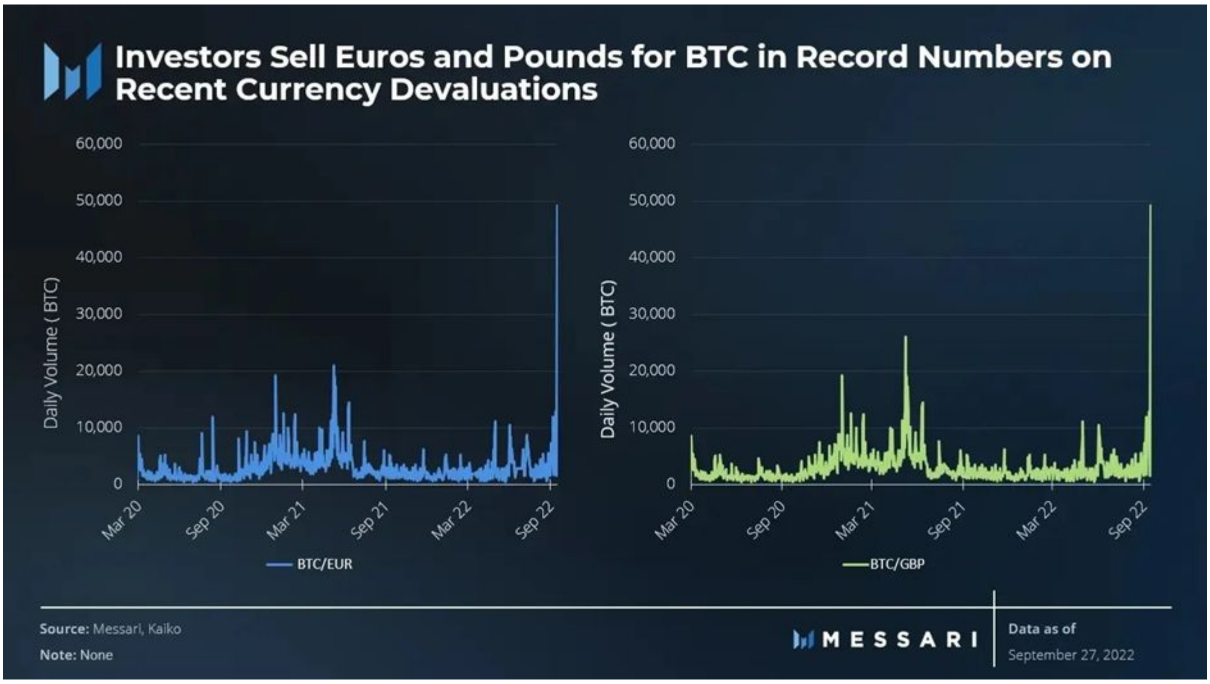


Figure 11. *BTC volume against euro and the pound. (source: Messari)*

The EU and UK are facing intense pressure at the currency and commodity level for a number of reasons. This is explored further in this week's learning section.

The Bitcoin-British pound (BTC/GBP) pair listed on Bitfinex and other exchanges, turned extremely active following sterling's collapse to a record low of 1.035 against the dollar. Trading volume on Bitfinex surged and was 12 times the usual daily volume on September 26 and surpassed 42 thousand Bitcoins. (link - https://bit.ly/3C6xXXA)

Concerns over the direction of economic policies in the UK and across Europe was seen as the main cause of the spike in Euros and GBP though the increase in trading volume is ultimately a matter of speculation. It may be due to exchange-rate volatility and traders selling pounds and euros to build a crypto stash.

Those who bought Bitcoin however, may not be planning to hold it for the long term. When facing a fiat currency slide, investors often snap up cryptocurrencies to move money overseas and buy dollarised assets while bypassing the traditional banking channel. However, this would bolster the argument that cryptocurrencies have found more use cases over the years that now appeals to an even broader spectrum of investors.

NEWS FROM THE CRYPTO-SPHERE

Russia plans to use digital rouble in settlements with China:

Figure 12. *Anatoly Aksakov, Chairman of State Duma Committee on Economic Policy (Source: Reuters)*

Russia is looking for alternative ways of carrying out transactions through a digital rouble, said Anatoly Aksakov, head of the finance committee in Russia's lower house of parliament, in an interview with Russia's parliamentary newspaper.

The central bank is already conducting digital rouble tests with banks, at a time when sanctions against Moscow over its actions in Ukraine have slashed Russia's access to global financial markets.

After launching a digital rouble early next year, Russia plans to use the currency in mutual settlements with China (which has already tested its digital yuan) as it seeks to reduce Washington's global financial dominance.

Interpol Issues Red Notice for Terra's Do Kwon:

Figure 13. *Do Kwon in Seoul in April (Source:Bloomberg)*

According to South Korean officials, Interpol requested law enforcement worldwide to locate and arrest Terraform Labs co-founder Do Kwon, who faces charges related to the $60 billion worth of value wiped out from cryptocurrencies he created.

Kwon moved from South Korea to Singapore earlier this year, where the now collapsed Terraform Labs project had a base. His location became unclear after Singapore authorities said last week that he was no longer in their country, adding that they would help South Korean authorities as much as possible.

South Korean prosecutors have said they issued an arrest warrant for Kwon because there was "circumstantial evidence of escape" ever since he left for Singapore.

Crypto Exchange FTX Wins Bankrupt Firm Voyager's Assets:

Figure 14. *FTX Wins Auction for Voyager's Digital Assets*

FTX US, the digital-asset exchange founded by billionaire Sam Bankman-Fried, won the auction for the assets of bankrupt crypto brokerage Voyager Digital Ltd.

The agreement is valued at about $1.4 billion, comprising an "additional consideration" worth about $111 million and the $1.3 billion market value of all the cryptocurrencies at the bankrupt platform, according to a statement from Voyager Digital on Monday in New York.

Customers will be able to transfer to the FTX US platform after the conclusion of the bankruptcy process, Voyager said, adding that the purchase agreement will be presented for approval in court on Oct. 19.

Robinhood debuts new non-custodial crypto wallet with Polygon to 10K beta users:

Figure 15. *Robinhood Releases Beta Version of Web3 Wallet to 10,000 uers (Source:CoinDesk)*

The new wallet accessing the Web3 world will be called "Robinhood Wallet" and will be non-custodial. This means that the investment platform will have no control over the funds deposited within it.

The Polygon-based wallet is opening its doors to the first 10,000 users who signed up for the testing period in May ahead of its public release.

During the beta phase, participants will be able to download the app and use the following features:

- Trade and swap crypto with no network fees
- Earn crypto rewards
- Safely store and track portfolios
- Connect to decentralised apps (dApps) to earn a yield

Connecting to the NFT world is not part of the beta but will be available after the public launch.

Celsius CEO resigns as the company struggles to pay back creditors:

Figure 16. *Alex Mashinsky, the founder and CEO of failed crypto lender Celsius, has resigned (Source:Businesswire)*

With the collapse of the crypto market earlier this year, Celsius cancelled client withdrawals and filed for bankruptcy, revealing massive disparities in the firm's balance sheet.

In his resignation statement, Mashinsky said, "I will continue to maintain my focus on working to help the community unite behind a plan that will provide the best outcome for all creditors – which is what I have been doing since the Company filed for bankruptcy."

CFO Chris Ferraro is stepping in as "Chief Restructuring Officer" and interim CEO as per a company announcement.

Walmart Dives into Metaverse With Launches in Roblox:

Figure 17. *The retail giant tweets its intent to sell goods in the metaverse*

Retail giant Walmart (WMT) is allowing consumers to experience the metaverse by launching two new experiences in the gaming platform Roblox. The move comes after Walmart filed seven trademarks at the end of December that signalled its plans to make and sell virtual goods in the metaverse.

According to a statement Monday, Walmart has created two experiences, one called Walmart Land and the other Walmart's Universe of Play. Walmart Land will include a virtual merchandise store, while Universe of Play contains various toy worlds and games.

BlackRock preps ETF targeting metaverse companies:

Figure 18 *BlackRock Plans Another Crypto ETF After Weak Debut of its First One (Source:Bloomberg)*

The world’s largest exchange-traded fund issuer is taking another step into cryptocurrencies by filing a new metaverse product, just months after launching a digital-assets fund that has so far failed to interest investors. The first digital assets ETF offered by BlackRock has only managed an inflow of $6 million.

BlackRock Inc. aims to track companies that have exposure to the metaverse via a new fund called “the iShares Future Metaverse Tech and Communications ETF”.

The fund, for which fees and a ticker weren’t yet listed, might include firms with products or services tied to virtual platforms, social media, gaming, digital assets, augmented reality and more.

Facebook and Instagram users in the U.S can now share Ethereum, Flow and Polygon NFTs:

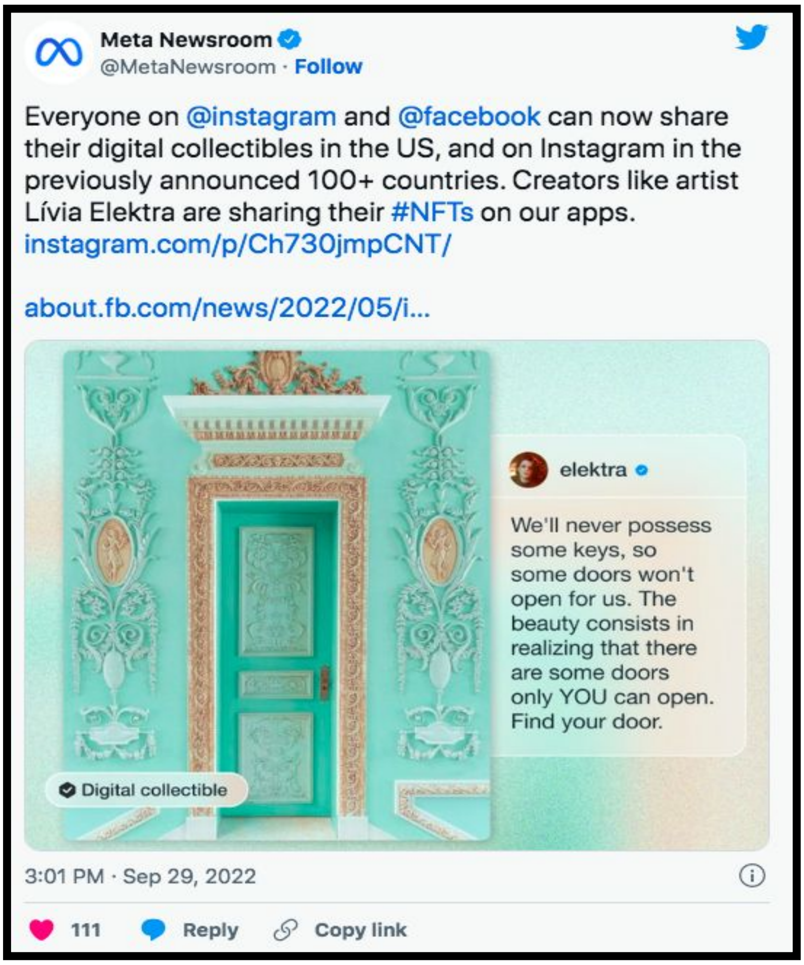


Figure 19. *Meta is letting all US users connect crypto wallet and display owned NFTS on either socia app (Source: Decrypt)*

Meta announced on Sept. 29 that NFT creators and collectors in the U.S can now connect their wallets to post the digital collectables they own across Facebook and Instagram.

We had previously reported the company's initial intention to roll out the NFT-social media synchronisation in August. (link - https://bit.ly/3do6wjr)

The feature currently supports collectables from the Ethereum, Flow, and Polygon blockchains, with Solana support also on the horizon. Facebook and Instagram support wallet connections MetaMask, Dapper Wallet, Coinbase Wallet, Rainbow, and Trust Wallet. The feature is available from the "digital collectables" tab in settings in both mobile apps.

LEARNING SECTION

Bond Buying: Why Bank of England Had to do it

The UK saw a record drop in the value of sterling last week, following the unveiling of a new government mini-budget which included a series of unfunded tax cuts. With investors taking fright over concern about the ability of the UK to manage its debt, given lower tax revenues from the tax cuts, as well as the future direction of the UK economy, the Bank of England announced a bond buying program to inject liquidity into the financial system. From September 28, it announced it would purchase long-term bonds until October 14 to “manage the material risk of financial instability in the economy.”

Why did it do this?

UK government bond yields (known as gilts) with 10-year maturity had surged beyond 4 percent, tripling from their low point of 1.3 percent at the beginning of the year. On Monday, the value of the sterling hit a new low against the dollar. Deutsche Bank reports that borrowing prices for 10-year government bonds in the United Kingdom had risen by the greatest in a span of five days since 1976 when the International Monetary Fund (IMF) bailed out Britain.

When bond yields rise, bond prices fall.

Figure 20. *UK Gilts 10-year Yield, percent. (Source: Investing.com, wolfstreet.com). Gilts are investment vehicles that hold British government bonds.*

Repricing had reached unprecedented levels, causing a widespread sell-off in government bonds that had hit the UK's long-term bonds particularly hard. Aggressive selling of longer-dated paper versus shorter-term bonds had triggered a rise in rates across the board. By buying bonds with extremely long maturities, it served to slow rate rises.

There was little choice

Apart from controlling inflation, the other key mandate of the Bank of England is to maintain financial stability. This means ensuring that consumers and earners don't have to worry about bank failures or the value of pensions not being paid out. When yields are too high, the tightened financial conditions make it more difficult to afford a mortgage. In the immediate aftermath of the spike in UK rates, several banks had withdrawn mortgage products. Pension funds were also selling collateral to ensure they could meet margin calls on asset-liability products (more on this below) which had aimed to keep pension funds in a liquid enough position to pay pensioners. Aside from the immediate dislocation in the UK financial markets, in a prolonged period of higher rates, the economy slows down, caused by the reduced availability of credit.

The Bank of England acted to prevent a severe economic downturn by ensuring that rising interest rates and quantitative tightening won't stifle economic development.

The chart below displays Gilt funds, collective investment entities that hold British government bonds. The GLTS is an investment vehicle that purchases bonds with a one to five-year maturity issued by the UK government. Although Gilts are often considered secure investments, the gilt fund has been falling this year.

Figure 21. *1-5 year Gilt and 15+ year Gilt Chart (Source: Tradingview)*

The government's mini-budget release (timeline illustrated on the chart by the blue line) accelerated an even more severe market decline. The most significant drop was in the price of GLTL, a long-duration fund that invests primarily in government bonds with a maturity of 15 years or more. Following the mini-budget, 15-year gilts dropped precipitously, reflecting fears of an economic environment where inflation is elevated and interest rates are expected to continue rising. This forced the Bank of England to buy long-term UK government bonds to keep them from dropping any lower.

Figure 22. *The Volatility of The UK Bond Market: 30-year Gilt in the past week*

The bond-buying raised the question of whether this action will increase the money supply, worsening inflation, however the purchases will be transitory and highly focused on long-term bonds.

Why Rapidly Rising Rates Alarmed the BOE

Higher bond yields were making servicing the government's debts more expensive. This was also being reflected in the value of sterling, which investors sold over concerns over the increasing cost of UK debt. This was creating a "feedback" loop, in which the weaker currency was leading to higher inflation, (due to the higher cost of imports), a higher bond yield, (due to the need to raise rates to curb inflation), and more government borrowing to fund rising costs.

Households would also suffer a big hit when bond yields rise, offsetting the relief from the tax cuts announced by British finance minister Kwasi Kwarteng in the mini-budget. Higher borrowing costs will also cause higher mortgage rates, a sharp drop in house prices and eventually prove to be a damaging blow for the broader economy.

But what really forced the Bank of England to step in was the crisis that was also emerging in the UK pensions market. The sharp rise in gilt yields meant pensions were in danger of not being able to service future pension payouts.

UK pension funds employ Liability Driven Investment (LDI) strategies to shield themselves from falling rates in the government bond market. This method backfired when yields rose, and funds using liability-driven investing were compelled to post increased collateral mainly by selling gilts, which in itself accelerated the fall in price.

Liability-driven investment strategies are commonly utilised by defined benefit pension plans, which guarantee retirees a fixed payout independent of market fluctuations.

Let’s take the example of a pension fund implementing an LDI strategy. All potential income, including Social Security benefits, is deducted from the yearly amount the pension fund needs to be able to pay a pensioner, helping determine the amount of money needed in a retirement portfolio.

The yearly withdrawals then become the liabilities the LDI strategy must focus on. A pension portfolio must invest in providing pensioners with the necessary cash flows to meet the yearly withdrawals, accounting for intermittent spending, inflation, and other incidental expenses that arise throughout the year.

The assurance of a predetermined payout becomes the liability for a pension fund, and the focus turns to the fund’s assets. Derivatives like interest swaps are frequently used by pension funds to allow them to hedge their bets if the market swings against them. The funds must put up some collateral for the trade to set them up. When yields fall, they profit; when yields rise, they usually face a margin call and must pay more to the counterparty since the bonds are worth less.

A rapid, massive change in government bond yields can jeopardise this strategy. Pension funds have liquid assets and cash to top up collateral when yields rise and usually take several days or weeks to complete payments. However, fund managers struggle to keep up when yields have increased dramatically. Many pension plans did not have enough extra cash to meet margin calls last week in the UK, so they resorted to gilts, mostly long-duration bonds. With so many people selling these gilts simultaneously to meet demand, yields rose, increasing the collateral payments they had to make.

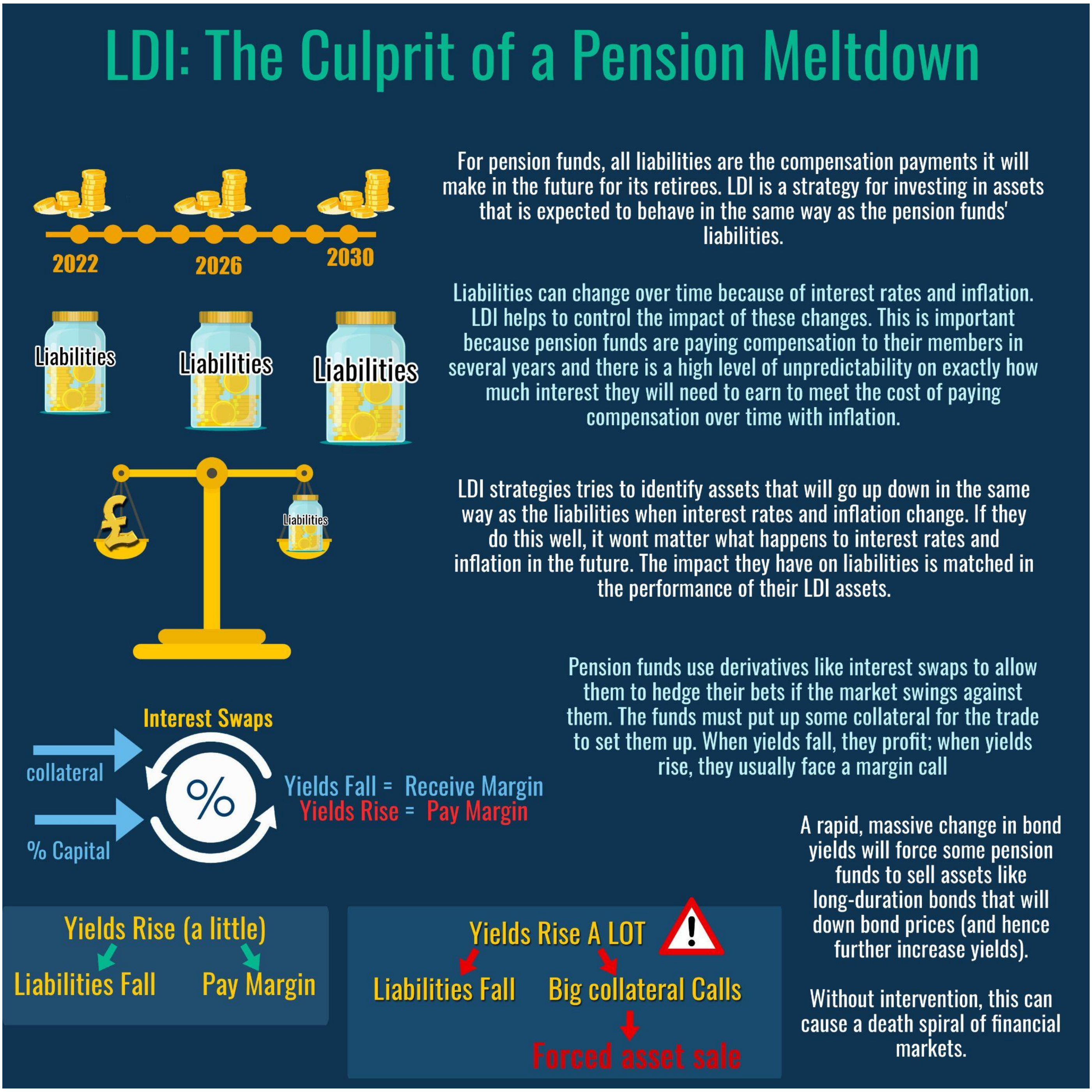
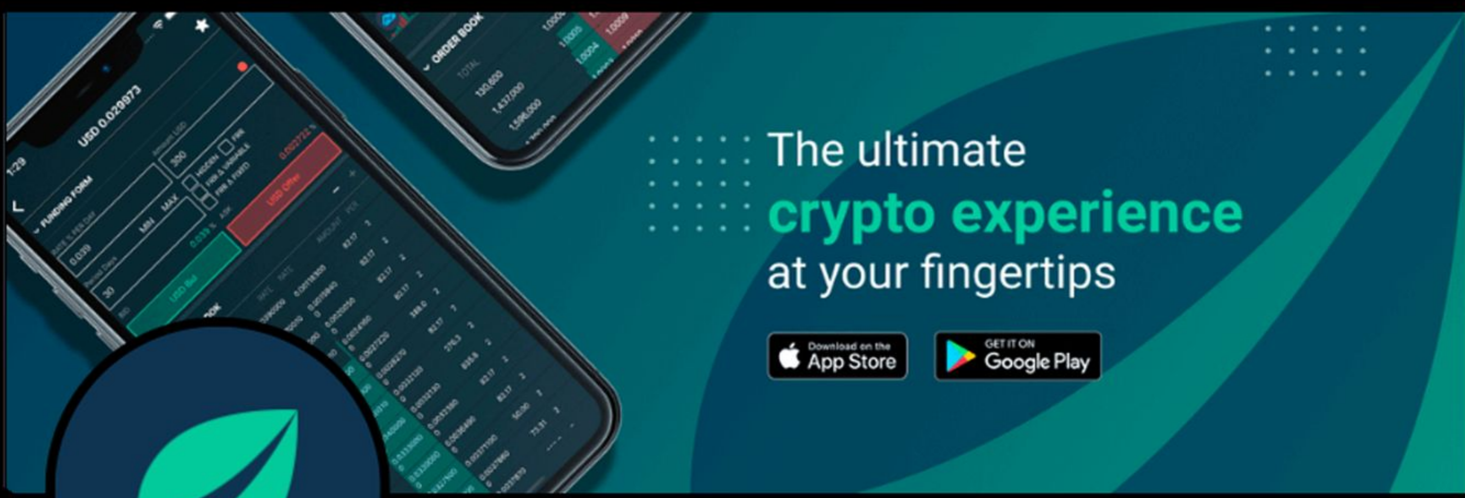


Figure 23. *LDI Strategy of UK Pension Funds*

If the Bank of England had not intervened, bonds and, by extension, the economy would have entered a death spiral. The action taken by the BOE has reduced the need for pension funds to liquidate assets such as real estate. When real estate is sold at unfavourable prices at a rapid pace, it might lead to more significant problems. These problems would extend beyond pension plans and affect the entire economy given the significant elderly population in the UK.

<u>Is this tightening and easing at the same time?</u>

The Bank of England is in an odd position of doing both. The situation brings us back to BOE's dual mandate: it needs to protect the economy's financial stability and control inflation. Hence, it is raising interest rates and simultaneously buying long-duration bonds. How this situation pans out in the long term is difficult to speculate on.



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