WisdomTree Market Outlook

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Contents

01 Macro Outlook — 04
Fasten your seatbelts, we could be in for a bumpy ride

02 Commodity Outlook — 09
Recession may be a red herring for a market fuelled by a supercycle

03 Equity Outlook — 18
Restrictive policy and geopolitical risks raise the odds of a global recession

04 Thematic Outlook — 27
The future is green and highly connected. And it starts now.

05 Crypto Outlook — 32
MiCA bill to finally bring clarity to European crypto regulation

Macro Outlook

Fasten your seatbelts, we could be in for a bumpy ride

01 US recession risk 05

02 Global recession risk 05

03 Europe's Gordian knot 05

04 China's policy inconsistency 05

05 Secular inflation 06

06 "Moderately restrictive" and "a long way to go" entails an unlikely Fed-pivot 07

07 US dollar appreciation to stay 07

08 Conclusion 08

US recession risk

The US is in a technical recession. Even if we have to wait for the National Bureau of Economic Research to confirm that the world's largest economy is in recession by its broader measures (which will only happen long after the event has passed), bond markets have cast their vote. Yield curve inversions have historically been one of the best predictors of recessions. The yield curve between the 2yr and 10yr strip is the most inverted since 2000. However, the jury is out. The Federal Reserve (Fed) has several models for judging recession risk using the yield curve as an input and they all point to different results[1]. At the recent Jackson Hole Symposium, Fed Chairman Powell, made it clear that recession risks would not deter the US central bank from its fight against inflation.

Global recession risk

The International Monetary Fund's (IMF's) recent World Economic Outlook is aptly titled "Gloomy and More Uncertain". We agree with that on both points. Their numbers don't actually signal a global recession, but they acknowledge that information embodied in asset prices points to a 15% risk of G7 countries heading into a recession (four times the usual level) and the reading for Germany is close to 25%.

Europe's Gordian knot

We believe that Europe could head into a recession by year-end. A model created by UBS using hard data points raised the probability of a recession in the Euro area to 96% in July (up from 52% in June and just 7% in May)[2]. While a US recession could be mild, structural concerns in Europe point to a deeper and more drawn-out contraction[3]. Europe is at the epicentre of the energy shock and its options to find alternative sources of energy are limited and fraught with infrastructure challenges. Infrastructure unfortunately takes time to build. With its energy transition goals in mind (that is, to reduce dependency on hydrocarbons that cause climate change), weaning off Russian oil and gas by investing in infrastructure to import more natural gas and oil from elsewhere would be myopic and wasteful. Instead, investment in renewable energy and securing the supply chain for green energy would be more in line with longer-term goals. However, there is a sizeable gap-risk. It seems almost inevitable that energy shortages will persist. That will simultaneously weigh on the economy and contribute to higher prices. Radical investment in renewable energy may be the only way to cut through the Gordian knot, but that will require a higher budget spending at a time of economic deceleration, rising debts and an already large commitment to infrastructure building in the Union's €2.02 trillion post-COVID recovery plan for Europe.

China's policy inconsistency

The government remains committed to a zero-covid policy. That means there will be continued closures of economic regions within China. Where and when these will happen is hard to predict, but they are inevitable. The economy is hamstrung as a result, but the People's Bank of China is busy easing policy with almost every lever at its disposal. That sets China's central bank in stark contrast with central banks in the western developed world. The government has also given the green light to an increased debt-funded infrastructure spend as the economy is weighed by the ongoing real-estate contraction.

China's 20th Party Congress is coming up (16 October 2022) and it is expected that President Xi Jinping will be selected for a highly unusual third term. That will cement the strongman politics that has defined the past decade in China for longer. As Xi lines the Politburo Standing Committee with his loyal generals, it is unlikely a move to greater global integration or adoption of capital markets is on the cards.

China's July Politburo meeting did not mention GDP targets. As with the Federal Reserve, European Central Bank, Bank of England and Swiss National Bank, the Chinese government's forward guidance is out of the window. With an inconsistent policy backdrop, 'hope for the best' seems to be the main defining feature of current strategy.

[1] Source: "Financial and Macroeconomic Indicators of Recession Risk", Federal Reserve, June 2022.

[2] Source: Eurozone recession probability spikes to 96% in July (from 52% in June), UBS, 25 August 2022.

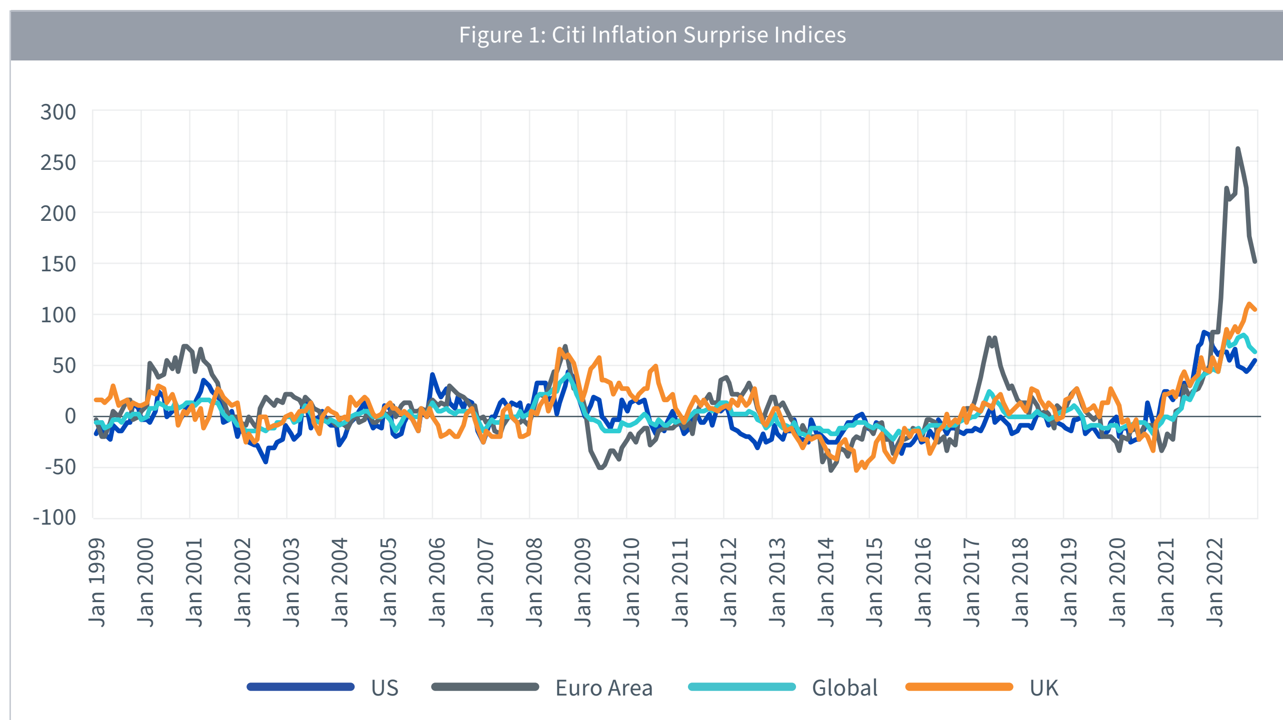
[3] See Navigating the shortening odds of a recession: Bear markets don't last as long as Bull markets.

Secular inflation

Central banks are likely to front-load policy tightening in the hope of quelling demand-driven price pressures (see Navigating the Uncharted Waters Between Growth and Inflation, September 2022).

For the past two years we have been arguing that inflation will be elevated. Consensus, meanwhile, has expected inflation to decline. Consensus has been consistently wrong. And so, inflation surprise indices have been elevated (Figure 1). We may be in a period of secular change, rendering inflation models calibrated on data from the past two decades less useful.

Figure 1: Citi Inflation Surprise Indices



Source: WisdomTree, Citi Group, Bloomberg, data from January 1999 to July 2022. They are defined as weighted historical standard deviations of inflation data surprises (actual releases vs Bloomberg survey median). A positive reading of the Inflation Surprise Index suggests that inflation releases have, on balance, been beating consensus. **Historical performance is not an indication of future performance and any investments may go down in value.**

For decades the world was a net beneficiary of an urbanising China that was integrating into the world economy, exporting the spoils of its cheap labour in finished goods. Today, China's desire to integrate into the world economy has waned. Its labour is no longer that cheap. Debt sustainability looks questionable in China, causing it to revise its "growth at all costs" strategy (although, at the moment, it is in stimulus mode). Environmental externalities of its production methods are (very slowly) being addressed, raising the costs of production. In other words, we cannot rely on China continuing to export disinflation.

Labour markets are getting tight everywhere. Approximately 7 million people left the labour market in the US post-COVID. They don't show up in unemployment statistics as they completely left. They have either retired, are in ill health or simply found other things to do with their time. Tight labour markets keep wages high and raise input costs.

Demographic aging is aggressive in Europe. Replacing retiring workers will continue to be a challenge and costly old age care will continue to tilt the consumption basket towards higher priced goods and services.

It's not just China that has retrenched from global integration. Europe, US and many parts of Asia are starting to look more inward. Part of the motivation is to reduce the complications in global supply chains. But there is increasing evidence of broader protectionist measures being implemented as policy makers, initially paralysed by the energy and food price shock, resort to populist measures. Examples include India's wheat export ban and Indonesia's nickel ore export ban. All the benefits of the Ricardian model of comparative advantage[4] may be set to reverse if we maintain the current course. In other words, a loss of production efficiency could raise costs across the world.

With the war continuing to rage in Ukraine, and other geopolitical risks brewing in the background, supply disruptions could be the new normal. At a minimum, that will contribute to consumption basket price volatility, if not outright increases.

"Moderately restrictive" and "a long way to go" entails an unlikely Fed-pivot

"… we've been saying we would move expeditiously to get to the range of neutral. And I think we've done that now … I think the committee broadly feels that we need to get policy to at least a moderately restrictive level." – Jerome Powell, Fed Chair[5]

"(the Fed) has a long way to go. We are still resolute and completely united." – Mary Daly, San Francisco Fed President[6]

The Fed's top focus remains curbing inflation, even if it comes at a cost to employment—the other side of the central bank's congressional mandate. Recent Fed speak solidifies the case for the Fed not wavering from its stance on combating high inflation. The biggest flaw with pricing in a Fed-pivot in the near term is the possible trajectory of inflation. Inflation on its own is unlikely to get the Fed to pivot but economic weakness and deteriorating labour markets, alongside financial instability, could cause a rethink.

US dollar appreciation to stay

Understanding the strength of the US dollar in 2022 is quite straightforward. It's predicated on higher inflation in lockstep with a more hawkish Fed. In addition, higher fiscal and political risks are priced into Sterling and the Euro, boosting the US dollar relative to those currencies. For the US dollar to weaken, the Fed would need to be more concerned with growth versus inflation. Powell's Jackson Hole comments revealed the Federal Reserve is determined to aggressively fight inflation regardless of economic fallout. It's difficult to say the US dollar will get stronger from here, as its already at a 20-year high. However, the sizeable interest rate differentials that remain between the US dollar and other major currencies will favour the US currency against G10 currencies.

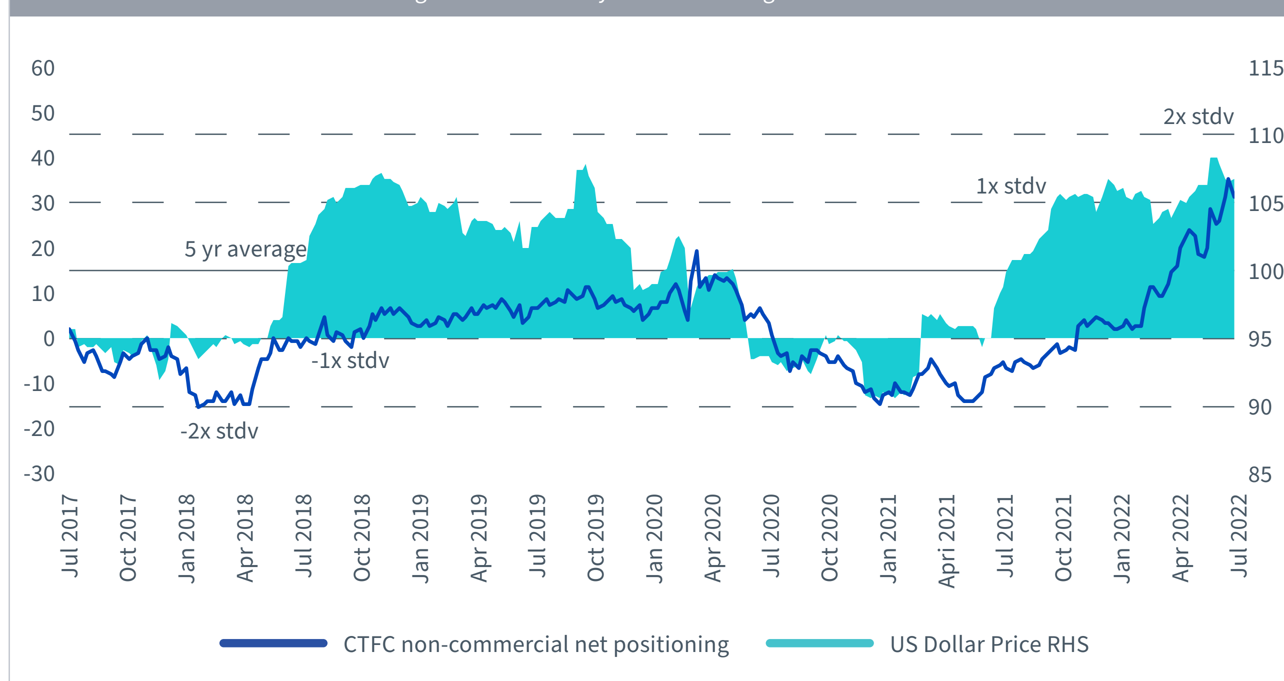
Data from the Commodity Futures and Trading Commissions (CFTC) indicate investors continue to buy the US dollar; however, the market does not look long and stretched as witnessed in prior US dollar rallies. Prior to the US dollar rally, the net speculative positioning was short the US dollar and that position subsequently got squeezed. Currently, the net speculative positioning is long the US dollar and underscores the bullish outlook towards the currency. Positioning is not a constraint for the US dollar.

[4]Source: On the Principles of Political Economy and Taxation, 1817. David Ricardo articulated how specialisation and trade can help lower costs and enhance welfare on both sides of the trade.

[5]Source: Wall Street Journal, transcript of Jerome Powell press conference, 27 July, 2022.

[6]Source: Reuters, "Fed's Daly: More to do on inflation; 2023 rate cuts not her 'modal' outlook," 2 Aug 2022.

Figure 2: Commodity Futures Trading Commission



Source: Commodity Futures Trading Commission, from 16 July 2017 to 16 August 2022. Please note: Stdv – Standard deviation is a measure of the amount of variation or dispersion of a set of values. **Historical performance is not an indication of future performance and any investments may go down in value.**

Although the US dollar is strong, it is consistent with fundamentals. The US economy recovered faster from the pandemic compared to the rest of the world. The US economy is overheating and the labour market is tight, which is why it is hard to argue that the US dollar has overshot fundamentals. In the current times of uncertainty, the US economy appears a safe haven and the strength of the US dollar is reflecting that investor trend.

Conclusion

Recession risks have risen. Length and amplitude are highly dependent on policy support (or lack thereof). Right now, most central banks are concerned with killing inflation. However, we may be in for a period of secular inflation. Energy price shocks are simultaneously destroying supply and demand for goods and services. Central banks may be in for a long battle and may not even have the tools to address it appropriately. Hopes of a Fed-pivot appear misplaced, and the US dollar may rally for longer if the Fed continues to raise rates faster than its peers. Against this downbeat backdrop, we believe there will still be many great investment opportunities. Our outlook highlights several areas we are excited about in the coming year and beyond.

Commodity Outlook

Recession may be a red herring for a market fuelled by a supercycle

01 Commodities: a cyclical asset class punctuated by market shocks 10

02 Energy price shocks raise prices of most commodities 11

03 Inventory levels low 11

04 Transition to new part of business cycle 12

05 Gold as a recessionary hedge 14

06 Dollar pathway 16

07 China pathway 16

08 Singing from different hymn sheets 17

09 Weather: unpredictable but likely to be volatile 17

10 Conclusion 17

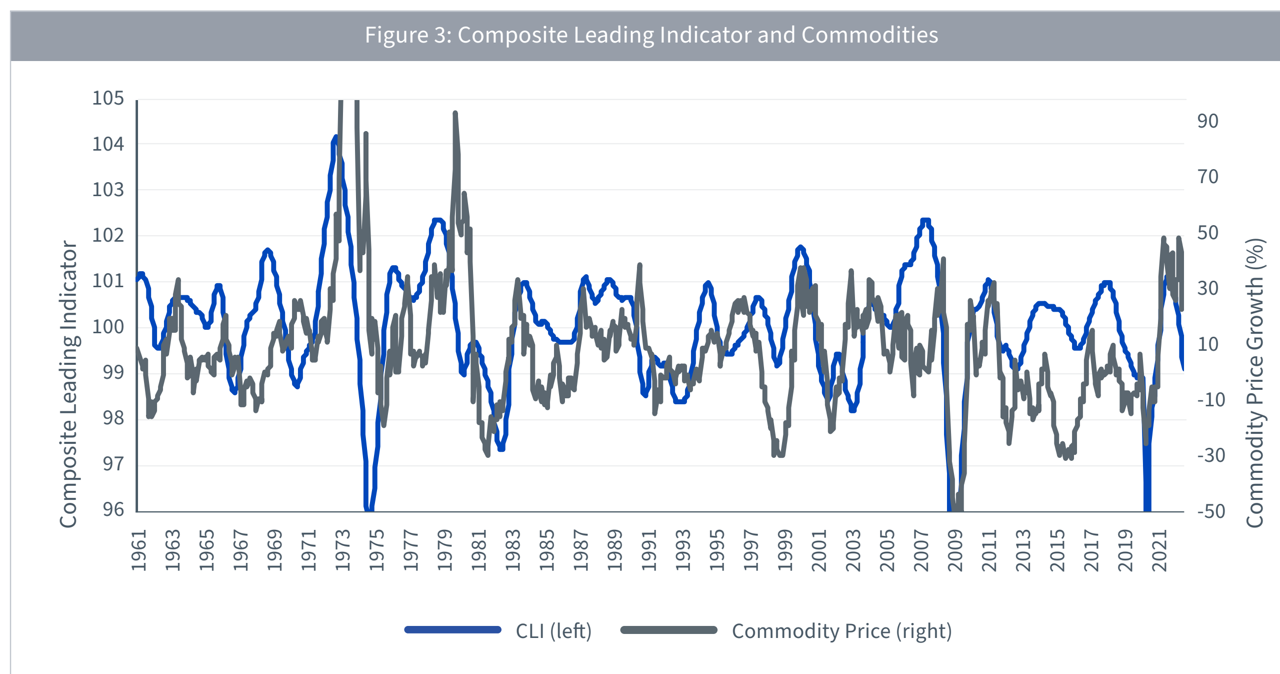
Last year, our commodity outlook was titled “Commodity Renaissance” where we pointed to structural drivers — including an energy transition and a revitalised global infrastructure spend — boosting commodity demand for the long term. In addition, we believed a period of elevated inflation should set commodities apart from other asset classes.

By end-February 2022, shortly after our semi-annual update, a war broke out in Ukraine. Commodity prices have been on a rollercoaster ride since, rising sharply at times but giving back gains as various risks materialised. Today, commodities are being dragged lower by recession risk fears and worries about China’s zero-covid policies. China, being the largest consumer of commodities, has an outsized impact on commodity prices. We still believe in the secular forces driving commodities higher over the medium term. The undercurrent of a supercycle will not be deterred by this current business cycle. However, commodity prices are likely to experience volatility and negative headwinds for the remainder of 2022. But that is the short term. Indeed, looking at the fundamentals, commodity markets appear to be in a position of strength. Without momentum on its side, commodity markets may struggle in coming months, but investors positioned for the medium to long term may find price dips a great bargain hunting opportunity.

Commodities: a cyclical asset class punctuated by market shocks

Historically, commodities have been a cyclical asset class, generally declining when the business cycle turns negative (Figure 3). But even history illustrates that commodity prices can continue to rise long after a business cycle has turned if fundamentals are supportive. Oil price shocks in the 1970s and 80s are a case in point. Admittedly they are unusual cycles but, today, we are likely to be living in another energy price shock. While natural gas prices may be marking new highs, oil prices have pared back in recent months. We question how sustainable this will be, if winter demand for energy spikes and Russian supplies fall further. Indeed, Saudi Arabia, the de facto hegemon of the Organization of the Petroleum Exporting Countries and partner countries (OPEC+), has voiced concern that market prices are misaligned with fundamentals. We read that as code language for an intervention and OPEC+ has already announced production cuts.

Figure 3: Composite Leading Indicator and Commodities



Source: WisdomTree, Bloomberg, OECD. June 1961 to July 2022. Commodity price based on Bloomberg Commodity Total Returns Index. The composite leading indicator (CLI) is designed to provide early signals of turning points in business cycles showing fluctuation of the economic activity around its long term potential level. CLIs show short-term economic movements in qualitative rather than quantitative terms. CLI is amplitude adjusted, Long-term average = 100. **Historical performance is not an indication of future performance and any investments may go down in value.**

Energy price shocks raise prices of most commodities

Most commodities are energy intensive to produce. Thus, an increase in energy prices drives production costs higher. Production costs may either be passed on to consumers or, as we are witnessing right now, producers will reduce uneconomic production. Many base metal smelters have shuttered their production. Fertilizer production has been significantly reduced. Supply is contracting fast, countering the demand destruction from recession. Prices of metals and agricultural products unfortunately do not reflect this reality.

Weak prices will contribute to producer reticence in capital investment, leaving production woefully unprepared for the demand increase that will inevitably occur once the business turns. The energy transition and infrastructure renaissance are supported by long-term government commitments.

Inventory levels low

Looking across the commodity spectrum, all commodities have lower-than-normal levels of inventory. We are thus entering the recession with tight markets. Inventory in industrial metals (summing across all the major exchanges) stands out as extraordinarily low. Keeping in mind our concerns about capital investment being very low, we struggle to see how supply for the ongoing energy transition will be met.

Figure 4: Inventory compared to past

Energy	Current inventory relative to 5-year history	YTD performance
Oil - US	-4.5%	26%
Oil - OECD Europe	-5.9%	30%
Natural Gas – US	-9.7%	149%
Gasoline – US	-2.5%	26%
Heating Oil - US	-20.3%	76%
Industrial Metals		
Aluminium	-69.8%	-13%
Copper	-44.9%	-17%
Nickel - LME	-71.8%	3%
Zinc	-30.1%	-1%
Lead	-19.7%	-15%
Tin	-16.4%	-15%
Agriculture		
Wheat	-6.8%	11.3%
Corn	-0.4%	13%
Soybeans	-1.1%	17%
Sugar	-1.2%	-5%
Cotton	-1.7%	4%
Coffee	-4.9%	7%
Soybean Oil	-0.5%	21%

Source: WisdomTree, Bloomberg. Data as of August 2022. Agricultural inventories as reported by United States Department of Agriculture (USDA). US Energy inventories as reported by United States Department of Energy. Industrial metals inventory refers to exchange inventory summing stocks reported by the London Metals Exchange, Shanghai Futures Exchange and Chicago Mercantile Exchange. Price performance using the first generic futures contracts of commodities in the Bloomberg Commodity Index. **Historical performance is not an indication of future performance and any investments may go down in value.**

Transition to new part of business cycle

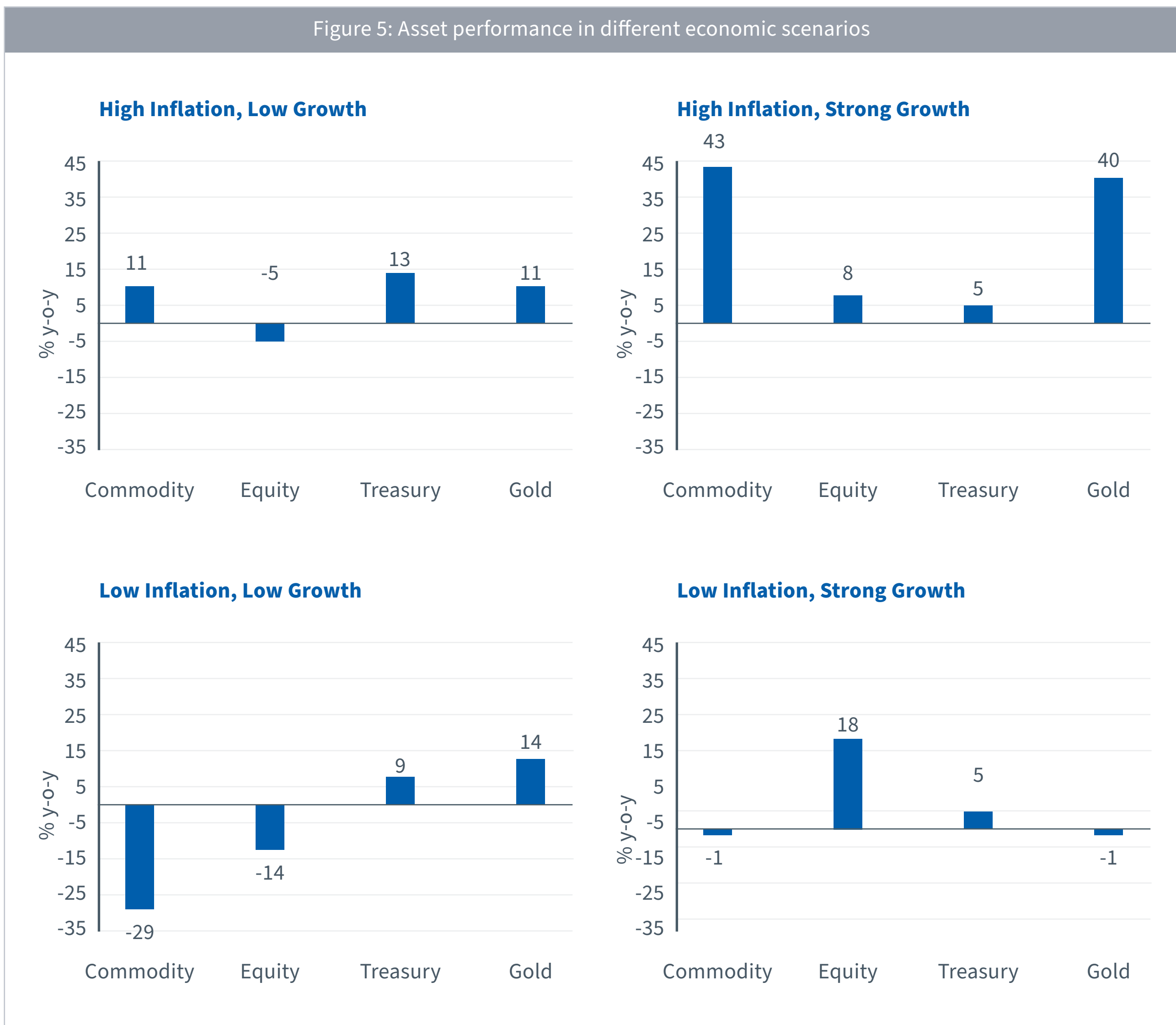
As we discussed in the macro section, we are likely to be in a period of secular inflation. Inflation is unlikely to tame to sub-2% levels in the near future. At the same time, economic growth has slowed and will continue to decelerate. In short, we are likely to have left the high inflation/high growth phase of the business cycle to something that looks like a high inflation/low growth phase. We believe that central banks will ultimately fail to bring inflation back to target levels as their policy tools are inappropriate. After all, central banks cannot plant crops or unlock new energy resources. Food and energy are big drivers of headline inflation right now.

The high growth/high inflation period we just left was the ultimate goldilocks period, with a historic 43% return for broad commodities and 40% return for gold (see Figure 5). If we leave a period of high growth, but are left with inflation still above 3.5%, that doesn't paint a disastrous scenario for commodities or gold. Bloomberg's survey of professional economists, points to a median inflation expectation of 4.0% in Q2 2023 (with only 8/44 expecting a reading below 3.5%) and a median of 3.1% by Q3 2023[7]. That is a significant period of high inflation, even using consensus (which has been consistently underestimating inflation for the past 18 months). On average, periods of inflation above 3.5% combined with low growth have been associated with positive 11% growth for both commodities and gold. That is far stronger than the returns historically found in equities in this phase of the business cycle.

If we are wrong, and inflation is pulled down significantly (that is, below 1.5%) and growth is disappointing, then gold is likely to be a standout winner (low inflation/low growth).

[7] Source: Bloomberg Survey of professional economists, August 2022.

Figure 5: Asset performance in different economic scenarios



Source: WisdomTree, Bloomberg. From June 1961 to June 2022. Inflation based on US Consumer Price Index data. Growth based on the OECD composite leading indicator (CLI) which is designed to provide early signals of turning points in business cycles, showing fluctuation of the economic activity around its long-term potential level. CLIs show short-term economic movements in qualitative rather than quantitative terms. CLI is amplitude adjusted, Long-term average = 100. Asset price calculations are based on yearly returns in USD. Broad commodities (Bloomberg commodity total return index) and US equities (S&P 500 gross total return index) data started in June 1961. US treasuries (Bloomberg US treasury total return unhedged USD index) and Gold (physical gold) data started in 1968. High inflation is when CPI inflation is above 3.5%. Low inflation is when CPI is below 1.5%. High growth is when CLI is above 101.4 for high inflation scenarios and 100 for low inflation scenarios (CLI threshold is lowered for the latter because of the small number of observations with inflation below 1.5 and CLI above 101.4). Low Growth is when CLI is below 98.6. **Historical performance is not an indication of future performance and any investments may go down in value.**

Gold as a recessionary hedge

Gold stands out as an asset that performs well in recessionary scenarios (Figure 6). As recessionary risks rise, we expect gold to outperform most other asset classes.

Figure 6a: Average monthly performance depending on CLI

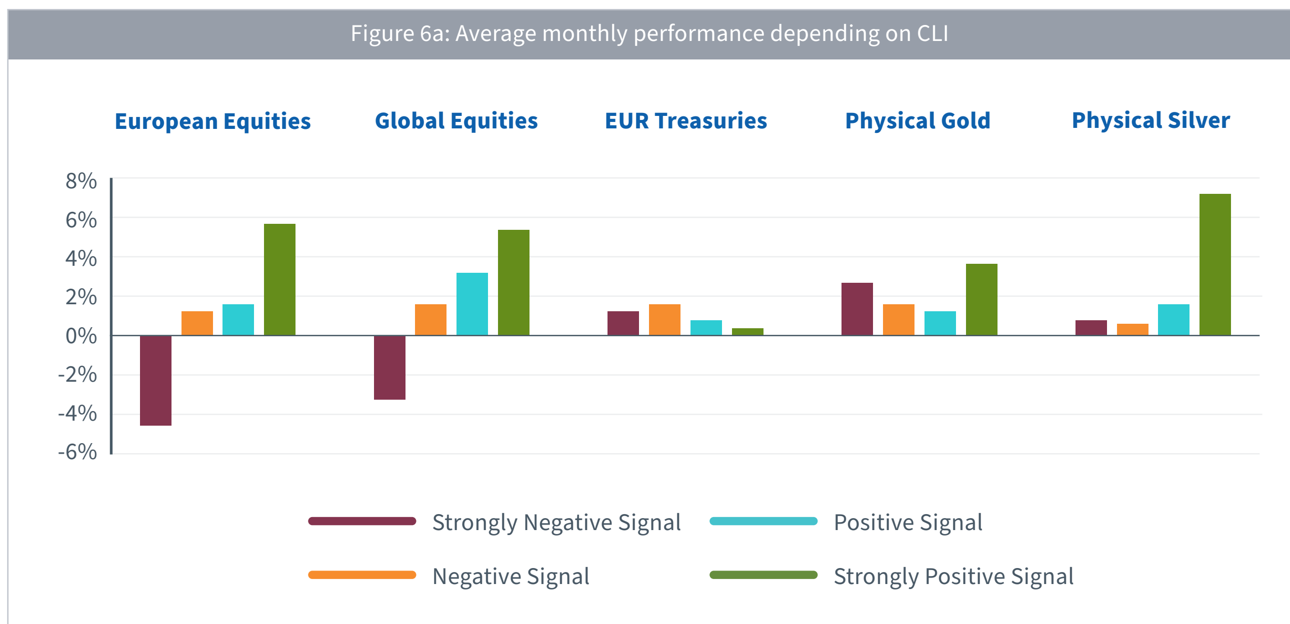
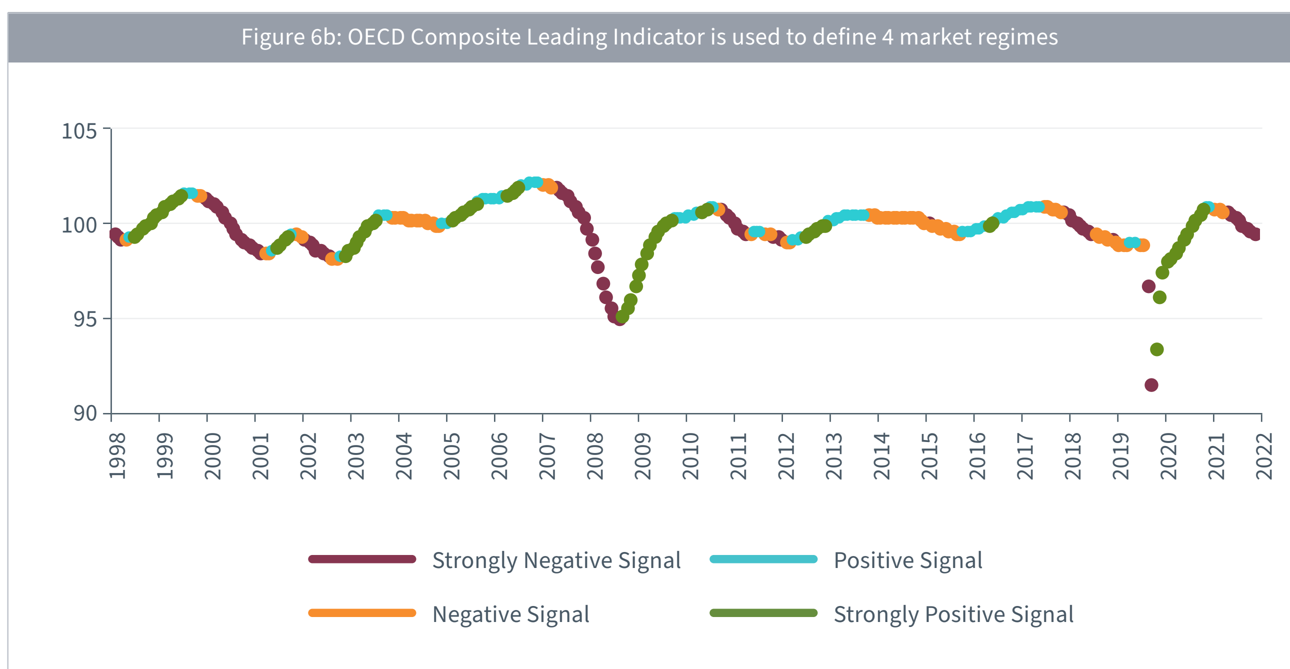


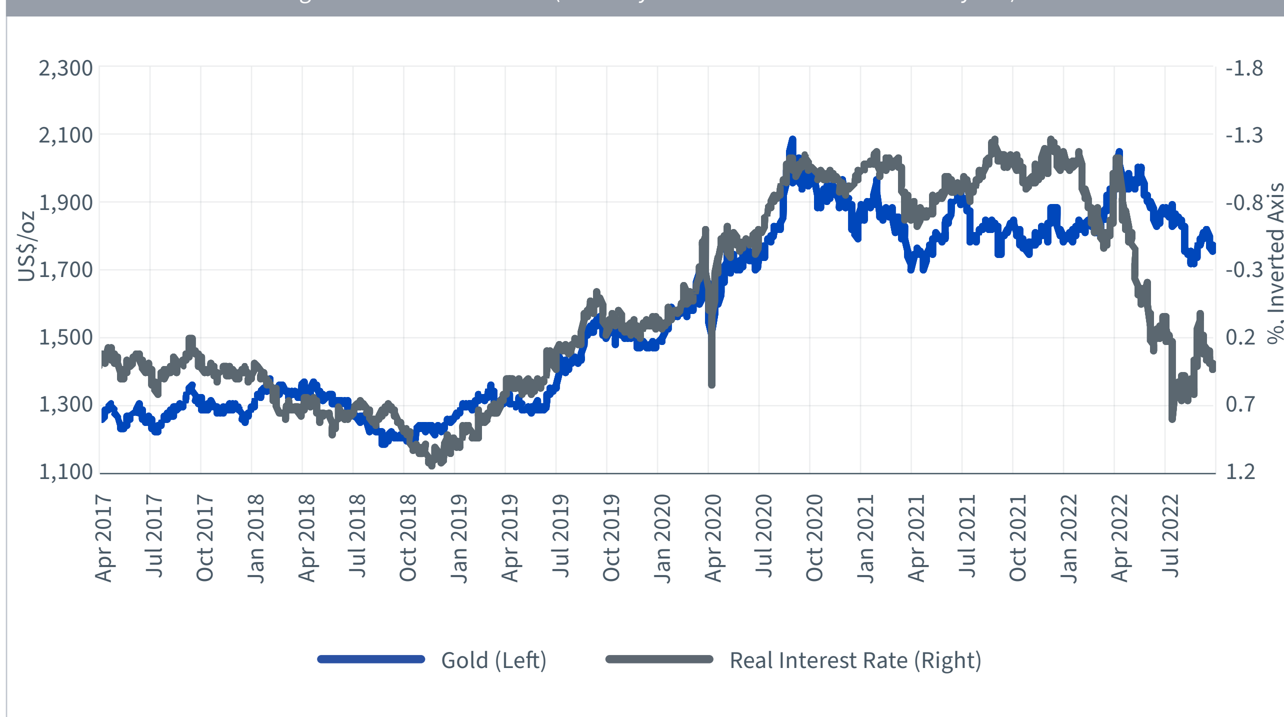
Figure 6b: OECD Composite Leading Indicator is used to define 4 market regimes



Source: WisdomTree, Bloomberg. Period July 1998 to June 2022. OECD is Organization for Economic Cooperation and Development. Calculations are based on monthly returns in USD. **Historical performance is not an indication of future performance and any investments may go down in value.**

Gold is facing headwinds from a strong US dollar and a bond sell-off. Despite that, it is holding value better than expected. Gold is currently higher than where real bond yields would indicate they should be (Figure 7).

Figure 7: Gold vs real rates (Treasury Inflation-Protected Securities yield)



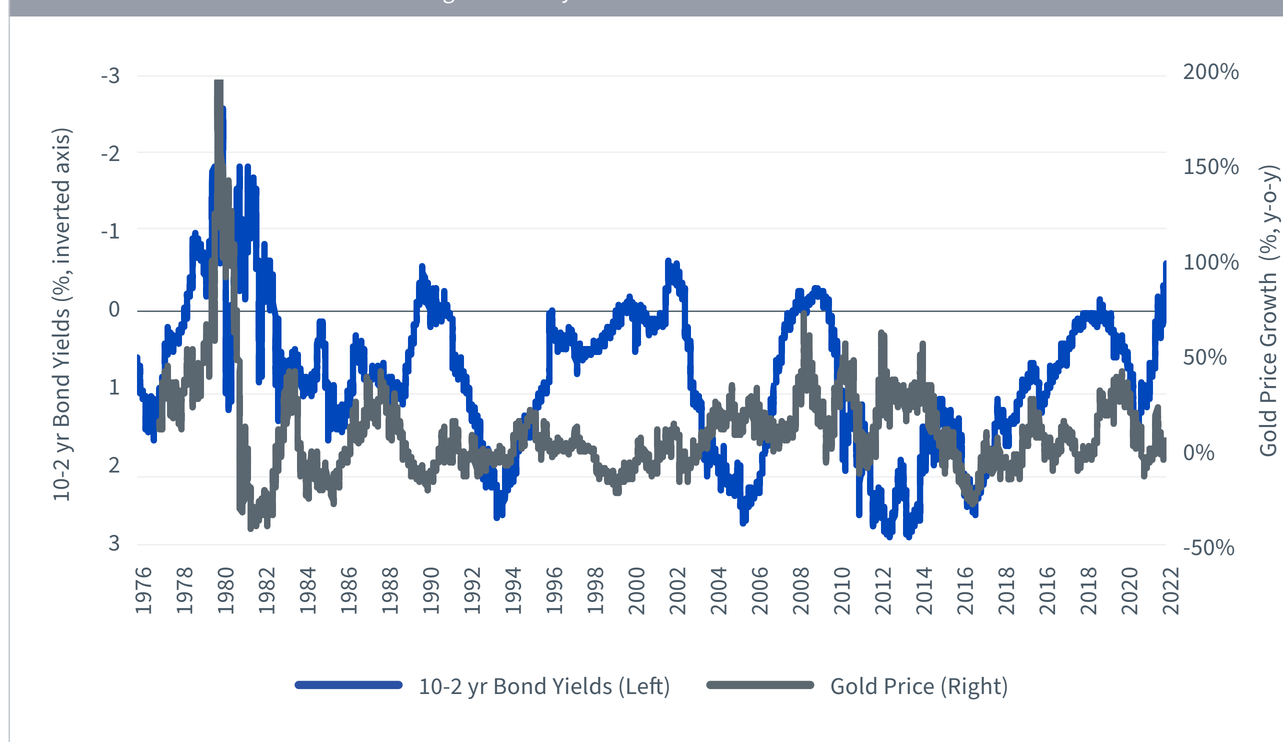
Source: Bloomberg, WisdomTree. April 2017 to August 2022. **Historical performance is not an indication of future performance and any investments may go down in value.**

As discussed in the macro section, the US bond yield has inverted, which is consistent with an upcoming recession. Bear flattening inversions have been good for gold in the past (Figure 8). Prominent examples are as follows:

+ between August 1978 and July 1982, curve inversion was gold price positive (with a cumulative nominal return of 66%)
+ between June 2006 and June 2007, curve inversion was gold price positive (with a cumulative nominal return of 10%)

Today, we are in one of the strongest bear-flattening inversions we have seen since 1981. That points to a source of strength for gold we have not seen in decades.

Figure 8: 10-2yr US Govt Bond Yields vs. Gold



Source: WisdomTree, Bloomberg. Period: June 1976 to August 2022. We define yield curve inversion as the 10-2yr US Government Bond Yield being negative. When the 2yr is rising faster than the 10yr we define it as a bear flattening. When 10yr is falling faster than 2yr we define it as a bull flattening. 10-2yr yield on 1 April 2022 was -0.074%. **Historical performance is not an indication of future performance and any investments may go down in value.**

Dollar pathway

Gold is not the only commodity that has suffered from US dollar headwinds. It is far from guaranteed these headwinds will abate, especially if the 'Fed-pivot' that many expect doesn't happen.

Commodities as a group could suffer in US dollar terms, but European investors holding positions unhedged could benefit from US dollar appreciation.

China pathway

China's rigid zero-covid policy has been unhelpful for its economy. Moreover, we don't expect China to abandon its policy (although it may soften it around the edges). That presents a risk to commodity demand falling, after all China is the largest consumer of commodities. However, set against this risk is China stepping up a gear in policy support. While western central banks are tightening policy, the People's Bank of China (PBoC) is easing policy. Furthermore, the central government has given strict instructions to local governments to invest in infrastructure[8]. Although past rhetoric indicated that China was targeting stable growth without resorting to distortionary stimuli, that policy course seems to have been abandoned for growth at all costs (at least for now). Over the longer term China's failure to deliver on environmental promises may come back to bite but delivering economic stability could afford the government the political stability it needs. In the short term commodities could be a beneficiary.

[8] See What's hot: Which party will industrial metals attend?

Singing from different hymn sheets

While western central banks are tightening policy to drive inflation lower, many governments are faced with an energy shock that they need to be seen to be dealing with or risk losing voter support. Many governments have lurched to fiscal support (offering financial aid to customers), subsidising energy prices, and charging windfall taxes on energy companies. The first two do not help reduce demand for energy and will likely boost demand, exacerbating the tightness. The third strategy is likely to deter any meaningful investment by energy companies, sowing the seeds for further tightness. Central banks may have to double-down their efforts to curb inflation as a result, and this vicious cycle of policy incongruence is likely to have very few winners (except rising energy prices maybe).

Weather: unpredictable but likely to be volatile

Agricultural produce from Russia and Ukraine is noticeably absent from international trade despite the UN-brokered deal signed by Russia to allow the safe passage of produce out of Ukraine. Drought is currently ravaging Europe, vast parts of China and the Americas. Added to that we are currently in the third back-to-back La Nina weather pattern. The disruption to trade winds caused by La Nina, depending on amplitude and length, can create havoc with normal weather pattens, in turn disrupting normal growing conditions.

Changes to weather patterns may also drive energy demand surges. As discussed earlier, the global energy balance is very tight, reducing capacity to deal with shocks.

Conclusion

As a headline, economies going into recession doesn't inspire huge confidence in a commodity rebound. However, history does suggest that an economic slowdown combined with high inflation has been associated with positive commodity and gold performance. The energy price shock has set off a vicious circle of supply contraction from metals, fertilizer, and other energy intensive commodities. The energy transition and infrastructure led supercycle remains in play even if short-term business cycle phenomena dictate headlines today. As we emerge from this phase of the business cycle, we may find commodity markets extraordinarily tight.

Equity Outlook

Restrictive policy and geopolitical risks raise the odds of a global recession

01 National security is inflationary 19

02 Politics is driving economics, not the other way around 20

03 China needs to get its house in order 20

04 US is in the early innings of a recession 22

05 Europe’s recovery has been derailed by the energy crisis 24

06 Conclusion 26

What a difference a year makes. 2022 saw the 'reopening' of markets from the COVID pandemic evolve into a 'recession'. Margaret Thatcher put it succinctly on 27 February 1981 – "The lesson is clear. Inflation devalues us all".

Monetary policy has been on the most pronounced tightening campaign in decades as inflation progressed from being transitory to potentially permanent due to the energy crisis. Across a panel of 33 major central banks, 20 of them hiked rates in May and June, and 17 hiked rates in July. 2022 was also the year in which geopolitical risks came to the fore.

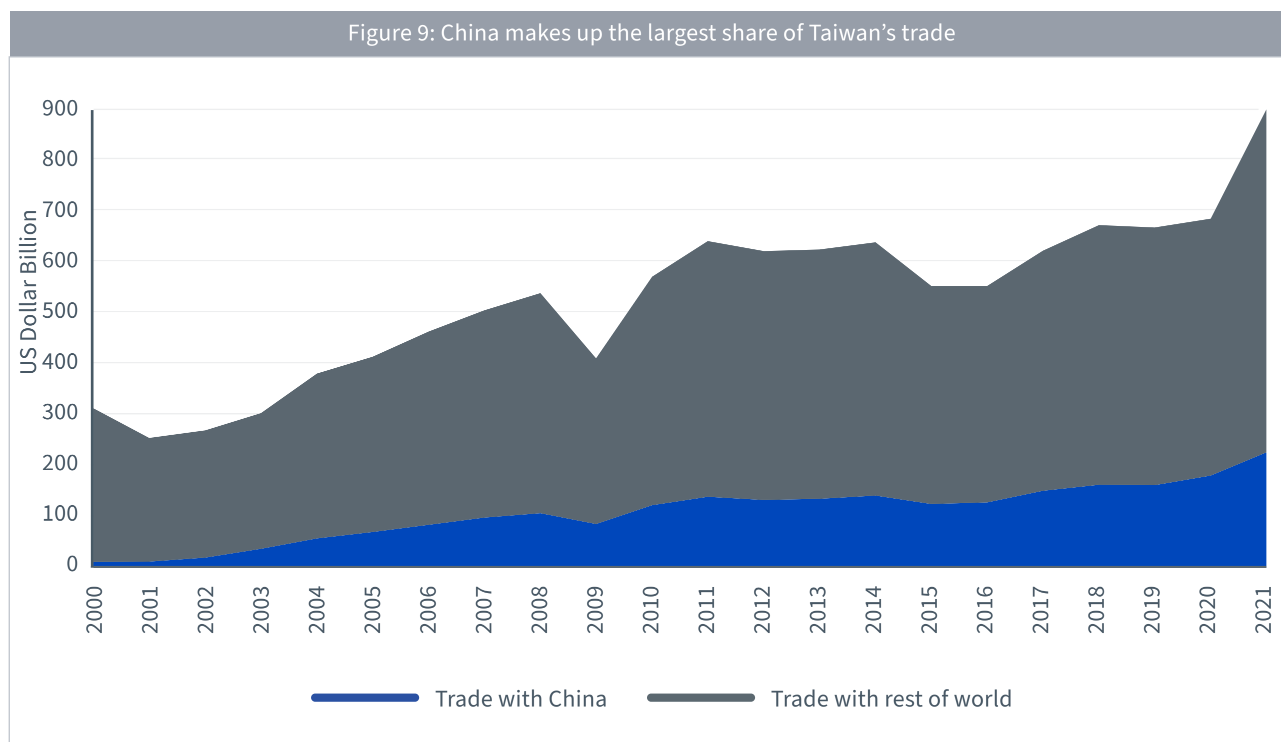
National security is inflationary

We are in the midst of a war in Europe owing to the brutal battle being waged by Russia in Ukraine. While the war is centred in Ukraine, the reality is we are all paying the price of this war by allowing it to continue. People across the globe are faced with soaring energy bills, and higher food prices exacerbated by the war in Ukraine. There is another war brewing in the background that we must not fail to not ignore. The United States' deepening ties with Taiwan is aggravating China.

Don't get me wrong, US-China trade remains buoyant as the US's total trade with China is almost back to pre-trade war levels. The US and China have also reached a landmark audit inspection deal that would allow US regulators access to audits of Chinese companies that are listed on US exchanges. This would help avoid de-listing nearly 200 US-listed Chinese companies off American stock exchanges in early 2024.

But the Taiwan issue remains sticky. Taiwan's role in the world economy largely existed below the radar, until it came to prominence as the semiconductor supply chain was impacted by disruptions to Taiwanese chip manufacturing. Companies in Taiwan were responsible for more than 60 percent of revenue generated by the world's semiconductor contract manufacturers in 2020[9]. Tensions between Taiwan and China could have a big impact on global semiconductor supply chains. The United States' dependence on Taiwanese chip firms heightens its motivation to defend Taiwan from a Chinese attack. The desire for control of technologies, commodities, and straits is paving the way for economic wars ahead.

Figure 9: China makes up the largest share of Taiwan's trade



Source: Taiwan Ministry of Finance as of 31 December 2021. **Historical performance is not an indication of future performance and any investments may go down in value.**

[9] Source: Taiwan Ministry of Finance.

To many Chinese people, Taiwan represents something far more important than mere territory. It is the final piece in China's attempt to overcome the legacy of its "century of humiliation" spanning the 19th and early 20th centuries when it was colonised and divided by outside powers[10]. Beijing asserts that there is only "one China", and that Taiwan is part of it. National Foreign Minister Wang Yi was quoted saying that Beijing would leave no room for Taipei's pro-independence forces to act. He emphasised that the reunification of China with Taiwan is a historical inevitability and attempts to use the island to contain China are doomed to failure[11]. The Chinese Foreign Ministry published the country's unequivocal position on Pelosi's visit as a major political provocation and a serious violation of China's sovereignty and territorial integrity[12]. Addressing the participants in the Moscow International Conference on Security on 16 August 2022, President Vladimir Putin outlined, "The US escapade towards Taiwan is not just a voyage by an irresponsible politician, but part of the purpose-oriented and deliberate US strategy designed to destabilise the situation and sow chaos in the region and the world."

Politics is driving economics, not the other way around

In the pre-war global economy, globalisation was an important source of low inflation. A large amount of global savings had nowhere to be deployed rendering interest rates lower on a global basis. However, post-war, global defence spending has risen to a level not seen in decades as national security consumes government's agendas. There will be vast opportunity costs involved, tied to the increase in world military spending. We expect the rate of globalisation to take a back seat as Europe would never want to be as dependent on Russian energy as it is today. In a similar vein the US does not want to fall privy to the same mistake Europe made and will aim to strengthen ties with Taiwan in order to ensure the smooth flow of chips.

China needs to get its house in order

Clearly Washington has embarked on the path of a new political confrontation with the People's Republic of China. China's growing military capabilities and assertiveness, coupled with deterioration in cross strait relations, could spark a conflict. The deceleration of domestic growth will delay the likelihood and timing of a direct confrontation with the US.

The economic headwinds that China faces are multifaceted. Unfortunately, the easing from China in H1 2022 has been insufficient to arrest the extent of the slowdown. Of late, China's State Council stepped up its economic stimulus further by announcing a 19-point stimulus package worth $146 billion (under 1% of GDP) to boost economic growth[13].

The property markets continue to deteriorate. The problem stems from a lack of financing among many developers that are needed for construction of their residential projects. All of this came about from the central government's decision in 2020 to introduce the 'three red lines' policy to rein in excessive borrowing in the real estate sector. Vulnerable property developers are struggling to secure capital to sustain their businesses. Alongside this, demand for housing has deteriorated due to intermittent COVID lockdowns, weakening economy and doubts over developers' ability to deliver completed housing units.

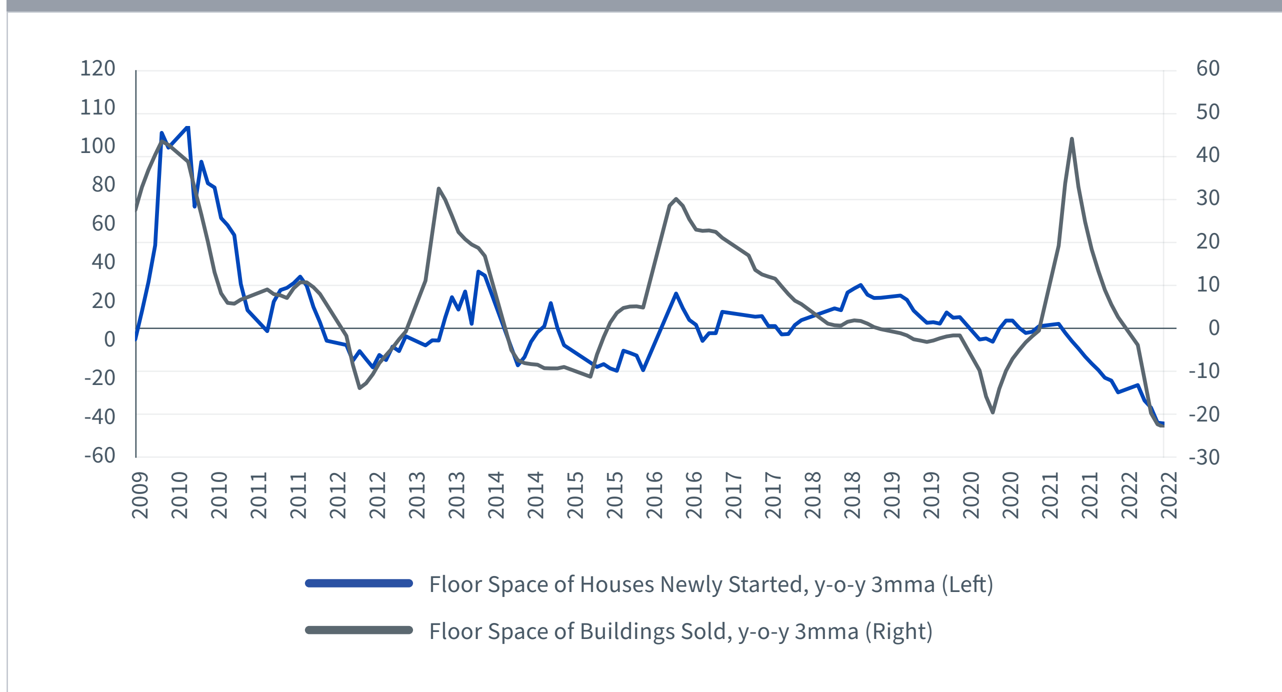
[10] Source: Why does the United States care about Taiwan? – Peterson Institute for International Relations.

[11] Source: China's Xinhua News Agency.

[12] Source: Chinese Foreign Ministry.

[13] Bloomberg as of 25 August 2022.

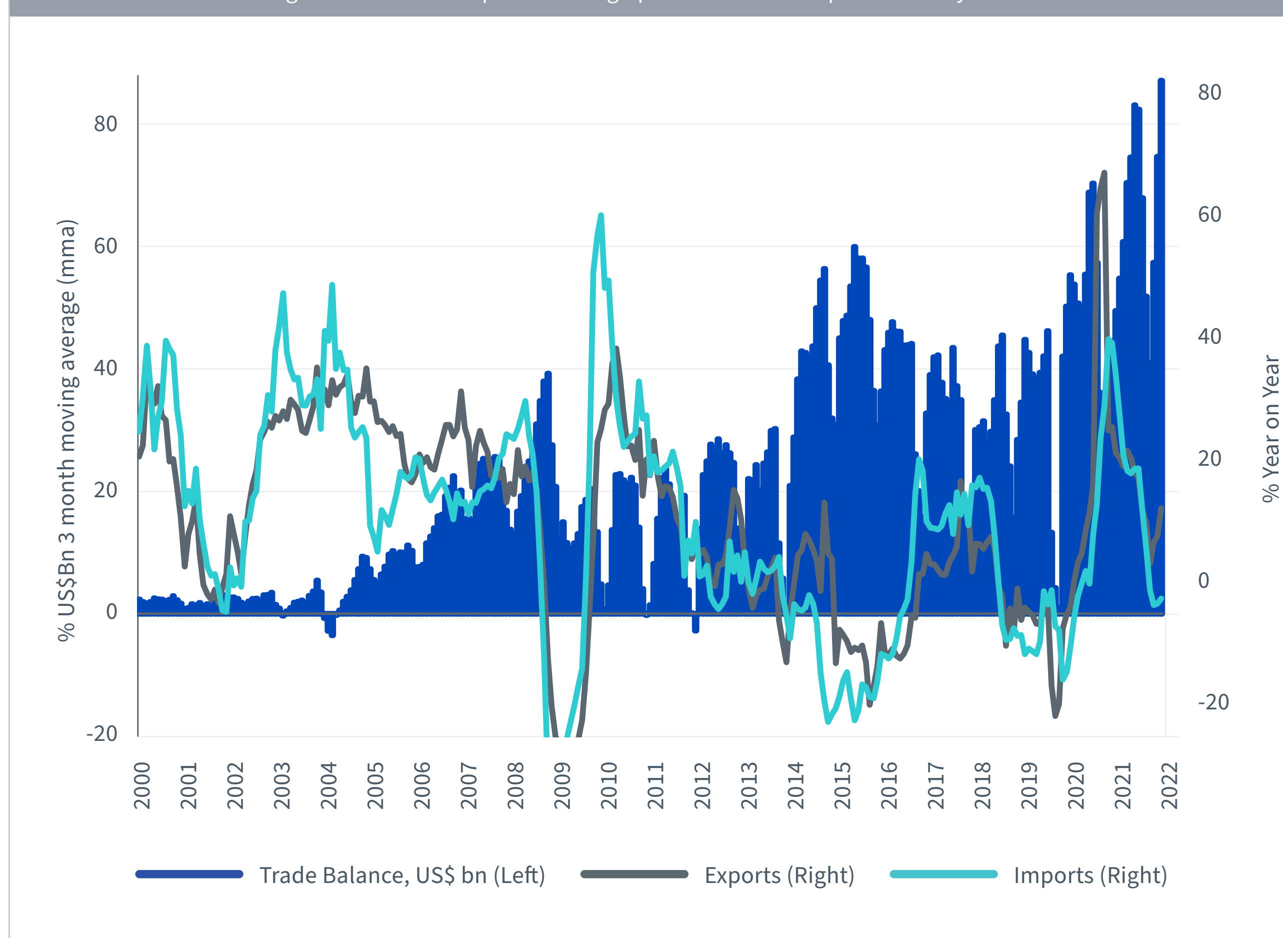
Figure 10: China property construction begins to turn



Source: Bloomberg, WisdomTree as of 31 July 2022. **Historical performance is not an indication of future performance and any investments may go down in value.**

However, the weakness in China's economy extends beyond the property sector with rising unemployment and energy shortages. Just like the Rhine in Germany, the Chinese Yangtze, Po and other rivers experienced the lowest water levels in decades. Hydropower generation is at risk, along with lithium production. China has been exposed to supply shortages of strategically imported goods. Chinese earnings growth since Q3 2019 has lagged behind the rest of the world. China has also suffered significant capital outflows owing to its adherence to zero-covid policies. This has set back its rebalancing towards a consumption driven economy rendering China to remain more addicted to export-led growth. However, export demand could also weaken into Q1 2023 as the rest of the world slows.

Figure 11: Chinese exports holding up well so far but expect volatility ahead



Source: Bloomberg, WisdomTree as of 29 August 2022. **Historical performance is not an indication of future performance and any investments may go down in value.**

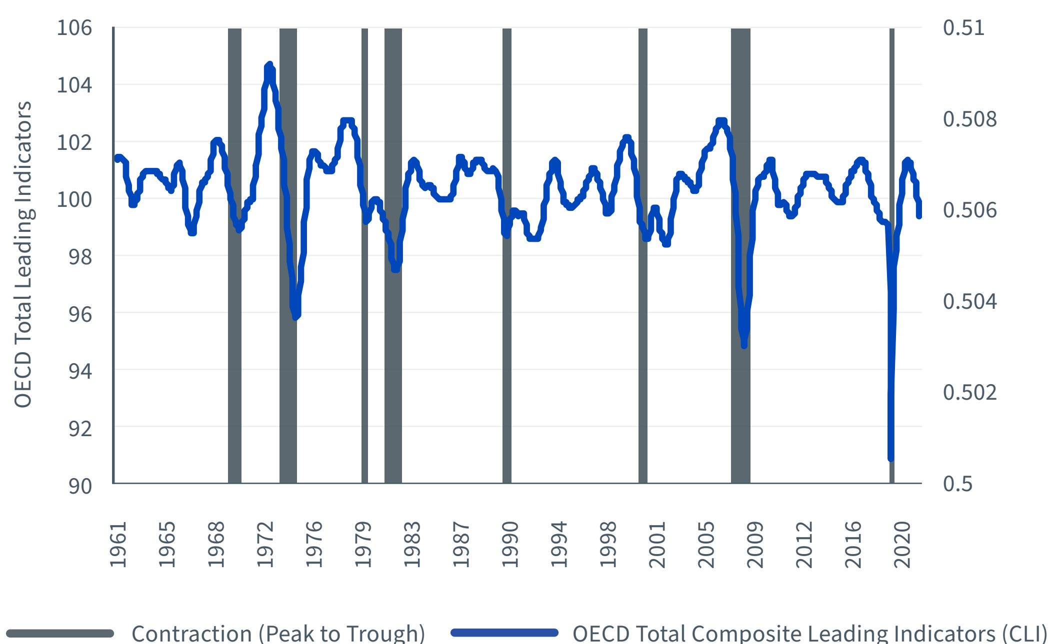
The Chinese Communist Party (CCP) is preparing to convene its 20th Party Congress in late 2022. Maintaining stability will be the top priority for President Xi Jinping. Common prosperity and fighting against corruption, poverty and pollution will be key elements for restoring stability. Despite a number of factors favouring an allocation to Chinese equities (such as accommodative monetary policy, investors underweight Chinese equities, and attractive valuations) we remain cautious on Chinese equities.

US is in the early innings of a recession

The US economy appears a safe haven amidst the ongoing energy crisis as it is less exposed to the vagaries of Russian oil supply. It also recovered faster from the pandemic compared to the rest of the world. The labour market remains strong as jobs continue to be added and wages accelerate. Consumption has continued to grow, albeit more slowly, and unemployment remains at a five-decade low. Gross Domestic Income increased 1.8% in Q1 and 1.4% in Q2 marking a sustained expansion that is in line with the robust job growth in H1 2022[14]. There are mounting signs of slowing too, especially in the housing sector owing to the rapid rise in mortgage rates. Amidst this backdrop, the National Bureau of Economic Research (NBER) – the official arbiter of recessions in the US – has yet to declare a recession and is unlikely to do so in the near term.

[14] Please note - in national economic accounting, GDP and GDI are conceptually equal. GDP measures overall economic activity by final expenditures, and GDI measures it by the incomes generated from producing GDP.

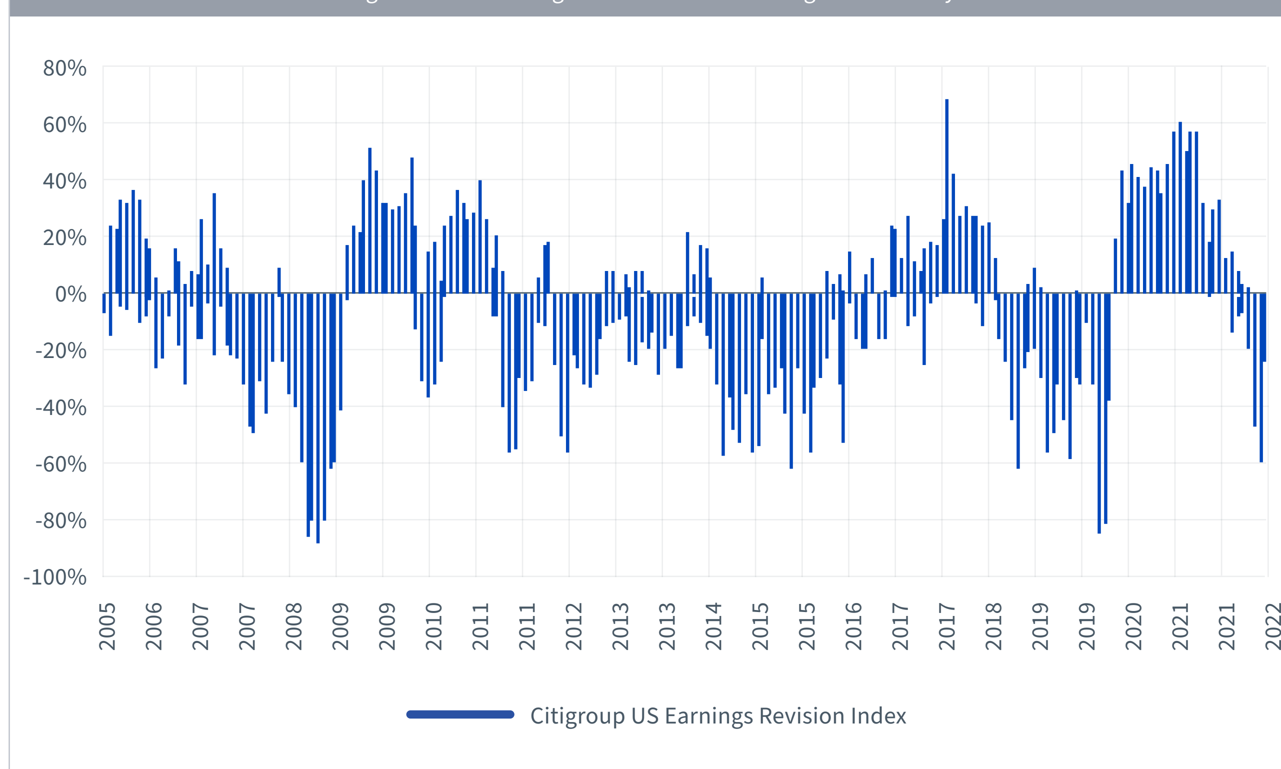
Figure 12: The decline of leading economic indicators reignites recession concerns



Source: Bloomberg, National Bureau of Economic Research, WisdomTree as of 30 July 2022. **Historical performance is not an indication of future performance and any investments may go down in value.**

US Q2 earnings reports have surprised on the upside, with consensus earnings expectations for the year to the June quarter rising from 5% at the start of the earnings season to 8.77%. The more value-oriented sectors such as energy, industrials and materials continued to outperform. According to the US Department of Commerce, after-tax profits as a share of gross value added for non-financial corporations rose to 15.5% in Q2 2022 marking the highest since 1950. This illustrates that most US companies have been able to pass on their rising cost of inputs of production to consumers. Looking ahead, earnings revision breadth for the S&P 500 Index are in deeply negative territory suggesting downside is coming from an earnings growth standpoint.

Figure 13: US earnings revisions remain in negative territory



Source: Bloomberg, WisdomTree as of 26 August 2022. **Historical performance is not an indication of future performance and any investments may go down in value.**

Core inflationary pressures remain concerning, especially housing rents and medical inflation – components that are typically much stickier compared to goods and transport inflation. The Federal Reserve (Fed) appears unwilling to declare victory in its war against inflation. Fed Chair Powell's comments at the annual Jackson Hole symposium confirmed that policy may have to be tight for some period of time. As we look ahead, it's clear that the Fed's role in quelling inflation without tipping the economy into recession will take centre stage.

Europe's recovery has been derailed by the energy crisis

Europe's growth trajectory has been weak in comparison to the US. In many ways the Eurozone economy was hit harder by the Global Financial Crisis in 2008 and its subsequent recovery has been fragile and uneven. Europe's economy continues to face headwinds from the ongoing energy crisis. The Eurozone economy avoided a technical recession in Q2 as Gross Domestic Product (GDP) rose more than expected by 0.7% quarter-on-quarter, however the growth outlook remains bleak amidst the energy crunch. Russia has clearly weaponised energy and food supply owing to Europe's deep dependency.

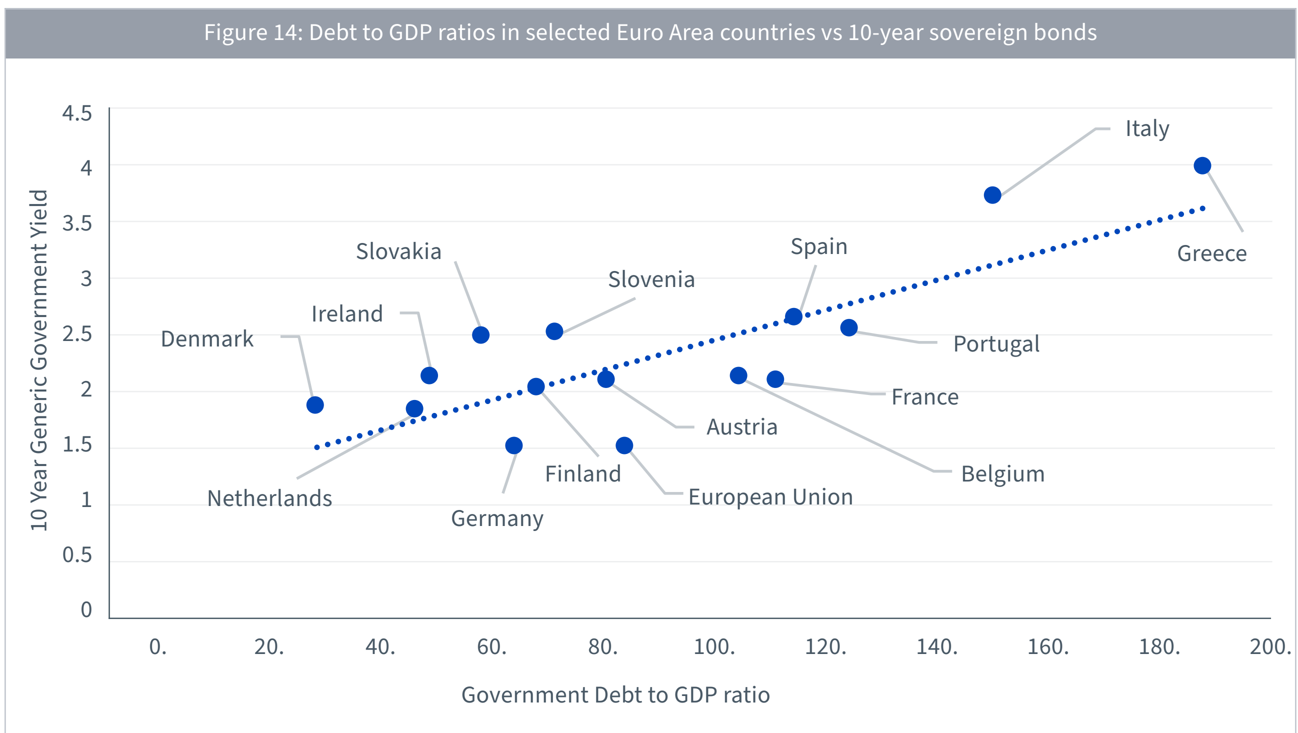
The EU has committed to reducing gas imports from Russia by two-thirds within a year. It is also engaging in energy rationing, with the aim to reduce natural gas use by 15% between 1 August 2022 and 31 March 2023. This is likely to weigh down energy intensive sectors and lower economic activity. The Euro area is contending with an energy-shock inflation far greater than in the US. With energy prices up 42% year-on-year in July 2022, energy contributed to just under half of the 8.9% year-on-year inflation reading in July[15].

While the European Central Bank (ECB) is not to blame for the price shocks of the last year, it is to blame for its slow response. The surge in inflation to a 40-year record of 8.9% year-on-year in July alongside consumer confidence plummeting to its lowest level on record has left the ECB torn between inflation and recession risks. The pass through of higher natural gas prices raises upside risks for inflation in the near term. At the same time, a more robust tourist season following two COVID impaired summers will delay the start of recession until Q4 2022. For this reason, the ECB will likely focus more on current inflation than on recession risks. We expect the ECB to interrupt its rate hike cycle in view of the euro area recession in early 2023 and to resume it late in 2023.

[15] Eurostat.

The other challenge for the ECB is that fiscal policy positions of each euro area member state makes it harder for common monetary policies to be effective. The Maastricht Treaty debt/GDP limit is 60%. Despite its existence, the number of euro area countries that satisfy this criterion is only 8 of the 20 (~40%). There is an almost linear relation between the debt to GDP ratio and the level of yields.

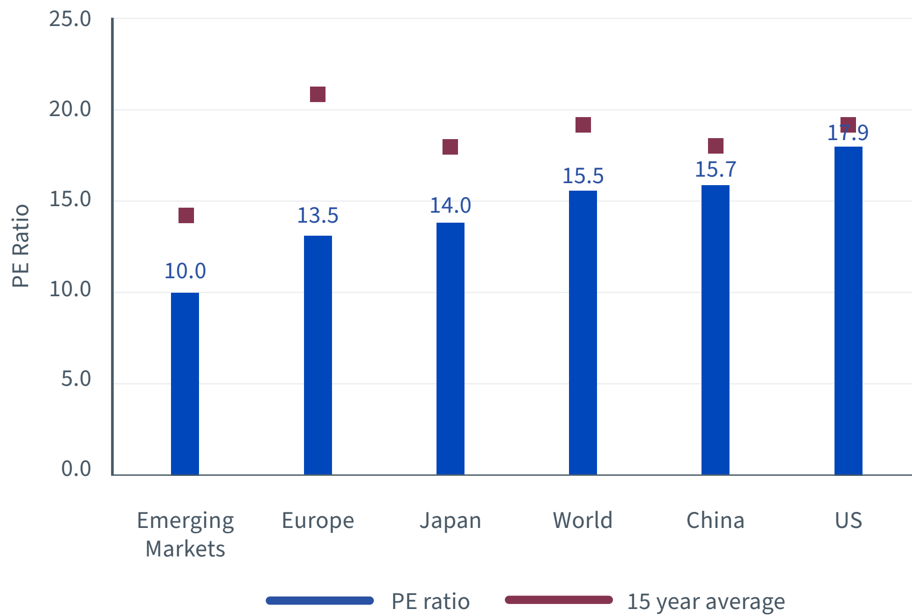
Figure 14: Debt to GDP ratios in selected Euro Area countries vs 10-year sovereign bonds



Source: Eurostat, WisdomTree as of 29 August 2022. **Historical performance is not an indication of future performance and any investments may go down in value.**

A tightening cycle into a slower-growth macro landscape has never been helpful for equities. European equities are faced with an extremely challenging backdrop ranging from high energy prices, growing cost pressures, negative earnings revisions estimates and cooling growth. Amid the sell-off in equity markets in the first half of this year, European equities currently trade at a price to earnings ratio of 15x, marking the steepest discount versus its long-term average of 21x compared to other major markets. The risk of a recession to a certain degree is being priced into European equity markets.

Figure 15: Global equity market valuations



Source: Bloomberg, WisdomTree as of 26 September 2022. **Historical performance is not an indication of future performance and any investments may go down in value.**

Conclusion

In our view the global economy is projected to avoid a full-blown downturn, however we expect to see a series of individual country recessions take shape at different points in time. Evident from recent data, the downturn in the US is expected in the second half of 2023 whilst the Eurozone and United Kingdom will enter a recession by Q4 this year. Contrary to the rest of the world's key central banks, China and Japan are expected to keep monetary policy accommodative which should help buffer some of the slowdown. Given the highly uncertain environment, maintaining an equal weight position in US and Chinese equities alongside an underweight to European equities would be prudent. Across factors, we continue to tilt to the value, dividend and quality factor given the expectations for weak economic growth, higher rates, and elevated inflation.

Thematic Outlook

The future is green and highly connected. And it starts now.

01 “We tell ourselves stories in order to live” 28

02 But, of course, timing does matter 28

03 The future is green – the inevitable energy transition 28

04 Low-hanging fruit 29

05 No half measures 30

06 The future is highly connected – the ongoing digital transition 30

07 Every cloud has a silver lining 30

08 This megatrend is not optional 31

09 But what about the risks? 31

10 Conclusion 31

“We tell ourselves stories in order to live”, Joan Didion (writer and journalist).

Stories help us make sense of the world. They elevate our imagination to a place where reality mingles with dreams and, when a story resonates with us, our levels of the ‘feel good’ hormone oxytocin increase. Thus, stories not only enthral us by captivating our attention, but also by impacting our physiology.

Storytelling doesn’t only excite us in our leisure time, it is also the bedrock of investing. The key distinction is that investors seek resonance with stories about the future rather than the past. Or at least they should if they remember their first lesson in an investing 101 class – past performance is not an indication of future results.

Thematic investing brings this notion to the fore. Avenues of investing aligned with megatrends are inherently predicated on visions of the future. But what makes thematic investing a lot more palatable than prophesising is that certain megatrends are already in motion. Thematic investors, therefore, need only observe the direction of the current and swim with the tide. The stories they tell themselves reveal what places they will witness along the way.

But, of course, timing does matter

There are two reasons why thematic investing is particularly interesting right now. First, stocks endured a bear run in the first half of 2022. Thematic strategies, which depend on long-term growth, were hit especially hard. Entry points do still matter, even for long-term investors and, for those seeking one, the second half of 2022 could, potentially, be a promising one.

Second, the investment industry is evolving rapidly to offer investors access to many exciting themes. At WisdomTree, we recognise the importance of domain knowledge in each theme. Therefore, we partner with experts to learn from the best and share our knowledge more widely.

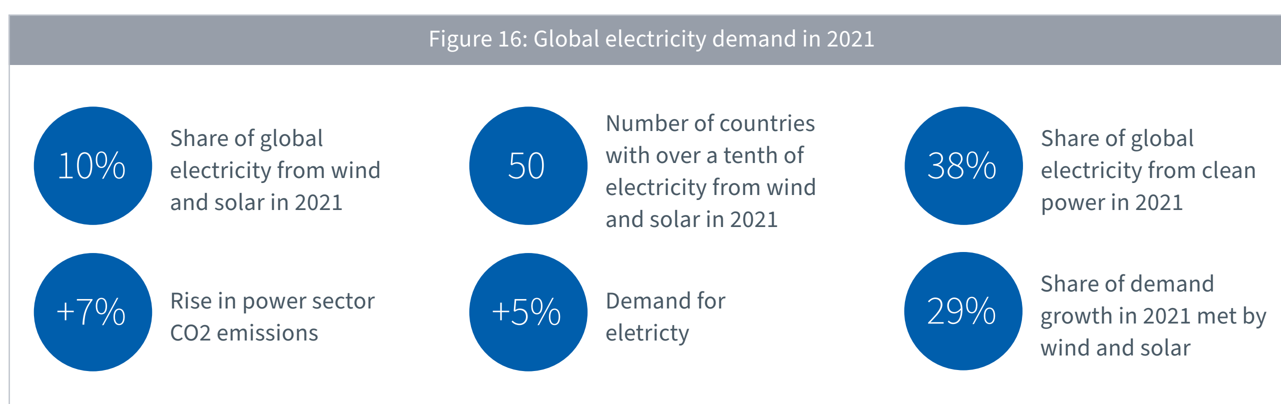
For investors, this means more stories to choose from and, in this outlook, we discuss two of these.

The future is green – the inevitable energy transition

Regulation generally paves the way for industries to thrive. But it can go further, and, with the energy transition, this seems to be the case. Following 18 months of intense wrangling, the US has passed a $700 billion economic package deemed by many as a monumental step in tackling climate change. The bill includes $369 billion for climate action, including tax credits for households to buy electric vehicles, and support for renewable energy, carbon sequestration research, hydrogen power and small-scale nuclear reactors[16].

One fallacy that investors must guard themselves against is that the energy transition will be linear. The recent rise in fossil fuel prices does not mean the energy transition has gone off the rails. The world needs energy, and, in the face of scarcity, we tend to fall back on what is available. In recent times, this has even meant coal. This makes the case for the energy transition to be accelerated even more compelling.

Figure 16: Global electricity demand in 2021



Source: WisdomTree, Ember Global Electricity Review 2022.

[16] Source: Financial Times 8 August 2022.

Figure 16 illustrates that the global power sector's CO2 emissions rose by 7% year on year in 2021. But progress is being made. The share of global electricity from clean power was 38% with 10% coming from wind and solar, up from 4.6% in 2015[17]. And while the total demand for electricity grew 5% in 2021, 29% of that demand growth was met by wind and solar. Two things are worth emphasising here. First, the world's total electricity demand is bound to rise. And second, total energy demand extends beyond just electricity. Creating an energy sector that is both sustainable and sufficient will require major investment across all forms of clean energy including renewables, hydrogen, biofuels, hydro and even nuclear. Most recently, the European parliament has moved to classify future investment in natural gas and, more notably, nuclear power, as environmentally sustainable (under certain conditions) in a pivotal shift recognising the need for an 'all of the above' approach to phasing out fossil fuels.

Low-hanging fruit

The energy sector accounts for around three quarters of global greenhouse gas emissions with road transportation accounting for the largest share at 11.9%[18]. It therefore makes sense to start where most progress can be made and can have the greatest impact. According to Bloomberg New Energy Finance's Long Term Electric Vehicle Outlook 2022, the electric vehicle (EV) market represents an $82 trillion market opportunity between now and 2050 in a net zero scenario. This is on account of not just the vehicles but the ecosystem of industries surrounding them which includes battery technology, commodities, charging infrastructure and recycling to name a few. With EV sales on an exponential trajectory already (see Figure 17), such forecasts do not seem implausible.

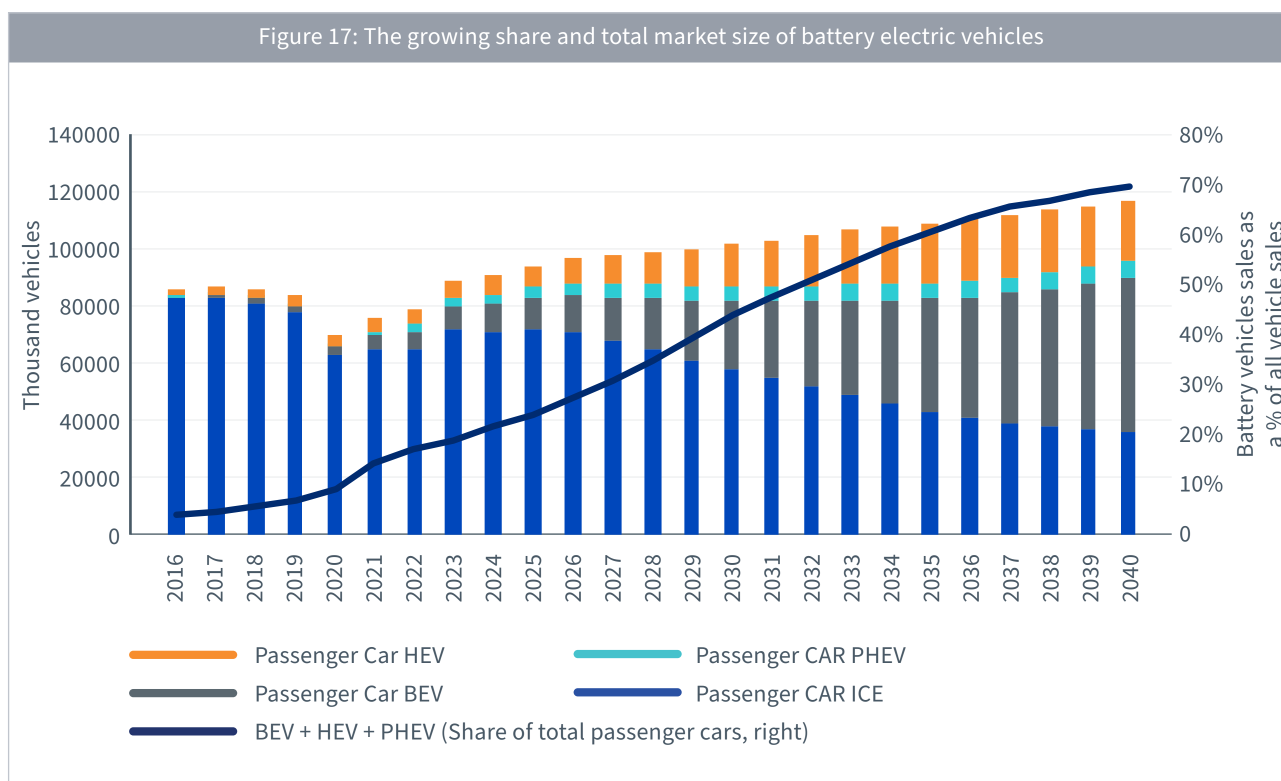


Figure 17: The growing share and total market size of battery electric vehicles

Source: WisdomTree, Wood Mackenzie, forecasts from 2021. ICE = Internal Combustion Vehicle, BEV = Battery Electric Vehicle, PHEV = Plug-in Hybrid Electric Vehicle, HEV = Hybrid Electric Vehicle, PC = Passenger Cars. **Forecasts are not an indicator of future performance and any investments are subject to risks and uncertainties.**

[17] Source: Ember's Global Electricity Review 2022.

[18] Source: Our World in Data based on 2020 figures.

No half measures

Zero emission vehicles are great but less so if it means that running them requires more fossil fuel electricity. The electrification of road transportation could create a 27% increase in electricity demand by 2050[19]. It is therefore crucial that the electricity itself is also clean.

Among renewables, offshore wind is all the rage right now–and for good reason. According to Wood Mackenzie, almost $1 trillion is expected to flow into the offshore wind market over the next decade. Not only is the size of the market burgeoning, but so are the turbines. Driven by continually larger turbine technology, by 2029 most towers will be over nine metres in diameter–a significant increase from the average five to six metres that was required in 2021[20]. This scalability is among the reasons making offshore wind so appealing.

More renewable power will also mean more energy storage. Battery technology again comes into play. Lithium-ion batteries, effective for shorter duration storage, will be complemented by emerging longer duration storage technologies. This will ensure the energy supply is not only reliable for a few hours, but days and weeks.

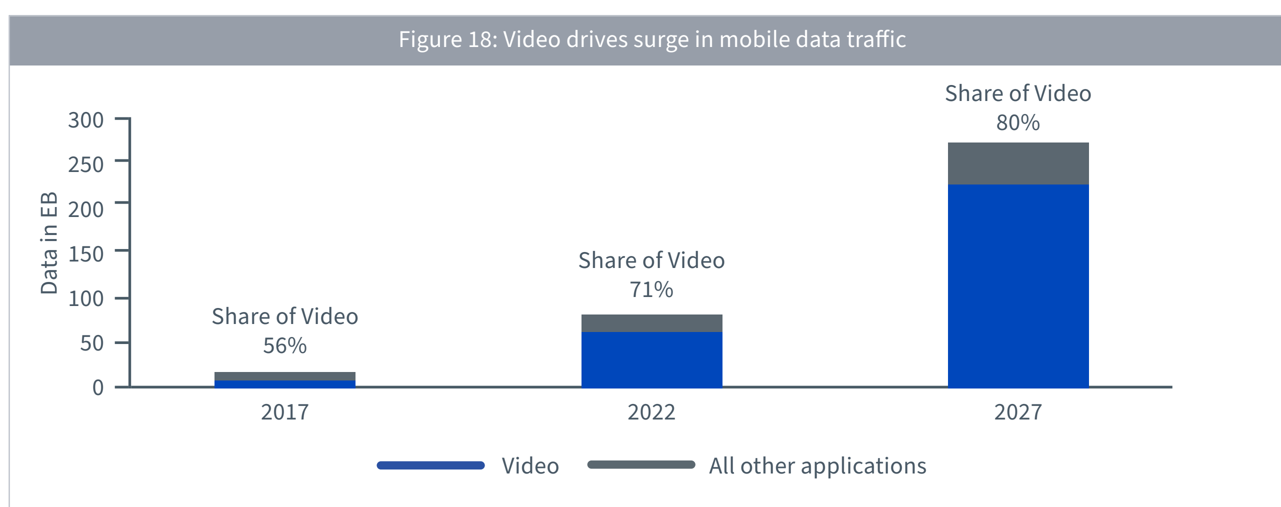
The future is highly connected–the ongoing digital transition

The doorbell rings. You think, ‘this must be the delivery I’m expecting’. But you’re not at home. You’re in another country. So, you respond on your mobile phone, speak with the delivery person, and rest assured knowing you’ll pick up the parcel from your doorstep later. Such connectivity would have been inconceivable a few years ago. The internet of things (IoT) economy will continue to surprise us with its innovation, and we will keep embracing what it brings. According to Statista, the number of IoT connected devices worldwide rose from 8.6 billion in 2019 to 11.3 billion in 2021 and will likely reach 29.4 billion by 2030[21]. The world is becoming increasingly connected and there are many facets to it.

Every cloud has a silver lining

It wasn’t long ago when we were renting cassettes (and later DVDs) for our movie nights at home, often taking recommendations from the salesperson and frequently being disappointed by either the content or the video quality. Fast forward a few years and we now have access to nearly unlimited high-quality content on demand and tailored to our preferences. This is thanks to cloud based streaming services which use artificial intelligence to offer us a personalised experience. Video streaming is not just occupying our television screens, it dominates our mobile phone usage as well. According to Ericsson, global mobile data traffic has risen from 10.9 exabyte (EB) in 2017 to 90.4 EB in 2022 and expected to reach 282.8 EB by 2027 with video being the primary driver of this data binging (see Figure 18).

Figure 18: Video drives surge in mobile data traffic



Source: Ericsson Mobility Report 2022. Note: One exabyte equals one million terabytes. **Forecasts are not an indicator of future performance and any investments are subject to risks and uncertainties.**

[19] Source: Bloomberg New Energy Finance Long Term Electric Vehicle Outlook 2022.

[20] Source: Wood Mackenzie August 2022.

[21] Source: Statista in cooperation with Transforma Insights May 2022.

Gartner forecasts that public cloud end user spending will grow by 20.4% in 2022 to $494.7 billion, up from $410.0 billion in 2021. This number will reach nearly $600 billion in 2023[22]. Now, for end users sitting in their homes streaming content, movies and TV shows, everything may be in the 'cloud'. But for YouTube, Netflix and Spotify, this data needs to be stored somewhere physically. The explosion in data usage will require more data centres and ever-increasing internet speeds. For investors looking at cloud computing as a megatrend, the opportunity is not just in the software, but also the real estate that provides the necessary infrastructure.

This megatrend is not optional

If a business hastens to shift to the cloud, collects all the necessary user data to improve its service, but then bungles it all up by falling victim to a cyber-attack, the result could be catastrophic. If the direct impact of the attack doesn't bring the business down, the reputational damage could inflict irreparable damage. More workers operating remotely since the pandemic, increasing amounts of data stored online, geopolitical forces and attackers becoming more sophisticated are among the reasons why businesses are more vulnerable than ever before. Cybersecurity Ventures expect global annual cybercrime costs to reach $10.5 trillion by 2025, up from $3 trillion in 2015.

As a consumer of any product or service, cybersecurity is something you never want to hear about. If everything is in order, nothing happens. But that is only possible if businesses ensure robust guardrails are in place. Cybersecurity, therefore, is a megatrend that is not optional, but mandatory. It is what makes a connected world sustainably possible.

But what about the risks?

Yes, further hawkishness from central banks could create more turbulence. Nevertheless, monetary policy shouldn't alter the direction of travel. So, keep an eye on those inflation prints and the response from central banks.

Deglobalisation can also pose a challenge, especially for the energy transition which depends on certain commodities. Supply chains span across the globe and a coordinated effort to tackle climate change would be more fruitful than a fragmented one.

Conclusion

The protagonists will change, the antagonists will change, and there will be unforeseen twists and turns. For each investor, the plot may thicken somewhat differently. But the stories are underway and now is an excellent time for investors to not only observe that the world is becoming greener and more connected but help drive the change they want to see.

[22] Source: Gartner April 2022.

MiCA bill to finally bring clarity to European crypto regulation

01 MiCA focuses heavily on stablecoins — 33

02 How will the Federal Reserve's interest rate policy affect crypto markets? — 33

03 WisdomTree's Digital Assets Taxonomy: interesting developments in the coming months — 34

04 Ethereum's Merge will create a yielding asset and benefit from potentially deflationary supply — 35

05 Cross-chain bridge solutions critical for interoperability — 35

06 Intellectual property rights need to be addressed with NFTs — 35

07 NFTs have the potential to disrupt traditional business models and enable tokenisation of brand and community value — 36

08 Bitcoin's price driven by long-term store of value and 'hard money' narrative: outlook for the second half of 2022 remains uncertain — 36

09 Bitcoin's correlation with Nasdaq is still very high — 36

10 Market value to realised value indicates Bitcoin close to bottoming out — 37

11 Total Value Locked shows DeFi has lost its lustre for now — 37

12 Bitcoin still leading total ecosystem with Ethereum gaining ground — 38

13 Conclusion — 39

The European regulatory framework for cryptocurrency (crypto) markets is finally getting some clarity, as the provisional version of the regulation on Markets in Crypto-Assets (MiCA) was agreed upon in late June 2022.

Once the full text is released later this year, it must still be approved by the EU Council and the European Parliament. Following that, there will be a transition period before it becomes law across the European Union (EU) in 2024 and will overrule all existing national laws covering crypto markets. The implementation of the law is left to national regulators. MiCA will not cover financial services already regulated on an EU-level.

This regulation will bring crypto assets, crypto asset issuers and crypto asset service providers under the same regulatory framework for the first time. The European Securities and Markets Authority (ESMA) and the European Banking Authority (EBA) will be in charge of monitoring the crypto markets and will have the power to intervene in certain situations.

MiCA focuses heavily on stablecoins

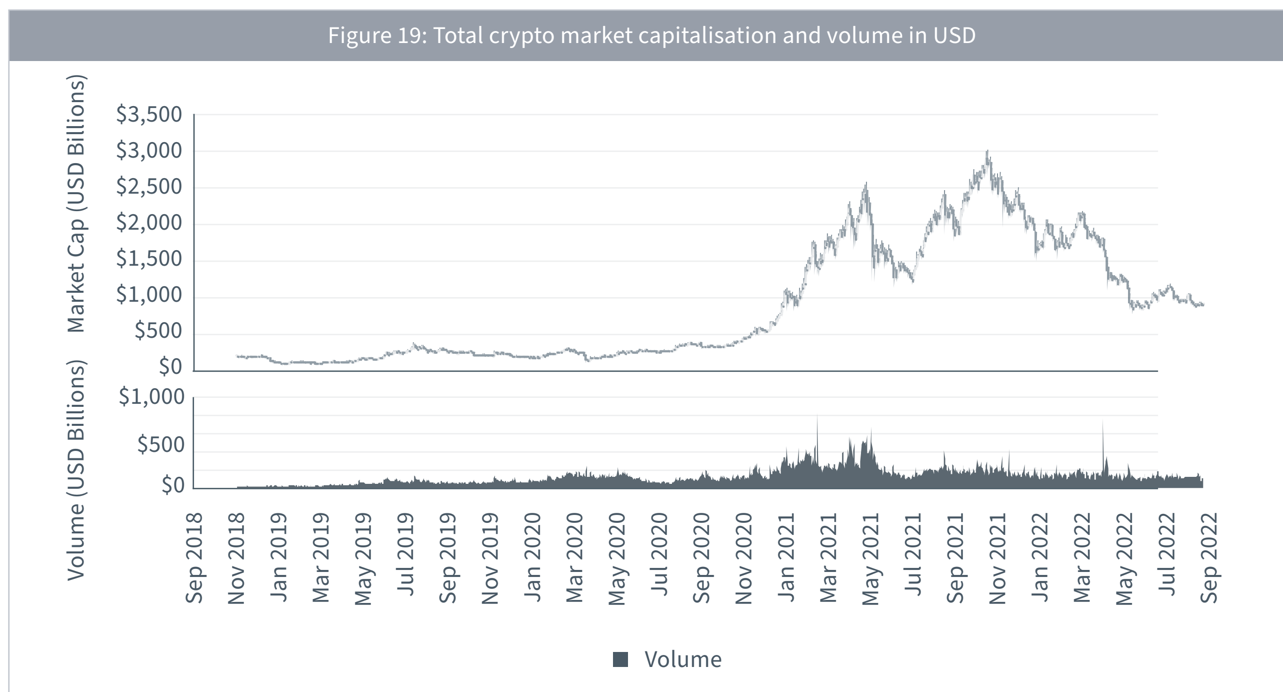
The MiCA bill will primarily focus on regulating stablecoins while decentralised finance (DeFi) and non-fungible tokens (NFTs) are largely left untouched at this stage. Only NFTs with fractional ownership are covered under MiCA. The regulation also does not cover security tokens, such as tokenised stocks, as they fall under the current financial regulation.

It seems to us that one of the regulation's main goals is to rein in the potential development of a "global stablecoin" which could threaten the widespread adoption of planned central bank digital currencies (CBDCs) and the current financial system. The MiCA bill sets stringent reserve and transparency requirements for both centralised (such as Tether's USDT and Circle's USDC) and decentralised (such as Dai) stablecoins. According to MiCA, holders of stablecoins are not allowed to earn interest of any kind. In addition, the European banking authorities have the right to step in and impose additional requirements if they find that the stablecoins grow "too big". The regulation could have significant implications for the viability of stablecoins and we follow these developments with great interest.

How will the Federal Reserve's interest rate policy affect crypto markets?

The crypto market reached its recent cycle peak in November 2021 when its total market cap reached almost $3 trillion. The market cap is now down to approximately $1 trillion. The big question is: have we reached the bottom in this cycle or is there another leg down to come? We believe the Federal Reserve's (Fed) interest rate policy will have a meaningful impact on where crypto market prices will move in the next six months.

Figure 19: Total crypto market capitalisation and volume in USD



Source: TradingView, WisdomTree. From September 2018 to September 2022. **You cannot invest directly in an index. Historical performance is not an indication of future performance and any investment may go down in value.**

We mainly see two market narratives as we write this report. Both scenarios expect recession to hit Europe first, perhaps already in 2022, with the US following suit in 2023. The first scenario assumes that inflation has peaked and will fall precipitously going forward and that the Fed is at the end of its tightening cycle and will start easing in 2023. This scenario is supported by information indicating the likelihood that inflation peaked in June when 10-year treasury reached 3.49%. As the stock market is a forward-looking indicator, after this information came out, the risky assets, including crypto, rallied post-June 2022.

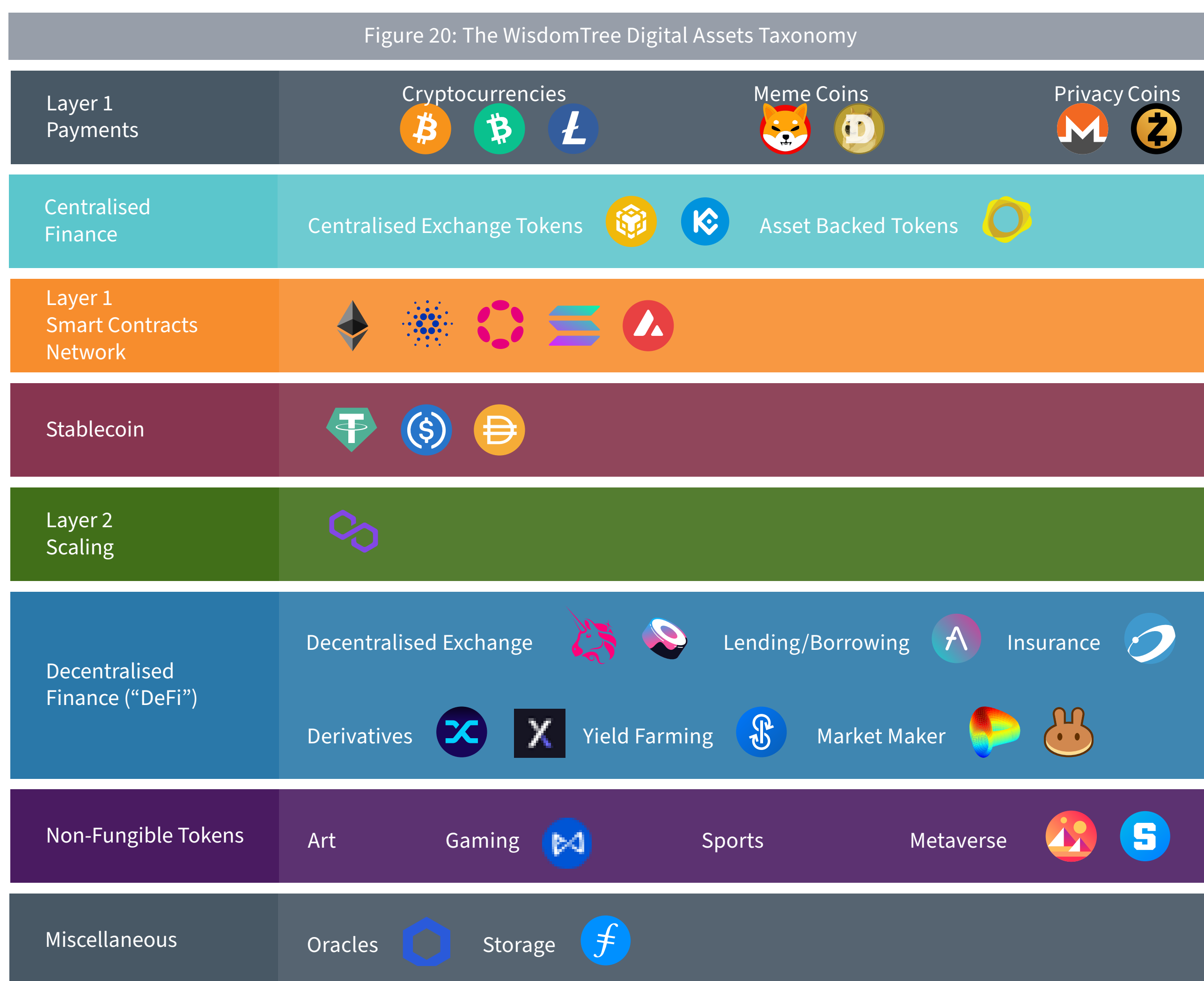
The second narrative also believes that recession will materialise but views inflation as stickier than expected. This is the stagflation view. Inflation could remain higher than expected because the labour market is very tight and wage inflation is a reality. Historically, it has been the case that, in order to break the back of inflation, you need to raise interest rates 200bp above the inflation rate. In July 2022, the annual US inflation rate was still 8.7% while the 10-year treasury stood at 2.89%. In mid-August the weekly jobless claims numbers came out very low and supported the view that the labour market remains very tight and puts pressure on wage inflation.

We are inclined to support the second narrative and believe that inflation will come down but, perhaps, not as much as expected. We believe the Fed will continue raising interest rates until it sees jobless claims rising and labour markets easing. In this latter scenario, we are likely to see continued pressure on the crypto market.

WisdomTree’s Digital Assets Taxonomy: interesting developments in the coming months

We introduced the WisdomTree Digital Assets Taxonomy in our recent whitepaper: [“A New Asset Class: Investing in the Digital Asset Ecosystem”.]

Figure 20: The WisdomTree Digital Assets Taxonomy



Source: WisdomTree. You cannot invest directly in an index. **Historical performance is not an indication of future performance and any investment may go down in value.**

In the coming months, we expect to see continued development in the wider crypto ecosystem and the market continuing to expand beyond Bitcoin. The industry is currently experiencing a 'crypto winter' but a bear market is a good time to focus on building and developing products that will win in the next bull market.

In the following sections we highlight some of the crypto areas we believe will experience growth and focused attention in the coming months.

Ethereum's Merge will create a yielding asset and benefit from potentially deflationary supply

Ethereum is the most dominant settlement layer for smart contracts with the most extensive developer community so far. We believe the successful execution of the 'Merge' in mid-September 2022, which saw Ethereum's consensus mechanism transitioning from Proof-of-Work to Proof-of-Stake, is an important milestone for the crypto industry and a potential game-changer for institutional adoption.

Ethereum's move to Proof-of-Stake enables investors to 'lock up' or 'stake' their Ether to generate a yield of around 4-6%. Following the Merge, we expect there will be a reduction in the issuance of new Ether as miners are no longer issued tokens and staked Ether is no longer in the market.

After the transition to Proof-of-Stake, an area of potential concern is the concentration of power around just a few validators and the ability of the network to remain censorship resistant if power concentrates in only a few hands. As we understand it, over 60% of the Ether being staked on the Beacon chain has been controlled by only four companies (Lido Finance, Coinbase, Kraken and Binance).

Cross-chain bridge solutions critical for interoperability

An important area for development are the cross-chain bridge solutions. We believe in a multi-blockchain future and that layer 1 blockchains will be used for different purposes and different use cases. In order to ensure interoperability and transfer of digital assets across blockchains, cross-chain bridge solutions are critical.

In recent months, these bridge protocols have been vulnerable to attacks and hacks and significant money has been stolen. A central storage point of funds makes these bridges vulnerable, and the industry is just now developing ways to secure the communication channel between different blockchains.

Blockchains are decentralised databases which store assets, and these assets must be secured somehow. Normally, it is the consensus layer built into the protocol that secures these assets. The consensus layer can be viewed as code that sets the rules of the network. Decentralised validator nodes keep checking every transaction to make sure these laws of consensus are enforced.

Up until recently, there have not been cross-chain bridges built directly into the consensus layer of the protocols but these are now under development and will be a significant step in making interoperability of networks more secure and seamless to the user.

Intellectual property rights need to be addressed with NFTs

We see a potentially significant expansion opportunity for NFTs but recognise that the critical intellectual property (IP) rights issue must be clarified before the industry can expand in a meaningful way. So far, most of the NFT purchasers have only received a usage license with varying degrees of commercial rights to NFTs while the issuers of NFT collections retain full ownership of the images. In many cases, NFT purchasers might not even be aware of what rights they actually get when purchasing NFTs and the issuers have not in all cases been transparent and straightforward about the rights given to buyers.

NFTs have the potential to disrupt traditional business models and enable tokenisation of brand and community value

Until now, NFTs have primarily been digital collectibles that enable buyers to become part of communities. In the future, we see significant potential in NFTs in allowing people to participate in the value accrual of brandable digital assets. This could create a new shared-ownership model where companies create global digital communities, tokenise this asset and share part of the profits with their communities. So far, users of products and services have not benefited from the value accrual in these companies unless they have been shareholders. NFTs allow, potentially, a new asset class to be created on the balance sheet and enable unlocking of value in 'intangibles'.

An example of a company making inroads in this area is Starbucks, which will bring out its first NFT collection later in 2022. We have also seen sports professionals trying to tokenise their contracts (Spencer Dinwiddie), writers (Ben Mezrich) and musicians (Timbaland) issuing NFTs in order to finance their books and music, and magazines (Time) issuing NFTs to create additional revenue from previously non-revenue-generating assets. The creative industries are truly ripe for disruption.

Bitcoin's price driven by long-term store of value and 'hard money' narrative: outlook for the second half of 2022 remains uncertain

Because of the short history of the crypto markets, we do not yet have many academic studies on the valuation of the sector.

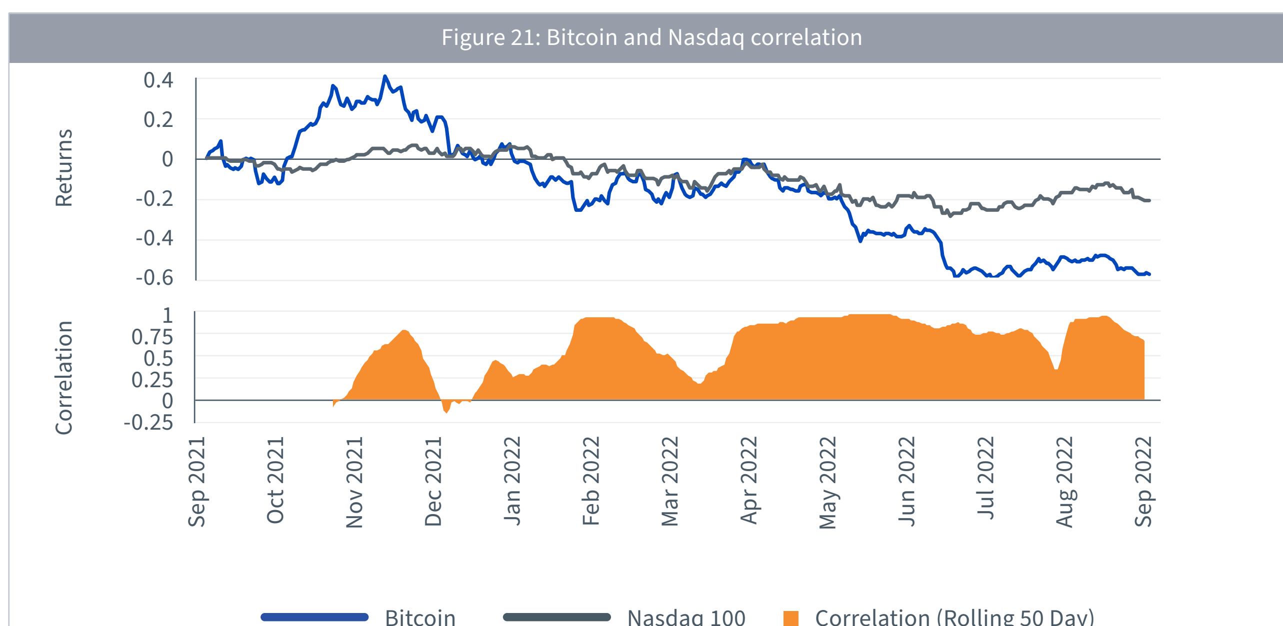
So far, we have seen that Bitcoin's price action has been closely correlated with tightening and loosening of financial conditions. When the Fed has flooded the market with liquidity, Bitcoin's price has done well; and when the Fed has started a tightening cycle, Bitcoin's price has suffered. We have also seen that, in down markets, investors tend to prefer Bitcoin/Ethereum, while in up markets, alternative coins tend to outperform.

Bitcoin cannot be valued as it has no cash flows or yield, instead, its performance is driven by supply/demand. One can view it as a long-term store of value and a decentralised 'hard money' asset with limited supply. However, it is still very volatile which makes it unappealing as a store of value in the short term. Its volatility, at least for now, makes it also unappealing as a currency. Most currencies are priced on macro factors and relative to each other.

Bitcoin's correlation with Nasdaq is still very high

Before the last cycle peak in November 2021, there was a narrative that Bitcoin was an inflation hedge and uncorrelated with the rest of the stock market. This was clearly wishful thinking as the recent year has shown. Bitcoin's correlation with the risky end of the tech sector is still very high but might reduce in the future as the asset matures.

Figure 21: Bitcoin and Nasdaq correlation



Source: Into the Block Sept 2021 - Sept 2022. Calculated in USD. You cannot invest directly in an index. **Historical performance is not an indication of future performance and any investment may go down in value.**

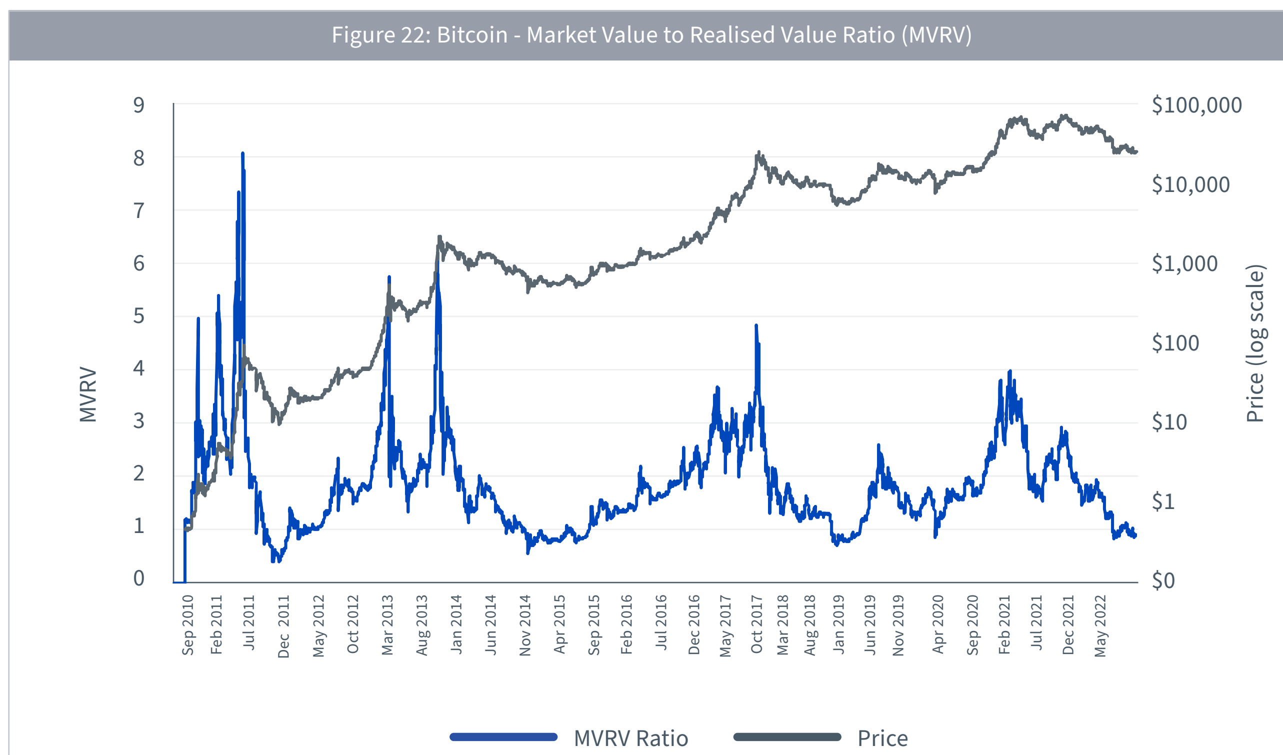
We believe Bitcoin (and other crypto assets) will face headwinds in the second half of 2022 as the macro picture remains unclear and the recent crypto blow-ups weigh on market sentiment.

Market value to realised value indicates Bitcoin close to bottoming out

When tracking Bitcoin, we follow several valuation and market cycle metrics. One of them is market value to realised value (MVRV) which indicates when a price is above or below its 'fair value'. Extreme deviations can be used to identify market tops and bottoms. MVRV is the ratio of free float of Bitcoin market cap (Bitcoin that has moved in the past five years) to realised value. Realised value is defined as the aggregate market cost basis.

In Figure 22 we can see the current Bitcoin MVRV. On 26 September 2022 the MVRV ratio stood at 0.91 as Bitcoin was priced at $19,305. This indicates that we are in the <1 range where a large number of supply is near break-even or is held at a loss. This typically indicates a bear market capitulation.

Figure 22: Bitcoin - Market Value to Realised Value Ratio (MVRV)



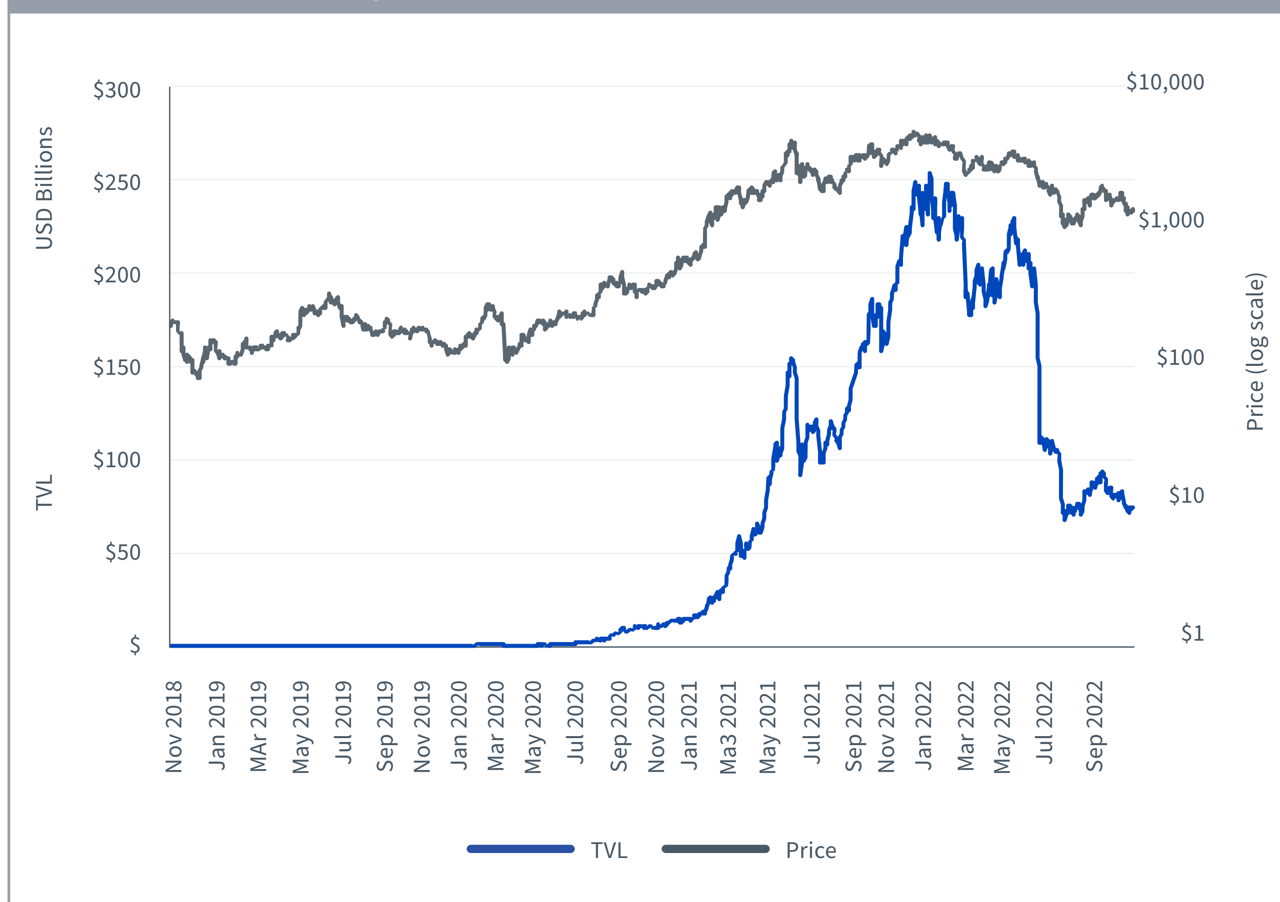
Source: Glassnode, WisdomTree. From 2010 to 2022. You cannot invest directly in an index. **Historical performance is not an indication of future performance and any investment may go down in value.**

Total Value Locked shows DeFi has lost its lustre for now

In evaluating DeFi protocols, we use metrics such as Total Value Locked (TVL) which indicates the amount of user funds deposited in a DeFi protocol and can indicate healthiness of the ecosystem. These funds could be vested in the project for several functions, such as liquidity pools, lending or staking, and these deposits indicate investor faith in the protocol. This metric has some drawbacks though. Liquidity schemes, in particular, do not foster long-term user engagement as newly awarded tokens might lack vesting schedules and users might quickly move on to other protocols in search of better opportunities.

A higher TVL typically means the platform has higher liquidity and higher yields and this could lead to more successful projects. As TVL declines, liquidity diminishes, and yields become less appealing.

Figure 23 shows the TVL locked in the Ethereum ecosystem, still the most popular DeFi platform today.



Source: Glassnode, WisdomTree. November 2018 to September 2022. Calculated in USD. **Historical performance is not an indication of future performance and any investment may go down in value.**

As we write this the total value locked (TVL) in DeFi stood at $75 billion. This is down from the cycle peak reached in November 2021 when TVL stood at $178 billion. The above chart also shows that Ethereum's price has held up better than the DeFi TVL. We believe this is due to the high expectations associated with the Merge.

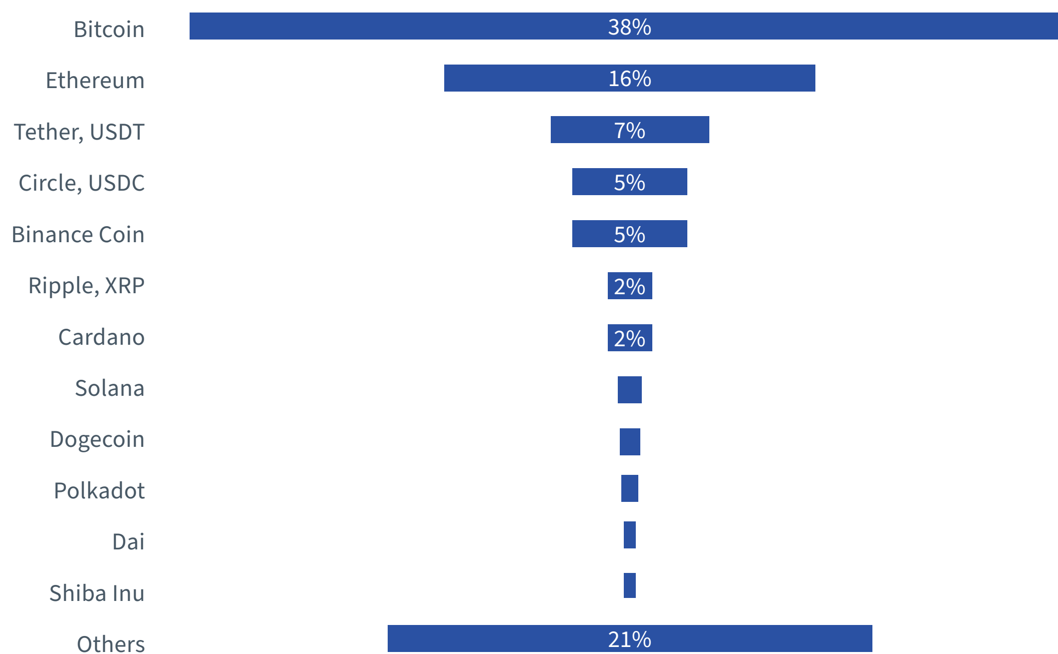
Bitcoin still leading total ecosystem with Ethereum gaining ground

Bitcoin's dominance of the total crypto market has varied from 40-70% in the past few years. Ethereum has been the major gainer and, today, it encompasses almost 20% of the market value of the ecosystem. Alternative layer 1s saw rapid adoption in 2021 as Ethereum's gas fees reached very high levels and the network suffered from market-order attacks and other manipulation as bots were attempting to front-run users. Ethereum's Merge is not solving the high gas fees[23] problem and sharding[24] is required to address the problem. Sharding is expected to ship in 2023. We believe that Ethereum's market share will continue to grow but at a slower pace than before.

We expect the other layer 1s to gain market share slowly as the networks are tested and made more robust. Several of them are still more centralised and less secure than the current Ethereum network as they have fewer validators and staked capital to secure the network. We believe that major expansion of the whole ecosystem will only take place once successful cross-chain bridge solutions are developed.

[23] Gas fees are variable fees paid in order to facilitate transactions on the Ethereum network.

[24] Sharding is the practice of splitting up a computational workload to increase the overall efficiency of the processing.



Source: Bloomberg, WisdomTree. Data on 26 September 2022. You cannot invest directly in an index. **Historical performance is not an indication of future performance and any investment may go down in value.**

Conclusion

Ethereum's successful Merge and its subsequent updates, such as sharding in 2023, will continue to dominate the discussion in digital assets in the coming months. At the same time, alternative networks are being tested and made more robust and early solutions are being developed in cross-chain bridge solutions, a critical area for the future blockchain ecosystem. We expect the NFT sector to expand rapidly into several new areas where companies, brand names and creative individuals can build communities and share benefits and profits with them. Regulation is finally taking shape and will ease institutional investors' entry into the ecosystem.

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