

2023 Macro Outlook & Investment Themes



SIGNET

Investors for a changing world

The theme of greater macro and market volatility is upon us. The period of mainly stable economic activity looks to have been fractured by a combination of events that perhaps started a few years back.



Andrew



Dmitry

The invasion of Ukraine by Russia tore up the Europeans' **energy playbook**. Chinese zero tolerance COVID-19 policy contributed greatly to the **supply chain issues**. A slowing global economy due to significant **inflation** pushing interest rates higher, quicker than expected is starting to have an affect on the **housing markets** and **labour markets globally** as well. As several of these challenges show tentative signs of resolution, and in the wake of a broad asset repricing, we advocate caution, but are alert to opportunities, in 2023.

We managed to avoid many of 2022's pitfalls because of our independent thinking, nimble approach and courage of conviction.

We ask ourselves: is all this damage priced in, or do we have more to come? Central bankers wont step in this time as they are focused on slowing growth. Is it all doom and gloom this year.....?

An introduction from Andrew, and Dmitry, Senior Partners.

Many will look back at 2022 and raise an eyebrow at the culmination of events that have halted the markets bull market trend. In our Outlook paper we try and set-out the views of Signet for the year ahead.



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And introducing Team Signet.

A combined effort from our experienced practitioners in Asset Management and Wealth Management.



Asset Allocation Views

While we remain cautious - prioritising defensive credentials, quality and liquidity – we see several opportunities in 2023, following a challenging 2022.



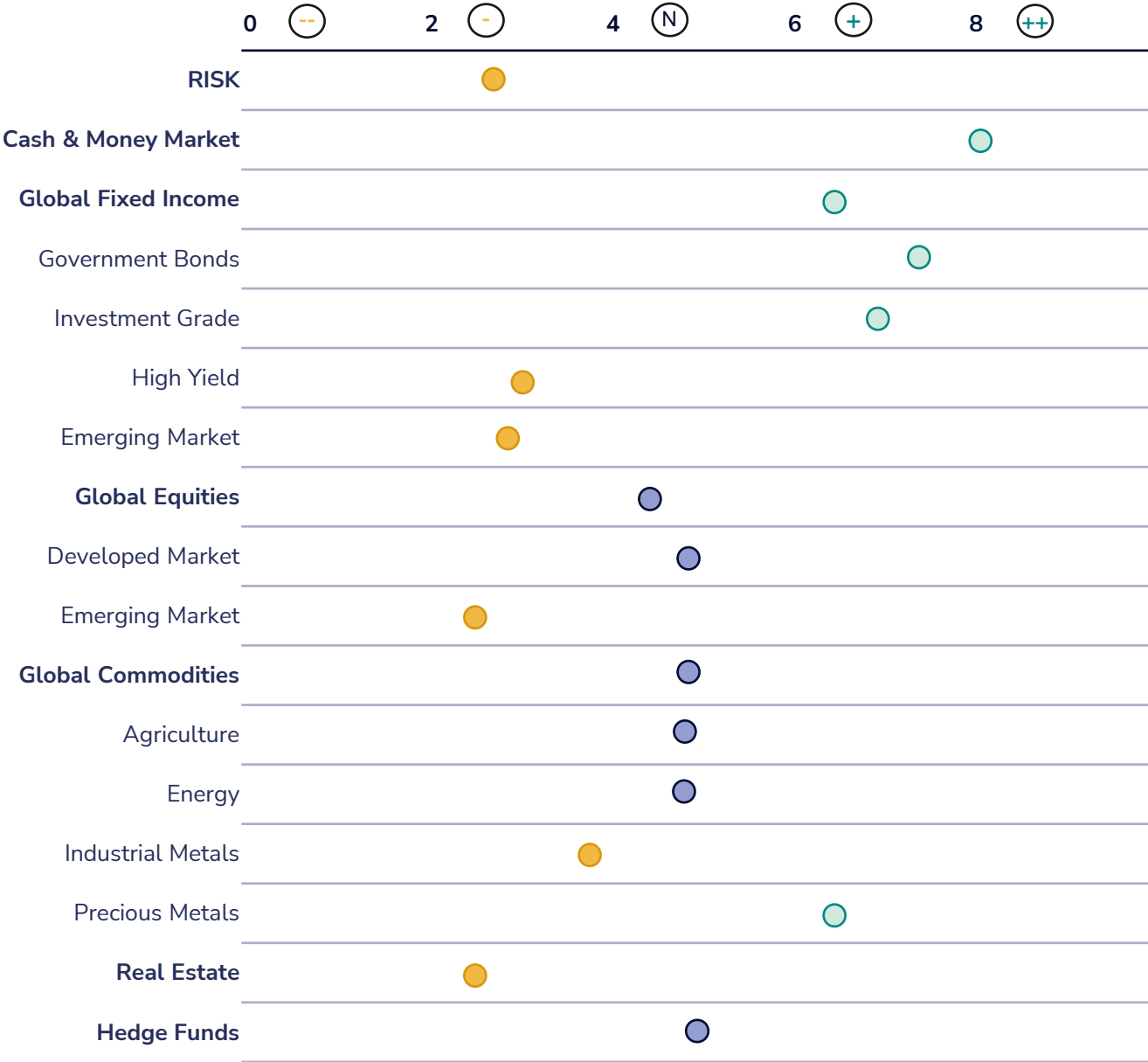
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Multi Asset Class - Views for 2023

Cautious, underweight risk, wary of a recession

- Summary stance:** Deteriorating leading indicators suggest declining expectations for growth and inflation. Central banks' hawkish monetary policy and the Federal Reserve's draining of liquidity indicate that inflation expectations remain elevated. Their ongoing actions risk further tightening financial conditions and a recession. However, following a challenging 2022, which featured heightened volatility and correlated drawdowns across both bonds and equities, we see pockets of opportunity.
- Cash and Money Market (OW)** instruments are appealing, given the interest rates on offer and to target other assets in what we expect to be volatile conditions.
- Within **Global Fixed Income (OW)** we prioritise quality and liquidity: treasuries and investment grade credit (both OW), which now offer compelling prospective returns. We're constructive on treasury duration to exploit a disinflationary scenario. High yield (UW) offers little compensation for the associated risks — corporate earnings deterioration and potential for default — while emerging markets (UW) face a persistently strong Dollar.
- Global Equities (N)** are cheaper following 2022's multiple contraction, but aggregate valuations don't currently reflect our recessionary views. We favour quality companies with pricing power, robust profit margins and conservative debt profiles. We're prioritizing developed (N) over emerging market (UW) exposure and larger over smaller capitalization companies. We prefer defensive sectors — consumer staples and healthcare — and look to technology for its growth prospects.
- Within **Global Commodities (N)** we favour precious metals (OW) as a tail risk hedge, and agriculture (N) and energy (N) to target our theme of 'resource nationalism'. We avoid cyclical industrial exposure (UW).
- For **Real Estate (UW)**, we have concerns around interest rates, illiquidity and the unwinding of the 'wealth effect'.
- Select **Hedge Funds (N)** are appealing as diversifying return streams and to exploit volatility (macro strategies) or thematic directional trends (CTA strategies).

Relative Tactical Asset Allocation Positioning: Underweight, Neutral and Overweight



Source: Signet Asset Allocation Committee

Macro Drivers

From Asset Management...

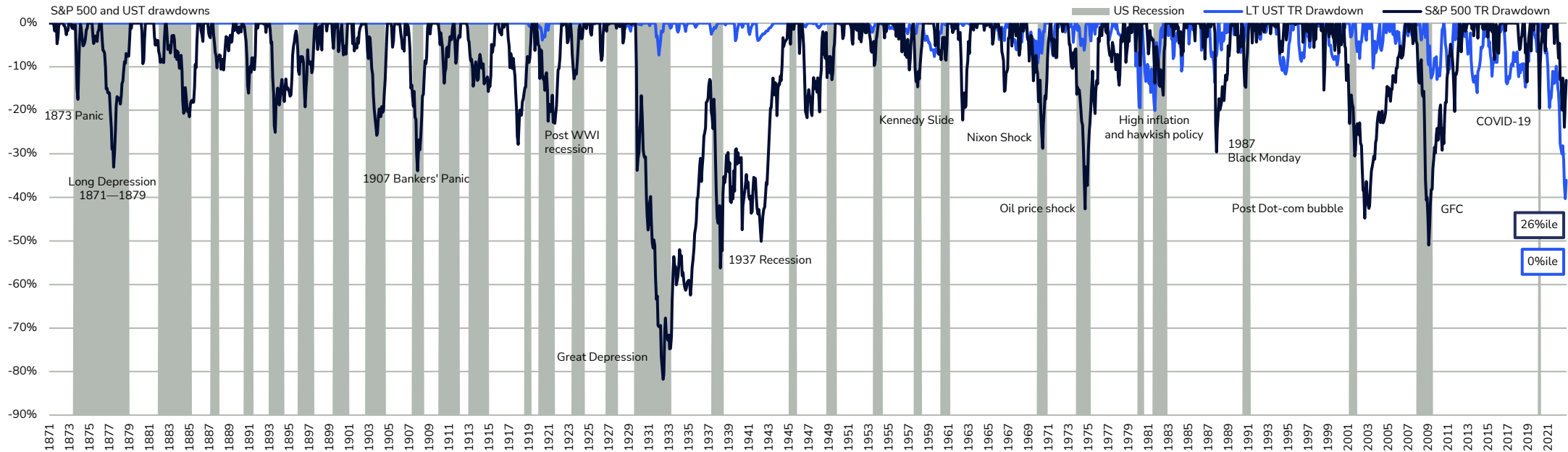
*“Our key message for 2023 — do not play hero.
Investing should prioritize capital preservation.”*



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Overview

1. Only 26% of drawdowns in the S&P 500 have been worse, while treasuries have endured their worst drawdown ever (well, at least for the last 151 years).



2. Goodbye, 2022, or better — farewell.

- The year of 2022 featured the 7th largest drawdown in post WWII history. We have seen such movements previously, but long ago — tracking back to the 1870s, we notice that only 26% of drawdowns in broad market US indices (like the S&P 500) have been more severe than currently. September 2022 marked a slide of 24% from recent highs.
- Traditional risk-free assets such as government bonds offered no place to hide either. After the world's major central banks initiated tightening policies, government bonds experienced their most significant drawdown in over 150 years. Long-term US Treasuries dropped by 40% from the highs registered in mid-summer 2020.
- The post-COVID-19 market euphoria fueled by abundant liquidity from central banks is gone. It has been replaced by anxiety over inflation, growth prospects and global security.

3. Get your popcorn ready for 2023.

- Inflation was the buzzword in the financial markets during 2022. Now, when inflation risks seem to be fading, we believe that investors will shift their focus to economic growth. If it is positive or around zero, this will likely support financial markets. A recession, however, will likely trigger a sell-off in risky assets.
- Main question — will global economic deceleration turn into a full-scale recession?
- The relative robustness of the corporate sector, undemanding valuations in the world's major stock markets and gradual signs of inflation rolling over all point towards a mid-cycle economic slowdown, not a hard landing.
- However, rate hikes and liquidity withdrawal by the world's major central banks, alongside dampened consumer confidence and with corporate margins under pressure, suggest that we may not have seen the bottom yet.
- Our key message for 2023 — do not play hero. Financial markets don't currently provide compelling reasons to expect significant capital appreciation. Investing should prioritize capital preservation. Investors should target income from coupons, interest and dividends.

US economy

Post-post-COVID-19 world

Growth and housing are in the spotlight

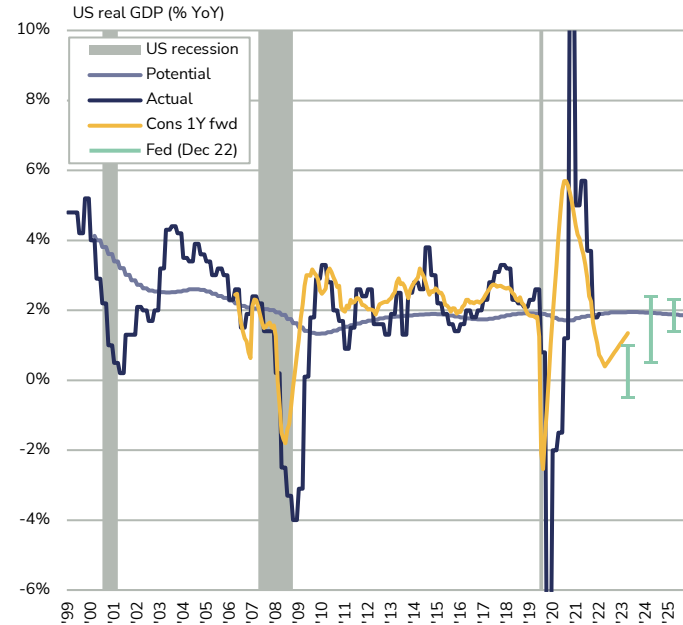
Slightly positive real US growth in 2023 is our base case.

- The flexible and resilient US economy has withstood many of 2022's problems better than its European peers. By the end of 4Q22 US GDP exceeded pre-COVID levels by 18.5% in nominal terms and by 3.0% in real terms — that's substantially higher than the Eurozone economy (+10.8% in nominal terms and -3.9% in real terms).
- The Bloomberg consensus forecast for US GDP real growth in 2023 is 1.4% (as of late Dec'22), while the Fed estimates between -0.5% and 1%. This remains below the rate of potential growth of 1.9% (fig. 1).
- If this scenario (growth above zero, but below potential) plays out, it will most likely cool down the job market, put pressure on wage growth and thereby contribute meaningfully to lower inflation.

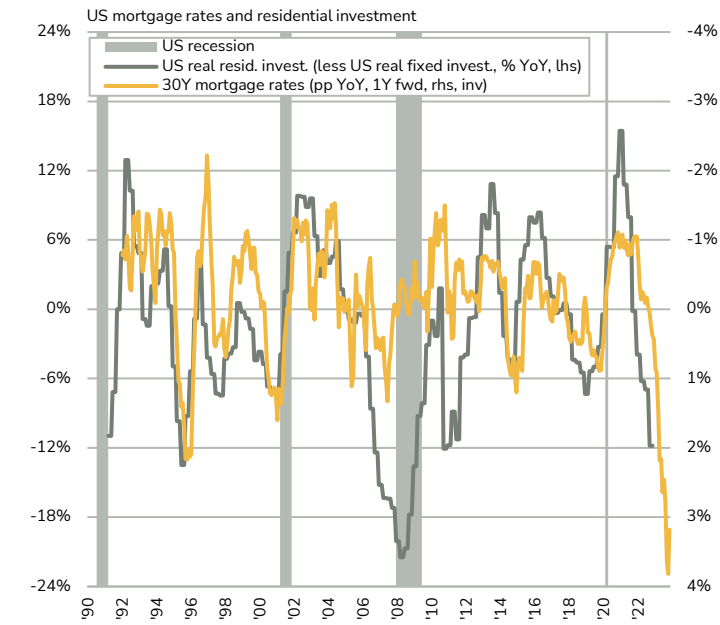
Higher rates curb housing demand, which adversely affects manufacturing. However, services hold strong.

- One of the major consequences of the Fed's extended monetary stimulus was rock-bottom mortgage rates. This stimulated demand for housing and increased residential investment (fig. 2). As monetary tightening unfolded in late 2021, these trends reversed.
- The US residential sector, as a significant contributor to GDP (4.2% in 3Q22), is a major customer to various industries. A weak housing sector typically implies sub-par activity levels in manufacturing (fig. 3).
- Nov'22 levels of manufacturing activity (ISM = 49) are similar to the 2012 and 2016 mid-cycle slowdowns but remain above the 35-40 range experienced during the 2000-2002 and 2008-2009 recessions.
- Though the US manufacturing sector is on the brink of a bigger downturn, services are holding up well (ISM Non-Manufacturing Nov'22 = 56.5). Services' substantial and growing contribution to GDP (44% in 3Q22 vs. 32% in 1979) supports a constructive overall stance on the US economy (fig. 4). We should highlight that serious recessions ('00—'02, '08—'09) are associated with a shrinking services sector which has nevertheless proved less volatile and more supportive than manufacturing.

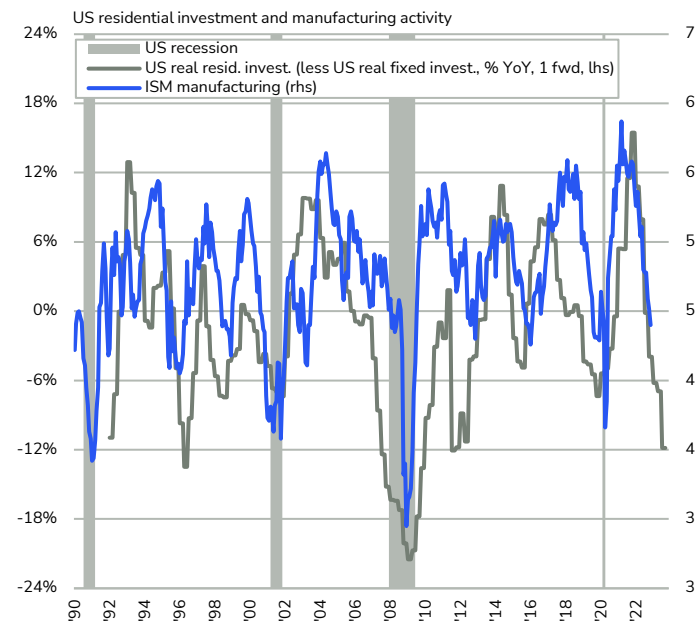
1. Real GDP growth will remain below potential



2. ...Which stimulates high demand for housing.



3. Reverse: housing drags down manufacturing.



4. Services keep the composite activity index afloat.

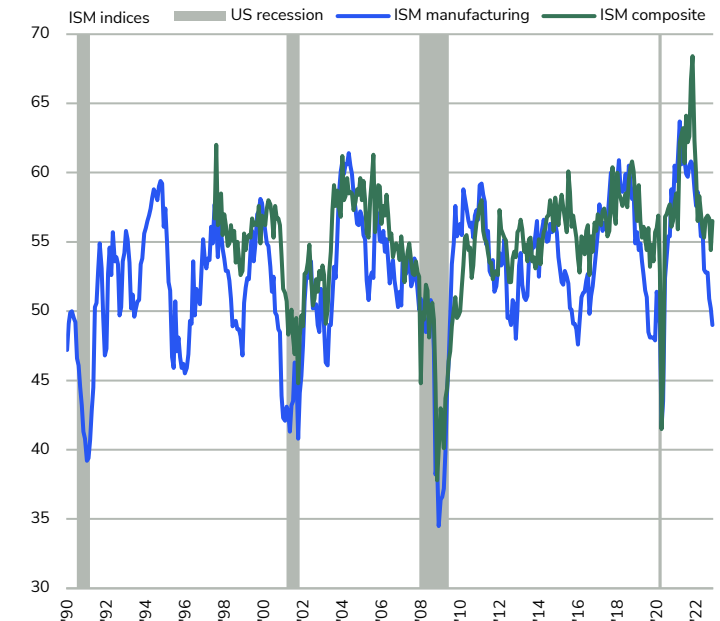
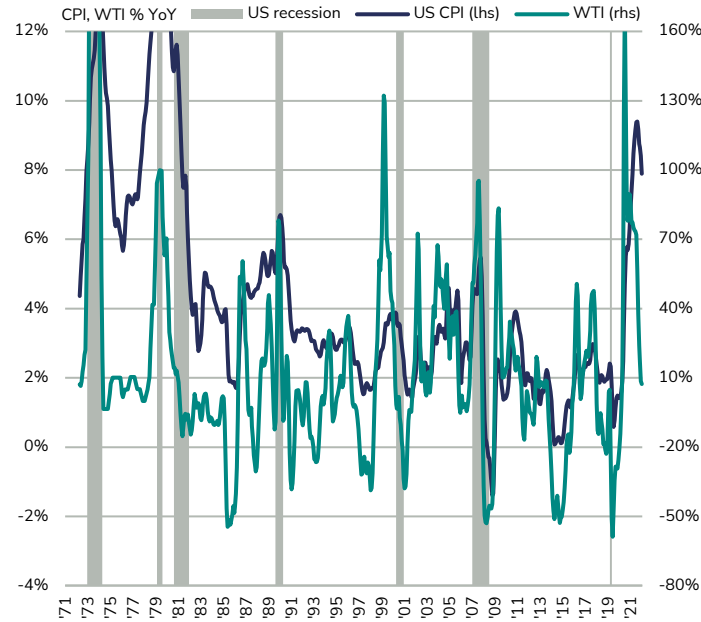


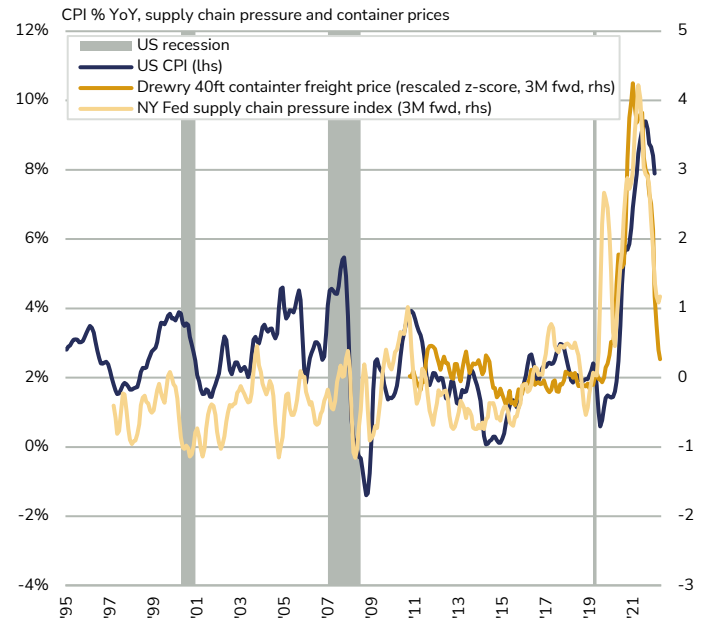
Chart sources: (1) Bloomberg, Federal Reserve. (2) US Mortgage Bankers Association, US Bureau of Economic Analysis. (3) US Bureau of Economic Analysis, Institute for Supply Management. (4) Institute for Supply Management.

Prices in the US economy Hold on a second

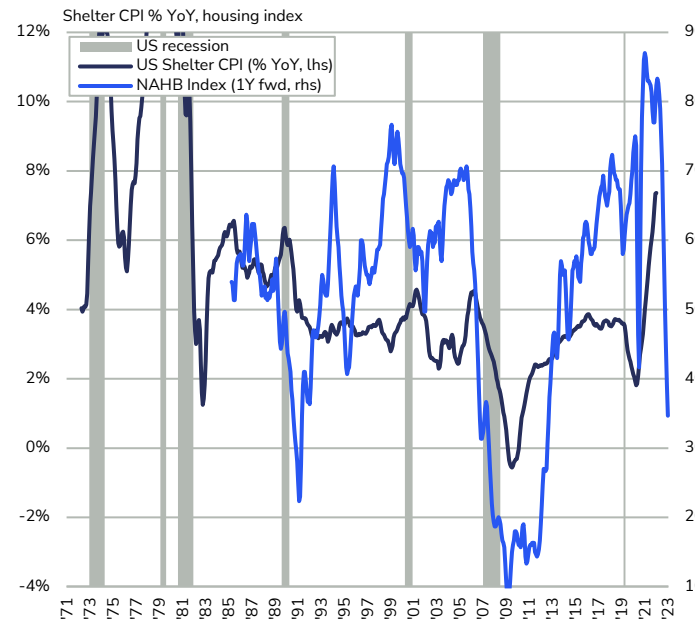
1. Low oil prices will cool down inflation...



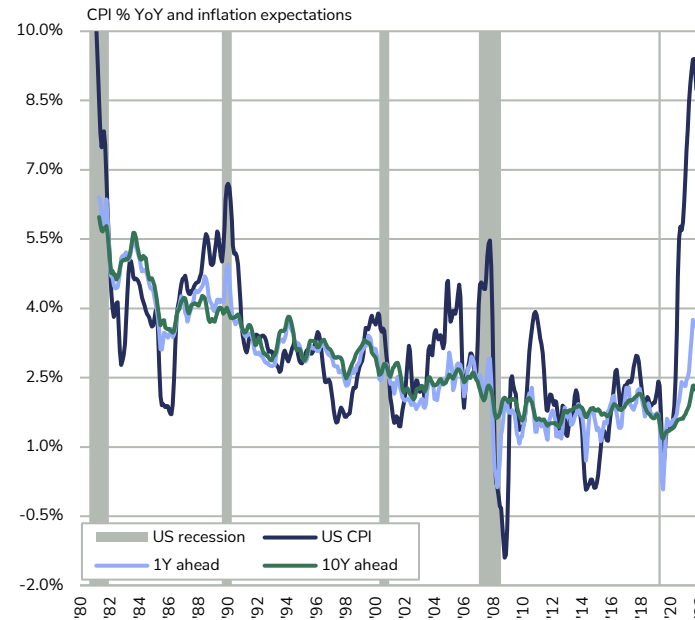
3. The supply chain is no longer under pressure.



2. ...As well as subdue shelter's contribution.



4. Inflation expectations are frontloaded.



Inflation fears are likely gone

Subpar economic activity will lead to a decrease in aggregate demand and therefore lower inflation.

- Inflation was a buzzword in 2022. This was triggered by excessive stimulative monetary supply in response to COVID-19 lockdowns. Then broken supply chains exacerbated price hikes as buyers had to either endure extended delivery times or pay a premium to secure their goods ahead of rival orders. Finally, there were politically motivated limitations of energy supplies to Europe in late 2021 and early 2022, which ignited another round of reassessing supply routes and inevitable price hikes.
- At the beginning of 2023, inflation no longer seems to be a headline theme. The global central banks' coordinated tightening response curtailed economic growth and energy-related demand. Western Europe has found alternative energy supplies, focusing on producers in the Gulf region and the US, as well as domestic producers. Old-fashioned coal-fired and nuclear power plants provide viable energy sources as well.
- Energy price inflation has contributed 3-4% to CPI growth in the US since mid-2020. This process is currently reversing (fig. 1).
- As mentioned earlier, housing has been another source of inflation. Low mortgage rates spurred housing demand and lifted prices and owner equivalent rents. Apart from 2008-2009, shelter costs in the US had been growing at lackluster rates of 2-4% p.a. since the late 1980s, before exceeding 7% in 2022. Weak housing activity should subdue shelter cost growth by the end of 2023 (fig. 2).
- Supply chains in general are no longer under pressure and indicate that US inflation could reduce to low single digit numbers in 2023 (fig. 3).
- Long-term inflation expectations are well-tamed and consistent with multi-year average levels (fig. 4). Investors consider spikes in inflation as temporary — therefore short-term inflation expectations currently exceed long-term expectations by a record margin.

Chart sources: (1) Bloomberg, US Bureau of Labor Statistics. (2) US Bureau of Labor Statistics, US National Association of Home Builders. (3) US Bureau of Labor Statistics, Federal Reserve Bank of New York, Drewry. (4) US Bureau of Labor Statistics, Federal Reserve Bank of Cleveland.

Central banks

Too much, too fast

Deflating bubble

Money supply growth will be negative to zero, central banks will pause their hiking in 2023.

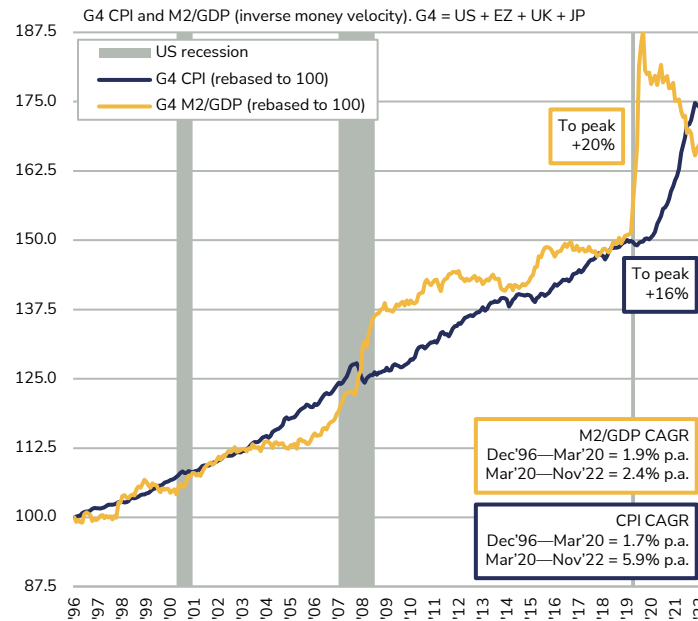
- Money supply in the world's largest developed economies (G4 = US + Eurozone + UK + Japan) has grown in line with average inflation rates since the mid-90s (fig. 1). The G4 countries' central banks expanded their balance sheets by 18% (\$7.7tr) from Mar'20 to Dec'20 to fund their respective governments' COVID-19 responses. This triggered one of the biggest inflation spikes in decades.
- By the end of 2020, the combined nominal GDP of the G4 countries exceeded Feb'20 levels and, as at the end of 2022, was 8.8% higher than pre-COVID-19 levels. However, this growth coincided with a more substantial 20.2% increase in the money supply. Monetary aggregates started to contract only in Apr'22.
- The central banks' principal inflation-fighting policy tools have been reducing the money supply and hiking interest rates. Last year marked the second-largest coordinated hiking action by global central banks ever (fig. 2, with our sample comprising 31 observations).
- If history is any guide, such trends can't last long: we expect key rates to plateau in 2023, most likely in 2H.

The market is pricing Fed interest rate cuts in late 2023. Actual rates are above the natural level and may rise.

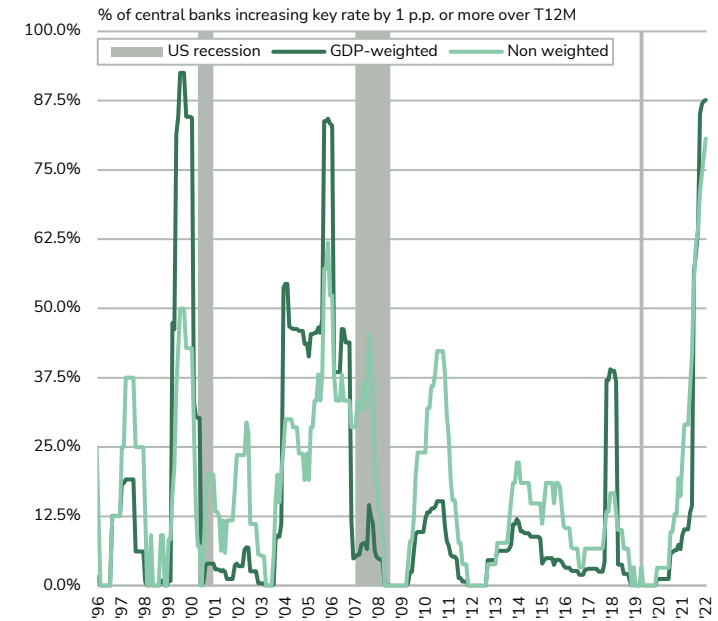
- On average, the Fed takes around 7.5 months to start cutting the key rate after completing its tightening cycle. This excludes one-month periods in the '50s-'80s, as we consider those actions to be a delayed response to overshooting the tightening phase (fig. 3).
- As at the end of 2022, Fed Funds futures were pricing in peak rates of 5% in May'23 and rate cuts commencing six months subsequently, in Nov'23, which would be consistent with historical average timescales.
- The Fed's Dec-22 meeting revealed that the median estimated key rate for Dec'23 is 5.1% and 4.1% a year later. The market is now pricing in economic deterioration, which would prompt the Fed to cut rates earlier in 2023.

Chart sources: (1) Proprietary calculations based on data from Federal Reserve, US Bureau of Labor Statistics, US Bureau of Economic Analysis, ECB, Eurostat, Bank of England, UK Office for National Statistics, Bank of Japan, Economic and Social Research Institute of Japan. (2) Proprietary calculations based on data from 31 central banks and The World Bank. (3) Proprietary calculations based on data from Federal Reserve, Bloomberg.

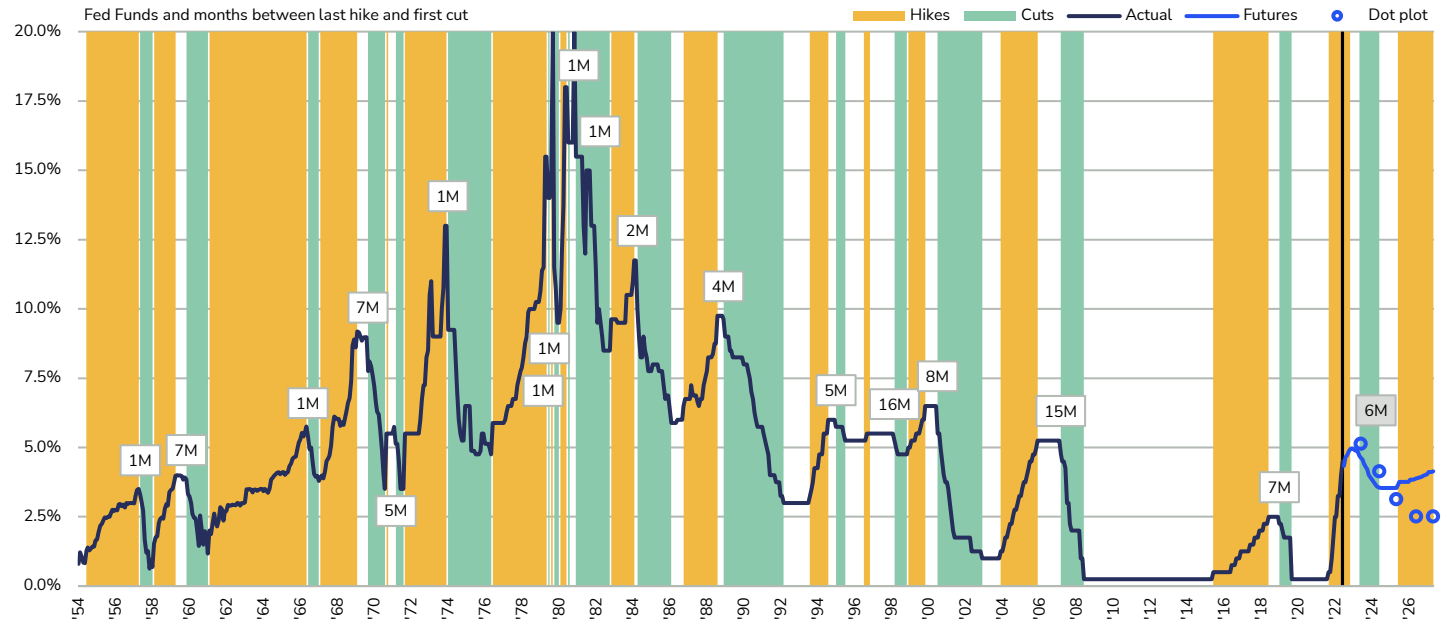
1. Money supply expansion triggered inflation...



2. ...So central banks had to respond.



3. The Fed is swift to cut rates after completing a tightening phase, taking 7.5M on average.



Macro Drivers

From Wealth Management...

"We are inclined to observe the more significant leading economic and market indicators and conclude that caution is warranted for 2023."



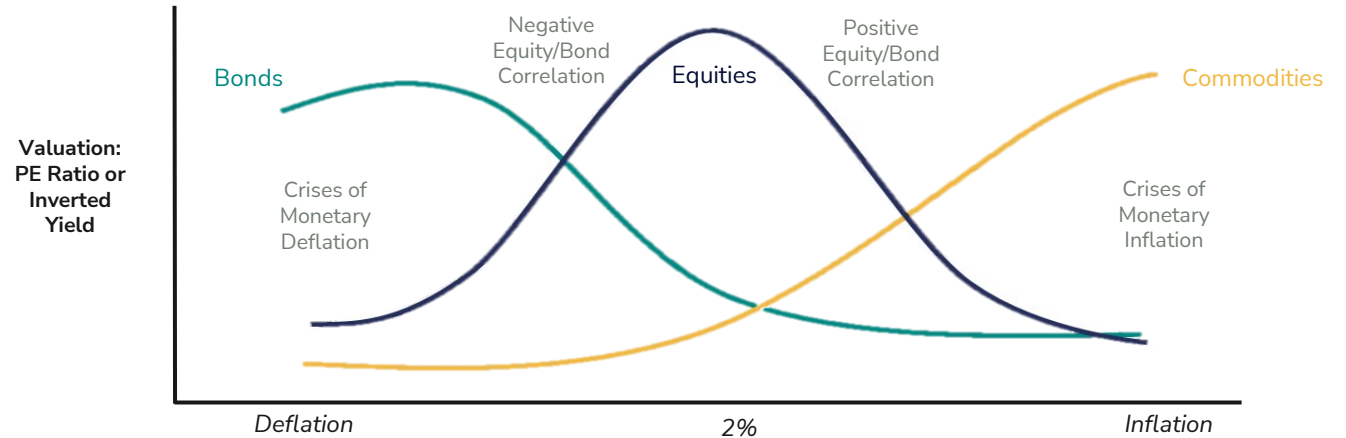
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Inflation

Probably rolling over; perhaps a lingering concern

- We are cautiously positioned going into 2023, and this ultimately reflects our concern that the global economy may enter a recessionary period. If inflation was the focus of 2022, we suspect that concerns for global growth will be the focus for 2023.
- The rapid expansion of credit in response to the COVID-19-related emergency, and the exogenous supply shock relating to the crisis in eastern Europe, have left the global economy in a precarious state. The global economic consequences from an increase of \$8.2 trillion (35%) in US total public debt (the US alone) over the last two years were euphoria in 2021, an inflation shock in 2022, and — we believe — something potentially more sobering for 2023.
- Central bankers, and the FOMC (the Fed) in particular, significantly damaged their reputations by allowing inflation expectations to take hold well above their target policy rates. Their priority remains urgently restoring their credentials by reducing inflation expectations, and to achieve that they must continue tightening monetary policy and hope for a ‘soft’ economic landing in 2023.
- Global economic conditions are deteriorating as we head into 2023. US recessions are declared by the National Bureau of Economic Research (NBER) and four of the dominant six measures are flashing caution; only the two employment measures remain at levels indicative of a healthy expansion.
- We suspect that central bankers’ resolve will be tested in 2023 as corporate earnings contract and over-leveraged institutions, the ones often lurking in the shadows, struggle to cope with the cyclical shift in economic and financial conditions. If there’s a downturn in 2023, we now need to understand its potential characteristics; its scope, severity and longevity.
- Our **Inflation Regimes diagram (fig. 1)** remains a useful guide for asset allocation. It correctly predicted that an unexpected and elevated inflation shock in 2022 would benefit commodities, at the cost of bonds and equities. While headline CPI remains elevated, the **Federal Reserve Bank of Cleveland’s expectation for inflation in one year (fig. 2)** suggests that inflation is now rolling over, and that view is supported by other US and global inflation metrics. This might reverse 2022 price trends.

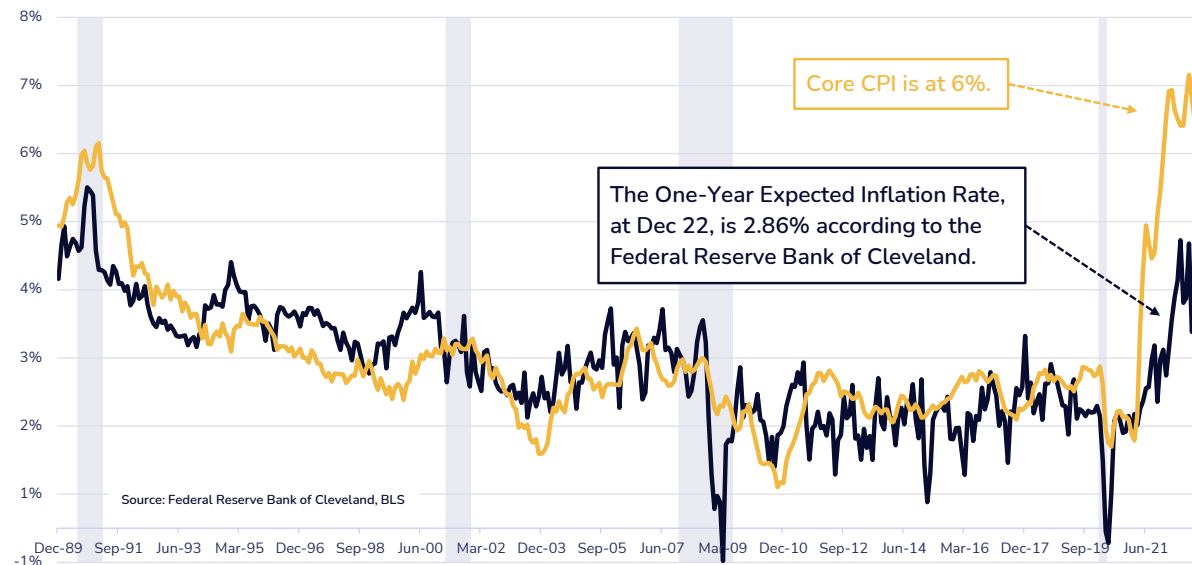
1. Inflation regimes and core asset classes



- The question, of course, is how far inflation expectations roll over and what that reversal does for the leading asset classes in 2023. We will monitor inflation, answer and adjust expectations as we head into the new year.

2. US inflation and 1-year expected inflation

US Core CPI & 1-Year Expected Inflation (1989-2022)

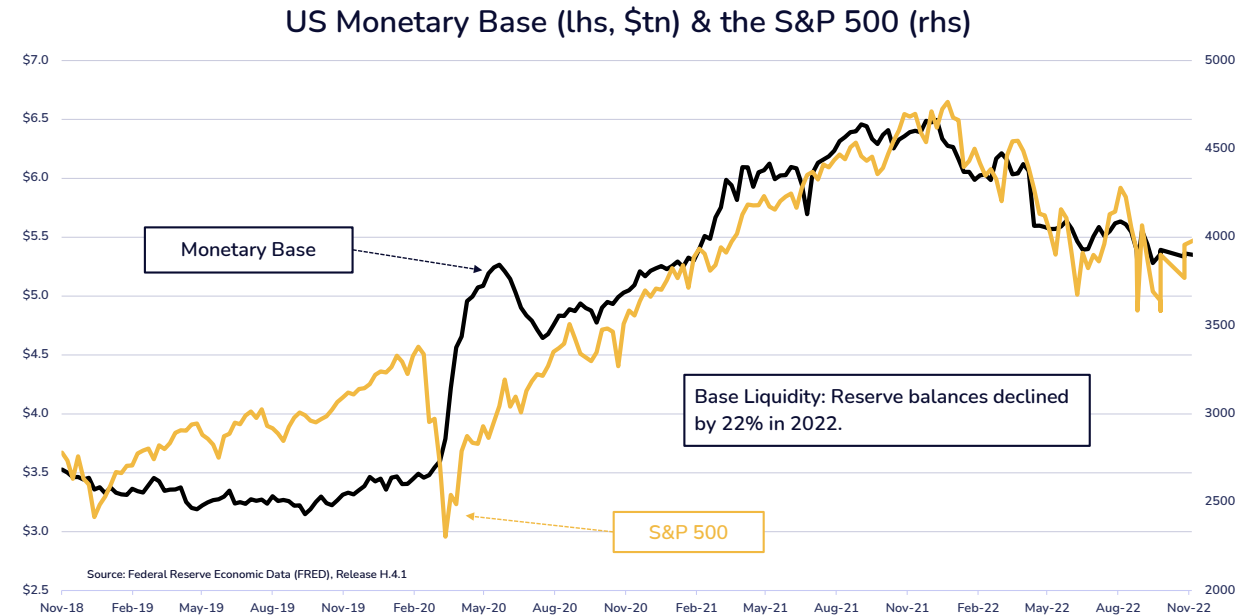


Funding liquidity

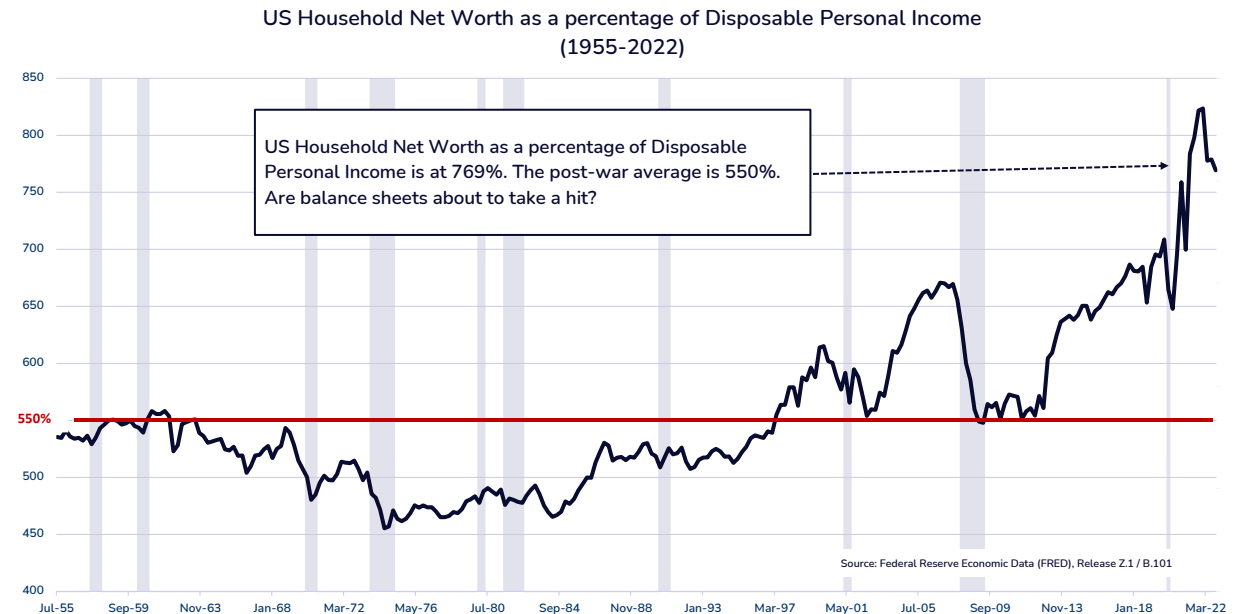
The market's oxygen is being drained

- While the spotlight is firmly on the Fed's interest rate policy and quantitative tightening — the reduction of its balance sheet — it is also important to monitor the detail that exists beneath the surface, on the 'liability' side of the Fed's balance sheet. Reserve balances are the largest constituent of the monetary base and a key proxy measure of funding 'liquidity' and risk appetite.
- US monetary policy has evolved over the last 14 years and the changes have repercussions for the global economy: the Eurodollar system, collateral and liquidity. Policy is currently focused on the interplay between interest rates, the liquidity channel and the aggregate economic impact. The liquidity channel is the key mechanism through which reserve balances are effective.
- The Fed will maintain an ample reserves regime, but these reserves are being partially drained through the quantitative tightening process. If **liquidity is the market's oxygen (fig. 3)**, we can begin to understand the economic and market impact of the Fed's actions — the S&P 500 is highlighted in the chart to the right, alongside the US monetary base. The draining of liquidity is due to continue into 2023, hence our general caution.
- The 'wealth effect' is an expression used to highlight an informal policy objective that central bankers have used, certainly since 2009, whereby higher asset prices are thought to trickle down to consumer spending and economic activity. While inflation remained constrained, central bankers were content using monetary policy to indirectly support the twin channels of the wealth effect: the equity and property markets.
- With central bankers more focused on inflation in 2023, we are more likely to see a reversal of the wealth effect, and this may have consequences for the equity and property markets. With lower household wealth, and levels of unemployment consistent with those typically observed during a recession, the central bankers can hope to lower consumer spending, increase productivity (which has looked woeful over the last two years) and dampen inflation. The **US wealth effect (fig. 4)** reflects the prospect of a large hit to household balance sheets in 2023, especially if history acts as any guide.

3. Liquidity — continues to be drained, impacting asset prices



4. The Wealth Effect — may well be reversed in 2023

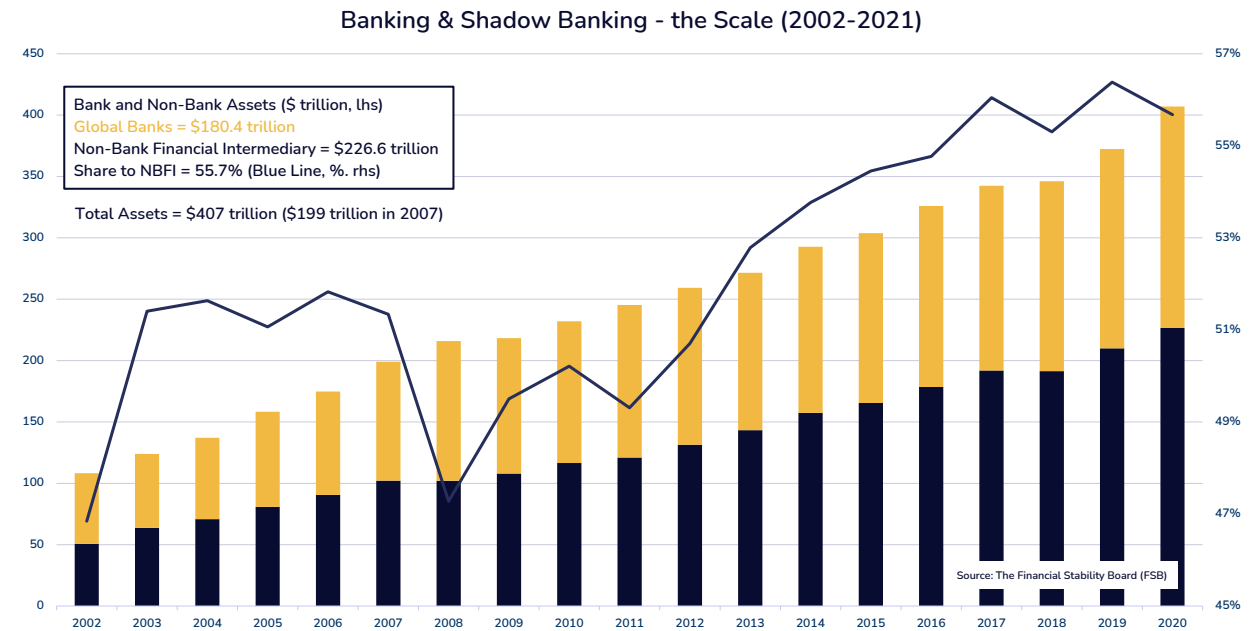


Shadow banking

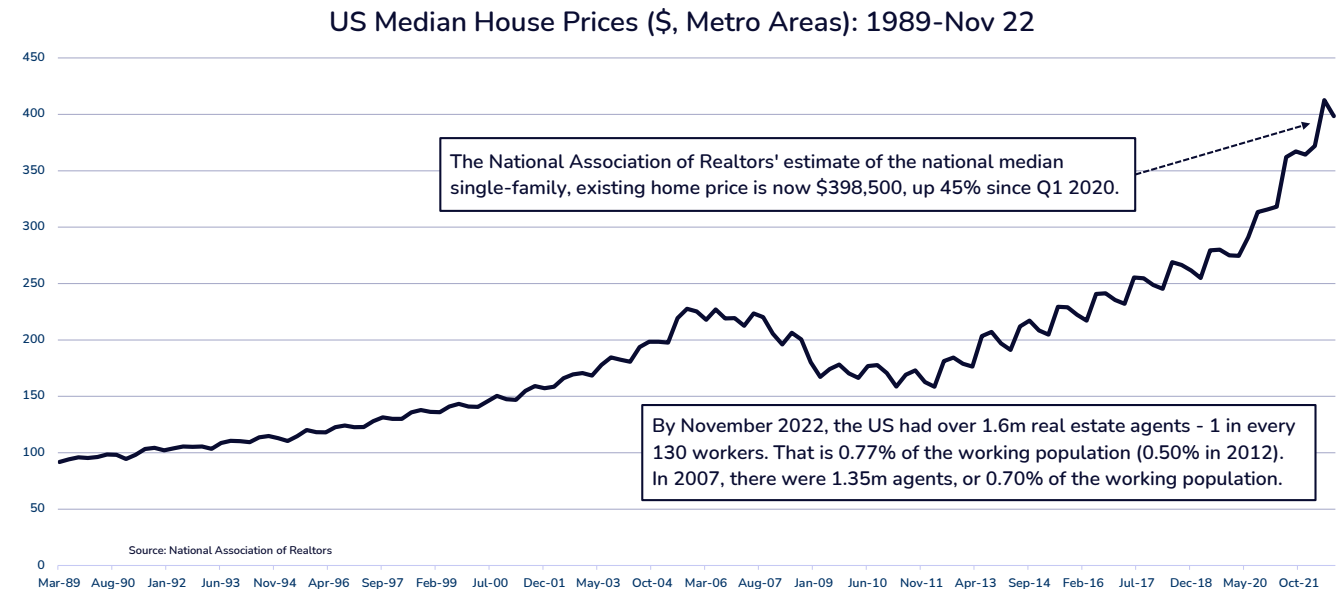
May unnerve the markets, and regulators

- The global financial crisis (GFC) of 2008 revealed the nature of the markets' vulnerability to financial contagion, and it also exposed the fragility of the global financial system's regulatory supervision. Regular banks endured the blame. However, the GFC also highlighted the potential build-up of systemic risk arising from increased credit intermediation involving entities outside the regular banking system. These entities, collectively known as **'Shadow Banks' (fig. 5)** — formally Non-Bank Financial Intermediaries or NBFIs — are significantly entwined within the 'plumbing' of the global financial ecosystem and are significantly larger than often assumed.
- The risks within their operations are often difficult to account for by the regulators as they directly, or indirectly, affect the provision and transformation of liquidity, credit, collateral and risk. They can therefore undermine, distort or amplify the consequences of monetary policy implementation.
- Shadow banking is often associated with the money-market (short-term) funding of capital market (long-term) investing and, implicitly, is therefore highly vulnerable to a market-based refinancing risk as liquidity is drained. With ample reserves and short-term funding derived from the zero-bound since 2009, all had been fine.
- With base liquidity being drained, and rates being hiked aggressively, we appear to be witnessing a sudden escalation of systemic risk, derived from a disproportionately large number of these NBFIs structuring their profit models and balance sheets around the same core, optimistic assumptions. **US house prices (fig. 6)** are not immune.
- Private markets, which are prone to overvaluation, aggressive accounting and high leverage are an area we're mindful of, given their rapid growth in recent years. Private markets may exploit obscure valuations and illiquid pricing during episodes of abundant credit and low hurdle rates, but these factors may come back to haunt them during the tighter, more forensic times. In 1992, Hyman Minsky warned us of unstable financing regimes borne from periods of stable and prolonged prosperity. That warning for private markets is highly relevant in 2023.

5. Shadow Banking — will private markets mark-to-market?



6. Property Prices — time to hand back some of the post-COVID-19 gains?

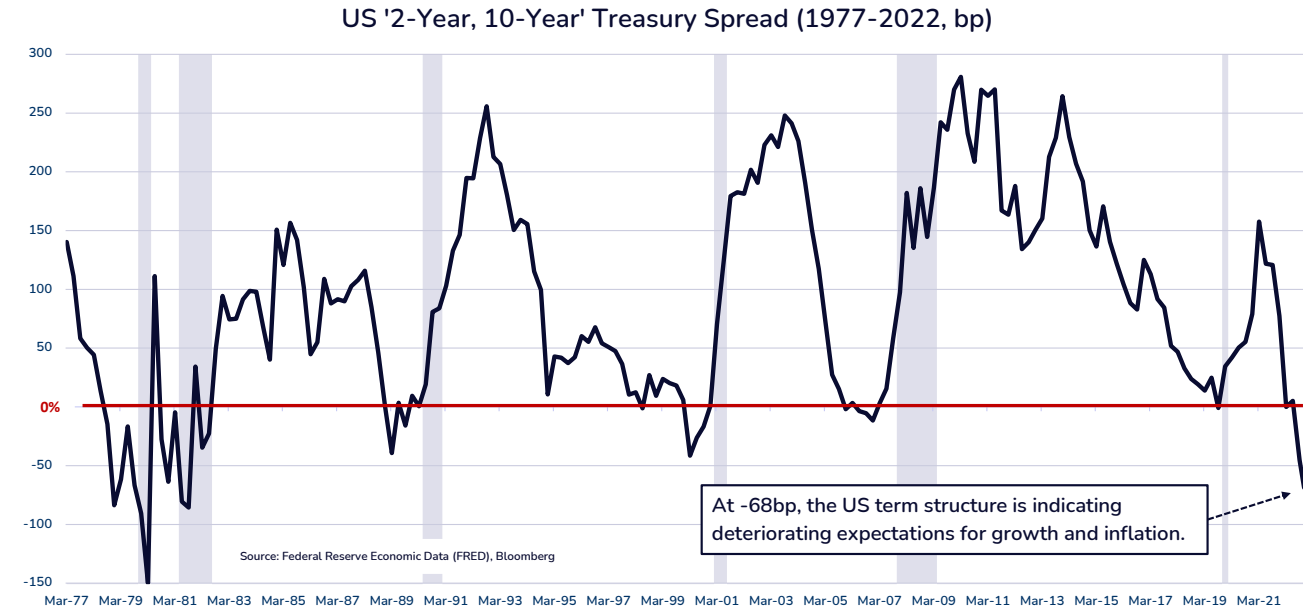


Leading indicators

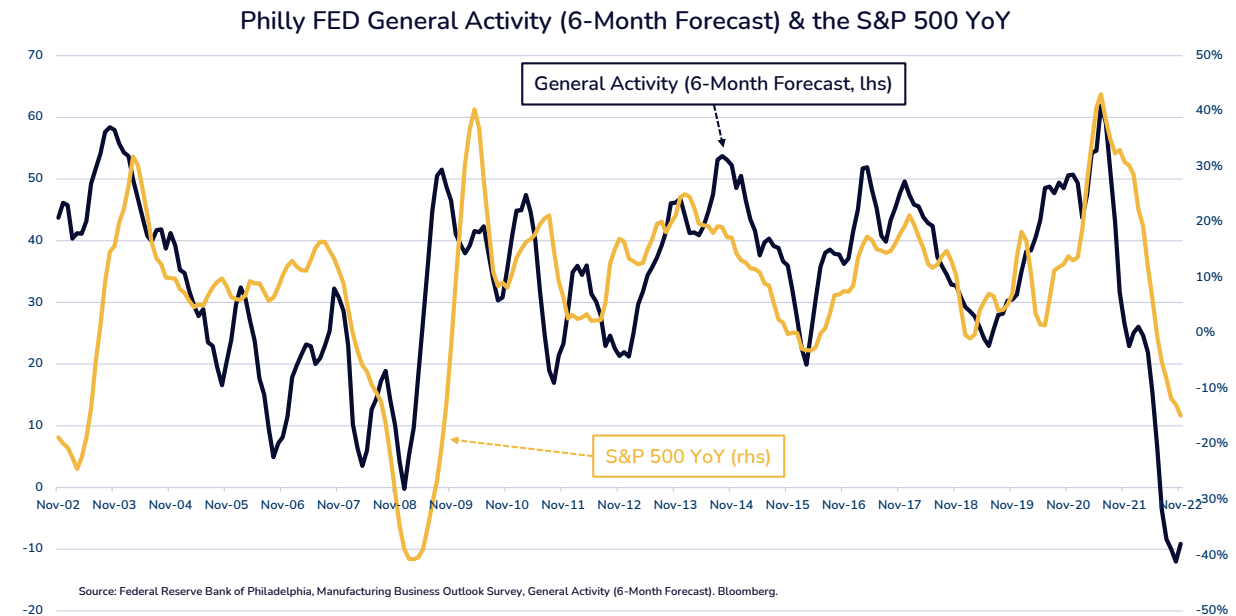
Point us towards caution in 2023

- Lagging indicators, such as unemployment (duration of), loans, inventories and labour costs had improved by Q4 2022 and were up 3.7% over the prior six months, according to the Conference Board. These indicators had grabbed the headlines leading to talk of “recovery” into 2023.
- However, the Conference Board’s leading indicator index had fallen for eight consecutive months by Dec’22 and was down 3.2% over the prior six months. Leading and soft indicators point towards a recession in 2023.
- The indicators are even more extreme for Europe and some parts of Asia. Further, unlike 2009, China cannot be expected to ‘bail out’ the global economy this time around either; it has serious structural economic problems of its own to address.
- The US Treasury market — bond yields — are a reliable indicator of the economic outlook, while the difference between the 2-year and 10-year **Treasury yields, the spread, (fig. 7)** is a useful leading indicator of a recession. Specifically, an inversion indicates receding growth and inflation expectations, and often signals a market ‘top’ for risky investments. This currently looks pessimistic and suggests the Fed is tightening too far and too fast. Remember, there is often a 6–12-month lag between interest rate action and economic impact.
- Forward-looking business surveys are another leading indicator. The Philly Fed Survey is a respected release and has a useful component looking at the expectations for general business activity in six months’ time. The indicator has already — abruptly — breached 2008’s lows, and its trend might be associated with further weakness in the ISM data, earnings and, ultimately, asset (risk) prices. The **Philly Fed Survey is mapped against the S&P 500 (fig. 8)** to illustrate the point.
- Conclusion:** We are inclined to observe the more significant leading economic and market indicators and advocate caution for 2023, at least for the first half of the year. There will be opportunities, however, so investors should prioritise liquidity and active advice, and be prepared to act.

7. Leading Indicators — the US government bond market



8. Leading Indicators — business activity



Equity themes to consider...

*From Cloud Technology and Security to
Financial Edge and Clean Energy*



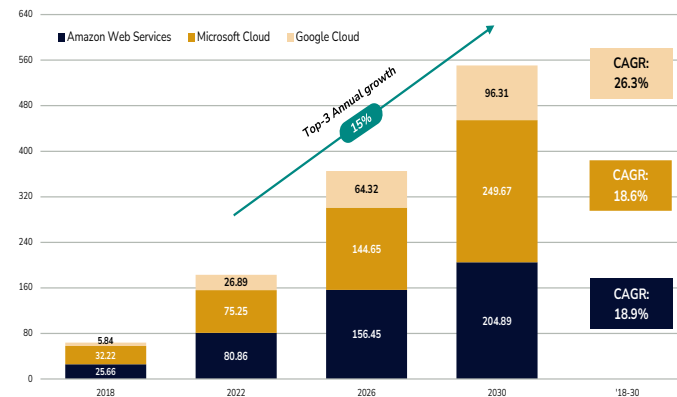
Cloud technology

The most promising innovation in tech

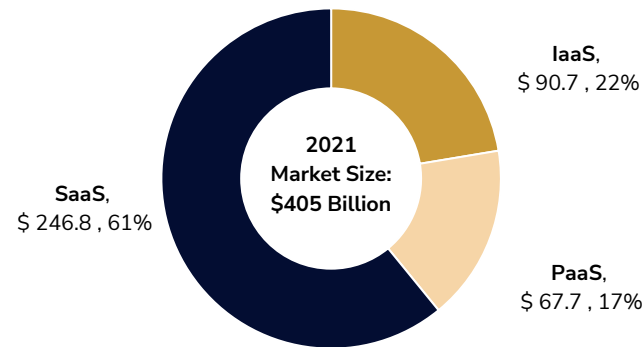
Multiple tailwinds should drive growth over the medium term, following a potential slowdown in 2023. We expect large cloud providers to continue to deliver robust results over the medium term, with consistently strong growth and margin progression.

- After several years of strong growth, especially post-pandemic, growth rates in cloud spending could decelerate in the very short term as companies adjust their spending. We anticipate this slowdown to be short-lived and expect growth to reaccelerate in 2024.
- Cloud penetration remains low (c.20-25%) and has the potential to double from current levels in the next decade. This represents a significant growth opportunity, as increasing usage of data and burgeoning penetration provides a strong and sustainable tailwind.
- The dominance of the three big players (**fig. 1**) could intensify as they increasingly focus on gaining market share and entrenching their respective market positions.
- We expect Amazon to maintain its lead, especially in infrastructure-as-a-service — which constitutes over 20% of the cloud market (**fig. 2**) — as it leverages its strong open-source background. We expect Microsoft, with its enterprise background, to gain market share and Google to remain a distant third (regionalization is not as strong).
- Oracle could be a surprise within cloud given its increasing related investments, but Microsoft should also benefit from its partnership with Oracle.
- We anticipate potential margin compression due to increasing electricity costs and wage inflation, exacerbated by aggressive pricing in pursuit of market share. Ultimately, we expect healthy margin progression trends to resume, as improving data center efficiencies and increasingly complex use cases act as tailwinds.

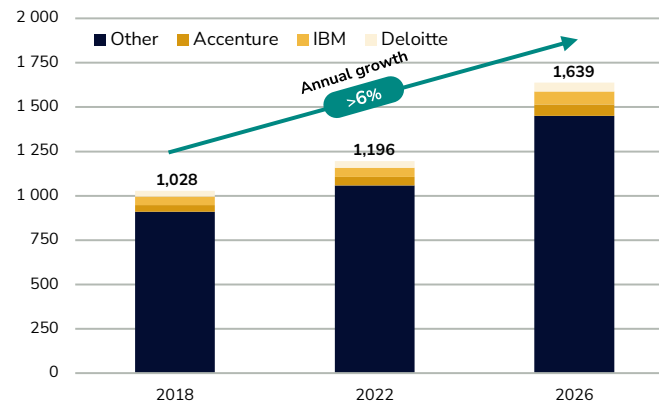
1. Sales of Top-3 Cloud Infrastructure Players, \$bn



2. Cloud Spending Market Structure, \$bn



3. Worldwide IT Services Market, \$bn



IT services — taking you to a cloud

We prefer the larger vendors in IT services, as we believe they're better positioned to gain market share. We're targeting companies that focus on cloud-based solutions, rather than business process outsourcing and/or outdated technologies.

- In our view, digital transformation should remain high on the agenda for CIOs, representing a multiyear tailwind as companies upgrade their systems, with an increasing focus on back office functions/automation.
- Based on our conversations, the digital transformation agenda remains among chief information officers' top priorities. The global IT services market is forecast to attain a 6% CAGR between 2018 and 2026 (**fig 3**) driven by accelerated spending between 2022 and 2026.
- Given ongoing macro uncertainty, we expect that non-critical projects might be delayed, leading to a near-term slowdown in growth. This might vary by subsector, i.e., retail/the consumer may endure a more significant deceleration in growth than the financial services sector.
- This slowdown can also vary by geography. We foresee a steeper slowdown in Europe than in the US or Asia.
- Various ongoing challenges, including availability of talent, wage inflation and employee turnover in the sector represent margin headwinds. The last two years have witnessed robust pricing power by IT service providers.

Chart sources: (1, 2, 3) Bloomberg Intelligence.

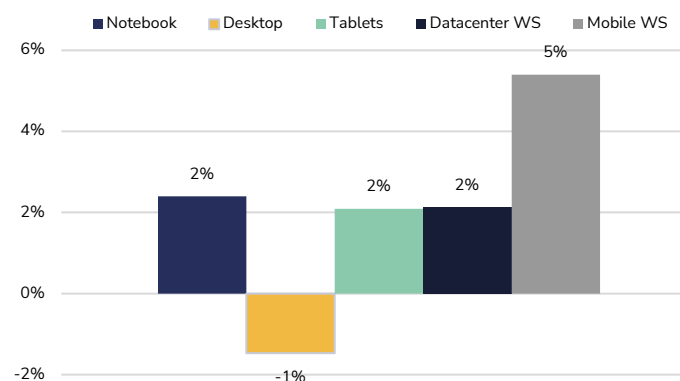
Digital data

Hardware — devices around us

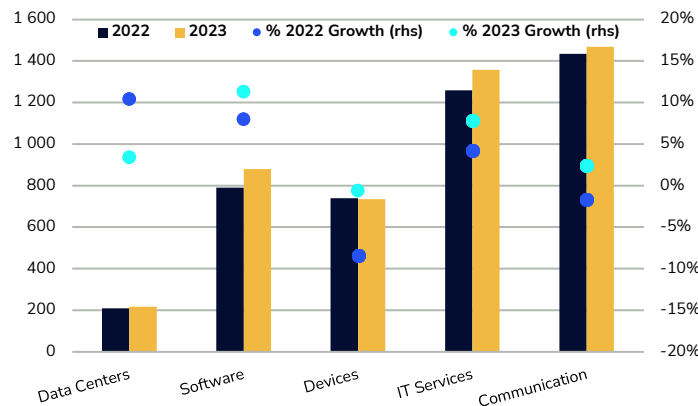
Given slowing consumer demand and elevated total shipments compared pre-pandemic levels, it is reasonable to maintain a conservative stance on the hardware industry, investing only in the most defensive companies.

- Personal computer devices (PCD).** Worldwide personal computer sales were down 15% Y/Y by 4Q22. PC makers shipped 74mm PCs in 3Q22, down 15% from 87mm PCs a year prior. Weakening sales are primarily due to a combination of "cooling demand and uneven supply" in the PC market.
- Further deterioration is expected in 2023 as consumer demand continues to slow and education demand is largely fulfilled, with enterprise demand elongated due to worsening macroeconomic conditions. The combined market for PCs and tablets is forecast to decline by 3% in 2023, before resuming its growth trajectory in 2024. Shortages over the past few years have led to an aggressive shift towards the premium segment.
- The average 2022-2026 forecast shipment CAGR for notebooks, tablets and datacenters WS exceeds 2%, while desktops are expected to lag, with a 2022-2026 shipment CAGR of -1.5% for this product (fig. 1).
- Cloud and data centers.** Big Tech players invested heavily in cloud computing infrastructure during 2022. In 2023, these companies are expected to reduce their spending on the warehouse-sized data centers, filled with cutting-edge computing and communications technologies, that comprise the cloud (fig. 2).
- We anticipate server shipment growth to be weaker in 2023 and stay in a range 2.7%-2.9% as the global economic outlook remains moderately negative and companies across most industry sectors adopt more targeted expenditure plans for 2023.
- In the event of an economic slowdown in the US, cloud spending growth could slow from 25-35% to 15-20%. Consequently, we expect software spending (including on cloud infrastructure) to increase by 11% in 2023 (fig. 3).

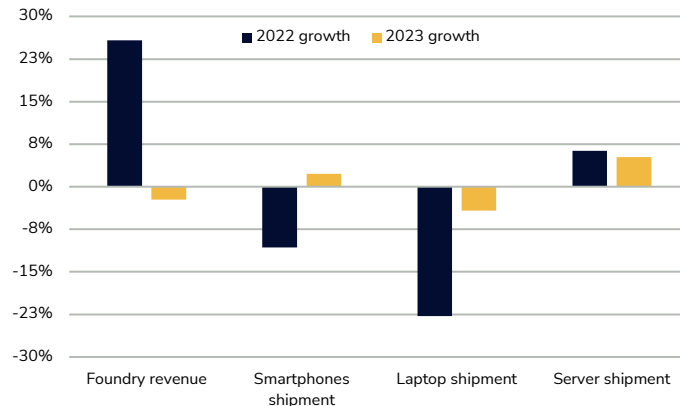
1. PCD Forecast Shipment, 2022-2026 CAGR



2. Worldwide IT Spending, \$bn



3. Global Foundry Sales vs. Segment Shipments



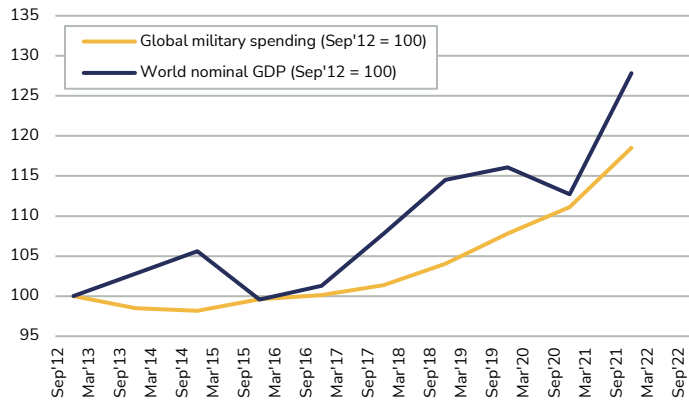
Semiconductors — life and chips

Two factors that are exerting significant pressure on the semiconductor industry's 2023 outlook are (1) declining consumer demand for PCs and consumer electronics and (2) inventory adjustments. Despite the long-term attractiveness of semiconductor industry, we maintain a tactically cautious stance for the first half of 2023.

- In 2023, global foundry revenues are expected to decline by 2-3%, due to ongoing inventory adjustments during 1H23, macroeconomic uncertainty affecting consumers' willingness to buy new products and the technological war between the US and China (fig. 3).
- Over the next five years, we forecast an 8% CAGR and expect these revenues to reach \$205bn by 2027.
- While the Industrial Internet of Things (IIoT), automotive and other specialized communications semiconductors are likely to maintain relatively stable growth, the growth rate of individual semiconductor companies will vary depending on the contribution of these applications to their respective businesses. As the industry recovers, we anticipate increased demand for applications such as 5G and high-performance computing (HPC), higher silicon content in electronic vehicles (EVs) and cars, coupled with brand and system owners such as Amazon, Microsoft, Google and Apple moving to proprietary chips.
- The enterprise market has been relatively stable, and we don't expect it to decline as much as the consumer market with respect to semiconductor demand. We anticipate weakness during 2023 in the memory market — expecting oversupply to contribute to a decline of up to 16% — and in the NAND flash market, which could see a decline of up to 14%.
- A paramount ongoing consideration is the impact of weaker consumer demand on retail prices. GPU producers have already started reducing their prices to adjust inventory levels, while DRAM and NAND flash manufacturers have curtailed production plans to prevent a significant price correction.

Security

1. Global Military Spending and Nominal GDP

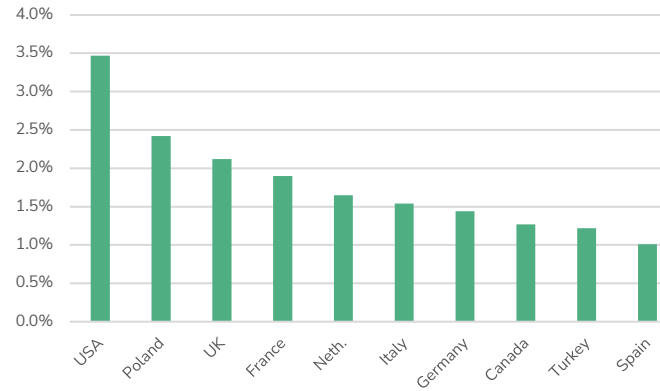


Addressing the new threats

Defense contractors' stocks and valuations have outpaced the S&P 500 Index in 2022 as investors have sought safe havens from market volatility, inflation risks and geopolitical turmoil. Global defense budgets are set to rise as countries compensate for years of underinvestment.

- The aerospace and defense (A&D) sector has suffered various setbacks and operational challenges wrought by COVID-19 and global macroeconomic turbulence. However, the sector continues to benefit from several positive drivers, and as such its earnings are expected to achieve a 12% CAGR over the next five years.
- The 2022 Aerospace & Defense Global Market Report forecasts A&D market revenues to reach \$1,047bn in 2026, an 8.5% CAGR (2021-2022: \$700bn to \$755bn, 7.8% Y/Y growth).
- With the NATO (US) military gradually moving its focus away from the Middle East to emerging threats such as China, defense companies will emphasize building improved capabilities in fighter aircraft, space resilience, shipbuilding, and cybersecurity.
- Another important segment is Advanced Air Mobility (AAM). The market for AAM in the United States alone is estimated to reach \$115bn annually by 2035.

2. Defense Spending in 2022, % of GDP

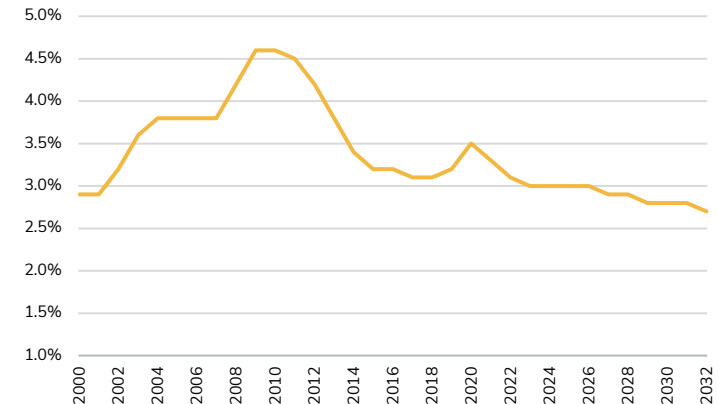


- Supply-chain constraints, which most companies now expect to persist through 2023 and perhaps into 2024, continue to affect industry revenues. These disruptions had been expected to abate in 2H23, but many companies revised their outlooks after 3Q as the robust recovery that they had anticipated failed to materialize.

A new outlook on defense spending

- Growth in global military spending has lagged global GDP growth over the last decade (**fig. 1**).
- Prompted by the war in Ukraine, many European countries have committed to meeting or exceeding the NATO spending target of 2% of GDP — in some cases, years before they originally planned to do so — a level of spending which most did not attain during 2022 (**fig. 2**).
- Germany, for instance, announced in February 2022 that it would spend an additional €100bn per annum (c.1.5% of GDP) on defense over the next few years, having committed an average of just 1.3% of GDP to military spending between 2008 and 2021. Another example is Poland, which set a defense budget of 2.4% of GDP for 2022, alongside plans to increase this to 3% in 2023.

3. US Defense Spending, % of GDP



- US defense spending for 2023 represents c.3% of GDP, and has been declining since 2010, but is expected to reaccelerate in absolute terms — albeit lag projected GDP growth — over the next decade (**fig. 3**), to speed up modernization and address new global security threats.

Cyberwarfare

- Cybersecurity has become a critical issue for all industries, but acutely so for the defense manufacturers, given the sensitive nature of defense data and the consequent threats to national security: as the modern soldier becomes increasingly connected, all devices must be protected.
- Militaries around the world are planning and developing next-generation technologies for cybersecurity, which represent substantial growth opportunities and are designed to: improve the speed and accuracy of battlefield logistics planning, increase the autonomous functionality of systems, facilitate decision making, reduce overhead costs, and diminish risks to soldiers.
- Industry sources valued the global cybersecurity market at \$21.3bn in 2021 and project it to reach \$43.4bn by 2031, achieving a 2022-2031 CAGR of 7.7%.

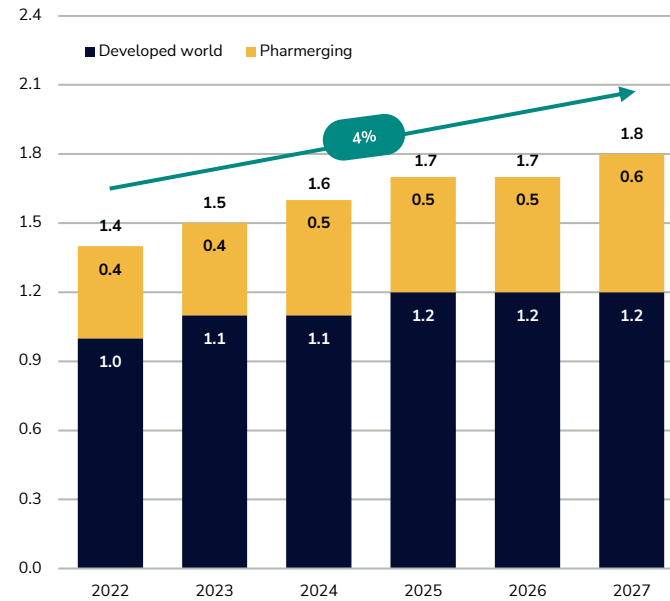
Healthcare Pharma

Stable and cash generative

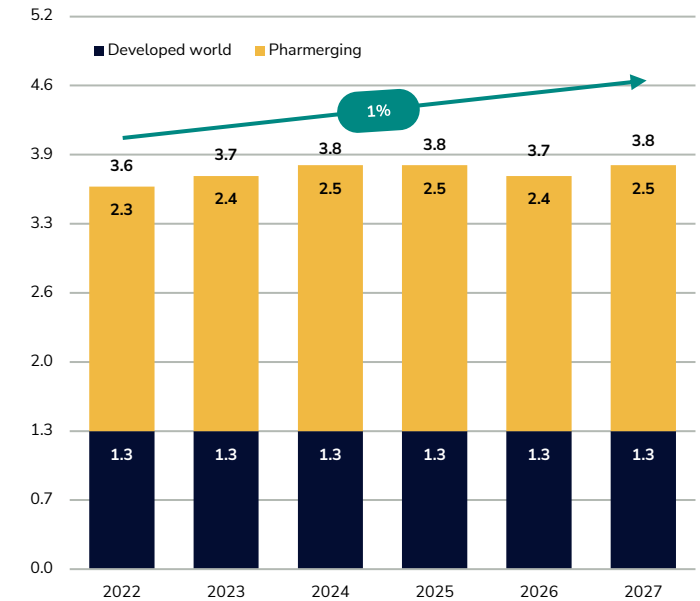
We favor investing in companies with lower USD-exposure (assuming peaking USD strength in 2023), substantial cash balances (to execute bolt-on acquisitions) and consistently high ROIC.

- 2022 overview.** Pharmaceuticals' market value continued to grow at a stable pace (fig. 1) fueled by an increase in the use of existing medicines (fig. 2) and drug discovery.
- Drug prices and projected spending composition.** Drug prices are forecast to grow at a modest pace in 2023: 2.7% for contract products and 3.6% for non-contract products. Oncology is projected to account for 22.8% of total drug spending, with oncology- and dermatology-related drugs to lead price appreciation (fig. 3). By 2025, pharma spending on new brands is expected to outpace income declines arising from loss of exclusivity (fig. 4).
- Regulatory shifts.** The major upcoming regulatory change is the Drug Supply Chain Security Act, due to be enacted in Nov'23. This will require pharmaceutical companies to provide stipulated data alongside product shipments to trading partners, or face shipping constraints and/or fines. Moreover, US lawmakers are considering price caps for insulin and several other drugs.
- Impact of the strong USD.** Most global, non-US providers (including Sanofi: +7.6% translational effect on sales for 9M, GSK, +9.0% and Novo Nordisk, +10.0%) have benefited from the strong USD. Conversely, both US-incorporated Global Pharma providers and global players with a substantially USD-denominated cost base (such as Johnson & Johnson and Roche) have suffered.
- Mergers and acquisitions.** The strong financial results registered by biopharma companies in 2022 contributed to substantial M&A activity. We expect many big pharma firms to accumulate substantial cash balances in the next three years, facilitating deals to augment their pipelines in 2023 and beyond. (At the end of 3Q22, Pfizer, Johnson & Johnson and AbbVie had the highest cash balances.)

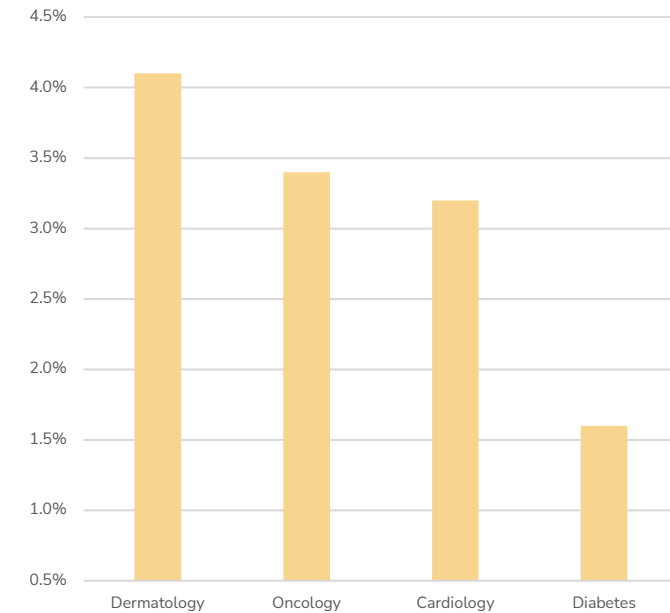
1. Projected Global Pharma Market Value, \$tr



2. Projected Use of Medicines, mn daily doses



3. Pharmacy Price Growth by Disease in 2023, %



4. Global Pharma Spending by 2025, \$bn

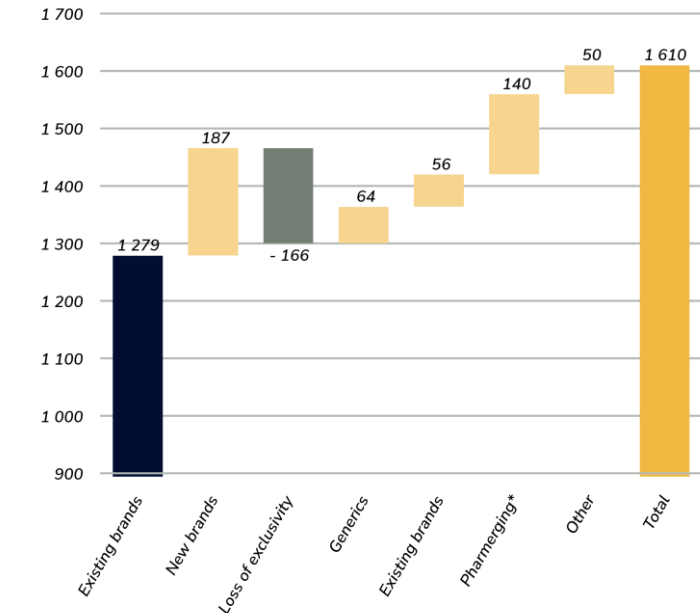
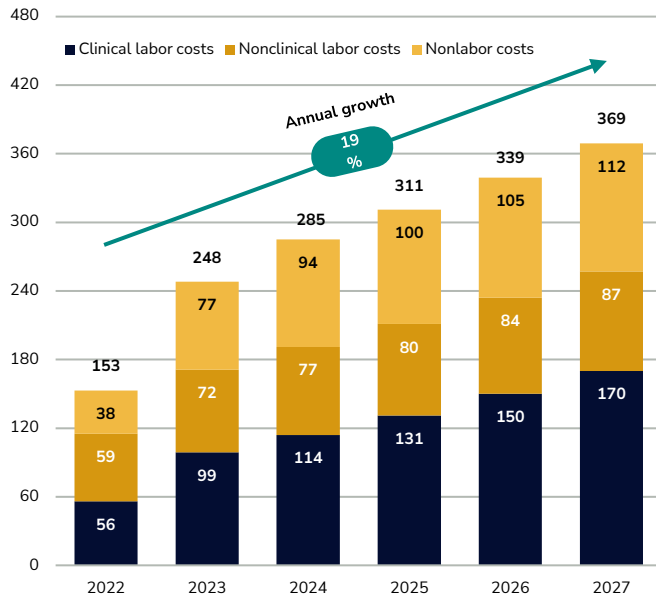


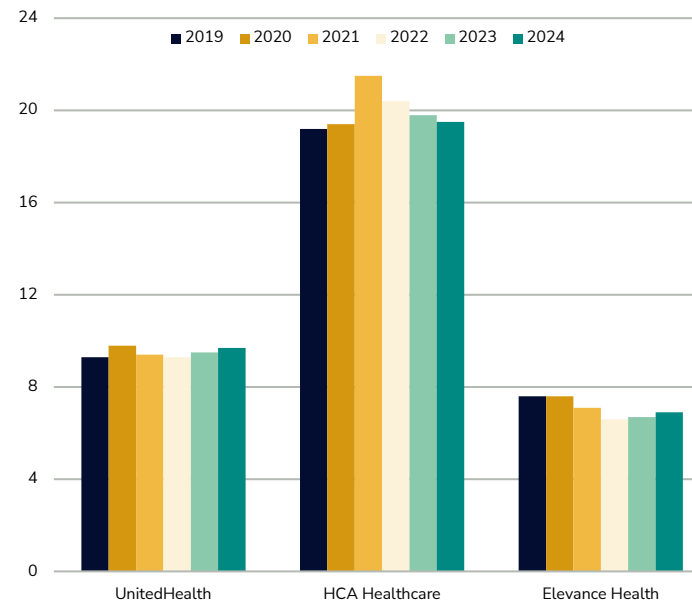
Chart sources: (1, 2) IQVIA. (3) Vizient. (4) Center for Medicare and Medicaid Services, IQVIA. Note: Pharmerging countries are countries with a low position on the pharmaceutical market, but growing at higher pace

Healthcare Services

1. Projected US Healthcare Costs, \$bn



2. EBITDA Margins of Selected US Players, %

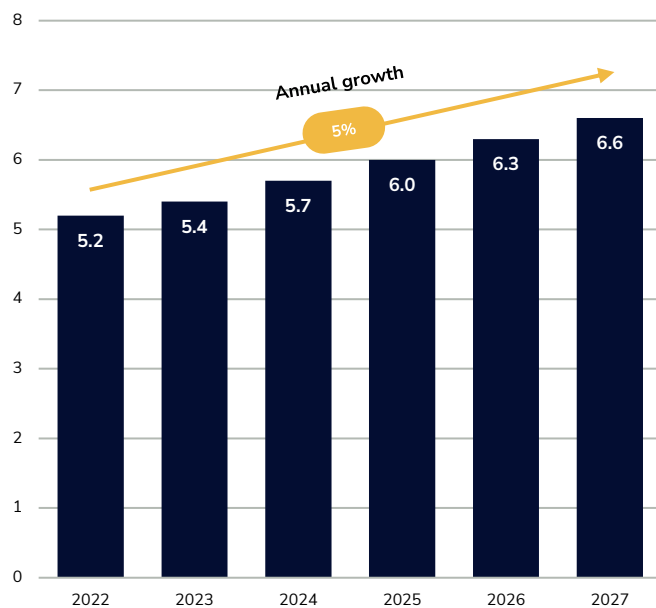


Structurally growing

We like companies that demonstrate moderation in wage growth, exhibit high-and-growing ROIC and benefit from emerging new trends (such as the growing adoption of Medicare Advantage).

- 2022 overview.** Healthcare services faced multiple challenges, including rising costs (labor- and drug-related costs +37% vs. 2019, supply costs +21%), coverage shifts (about 15mm Medicaid enrollees may lose coverage after the COVID-19) and regulatory changes.
- Costs and margins forecast for 2023.** Total healthcare costs are projected to grow by 62% in 2023 Y/Y (fig. 1), driven by cost inflation, clinical labor wage growth and rising interest rates. Margin dynamics in 2023 (fig. 2) will differ for the various providers, with HCA experiencing minor deceleration, while others experience growth.
- Labor force forecast for 2023.** Contraction in the labor force will lead to a gap of 190k-440k registered nurses and 48k-75k doctors (10-20% and 6-10% of the workforce, respectively) driving Y/Y labor cost growth of 5-10% in 2023-2024.
- Regulatory shifts.** Since Oct'22, healthcare providers have been required to implement the 21st Century Cures Act. Starting from 2023, there are substantial changes in County Plan Models under the COHS plan (which has a moderately negative impact on multi-plan providers). We expect the COVID-19 public health emergency and national emergency to conclude in 2023.
- Shifts in demand.** Rapid growth in the over-65 population, increased adoption of Medicare Advantage (44% in 2021, forecast to grow to 52% by 2030 amongst the Medicare population) and improved profitability of managed Medicaid (due to more coordinated and integrated care) will increase demand for managed services. Total national health executive spending in 2023 (fig. 3) will be driven primarily by hospital care (fig. 4).
- Mergers and Acquisitions.** Despite inflationary pressures, existing players plans to accelerate M&A activity in 2023. New players are also investing in this area: Amazon plans to close their acquisition of One Medical, while WBA has announced plans to wholly acquire CareCentrix.

3. National Health Executive Spending, \$tr



4. US Healthcare Spending by Type in 2023, %

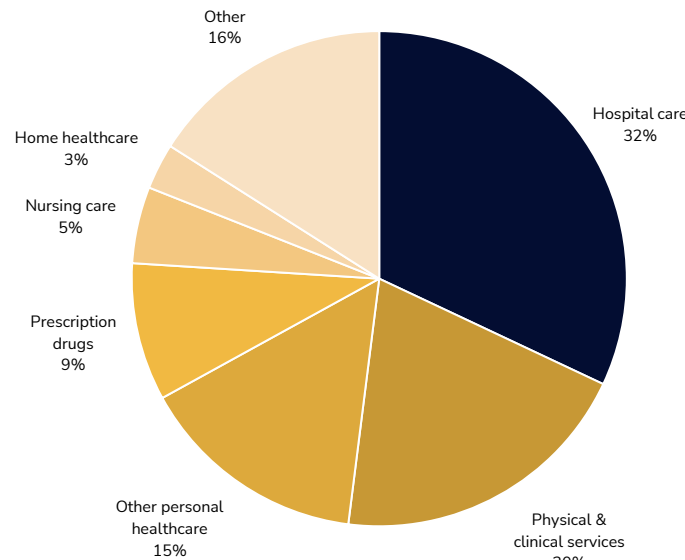
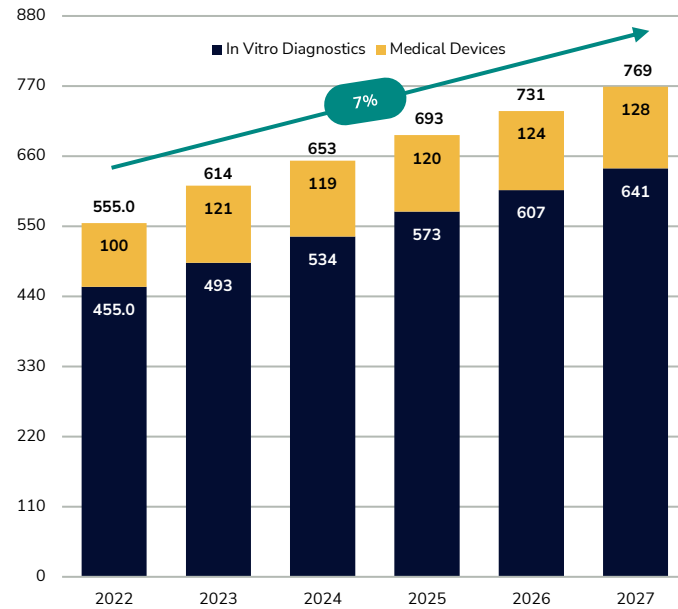


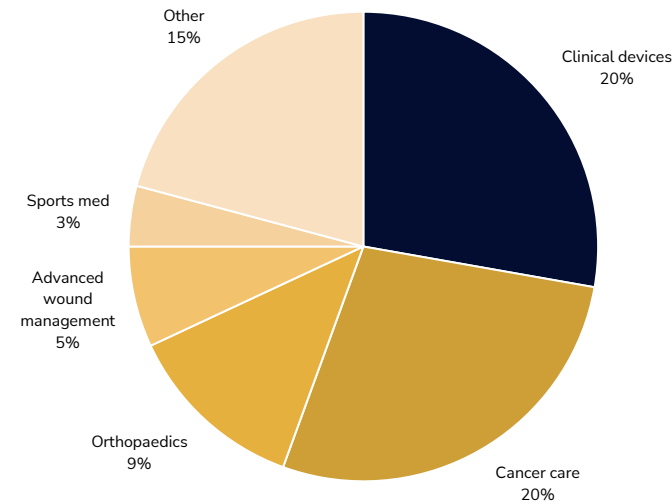
Chart sources: (1) McKinsey & Co. (2) Company reports, Bloomberg. (3, 4) Center for Medicare and Medicaid Services.

Life sciences

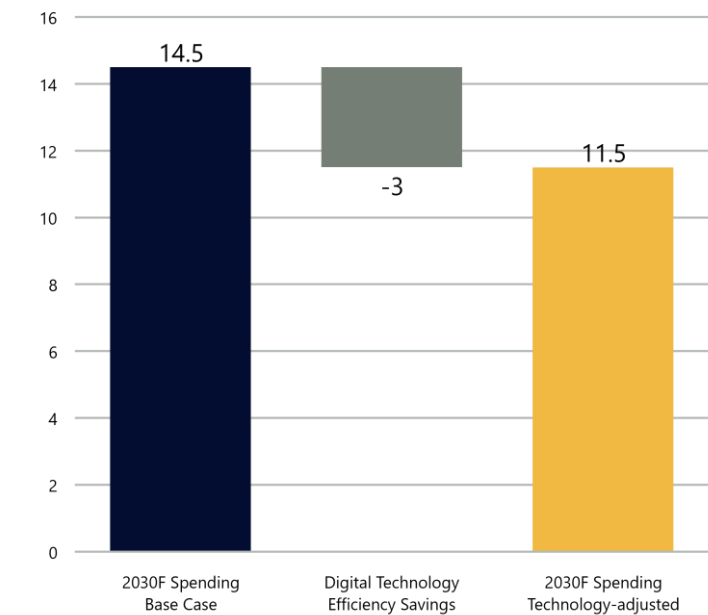
1. Medical Devices Market Value, \$bn



2. Medical Devices Market Composition, %



3. Healthcare Spending and Efficiency Savings, \$tr



Temporary headwinds

Business models in the medical device universe remain susceptible to increasing labour-and-materials costs, ongoing supply-chain-related challenges and deteriorating capital structures arising from higher debt levels.

- 2022 overview.** The medical devices market faced several challenges, including supply chain disruptions, raw material price increases, labor cost increases and an inability to pass price increases through to customers.
- Diagnostic devices.** This market is expected to achieve a 7% CAGR from 2022-2027 (fig. 1). An increase in the geriatric population is expected to propel the growth of the diagnostic devices market. Aging of the population will increase the overall demand for diagnostics in certain areas, such as cancer, diabetes and other age-related diseases. Age-related diseases are also heavily represented in the composition of the medical devices market, with clinical and cancer-related devices comprising 40% of total (fig. 2).

- FDA fees for medical equipment.** Companies importing medical equipment to the US can expect substantial increases in fees relative to 2022: the 510(k) premarket notification fee increased by 56%, while fees for De Novo Classification and Premarket Approval increased by 18%.
- Impact of the strong USD.** Most of the US providers expect a negative impact from currency fluctuations. For example, Medtronic expects its FY23 earnings to be affected by up to 17%. Abbott suffered an impact of -6% on its sales, and the company expects its 2023 results to be affected as well.
- Supply chain vulnerabilities.** Shocks could cause some medical device companies to lose c.3.8% of annual earnings (Pharma: c.2.4%).

- Digital technology** has the potential to capture significant value within healthcare systems around the world, contributing to annual cost savings of \$1.5-3.0tr by 2030 (fig. 3), via a range of innovative solutions such as remote monitoring, artificial intelligence, and digitalization.
- Mergers and acquisitions** in the medical device industry declined in 2022, a trend which may continue into 2023.

Virtual life

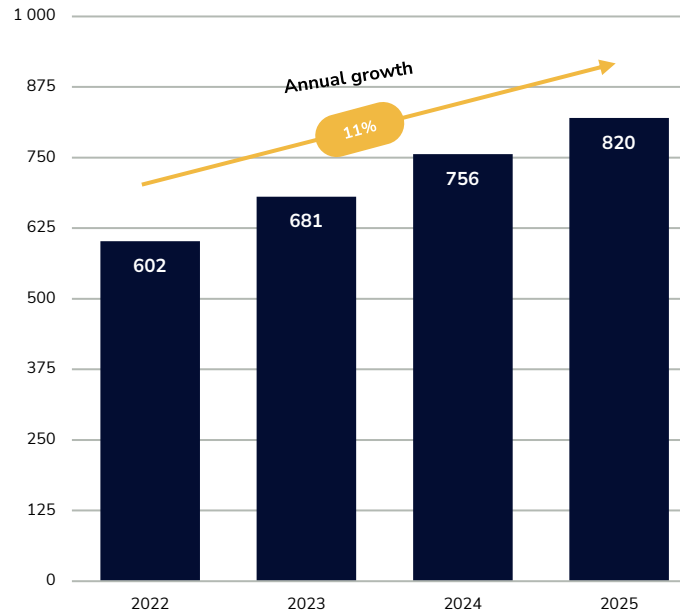
Social networks and digital advertising

Battles in the virtual space

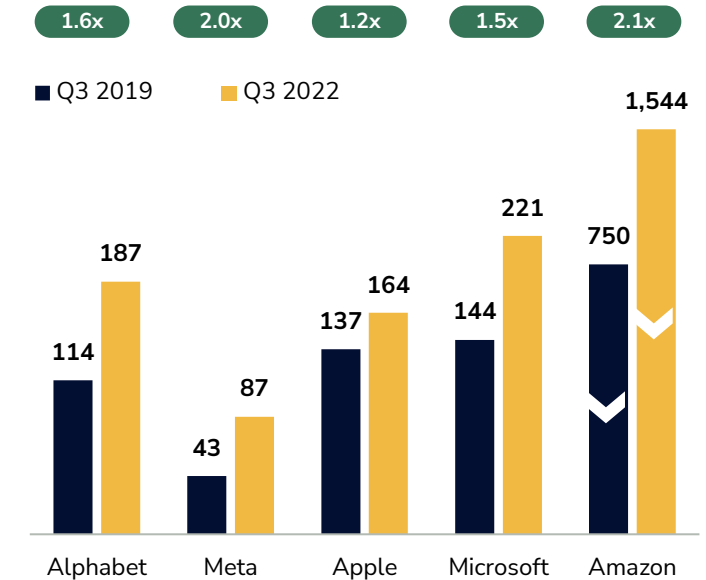
Accelerating capex prompted by lower prices for core equipment that is essential for AI development and margin stabilization arising from layoffs will support Big Tech's market leadership and bolster respective market shares.

- 2022 overview.** The digital ads market grew by c.9% Y/Y, reaching \$602bn and exceeding 2019's spend levels by 8.7%. Digital ads accounted for 56% of global ads. Global digital ads spend is forecast to achieve an 11% CAGR by 2025 (fig. 1). Subsectors whose growth is expected to outpace the broader market include social ads (+21.4% Y/Y) and search (+16.9% Y/Y).
- Prices.** Digital ad spend per person is estimated at \$584 per internet user for 2022 (+6.47% Y/Y). Prices are expected to rise by 6.3% in 2023 and by 5.7% in 2024.
- Demand dynamics.** c.30% of major advertisers expect to reduce their ad budgets in 2023, while c.40% expect similar spend levels and c.30% plan to increase spending.
- Competition dynamics.** The rivalry between Meta and TikTok is set to intensify. Most e-commerce brands are planning to increase their TikTok budgets in 2023, with 85% of brands expecting to hike total ad spend on this platform (vs. 39% for Meta).
- Margins.** Most providers substantially increased staff count during the pandemic (fig. 2) adversely affecting margins. Subsequently, Meta, Amazon and Alphabet have announced layoffs of more than 10k employees each. We expect operating margins to stabilize around current levels, with limited further declines in this metric.
- Capex.** Gartner Global Communication Services expects market capex to grow by 2.4% in 2023, to \$1.5tr (2022: c.3%), due primarily to investments in data centers.
- For 2023, Meta expects to incur capex of c.\$34-39bn for investments in data centers and AI, as it seeks to increase its market share and accelerate its growth. Meta's capex cycles, including investments in computational capacity, typically coincide with subdued demand for computing power (fig. 3).
- Regulatory changes.** We anticipate the most significant change in 2023 to relate to data privacy regulations and data restrictions from web browsers on websites that have enabled data-sharing functionality.

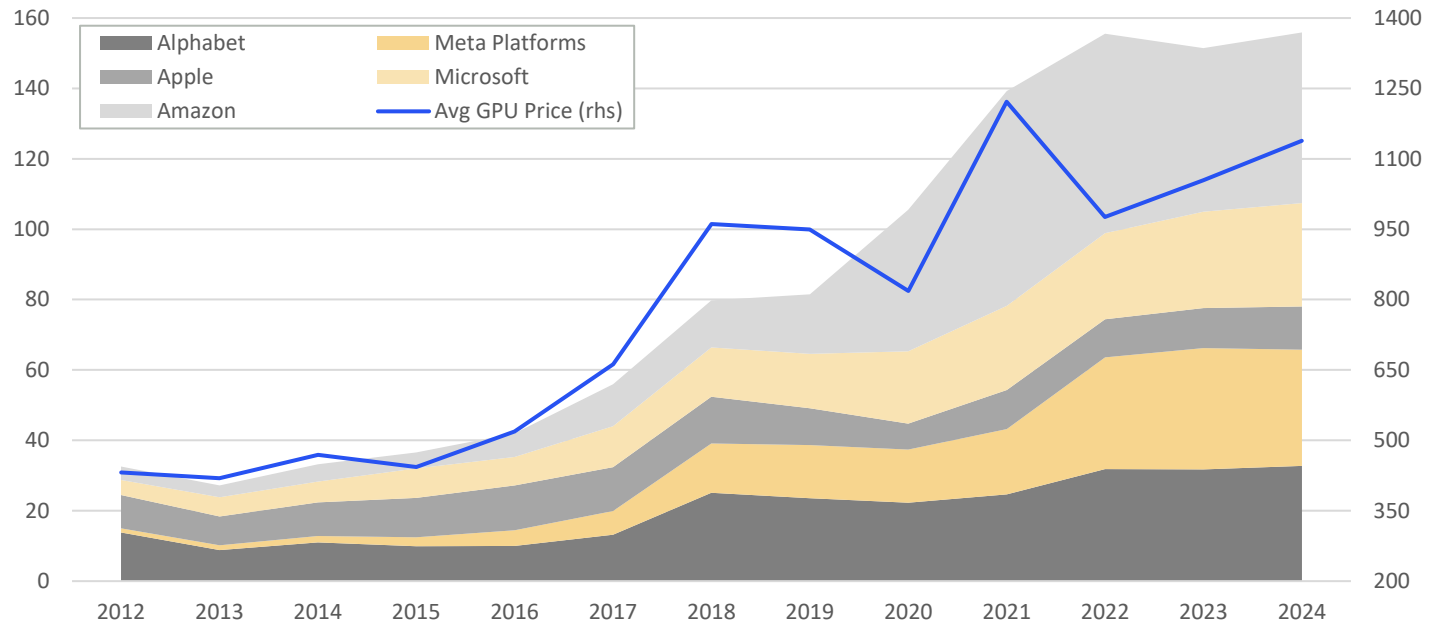
1. Global Digital Ads Spending, \$bn



2. Big Tech Number of Employees, '000s



3. Global Technology Players Capex, \$bn, and GPU Prices, \$



Financial edge

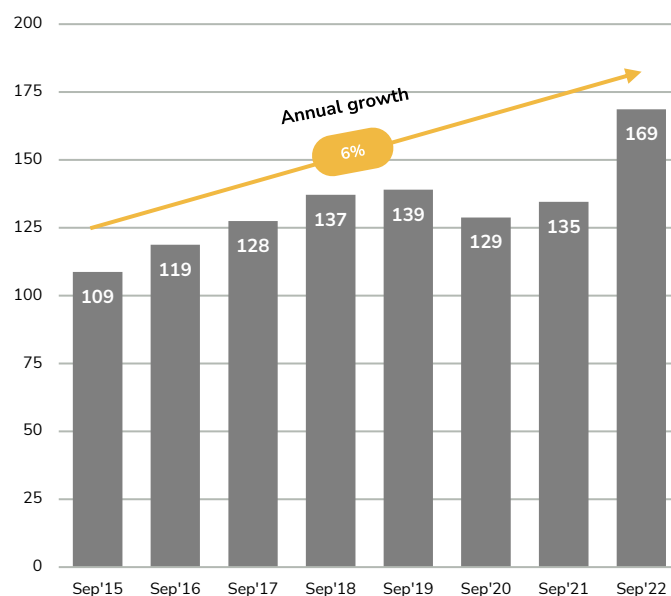
Banking

Beneficiaries of the higher rates environment

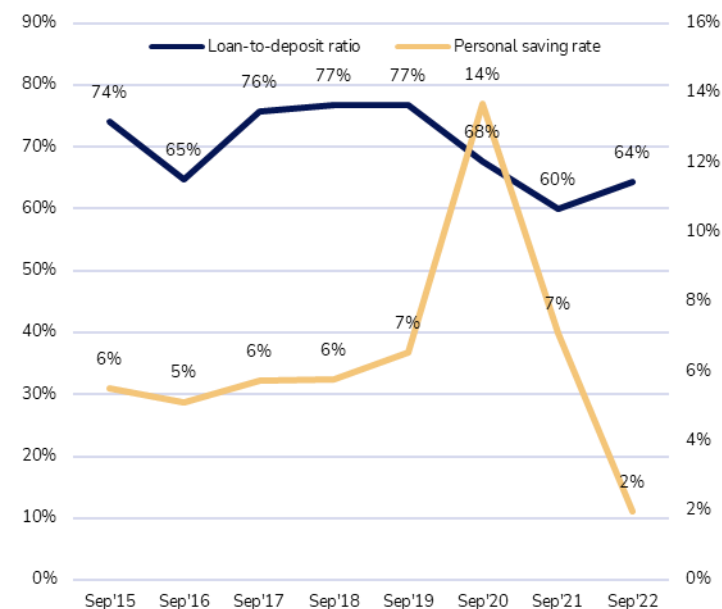
Banks with high returns on equity, low forward multiples and significant exposure to consumer lending could act as sound portfolio diversifiers in the high rates environment.

- 2022 overview.** Unlike many other sectors, the banking industry largely benefits from rising rates. Most US and EU banks are trading near long-term trough multiples, while major regulatory shifts have been postponed.
- Due to an uptick in interest rates in 2022, we expect net interest income/net interest margins to normalize at higher levels than prevailed pre-pandemic (**fig. 1**).
- According to the US Commerce Department, US personal savings rates, at 2% of GDP, recently registered their lowest levels since 2005. Meanwhile, household debt levels (loan-to-deposit ratios) have ticked up (**fig. 2**).
- Acceleration of non-interest income — from higher trading revenues and fee-based businesses — could further support the banking industry’s growth in 2023.
- Interest rates impact.** Rising interest rates contributed to higher bank profit margins 2022. While deposit costs climbed modestly through 1H22, they accelerated in 2H22 and we expect further increases to manifest in 2023, slowing the rate of margin expansion.
- Overall, major US banks upwardly revised guidance for net interest income in 2022-2023 (for example, JP Morgan upgraded its NII guidance for FY22 by 23%). Bank ROEs are projected to grow in 2023 (**fig. 3**).
- Regulatory shifts.** Although the preferred starting date for the implementation of Basel IV is Jan’23, this will likely not occur in the US before 2025. Nevertheless, its implementation will impose incremental capital requirements on banks, which will need to maintain minimum reserve capital levels amounting to 10.5% of risk-weighted assets, in addition to the countercyclical capital buffer and the leverage ratio requirement.
- Healthiness of the banking system.** Major global banks are increasingly robust from a capital standpoint. The 1,000 largest banks’ total Tier 1 capital has surpassed \$10tr (+4.7% Y/Y), with US banks accounting for c.\$2tr. The Top 10 US banks’ average CET1 ratio is 12% (**fig. 4**).

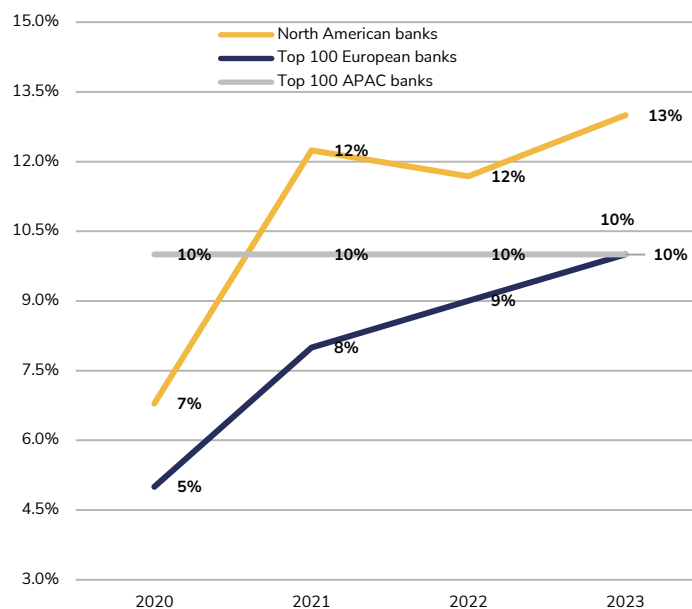
1. US Banks Net Interest Income (NII), \$bn



2. US loans-to-deposit and personal savings rates



3. Global banking industry ROE, %



4. Major US banks CET1 ratio, 3Q22, %

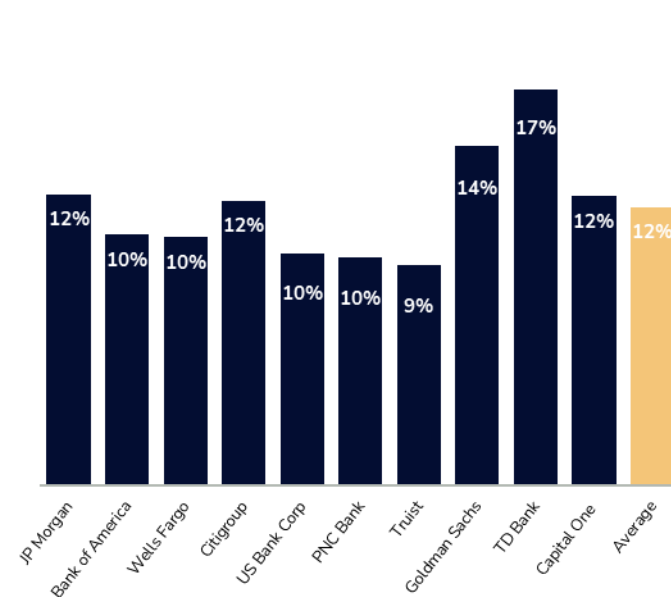
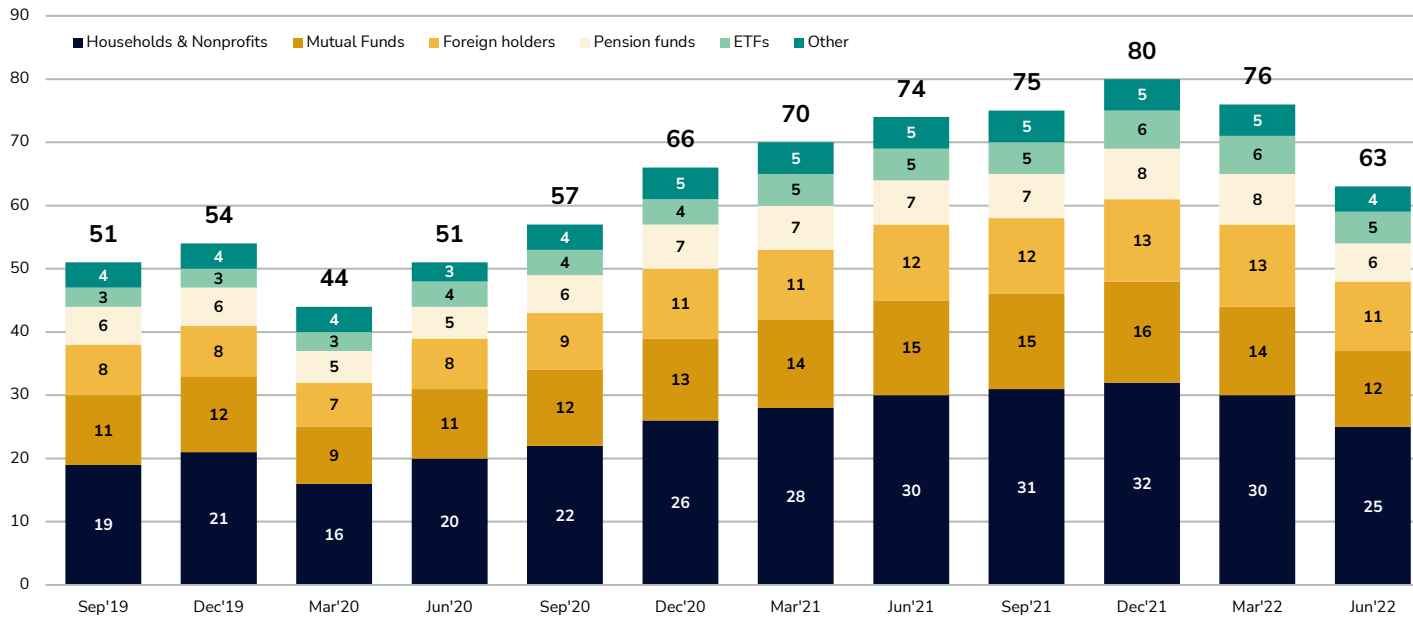


Chart sources: (1) FDIC. (2) US Commerce Department. (3) S&P Global, Federal Reserve. (4) Bankregdata, Federal Reserve

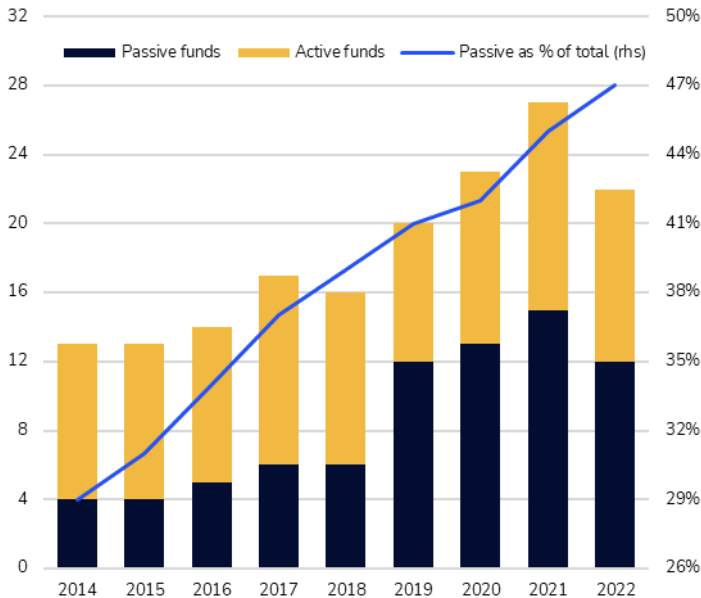
Financial edge

Asset management

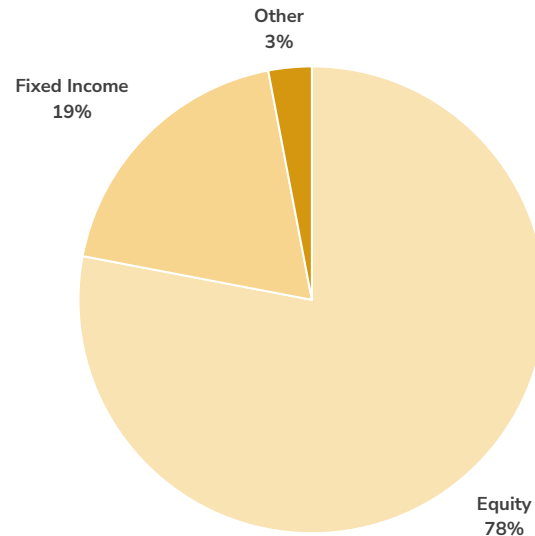
1. Breakdown of US Securities Holders by Type, \$tr



2. Active vs. Passive Fund Assets, \$tr



3. ETFs by Major Asset Classes in 2022, %



Accumulating wealth

Online brokerage firms and global ETF providers could benefit from prevailing market dynamics, while companies with higher deposit betas will be negatively affected by rising rates.

- 2022 overview.** After inflows accelerated in 2021 (to at least \$59bn per month, according to McKinsey), the international asset management industry experienced a substantial reversal of this trend during 1H22 (fig. 1). In contrast to the record \$1.6tr inflows in 2021, projected total outflows for 2022 are \$400-500bn (with hedge funds set to suffer outflows of almost \$75bn).
- Fund management.** Active fund assets declined by \$3.6tr in 2022 and were more vulnerable than passive fund assets, which fell by \$2.3tr (fig. 2). Consequently, the share of passive funds by total fund assets increased further, reaching 47% (2021: 45%) (fig. 2) as relative demand for passive funds was supported by retail investors using them as a tool for tax optimization.
- Overall, equity ETFs account for c.78% of total ETF AUM, with fixed income ETFs comprising a further 19% (fig. 3).
- Impact of rising rates.** This varies considerably between online brokerage firms, wealth management firms and investment banks.
- Brokerage firms** largely benefit from rising rates, due to their low deposit beta, although the margins of smaller competitors with higher deposit betas are vulnerable.
- Investment banks** are typically moderately interest-rate sensitive, with interest rate hikes marginally benefitting their financial and operating results. Over the longer term, their businesses are influenced more markedly by their ability to retain clients and introduce new products.
- Wealth management firms'** results are generally benefiting from rising rates, as their clients' deposits attract higher returns, contributing incrementally to performance-based wealth management fees.

Financial edge

Rating agencies and payments

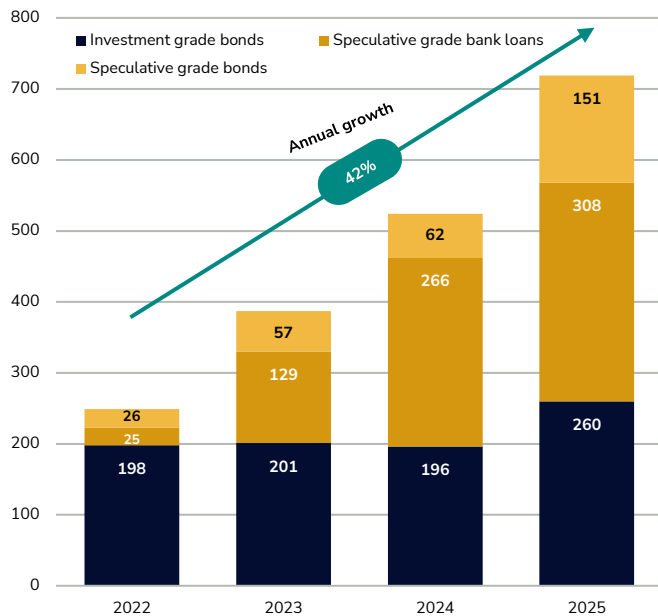
Indexing the world

Rating agencies stand to benefit from a recovery in debt issuance. We're constructive on companies providing analytics and involved in index-related businesses.

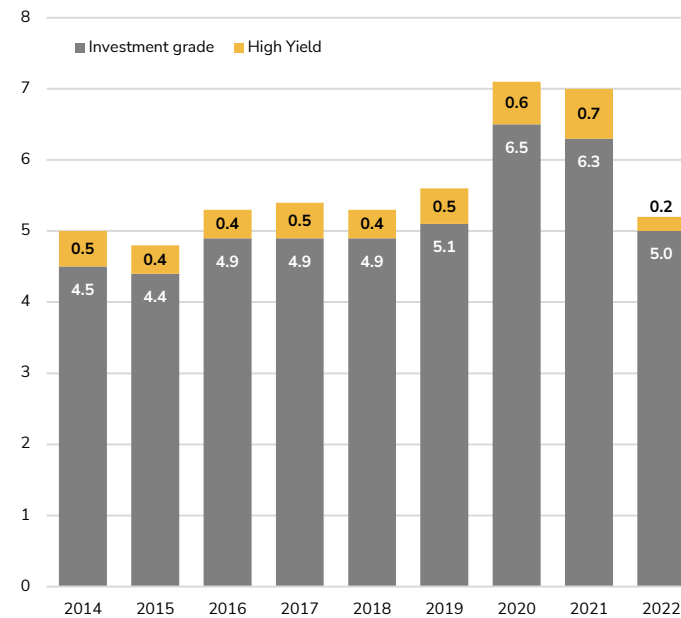
- After a strong 2021, debt and equity issuance declined materially in 2022 (fig. 1) with limited signs of any near-term acceleration. We expect issuance to be affected by elevated market volatility and a potential recession in 1H23, before recovering gradually in 2H23.
- According to S&P Global, global bond issuance is set to contract by 18.5% in 2022, due to rising interest rates, before increasing by 1.7% in 2023. Despite this deceleration in growth, refinancing requirements remain a strong tailwind for the sector (fig. 2).
- Rating agencies are very attractively positioned, due to their oligopolistic market (fig. 3) and the recovery in debt issuance across various categories, both of which confer substantial pricing power.

Chart sources: (1) Dealogic. (2) JPMorgan. (3) Government Actuary's report, ESMA. (4) Bloomberg Intelligence.

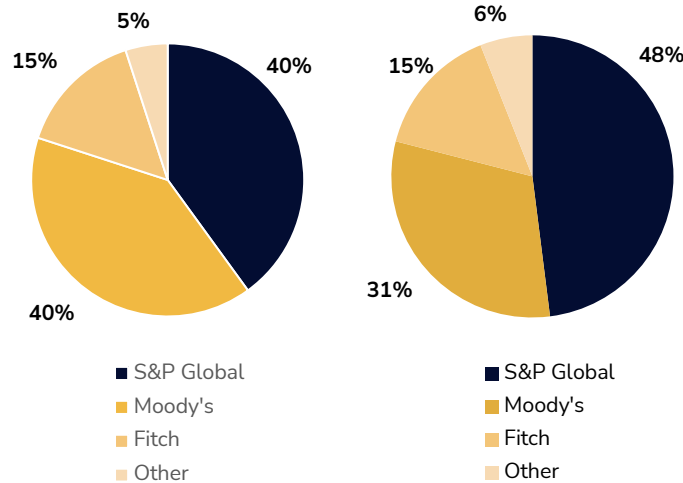
2. Maturities: US Non-Financial Bonds And Loans



1. Global Bonds Issuance, \$tr



3. US (left) and EU (right) Ratings Market in 2022

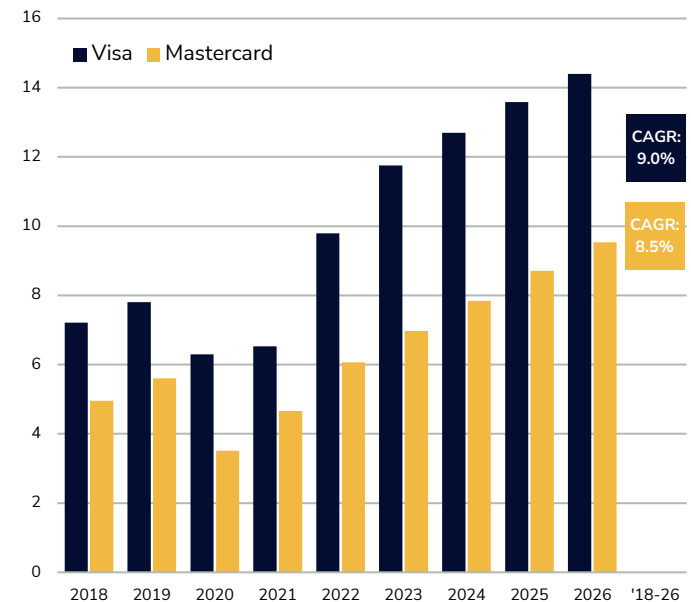


Payments — moving money around

While we would prefer a larger margin of safety, the risk/reward for some companies with proven sustainable competitive advantages is increasingly attractive.

- All forms of digital payment were boosted by COVID-19 and, in 2022, economic re-opening provided a further tailwind for highly-profitable cross-border travel (fig. 4).
- Consumers rebalancing their spending between categories (e.g., experience vs. goods) and channels (e.g., online vs. physical) created significant divergences in 2022 and contributed to erratic share price performance.
- In 2023, a general slowdown in consumption is expected in the US, with continued strain in the EU, which could reduce growth rates from mid teens to high single digits. A deeper recession could further affect multiple categories and channels.
- Network providers are best positioned, due to their global presence, strong pricing power and exposure to the ongoing recover in cross-border travel.

4. Global Payment Networks Revenues, \$bn



Clean energy

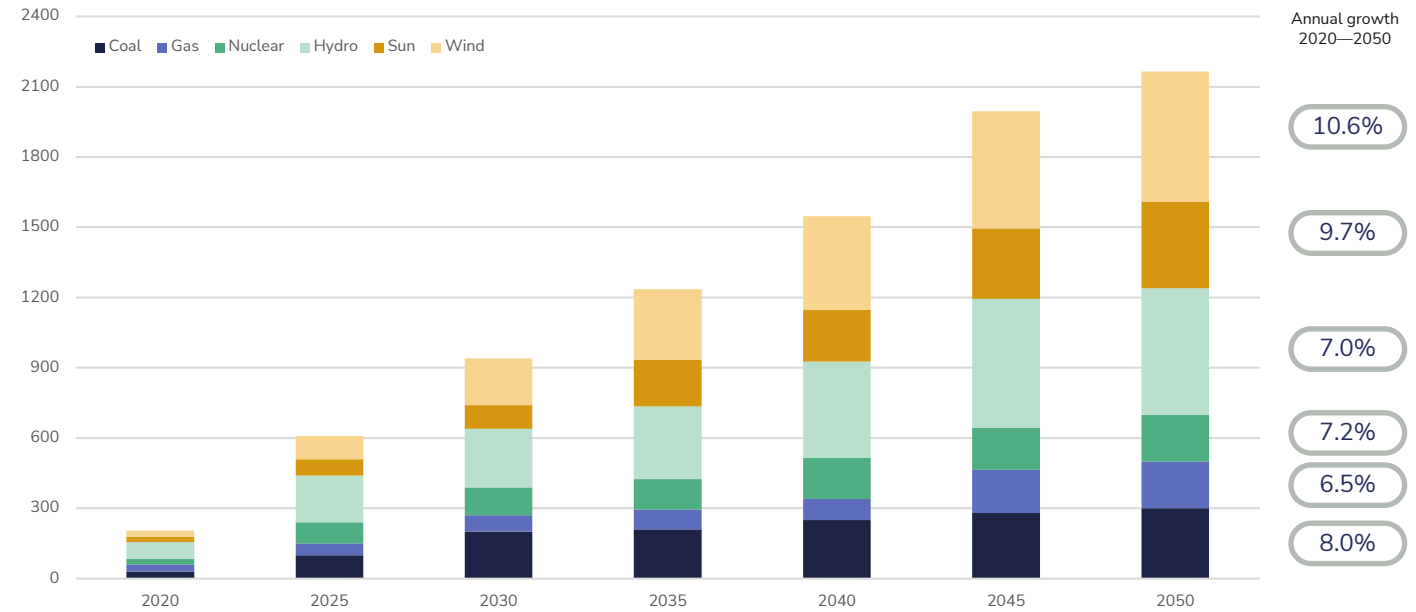
Solar and wind

Acceleration of the trend

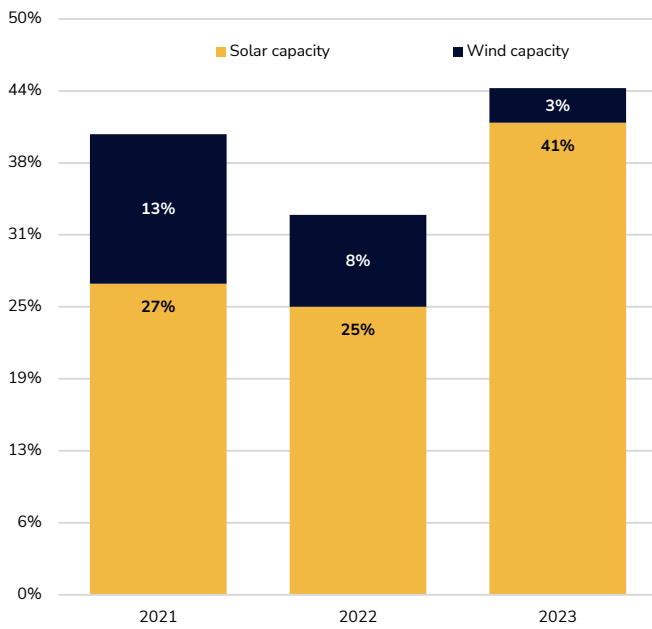
The renewable energy industry benefits from the current macroeconomic landscape due to growing demand and a highly accommodative regulatory framework.

- 2022 overview.** The renewable energy sector recorded substantial growth of almost 10%, underpinned by rising capacity volumes.
- Increases in US electricity generation capacity are driven primarily by solar and wind energy sources. This dynamic is forecast to continue in the long-term (**fig. 1**). The EIA forecasts renewable sources to constitute 24% of total US energy supply in 2023 (up from an estimated 22% in 2022) account for 44% of the Y/Y growth in energy supply (up from an estimated 33% in 2022) (**fig. 2**).
- According to the EIA, the increasing adoption of alternative energy will drive lower costs for all major sources — batteries, electrolysers, solar and wind — by 2030. The foundation for this trend is the continued growth in overall renewables consumption (**fig. 3**).
- Capex.** Capital investment in renewables outpaced oil and gas spending on new projects by \$45-50bn in 2022.
- Prices.** According to LevelTenEnergy, “North American renewable energy buyers saw P25 solar and wind power purchase agreement prices rise another 5.3% to \$41.92 per MWh in 2022”.
- Regulatory changes.** In the US, most of the local states’ integrated resource planning initiatives — to reduce greenhouse gas emissions and achieve at least 75% renewable and/or clean energy grids by 2050 — are scheduled to be implemented during 2023.
- Storage.** The global migration towards renewable energy has played a significant role in driving demand for long-duration energy storage (LDES). In 2023, we expect LDES technology to remain topical, and its major providers to benefit from rising demand.

1. Global EBITDA Value Pool by Technology, \$bn



2. US Change in Energy Supply, % of Total Change



3. US Renewables Consumption, Quadrillion Btu

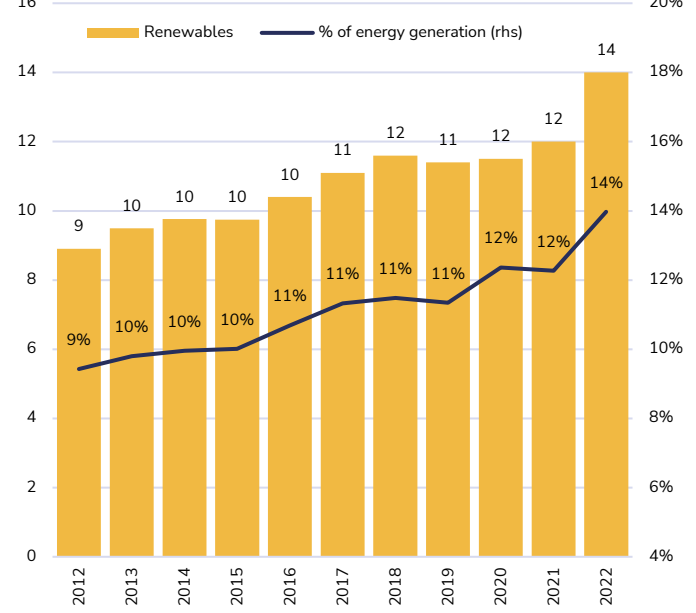


Chart sources: (1) Aurora Energy Research. (2, 3) EIA.

Clean energy

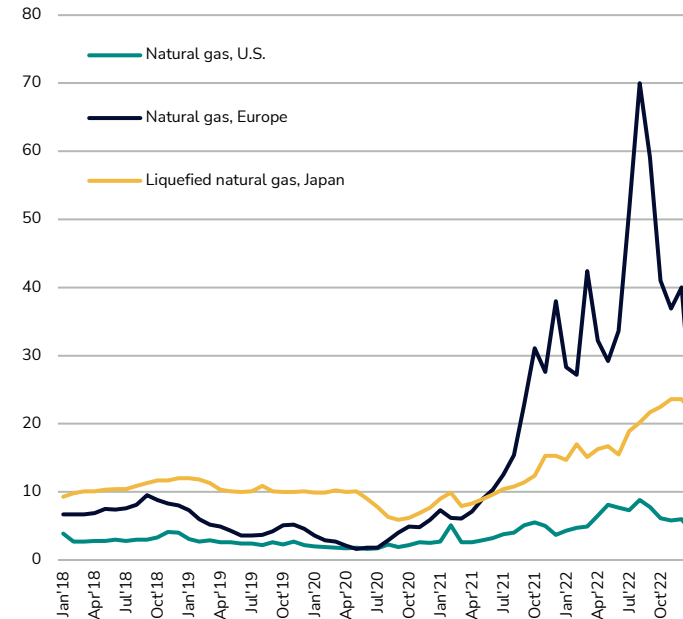
Natural gas

Looking for alternatives

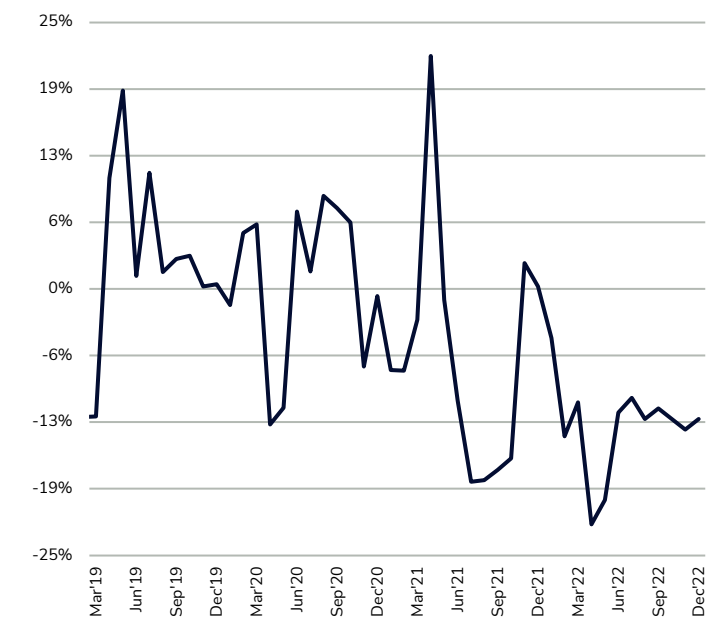
Energy prices skyrocketed in 2022, due to economic activity rebounding in China and the relocation of capacity required to substitute Russian oil, gas and coal. By the end of 2022, prices for major energy sources declined by 30-40% from peak levels. Nevertheless, energy prices remain significantly higher than respective five-year averages.

- European natural gas prices and Asian spot LNG prices spiked in 2022 (fig. 1), reducing consumption (fig. 2) and incentivizing users to substitute other energy sources — such as coal and oil — for their power generation needs.
- Europe has counteracted the impact of drastically-reduced Russian gas supplies, which contributed to inventory declines (fig. 3) by increasing LNG imports and securing alternative pipeline supplies from Norway and elsewhere (fig. 4). Europe's demand for LNG surged by 65% Y/Y in the first 10 months of 2022, drawing supply away from traditional buyers in the Asia-Pacific region, where demand dropped by 7%. Thus, the European energy crisis rendered incremental LNG supply unaffordable for developing markets in Asia and deprived the region of Floating Storage and Regasification Units (FSRUs), a critical component of its infrastructure.
- In 2021, gas imports in the EU totaled 371.57 billion cubic meters (bcm) and were sourced from Russia (41%), Norway (23.5%), LNG regasification terminals (20.5%), Algeria (10.5%), the Trans Adriatic Pipeline (2%) and Libya (1%). In Oct'22, Russia provided the region with 1.94 bcm of natural gas (Oct'21: 10.08 bcm, -80% Y/Y) (fig. 4). Europe's dependence on Russian pipeline gas is estimated at 8%.
- The volume of global LNG trade is expected to increase by 4% in 2023, fueled by continued growth in European imports — to an all-time high of 177 bcm — and by a modest recovery in Asia, following the region's demand decline in 2022. US LNG exports are forecast to continue growing at around 4%, driven by the anticipated return to full production of the 20 bcm Freeport LNG terminal in Texas, more than offsetting a slowdown in new liquefaction capacity additions in 2023.

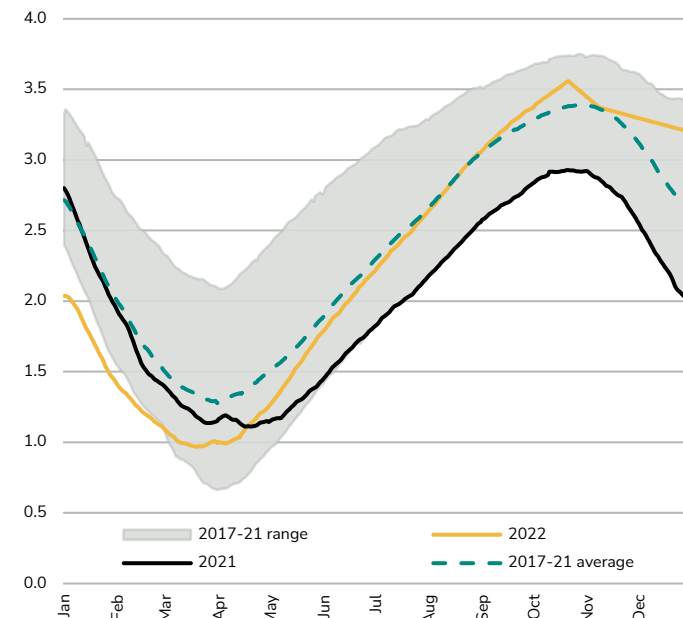
1. Natural Gas Prices, US\$/mmbtu



2. EU Natural Gas Consumption, % Y/Y



3. European Natural Gas Inventories



4. EU Imports of Natural Gas, bcm

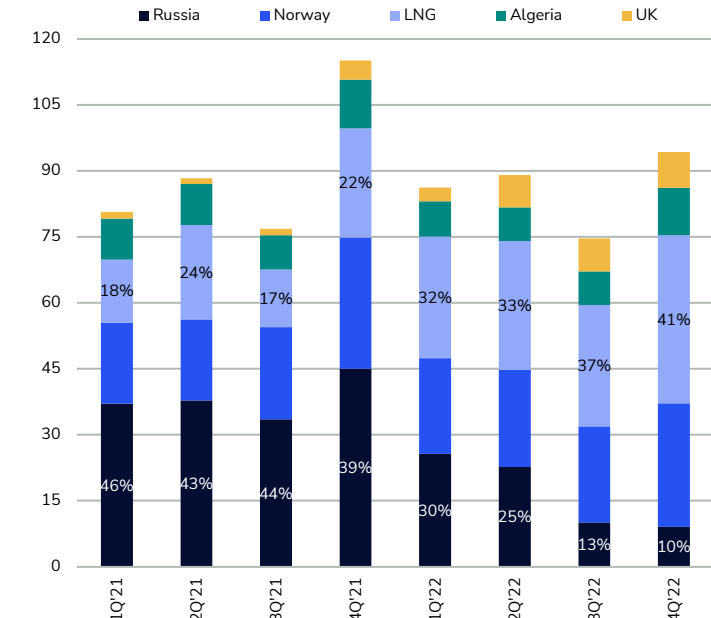


Chart sources: (1) EIA, World Bank, Bloomberg

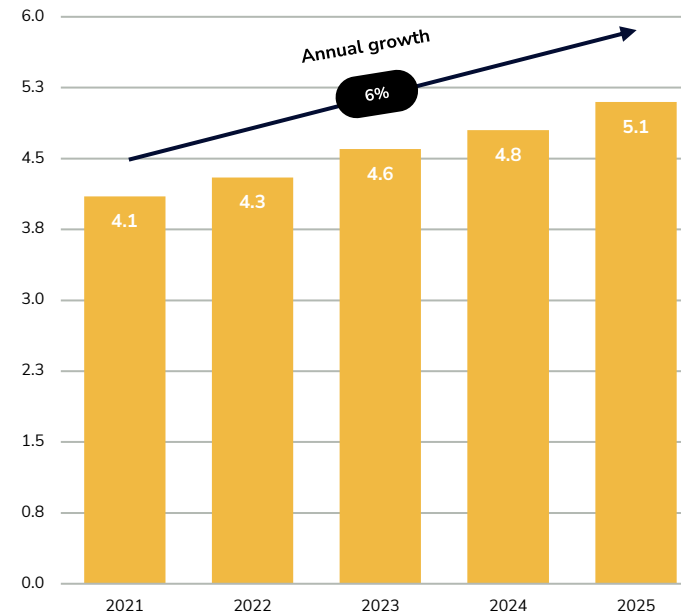
Infrastructure Real estate

Sensitive to rates

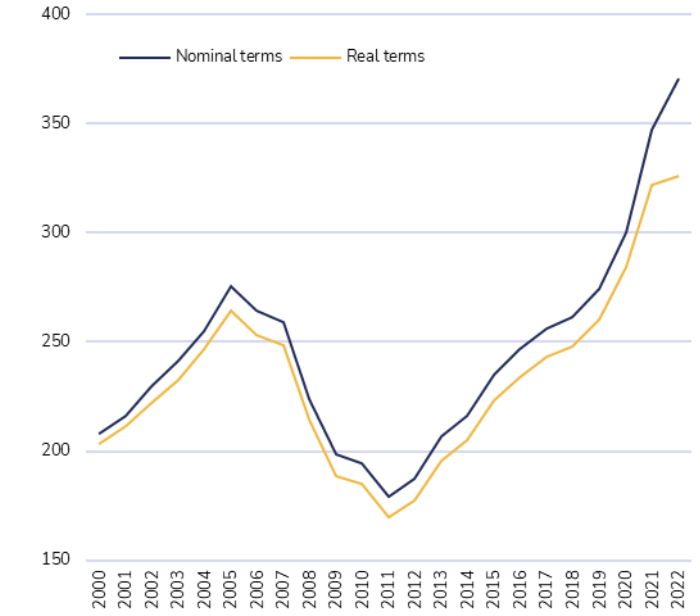
Due to elevated mortgage rates and ongoing economic uncertainty, we expect the US real estate market to decelerate in 2023 before rebounding in 2024.

- 2022 overview.** The US real estate market was estimated at \$4.3tr in 2022 (2021: \$4.1tr) and is expected to achieve a c.5.6% CAGR from 2021 to 2025 (fig. 1).
- Prices.** As mortgage rates exceeded 6% in 2022, house prices (in real terms) decreased by 13% from their 2022 peaks and are expected to decline by a further 10-15% in 2023. Overall, at the end of 2022, U.S. home prices were up 1.3% YoY (fig. 2).
- Residential property.** Due to still-elevated prices and mortgage rates in the single-family housing market, individuals are incentivized to rent for longer. Until mortgage rates decline — they're forecast to reduce to 5.8% by the end of 2023 — house prices and demand for houses will remain weak.
- Commercial property.** Industry sources suggest that multifamily and industrial properties registered the most significant declines in 2022.
- Real estate transaction volumes** for 2023 are forecast to decline to \$725bn in 2023 (down from \$800bn in 2022) before rebounding to \$750bn in 2024, per estimates from S&P Global.
- US REIT Market composition.** The Healthcare, Infrastructure and Residential sectors together comprise 51% of the aggregate market (fig. 3).
- Transaction flow** has declined considerably during 2022, as reflected in the decelerating volumes of US REIT capital raising (fig. 4).
- Leverage** (debt-to-market assets), has stabilized below 40% since 2011, remaining in the 30-35% range since 2016. REITs have well-termed and well-structured debt. As the result, they are well-positioned to weather both (1) higher rates and (2) recessionary environments.
- Overall, we consider REITs to be appealing at present, due to their strong balance sheets, stable dividend distributions and low leverage ratios.

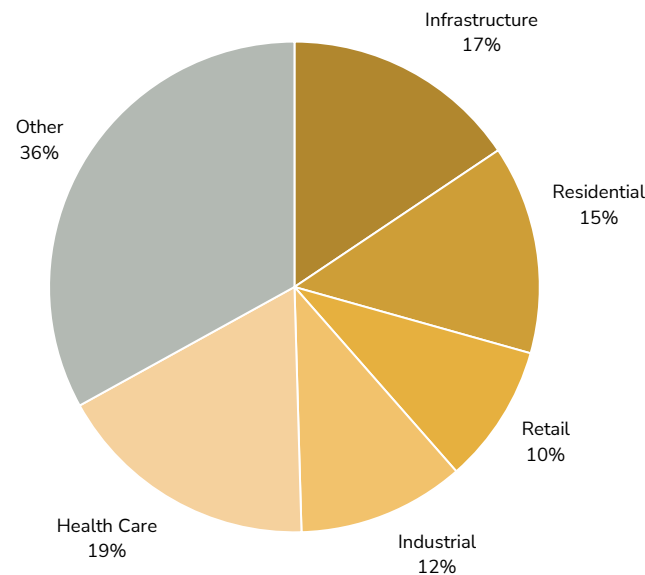
1. US Real Estate Market Value, \$tr



2. US Median sales price of existing homes, \$'000



3 US REIT Market Composition in 2022, %



4. US REIT Capital Raising, \$bn

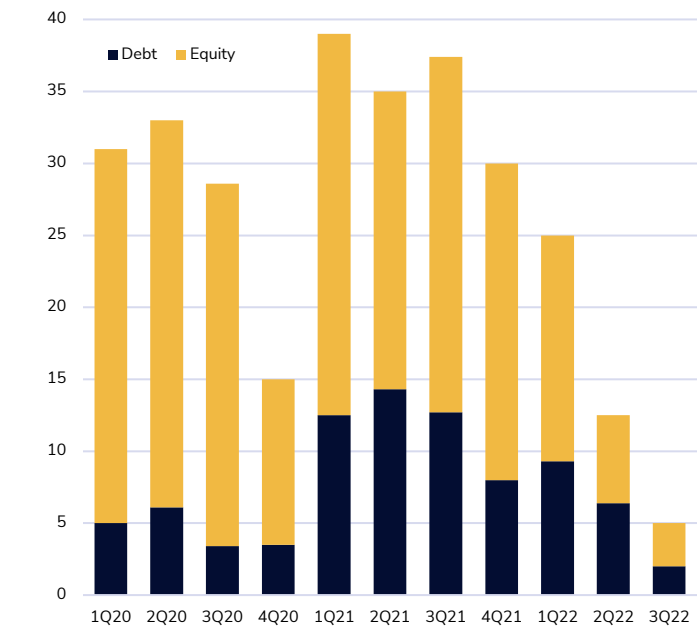


Chart sources: (1) MSCI. (2) FRED economic data, Prequin. (3) Morgan Stanley. (4) US REITs reporting, Bloomberg

Agriculture

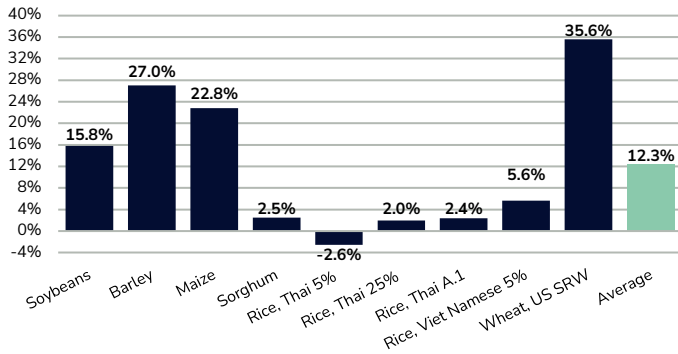
Feeding the world

Lower commodity prices could weigh on agricultural revenue despite larger production; some analysts expect farm income to decline in 2023 and in 2024 as commodity prices recede more rapidly than input costs.

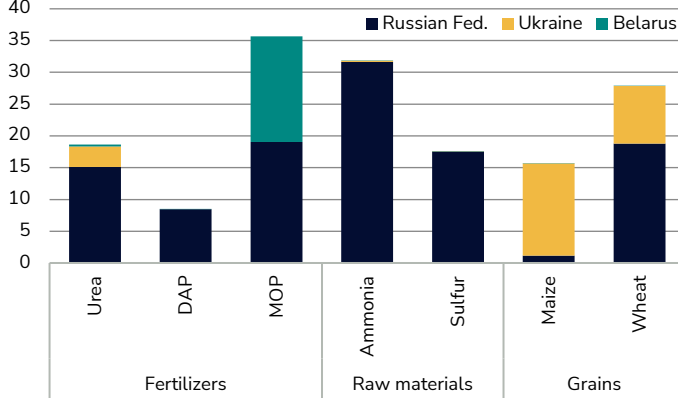
- In 2023, Global weather conditions are expected to improve, which may lead to reduced food prices. Crop yields are poised to pick up, easing the supply shortage of grains and oilseeds. This would indirectly affect other agricultural products such as meat and edible oil, whose prices depend on soybean availability.
- Inventory and production.** Global food inventories are expected to decline marginally, relative to projected demand, during the 2022-2023 season. However, for the three main grains — wheat, maize, and rice — the US Department of Agriculture estimates that global production will decline by 2.3%, or 57mm metric tons (mmt), this season. This is in stark contrast to historical growth levels, which averaged 35mmt annually over the past three decades.
- Price outlook.** Following an estimated increase exceeding 12% in 2022 (fig.1), agricultural prices are expected to fall by nearly 5% in 2023. Stabilization is expected in 2024, as supplies of most food commodities increase due to higher yields and Ukraine’s contribution to the global markets resumes. Despite the expected declines, most prices will remain elevated relative to historical norms due to high world’s dependence on Russian, Belarusian and Ukrainian supply of grains and fertilizers (fig.2).
- Broadly lower agriculture prices could weigh on the Food Producers Index in 2023; its performance will depend largely on the pace of these price declines. We expect supply chain normalization to curtail the profits of producers and processors, such as ADM and Bunge.
- US agricultural revenue.** US agricultural exports for the 2023 fiscal year are projected to be \$193.5bn, down from an estimated record \$196bn in 2022, with the decrease primarily driven by lower exports of cotton, beef, and sorghum, partially offset by higher exports of soybeans and horticultural products.

- The grain price index** declined by 12% Q/Q by the end of 3Q22 but remains almost 20% higher than a year prior. The broader food price index declined similarly.
- A favorable global wheat crop and United-Nations-brokered deal that facilitated grain exports from Ukraine have been key contributors recent grain price easing.
- The oils and meal price index** declined by over 18% Q/Q by the end of 3Q22, the largest drop among key food price indexes. The lower prices reflect higher prospective crop yields across most edible oils and oilseeds, Indonesia’s removal of its export ban on palm oil, and weakening global demand due to consumer affordability issues and faltering growth prospects.
- The resumption of exports from Black Sea ports also contributed to improved supply sentiment: Ukraine accounts for c.30% of global sunflower production.
- Fertilizers.** The rally in energy prices — especially coal and natural gas — has sharply increased agricultural input costs, including fertilizer costs (fig.3), in 2022. High energy prices compelled some chemical companies to halt or reduce production capacity (especially in Europe). The recent pullback in prices reflects weak demand, as farmers have curbed fertilizer field applications due to problems associated with affordability and availability.
- We expect the Fertilizers Index to remain volatile as supply disruptions gradually ease, however, we anticipate prices for natural gas — the main raw material for fertilizers — to remain significantly higher than historical averages until 2025.

1. Change in Prices in 2022, Y/Y% in \$/mt



2. Share in Global Food Production, %



3. Fertilizer Prices, US\$/mt

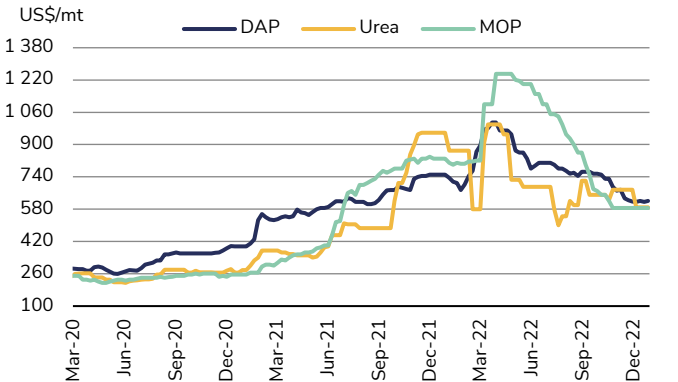


Chart sources: (1) IMF. (2) The World Bank. (3) Bloomberg.

A guest contribution from Cult Wines – something a little alternative...

“Fine wine’s track record of providing stability and diversified returns during different backdrops was on display during the tumultuous 2022 and will get tested again in 2023.”



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Market Outlook for 2023

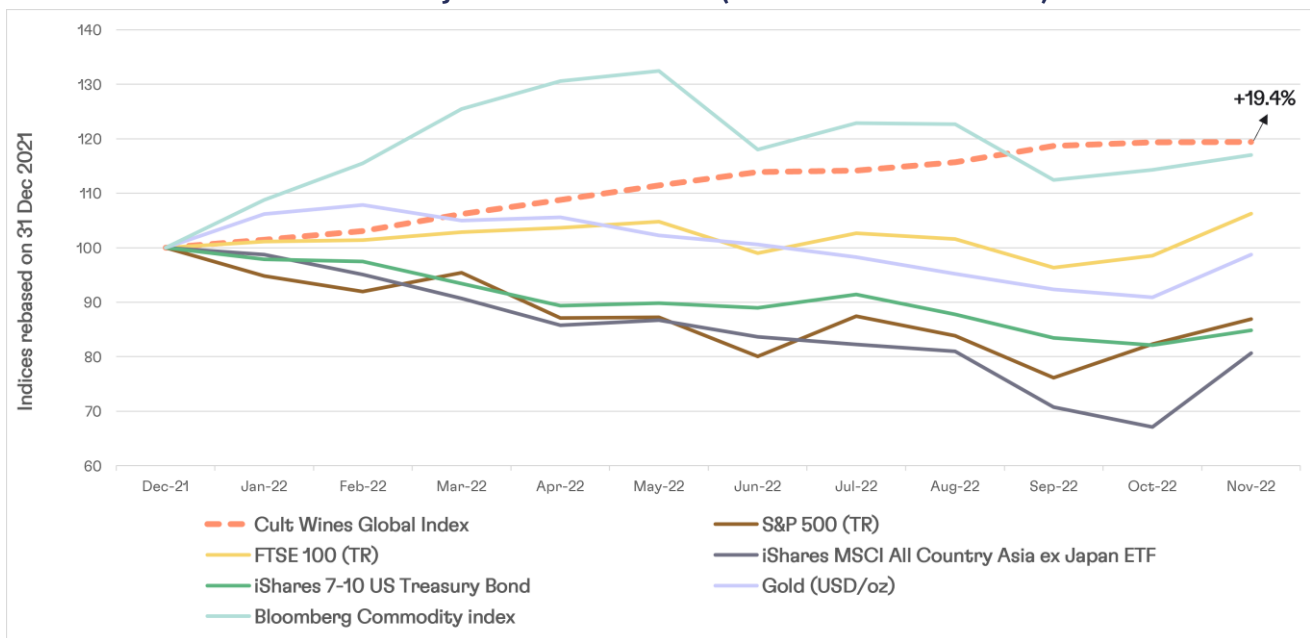
- Stability in the cellar.** Fine wine markets maintained their upward climb in 2022, which is more than can be said for most financial assets. Our outlook last year stressed how fine wine's rally had room to run and the market delivered. As of the end of November, the Cult Wines Global Index, our broadest measure of the market, had risen by 19.4% on the back of surging Burgundy and Champagne prices. This contrasts with steep losses in many global equity and bond markets. Traditional 60-40 portfolios suffered from volatility amid deteriorating economic growth and geopolitical tensions.
- Macro outlook.** Positive fundamentals outweigh risks. Fine wine's track record of providing stability and diversified returns during different backdrops was on display during the tumultuous 2022 and will get tested again in 2023. Although caution is warranted due to high prices and the economic environment, the wine market's strong internal market fundamentals underpin our two-tier outlook: relative positivity in the near term and a more favorable long-term view.
- Regional outlook.** Can Burgundy and Champagne continue to sparkle? The global fine wine market has enjoyed an impressive rally since the initial outbreak of COVID-19: The Cult Wines Global Index is up 41.5% since April 2020. However, results have varied by region, with the Cult Wines Burgundy Index up 67.9% over this period while the Cult Wines Bordeaux Index registered a moderate 19.7% rise. The year-to-date performances in 2022 also vary, highlighting why it's important to consider regional allocation. On the right, we offer our regional summary for 2022 and outlook for 2023.

Key themes affecting fine wine:

(1) Diversification of the fine wine market will play a greater role in the year ahead. A decade ago, Bordeaux's market share dwarfed all others, but now Burgundy, Champagne, Piedmont, and Tuscany can also call themselves core fine wine regions. California and other New World regions also contribute a growing number of investment-grade wines.

(2) Market sensitivity to supply and release prices. Vintage quality, production levels and release prices form a trio of factors that drive the market outlook for a new wine. We expect heightened market sensitivity to this trio for the major Burgundy 2021 and Bordeaux 2022 vintage En Primeur (EP) campaigns in the year ahead.

Cult Wines Global Index vs. Major Financial Indices (31 Dec 21 – 30 Nov 22)



2022 Returns & Regional Outlooks – Can Burgundy and Champagne continue to sparkle?

- Bordeaux - Cult Wines Bordeaux Index YTD 2022: 5.6% →
- Burgundy - Cult Wines Burgundy Index YTD 2022: 30.3% ↗
- Champagne - Cult Wines Champagne Index YTD 2022: 18.6% ↗
- Rhone - Cult Wines Rhone Index YTD Return: 9.5% →
- Italy - Cult Wines Italy Index YTD Return: 8.2% ↗
- USA - Cult Wines USA Index: 13.0% ↗
- Rest of World - Cult Wines Rest of World Index: 9.4% ↗

Source: Cult Wine Investment, 2023 Market Outlook | Cult Wine Investment, Wine Searcher, www.wineinvestment.com. Pricing data as of 30 Nov 2022. Past performance is not a guarantee of future results.



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