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Asset Management

MARKETING MATERIAL

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Overview

It gives me great pleasure to introduce our tenth Secular Outlook.

The next five years will be an uphill struggle for investors. High public and corporate debt levels, labour shortages, potential tax hikes and increased levels of state intervention will mean slower economic growth. Add to that the prospect of prolonged geopolitical tensions and the fact that a recession over the next two years looks extremely likely.

Inflation is another major problem. Although we believe central banks will eventually succeed in returning it back towards their targets, the easing of price pressures will be a gradual process. Over the next five years, inflation will on average remain higher than before and – just as importantly – its volatility will be elevated.

Against this backdrop, the returns investors can realistically expect from mainstream assets will be much weaker than the historical norm. Adjusted for inflation, returns from a traditional 50-50 portfolio of bonds and equities will be at around half their long-term average.[1]

To make up for that shortfall, investors will have to look further afield and be ready to take on more risk. In practice, that means allocating more to equities – particularly to emerging markets, as well as to stocks and sub-sectors offering secular growth, such as clean energy and automation. Investors also need to compensate for taking on more risk by diversifying further into liquid alternatives and real assets.

In fixed income markets, inflation and rising interest rates will drag down returns, particularly for developed market government debt. We see some of the best opportunities in US investment grade credit and in emerging market bonds, with Chinese government debt offering a particularly attractive balance between risk and returns.

1 Based on our US dollar return forecasts for global equities and bonds, versus 30-year average.

Within the currency markets, meanwhile, a bear market beckons for the US dollar, a currency that has become unmoored from its fundamentals. However, while the dollar's dominance on the world stage is slowly diminishing, we expect it to remain the predominant reserve currency far beyond our five-year investment horizon.

Another conclusion to draw from our analysis is that tactical asset allocation is becoming ever more important in ensuring healthy inflation-adjusted returns. In such a forbidding climate, alpha, not beta, will be paramount.

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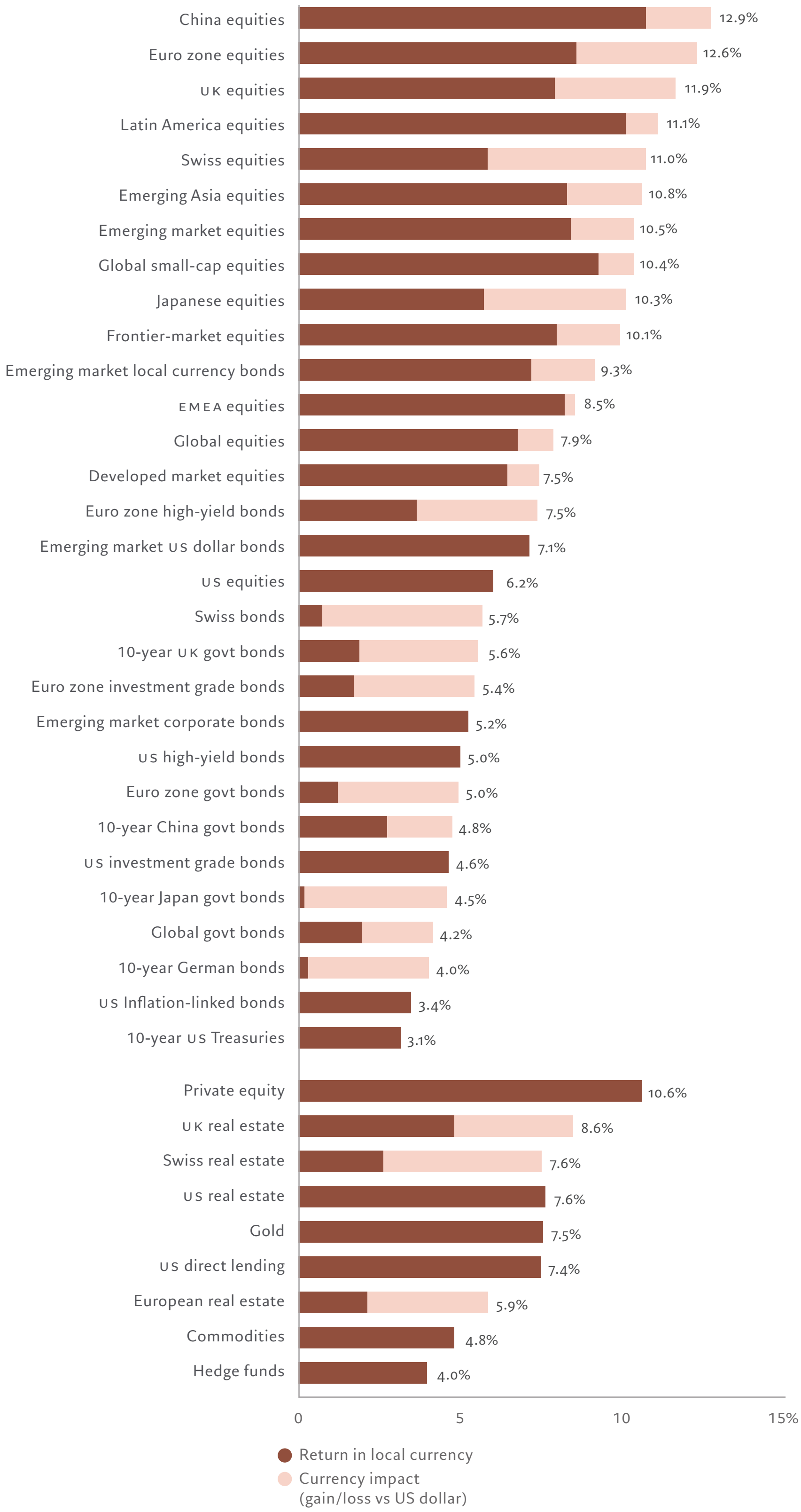
FIGURE 1

Asset class returns, 5-year forecast, %, annualised



Source: Pictet Asset Management, forecast period 30.04.22 - 30.04.2027

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Inflation's back (but the 70s aren't)

The biggest macroeconomic surprise in the wake of the Covid pandemic has been a resurgence of inflation across nearly all major economies – albeit with the exception of China and Japan so far. Where it has taken grip, inflation has been running at above 5 per cent, in many cases its highest rate since the early 1980s. The key question investors face is whether this a cyclical, i.e. temporary, phenomenon or whether it will prove to be entrenched and self-sustaining through rising wages, as it did in the 1970s.

We believe the 2022 inflationary surge will broadly prove to be relatively short-lived. But we also believe that inflation rates in major economies won't be going back to the very low and very stable levels that had largely prevailed since the early 1990s. Instead, we expect the equilibrium rate to be slightly higher, with considerably higher volatility of outcomes – we see it ranging between 2 per cent and 3 per cent across much of the developed world, albeit with ever more frequent spikes higher and lower.

In other words, we don't see a return to the persistently high inflation rates of nearly half a century ago. But we also believe that both inflation and bond yields have already passed their secular lows. And that's down to a number of factors, ranging from supply constraints, to changing population dynamics, to reactions against globalisation, not to mention people's increasing concerns about environmental, social and governance factors.

1970S REDUX?

At first glance, the similarities between the present day and the late 1960s – when the seeds of the high inflation of the following decade were sown – are strong, especially for the US. Then, as now, the US had a deeply negative balance of payments, reflecting excess demand and an overvalued dollar. The parallels also extend to government debt. In the 1970s, public debt was high due to the costs of the Vietnam War, while today it is rising in response to the pandemic and the Global Financial Crisis (GFC). Monetary policy, meanwhile, was overly expansive in both cases, and likely for the same reason: the US Federal Reserve had overestimated the slack in the economy at a time of strong growth.

There are other parallels, such as a shift towards fiscal populism and redistribution, the slowdown if not reversal of globalisation, questions about how long the

US dollar can remain dominant, and a realignment of monetary policy objectives towards economic growth rather than price stability – all of which suggest that inflation and thus interest rates have reached secular lows.

On closer inspection, however, it is clear that some of the factors fuelling inflation in the 1970s were unique to the period.

For instance, the end of the Bretton Woods system was momentous, while the oil shock of 1973 was an order of magnitude more significant to the global economy than the current jump in prices.

Although inflationary pressures were already building by the early 1970s, it took a politically motivated policy mistake, known as the 'Nixon shock', coupled with an unprecedented surge in oil prices – exacerbated by a lifting of wage and price controls – to transform what was probably just a normal inflationary cycle into a secular trend.[2]

NO GREAT INFLATION, BUT...

History often rhymes. But in this case, it isn't likely to repeat. We do not think that another Great Inflation is on the cards.

One reason we are relatively sanguine about long-run inflation risks is that inflation expectations have remained surprisingly well anchored, close to central bank targets. That's a testament to policymakers' credibility in maintaining price stability over the past three decades. By contrast, during the 1960s and 70s, the Fed seemed powerless to fight inflation. Now it's recognised that central banks have the tools to stamp out price pressures if necessary.

It is in the labour market – a channel for inflation in the past – where central banks can exert an especially strong influence.

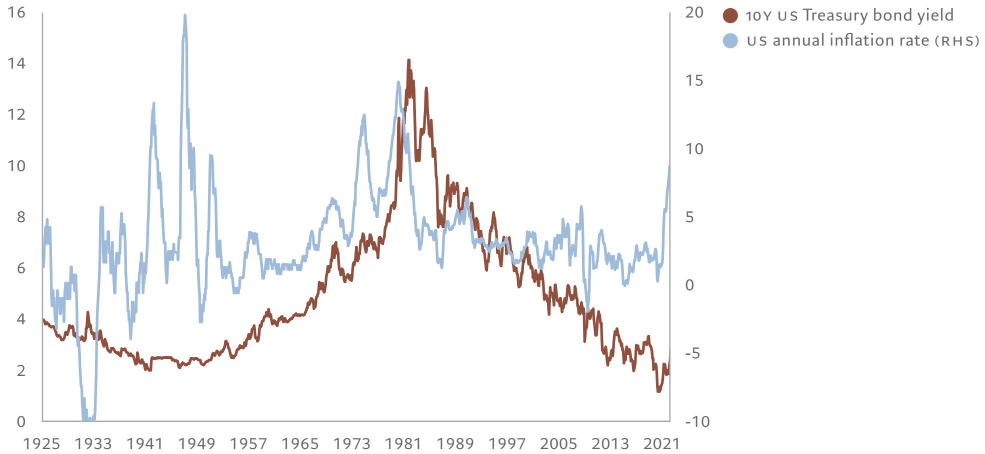
In the 1970s, inflation became self-sustained through rising wages. Wages respond to two factors – labour market conditions and inflation expectations. The former follow the business cycle, and wages tend to pick up when unemployment falls below its so-called natural rate. Wage demands, however, become more embedded when workers' inflation expectations start to rise. Here's where central banks can make a difference.

2 See https://files.stlouisfed.org/files/htdocs/publications/review/05/03/part2/Romer.pdf

As long as it is widely accepted that central banks remain credible and have a proper inflation-targeting framework, it's hard to assume that inflation will be significantly different from target. Only countries where central banks have lost their inflation-fighting credibility – think Turkey and Argentina – will expectations become untethered. But so far there is no sign that developed economy central banks have lost credibility, based on survey results and inference from market prices.

This is complicated, however, by the fact that the world has witnessed a period of extraordinary policy experimentation.

FIGURE 2
US 10-year bond yield and annual inflation rate, %



Source: Refinitiv, BEA, Pictet Asset Management; data covering period 01.01.1925 - 31.05.2022

Following the GFC of 2008, austerity became the governments' byword; now they're finding new ways to finance vast amounts of fiscal spending. It's worth noting that at the onset of the Great Inflation, government budgets were broadly in balance. Now there's pressure for governments to pursue debt monetisation. And in fact, then as now, the Fed funds rate was some 5 to 7 percentage points below the level consistent with the output gap.

Modern Monetary[3] Theory has become embedded in policy thinking while quantitative easing has almost become a conventional monetary tool.

3 Modern Monetary Theory is a non-mainstream theory that argues governments create money through fiscal policy and downplays the importance of central banks in setting interest rates.

Ultimately, inflation is a political choice. Politicians appoint central bankers on the basis of economic preferences and priorities which are set out in their election manifestos. Every country has a broadly socially acceptable level of inflation, dependent on culture, history and demographic factors. At the same time, inflation allows policymakers to do things they might not otherwise be able to, such as transferring purchasing power from creditors, who tend to be over-represented by pensioners – a powerful constituency – to borrowers, who tend to be younger.

It's not a free ride, however. Inflation is a tax and also has a negative impact on growth, mainly via a reduction in capital accumulation and total factor productivity. That is, a higher rate of inflation has real costs.

WHAT'S DRIVING INFLATION?

We might not be returning to the Great Inflation, but there are a number of factors that will push up trend inflation for the years to come.

In the short term, Covid-related excess household and business savings and supply constraints are playing a part. Shortages are not just a feature of commodities markets, where there was significant underinvestment even before the pandemic; they are cropping up in other parts of the economy too. There are constraints in housing and worker availability, for example. Labour shortages were already apparent before the pandemic, with the job vacancy rates trending higher. At the same time, productive capital is also in short supply – for the first time ever in developed markets, the capital expenditure to depreciation ratio has fallen below one of our calculations, i.e. the stock of real capital is shrinking.

Worryingly, some of these supply constraints are likely to persist, not least in the labour force. In part, that's down to demographics. The consensus view is that the retirement of the asset-rich baby-boom generation will trigger a significant increase in spending, or perhaps more accurately, dis-saving, in line with the life-cycle theory[4]. Meanwhile, the pandemic has swollen the number of early retirees, which adds to the inflationary trend as they draw down their accumulated savings for consumption.

And the working age population is expected to start shrinking over the next decade. China has joined the club of mostly developed countries with shrinking working-age populations. This too increases inflationary

4 The life-cycle hypothesis describes spending habits over a lifetime – savings are made during prime employment years and then are drawn down during retirement.


1970

pressures. In the US, the population grew at its slowest rate on record in 2021 as slowing migration, an ageing population and low birth rates were exacerbated by the pandemic, according to US Census Bureau data released early this year.

Migration and urbanisation also matter. In his 2009 book "Age of Turbulence," Alan Greenspan predicted that there would be a global inflationary inflection point once the migration of workers from farms into factories and cities in developing countries like China started to slow. We are at that stage now.

Another force working to push up trend inflation is a shift away from globalisation. China's entry in the World Trade Organization in 2001 was a huge positive supply shock for the global economy as millions of young and cheap workers joined the global labour force. It unleashed significant disinflationary pressure on wages – which account for between 60 per cent and 70 per cent of total final costs in most developed economies.

Trade sanctions, rising tariffs and national security considerations have all started to reverse that trend, tightening supply and causing economic efficiencies associated with trade to be lost.

BUT MANY OF THOSE TRENDS LOOK TO HAVE RUN THEIR COURSE

The pace of globalisation had in any case already peaked before the 2008 financial crisis while governments' and business's responses to the pandemic – the reshoring of manufacturing, hiring locally – appear to be shifting the world towards de-globalisation.

Although we believe companies will likely relocate to multiple, closer-to home countries rather than take their operations entirely onshore, there is little doubt that the re-configuration of supply chains and the fading impact of wage cost arbitrage will boost inflation.

Another long-term inflationary force is the rise of stakeholder capitalism, with an increasing number of governments, businesses and investors incorporating environmental and social considerations into their decision making.

We have highlighted in previous editions of the Secular Outlook that governments are increasingly being forced to put tackling social inequality and climate change at the top of their political agendas. Minimum wages have been ramped up in many Western countries, particularly the US, Germany, UK, Japan and South Korea. Given how strong companies' pricing power is, with the upward trend in concentration, there is likely to be significant pass-through of these input costs, with increased automation only marginally reducing the inflationary impact.

Wealth inequality is also attracting greater scrutiny. US net wealth has risen to 8-times national disposable income, against the long-run average of 5.5-times, as falling interest rates and yields have sent asset prices climbing. The average US worker needs to work four times longer than in the period 1960-1990 to buy the average stock in the US market. This boom in wealth was driven by extremely accommodative monetary policy, made possible by secular disinflation.

However, we believe this is set to partially reverse in the years to come. Wages are likely to rise relative to wealth, which will probably put upward pressure on consumption – those dependent on wages are more likely to consume their incomes than those with large asset holdings.

The transition to net zero and the economics of climate change are also inherently inflationary. This is directly via an expansion of carbon taxes and carbon border taxes, in other words an internalisation of external costs – which is to say pricing the cost of pollution, carbon emissions and other harmful effects and making companies responsible for bearing them. And it's also indirect via a vast expansion of investment spending related to green and sustainable infrastructure, which only over the long term will prove disinflationary by cutting the costs of green energy. McKinsey estimates[5] that the incremental capital spending on physical assets required to limit global warming to 1.5C is equal to about 3 per cent of GDP annually until 2050.

Finally, the disinflationary effects of digitalisation seem to be waning. True, technological innovation continues at a rapid pace and should continue to boost productivity, lowering unit costs and, in turn, inflation. Automated driving, quantum computing, Artificial Intelligence, wearable technologies and various applications of medical technology and gene therapy have huge potential. But for the first time since 1960, the price of US tech equipment is rising – up 2.6 per cent over the past year, compared to an average annual drop of 13 per cent over the whole period – which is potentially a sign that the pace of technical innovation and therefore of how much downward pressure on inflation it exerts, is slowing.

5 The net-zero transition: What it would cost, what it would bring, 2022

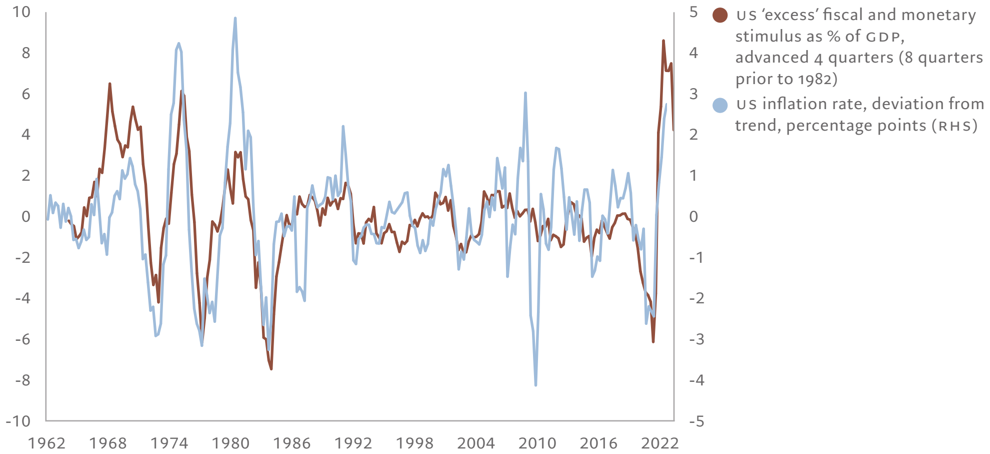
Ultimately, inflation is determined by economic policy, which means it's a political choice. With the benefit of hindsight, it is clear to us that the recent surge in inflation has been largely driven by an excessively expansionary mix of fiscal and monetary policy.

One significant factor has been central banks' de facto change in their monetary policy frameworks. The Fed has been at the vanguard of this shift, with its adoption of an average inflation target rather than a strict target. In practice, this introduces a lag to monetary policy, making it more pro-cyclical. This also makes for a looser, more accommodative monetary regime across the economic cycle. We estimate that the Fed's shift to average inflation targeting is roughly equivalent to raising its inflation target from 2 per cent to 2.5 per cent.

FIGURE 3

US 'excess' monetary and fiscal stimulus* (as % of GDP) vs US consumer price inflation, deviation from trend**

Inflationary excess



Source: Refinitiv, CBO, Pictet Asset Management. 'Excess' fiscal stimulus is a measure of how much the government budget deficit exceeds the level consistent with the stage of the business cycle (i.e. the output gap – the difference between real GDP and real potential GDP), 'excess' monetary stimulus is the deviation from trend of US M2 to potential nominal GDP. **Trend inflation rate is calculated using an H-P filter. As of 01.01.2022.

Clearly, central banks are in a very uncomfortable position. Years of extraordinary policy stimulus have resulted in a huge pile of unused cash. We calculate that were the velocity of money to return to its average level of the years since the GFC during the next decade, even a neutral monetary policy approach of allowing money supply to grow in line with nominal GDP would result in an annual US inflation rate of some 5 per cent. That's below current levels but is still more than double the Fed's target.

Central banks' decision to favour preserving growth over sticking to their inflation mandates is a risky policy. The recent hawkish turn by the Fed – scared by an unexpected surge in inflation – has resulted in the biggest loss for bondholders in 40 years. A protracted inflation overshoot may risk a severe political backlash, potentially re-igniting the debate of whether central banks' actions should be tied in a rule-based framework. Such an approach to monetary policy would be a modern soft version of the gold standard. An inflation overshoot also has the potential to spur demand for economically inefficient solutions such as wage indexation or price controls in developed economies or dollarisation in some small emerging economies.

At the other extreme, central banks could succumb to 'fiscal dominance'. In effect this means that they would keep interest rates at well below inflation rates, known as financial repression, in order to allow governments to keep spending freely. The only real constraints in that case would be the level of inflation that governments believe they could maintain without losing an election.

With surging public debt and politicians committed to spending on social care and green investment, governments' credibility in maintaining fiscal discipline is in short supply. Instead, populism is gaining the upper hand and monetary and fiscal policy are more integrated than ever.

But inflating a country's way out of debt is easier said than done. For instance, raising the inflation target, a possibility raised by some economists like former IMF chief economist Olivier Blanchard, is unlikely to be particularly effective and would come with unpleasant side-effects. Estimates by researchers at Wharton University suggest that raising the inflation target to 5 per cent from the Fed's 2 per cent target would lower GDP by 1 per cent and public debt by 20 per cent over a decade.[6]

More likely, we think that monetary authorities will keep testing the limits of financial repression, accommodating a cyclical spike in inflation. Indeed, we believe

6 https://budgetmodel.wharton.upenn.edu/issues/2021/10/21/can-inflation-offset-government-debt

that the trade-off between financial repression needed to keep debt costs at sustainable levels and the risk of spiralling inflation will be key to determining equilibrium interest rates.

(MODESTLY) HIGHER TREND INFLATION

Our analysis for the US suggests that given current fiscal and monetary policy frameworks, with an R-star[7] of 0.5 per cent, the new normal for US inflation is likely to be in the range of between 2 per cent and 3 per cent. This would be consistent with negative real rates throughout the economic cycle. Furthermore, we find that there remains some headroom for both fiscal and monetary policy – a cyclically adjusted primary budget deficit of 5 per cent of GDP, up from an average of 3 per cent during the past 20 years, would still be consistent with an average inflation rate of 3 per cent across the cycle.

This approach assumes that the overall impact of higher inflation on growth will be negligible and that inflation will not materially reduce debt beyond its direct impact on nominal growth. In other words, any benefit to the government of failing to raise tax thresholds with inflation is offset by tax revenue losses associated with the lag between when tax is assessed and when it's paid, known as the Olivera-Tanzi effect.

Meanwhile, higher inflation only boosts growth if inflation isn't anticipated and rises to some 10 per cent to 15 per cent. But if central banks adopt a higher inflation rate target, inflation still produces undesirable distortions in how resources are allocated in the economy.[8]

On balance, we think that over the coming years inflation will range between 2 per cent and 3 per cent in most developed economies, substantially higher than during the past two decades and with considerably more volatility. Central banks' policy framework is more pro-cyclical than in the past, while there are a number of forces pushing inflation higher. This upward pressure will, however, be limited by the demands of an ageing population, which has grown accustomed to low and

7 The natural rate of interest at which the economy is in balance at full employment and stable inflation.

8 Monetary Policy: Goals, Institutions, Strategies and Instruments,' Peter Bofinger, Oxford University Press, 2021, Julian Reischle, Andreas Schaechter

stable inflation and which has the political clout to keep policymakers from allowing inflation to run too hot for too long.

We forecast average inflation of 3.6 per cent in the US and 2.6 per cent in the euro zone over the next 5 years, compared to the median of 2 per cent over the past two decades. For Japan, we expect inflation of 0.7 per cent. In China, prices are likely to be well behaved, with inflation set to average 2.2 per cent thanks to a combination of strong productivity gains and an appreciating currency.

This would suggest investors should re-allocate away from financial assets to real ones that look reasonably valued – mainly alternative commodities and property. Surprisingly, given the high inflation readings of the past year and even after a strong performance in the first quarter of 2022, real assets continue to trade at near record lows compared to financial assets, a testament to the long-term stability of inflation expectations.

We offer further analysis of the impact of a secular inflection point on inflation and higher inflation volatility on asset returns in the final section of the Secular Outlook.

Covid and war: the long-term legacy

The past two years have brought not one but two generation-defining events – Covid and the war in Ukraine. Together, they will leave far-reaching economic and societal legacies.

The emergence of a multi-polar world order, the green transition and a desire to build more resilient supply chains among both corporations and governments may have pre-dated the pandemic, yet all three trends look set to gain more momentum and purpose in the wake of Covid and Russia's invasion.

In other areas, such as fiscal and monetary policy, the lasting consequences are less clear. But recent events and policy response are a challenge to the prevailing economic orthodoxy. The resulting policy uncertainty represents an additional risk for investors in the near future.

FIGURE 4

Impact of Covid and Russia-Ukraine war

	IMPACT OF COVID	IMPACT OF RUSSIA- UKRAINE WAR
FISCAL POLICY	• Larger scale, more direct forms of fiscal response • Divergence between DM & EM economies • Blurred lines between fiscal & monetary response	• Further European fiscal integration • Enlarged defence spending
MONETARY POLICY	• Unprecedented scale of intervention • Pressure on CBs to match response in future crises • Elevated policy uncertainty	• Diversification of FX reserves • Commodities as a strategic reserve asset • US dollar primacy challenged
INDUSTRY & TRADE POLICY	• Critical technology independence, National Champions • Push towards resilient supply chains • Accelerated near-shoring, adoption of automation	• Shift of focus from global to regional, rise of plurilateralism • Programmes aimed at energy & food security • Increased risk of sanctions
DIGITALISATION	• Accelerated shift to digital exaggerated • "Proof-of-concept" in select sectors & segments • Renewed focus on CBDCs	• Spotlight on digital sovereignty, cyber security
GROWTH/ PRODUCTIVITY	• Higher debt, labour participation impacted • Setback to the trend of rising EM middle class • No permanent scarring, limited impact on aggregate growth	• Near-term classic stagflation shock • Little permanent impact outside of the near region
INFLATION	• Risk of higher inflation volatility from policy uncertainty • No strong evidence of structurally higher prices	• Higher energy & commodity price volatility

Source: Pictet Asset Management.

FISCAL POLICY

Covid and the war both point towards increased government spending, particularly in the developed world.

The unique nature of a pandemic-driven recession emboldened policymakers to break new ground on the size and targeting of fiscal interventions. While protecting jobs and income in the face of a sudden halt to economic activity seemed justified, governments – especially in the developed world – spent freely. Even the International Monetary Fund, in a remarkable shift from orthodoxy, urged governments to "spend as much as you can and then spend a little bit more".[9]

Overall, this largesse has had significant implications for inflation (see p.7).

It has also highlighted the gap between developed and emerging market governments' ability to provide a decisive backstop to crises. According to the IMF, stimulus in developed economies was three times greater than in developing ones, as a proportion of GDP. On a per capita basis the gulf was even larger, with advanced economies on average spending USD1,370 compared to USD250 in emerging ones.

We believe that governments in the developed world run the risk of failing to wean their electorates off the expectation of such a turbo-charged response to future crises. A new social contract, where the quid pro quo of the government's larger role is more social protection and a backstop to crises, if established, would in our view lead to increased policy uncertainty, inflation volatility, a steady rise in debt levels and ultimately lower long-term growth.

The format of fiscal support is also changing, increasingly shifting towards more direct transfers. According to the World Bank, cash transfer benefits nearly doubled relative to pre-Covid levels.[10] Previously a mainstay of developmental economics, direct (and even unconditional) cash transfers have been gaining acceptance in high-income economies as well. Central bank digital currencies (CBDCs) could become another tool for this, enabling central banks – or governments acting via them – to provide stimulus by simply placing money in people's digital wallets.

In emerging economies, two decades of progress in reducing poverty and fostering equitable growth have been reversed. The rise in inequality is likely to

9 https://www.imf.org/en/Topics/imf-and-covid19/Fiscal-Policies-Database-in-Response-to-COVID-19

10 https://documents1.worldbank.org/curated/en/467521607723220511/pdf/Social-Protection-and-Jobs-Responses-to-COVID-19-A-Real-Time-Review-of-Country-Measures-December-11-2020.pdf

persist because lower-income cohorts have been the most affected by the disruption to education and training, impacting human capital formation. This in turn suggests that elevated fiscal spending on social support will need to continue for longer across the developing world.

The war in Ukraine has also put upward pressure on fiscal spending, particularly in Europe. This time the focus is on defence and, in a bid to cut dependence on Russian oil and gas, on diversification of energy sources. The shift is particularly notable in Germany – once a posterchild of fiscal prudence – whose current commitments signal an expansionary fiscal path for years ahead. Other EU countries might follow Germany's example of using an off-budget fund to pay for additional spending.

The EU's fiscal rules limiting government borrowing, which were suspended in 2020 to fight the pandemic, might be relaxed again for 2023 to accommodate the cost of defence and energy independence.

There is also a clear move towards greater integration. The pandemic prompted the EU to agree to a joint EUR750 billion Next Generation EU recovery fund, and the war could lead to a similar format being used for a communal defence fund.

All of this serves to add more uncertainty stemming from evolving policy choices for investors to navigate around.

MONETARY POLICY

Central banks' collective response to the pandemic was unprecedented not only in scale and extent of coordination, but also in the complexity and range of the tools used, especially in emerging markets. Central banks became providers of liquidity and credit not just to banks but directly to the private sector.

While developed economies relied heavily on their experiences in tackling the 2008-2009 global financial crisis, emerging market central banks broke new ground with their own asset purchase programmes. These included private sector asset purchases in countries such as Chile, Colombia and Thailand, government securities in India, Korea and the Philippines, and yield curve management operations in Brazil and Mexico.

Two crucial aspects of the Covid-driven economic slump justified the aggressive response. First, it was clearly an exogenous shock that had nothing to do with

private or public sector imbalances; as a result, it did not necessitate a redistribution of capital. Second, it was a truly global shock that allowed countries to deviate in unison from fiscal and monetary policy orthodoxy without immediate ramifications. The problem with such responses is the risk that they become the default setting, leading to increased policy uncertainty and inflation volatility (as discussed earlier). That is especially likely to occur if current policies succeed in engineering a soft-landing and regaining control over inflation.

While the longer-lasting impact of the war in Ukraine on monetary policy is less obvious, we believe the crisis could impact the composition of global foreign exchange reserves.

The weaponisation of the dollar-based financial system could accelerate the structural forces chipping away at the primacy of the US currency and prompt central bankers to seek to diversify reserve assets. However, it will be a very slow process (see currencies section on p.62)

For now, there is a lack of credible alternatives to the dollar (outside of the renminbi for Asian countries in China's economic sphere of influence). One increasingly attractive option is commodities, which are both fungible and protected from geopolitical uncertainties. Not just gold, but potentially metals critical to the green transition – copper, nickel and aluminium.

INDUSTRIAL & TRADE POLICY

The world economy's transition from globalisation to regionalisation is not a new phenomenon. But the twin crises of Covid and Ukraine have added greater momentum to the shift.

To begin with, the sporadic lockdowns and lingering logistical bottlenecks have further exposed the vulnerability of global supply chains, incentivising corporations to take a closer look at how they source raw materials and other inputs. This reconfiguration will take several forms, including reshoring manufacturing jobs, increased use of automation to offset higher labour costs and focusing on multiple locations (for both supply and production) that are either close to home or in countries that are geopolitically aligned to a company's domicile.

National governments will reinforce de-globalisation too. Policies aimed at improving critical technology independence and the creation of national champions in key industries (such as semiconductors, green transition technology and pharmaceuticals) will become more popular. Also, global trade is increasingly guided by plurilateral agreements such as USMCA and RCEP even as the pre-eminent multilateral arrangement, the WTO, struggles to make further headway or deliver on key goals. This trend formalises the deepening regional trade integration.

Corporations and investors must remain vigilant to the risk of economic decoupling, not least by diversifying investments and suppliers to mitigate the increased possibility of sanctions and of interventionist government policy (see p.28).

DIGITALISATION

To date, there are few signs of a broad-based and permanent step change in the level of digitalisation, despite the initial boost from the pandemic and mobility restrictions.

At a global level, the deviation from pre-Covid trend of e-commerce market share has now all but reversed, according to IMF data, albeit with regional differences.[11] Online spending gains have proved more persistent in the UK, Australia, Brazil and India. By contrast, the online share of consumption has slipped below pre-Covid levels the US and emerging Europe.

Among sectors, department stores and clothing stand out as having rapidly grown digital penetration from a low base and having held on to those gains. Clearly, new opportunities have opened up, but perhaps at a more granular level than originally expected.

Outside of e-commerce, the pandemic also reinforced pre-existing trends in automation and remote working. While Covid upended work patterns dramatically, again, there isn't a clear new normal emerging. The patterns of returning to the office vary significantly across industries and regions, with Londoners the most reluctant and major Asian cities the keenest.

We anticipate a more rapid pace of workforce transformation in the coming years. A McKinsey study finds that across eight major economies, representing two-thirds of world GDP, one in 16 workers would need to find a different occupation by 2030. For advanced economies, the figure is much higher, with the US at one in 10.[12]

11 E-commerce During Covid: Stylized Facts from 47 Economies, IMF Working Paper, WP/22/19

12 https://www.mckinsey.com/featured-insights/future-of-work/the-future-of-work-after-covid-19

Overall, while Covid has not necessarily been as much of a game changer for digital adoption as first appeared, it does leave an impact as a proof of concept in certain sub-sectors or previously hard to convert segments (such as senior citizens). Income levels, access to reskilling, availability and affordability of data and scalable digital offerings remain the drivers of greater and more permanent digitalisation.

ESG

Both the pandemic and the war have exposed the global economy's fragility in the face of large-scale externalities. One consequence is an added urgency to accelerate the green transition. For investors, meanwhile, we believe there is reason to expand the focus on the social and governance aspects of responsible investing.

For instance, the human cost of the pandemic has seen governments and consumers pay greater attention to healthcare and wellbeing. The World Health Organisation estimates the true death toll associated with the pandemic to be close to 15 million.[13] That's without taking into account the second-round impact on other health conditions. Mental health is a key concern, with the pandemic leading to a 25 per cent increase in instances of anxiety and depression worldwide.[14] The world appears to be woefully unprepared to respond: governments spent on average just over 2 per cent of their healthcare budget on mental health in 2020 and many low-income countries have fewer than one mental health worker per 100,000 people.

There is also a strengthened drive for equality, with the most vulnerable sections of society having borne the brunt of the pandemic.

These new priorities will feed through to expectations and actions for both the private and the public sector. Companies with a strong social ethos, for example, will reap reputational benefits. There is also a big opportunity for innovative businesses to improve the efficacy of the healthcare systems and facilitate healthier lifestyles.

The pandemic has highlighted the value of public-private partnerships through some extremely successful ventures leading, for example, to vaccine development in record time. But it has also underscored the potential

13 https://www.who.int/news/item/05-05-2022-14.9-million-excess-deaths-were-associated-with-the-covid-19-pandemic-in-2020-and-2021

14 https://www.who.int/news/item/02-03-2022-covid-19-pandemic-triggers-25-increase-in-prevalence-of-anxiety-and-depression-worldwide

problems such as PPE procurement and contact tracing in the UK. Adopting governance structures to help the private sector work better with public entities and make a positive societal contribution can protect or even enhance economic value.

The immediate fallout of the war in Ukraine has not been favourable to ESG-conscious investors, with the conflict leading to the underperformance of ESG portfolios. With energy prices up 50 per cent from the start of the year, energy has been by far the best-performing sector. Defence stocks have also done very well. Not surprisingly ESG funds have struggled to outperform, with the lowest proportion of them beating benchmark returns since 2015, according to Morning Star data.

Nevertheless, the conflict only serves to underscore the urgency of the ongoing green transition, not just to halt climate change but also to ensure geopolitical energy independence and security – a previously often overlooked benefit of renewables.

The demise of the Washington consensus and its effects on the allocation of capital

One of the most profound and far-reaching structural trends of the past decade – affecting society, politics and the economy – has been the slow but steady demise of the neoliberal world order and its economic counterpart, the Washington Consensus.

It is a phenomenon we have touched upon in previous Secular Outlooks, yet the Covid-19 pandemic and the Ukraine war have significantly accelerated the shift, which means it demands even closer scrutiny.

In this section, we look at the impact the erosion of the Washington Consensus is having on the financial market and analyse in particular how it has distorted the allocation of capital, which ultimately determines the return on investment.

The neoliberal order came to prominence during the inflation-ravaged 1970s as an antidote to what governments saw as the policy failures of Keynesian economic thinking.

In economic terms, this new order was built on six key pillars:

1. Fiscal policy discipline – or 'small government' characterised by strict control of public spending
2. Tax reform, a broadening of the tax base and the adoption of moderate marginal tax rates
3. Market-determined interest rates and exchange rates
4. Liberalisation of goods and capital flows
5. Privatisation of state enterprises and deregulation
6. Strict enforcement of property and other legal rights

And the new set-up worked. The global economy experienced a golden age characterised by rapid productivity gains, surging trade volumes and the emergence of China as a new economic superpower.

Financial markets also benefited enormously. Equities experienced one of their longest and strongest ever bull markets; risk premia collapsed to near zero; bond yields fell sharply as inflationary pressures dissipated.

But all this came to an end with the GFC in 2008.[15]

The GFC ushered in a period of intense soul-searching among policymakers that resulted in a steady dismantling of the Washington Consensus and the re-emergence of a more interventionist state.

15 The Rise and Fall of the Neoliberal Order, Gary Gerstle, May 2022

The watershed moment was the introduction of quantitative easing in 2008-2009 by all major central banks, through which they became the first- and last-resort buyers of government bonds, effectively determining the real cost of capital for investors.

QE was conceived as a temporary solution to an emergency situation.

But as the emergencies multiplied, not only did QE become the default setting but national governments – spurred on by voters – also embraced tighter regulation of the economy and finance. As a consequence, the role of financial markets – efficiently channelling capital from savings to companies to maximise return and productivity with the least disruption and volatility – is now being tested.

1) THE OVERWHELMING POWER OF CENTRAL BANKS

While central banks pursued "unconventional" policies in response to the GFC, it took Covid-19 for them to truly cross the monetary Rubicon of directly financing private credit.

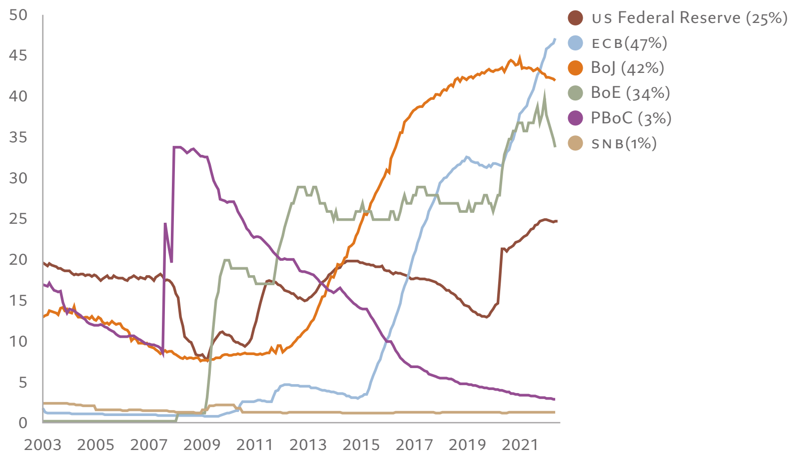
As part of its stimulus programme, the European Central Bank bought vast amounts of corporate bonds while the Fed established facilities to purchase investment grade corporate debt in both the primary market and the secondary market. Also in the US, the critical repo market has been effectively nationalised – with the Fed coming to the rescue when a credit crunch took hold in September 2019 and again in response to market turbulence in July 2021, when it set up two standing repo facilities as backstops. The primary effect of this monetary bazooka has been the artificial suppression of credit risk premia which, viewed from a different vantage point, amounts to a socialisation of corporate losses and transfer of wealth from the taxpayer to the corporate sector.

At the same time, the vast scale of central banks' asset purchases has had the predictable result of creating a shortage of low risk duration in the bond market: real yields sank deep into negative territory in most of the developed world while, in Japan, long-term bond yields were effectively capped, mirroring the policies pursued by the US in 1945 to 1952.

Today, the world's major central banks now own a significant and – in our view – uncomfortably high proportion of total marketable domestic government bonds.

FIGURE 5
Share of domestic marketable government debt securities owned by selected central banks as % of total market

Central banks' share of domestic government bonds



Source: Refinitiv Datastream, Pictet Asset Management

This, numerous studies have shown, has left the bond market especially vulnerable to short squeezes, sudden spikes in volatility and flash crashes.

Moreover, any attempt by central banks to reduce or stop asset purchases has resulted in heavy losses in bond markets and the many other asset classes that benefited from ultra-low rates.

Take the US, where the Fed has been looking to wind down stimulus. Anyone who purchased a US 30-year Treasury bond in summer of 2020 would have endured a 35 per cent loss in the subsequent two years – a decline that is sharper than the average fall of the S&P 500 equity index during a recession.

Yet the greatest cost of central banks' stimulus measures – the misallocation of capital – has only just begun to emerge. Although the relationship between bond yields and GDP growth rates has remained negative (yields fall when growth falters and vice versa), our analysis shows that the cost of capital is still far too low relative to the level of economic activity.

In fact, we would say that a massive gap has opened between nominal yields and nominal GDP growth – central banks are doing all they can to sound hawkish but their policies of financial repression are alive and well. The Fed and its peers are keeping real rates well below the equilibrium level consistent with the interaction of market forces. And with money being artificially cheap, borrowers of all stripes are incentivised to invest in unworthy projects or spend recklessly – which leads to capital losses and, via inflation, to losses in purchasing power.

That problem could be about to get worse. With central banks now targeting climate and social goals, and looking to launch digital currencies and wallets that would allow for a rapid transmission of monetary decisions, bypassing the banking sector, the potential for further distortions in the allocation of capital is set to grow.

2) AN OVERREACHING GOVERNMENT

The era of small governments is over. The GFC, Covid-19 and the war in Ukraine have led to a significant expansion of the state. Tighter regulations, more protectionist trade policies and the weaponisation of finance are just some examples of the new interventionism that has taken hold.

Governments have been getting bigger since 1945 – in the OECD, social spending as a percentage of GDP has risen to about 20 per cent. But now their priorities are regulation and other kinds of intervention rather than taxation. Industrial policy is back (subsidies, grants but also the nurturing of national champions) as are policies aimed at controlling international commerce and financial flows, such as sanctions and the blacklisting of companies.

Some regulation has positive effects and has helped financial markets allocate capital efficiently and in a socially responsible way. Examples include: market circuit breakers, macroprudential rules on bank lending, investor and consumer protection, limits to banks' proprietary trading and disclosure requirements on ESG factors.

But regulations can also carry great risks – particularly when they are introduced without consultation or in a haphazard manner.

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China perhaps offers the most egregious example of a previously pro-market economy supporting financial openness morphing into a system that is almost fully controlled by the government. Investors looking to invest in China today will see social, political and security having a strong bearing on the funding and working of financial markets.

But it is not a unique or isolated case (see p.28).

A bigger state has created a dilemma for investors. Should they follow a national government's stated priorities and the wall of state cash? Or should they do the opposite, given that national champions are most at risk from foreign sanctions?

The result is a bifurcated system in which markets are more volatile and can no longer be relied on to provide accurate signals. Ultimately, this adds up to lower returns for investors.

Government policies, the reset of national strategic priorities and geopolitical shifts – all of which are extremely difficult to predict – are becoming more relevant for investors than they used to be.

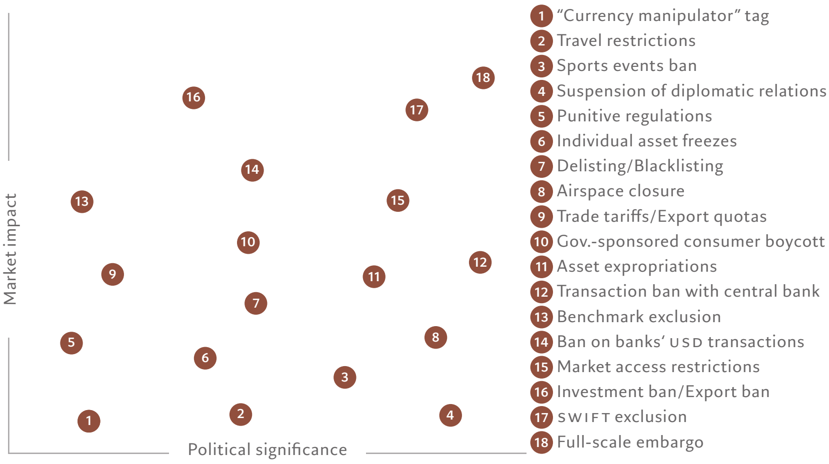
Again China is the best example: in March 2022 it's Internet stocks were famously labelled "uninvestable" by some investment banks after their 60 per cent slide from their peak; the same stocks then rallied by 20 per cent in a single day, following State Council's (vague) announcement pledging "support" to keep the market "stable".

But it can be argued that regulatory risks are just as high for investors in European and US technology companies.

In the US, for example, the bashing of Big Tech is one of the few policies that enjoys bi-partisan support. Big tech's massive market power, its questionable attitudes towards personal data, and its apparent reluctance to police opinions on social media platforms, make such companies an easy target of tighter regulation. For once, the US may end up following Europe's lead on this.

Even outright nationalisations under the pretext of security concerns are being considered. Mexico has recently nationalised its lithium reserves, which represent about 2 per cent of the world total. Mexico's lithium bill could lead to a tight lithium market for longer, which could potentially constrain electric-vehicle production, particularly if it sets a precedent for similar legislation in Chile, which accounts for a much bigger 11 per cent of global reserves.

FIGURE 6
The economics of sanctions



Source: Pictet Asset Management

And an increase in taxation will also give governments greater power and control over the economy. Recall that the huge US debt incurred during World War II was partly repaid by a huge increase in federal taxation – tax revenues as a percentage of GDP rose from approximately 5 per cent pre-War to around 15 per cent.

We may be about to see a similar shift in the next decade – inflation has already proved a too politically costly way to fund budget deficits. Which leaves governments with little choice but to consider revenue-raising as the primary means to finance a rise in social and environmental spending.

Here the candidates are a rise in capital gains taxes to the same rate of other income, an end to the tax deductibility of interest payments, Tobin's financial transaction tax, inheritance tax hikes and new wealth taxes.

And when the IMF itself calls for an expansion of wealth taxes ("solidarity surcharges"), it is clear that economic priorities are changing.

The agreement reached at the OECD at the end of 2021 for a global minimum corporate tax rate of 15 per cent may well be seen as a watershed moment.

3) THE WEAPONISATION OF FINANCE IN GEOPOLITICAL WARS

In the last decade, the US-China trade war and the crippling economic and financial sanctions imposed on Russia (the 11th biggest economy in the world in 2020, according to the World Bank) have also highlighted the risk of financial fragmentation and supply chain disruptions. China and Russia have also reciprocated. For example, at the end of 2021 China banned imports from Lithuania and ordered foreign companies not to use Lithuanian components in China, as a punishment for Lithuania's Taiwan policy. More recently, Russia halted gas exports to Bulgaria, Poland and the Netherlands.

Extreme actions taken against sovereign countries are of course nothing new. Recall that in late July 1941, the United States froze Japanese assets and embargoed oil sales to Japan to oppose the Japanese war in China. As a result, Japan lost access to three-quarters of its overseas trade and 88 per cent of its imported oil.

The scope and the scale of sanctions have escalated in ways that have significantly affected market performance and capital allocation decisions.

In particular, the decision by the US and its Western allies to freeze Russia's central bank assets and to cut off Russia's access to the SWIFT payment system has crossed a Rubicon and could lead to far-reaching, long-term re-allocation of resources. In the long run, this could erode the dollar's dominance as a payment currency, though it won't dent the dollar's role as the dominant reserve currency in the short term, where central bank independence, free capital flows, and the rule of law remain critical factors. The likelier risk is that geopolitical competition between China and the US escalates into a much wider DM vs EM split that ultimately creates even more trade and financial frictions. Some market participants saw Saudi's recent move to allow oil contracts to be denominated in renminbi as a potential tectonic shift.

The vulnerability of some energy-producing countries to SWIFT suspension and asset freezes has the potential to add a permanent premium on oil and natural gas, causing collateral damage to the global economy.

The new frontier could be state-sponsored consumer boycotts that can, with the use of modern technologies and social media, hammer the top line of multinationals in very short order. Most Western companies took the decision to discontinue their operations in Russia under pressure from politicians and consumers, not on their own initiative.

But it is the lingering geopolitical competition between the US and China that will have the most far-reaching consequences. US President Joe Biden in the summer of 2021 banned Americans from investing in Chinese tech and defence firms with alleged military ties. The ban hit 59 firms including communications giant Huawei, with the list of firms to be updated on a rolling basis. In December 2021, the Biden administration doubled down by banning American investment in eight Chinese companies, including DJI, the world's biggest drone manufacturer. Democratic or Republican, all US administrations have chosen a policy of weaponising America's clout in the global economy and financial markets.

Among other things, the growing risk of sanctions may encourage companies to stay private to avoid public scrutiny, depriving the public of huge growth opportunities, which is to say, returns.

4) A NEW CLASS OF INVESTORS – LESS DRIVEN BY FUNDAMENTALS

Speculation has always been rife in financial markets, from their very beginnings. But lately, speculation has reached a new dimension. The numbers and clout of investors that are driven by non-fundamental factors have swollen.

We have already analysed the distortions of passive investing in a previous edition of our Secular Outlook. But it is clear that when the three biggest passive asset managers together own more than a fifth of the average company in the S&P500 – effectively granting them managerial control – the "random" allocation of capital becomes problematic.

The dominance of algo trading and consequent short-termism is also a hindrance to efficient capital allocation.

Regulation has increasingly shifted risk-taking from banks into the shadow banking sector. Meanwhile, digitisation has opened up competition to new entrants. Automation, robo-trading and large numbers of new retail investors have radically changed the market landscape.

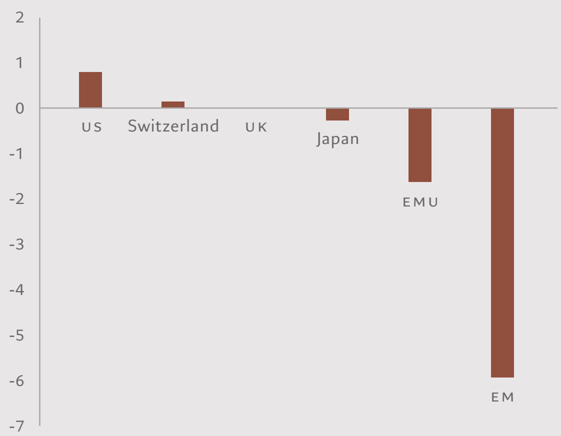
The emergence of a new class of retail investors – the Reddit/Robinhood phenomenon – will also have implications for asset returns. Zero transaction costs, user-friendly apps and excess savings, coupled with the ability to coordinate trading strategies in real time online, have given these investors the muscle to take on institutional investors. The ability to target short-positions held by hedge funds makes the risk, and therefore the cost, of short-selling much higher, potentially reducing valuable market signals.

The buyback anomaly

One of the biggest equity market anomalies of the past decade has been that corporates themselves have been the largest buyers of shares. Even in 2022, US corporate authorisations are on pace to reach a new record high – Goldman Sachs Research forecasts USD1 trillion worth of corporate repurchases for the year. The boom in buybacks has artificially inflated share prices – in other words, lowered risk premia – and at the same time reduced the incentive to invest in future growth. There has occasionally been talk of removing some tax incentives for buybacks, or even banning them outright, on the ground that they are a form of market manipulation – which is how they were viewed for most of the 20th century, until the SEC opened the door to buybacks in 1982. But for now, tax advantages from the fact that the capital gains tax rate is lower than that on dividends, and company management compensation schemes, where bonuses are linked to share price appreciation, continue to make buybacks attractive.

Economic theory says that buybacks shouldn't change the value of a company, but dilution effects have been a key driver of market performance over the past decade, giving US equities a clear edge and, in our view, an unsustainable premium against the rest of the world and emerging markets in particular.

FIGURE 7
Dilution effect in different markets over the past 10Y (ppts)



Based on share dilution from secondary issuance and index inclusion net of corporate buy backs.
Source: MSCI, Thomson Reuters DataStream, Pictet Asset Management

But it is in the funding of equity and the flow of equity capital where inefficiency is most apparent.

Special purpose acquisition companies (SPACs) are a particularly extreme side-effect of lax regulation and cheap money, leading to a bubble that has resulted in a massive misallocation of capital and, along the way, epic losses for investors. Worldwide in 2021, 679 SPACs had initial public offerings (IPOs) worth a combined USD172.2 billion. SPACs proved especially lucrative for the owners of the private companies being taken public, as well as for the SPAC sponsors. But blank-cheque deals evaporated when the SEC announced rules forcing greater disclosure on these companies and placing more legal responsibilities on underwriters. Subsequently, the De-SPAC Index – which tracks 25 companies that have gone public as SPACs – plunged by more than 80 per cent.

Elsewhere, China's recent regulatory crackdown on IPOs has materially changed the funding channels for companies looking for risk capital. Citing data security concerns, China made it extremely difficult for companies to list offshore, increasing de-listing risks. Offshore listings – which in the past decade accounted for 50 per cent or more of the total for Chinese companies, according to Dealogic – came to a sudden halt. Even more importantly, the IPO business now needs to be done through "government guidance funds", whose function is to channel funds to strategic industries like high-end manufacturing, semiconductors and biotech. Some 40 per cent of private equity and venture capital went to these state-backed funds last year, according to the FT. As a result, market signals necessary for an efficient allocation of capital and adequate capital market returns have been weakened.

Web 3.0

More than 500,000 tweets, 700,000 hours of YouTube videos, 5.7 million Google searches and 44 million Facebook Live views.

This is the staggering amount of activity that currently takes place online every minute.[16]

It is a digital blitz that adds to the 44 "zettabytes" of data – 44 followed by 21 zeros – that the world has generated since the beginning of the internet era.

Data is now the backbone of our social and economic lives. And big data in particular has become an indispensable resource that allows businesses to transact with customers and governments to interact with their citizens.

Yet there's a growing concern that in its current form the digital economy – built on platforms controlled by a handful of big tech firms – is increasingly unequal and persistently failing to deliver the societal gains it promised.

Pressure is growing for a rethink of how the world operates and governs the internet.

Yet the ideas taking shape amount to much more than a mere upgrade.

The new generation Web 3.0 that is slowly emerging could transform the digital realm. It holds the promise of an entirely new framework through which society and technology interact in a more democratised, inclusive and secure way. This re-imagining of the internet might also speed up the transformation of digital networks into fully functioning economic systems that incorporate ever larger parts of the physical world.

If Web 3.0 lives up to its billing, it will inevitably reconfigure the investment landscape too. Economic value and capital could shift away from today's tech behemoths towards a new breed of companies and digital asset classes.

BIRTH OF THE NEXT INTERNET

In today's internet, also known as Web 2.0, users generate content on a centralised ecosystem that is operated and controlled by a handful of tech giants.

Those firms – household names such as Facebook, Twitter and Alphabet – have effectively bent the internet to their will, profiting enormously from this set-up, financially and otherwise.

The combined market share of top six tech firms at one point reached USD11 trillion, equivalent to more than a quarter of the value of the S&P 500 equity index; their revenues dwarf the output of many of the world's economies.

16 https://www.visualcapitalist.com/from-amazon-to-zoom-what-happens-in-an-internet-minute-in-2021/

During the initial phases of their expansion, the internet powerhouses managed to evade scrutiny as both consumers and governments also benefited from their success.

Yet in recent years, the damaging side-effects of their outsized economic and sociopolitical influence – erosion of privacy, censorship, increased surveillance and monopolistic business practices and profits – have become more obvious, leading to calls for their break-up.

It is against this backdrop that efforts to build a completely different version of the internet are gathering pace.

TOKENOMICS AND WEB 3.0

First proposed by English computer scientist Gavin Wood in 2014,[17] Web 3.0 aims to combine the merits of early, open-source versions of the internet with blockchain technology,[18] giving users more freedom and ownership of data.

FIGURE 8

Characteristics of old, present-day and future internet

Evolutionary web

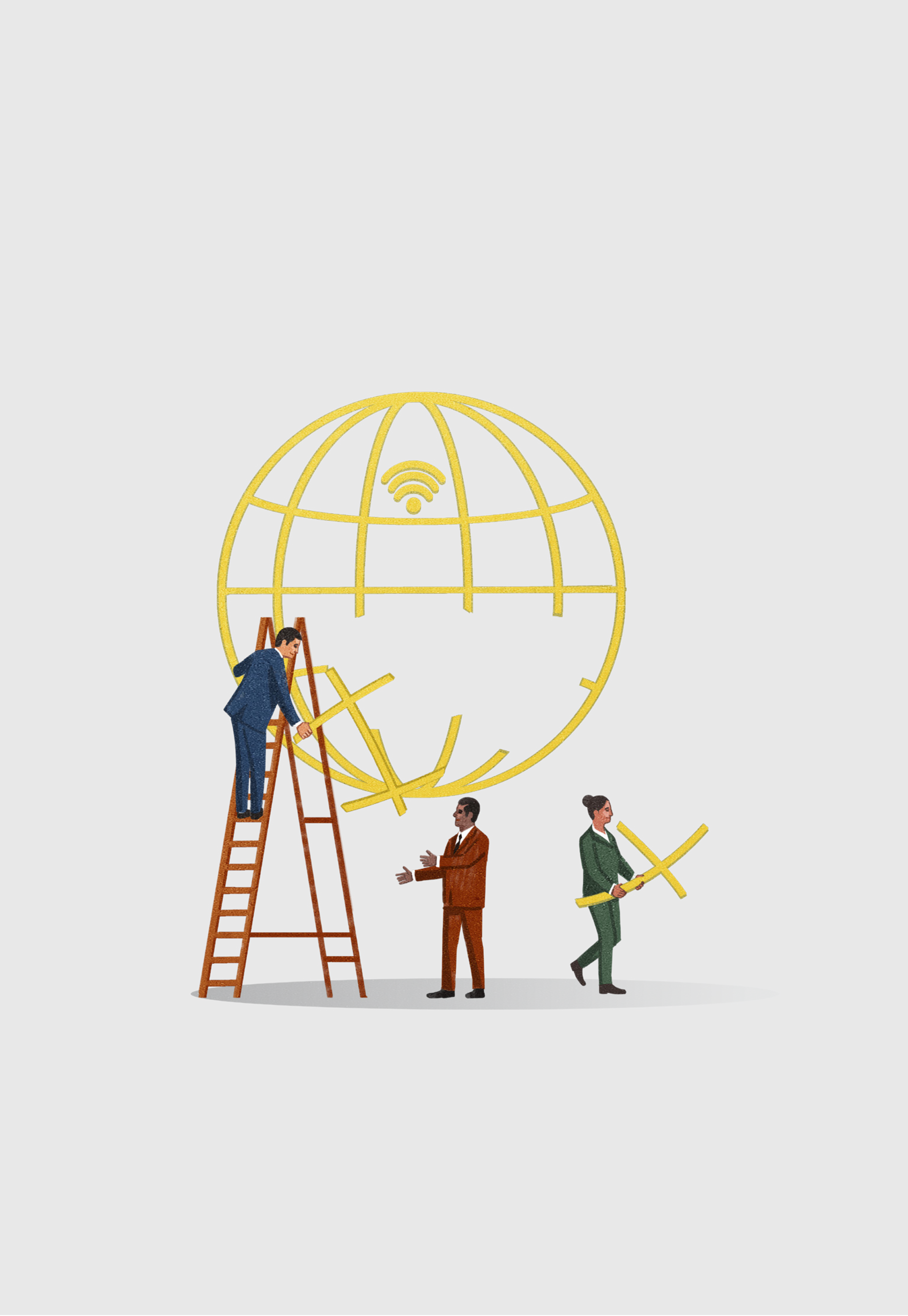
	PERIOD	FEATURE	VALUE ACCRUED
Web 1.0	1995-2000	Limited and static functionality, open protocols, decentralised, community governed	Users and builders
Web 2.0	2000-2020	Modern functionality, centralised services offered by platforms	Big tech
Web 3.0	2022-	Super-modern functionality, open protocols, decentralised, community-governed, tokenised on blockchain	Users and builders

Source: Pictet Asset Management

Unlike the internet in use today, the future version will do away with centralised gatekeepers such as search engines and social media platforms. It will instead emphasise peer-to-peer interactions, giving any user complete autonomy and control.

17 https://gavwood.com/dappsweb3.html

18 A blockchain is a digital ledger that is distributed across a network of computers, and that records, traces and verifies ownership of tokens – its units of value. Transactions in blockchain are based on smart contracts, which are sequences of computer codes that automatically execute pre-established instructions. Any transactions of these tokens are checked and confirmed across the network in a way that is highly resilient and resistant to fraud.



To help it achieve this, Web 3.0 comes with a built-in mechanism to incentivise users to contribute and participate in the network through the payment of tokens.

New applications are built on networks such as Ethereum while the exchange of tokens is made possible thanks to digital currencies such as Bitcoin.

Tokens offer users the ability to own a piece of the network – in other words, they confer digital property rights; they also allow users to join forces and work towards a common goal, such as the expansion of the network.

The growing popularity of token-only transactions and emergence of non-fungible tokens (NFTs) could prove significant developments – not just for Web 3.0 but also for the broader digital economy.

Just as the emergence of private property rights in the 19th century laid the foundation for private asset ownership, transfer and the basis for secured borrowing, tokenised digital property rights could enable the digital, virtual networks to become a fully functioning economic system in their own right.

METAVERSE: BLURRING OF TWO WORLDS

If tokens prove to be an accepted digital representation of private ownership and blockchain the arbiter, then there's no reason why ownership of physical assets cannot be transferred to the virtual realm.

Tokenised physical assets are, after all, secure, traceable and free from the intervention of traditional intermediaries such as banks.

Should enough consumers warm to these benefits, the real-to-digital transfer could occur rapidly and at scale, blurring the boundaries between physical and virtual worlds.

Offering a glimpse of the new Web 3.0-centred virtual economy is the "metaverse".

The metaverse is a catch-all term that refers to a range of services and technology that aims to offer users a more immersive experience via next-generation Virtual Reality/Augmented Reality (VR/AR) software and hardware.

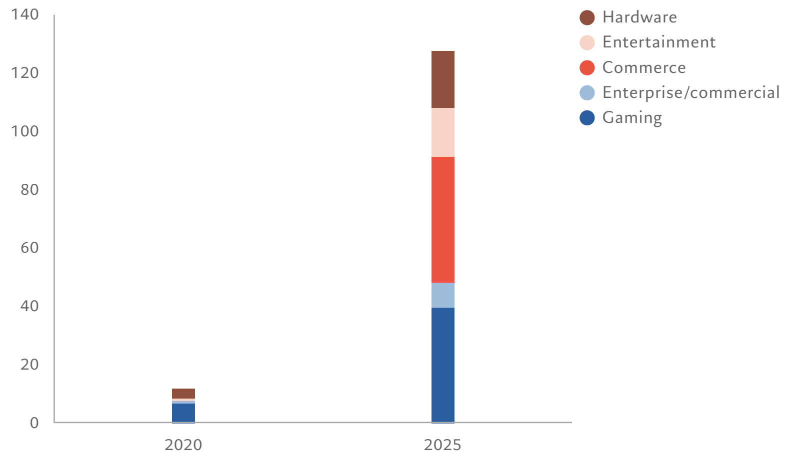
Already, experts expect the market to grow to around USD800 billion by the mid-2020s.[19] Although it is true that 'pure-play' Web 3.0 and metaverse investments remain in short supply, opportunities are already emerging in gaming and digital infrastructure.

19 Bloomberg Research

FIGURE 9

Size of VR/AR market by category, USD billion 2020-2025

Expanding universe

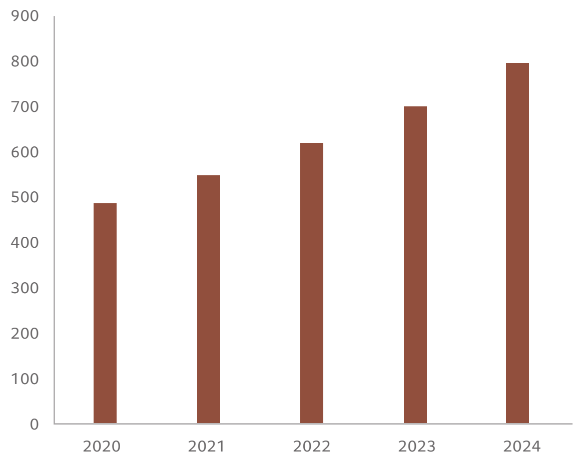


Source: City Research, data as of 30.06.2020

FIGURE 10

Size of metaverse, USD billion

New reality



Source: Bloomberg, data as of 31.12.2021.
Figures from 2021 onwards represent forecast.

Gaming

It's an industry that is at the frontier of all the technological advances of Web 3.0. The video games market was already straddling the virtual and physical worlds before the outbreak of Covid. But the pandemic proved transformative as social restrictions encouraged more players to connect with one another via in-game events and activities. The gaming market is expected to grow 8 per cent a year to become a USD200 billion-plus industry by 2023, having registered a compound annual expansion of some 13 per cent in the three years to 2020. The number of global gamers is set to reach 3.2 billion by 2023, up nearly 60 per cent from 2015.[20]

Retail

On the back of the success of online games, mainstream consumer brands are moving into the virtual gaming world to offer a more immersive experience and to broaden their client base. Fashion label Gucci, for example, opened a store and restaurant on gaming platform Roblox, allowing players to try on and purchase different virtual items. Chipotle Mexican Grill, meanwhile, gave the first 30,000 Roblox players who visited a virtual restaurant a free burrito in real life. The offer was so popular it almost crashed the network.

Edge computing

Web 3.0's vision of a fairer society is also democratising the way data is handled. Its management is moving away from centralised data centres to "the edge", or facilities nearer to the source of data generation to overcome latency of cloud computing. Data storage at the edge, or decentralised storage as it is also known, encrypts and stores data across multiple locations, or nodes, that are run by individuals or organisations that share their extra disk space for a fee.

By 2025, some 50 per cent of enterprise-managed data is forecast to be created and processed outside traditional data centres or the cloud, up from 10 per cent in 2018.[21]

Virtual Reality (VR)

Already a USD22 billion market, the VR industry is expected to grow 15 per cent a year between 2022 and 2030. The technology provides users with an immersive experience using gadgets such as headsets, gloves or glasses, expanding from the gaming and entertainment sectors to education, real estate and healthcare and the aerospace and defence industries. Asia accounts for the largest revenue share of some 40 per cent, while

20 Newzoo, Goldman Sachs Global Investment Research
21 Gartner

Europe is expected to be the fastest-growing regional market over the next few years.[22] The VR industry is proving to be an especially strong magnet for private capital, with the VR/AR software and hardware market attracting nearly USD3.9 billion of venture capital in 2021.

Advanced semiconductors

Advances in semiconductors are crucial to the development of the metaverse. Despite experiencing raw materials shortages and other supply chain bottlenecks, the semiconductor market is expected to grow 6-8 per cent on average a year to 2030 to become a USD1 trillion industry by the end of the decade.[23] Asia, once again, is well positioned to gain share; China, Taiwan and Korea together command a market share of 32 per cent in the world chip market with hundreds of billions dollars of R&D investment in the pipeline expected to threaten the supremacy of the US.

NFTS: NOT JUST A FAD

While the development of Web 3.0 and the metaverse could open up new investment opportunities in computing hardware and software, the emergence of a tokenised economy might prove even more transformative for investors. Crucial to the development of this new digital system is the NFT, a unique and non-interchangeable token that confers asset ownership in both physical and digital settings.

NFTs shot to global prominence in early 2021, a year that saw rock band Kings of Leon release their new album as an NFT, UK auction house Christie's sell a JPG file for over USD69 million and Twitter founder Jack Dorsey sell his first tweet for nearly USD3 million. NFTs have since been used extensively in the entertainment and retail industries.

But they are also beginning to be used for physical assets such as cars or even real estate. All of which raises the possibility of tokenised investment.

In fact, there are already tokenised forms of traditional liquid financial assets, such as bonds, equities and funds. These are collectively known as 'security tokens'. Here, the distributed ledger removes the need for intermediaries and offers the prospect of streamlining issuance, trading and settlement processes.

Some regulators are taking steps that enable distributed ledger technology and tokenisation to play a larger role in security (security tokens). In the EU, the

22 Grand View Research

23 McKinsey, assuming average price increases of about 2 per cent a year and a return to balanced supply and demand

European Parliament and the EU Council of Ministers are in the final stages of approving a new pilot regime designed to encourage innovation by limiting some of the regulatory constraints applying to the trading of security tokens.

Already, bonds have been tokenised. The European Investment Bank issued a digital bond on Ethereum, as did Switzerland's SIX Digital Exchange (albeit on its own private blockchain), both under traditional regulatory oversight.

Investment bank JP Morgan launched a market for repurchase agreements that uses smart contracts and a digitised version of the US dollar, taking tokenised securities as collateral for short-term loans.

There are also moves to create tokenised real estate where fractional investments – essentially shares of a property – can be traded. Meanwhile, Seba Bank, a regulated crypto bank in Switzerland, has launched a regulated digital gold token for investment in and delivery of physical gold.

These are all early steps. Eventually, smart contracts on public blockchains could permit individuals to issue assets, to make investible instruments out of what they own, and to trade those assets according to automated rules spelled out in smart contracts.

Already a USD50 billion market, NFT sales are expected to grow more than 10 per cent every year through to 2030.[24]

WEB 3.0 AND HYPERREALITY

It's been more than 40 years since French sociologist Jean Baudrillard first introduced the concept of "hyperreality", or the blending of physical reality and a simulated reality.

Numerous attempts have since been made to turn his ideas into something more tangible, none of them particularly successful. Yet thanks to the emergence of Web 3.0, tokenisation and the metaverse, Baudrillard's ideas now look decidedly more plausible.

Together, these new operating systems and technologies have the potential to erode the dominance of today's tech giants, and create new avenues for investment as they do so.

Yet for that to happen, several obstacles need to be negotiated.

24 https://www.emergenresearch.com/industry-report/non-fungible-token-market

One is legal. Digital property rights and ownership have yet to be defended in a court of law. And legal experts are unclear whether they will enjoy equal status to physical property rights. Another concern is security. The cyber security risks of Web 3.0, where assets sit in an open and decentralised cyber world, are potentially greater than those faced by owners of physical assets. The threats posed by hacking, data manipulation and privacy violations are considerable. Gaming-focused blockchain platform Ronin Network, for example, saw some USD600 million of its digital tokens and coins stolen in one of the biggest hacks to date in the cryptocurrency industry.

A third worry is the sheer amount of capital that is pouring into the industry. In an echo of the dot.com boom of the late 1990s, fears are growing that many of the technologies attracting investment are not as commercially viable as they appear. A bubble is threatening to form.

But despite the risks, the stakes are high. An internet that is more open, immersive and pervasive than the existing version could revitalise the technology industry and open up a wealth of new investment opportunities.

Asset class return projections

Equities: tax rises and recession to weigh on returns

Global equities have enjoyed double-digit gains over the past five years, generating an average annual return of around 10 per cent, roughly in line with the long-term historical average. US and growth stocks have led the rally, while Chinese, German and financial stocks were laggards.

More than half of the cumulative equity returns can be attributed to an expansion in corporate profit margins, which rose by more than 5 per cent a year even as revenues grew by just 3 per cent annualised. Globally, net profit margins now stand at an all-time peak of 11 per cent, thanks to a combination of corporate tax cuts and price mark-ups made possible by higher levels of industry concentration.

In the coming half-decade, however, companies will find a far less favourable operating environment.

Pressure on corporate margins will intensify across all major markets, leaving equity investors fully exposed to the underlying strength (or otherwise) of the economy.

The next few years will see profit margins peak and then fall as factors such as tax hikes, new minimum wage legislation and tighter environmental regulations will shift economic power from corporations to workers.

Upon entering the latter stages of the current business cycle, companies' operational leverage is likely to have a smaller impact on equity returns. What's more, higher debt servicing and input costs – the consequence of rising inflation and interest rate hikes – will add further pressure on corporate profitability.

Although we expect global revenue growth to rise to some 6.5 per cent a year on average, corporate net profit margins will fall by a cumulative 10 per cent over that period. China is likely to be the only major economy bucking the trend, with its margins expected to remain steady at 4.5 per cent, a third of those in the US and unchanged from the level four years ago.

Yet falling corporate margins are not the only problem equity investors will have to contend with.

An unfavourable shift in the business cycle could prove a much stronger headwind.

While we cannot accurately predict the start of the next recession, we are clearly approaching the end of the world economy's post-Covid recovery. Numerous financial and economic indicators are testifying to this, such as an inversion of the bond yield curve, a peak in US job creation, tighter financial conditions and a positive output gap – the differential between current GDP growth and the long-term trend.

The onset of a recession has significant investment implications – there is a considerable difference between investing before a slump and after one. This is the case even for investors with long time horizons.

Our analysis of the past 100 years shows that making an allocation to developed market stocks after a recession generates a price return of 10 per cent a year for the following five years; doing the same before a recession, as would be the case today, has by comparison typically delivered only a 4 per cent annualised return – a shortfall of some 6 per cent per year.

In other words, for every percentage point increase in the US output gap, equity investors can expect to see an annual average return that is 3 percentage points lower than the long-term average over the subsequent five years.

That's not to say that equities will be bereft of support. There are a number of factors likely to aid markets over the next five years.

These include persistently low real interest rates, the potential for higher investor flows into equities compared with bonds and a very gradual easing of inflationary pressures.

Just as importantly, and for the first time since the pandemic, valuation is no longer an impediment for equity markets. With 2022 having witnessed one of the most precipitous sell-offs in the past decade, valuations for global equities are on some measures back to where they were five years ago. The price-to-earnings ratio for the MSCI All Country World Index, based on 12-month forward earnings, has fallen below 15 from a post-Covid peak of 21.

Looking ahead, we see no further contraction in global stocks' earnings multiples as we expect the real Fed funds rate to remain below zero, on average, over the course of the next five years.

We forecast a long-term, cyclically adjusted price-earnings ratio of 18 for US equities compared to a current level of 16.5, the historical average.

EUROPE, CHINA TO OUTPERFORM THE US

As our forecasts indicate, returns from developed markets will be below what investors, on average, have enjoyed in recent decades. Regional allocation decisions will be crucial.

US stocks, outperformers over the past five years, are among the least attractive equity investments. Relatively high valuations are one problem. For example, the gap between US stocks' 12-month forward earnings yield and the local 10-year government bond yield – a reliable measure of the valuation of equities versus bonds – is at a 13-year low at 2.8 per cent. That is significantly below the 7-8 per cent seen in Europe and China.

Then there's the fact that the US economy has advanced further along the monetary and economic cycle than most other regions. There are also risks associated with a possible investor retrenchment from the US dollar.

We expect Europe and China to be the best-performing equity markets over the next five years, with each forecast to deliver an average annual return of around 12 per cent in dollar terms.

Initial valuations are a strong contributing factor – euro zone stocks trade at a record 35 per cent discount to their US peers on a 12-month price-earnings basis and China at a discount of around 50 per cent, the widest in in 20 years.

Some investors would contend that such discounts are justified as they reflect obvious risks, such as the impact of the Ukraine war for Europe and a regulatory clampdown and the zero-Covid strategy in China. That said, over the next five years, we think the valuation discount will begin to shrink as Europe and China's economic growth differentials with the US will shift in their favour.

The composition of European and Chinese markets – which contain a higher proportion of value stocks compared to the US – is an added advantage.

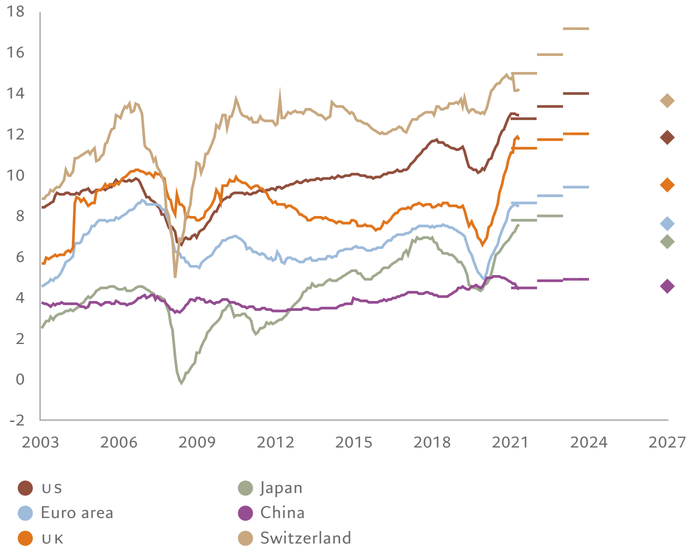
When it comes to equity style factors and sectors, a few areas stand out.

The prospects for US small-cap stocks, for example, look especially healthy. These companies are attractively valued and should benefit from efforts to boost domestic consumption and manufacturing.

FIGURE 11

IBES forecasts on net margins for 2022, 2023 and 2024, PAM forecasts for 2027

Too high an expectation?

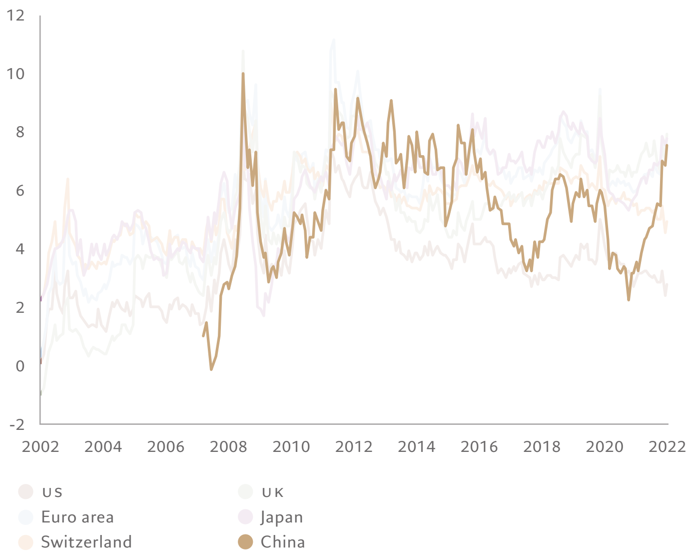


Source: Refinitiv and Pictet Asset Management, data covering period 30.01.2004 - 29.04.2022

FIGURE 12

Equity risk premium, %, by country*

Diverging equity risk premium



Source: Refinitiv, data covering period 10.05.2002 - 11.05.2022
*Calculated using 12-month forward equity yield minus 10-year government bond yield

At the same time, as central banks normalise monetary policy and the dispersion of returns among individual stocks rises, company-specific and thematic factors could have a bigger role to play in the performance of equity portfolios.

We have identified three investment themes that we believe could gather strength in the coming years and become a source of excess return.

Health

The human cost of the pandemic has seen policy-makers and consumers place greater emphasis on health-care and wellbeing. Companies that contribute to making healthcare systems more efficient and those helping individuals lead healthier lives stand to benefit from this change in society's priorities.

The healthcare industry is also supported by structural trends such as the ageing of the world population and rising healthcare spending in increasingly affluent emerging economies.

Automation

Among the legacies of the pandemic and the Russia-Ukraine war is a desire among governments and industry to strengthen supply chains and gain technological independence. Pandemic bottlenecks have increased demand for non-human labour substitutes as there appears to be a lasting decline in participation rates (the number of people in the labour force as a percentage of the population), at least in the US. Companies are turning to nearshoring and automation to counter the impact of higher labour costs.

Clean Energy

Despite a pivot to fossil fuels in the face of Covid supply constraints, efforts to build a greener and more sustainable economy are about to accelerate. The Ukraine conflict could add further momentum to the transition as the spike in energy prices it has precipitated has forced governments to invest more in energy security. While the environmental upsides of a transition away from fossil fuels are widely appreciated, benefits to energy security are often overlooked. Renewables help diversify a country's energy sources and reduce entrenched geopolitical risks.

Bonds: inflation and rate hikes demand relative value approach

Fixed income markets have this year (2022) suffered their heaviest losses in decades. US long-dated government bonds, a global benchmark for the asset class, fell more than a third from their highs. As a consequence, both nominal and inflation-adjusted bond yields have surged from the record lows they reached during the height of the Covid pandemic in the summer of 2020.

A speedy economic recovery from Covid has been one catalyst for the sell-off. But, as ever with bonds, an unexpected resurgence of inflation has transformed normal cyclical losses into epic declines.

Consensus expectations for inflation in the US rose roughly three times from what had been expected a year ago and fivefold in the euro zone.

With bond yields in developed markets now back to or above their peak in the previous cycle and close to our fair value estimates, the key question investors face is whether the economy will see a prolonged period of above-average inflation. If higher inflation becomes entrenched, they also need to weigh up the prospects of much longer and more aggressive central bank tightening.

While we expect inflation to remain above the average of the past decade over the coming five years, we also believe that it will return to a more normal range thereafter, which is to say in line with central banks' stated inflation targets. This, though, will be far from a smooth journey. The fact that inflation has surged and central banks have delayed responding to it will make for volatile inflation expectations over the coming years.

At the same time, we believe investors are overestimating the "terminal" or ultimate level of central bank rates and bond yields for the cycle – as is typical towards the end of an economic expansion. As a result, returns for bonds are likely be higher than the market expects – the starting point for an investment matters for the ultimate return, and by the late spring of 2022, valuations were attractive [see p.61 below for a breakdown of expected terminal bond yields].

There is a risk that terminal yields end up higher – and therefore that returns prove to be weaker – if the underlying structural forces that have kept real bond yields low for the past decade start to unwind. The two key forces keeping yields down have been the global savings glut and a decline in long-term productivity. Although it is worth considering the possibility that these forces will be reversed, it's extremely unlikely.

For one thing, the savings glut looks set to remain an ever-present feature of the economy. The glut emerged thanks to a combination of excess savings in developed economies to finance a longer retirement period, excess corporate savings, and excess foreign exchange reserve accumulation in emerging markets (built up in response to the financial shock caused by the Asian crisis in 1998).

These excess savings have been the driving force behind the persistent decline in bond yields even after the end of the most acute phase of disinflation that followed the Great Inflation of the 1970s.

The retirement of the asset-rich baby-boomer generation and China's shrinking external surplus may yet reduce this savings accumulation but they are unlikely to reverse the trend. Indeed, the International Monetary Fund forecasts the gross savings ratio for the global economy to rise further during the next five years – reaching a new all-time high of around 29 per cent of GDP in 2027.

Meanwhile, productivity growth looks set to remain sluggish. This further depresses interest rates – high productivity growth implies strong investment demand, which, in turn, drives up financing needs and thus interest rates.

Productivity growth anchors real bond yields in developed economies. That's because the alternative source of economy-wide investment demand is a rise in the labour force, but demographic forces suggest the working-age population is at best static in these countries. This is of course in the absence of protracted and significant intervention by central banks to suppress yields, in other words financial repression, as has been the case during at least the past decade.

According to the Solow Growth Model, the marginal cost of capital – which is the inflation-adjusted long-term yield – will equal inflation-adjusted GDP growth. Productivity is notoriously one of the most difficult variables to forecast. Over the past decade productivity growth in the most advanced economies has declined substantially. The most cited reasons for this, such as a lack of productive investment, tighter regulation and the fading impact of technological breakthroughs, are unlikely to stage a significant reversal. The Fed itself forecasts this low-productivity regime to continue.[25]

25 FRBSF Economic letter 3 August 2020

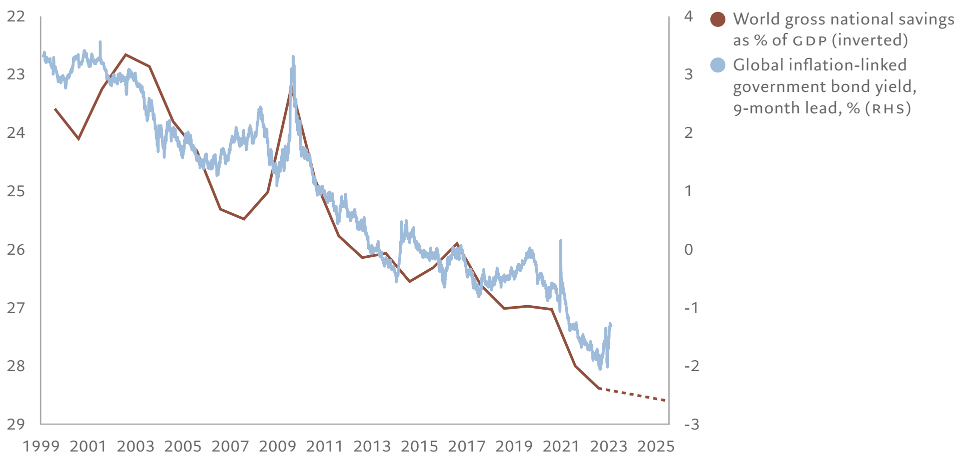
There are some potential upward drivers of productivity growth, such as from a boom in R&D spending, post-Covid digital adoption and possibly a significant increase in infrastructure spending. However, we think the current increase in productivity growth is largely cyclical and flattered by a temporary Covid-related shift in the composition of the labour market and capital intensity.

Although the outlook for corporate investment is relatively optimistic, any increase is unlikely to be strong enough to generate an imbalance requiring a significant upward adjustment in bond yields. Companies have a huge pile of cash that can be used to invest in new capacity. And there should be a significant appetite for this investment given the average age of the capital stock is at all-time highs – 23.4 years in the US for private assets, the highest since the 1960s, according to the US Bureau of Economic Analysis. Other boosts to investment will come from the shift to supply chain duplication and reshoring, following Covid and other disruptions, as well as the huge investment needs to decarbonise the economy and meet net-zero targets in the next two to three decades.[26]

FIGURE 13

Inflation-linked government bond yield vs world gross savings ratio as proportion of GDP, %

Yields held in check by high savings ratio



Source: Refinitiv, ICE BofA, IMF, Pictet Asset Management. IMF forecasts through to 2025. Data covers period 31.12.1998 - 08.04.2022.

26 McKinsey estimates that Europe alone will need to invest USD28 trillion to hit its zero carbon targets by 2050; *Infrastructure investing to build a net zero carbon world, Dec 2021

One more significant potential source of pressure on bond yields is rising public debt. Having surged as governments responded to the Covid pandemic, it is unlikely to come down significantly. At some point this will be felt in the bond markets, as the biggest buyers of government securities – central banks – become net sellers.

Because we believe US interest rates will peak at a lower level than implied by the market, and that the savings glut and lacklustre productivity growth are here to stay, prospects for US government and investment grade corporate bonds look reasonable over the next five years.

We forecast a 3.1 per cent annual return on US 10-year Treasury bonds and a 4.6 per cent return on US corporate debt, approximately 2 percentage points per year more than these assets generated over the five years to April. Moreover, the combination of higher coupon rates and the expected marginal decline in yields makes US Treasuries and corporate bonds attractive on a risk-adjusted basis relative to US large-cap equities.

The outlook for bonds in the rest of the developed market is less encouraging, with European sovereign debt delivering returns of 1-2 per cent per year, which is a loss in inflation-adjusted terms. Initial yields are far below those of US Treasuries – beyond what is implied by differentials in US/euro zone economic growth. This suggests European bond yields will rise sharply once European central banks start to tighten policy more aggressively.

As for corporate bonds, we believe there is value in high-quality, high-rated US and emerging market credit following the recent sell-off. High-yield bonds will be more vulnerable to a withdrawal of monetary support and appear less attractive still given their current valuations (yield spreads are below average against both US Treasuries and investment grade credit). Rising yields and buoyant past issuance will also raise corporate default rates from extremely low levels towards the long-term average, keeping returns below historical norms over the next five years.

In emerging markets, meanwhile, government and corporate bonds offer much more potential. The current market pricing of sovereign default risks across the developing world sits at extreme levels, with just under 22 per cent of the bonds issued by countries represented in the benchmark JP Morgan EMBI index of dollar debt trading at 1,000 basis points above Treasury yields – a level that implies severe market distress. Such a high rate of distress among index constituents has only been seen in crisis periods, most notably in the wake of the global financial crisis. In other words, the asset class offers very good value.

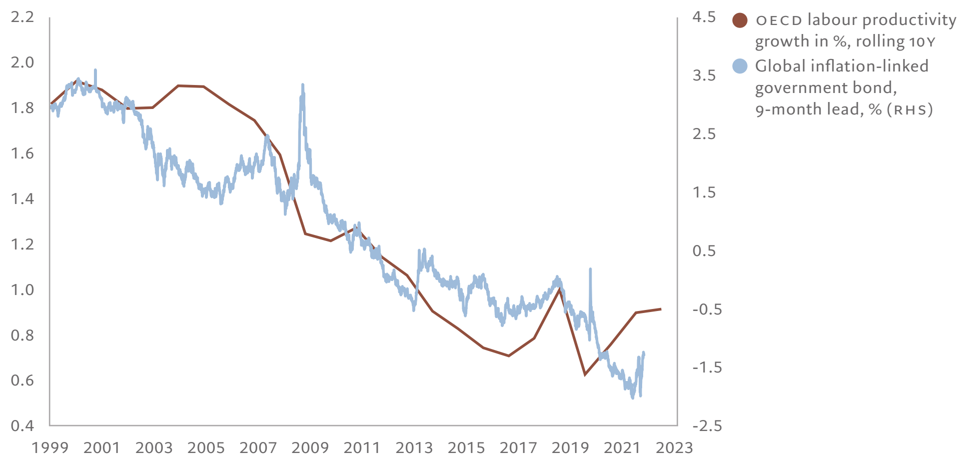
We expect emerging market hard currency sovereign bonds to return some 7 per cent a year over the next five years. Monetary tightening is already at an advanced stage across much of the emerging world, and some countries are experiencing a positive change in their terms of trade as a result of the surge in commodity prices, with resource-rich Brazil a leading example.

Emerging market local currency bonds are forecast to return 7 per cent in local currency terms, plus a further 2 per cent from currency appreciation for a total 9 per cent annual return in US dollar terms. This compares well with a forecast of 10.5 per cent annual returns on emerging market equities.

We continue to believe that China's government bonds offer among the best return potential relative to risk, as well as a valuable element of diversification in global multi-asset portfolios. The secular decline in China's nominal trend GDP growth rate, an inflation outlook that is more benign than elsewhere – thanks to a strong currency, solid productivity growth and positive external balance – and a long-term increase in portfolio flows into the country make China's bond market attractive. However, we acknowledge that the outlook for Chinese debt has deteriorated somewhat since last year. The yield gap versus US Treasuries has narrowed dramatically – for the first time since 2011, Chinese 10-year yields have fallen below the US level – while the renminbi has become more expensive compared with a year ago. We have consequently marked down our annualised expected return for the asset class to 2.7 per cent in local currency terms and 4.8 per cent in US dollar terms.

FIGURE 14
Inflation-linked global government bond yield vs trend labour productivity growth, %

Low productivity growth prevents yields from rising



Source: Refinitiv, ICE BofA, OECD, Pictet Asset Management. OECD forecasts for 2021-22. Data covers period 31.12.1998 - 08.04.2022.

Estimating terminal yields

A simple rule of thumb is that, for each percentage point increase or decrease in the US output gap – the difference between the current and potential rate of economic growth – the 10-year US Treasury bond yield will move 50 basis points above or below its neutral rate over the subsequent five years, in effect reducing returns by roughly one percentage point a year.

For the US bond market, we assume that the neutral real rate of interest, referred to as R-star, is in line with the Fed's own estimates for the post-GFC average, or 0.5 per cent in an environment where trend economic growth is assumed to be 2.5 per cent or higher. Adding estimated trend inflation of 2 per cent and an average steepness of the yield curve of 1 per cent generates an expected neutral yield for the US 10-year Treasury of 3.5 per cent. The equivalent for the Fed funds rate would be 2.5 per cent, which is 25 basis points below the rate implied by the market.

However, with an output gap at around 2 per cent and a recession likely to weigh in the near future, we estimate that yields will be some 100 basis points lower than the model outlined above over the next five years. This leaves our forecast for a US 10-year yield at 2.5 per cent in five years' time.

Currencies: dollar bear market beckons

The dollar is trading at a 20-year high against a basket of currencies. Investors have been drawn to its defensive qualities following Russia's invasion of Ukraine, while a rapid tightening of US monetary policy and a lack of attractive alternatives have also helped propel it higher.

Yet we believe a long bear market in the world's reserve currency beckons. Our analysis shows the dollar could depreciate by more than 10 per cent in trade-weighted terms over the next five years. The move should be more pronounced against major developed market currencies, with the euro-dollar exchange rate reaching USD1.25 (from USD1.05 now). That level was last seen in early 2018 and is below both the euro's average in the years following the 2008 financial crisis and our own estimate of its fair value of USD1.28 (based on the US's productivity growth, external balances and its inflation differentials relative to the euro zone).

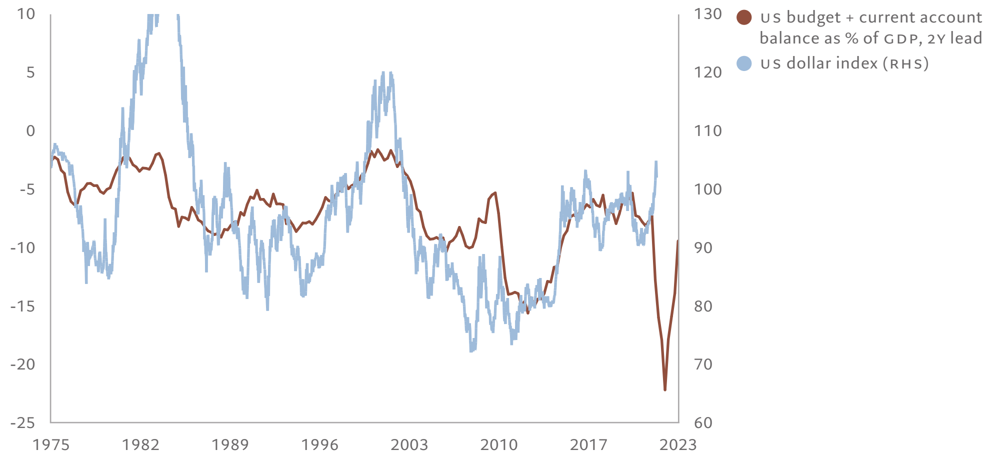
While it is notoriously difficult to forecast currency movements, there is ample evidence that valuation matters over a longer time horizon. Arbitrage opportunities are easy to exploit and periods of over/undervaluation tend to self-correct once the consequences for growth and inflation (and, in turn, monetary policy) become too big to ignore.

Currency moves are influenced by several factors: initial valuations, a country's economic growth differentials relative to other nations, monetary policy cycles and long-term investment flows dictated by trade patterns and shifts in the composition of a central bank's foreign exchange reserves. On all these counts, the US dollar looks vulnerable.

The dollar is expensive or very expensive on every valuation measure. Trade weighted, the dollar trades at a 20 per cent premium to its long-term trend; the gap to fair value is only slightly smaller. On more traditional purchasing power parity (PPP) metrics, the dollar is almost 30 per cent overvalued. And this with the US exhibiting the worst twin deficits – budget and current account – of any country.

FIGURE 15
US twin deficits (budget, current account), % GDP vs trade-weighted US dollar basket

Dollar to fall victim to twin deficits



Source: Refinitiv, IMF, Pictet Asset Management.
Data covering period 01.05.1975 - 16.05.2022

Over the very short term, the greenback's fundamentals still look solid. The US economy is outperforming, the Fed is raising rates at a faster pace than many other nations, and foreign demand for US assets has been strengthening due to high geopolitical risks.

However, we expect that to change. We forecast that the growth gap between US and Europe will shrink to a trend-like 0.5-0.75 percentage points, down from the 1 percentage point differential that has prevailed over the past five years. We also expect the interest rate differential to narrow as the ECB plays catch-up with the Fed on rate hikes. The spread between US and German 10-year yields should halve to 100bps in five years' time.

Meanwhile, the gradual de-dollarisation of the global economy should continue. The dollar's share in central bank foreign exchange reserves has fallen to 59 per cent from 70 per cent over the past 20 years while its use in the SWIFT global payment system has also declined in relative terms, and is now below 40 per cent.

While the world financial system is still dollar-centric, recent events may further accelerate the shift towards a multipolar currency order, like the one theorised by US economic historian Barry Eichengreen.[27] Western governments' decision to freeze Russian foreign currency reserves may force other emerging market countries to reconfigure their reserve allocations and to ensure they don't lose their ability to act in case of sanctions.

That's not to say the dollar won't retain its role as the predominant reserve currency. The unmatched liquidity of US financial markets, the credibility of its institutions and the lack of viable alternatives are considerable advantages. However, even a marginal shift in investors' preferences could add to the other fundamental pressures the greenback already faces.

YEN POWER

While we see the dollar declining, we expect the Japanese yen to head decisively in the opposite direction. It trades at an all-time low in trade-weighted terms, and we think that the divergence in monetary policy between Japan and the rest of the world is not sustainable in the long run. Over the coming five years, we would expect Japan's monetary regime to converge with others in the developed world and its yield differential versus the US to narrow, which – combined with the attractive valuations – should lead to significant currency appreciation.

Within emerging markets, China's renminbi should continue to move higher in what we consider to be a long-term structural trend. However, we are less confident about its appreciation potential than we were a year ago, largely due to its high starting valuation but also as a consequence of China's increasingly erratic economic policy (with monetary policy being eased, albeit halfheartedly, at the same time as regulations are being tightened). This will inevitably weigh on all renminbi-based assets. We thus see the dollar at RMB6.0 in five years' time, not quite reaching our fair value estimate of RMB5.7.

Elsewhere, cryptocurrencies will continue to attract the attention of both investors and regulators. It's worth noting that they do not adequately fulfil the three main functions of money – means of payment, unit of account and store of value – in part because of their high volatility.

27 International liquidity in a multipolar world, 2012

As an asset class, cryptocurrencies do have some appealing characteristics, not least the prospect of high returns (albeit at high risk). But we believe they haven't yet been sufficiently time tested to represent a new investable asset class. If the massive sell-off in cryptocurrencies since November 2021 demonstrates anything – Bitcoin is down more than 50 per cent since then – it is that these new currencies do not in any way function as a hedge against rising inflation.

Their long-term sustainability will depend on resilience to a changing monetary environment, to increased regulatory scrutiny and to the risks inherent in blockchain technology itself.

Alternatives: no longer an optional extra

The resurgence of inflation has created new problems for investors holding portfolios composed almost entirely of equities and bonds. Even if price pressures eventually ease back from the uncomfortably high levels reached in the aftermath of Russia's invasion of Ukraine, our analysis suggests the transition will be neither rapid nor smooth. This has significant investment implications. Inflation that is both more volatile and persistently above central bank targets could cause turbulent undercurrents for stock and bond markets. Risk premiums for both asset classes may rise considerably as a result.

To nullify the threat this poses for 60-40 portfolios, investors should allocate more of their capital to alternative assets.

Alternatives can perform a number of different roles. Used judiciously, investments such as commodities, private equity and real estate, for example, can boost returns, diversify risk and offer some protection from inflation. Liquid alternatives, meanwhile, offer the possibility of securing returns that are independent of – and potentially superior to – those delivered by the broader market.

Given the economic and market developments we expect to unfold over the next few years, alternatives can no longer be considered optional extras: investors can ill afford to remain within the confines of listed stocks and bonds.

Among the most attractive alternatives offering a degree of protection against inflation are real assets such as infrastructure and property. Their returns have lagged behind those of equities and fixed income over the past several years but if inflation remains persistently above average, both should see a re-rating. Infrastructure assets tend to work particularly effectively as inflation-hedging instruments. Because they are managed by companies operating in highly regulated industries, infrastructure investments generate revenues that are often tied to consumer price indices.

Real estate's inflation-protection properties also partly reflect regulatory factors: rent increases in many jurisdictions are by law linked to an inflation index.

Our analysis indicates that US real estate will be among the most profitable property markets, delivering a return of as much as 8 per cent per year on average over our investment horizon. Initial yields on property compare favourably to those of bonds at about 6 per cent while, relative to US equities, real estate valuations are close to an all-time low. Supply and demand dynamics are positive too: not only are inventories of existing homes at their lowest ever levels but inflation-adjusted mortgage rates remain affordable for most households.

Non-oil commodities will also deliver superior returns in our view. A hedge against inflation, they have the added benefit of being underpinned by strong structural forces. The green energy transition and governments' increased emphasis on food security, for example, are long-term trends that augur well for a host of raw materials. Demand for metals essential in the production of electric cars, such as copper and cobalt for example, should continue to grow as governments phase out combustion engines. Governments are also targeting a significant increase in infrastructure spending, which has been declining relative to GDP for many decades. This extra spending should compensate for a likely drop in demand for materials from China, whose construction sector continues to struggle. Meanwhile, as countries introduce measures to mitigate the effects of the food supply shock triggered by the Ukraine crisis, prospects for agricultural commodities can also be expected to improve considerably.

Overall, we expect non-oil commodities to deliver a real return of some 10 per cent per year on average over the next five years.

Gold also merits a prominent role in a diversified portfolio. It functions as a valuable hedge against volatility in bond and stock markets and also fares well when the dollar depreciates and inflation takes hold. And with geopolitical risks growing and central banks keen to add to their gold reserves, demand for the precious metal is unlikely to fade.

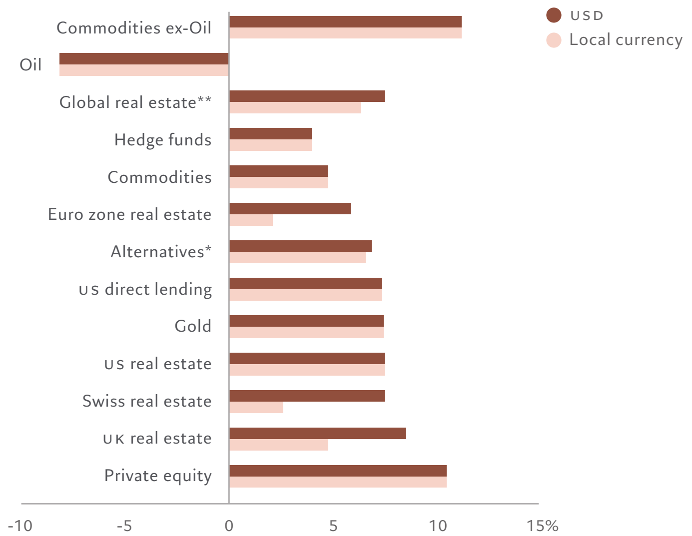
Liquid alternatives can also help diversify a portfolio's sources of risk and return – particularly in a period likely to be characterised by heightened volatility in bond and stock markets and rising correlations between the two asset classes. Strategies that can consistently source returns from company or instrument-specific factors – the purest form of alpha – should become more attractive if, as we expect, the dispersion of returns across individual stocks and bonds rises.

An additional boost to income and capital growth could come via private assets – debt and equity. Direct lending, which offers investors floating rates of interest, can serve as a particularly rich source of income in an era of tightening monetary policy. Private equity funds, meanwhile, can source investments from a broader range of industry sectors and companies. Private firms tend to have different characteristics to their listed counterparts: they tend to be younger and operate in higher-growth industries. What is more, much of their value is derived from intangible assets.

We expect returns from private debt and equity to be a respective 7.4 per cent and 10.6 per cent annualised in dollar terms over our five-year investment horizon. Although our forecasts show returns from private equity outpacing those from listed stocks, those gains will come at a cost: the liquidity premium, or the extra return investors receive for being 'locked in' to an asset, will shrink over that period. The contraction reflects, among other factors, greater competition for acquisitions in the private equity sector and higher borrowing costs in an industry that has historically relied on cheap debt.

Investing, then, is in the throes of a transformation. Any portfolio that is heavily reliant on listed equity and bonds – such as the 60/40 – might struggle if inflation remains volatile and financial conditions tighten. An allocation to alternatives – whose returns do not move in lockstep with public markets – could nullify that threat by reducing volatility, enhancing returns or increasing yield.

FIGURE 16
Returns, annualised, select alternatives, 2022-2027, %



Source: Pictet Asset Management; forecast period 30.04.2022 - 30.04-2027
* simple average of global real estate, hedge funds, private equities, direct lending and commodities
**70% US, 15% Euro, 10% UK, 5% Switzerland

Concluding remarks

Dividing a portfolio's investments more or less evenly between developed market stocks and bonds has proved a rewarding strategy over the past few decades. The annualised return investors have secured by pursuing this approach has been in the high single digits – gains that have come courtesy of steady economic growth, an almost continuous fall in interest rates and inflation, and relatively calm financial market conditions.

Yet our forecasts covering the next five years indicate investors will need to plot a different course to achieve a similar result. This will involve allocating less capital to the developed world, increasing holdings of emerging market assets, and investing far more in alternatives, particularly commodities and gold.

A key finding from our research is that returns from equity markets will fall victim to an unfavourable shift in the business cycle. The global economy is approaching the end of its post-Covid expansionary phase. Tighter financial conditions, a peak in US jobs growth and large output gaps all point to a recession within the next two years. This has significant investment implications. There is a considerable difference between making an allocation to stocks in the lead-up to a slump and doing the same once recovery begins to take root. And that's true even for those who invest over long time horizons.

Our analysis of the past 100 years shows that an initial investment in developed market stocks after the end of a recession delivers a price return of 10 per cent a year for the following five years; investing before a recession has by comparison typically delivered only a 4 per cent annualised return – a shortfall of some 6 per cent per year.

Another obstacle for developed equity markets is a looming squeeze on corporate profit margins. With wages and raw materials prices rising, more stringent regulations adding to the costs of doing business and the prospect of a rise in corporate taxation, margins can be expected to fall by a cumulative 10 per cent over the next five years.

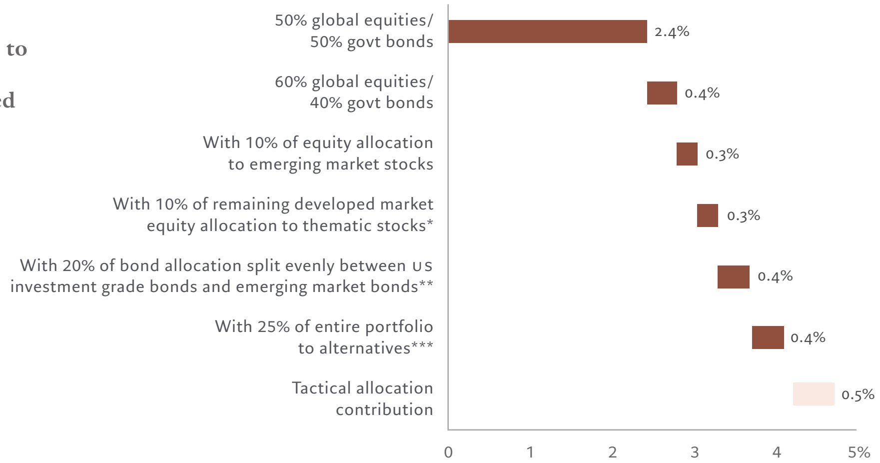
But it is not only developed market stocks that will struggle to match their past performance. Developed government bonds will also labour to deliver what investors require of them over the next five years. Such securities have traditionally served as an anchor for a diversified portfolio – a crucial source of income and capital protection during periods of economic uncertainty.

Yet outside the US – where initial valuations for government and investment grade bonds are becoming more attractive thanks to this year's spike in yields – returns from developed market fixed income will fall below inflation over the next five years.

FIGURE 17

Diversified portfolios: estimated real return, %, annualised, over 5 years

Portfolio returns: investors will need to move away from traditional balanced portfolios



Source: Pictet Asset Management

*Thematic stocks are companies we believe offer a potential excess return of 3% per year over the MSCI World A/C Index. These companies operate in industries we expect to expand at a faster rate than the world economy (such as clean energy, robotics and digital technology); **Emerging market debt allocation split evenly between local currency and US dollar-denominated bonds; ***Alternatives component composed of allocation that is split across market-neutral portfolio, private equity, private debt, non-energy commodities.

To make up for the lacklustre returns and income on offer from the developed world, investors will have to strike a delicate balance. On the one hand, our analysis indicates that, on average, portfolios will require higher allocations to emerging market stocks and bonds and commodities – riskier investments that offer higher prospective returns. On the other, it would be prudent to accompany this dialling up of risk with a higher allocation to assets that do not move in lockstep with mainstream stock and bond markets, such as liquid alternatives, gold and private assets.

Within emerging markets, Chinese stocks look particularly attractive while emerging market bonds' income-generating potential should grow, enhanced by what we believe will be a steady appreciation in developing world currencies.

Among alternatives, non-energy commodities look especially appealing; their returns should be in excess of inflation over the next half a decade.

Our analysis also shows real estate and private equity both outperforming developed market equities over our five-year forecast horizon. Allocations to gold and infrastructure, meanwhile, make sense at this juncture as a means to diversify risk and protect portfolios against the possibility of stubbornly high – or volatile – inflation.

The next five years, then, present investors with a conundrum. They can remain faithful to the traditional balanced portfolio of mainstream bonds and stocks but, in doing so, accept a lower return and potentially higher volatility. Or they can take a less familiar path and allocate more of the capital to alternative assets. Our analysis suggests the second option is the wiser course.

Pictet Asset Management's Strategy Unit (PSU)

The PSU is composed of Pictet Asset Management's most experienced multi asset and fixed income portfolio managers, economists, strategists and research analysts located in various offices. This investment group is responsible for providing asset allocation guidance over the short-term and long-term horizons across stocks, bonds, commodities and alternatives.

Every year, the PSU produces the Secular Outlook: a publication providing asset class return forecasts for the next five years. The research embeds, and is a reflection of the PSU's investment philosophy.

> "We believe understanding how the economic landscape changes over time is both a fundamental component of strategic asset allocation and crucial for investment success over the long run."

OLIVIER GINGUENÉ
Chairman of Strategy Unit, CIO,
Multi Asset & Quantitative Investment

We believe…

Macroeconomic forces have a bigger influence on asset class returns over the medium and long term than any other factor; understanding how the economic landscape changes over time is both a fundamental componentof strategic asset allocation and crucial for investment success over the long run.

Over the short run, markets are more volatile than is warranted by underlying economic conditions. Moreover, the relationship between asset classes is not stable through time. This leads to a mispricing of assets, which presents opportunities for tactical asset allocation.

Every asset class carries a risk premium, which rises and falls as the business cycle progresses from one phase to another. The focus of our research is to identify how the macroeconomic environment is changing and how this is likely to affect the risk premium attached to each asset class.

The skilled deployment of both strategic and tactical asset allocation can deliver superior investment returns over the long term.

Appendix

Asset class return forecasts

Our Secular Return forecasts (5-year) are based on models combining our expected evolution of key macroeconomic variables (growth, inflation), our assumptions on interest rates and our assessment of initial valuation, adjusted for factors related to fiscal policy, trend factors and index composition.

Our forecast of DM government bond returns is derived from our forecast of the annual roll yield and the terminal bond yield in every major market, which is in turn determined by our estimated trend growth of nominal GDP, to which we apply a discount dependent on the stance of monetary policy (0.4X for the US and UK, 0.3X in the Euro-area). For EM and corporate bonds, the return forecasts are based on fair value models of the corresponding spreads and expected recovery rates in the 40/50% range depending on the index.

FX forecasts assume that currencies will revert to their fair value over the next 10 years, where the fair value is an estimate by our Economics team based on relative productivity, inflation and the evolution of current account balances.

The following benchmarks are used: JP Morgan indices for developed/emerging government bonds and emerging corporate bonds; SBI Index for Swiss bonds; BofA indices for Euro zone/US corporate and high yield bonds, US 10-year TIPS.

Equity returns are calculated by adding the average dividend yield, expected sales growth (derived from nominal GDP) and margin change (adjusted for changes in taxation), a dilution effect and the expected change in P/E multiples. We use MSCI indices for all markets and IBES consensus on 12m forward earnings for P/E. We first estimate the 12m PE of the US market in 5 years' time with a model based on trend growth, inflation and bond yields. Then we forecast the P/E for the remaining markets assuming that regional PEs revert to their long-term median discount to US (in sector-adjusted terms for DM).

For alternatives, the forecasts are based on models using the expected returns from traditional asset classes, initial relative valuation and some specific factors as inputs.

Economic and currency forecasts

Our GDP forecasts are based on estimating countries' current potential growth, and adjusting that by current production factors – which determine how effectively economic inputs are being translated into outputs.

Potential output is defined as the highest real GDP level that can be sustained over the long run. First, we decompose raw GDP data into cyclical and trend components. Then we apply the Phillips curve approach to determine the natural level of output, which is consistent with stable inflation (NAILO) and/or with a stable unemployment rate (NAIRU).

Production factors such as the state of the labour market, the availability of private capital and the degree of technological advancement are then applied to the potential output figure to determine the pace of potential – or trend – economic growth in five years' time. We then use linear interpolation to determine growth estimates for the preceding four years. To forecast inflation, we combine three approaches. The first is based on the current inflation trends, using the Hodrick-Prescott filtering method. The second calculates optimal inflation based on the assumption that neutrality of money prevails over the long run. The third considers the variations in the transmission dynamics between money supply and inflation depending on the state of the economy (expansion, financial crisis). Our final inflation forecast is an average of the three calculations.

Equity forecast

	YIELD, P.A. %	SALES GROWTH, P.A. *	MARGIN CHANGE, P.A. % **	EPS GROWTH, P.A. % ***	12M P/E RATIO: CURRENT P/E	12M P/E RATIO: FORECAST IN 5YRS ****	12M P/E RATIO: % PE CHANGE P.A.	TOTAL RETURN P.A.: LOCAL CURRENCY %	TOTAL RETURN P.A.: CURRENCY GAIN P.A. %	TOTAL RETURN P.A.: IN USD %
United States	1.5	7.0	(1.7)	5.6	18.8	18.0	(0.9)	6.2	0.0	6.2
Euro Zone	3.2	5.3	(2.3)	2.8	12.9	14.6	2.4	8.6	3.7	12.6
Switzerland	2.6	6.0	(1.4)	4.5	19.1	18.0	(1.2)	5.8	4.9	11.0
UK	3.9	5.7	(3.8)	1.7	11.1	12.5	2.3	7.9	3.7	11.9
Japan	2.4	4.2	(2.2)	1.9	12.7	13.6	1.4	5.7	4.4	10.3
Developed Markets	1.9	6.4	(2.0)	4.7	17.5	17.2	(0.3)	6.4	1.0	7.5
China	2.5	7.3	0.2	5.4	10.3	11.7	2.6	10.7	2.0	12.9
Emerging Asia	2.6	7.5	(1.3)	4.0	11.9	12.8	1.5	8.2	2.3	10.8
Latin America	6.3	6.5	(4.1)	1.1	8.7	10.0	2.7	10.1	1.0	11.1
EMEA	3.5	6.7	(2.2)	3.3	12.5	13.3	1.4	8.2	0.3	8.5
Emerging Markets	3.1	7.3	(1.6)	3.6	11.6	12.4	1.4	8.4	1.9	10.5
Frontier Markets	3.1	7.9	(1.6)	4.1	11.1	11.5	0.8	8.0	1.9	10.1
Global (MSCI ACWI)	2.0	6.5	(1.9)	4.6	16.7	16.6	(0.1)	6.7	1.1	7.9
Global Small CAP	2.0	6.5	(1.9)	4.6	19.4	21.9	2.5	9.2	1.1	10.4

Source: Refinitiv Datastream, MSCI, IBES, Pictet Asset Management (forecast horizon 29.04.2022 - 29.04.2027)

* Proxied by our forecast of nominal GDP growth (average 2022 to 2026), adjusted for regional revenue exposure

** IBES net profit margin, based on reversion to mean and trend over next 5 years, adjusted for expected change in corporate income tax (-1% impact p.a. in US and -0.5% in Europe)

*** adjusted for expected dilution effects (-0.5% p.a. in US, 0% in DM, 2% in EM Asia, 1% rest of EM)

**** US PE forecast based on our forecasts of 10Y bond yield, inflation, trend growth. DM regions and EM Asia to return to trend multiple relative to US adjusted for forecasted sales growth differential (using beta of trend derating to sales growth differential since 2014). Latam and Frontier to return to trend relative multiple to EM, EMEA (now ex Russia) to remain on current relative multiple.

Fixed income forecast: Government, Corporate and EM bonds

	DURATION (YRS)	CURRENT YIELD (%)	FORECAST YIELD IN 5YRS TIME*	ANNUALISED ROLL**	OUR RETURN FORECAST %	CURRENCY GAIN P.A. (%)	USD RETURN P.A. (%)
10-Year US Treasuries	8.9	2.9	2.5	0.3	3.1	0.0	3.1
10-Year German Bunds	9.3	0.9	1.5	0.6	0.3	3.7	4.0
Euro Zone Government	7.8	1.6	2.1	0.5	1.2	3.7	5.0
Switzerland Bonds	7.0	1.2	1.6	0.3	0.8	4.9	5.7
10-Year Japan Government	9.6	0.2	0.5	0.5	0.2	4.4	4.5
10-Year UK Government	9.1	1.9	2.0	0.5	1.8	3.7	5.6
10-Year China Government	8.6	2.9	3.0	0.1	2.7	2.0	4.8
US Inflation-linked	4.8	0.0	0.5	0.3	3.4	0.0	3.4
US Investment Grade	7.4	4.3	3.8	0.3	4.6	0.0	4.6
US High Yield	4.7	7.0	7.0	0.0	5.0	0.0	5.0
Euro Zone Investment Grade	4.9	2.1	2.7	0.3	1.7	3.7	5.4
Euro Zone High Yield	3.7	5.3	5.7	0.0	3.6	3.7	7.5
Emerging Market USD	7.1	7.4	6.4	0.0	7.1	0.0	7.1
Emerging Market Local Currency	4.9	6.8	5.5	0.0	7.1	2.0	9.3
Emerging Corporate	4.7	6.1	6.2	0.0	5.2	0.0	5.2
Global Government	8.4	1.6	1.7	0.4	1.9	2.2	4.2

Source: Refinitiv Datastream, MSCI, IBES, Pictet Asset Management (forecast horizon 29.04.2022 - 29.04.2027)

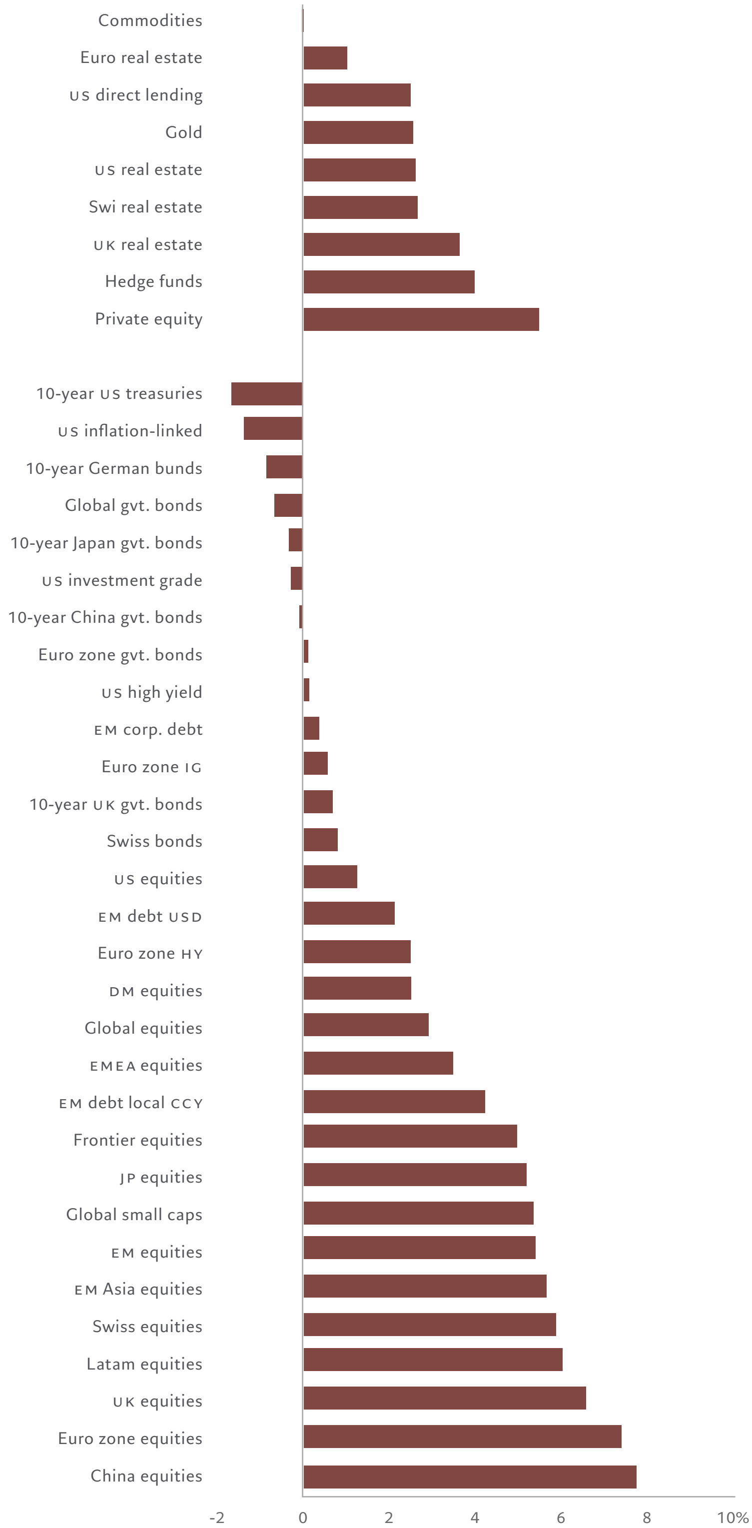
* Policy rate assumption: FED at 2%, ECB/SNB at 0.75%, BoE at 1.5% & BoJ at 0.35%. Terminal bond yield assumes yield to trend nominal GDP ratio to be post GFC average of 0.6x in US & UK & 0.5x in Germany (vs. Euro-zone GDP). Assume Swiss govt bond 25bps spread below Germany, EMU bonds 65bps spread above JPM Germany (assuming 160bps BTP spread, 100bps ODE spread). Permanent YCC in Japan; 15bps pickup vs. policy rate for 10Y JGB. WGBI weighted average used on roll, yield change and return calculation for global bonds.

Credit spreads and EM bond yield based on our respective fair value models & default estimates. Recovery rate assumed to be 40% for DM HY and EMD HC, 50% for EMD LC.

** Adjust roll yield according to pace of central bank normalisation and our expectation of curve steepness in year 5. IG corp roll assumes curve steepens proportionally with government bond

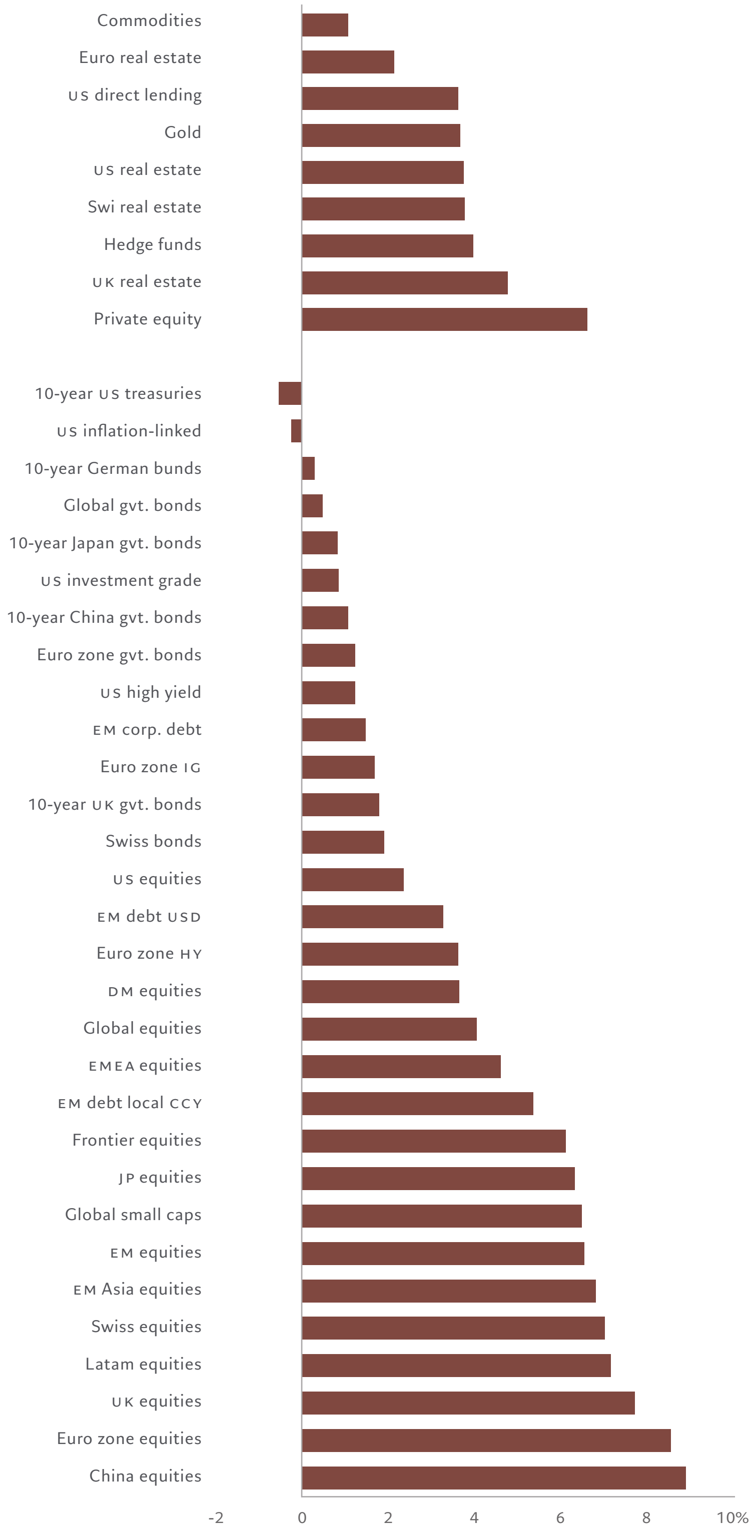
Benchmarks: JP Morgan indices for government bonds and EM USD bonds, FTSE WGBI for global bonds, ICE BoFA indices for DM corporate bonds, US 10Y TIPS for US inflation-linked

Asset class returns, 5-year forecast, %, annualised, in CHF



Source: Pictet Asset Management, forecast period 30.04.22 - 30.04.2027

Asset class returns, 5-year forecast, %, annualised, in EUR



Source: Pictet Asset Management,
forecast period 30.04.22 - 30.04.2027

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