

FOR ISSUE IN THE UK AND EU. FOR PROFESSIONAL CLIENTS AND QUALIFIED INVESTORS ONLY.  
NOT TO BE REPRODUCED WITHOUT PRIOR WRITTEN APPROVAL.  
PLEASE REFER TO ALL RISK DISCLOSURES AT THE BACK OF THIS DOCUMENT.



# ABDALLAH NAUPHAL CEO, INSIGHT INVESTMENT

## A BANQUET OF CONSEQUENCES

JUNE 2023



## ABDALLAH NAUPHAL



As Chief Executive Officer (CEO), Abdallah leads the development of Insight's strategic business plan. Abdallah was appointed Chief Investment Officer (CIO) in September 2003 with overall responsibility for the investment management team, and in June 2006 was appointed Deputy Chief Executive.

In July 2007, Abdallah became Insight's CEO, while retaining his position as CIO. Abdallah has over 30 years' industry experience. He has overseen the transformation of Insight from a traditional investment manager to a specialist solutions provider across LDI, fixed income and absolute return. During this time, the scope and complexity of Insight's business and governance structures has evolved significantly. As a result, in 2016, Abdallah relinquished his CIO responsibilities, to focus on the role of CEO. Abdallah's previous roles include CIO (fixed income) at Rothschild Asset Management and Head of Fixed Income for Schroder Investment Management Limited in London.

Abdallah holds a Bachelor degree in Business Administration from New England College, an MS in Information Systems and an MBA in Finance and Investments from George Washington University.

## EXECUTIVE SUMMARY

- The economic shocks we have faced shouldn't have been such a surprise; they were the consequence of developments that have been building for decades
- We are approaching an economic tipping point, with growth requiring ever-increasing interventions to counterbalance unfavourable demographics, deglobalisation and debt saturation
- A disorderly deleveraging event is more likely as higher interest rates exert pressure on the buffers within the system – a 'Minsky moment' may shift the economic system to a new equilibrium
- Key to this will be inflation
  - If inflation abates, this short-term respite will allow central banks to sustain the current equilibrium for the short term
  - If inflation persists, a more severe threat to economic prosperity would be likely to force central banks to move inflation targets higher to protect financial stability
- Corporate profits are vulnerable; although funding costs may only increase gradually, the factors that drove corporate profits higher over recent decades are all shifting into reverse
- We need to prepare for the risks ahead and it is hard to believe we don't face a period of economic pain before a real long-term solution can be found





Investing is about buying at a price which protects you from your own ignorance and makes an accurate estimate of the future unnecessary.

BENJAMIN GRAHAM

## 2022 SHOULDN'T HAVE BEEN SUCH A SURPRISE

2022 was an extremely difficult year, characterised by high inflation, a cost-of-living crisis, aggressive monetary tightening, and global conflict. All of these issues are echoes from the past, but they took the world by surprise. Perhaps the best way to demonstrate how much of a surprise 2022 was, we can look at the Global Risks Perceptions Survey, which has been conducted by the World Economic Forum for nearly two decades, collecting responses from experts in academia, business and government. Going into 2021 the top five risks were dominated by issues such as infectious disease and climate change (see Figure 1), and this theme continued into 2022. There was virtually no mention of the risks the world would ultimately face until the survey for 2023 at which point, they were already upon us.

Figure 1: Few experts predicted the events that we faced in 2022 until well after they had occurred<sup>1</sup>

2021	2022	2023
Infectious diseases	Extreme weather	Energy supply crisis
Livelihood crisis	Livelihood crisis	Cost-of-living crisis
Extreme weather	Climate action failure	Rising inflation
Cybersecurity	Social cohesion	Food supply crisis
Digital inequality	Infectious diseases	Cyberattack

But should these events have been that surprising? They didn't come from nowhere but were a consequence of developments that have been building for decades. The title of this paper comes from a slightly longer quote from Robert Louis Stevenson which I think sums up exactly where we are today, "Sooner or later, everyone sits down to a banquet of consequences". I'm afraid it is probably our turn now.

<sup>1</sup> Source: [https://www3.weforum.org/docs/WEF\\_Global\\_Risks\\_Report\\_2023.pdf](https://www3.weforum.org/docs/WEF_Global_Risks_Report_2023.pdf)

# UNDERSTANDING THE COMPLEXITIES OF SYSTEMS

When I started in the investment management industry many years ago, I was driven by a curiosity about how everything worked. I spent years trying to model every single market, seeing each failure as an opportunity for me to further refine my models and make them better. But after a few years, I came to realise that any model is only a representation of a short period of time and cannot explain the full complexity of financial markets.

This drove me to think more about the analysis I was doing and systems overall. The connection between things is critical to consider – a system is a lot more than just the sum of its components. The more complex the system, the more components there are and the greater the feedback loops between them. Therefore, as we attempt to make sense of what is going on around us, it is important to remember:

- 1 Systems are nearly impossible to predict:** Although they may appear simple at first sight, to predict how a system will behave you need to understand the components, the different feedbacks in the system and how they are changing over time. You also need to understand which, if any, is dominant at any time and the levels of all the of the various buffers within the system – which are resilient and which are tipping over. This makes accurate prediction extremely challenging, and caution should be taken when relying on predictions.
- 2 Stock is at the heart of the system:** The stock or buffer in the system can allow flows to occur independently of one another and to become decoupled – but only for a period. Many economists focus on flows, and don't focus enough on stock. Stocks are essential.
- 3 There is a chance that the system could move very quickly from one equilibrium to another:** You need to consider how close you may be to a tipping point. There are two indicators that things might be about to change: the state of the buffer and something called critical slowing down. Critical slowing down is when you need an ever-increasing amount of effort to stay in the same place. Interventions may be initially small, but a state of diminishing returns can evolve that becomes unable to perpetuate itself.

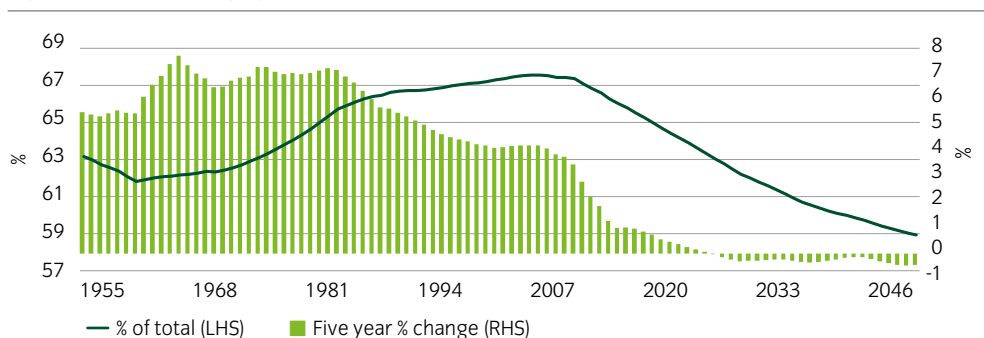
# ECONOMIC PROSPERITY IS REACHING A TIPPING POINT WITH THE END OF PAX AMERICANA

We can apply our understanding of complex systems to the situation we find ourselves in today. Pax Americana, the period of relative peace and stability that occurred throughout the area of American influence after World War II, has been an unprecedented period of growth and improvements in living standards. In my view, Pax Americana no longer provides a satisfactory level of growth to the system overall.

The structural forces that were the drivers of growth during this period are now in decline, and recent developments suggest that the pace of decline is accelerating:

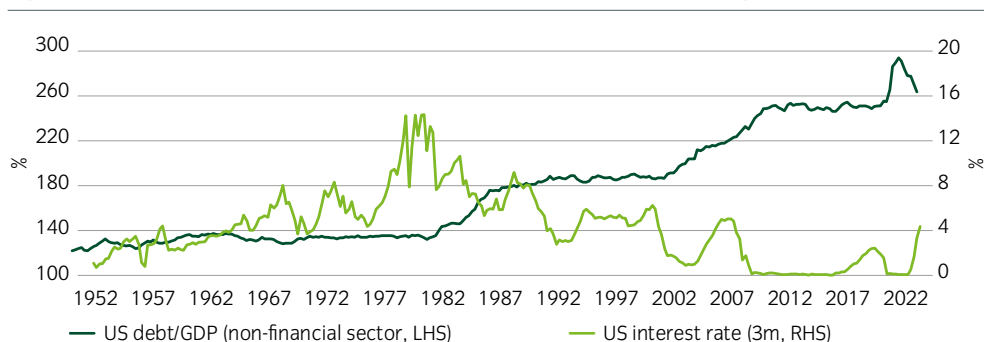
**1 Demographics are now weighing on growth:** In the early days of Pax Americana, growth was driven by a rapidly expanding workforce as baby boomers reached working age. That same generation are now retiring, and the working population has gone into decline (see Figure 2). Barring a productivity miracle, or a dramatic change in migration, this is going to weigh on growth for the foreseeable future.

Figure 2: OECD working age populations have started to decline<sup>2</sup>



**2 Debt saturation has been reached:** Over the course of Pax Americana, debt has continuously expanded across households, corporations and governments. This debt increase has been underpinned by declining interest rates (see Figure 3). When interest rates hit zero, or even became negative in some parts of the world, it is likely that the world reached a point of debt saturation. With interest rates now rising, these debts are likely to become increasingly problematic, and potentially even unsustainable. The risk of a disorderly deleveraging event – a Minsky moment – is growing.

Figure 3: US debt has reached a saturation point and interest rates are rising<sup>3</sup>



Although concerning, there is one factor which may delay the Minsky moment. Many corporates successfully used the period of ultra-low interest rates to extend their debt maturity profiles. This has slowed the transmission of higher interest rates to funding costs, and it will take some years before the full impact is felt.

<sup>2</sup> Source: JPMorgan, UN Population Division and World Bank as at 31 December 2022.

<sup>3</sup> Source: Insight, BIS and Bloomberg. BIS total debt data updated to December 2022.

# THE MINSKY MOMENT

## CROSSING THE TIPPING POINT TOWARDS INSTABILITY

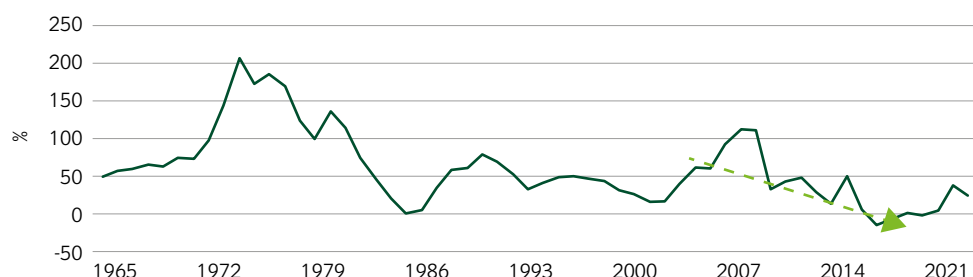
Hyman Minsky was an economist who made considerable effort to understand interaction between financial markets and the economy, and the role of balance sheets in these interactions. His theories have been rediscovered following the global financial crisis. Under Minsky's theory, long periods of prosperity tend to lead to euphoria. When economic participants are euphoric, there is a tendency for rapid expansions of credit and debt relative to GDP and this eventually causes a problem. He broke this into three stages:

- **Hedge, or normal borrowing:** Companies are borrowing, and cashflows are greater than the interest and principal that needs to be repaid. Over time, this compounds the euphoria. Credit standards tend to be lowered and this leads to more borrowing.
- **Speculative borrowing:** As the level of debt grows, cashflows are no longer able to make principal repayments but can only cover interest payments, forcing them to continuously roll over maturing debts.
- **Ponzi borrowing:** Over time, cashflows are no longer sufficient to even meet interest payments. Borrowing is only possible due to rising asset prices, with companies only able to survive via the sale of collateral assets or after forbearance from their creditors.

Although there may be companies in each of these three stages within an economy, Minsky suggested that a long period of prosperity gradually shifts the centre of gravity from normal borrowing to speculative borrowing. At this stage, a change in monetary policy can lead to rapid shifts, with speculative borrowers becoming Ponzi borrowers, forced to sell assets into an increasingly illiquid market. Credit standards tighten, and net assets evaporate. The whole system tips towards instability – **the Minsky moment**.

**3 Deglobalisation has started:** Pax Americana was built on a rule-based cooperation that promoted open trade. But global trade has lost momentum and deglobalisation is taking hold. The supply disruptions that occurred during COVID have encouraged companies to reassess the resilience of their supply chains and to redraw them on a more regional basis. Western industrial policy has also been reassessed and there are now more incentives to relocate production on national security grounds – sanctions, tariffs, local content rules. If deglobalisation gains momentum it will be accompanied by higher costs, and this will feed through the entire economic system.

Figure 4: Global trade has lost momentum (5-year growth)<sup>4</sup>

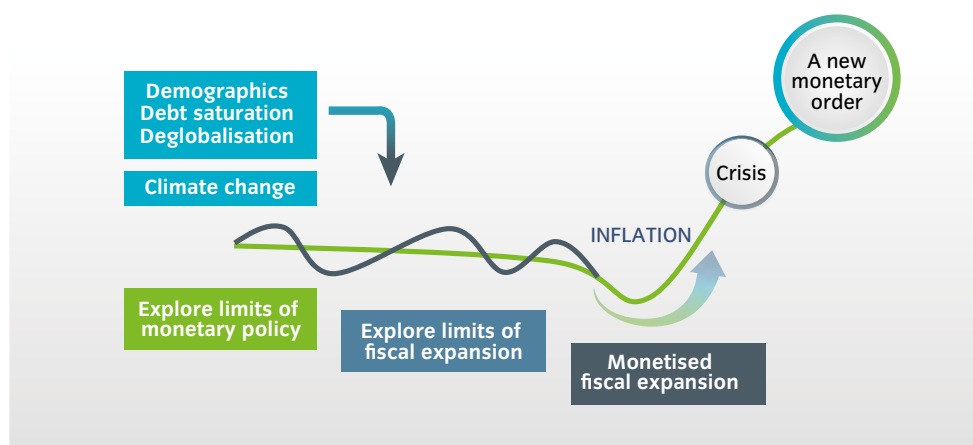


## ROADMAP TO INTERREGNUM A PERIOD OF TRANSITION BETWEEN TWO GOVERNMENTS OR REGIMES

For several years now I've tried to explain how we think the world is evolving with our roadmap to interregnum (see Figure 5). Demographics, debt saturation and deglobalisation are acting to restrain growth – and we must also now add climate change to that mix in my view. That's not a comment on the necessity of acting to try to limit climate change and the impact it will have, nor is it a comment on the long-term benefits that investments in renewable energy will bring. Ultimately, however, a lot of capital is going to be redirected to this problem which would otherwise have been used elsewhere.

We have moved along the roadmap, experimenting with and reaching the limits of monetary and fiscal policy. We are now dealing with the inflationary impact of those policies. On our roadmap, the next stage is a crisis ushering in a new monetary order.

Figure 5: The roadmap for interregnum<sup>5</sup>



<sup>4</sup> Source: IMF and Bloomberg as at 31 December 2022.

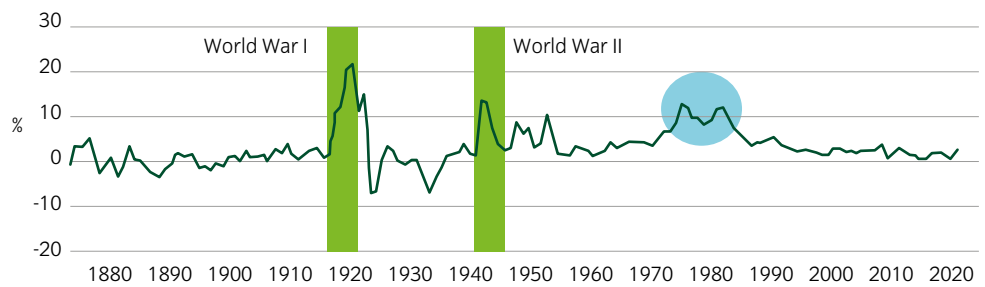
<sup>5</sup> Source: Insight. For illustrative purposes only.

## UNDERSTANDING THE INFLATIONARY BACKDROP IS THE FIRST STEP TO IDENTIFYING WHERE WE ARE ON THE ROADMAP

As we assess where we are on the roadmap, an obvious question is whether the inflationary forces we are facing are sufficiently strong to take us to a tipping point, our Minsky moment, or is it just a blip? If central banks can regain control, then this tipping point may be a little further away.

When we look at the history of inflation in advanced economies, there are three real episodes of inflation since the late 1800s (see Figure 6). Two of these were a consequence of the World Wars, and the third was in the 1970s and early 1980s.

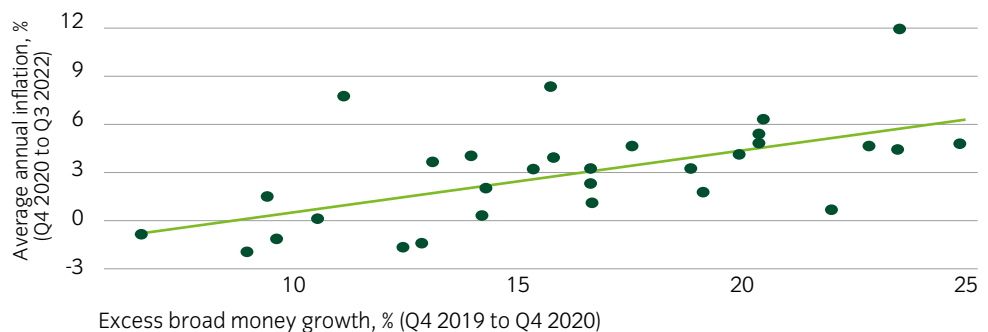
Figure 6: Periods of very high inflation are rarer than you may think<sup>6</sup>



If we look at the third period in more detail, we can see that it was actually two distinct bouts of inflation rather than just one. The first was in the early to mid-1970s, the second in the late 1970s and into the early 1980s. Both of these episodes were preceded by ample supply of money and were sparked by the catalyst of oil prices, which skyrocketed due to the embargoes of 1973 and 1978.

When we look at the causes of today's inflation, the similarities are clear. There is no doubt that there was a rapid increase in money supply across major economies before the current surge of inflation, with central banks turning to quantitative easing programmes as the pandemic swept the world. A broader study by the Bank for International Settlements (BIS) has analysed this impact (see Figure 7) and it certainly appears that there is a reasonable correlation between excess growth in broad measures of money supply and the inflation that followed.

Figure 7: Excess money supply appears to have played a role in the inflationary surge<sup>7</sup>



When we look for the spark, supply chain disruptions appear to have been more important globally than energy prices. The Initial disruption to global supply chains came as the world emerged from pandemic-driven lockdowns. This period was subsequently prolonged by the Russian invasion of Ukraine.

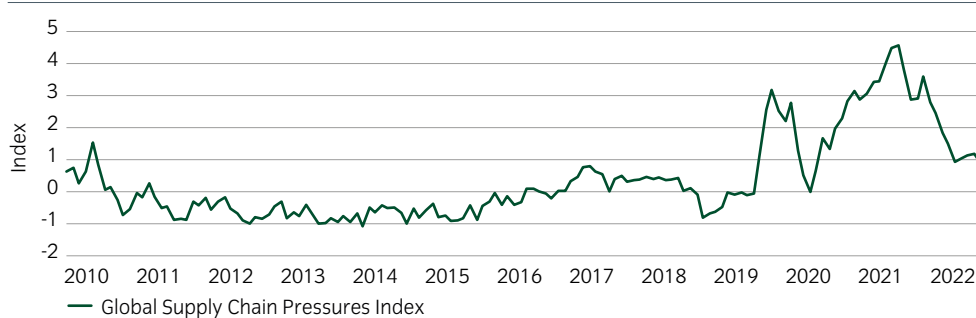
This is clear to observe in Figure 8 which shows the Global Supply Chain Pressures Index (calculated by the Federal Reserve Bank of New York). Companies initially ran down their inventory as the pandemic hit, but vast fiscal support underpinned a rebound in demand and everything went haywire.

<sup>6</sup> Source: Global Financial Data; national data and BIS as at 31 December 2020.

<sup>7</sup> Source: ECB, IMF, OECD, Consensus Economics, Refinitiv Datastream, national data and BIS calculations.

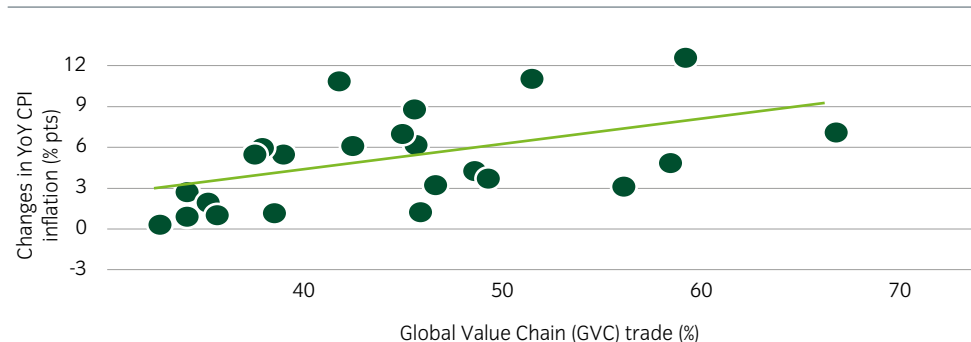


Figure 8: Supply chain pressures became acute as the world emerged from lockdown<sup>8</sup>



This is also demonstrated in Figure 9, a cross-country study that compares countries' exposure to global supply chains (using intensity of intermediate goods imports and exports as a proxy) to the level of inflation experienced.

Figure 9: Those countries most exposed to global supply chains experienced the highest levels of inflation<sup>9</sup>



## WE ARE CREEPING TOWARDS A NEW INFLATIONARY EQUILIBRIUM

Given the similarities with the previous inflation shock, the question for central banks is whether we have now switched from a low-inflation regime to a high-inflation regime.

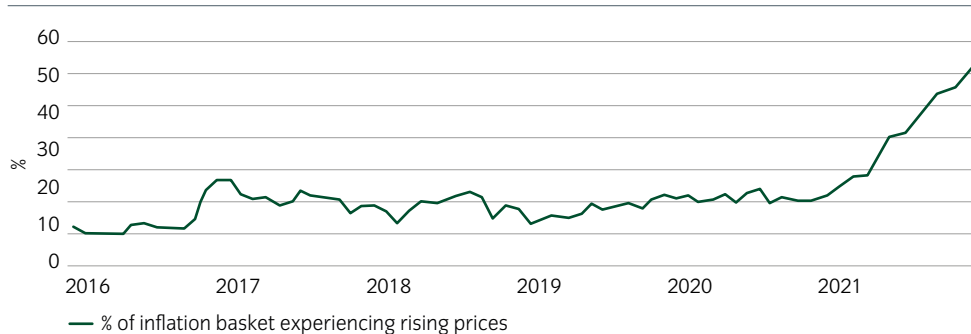
Inflation behaves very differently if there is a shift in equilibrium.

## INFLATION HAS BECOME BROAD BASED, WHICH RAISES THE RISKS

In a low-inflation regime, you may see a series of price shocks in one sector, but they don't spill over into other sectors. Because of that lack of commonality, the shocks are contained, and don't impact the decision-making processes of economic agents more broadly. Once you enter a high-inflation regime, that changes dramatically. As inflation becomes common across a broad range of sectors it becomes a different beast. Price changes become correlated and long-term inflation expectations can become unanchored.

Worryingly, Figure 10 shows that after a long period where inflation was only impacting a limited proportion of the items used to calculate consumer baskets, this has now risen dramatically, with around 55% of these items experiencing inflationary pressures. This is one sign that the current inflationary episode may not prove to be benign.

Figure 10: Inflation has broadened significantly within CPI baskets<sup>10</sup>



<sup>8</sup> Source: Federal Reserve Bank of NY as at February 2023. <sup>9</sup> Source: World Bank, WITS, Refinitiv Datastream, national data and BIS calculations. Data since December 2020.

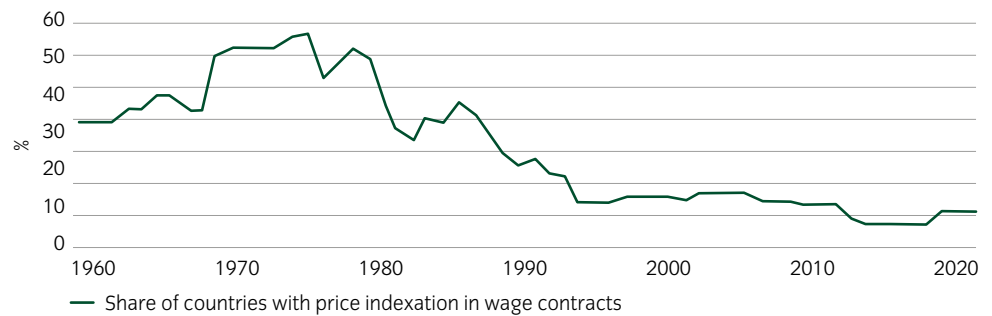
<sup>10</sup> Source: BIS, Annual economic report 2022.

## LABOUR SHORTAGE INCREASE THE RISK OF A STRUCTURAL UPSHIFT IN INFLATION

With inflation broadening, the next question is to what degree this is starting to impact wages, which have risen in most countries. Whether this rise in wage inflation is sustainable, however, is not clear cut. For central banks, the risk of a reinforcing spiral – where higher prices lead to higher wages leading to higher prices – is key.

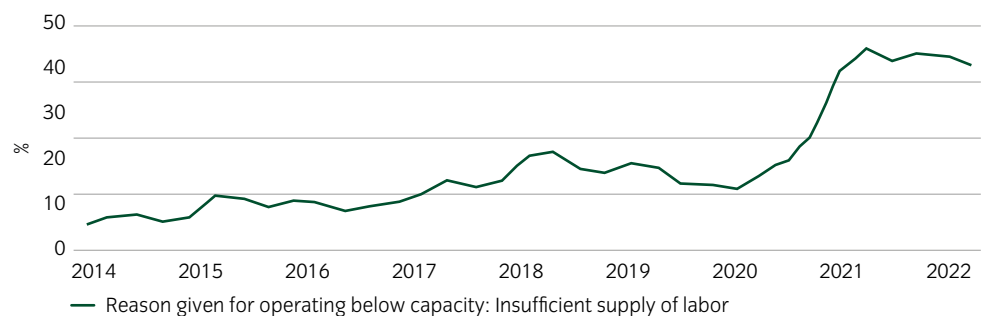
One important difference from the experience in the 1970s is the rigidity within the labour market. Figure 11 shows the percentage of wage contracts with built-in indexation. These contracts are now rare. Collective bargaining, or unionisation, has also weakened relative to history.

Figure 11: Price indexation in wage contracts is low relative to history<sup>11</sup>



The bad news is that there is a shortage of labour everywhere. For example, in the US the Census Bureau undertakes a quarterly survey which asks companies why they are operating below capacity. An insufficient supply of labour remains a dominant theme (see Figure 12).

Figure 12: Lack of labour is a real problem which is difficult to solve<sup>12</sup>



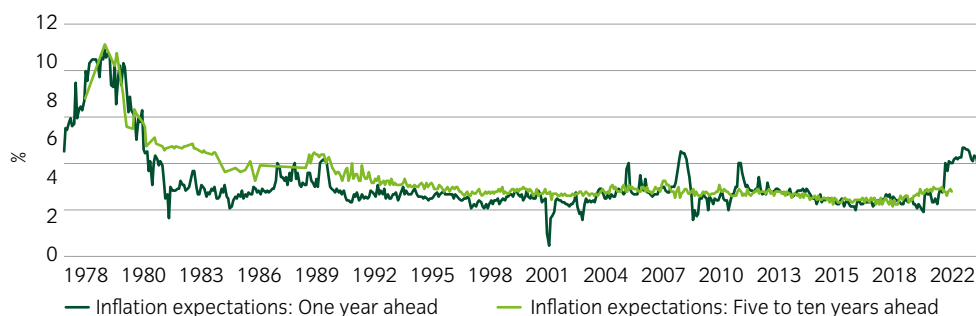
In my view, this shortage of labour is not being driven by a single factor, but by a combination of demographics, a lack of immigration and the emerging trend of deglobalisation. Suddenly we are onshoring production, or at least trying to make supply chains more regional which is creating local demand for labour. No one wants to create new production in China now, and if I had to choose the single most important reason for the low inflation of the last 30 years, I would point to the shift in production to China's cheaper labour force.

To examine whether inflation may be at the start of a more pervasive upwards spiral, we need to first look at inflation expectations. When people expect inflation to remain high, they will tend to pull forward purchases to lock in current prices. This further boosts demand, exacerbating inflationary pressures. Inflation expectations are also a key factor in wage demands. On the surface, this data provides some comfort. Although inflation is expected to be elevated one year ahead, longer-term expectations remain anchored, at least for now (see Figure 13).

<sup>11</sup> Source: OECD as at 2020.

<sup>12</sup> Source: Quarterly survey of Plant Capacity Utilisation; US Census Bureau as at 30 September 2022.

Figure 13: Longer-term inflation expectations remain anchored for now<sup>13</sup>



However, below the surface the trend is a little more worrying. When we switch from a median to a mean or look at the difference between the 75th and 25th percentiles to see if there has been a shift in the distribution of expectations, they have both picked up. It is notable that a similar trend occurred back in the 1970s.

### CENTRAL BANKS MAY BE FORCED TO SHIFT INFLATION TARGETS HIGHER

There is enough evidence to keep central banks worried, and that is why they are so determined to do whatever it takes to protect the system. Once inflation shifts to a new equilibrium, and a high inflation regime becomes anchored, it becomes too costly to undo.

As central banks try to bring the problem back under control there are likely three potential scenarios that could unfold.

Figure 14: Alternative scenarios<sup>14</sup>

WE GET LUCKY	DELEVERAGING	HIGHER INFLATION TARGET
Supply chains normalise, commodity prices fall rapidly Softening economy ease tightness of labour shortage Wage-price spiral responds to lower headline inflation	Central banks committed to preventing sustained transition to high-inflation regimes Sharp economic downturn Large scale bankruptcies	Deflationary episode due to rapid balance-sheet deleveraging Higher inflation preferred to sharp economic contraction New inflation targets consistent with new conditions

- 1 We get lucky:** If supply chain pressures normalise quickly, commodity prices fall and economic activity softens as a result of tighter monetary policy. Then, labour shortages should ease and central banks should be able to bring inflation back under control in the short term, buying a bit more time.
- 2 Deleveraging:** If inflation remains stubbornly elevated, and central banks remain so committed to inflation being stable that they will do whatever it takes, then it will likely lead to a more severe downturn in economic activity. The combination of higher interest rates and a severe downturn would almost certainly trigger a deleveraging event, or credit crisis, given the high levels of debt within the system.
- 3 Higher inflation target:** This organised deleveraging event, which has the potential to undermine the very fabric of the financial system, may force central banks to accept a higher-inflation target, more consistent with the fact that inflation has become a structural rather than a cyclical problem.

<sup>13</sup> Source: University of Michigan, expected changes in prices. Updated to December 2022.  
<sup>14</sup> Source: Insight. For illustrative purposes only.

It is possible that we get lucky and inflation moderates, buying us more time. If that's not the case, then things become more complicated. As long as the pain of monetary restraint appears cyclical, so growth and employment are softening but not overly so, then central banks are likely to remain firmly focused on their objective. The minute the pain starts to appear more structural, and we see things develop into a deleveraging event with the potential to tear at the fabric of the system itself, I believe that they are likely to abandon their objective, focusing on broader financial stability rather than on inflation alone.

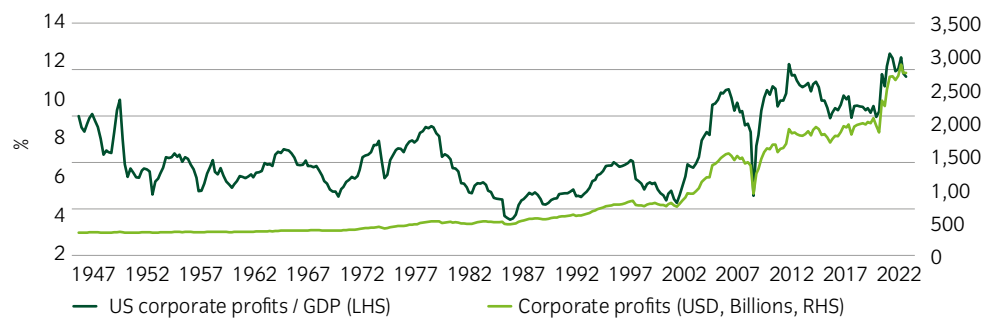
**Ultimately, why not target inflation at 3% to 4%? This is starting to look increasingly likely in my view.**

### CORPORATE PROFITS APPEAR VULNERABLE TO THIS NEW ENVIRONMENT

When I think about the consequences of this, the most obvious impact is likely to be on corporate profits.

Corporate profits relative to GDP bottomed in 1987 (see Figure 15), and then accelerated rapidly in the years that followed. This acceleration was driven by three forces that we've already discussed in detail: access to cheap labour in China and globalisation, which contained domestic inflation and wages, the debt expansion, which allowed consumption to increase, and the very cheap cost of capital that occurred via very low interest rates.

Figure 15: US corporate profits<sup>15</sup>



These factors that were driving corporate profits higher are now reversing. Although there is a commonly held view that equities are a way to protect against inflation in the long term, there is little actual evidence to support this. Equity performance is most correlated to growth. Equities don't tend to do well when inflation is higher, and growth is weaker.

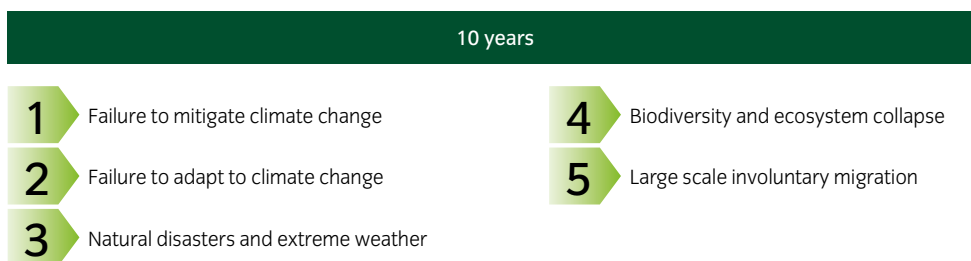
<sup>15</sup> Source: Insight and Bloomberg. Data as at 31 December 2022.

# CONCLUSION

Many commentators, as they assess the events of recent years, tend to regard these crises as a series of independent and random developments. But when we look at the bigger picture, it appears clear to us that we are following the path of our roadmap, and the further we move along that roadmap, so the path narrows and the range of potential outcomes declines.

Returning to the World Economic Forum's Global Risks Perceptions Survey, it is striking that when responders are asked about the longer term the economic problems facing the world today disappear. The top five risks revert to where they were, focused on the consequences of climate change and risks around adaption (see Figure 16). That doesn't mean those risks are not important, but what we are not prepared for or preparing against is a continuance of the long-term economic risks that we have experienced, and which are continuing to build.

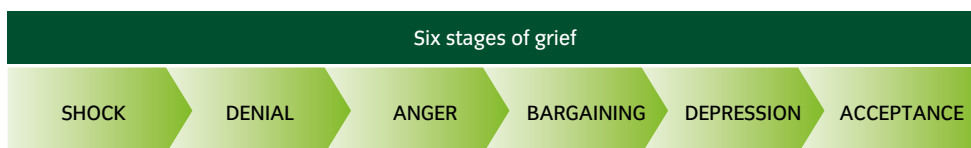
Figure 16: Longer-term perceptions of risk revert to the trends seen before the inflationary shock<sup>16</sup>



I believe that there is a very high risk of a Minsky moment in the years ahead, and that this would set up the next stage of my interregnum roadmap. We have seen a rapid deterioration in the fiscal positions of advanced economies and the debt that this has accrued is only going to become more expensive with higher interest rates. There appears little hope that this will be solved by a productivity miracle and a higher period of growth. Ultimately it is hard to see how this can occur without a period of economic pain. For a meaningful proportion of the population in the US and Europe, this is likely to mean a reduction in standards of living.

Elisabeth Kubler, the famous Swiss American psychiatrist outlined the stages of grief that patients move through after experiencing some kind of trauma (see Figure 17) and I think that, to a degree, this is applicable to society as a whole. If we think about this in the context of our roadmap, the shock was the global financial crisis in 2008. Since then, we have been living in denial – artificially trying to sustain the status quo via zero interest rates and quantitative easing. The consequences have now caught up with us, and we have started to move through the anger stage, as standards of living continue to erode. People are probably going to become angrier before we can move forward and start to look for real solutions to the problems we face.

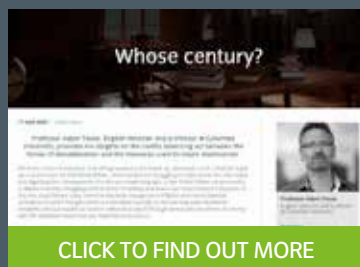
Figure 17: We have to reach acceptance before we can find real solutions



All of this brings me to a relatively simple investment conclusion: **We must value the visibility and certainty of cashflows.** Whatever the investment, this principle must be at the heart of any analysis. Rather than attempting to maximise returns, we must consider protecting capital and the outcome in real terms in order to achieve our objective. There is no hurry to invest, we are likely to see plenty of opportunities in the year ahead. We must also prepare – and that underlines our philosophy at Insight: be as prepared as possible for whatever comes your way.

<sup>16</sup> Source: [https://www3.weforum.org/docs/WEF\\_Global\\_Risks\\_Report\\_2023.pdf](https://www3.weforum.org/docs/WEF_Global_Risks_Report_2023.pdf)

## FURTHER READING: ADAM TOOZE, WHOSE CENTURY?



We live in a time of monsters where everything appears to be mixed up, abnormal and made up in weird ways. This requires a careful balancing act between the forces of destabilization and the measures used to return stabilisation. Renowned historian Adam Tooze, professor at Columbia University and Director of the European Institute, provides his thoughts on a world facing crisis after crisis.

## IMPORTANT INFORMATION

### RISK DISCLOSURES

Investment in any strategy involves a risk of loss which may partly be due to exchange rate fluctuations.

Any projections or forecasts contained herein are based upon certain assumptions considered reasonable. Projections are speculative in nature and some or all of the assumptions underlying the projections may not materialize or vary significantly from the actual results. Accordingly, the projections are only an estimate.

## FIND OUT MORE

### Institutional Business Development

businessdevelopment@insightinvestment.com  
+44 20 7321 1552

### European Business Development

europe@insightinvestment.com  
+49 69 12014 2650  
+44 20 7321 1928

### Consultant Relationship Management

consultantrelations@insightinvestment.com  
+44 20 7321 1023



@InsightInvestIM



company/insight-investment



www.insightinvestment.com

This document is a financial promotion/marketing communication and is not investment advice.

This document is not a contractually binding document and must not be used for the purpose of an offer or solicitation in any jurisdiction or in any circumstances in which such offer or solicitation is unlawful or otherwise not permitted. This document should not be duplicated, amended or forwarded to a third party without consent from Insight Investment.

Insight does not provide tax or legal advice to its clients and all investors are strongly urged to seek professional advice regarding any potential strategy or investment.

For a full list of applicable risks, investor rights, KIID risk profile, financial and non-financial investment terms and before investing, where applicable, investors should refer to the Prospectus, other offering documents, and the KIID which is available in English and an official language of the jurisdictions in which the fund(s) are registered for public sale. Do not base any final investment decision on this communication alone. Please go to [www.insightinvestment.com](http://www.insightinvestment.com)

Unless otherwise stated, the source of information and any views and opinions are those of Insight Investment.

Telephone conversations may be recorded in accordance with applicable laws.

**For clients and prospects of Insight Investment Management (Global) Limited:** Issued by Insight Investment Management (Global) Limited. Registered office 160 Queen Victoria Street, London EC4V 4LA. Registered in England and Wales. Registered number 00827982. Authorised and regulated by the Financial Conduct Authority. FCA Firm reference number 119308.

**For clients and prospects of Insight Investment Management (Europe) Limited:** Issued by Insight Investment Management (Europe) Limited. Registered office Riverside Two, 43-49 Sir John Rogerson's Quay, Dublin, D02 KV60. Registered in Ireland. Registered number 581405. Insight Investment Management (Europe) Limited is regulated by the Central Bank of Ireland. CBI reference number C154503.

© 2023 Insight Investment. All rights reserved.