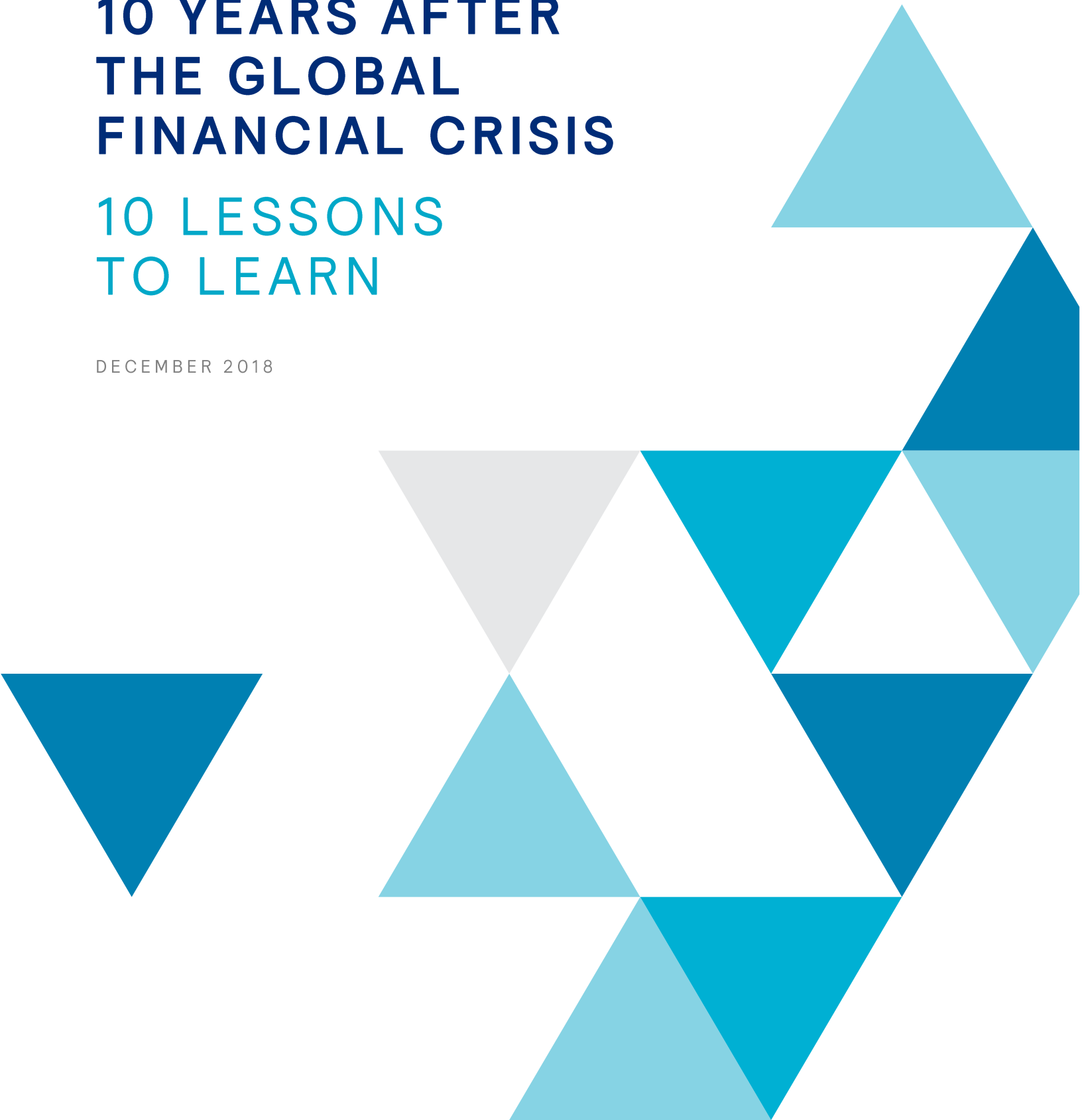


HEALTH WEALTH CAREER

10 YEARS AFTER THE GLOBAL FINANCIAL CRISIS

10 LESSONS TO LEARN

DECEMBER 2018



OVERVIEW

With the 10th anniversary of the collapse of Lehman Brothers upon us, it is instructive to look back over the period and ask ourselves what, if anything, we have learned from living through these exceptional events. As is often the case, actual new lessons to be learned may be few, but there are some valuable older lessons to be relearned.

To help the analysis, we've divided the period into three: the crisis itself, the immediate reaction to the crisis and the long post-crisis period – the aftermath.

THE CRISIS

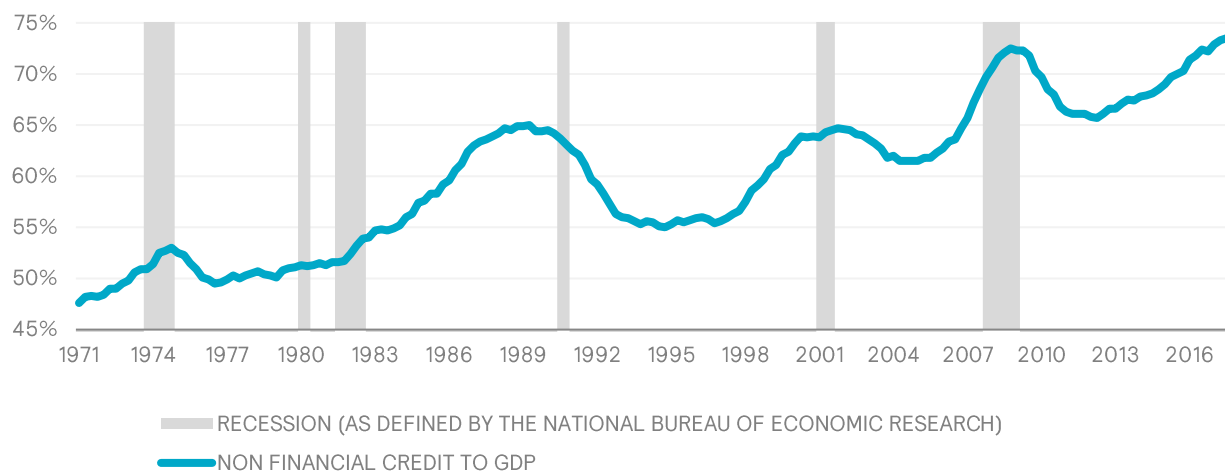
Lesson 1: Credit cycles are inevitable. The structure and alignment of interests within the financial sector ensure that this is so. The 2008/2009 global financial crisis was just an extreme boom-and-bust variant of that cycle.

As long as banks are driven by growing their businesses, expansions in lending are bound to increase to the point of reduced quality and greater risk. During the financial crisis, other areas of growth – packaging mortgages and selling them to other investors – contributed additional risk in the wider financial services sector. Eventually, banks became financially overstretched, individual

banks started to fail and catastrophic systemic collapse became possible.

During the upswing of the credit cycle (2005–2008), the economy appeared to be growing strongly, but this growth was being generated almost entirely by increased leverage (as opposed to growth in workforce and/or productivity gains). Growth driven solely by leverage is both increasingly risky and likely to sow the seeds of its own destruction. Expansion based on excessive growth in bank balance sheets relative to capital base is ultimately doomed to fail.

EXHIBIT 1: US NON-FINANCIAL CORPORATION DEBT TO GDP (%)



Source: Federal Reserve of St Louis, National Bureau of Economic Research

Lesson 2: The financial system is based on confidence, not numbers. Once that confidence is dented (that is, people begin to be concerned that the bank to which they have lent short-term money might not be able to pay it back), the whole system is at risk.

Never was the global interconnectedness of the financial system more obvious than in the dark days of the crisis, when financial company after financial company (across sectors of banks, investment banks, insurance companies and even continents) was at risk of failure. Because of this

interconnectedness, the danger to the system from a financial company becoming bankrupt is much greater than that of an equivalent industrial or commercial company suffering the same fate.

Lesson 3: Managing and controlling risk is a nearly impossible task. Day-to-day risk monitoring (undertaken by banks and other financial services companies) and overall systemic risk limiting (financial regulators) are both very challenging tasks made more difficult by the likelihood of possessing inadequate tools.

Risk models are inherently and deeply flawed. They are inevitably constructed on specific assumptions – usually based on history (for example, the recent range of market volatility) that will very likely be proved incorrect in “real life.” Diversification of risks, which has worked well in the past, will not necessarily work well in the future. It is impossible for models to include “unknown unknowns” that tend to occur at times of extreme financial stress. Financial models have their uses, but they are only one tool in the tool box and need to be supported by other risk-assessment methods. To be fair, market participants have recognized this issue and have sought to develop more-robust risk models in addition to reducing their reliance upon them.

Being a financial system regulator is really a no-win position. In the good times, you will be accused of constraining growth by restrictive regulations. In a crisis, you will be accused of being asleep at the wheel and not having done enough to prevent the catastrophe. Could regulators have done more to avert the crisis? Yes, probably; they should have recognized the debt-fueled nature of growth and sought to limit the potential fallout. But that would have been tough to get right and unpopular with many market participants. The lesson to be learned (without apportioning blame) is that it is unwise to rely on financial regulators to prevent future crises.

THE REACTION

Lesson 4: Don’t panic! Although some individuals in positions of responsibility – faced with the potential meltdown of the global financial system – certainly panicked, there were sufficient cool heads to ensure appropriately decisive action was taken in a timely manner (although only just). Between them, politicians and policymakers ensured that the feared financial and economic catastrophe didn’t happen – through the provision of emergency funding for banks, extraordinary cuts in interest rates and the injection of massive amounts of liquidity into the system.

Politicians and policymakers who rushed to the rescue of the financial system understood the earlier lesson; that “the financial system is based on confidence.” They started to rebuild that confidence by stating that they would do whatever it took to ensure the survival of the system in roughly its current form. Without this approach, the risk of further loss of confidence and more failures would have been much greater. Interestingly enough, there may have been a significant difference between confidence in the financial system and consumer and business confidence in general. The “person on the street” may well not have been aware how close the financial system came to widespread collapse, and therefore the

general level of consumer confidence, while dented, may not have been significantly undermined.

Lesson 5: Some banks are too big to be allowed to fail. This principle was established explicitly as a reaction to the crisis. Perhaps with the benefit of hindsight, Lehman Brothers should have fallen into this category, although that would only have delayed the inevitable crash (as the rescue of Bear Stearns earlier in 2008 did). This “too big to fail” mentality is undoubtedly contrary to the purist’s view of how free market capitalism should operate. It carries the inherent possibility that big banks (or their employees) will have an unhealthy attitude toward taking risks, ultimately believing the gains from such risk-taking will be personalized (as bonuses), whereas the losses from failure will be “socialized” through rescue by the taxpayer. The lesson learned is that risk/reward alignment remains asymmetric within the financial system (in banks, in particular, but also, arguably, in large businesses more generally). This misalignment seems certain to generate future crises, albeit, no doubt, in a somewhat different form.

THE AFTERMATH

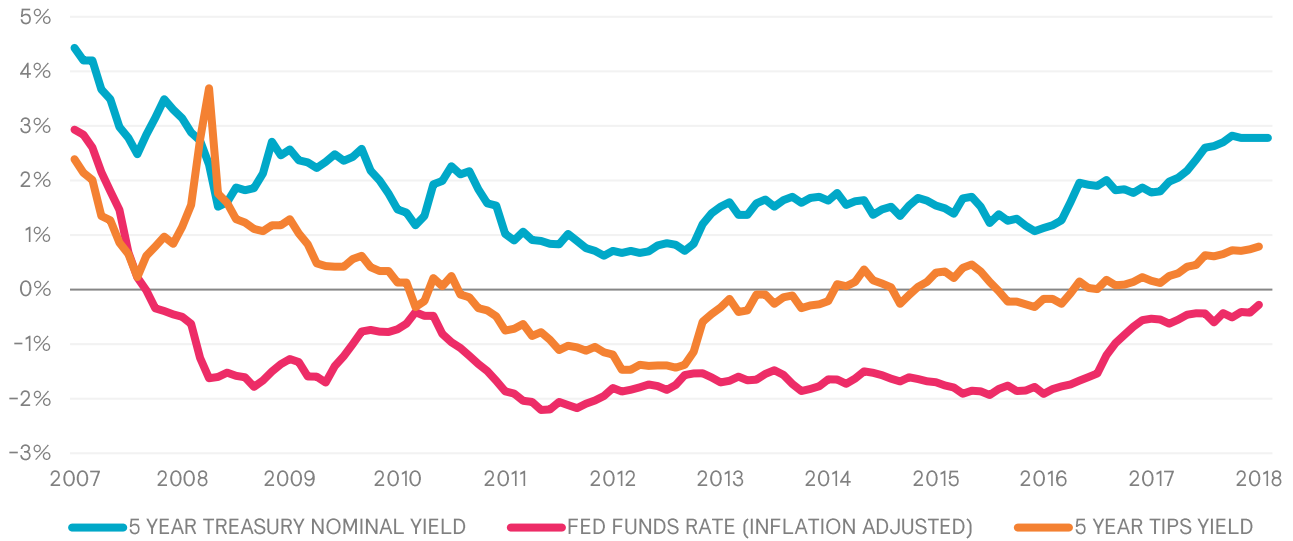
The global financial crisis (GFC) of 2008/2009 was not a crisis just like any other, but there were perhaps fewer new lessons to be learned from that period than one might have expected. There was a degree of relearning lessons, albeit in slightly different form, from previous financial crises and the period since the spring of 2009 has definitely taught us new things about how both the global economy and the global financial system work. It is within this period that the most interesting lessons have been learned.

Lesson 6: Emergency and extraordinary policies work! The rapid move to record low policy interest rates, the injection into the banking system of huge amounts of liquidity and the start of the massive program of asset purchases (quantitative easing or “QE”) were effective at avoiding a deep recession — so, on that basis, the policymakers got it right. But, at the same time, they had relatively little insight into what the longer-term direct and indirect effects of these policies would be. These were previously untried and untested policies, so no one knew whether or how they would work in practice. The answer to the “whether” question was “yes”, they would and did work. But the “how” remains uncertain. We still don’t know what the full-cycle effects of QE will turn out to have been, as we have yet to go through the phase of its complete withdrawal. See Lesson 9.

Lesson 7: If massive amounts of liquidity are pumped into the financial system, asset prices will surely rise (even when the action is in the essentially good cause of staving off systemic collapse). They must rise, because the liquidity has to go somewhere, and that somewhere inevitably means some sort of asset. Superficially, at least, the effect of QE was to boost asset prices and benefit the participants in the financial markets (asset owners, asset traders). The impact of QE on the “real economy,” (levels of growth, unemployment, etc.) was much more muted at the outset, although it is difficult to judge the extent to which economic activity would have fallen without QE. An undesirable side effect of this rise in asset prices has been a reinforcing of the trend toward increasing inequality within most developed economies, as the “haves” are asset owners, and the “have nots” are not.

Lesson 8: If short-term rates are kept at extraordinarily low levels for a long period of time, yields on other assets will eventually fall in sympathy — Yields across asset classes have fallen generally, particularly bond yields. Negative real rates (that is, short-term rates below the rate of inflation) are one of the mechanisms by which the mountain of debt resulting from the GFC is eroded, as the interest accumulated is more than offset by inflation reducing the real value of the debt. Negative real short rates have caused persistent negative real yields on longer-dated conventional and inflation-linked bonds.

EXHIBIT 2: US TREASURY NOMINAL YIELD, FED FUND RATE AND TIPS

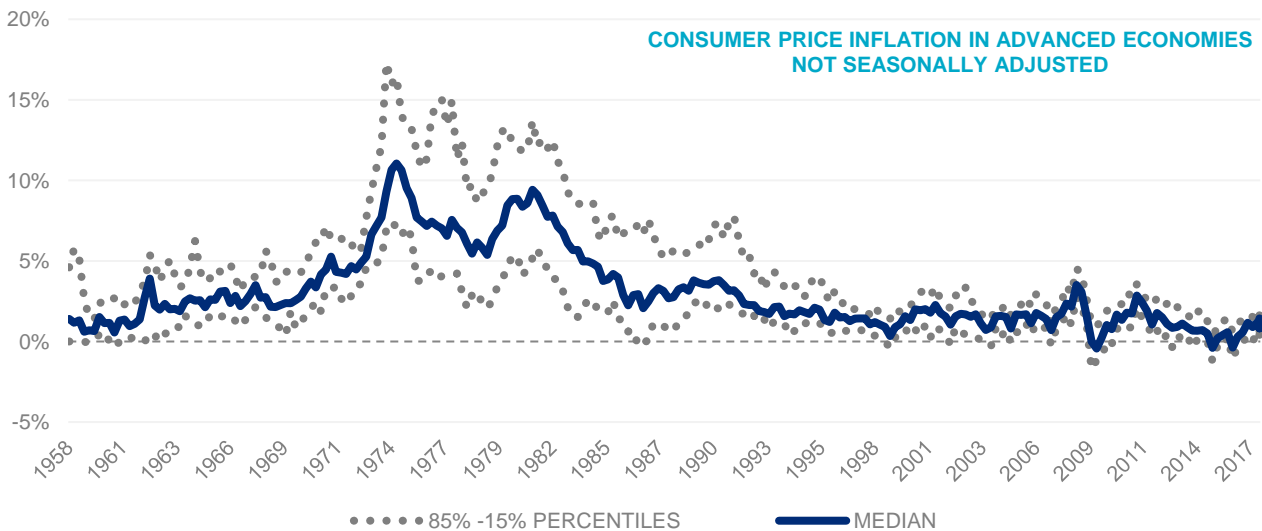


Federal Funds Rate inflation adjusted using core US inflation. TIPS = Treasury Inflation-Protected Securities
 Source: Robert Shiller, Yale University; Thomson Reuters Datastream; Federal Reserve Bank of St Louis

But there is a limit as to how far yields can fall. The yields on nominal sovereign bonds are probably floored around zero, although real yields have no discernible floor. Fixed-interest bond yields did fall slightly below zero in a few countries in mid-2016, but governments seem to have recognized that such low yields were not effective as a policy tool to stimulate economic activity.

Lesson 9: Extraordinary and untried policies have unexpected outcomes. Against almost all expectations, these extraordinary monetary policies have not proved to be inflationary, or at least not inflationary in terms of consumer prices. But they have been inflationary in terms of asset prices.

EXHIBIT 3: INFLATION IN ADVANCED ECONOMIES



Source: Thomson Reuters Datastream

This lack of consumer price inflation is clearly a function of factors other than excess liquidity — such as surplus capacity in the global economy, secular changes in labor markets, technological developments or weak commodity prices. The clear conclusion is that aggressive monetary stimulus does not have to be inflationary; it depends on other circumstances relevant at the time.

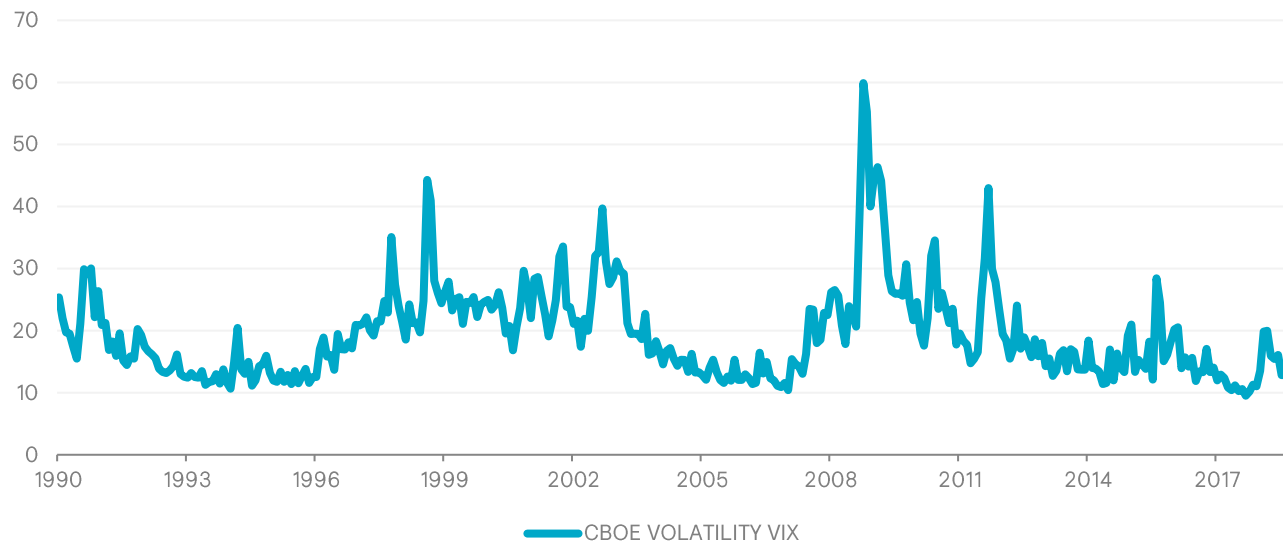
Equally, record-low interest rates (for an extended period of time) have not triggered the expansion in capital investment that might have been expected. Surely most sound and well-managed companies should be able to boost returns by borrowing at sub-3% p.a. interest rates for 10 years and investing the money in new plants and equipment. But not a great deal of this has been happening, perhaps because of low confidence in future economic health and stability or perhaps because

of short-term time horizons for management incentivized to boost near-term share prices rather than long-term returns. Large amounts of money have been borrowed in order to buy back shares, which may boost shareholder returns in the short run, but in overall economic terms, is unproductive investment.

Also, low interest rates and banks' unwillingness to crystallize losses by foreclosing on overly indebted companies may have prevented the forces of economic dynamism from working effectively through the continued existence of "zombie" companies.

Lesson 10: The behavior of securities markets does not conform to expectations. Excess liquidity and persistent low rates have boosted market levels but have also generally suppressed market volatility in a way that was not widely expected.

EXHIBIT 4: IMPLIED EQUITY MARKET VOLATILITY IN THE US



Volatility shown is the CBOE Volatility Index ("VIX"). Source: Thomson Reuters Datastream

A combination of low volatility and markets heavily influenced by both macroeconomic policy and geopolitical forces has created a difficult climate for active managers, who have struggled to consistently generate added value.

It has also undermined the case for prudent diversification of risk and return sources — a simple 60% equity/40% bond portfolio would have been a great strategy pretty much throughout the post-2009 bull market.

THOUGHTS FROM A PEEK INTO THE FUTURE

Are we entering a period similar to the pre-crash period of 2007/2008? There are undoubtedly some likenesses. Debt levels in the private sector are increasing, and the quality of debt is falling; public-sector debt levels remain very high. Thus, there is arguably a material risk in terms of debt levels. In addition, suppressed levels of volatility have allowed companies to take risks that may not be apparent until higher levels of volatility return. We also know that, in general, market levels are high and that there are some risks out there, such as growing trade frictions, increasing populism in mainstream politics and simmering tensions in a number of geopolitical hotspots. Policy rates have begun to rise in some economies, but the question of how monetary stimulus could react to any economic shock from current starting positions remains fraught. But there are differences as well.

Thought 1: The next crisis will undoubtedly be different from the last – they always are. The world is changing rapidly in many ways (look at climate change, technology and the “#MeToo” movement as just three examples). When the next crisis arrives (perhaps when some of the lessons of the last one have been forgotten) the world will be a materially different place from today, let alone from 2008.

Thought 2: Don’t depend on regulators preventing future crises. Regulators and other decision makers are like generals, very good at fighting the last war (or crisis) – in this case, forcing bank balance sheets to be materially strengthened or building more-diverse credit portfolios – but they are usually much less effective at anticipating and mitigating the efforts of the next.

Thought 3: The outlook for monetary policy is unknown. The monetary policy tools used during the financial crisis worked to stave off a deep recession. But we don’t really know how they might work in the future.

Put another way, the last few years may prove to be a foretelling of the next period (historically low rates and bond yields for the foreseeable future) – what commentators have suggested is the “new normal.” Or, with the benefit of hindsight, this period may prove in the long-distant future to be an isolated and individual one of low rates and yields, rising markets and suppressed volatility. We do not and cannot yet know the answer to this conundrum.

SO WHAT NOW?

Even without knowing, there may be some sensible actions that can be taken, based on sound, long-term principles rather than the still-not-fully-understood experience of the post-GFC period.

Action 1: Don't abandon diversification.

Diversification has been called “the only free lunch in investment”. By combining different asset classes, total return is the average of the underlying asset class returns, but total risk is less than the average risk due to the lack of correlation between the different asset classes. Over long, multicycle periods, a diversified portfolio will achieve superior risk-adjusted returns, provided it is robustly constructed and there is genuine diversification of risk and return sources.

Action 2: Be dynamic! The fact that asset markets are at close-to-record highs doesn't mean all assets are equally expensive. Some assets, particularly certain equities, have been driven to record highs by underlying growth in profits, not by ever-increasing valuations. Other assets have been driven by liquidity and technical factors rather than improving fundamentals – long-duration bonds, for example. Although these factors may continue to support high valuations in the near term, they may eventually become unfavorable.

Action 3: Don't abandon active management.

Suppressed volatility and a rising tide of liquidity lifting all boats have created a tough environment for many active managers. But conditions will change. Liquidity will become less supportive, and markets will become more discriminating. Remember that index-tracking management's biggest flaw is that it never buys cheap and sells dear, it just goes on holding all the way up and all the way down again!

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