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SEPTEMBER 2019

THOUGHT LEADERSHIP:
THE PRECEDENT OF THE GREAT DEPRESSION

INTRODUCTION

So far, 2019 has marked a year of stark turnaround by the US Federal Reserve (the Fed). From December 2015 to December 2018, the Fed raised rates 10 times, from its all-time low of 0% to a target range of 2.50-2.75%. At the end of 2018, the Fed was forecasting at least two further rate increases in 2019. By mid-2019, the Fed had not increased rates further, but rather delivered a 25 basis point rate cut at its late July meeting. What caused this sudden change of heart?

In the years following the global financial crisis (GFC), the US economy made pretty consistent gains. Jobs growth has been strong, marked by a current unemployment rate of 3.7%, the lowest rate in 50 years. While wage growth was low following the GFC, the strength in the labour market has led to higher wage growth over the past few years. However, inflation has consistently been at or below the bank's 2% target and some economic indicators were showing that underlying conditions were softening. Nevertheless, starting in late 2015, the Fed embarked on a monetary tightening path, through both increases to its federal funds rate and by reducing the size of its balance sheet (which blew out from several rounds of quantitative easing following the GFC).

The change of heart so far in 2019 appears to be based on the emergence of several global downside risks, rather than a significant deterioration of domestic economic conditions. Such risks include the ongoing trade conflict between the US and China, slowing economic growth in China and the potential for a messy Brexit. The Chair of the Federal Open Markets Committee (FOMC) Jerome Powell went as far as to say that the rate cut in July was not the start of a rate cutting cycle, but rather a '*mid-cycle adjustment*' as a result of the persistence of such headwinds and their likely effect on the US economy.

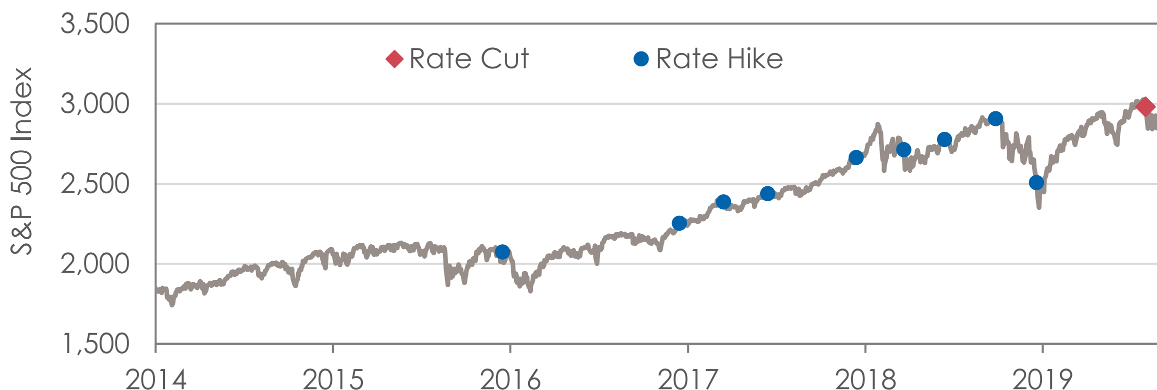
While the global risks do present a case for the Fed to slow down its tightening path, could the Fed be slowing down because it embarked on its tightening path too soon and with too much fury? Could it also reflect that the economic backdrop, aside from the headline growth and employment figures, was not sufficiently robust to handle tighter conditions in the first place? Is it also worried about the impact that the tightening monetary conditions could have on asset markets?

Since mid-2009, the US share market has been booming. Despite a sell-off in equity markets following the first rate cut by the Fed in late 2015, the S&P 500 quickly made up lost ground and surged higher while the Fed continued to raise rates through 2016 and 2017. However, the election of fiscal-friendly President Trump and the passing of tax reform in late 2017 kept the euphoria in markets alive during this time. It has only been since the start of 2018, when it was clear that the Fed was committed to its tightening agenda, that the S&P 500 started to wobble, as shown in Chart 1 below.

The impact that the Fed's commitment to tightening monetary policy had on share prices in late 2018 also highlights the impact that incredibly loose monetary policy had on share prices from 2009 to 2015. The cheap credit conditions on offer incentivised excessive risk-taking among investors, driving up asset prices. The Fed then found itself in a predicament. It wanted to tighten monetary policy but not cause the asset bubbles it created to burst. It also needed to time it right so that the economy was strong enough to handle higher interest rates. The Fed has walked this path before.

In 1928, after several years of relatively accommodative monetary policy, the Fed started raising interest rates because it had become very concerned about the share market bubble that had been ballooning in the years prior. What followed was carnage for the US economy, and the global economy more generally. While the world is a very different place to what it was nearly a century ago, there are several uncomfortable similarities. These include a central bank trying to tighten monetary policy after years of accommodation, very high debt levels fuelled by eight years of easy credit conditions, trade conflict between the US and its predominant trading partners and general social unrest. In this month's feature article, we explore whether the lead-up to the Great Depression provides a reasonable precedent for what we are witnessing today.

Chart 1: S&P 500 Index, Federal Reserve Rate Moves, 2014 - 2019



Source: Bloomberg, Whitehelm Advisers

WALKING THROUGH HISTORY

The Creation of the Federal Reserve

Following a dramatic period of banking runs and subsequent bank failures in the late 1800s and early 1900s, the US Congress mandated the creation of the US Federal Reserve to bring increased financial and monetary stability to a banking system that was otherwise prone to stresses and shocks.

In the first decade after its creation, the Fed relied on two main mechanisms to manage the quantity of money in circulation. The first was to buy and sell gold according to the direction and volume of foreign trade. It also changed its discount rate, the rate it lent at to its member banks. In 1923, the Fed created the Open Market Investment Committee (the predecessor of the Federal Open Market Committee). The OMIC bought and sold short-term government obligations and other assets, which affected levels of bank lending, and in turn, the economy, stock markets and credit conditions (broadly equivalent to modern day quantitative easing).

Post-World War I

Following the end of World War I (WWI), the US government released its control over American businesses and Americans gorged themselves on products that had been rationed throughout the war. The increased demand caused businesses to rapidly increase prices, which resulted in a post-war inflation rate of approximately 15% in 1919.

In response to the double-digit inflation, the Fed started increasing its interest rate sharply, from 5.75% in December 1919 to 7% in June 1920. At the same time, the US labour force was trying to absorb the soldiers returning from war – it is estimated that in 1920 alone, 1.6 million people entered the labour force, or 4.1% in a single year. This led to higher unemployment and wage stagnation. Agricultural commodity prices also declined from their elevated wartime levels as Europe's agricultural industry recovered relatively quickly, which caused prices to fall sharply.

The combination of the higher interest rates, the surge in the size of the labour force and the falling prices caused deflation. Prices fell by approximately 15% in 1921. Industrial production is estimated to have fallen by 30%. After raising rates in the face of deflation, the Fed changed course, relaxing monetary policy by lowering interest rates.

The Roaring Twenties

The Roaring Twenties was a period of increasing wealth and excess. It was a period marked by economic prosperity, book-ended by two recessions, and in stark contrast to the wartime climate in the prior decade. It was also a period of significant cultural change, noted by the women's suffrage movement and mass urbanisation.

The economy soared from 1921 to 1929, with GDP growing by 42%, while the unemployment rate hovered around the natural rate of 4%. The economic growth was fuelled by the combination of the emergence of mass production and rising consumerism. The 1920s brought in an era of modernity, as washing machines, radios and televisions became commonplace in American households. Furthermore, the creation and implementation of the assembly line by Henry Ford lowered the price of a Ford automobile by 80% between 1909 and 1929, making cars considerably more affordable. Paired with more accessible credit, this caused the number of automobile registrations to increase from eight million in 1920 to 23 million by the end of the decade.

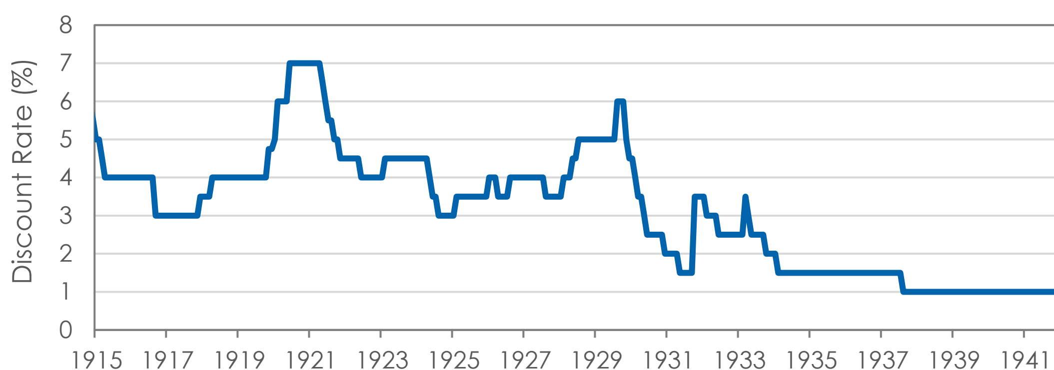
A struggling farming industry throughout the entirety of the 1920s offset the gains made elsewhere in the American economy. As the European farming industry recovered from WWI, it caused demand for American-produced agricultural goods to fall, and prices to drop accordingly. The fall in prices significantly impacted the profitability of American farmers, especially given that they had borrowed heavily to meet the higher mid-war demand.

The Fordney-McCumber Tariff of 1922 was signed into law in an effort to protect the cheap European agricultural imports. The tariff raised the American tariff rate to an average of 38.5% for durable imports, and to an average of 14% overall. The tariff caused retaliatory actions from European governments, however farmers within the American agricultural sector generally saw their purchasing power increase.

The Fed's Role in the Roaring Twenties

Following the 1920/21 recession, the Fed maintained a relatively accommodative monetary policy stance through to 1928. Per Chart 2 below, after cutting the interest rate in response to the recession, the Fed left its interest rate in the 3-4.5% range (low at the time, but not by today's standards) from 1922 until the first half of 1928. In both 1924 and 1927, the Fed made substantial open-market purchases in an effort to stave off recessionary conditions.

Chart 2: Federal Reserve Discount Rate, 1915 - 1942



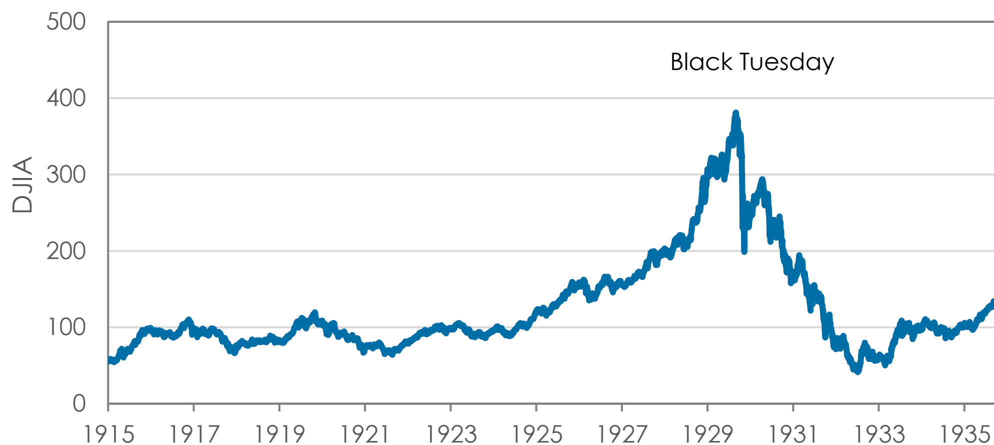
Source: Federal Reserve Bank of New York, Whitehelm Advisers

At first, the Fed's accommodative monetary policy stance seemed to be working wonders for the US economy. The strength in the economy was largely attributed to the low interest rates on offer, as this helped build a foundation for rising consumerism backed by cheap credit.

The cheap credit fuelled the start of a 'Buy Now, Pay Later' mantra among consumers. Banks were willing to lend at low interest rates for automobiles and homes, and even for consumer goods such as furniture and appliances. Even department stores were offering generous lines of credit and instalment plans. This combination of factors caused consumer debt to double in the 1920s. In nominal terms, outstanding mortgage debt grew by more than eight times from 1920 to 1929. Not only was borrowing relatively cheap, but attitudes toward it had changed considerably. No longer was borrowing considered 'sinful'.

While cheap credit drove the prices of all sorts of assets up, the impact on stock prices was unparalleled. Technological and financial innovations had made share markets more accessible. Stockbrokers allowed investors to buy stocks 'on margin', meaning that brokers would lend 80-90% of the price of the stock and investors only needed to pay 10-20% of the share price. Essentially, it allowed investors to buy more stock with less money. This was of significant benefit to shareholders when stock prices went up but led to disastrous consequences when share prices went down. The rise in the US equity market in the years following the 1920/21 recession and up until the middle of 1929 is shown in Chart 3 below.

Chart 3: Dow Jones Industrial Average, 1915 - 1935



Source: Bloomberg, Whitehelm Advisers

In the late 1920s, the share market was expensive based on a variety of metrics, but most notably by the cyclically adjusted Price/Earnings ratio (CAPE or Shiller P/E ratio) as per Chart 4 below. The ratio is based on average earnings over 10 years, adjusted for inflation.

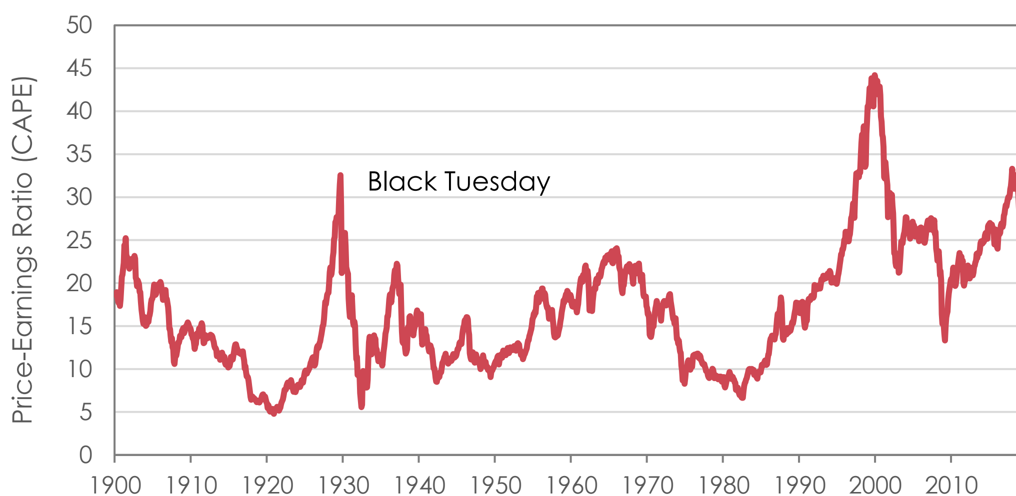
While the run-up in equity markets was beneficial for those invested in it, many Americans were left behind. The Roaring Twenties were not prosperous for everyone - income inequality rose dramatically during this period. The richest Americans were those that were invested in the asset markets that were seeing massive price rallies. As such, they got higher returns on their wealth – the rich became richer. Immediately before Black Tuesday, the top 0.1% richest adults in America accounted for 25% of the total household wealth.

Bad Timing

By 1928, the Fed was becoming increasingly worried about the expensiveness of the US stock market and acknowledged that it looked to be in bubble territory. Specifically, the Fed was concerned by the increasing popularity of credit being used for 'speculative' purposes as opposed to 'productive' purposes. To try to deflate the asset price bubbles that they created, the Fed embarked on a monetary tightening path. The Fed was transparent in what it was attempting to do – its goal was to restrict liquidity in order to disrupt the credit conditions that had allowed speculation to thrive in the years prior.

From January to October 1928, the Fed raised the interest rate from 3.5% to 5%, and reduced the size of its balance sheet. It hoped that by doing so, it would gently deflate the share market bubble by making speculation more expensive, without significantly impacting legitimate business credit demands.

Chart 4: CAPE Ratio (Shiller P/E Ratio), 1900 - 2019



Source: Robert Shiller, Whitehelm Advisers

Unfortunately for the Fed, it embarked on this tightening path at the same time that the underlying economic data was cooling. In early 1928, the American economy was showing signs of trouble through a variety of metrics, including a decline in steel production, a slowdown in car sales and sluggish construction. This was compounded by the fact that consumer debt was increasing from peak to peak. So, when the Fed increased interest rates, the vulnerabilities, specifically inflated asset prices, high consumer debt and slowing economic growth, were exposed.

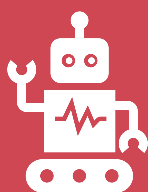
There were several bumps in markets throughout 1928 and 1929, but these culminated in Black Tuesday, the day that is widely regarded to mark the onset of the Great Depression. On 29 October 1929, the stock market crashed, falling by 12% in a single day, which triggered a severe risk-off event in markets and led to deflated asset and commodity prices, as well as dramatically reduced consumption and investment spending.

Making matters worse were the ongoing trade woes. In 1928, Herbert Hoover was elected as President following his campaign promises to help struggling farmers by increasing tariffs on agricultural products. Then, while the world was finding itself in the depths of the Great Depression, another tariff act was being debated in Congress. The Tariff Act of 1930, more commonly known as the Smoot-Hawley Tariff Act, was signed into law on 17 June 1930. The act increased tariffs on hundreds of goods by an average of approximately 45%.

In part, the increase to tariffs was intended to protect American industry from competition so as to ease the implications of the Depression. However, it has been broadly agreed that the tariffs exacerbated rather than abated the Depression. The tariffs caused the price of imported goods to increase by 45%. Millions of Americans had just had their savings and wealth decimated by the stock market crash. The rise in import prices caused imports to be altogether unaffordable for everyone aside from the wealthy. For those who had lost their jobs during the Depression, they could only barely afford domestically produced goods.

Many of America's trading partners, including Canada, Europe and others, retaliated with tariffs of their own on US exports. From 1929 to 1932, exports fell by 64% and global trade plummeted by approximately the same amount. As a result, American manufacturers that relied on global trade struggled to remain in business.

Let's summarise before we move on. Following a post-war recession in the early 1920s, the Fed eased monetary policy by lowering interest rates, and it kept rates relatively low for close to a decade. The cheap credit on offer led to risky borrowing practices, and caused asset price bubbles in many segments of markets. Just as economic data showed signs of softening, the Fed prioritised the risk that the asset bubbles presented to markets by raising interest rates in the hopes that the bubbles would slowly deflate. The tightening of monetary policy exposed the multiple vulnerabilities that existed – particularly lofty equity market valuations and the unsustainably high levels of personal debt. While sweeping tariffs were expected to help American industry, they triggered a full trade war, which only amplified the implications of the Great Depression.



LIVING IN THE PRESENT

Is the lead-up to the Great Depression a reasonable precedent for what we have been experiencing over the past few years? In other words, could the last paragraph of the previous section also be used to describe today's market environment?

As the GFC began to grip markets in 2008, the Fed was quick to act. Between September 2007 and April 2008, the federal funds rate was reduced from 5.25% to 2%. With the bankruptcy of Lehman Brothers in September 2008 and the full onset of the GFC, the Fed reduced the funds rate further to 0% on 16 December 2008.

The Fed also injected a massive amount of liquidity into the market, primarily through its lending facilities. Between September 2008 and January 2009, the monetary base doubled. In total, the Fed implemented three rounds of quantitative easing from November 2008 to September 2012.

The Fed had two main goals in mind when it implemented its extreme monetary policy measures. The first was to make borrowing easier for both corporations and consumers so that companies would borrow more to invest in new productive capacity and consumers would buy the new goods and services being produced, both of which can be achieved with cheap credit offered by the Fed. The second was to spark a rally in stocks, bonds and real estate that would in turn trigger a wealth effect. As a result of the market rally, households would see their net worth rise, and would 'feel wealthier', encouraging them to borrow more money to buy more goods and services (i.e. spend).

Was the Fed successful? The Federal Reserve's mandate is '*to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates.*'[1] Looking across a broad range of metrics, it appears that the zero interest rate policy and three rounds of QE implemented by the Fed have helped achieve the first two of the three stated goals of the Fed's mandate. Unemployment has returned to pre-GFC levels, while inflation has remained low and asset prices stable.

[1] Refer to Federal Reserve Act, Section 2A: Monetary Policy Objectives

Stability in the stock market has meant a bull market that has lasted for eight years. In the lead-up to the Great Depression, the run-up in the equity market was largely caused by the 'on margin' investment in the share market by individuals spurred on by the cheap credit on offer. In this present instance, a significant contributor to the run-up in share market prices has been caused by the impact that the cheap credit on offer has had on corporate decision-making.

The accommodative monetary policy environment created ideal conditions for large volumes of share buybacks – some large companies have either used cash or debt to buy back their own shares. Keeping cash on their balance sheets was not an attractive option in light of the low interest rates. For others, the cheap debt on offer incentivised them to finance leveraged buybacks. Either way, buybacks reduce the number of a company's outstanding shares, so its profits per share, through measures such as cash flow per share and earnings per share, become inflated.

These increasing measures of profit are what typically lead to share price strength.

The impact that the low interest rates have had on the US share market is shown in Chart 5. From 2009 to the end of 2015, the federal funds rate remained at 0%, while the S&P 500 index consistently increased. While the share market continued to rally in 2017 and part of 2018, this was largely fuelled by the euphoria that the election of President Trump caused in markets, notably because the platform he campaigned on was heavily laden with fiscal stimulus. The passing of sweeping tax cuts in late 2017 added fuel to the fire.

Not only did the cheap credit drive up share prices, but it has also created a corporate debt problem. The combination of loosening lending standards for corporates paired with the Fed's monetary policy response has encouraged corporations to borrow at staggering rates (for share buybacks and otherwise). Furthermore, demand for corporate debt from yield-hungry investors has been strong in an otherwise low-yielding environment. The increase in US corporate debt is shown in Chart 6 below.

Chart 5: Federal Funds Rate versus S&P 500 Index, 2000 - 2016

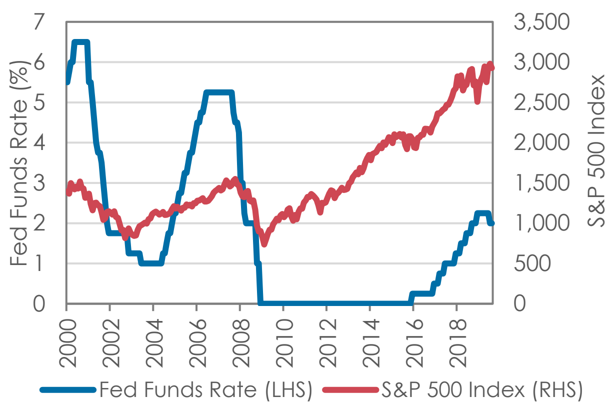
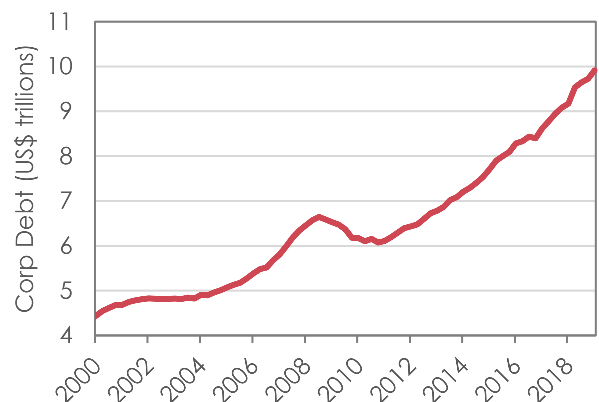


Chart 6: Total US Corporate Debt, 2000 - 2019



Source: Bloomberg, Federal Reserve, Whitehelm Advisers

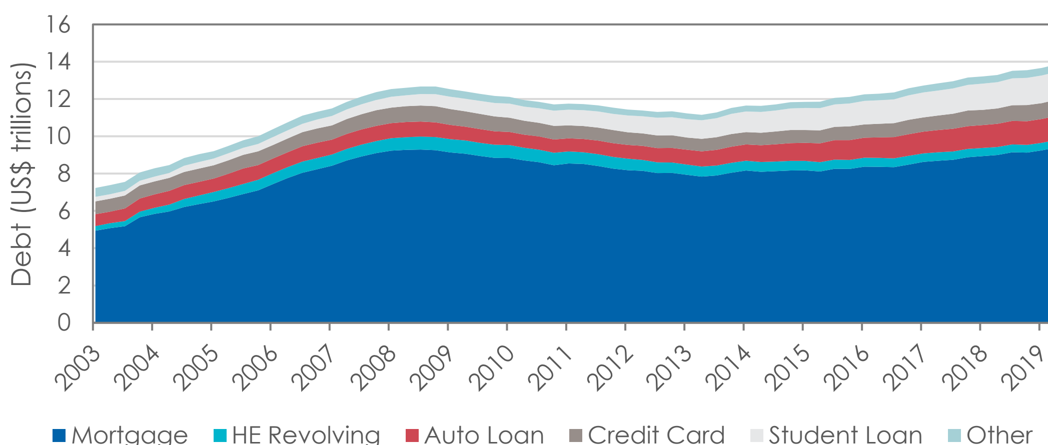
The rise in corporate debt has not just been with highly rated corporations. The fastest rate of increase in corporate debt has been among borrowers rated BBB, one notch above 'junk' status. These BBB bonds now make up about half of all investment-grade bonds on issue. Investors have become increasingly worried about the ballooning of BBB-rated debt because any ratings downgrades, such as those that occur in the event of economic or financial market stress, would mean that there would be a large influx of corporate debt into the junk market.

It's not just corporate debt that has increased. While the GFC caused households to deleverage, most notably as it relates to mortgage debt, households started to re-leverage a few years on. This is illustrated in Chart 7 below. By the start of 2017, household debt had surpassed its pre-GFC high of nearly US$13 trillion. It is worth noting that debt has increased at a slower rate than in the years leading up to the GFC.

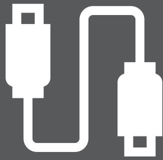
So, the Fed was successful in sparking a rally in asset markets, but its success in stimulating improvement in the real economy is highly debated. It has led to inflated asset prices and ballooning debt. It also led to worsening of income inequality. The monetary policy environment over the course of the past decade has been incredibly beneficial for borrowers, but not for savers. The Fed's policy choices have been in favour of the small number of Americans who own the vast majority of financial assets. While a bull market lasting eight years is good news for those invested in the share market, it does not help half of the American population that is not invested in the share market.

Note the similarities between the 1920s and the 2010s. In both cases, the American economy was recovering from a recession. The Fed lowered interest rates and left them low for eight years. The Fed also used open market purchases to stave off recessionary conditions. In both cases, asset values were driven up by the cheap credit on offer. In the 1920s, it was investors buying shares on margin that was one of the main culprits, in the 2010s, it was corporations capitalising on cheap debt that played a key role in share prices increasing. Both periods have seen a deterioration in income inequality and a dramatic rise in debt.

Chart 7: Total and Composition of US Household Debt, 2003 - 2019



Source: Federal Reserve, Whitehelm Advisers



LESSONS FOR TODAY

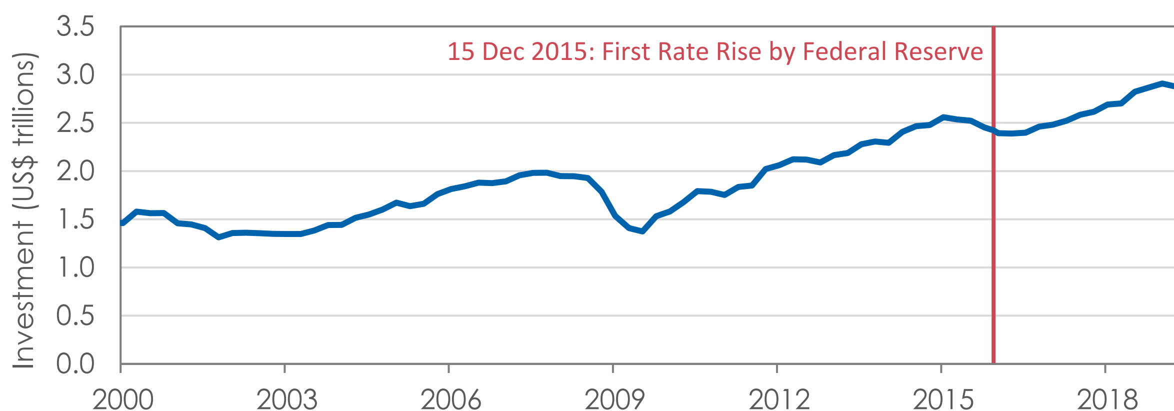
In 2015, after years of accommodative monetary policy, the Fed started discussing ways in which it could 'normalise' monetary policy. Economic growth had recovered and the unemployment rate was falling. While inflation was still below the Fed's goal of 2%, it thought that the tightening labour market would cause inflation to pick up at any moment. As such, the Fed wanted to get on the front foot.

In December 2015, then FOMC Chair Janet Yellen was incredibly transparent about the Fed's plan to start tightening liquidity, first by cautiously raising interest rates and eventually, by reducing the size of its balance sheet by allowing maturing securities to roll off without investing in new ones. At the time, the general consensus was that this decision was justified if the focus was on a few key high-level metrics, namely unemployment and economic growth.

But aside from these key metrics, what sort of picture were other economic indicators painting of the economy?

Debt indicators were flashing red, as per the charts in the previous section. Meanwhile, other economic indicators were pointing to a soft economic outlook. Business investment had started to decline, as per Chart 8 below.

Chart 8: Business Investment, 2000 - 2019



Source: US Bureau of Economic Analysis, Whitehelm Advisers

Chart 9: Industrial Production Index, 2000 - 2019

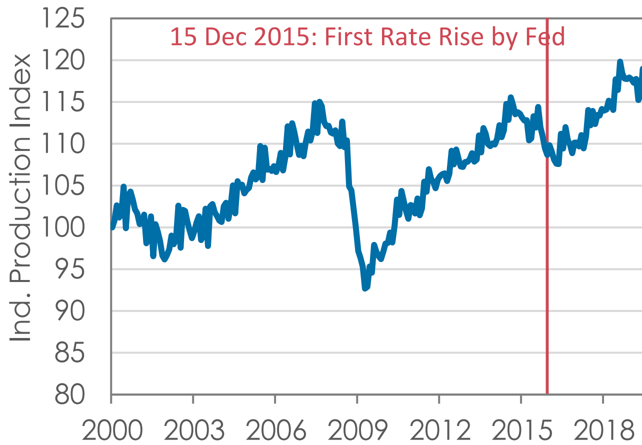
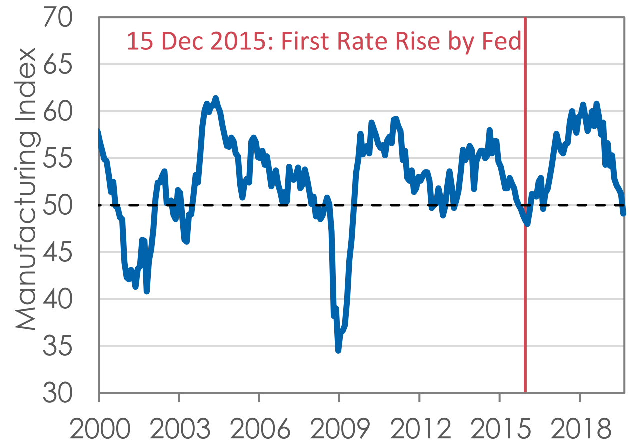


Chart 10: ISM Manufacturing PMI, 2000 - 2019



Source: Federal Reserve, Bloomberg, Whitehelm Advisers

Industrial production had also started to decline, as per Chart 9 above. Manufacturing PMIs were also raising a red flag, as the ISM Manufacturing PMI fell below 50 – the level that denotes the economy is contracting.

Despite economic indicators pointing to a softening economy, the Fed stuck to its tightening agenda. Looking at the charts above, in retrospect, it could be argued that the economy showed signs of improvement in the years that followed, so the Fed was justified in its monetary policy decision-making. However, it is important to remember what else was happening at the same time that would make for a rosier outlook.

President Trump was elected in November 2016, and with it came a wave of optimism that he would implement all the fiscal stimulus policies that he had campaigned on. He was successful at pushing a significant tax reform bill through in December 2017, which, at least temporarily, masked the underlying weakness in economic data.

So, why, at its January 2019 meeting, did the Fed adjust its forward guidance by effectively reversing the message it had been sending to markets over the previous three years? Powell stated that increases to the federal funds rate would be slowed, curtailed, or even reversed. The pace of the reduction of the Fed's balance sheet would also be slowed.

While this generation's central bank governors claim that they do not focus on the state of financial markets when they make monetary policy decisions, this is not necessarily evident in their actions. To try to figure out why Powell completely reversed course, consider what happened in financial markets in the fourth quarter of 2018. Global equities posted very sharp declines from October through to the end of December, largely on concerns of global trade and slowing economic growth. US equities fell particularly sharply in December, coinciding with the Fed's interest rate hike in the middle of the month. Government bond yields fell, broadly reflecting the increased risk aversion in markets, and credit spreads increased. For US markets, this is shown in Chart 11 overleaf.

Chart 11: Equity and Credit Market Experience

Source: Bloomberg, Whitehelm Advisers

In December 2018, Powell told financial markets that the Fed would do what it thought was right in terms of setting monetary policy conditions to reflect the inflation and the global growth outlook, and would let asset prices react as they may. However, does the stark turnaround that has characterised 2019 imply that Powell is most concerned with the direction of asset markets? This would mark a difference in tactics between now and the Great Depression – perhaps the Fed governors are prioritising the future direction of asset markets over normalising monetary policy.

Finally, it would be remiss of us to not draw a comparison between the 1920s and the 2010s on the basis of global trade. The Smoot-Hawley tariffs were implemented after the onset of the Great Depression, however tariffs on agricultural products had been in place for almost a decade already. The timing of the trade tensions this time around are earlier in the piece, with President Trump challenging China to a trade war well before there were any imminent signs of a recession. Nevertheless, the worry about how far these trade tensions could escalate and the impact that they are already having in the US, in China, and more broadly has been felt in financial markets for the past two years.

While the Smoot-Hawley tariffs were implemented in an effort to unilaterally protect the American farming industry against the threat of Europe's, President Trump's tariffs have been implemented, in part, to protect the American manufacturing sector against the threat of China's. President Trump attributes China's inclusion in the World Trade Organisation in 2001 as the reason for the erosion of America's manufacturing sector.

While we do not yet have the benefit of hindsight to fully measure the impact that the tariffs are having on the American and Chinese economies, we expect that both consumers and businesses to be paying the price for them – through higher costs on imported goods and significant disruptions to supply chains. While the Smoot-Hawley tariffs came after the start of the Great Depression, a trade war that coincides with tighter monetary policy, and worsening economic data does not bode well for the state of the economy and financial markets when the next recession rolls around.

CONCLUSION

This article is not intended to warn readers that we expect that a recession the magnitude of the Great Depression is imminent. A lot has changed since the late 1920s and early 1930s, particularly in terms of banking regulations, that would prevent an economic disaster equivalent in depth and breadth to the Great Depression. Rather, this article is meant to point out the starting similarities between the factors at play then and now.

Years of easy monetary policy led to excessive risk-taking, by both individuals and corporations. Risk markets were supported by the cheap credit conditions and asset prices were bid up. The Fed acknowledged that its monetary policy decisions may have inflated asset markets and it wanted to tighten policy to gently take some of the air out of these bubbles. However, the Fed decided to embark on such an initiative just as economic indicators were starting to soften. Trade conflict added complexity. This description can be used to describe either the 1920s or the 2010s.

The similarities cannot be denied, but it is how the Fed chooses to move forward from here that will set the course for what comes next. In the late 1920s, the Fed raised interest rates despite underlying economic weakness, and did not let up on its monetary tightening path until the economy was gripped by an economic catastrophe. In this iteration, the Fed tightened monetary policy despite weakening economic data, but then pulled on the hand brake. While the Fed has not said that the '*mid-cycle adjustment*' was made to curtail financial market instability, looking at past precedents of cases when the Fed tightened monetary policy too quickly, it is unlikely that the Fed did not consider the risk of popping asset bubbles.

In a speech at a conference honouring Milton Friedman in 2002, previous FOMC Chairman Ben Bernanke addressed that the Fed's monetary policy decisions led to the '*worst economic disaster in American history*'. He said: '*Regarding the Great Depression, … we did it. We're very sorry. We won't do it again.*'

Only time will tell the outcome of this tightening cycle. In 1929, the Fed did not have the benefit of hindsight, as it had only been in existence for 15 years and had only lived through one recession. In 2019, the Fed has over a century of monetary policy experience to look back on. As such, we expect that the Fed will be trying to avoid the same fate as previous tightening cycles, such as that in the Great Depression. So Powell's '*mid-cycle adjustment*' may be less of an adjustment and more like an abrupt end to this tightening cycle.

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