



The longest US expansion on record.... why, how and at what cost?

As of the start of next month, this US expansion will become the longest on record. Since US business cycles have been tracked from 1854 there have been 34 expansions. The last four have all been long relative to the past and are all in the top six in terms of duration.

In this note we look at the history of how and why US business cycle lengths have changed over the last 170 years, why the last four have all been so long, what the outlook for cycle lengths are going forward and also look at the path and performance of various economic and market variables in this cycles versus all previous ones through history.

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Executive Summary

US recessions have certainly become less frequent, especially since the early 1980s. The jury is out as to whether that is good for the economy longer term. In the 125 years prior to this point, the US economy saw 30 recessions covering a cumulative period of nearly 44 years of negative activity. This coincided with the US becoming the preeminent global economic superpower with the capitalist model encouraging both creative destruction and strong growth. One could make a compelling argument that regular recessions strengthened the economic success story as they acted as a natural cleansing mechanism ensuring an efficient allocation of resources and preventing the cumulative build-up of inefficiencies that could have arisen without regular downturns. Obviously there are short-term human, economic, and political costs with any recession and as such a society may make the choice to attempt to limit their occurrence to ensure more stability. However, there may be a cost to such a policy.

Since 1982 we've had four very long US cycles including the current one which is about to become the longest on record. We think this era started with the dollar's ties to gold being broken in the early 1970s. After these shackles were broken, policy makers have had the freedom to respond to economic and market crises much more aggressively than before, and by default manage and manipulate the business cycle more effectively. Very positive global demographics and globalisation from the early 1980s have given them even more policy freedom as this has controlled global inflation.

However, there has been a cost. This policy flexibility and longer business cycle era has led to higher structural budget deficits, higher private sector and government debt, lower and lower interest rates, negative real yields, inflated financial asset valuations, much lower defaults (ultra cheap funding), less creative destruction, and a financial system that is prone to crises. In fact we've created an environment where recessions are a global systemic risk. As such, the authorities have become even more encouraged to prevent them, which could lead to skewed preferences in policymaking.

Going forward, weakening demographics and possibly waning globalisation will make it more difficult to extend cycles. However, while we remain in a fiat currency world, policy makers have the ability to print money and many governments still seem to have the ability to run persistent deficits, especially the US. This can help extend cycles.

Make no mistake though, if we were in a world of balanced budgets and one where money was tied to gold, we would have much shorter cycles than we've had since the early 1980s. So we think cycles continue to be extended at a cost of increasing debt, more money printing, and increasing financial market instability. This may continue until inflation starts to structurally trend higher - thus reducing policy flexibility - and/or when we have debt funding crises.

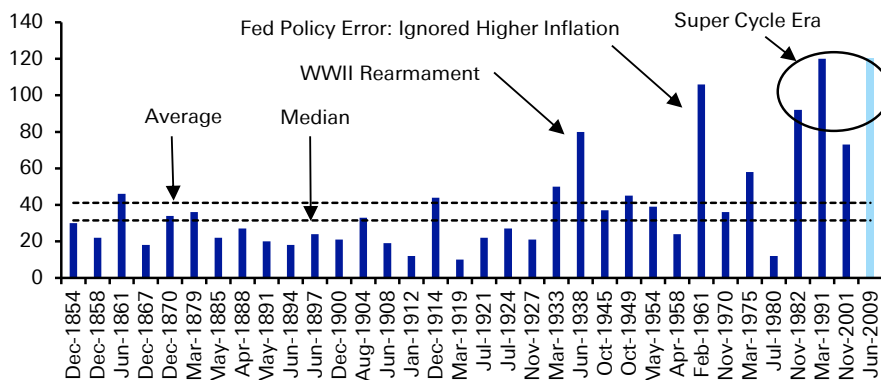
We would question whether these long cycles are the optimal environment for efficient resource allocation in the economy and ponder whether it might be one of the reasons we live in a low productivity era. Would productivity have been higher in an era of shorter cycles and lower debt? We suspect it might have been.



Introduction: From short to long business cycles

As we enter next month, this US economic expansion will become the longest on record covering 34 expansions since 1854. In fact the last four expansions have all been in the top six longest on record. The other two in this top six were the June 1938-cycle which was boosted by the WWII rearmament efforts, and the Feb 1961-cycle where the Fed were late to deal with ever increasing US inflation, leading to too loose monetary policy and an extended cycle. In this report we'll try to explain why this cycle – and the past four – have been so long relative to history and also show various economic and market indicators from this cycle relative to the past to put the record-breaking expansion in some context.

Figure 1: US Business Expansion Length by Month Since 1854



Source : Deutsche Bank, NBER.

Recessions have certainly become less frequent. By the end of this month the US economy will have only been in recession for 34 months since November 1982. This equates to less than 8% of the time over a remarkable 37 year stretch. From the point the NBER started to define business cycles in 1854, to the start of the long business cycle era in 1982, the US was in recession 35% of the time. We should remember that this covered a 125+ year period during which the US rapidly developed, witnessed great prosperity, very strong growth, and became the preeminent global economic superpower. So recessions may not be a bad thing for longer-term growth even if the short-term economic, human, and political costs are high. In fact, one could argue that recessions are a crucial part of capitalism as they help the creative destruction process and cleanse the economy of weaker entities/investments allowing space for faster growing equivalents to take the vacated space. It could be argued that the problem with less frequent recessions is that this may encourage a more inefficient allocation of resources in the economy. Without a recession over a long period of time (especially if associated with massive policy intervention) even weaker investments/businesses can comfortably survive. It's probably not a coincidence that corporate bond default rates have been at ultra low levels now for a decade and a half in spite of weak growth over the period.

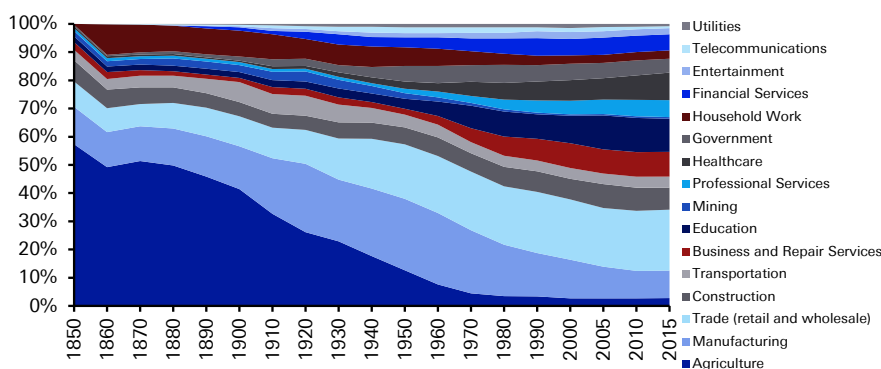
Let's now look at how the length of US business cycles have changed over time.



The move away from agriculture and the inception of the Fed...

During the earliest monitored business cycles the US economy was predominantly agriculturally based. Indeed the share of employment made up from this sector was 59% in 1850 and only dipped below 30% by 1920 and below 10% by 1960. This likely made GDP more volatile as the economy was more exposed to the boom and bust crop cycles without much sector diversity. In addition, prior to 1913 there was no central bank and banking runs and panics were a fairly regular feature of the economic landscape.

Figure 2: US Employment by Sector Since 1850



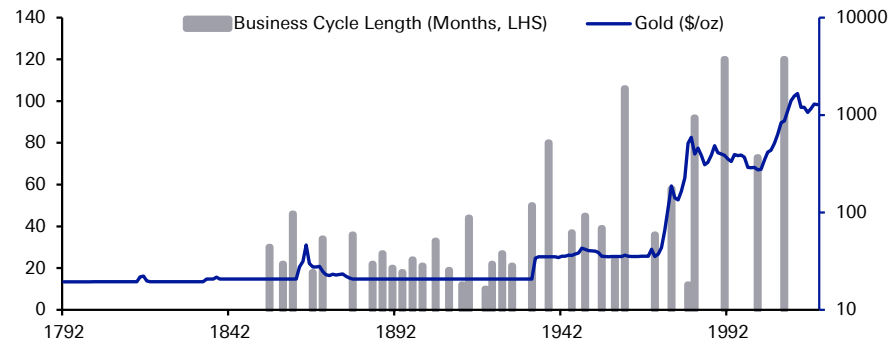
Source : Deutsche Bank, US Bureau of Labor Statistics; McKinsey Global Institute Analysis

As the economy became more diverse and less dependent on agriculture and the Federal Reserve became more active in the economy, economic cycles were able to be extended. However, WWI and its aftermath, the stock market crash, the 1930s Depression, and the fact that the US operated under a gold standard ensured that cycles were still relatively short by modern standards until at least WWII.

The gold standard and subsequent Bretton Woods system (1946-1971) restricted stimulative policy (both fiscal and monetary). The dollar was convertible into gold at a fixed price and policy had to ensure that there wasn't a run on gold reserves. Loose fiscal or monetary policy to extend a business cycle would have likely led to the perception that the authorities were prepared to generate inflation and erode the value of the dollar. As such gold would have flowed out of the country threatening the economic management model of the time. [Figure 3](#) shows the price of gold to the USD alongside the length of each business cycle and suggests that business cycles were a lot shorter when the dollar was rigidly price fixed against gold. As the ties slowly loosened to gold and devaluations occurred, business cycles started to get longer.



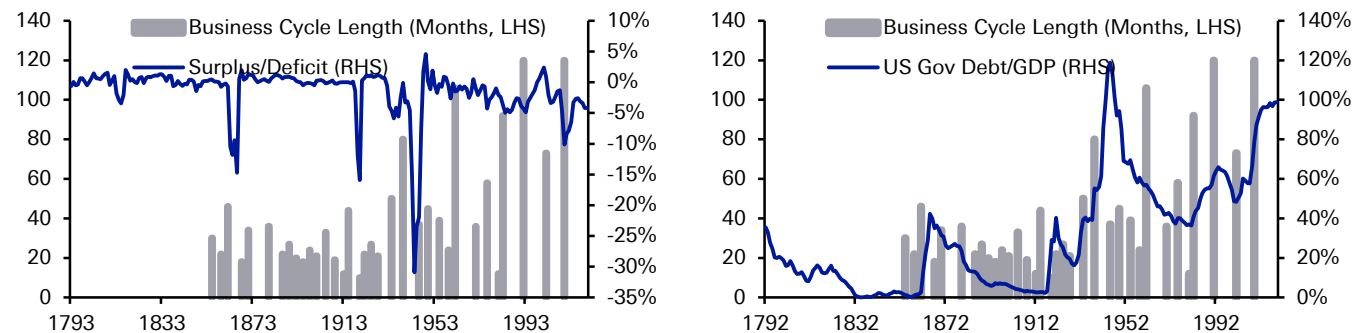
Figure 3: US Business Cycle Lengths vs. Gold Price



Source : Deutsche Bank, GFD. Note: Price is on a Log-Scale

With the loosening of ties to gold, economic policy could become more flexible and with it there was opportunity for more stimulus. We can perhaps show this by again highlighting the length of each US business cycle but this time with the annual US budget deficit (left) and total Government Debt to GDP (right) overlaid on top.

Figure 4: US Business Cycle Lengths vs. US Budget (LHS) and Gov Debt/GDP (RHS)



Source : Deutsche Bank, GFD, NBER.

Prior to the late 1960s, the US ran close to a balanced budget every year outside of war time and the Great Depression. Deficits temporarily ballooned and debt increased on these occasions and membership of the gold standard was often suspended allowing for more flexible policy for a brief period of time. However, the US quickly went back to balanced budgets after these events alongside a stable gold/USD parity which made it very hard to be overly stimulative.

Pressure on this system started to build as the post-WWII landscape emerged, leading to structural deficits slowly building up in the late 1960s. There was huge population growth in this era and at the same time we saw the birth of the welfare state and "great society" type movements. Across the globe, citizens were increasingly demanding more access to education, healthcare, a safety net for the poor and unemployed, better public services, and the increased provision of state pensions. This led to increased demands for governments to spend more and this was funded by deficit spending across the world, a trend that lasts to the current day. Very few countries have managed to balance their fiscal books over the last 50 years.

This new trend was not sustainable in a precious metal currency system and eventually the increases in US/global deficits put pressure on the Bretton Woods system. In 1971 President Nixon suspended the convertibility of dollars into gold and we



moved to the fiat currency regime that is still in existence today. At that point the vast majority of global currencies - that had been fixed to the USD in the Bretton Woods system - also effectively became fiat currencies.

After the gold-based system broke down post 1971, the US (and other countries) had more flexibility to pursue policy that extended business cycles. As such, cycles started to get longer but debt started to increase – a pattern that has extended to the current day with the added kicker in this current cycle being the largest round of central bank balance sheet expansion in history in the US, and at a global level.

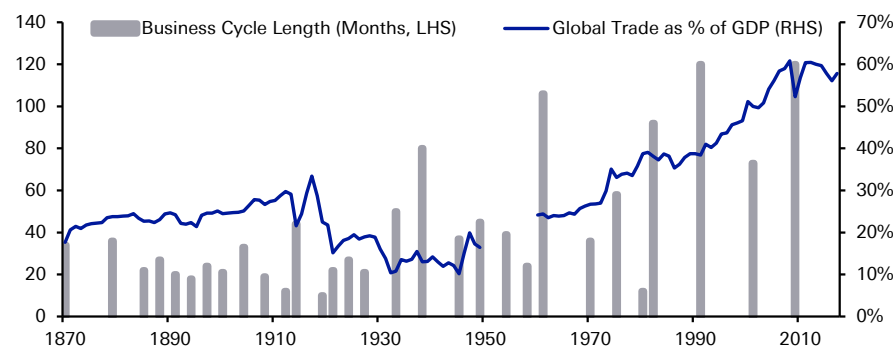
Obviously the start of this new era (the 1970s) saw great economic challenges with high inflation and the oil shocks ensuring that managing the business cycle was still very difficult. Nevertheless, it was interesting that the first full cycle of the post Bretton Woods era starting in 1975 ended up being the third longest on record at the time (out of 29), behind only the 1938- WWII rearmament cycle and 1961- Fed policy error cycle.

Globalisation and demographics also supported the longer business cycle trend post 1980

At the start of the 1980s, the global economy was reeling from high inflation and managing the business cycle continued to appear extremely difficult as the desire to reduce inflation led to a double dip recession in many parts of the world (including the US where the Volcker Fed squeezed the economy). However, at this point policy-makers were starting to be bailed out by enormous external factors – namely globalisation and demographics.

[Figure 5](#) again shows US business cycle length against global trade as a percentage of global GDP. Before the 1970s, global trade on this measure wasn't much higher than it was a hundred years earlier. However over the next three to four decades this ratio roughly doubled.

Figure 5: US Business Cycles vs. Global Trade



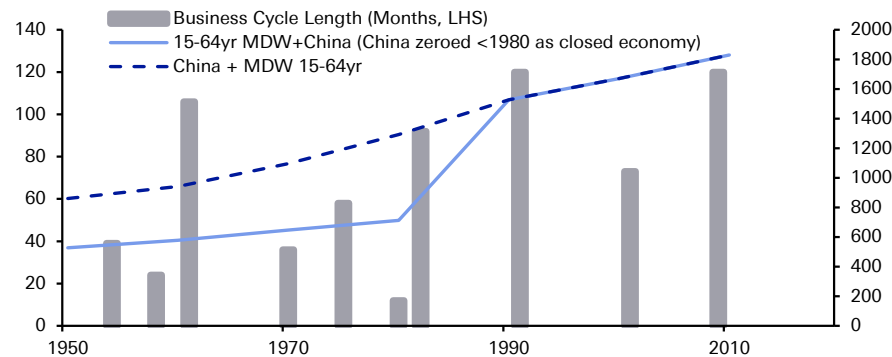
Source : Deutsche Bank, NBER, Haver.

China's reintegration into the global economy from the end of the 1970s after being closed off for centuries certainly helped kick-start the trend and globalisation snowballed from there. Higher global trade started to make the global economy more competitive leading to higher growth but crucially lower inflation. As such, business cycles could be allowed to run for longer without policy needing to be tightened as aggressively as in the past. The fact that deficits were still high was less of a problem with government debt historically quite low and no gold parity to defend.



Supporting this trend was probably the most positive global demographic surge in history. [Figure 6](#) shows US business cycles against the working age population of the More Developed World (MDW) plus China from 1950 onwards. The number of 'key country' global workers was naturally increasing via the post WWII baby boomers but China's reintegration into the global economy super-sized this trend. We highlight this by including a line in the graph that zeros Chinese workers before 1980 and then includes them thereafter to reflect this relatively sudden policy shift.

Figure 6: US Business Cycles vs. Working Age Population of MDW + China



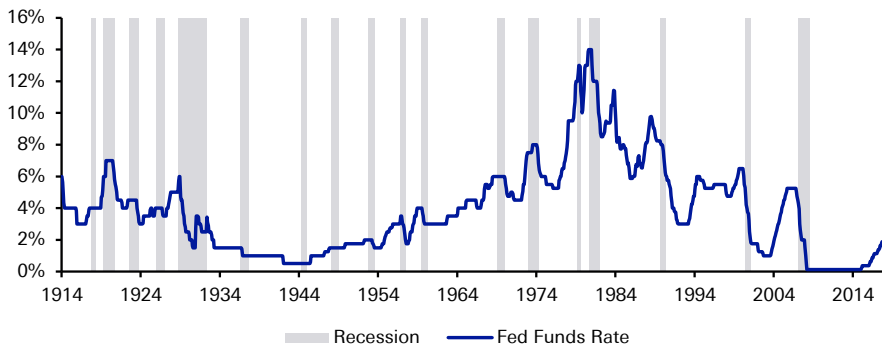
Source : Deutsche Bank, NBER, UN.

Clearly the graph is a little simplistic, as these Chinese workers didn't all immediately come on stream at the same time but ever since the early 1980s, the natural surge in global workers and the integration of very cheap Chinese workers at a time of rapid globalisation ensured that global wage inflation became more and more externally controlled. This is a theme that has been maintained to the current day. As such, we've seen a three to four decade period where global inflation has, in our opinion, been more controlled by globalisation and demographics than by domestic policy. To put this another way, domestic policy has been free to respond to crises (economic and financial) with far more flexibility than in the past.

[Figure 7](#) shows the Fed Funds rate over the last century with recessions marked. In the Post WWII period, the interesting thing is that there have been two long rate 'super-cycles'. The first extended from the end of the War until the early 1980s and saw rates structurally head higher across multiple cycles. During this period there were regular recessions with only the 1960s cycle an extended one due to what is now widely believed to be a policy error from the Fed as they failed to hike rates fast enough to control inflation. Rates eventually peaked just before the start of the long cycle era and since then they've been on a near four decade reversal of the 1945-1982 trend. So in the former period the Fed was in a long hiking super cycle which would have helped contribute to multiple recessions in that period. The opposite was true post 1982 where the structural ability to cut rates must have elongated cycles that might have otherwise been prone to roll over. This undoubtedly played a part in the move from short to long cycles.

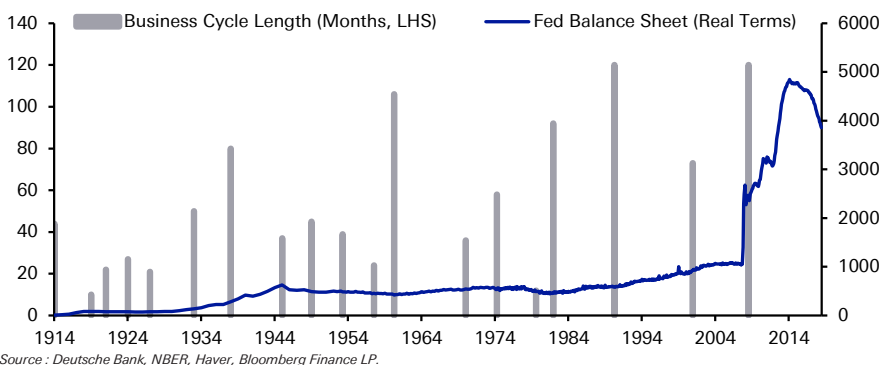


Figure 7: Fed Funds Rate vs. Recessions - Longer cycle era has coincided with lower and lower rates



After an economic golden age for the global economy between 1982 and 2008, the Global Financial Crisis was then a huge threat to the era of long business cycles as it exposed the debt fuelled super-cycle that this policy flexibility encouraged. Allowing a great global debt restructuring that may have naturally occurred as a consequence would have restrained the flexibility of governments and central bankers to manage the business cycle and we could have quickly moved to a world of shorter cycles again. Being at the zero rate bound for the first time in history in many countries (including the US) compounded the risks. However, global debt has continued to increase post the GFC and central banks found new weapons – namely QE and negative rates – to ensure that the economies could continue to grow over a period where left to their own devices we may have experienced a more sober economic environment and shorter cycles.

Figure 8: QE was used to ensure this current cycle didn't roll over. No other cycle in history has seen such a response



As such, the US now is on the brink of its longest business cycle on record, continuing the trend of long cycles seen over the last 35-40 years.

How long will US business cycles be in the future?

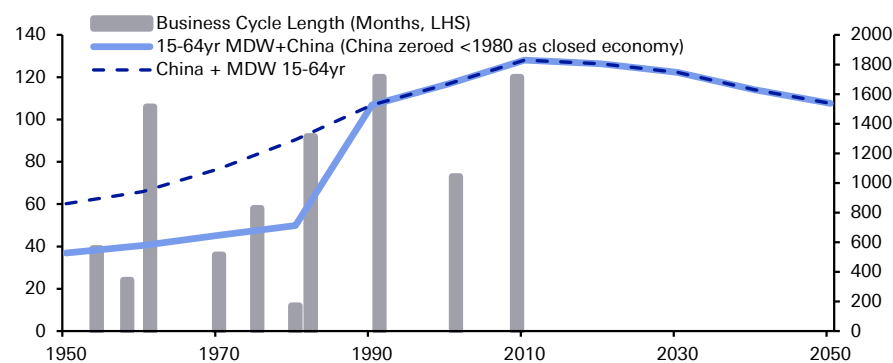
Given that we have attributed the last four super-long US cycles to globalisation, demographics, downward wage pressures, positive global disinflation, fiat money, increased debt/deficits, and QE, then the answer to our question will come from our answers to how sustainable these trends are.



With regards to globalisation, [Figure 5](#) shows that we have plateaued since the GFC on this measure. However, the rise in populists everywhere are threatening to put this into reverse in the years ahead. The US is currently in the middle of a trade war with China, with other trading partners in negotiations including the EU. It's unclear how this gets resolved in the near term, but medium term it does feel like the super-cycle of unfettered globalisation is behind us. A retreat of globalisation would likely be less supportive to global growth and would likely push up inflation - all other things being equal. This will make managing the business cycle more difficult going forward.

Future global demographics also look less favourable to business cycles going forward, especially relative to the period post 1980. [Figure 9](#) extends [Figure 6](#) and shows the MDW+China working age population out to 2050. The decline in workers is a headwind to growth and may also allow them to retain some lost pricing power. As such, it could again mean higher inflation which will make business cycle management more difficult.

Figure 9: US Business Cycles vs. Working Age Population of MDW + China With Forecasts

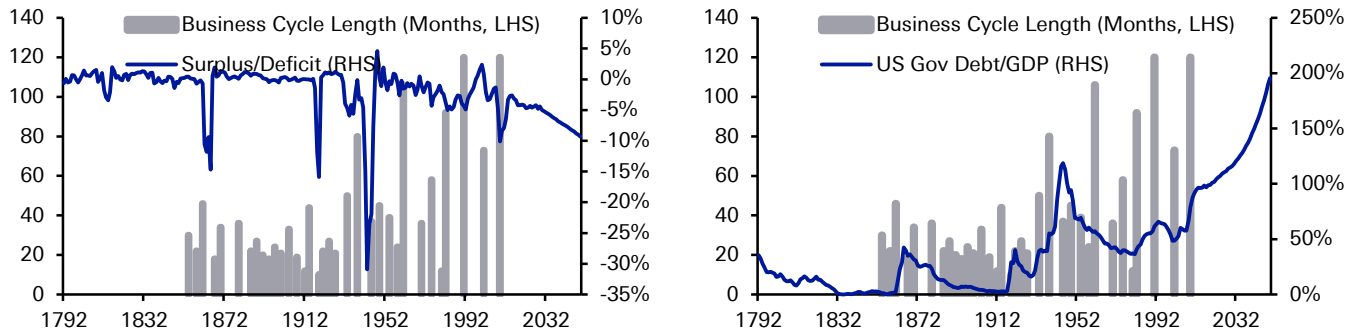


Source : Deutsche Bank, NBER, UN.

With regards to debt and deficits, if anything the US has moved into an era of higher structural deficits and higher government debt. [Figure 10](#) extends our earlier charts to show CBO forecasts for both alongside business cycle lengths historically. If the US can maintain such consistent deficits then perhaps it can continue to have long business cycles. Most market participants would likely say that such an increase in debt is not sustainable longer term but it could of course be sustainable for this and the next business cycle.



Figure 10: US Business Cycles vs. US Budget (LHS) and Gov Debt/GDP (RHS) With CBO Forecasts



Source : Deutsche Bank, GFD, NBER, CBO.

Related to the above, it doesn't feel like the era of fiat money is under threat until we have sustained inflation. As such central banks will still have money printing and balance sheet expansion in their armoury. Linked into debt and deficits, going forward QE may be used to finance specific government spending more than it has over the last decade where it was used to buy financial assets – particularly government bonds. So this could extend business cycles in the future and is again only likely to be more troublesome for the business cycle length when inflation rises.

So to conclude, retreating globalisation and weakening demographics are more negative for business cycle length going forward. However, while we are still able to run large deficits, accumulate more debt, and conduct more money printing we can still manipulate the length of cycles relative to the past. Maybe inflation is the glue here. Once that starts to structurally increase, business cycle management becomes more challenging.

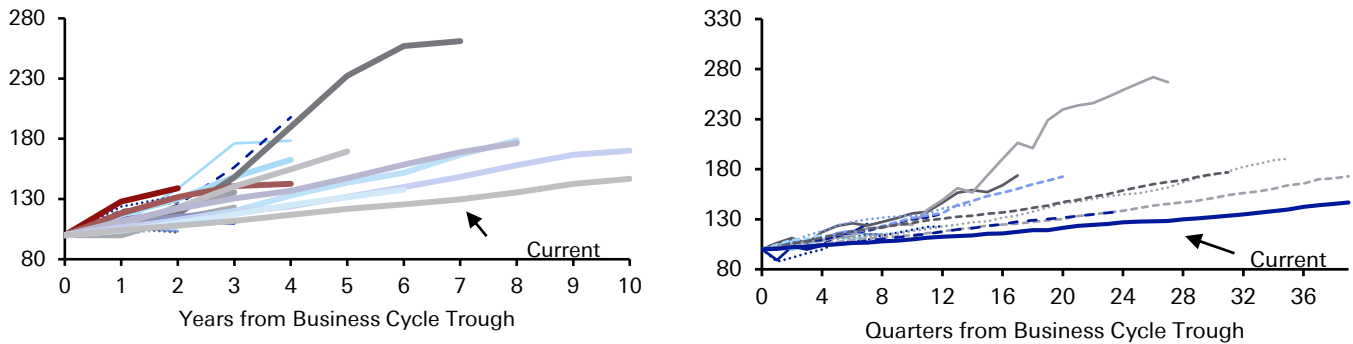
The current cycle relative to the past

To mark the occasion of this being the longest US cycle on record, we now show how this cycle compares to previous US cycles through history. Where we have data, we stretch back to the start of US business cycle tracking in 1854, covering 34 expansions. Where we don't have monthly or quarterly data, we use yearly data and start the cycle from the beginning of the year in which the recovery started. The titles indicate the periods covered in the graphs.

First we look at nominal GDP. As can be seen from the annual data back to 1854 or the quarterly data starting in 1921, this current cycle has seen the lowest growth at all stages of all the 18 cycles that have lasted more than three years. In fact, that might have helped encourage its longevity as economic activity has not got overly ahead of itself. It took until around 2018 for the output gap from the GFC recession to close and as such we were still in 'catch-up' mode for most of it.



Figure 11: Nominal GDP Annually Since 1854 (LHS) and Quarterly Since 1921 (RHS) During Business Cycles

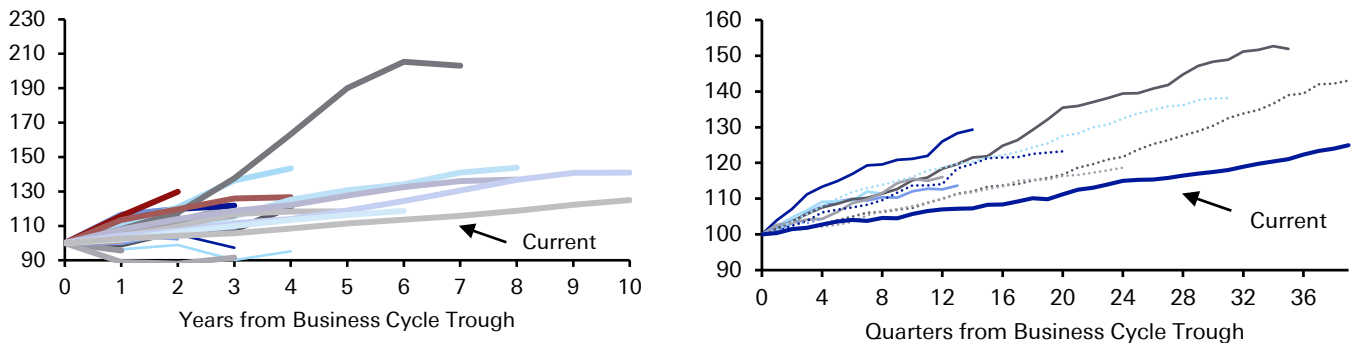


Source : Deutsche Bank, GFD, NBER.

A similar picture emerges in real GDP terms. Using the full annual data series, this is the shallowest recovery of all the 11 that have extended past 4 years. In the quarterly data post 1949, this cycle has been the weakest of any of the 11 expansions at all points through their respective cycles. So perhaps the policy breaks have not been needed to be applied by the authorities in the same manner as in virtually all previous cycles.

Given that population growth in this cycle has been the slowest of all the 34 cycles covered, low nominal and real GDP growth shouldn't be a surprise. However one could also make the argument that low growth makes recessions more likely as the margin for error is reduced. As such, the longevity of this cycle becomes even more impressive.

Figure 12: Real GDP Annually Since 1854 (LHS) and Quarterly Since 1949 (RHS) During Business Cycles

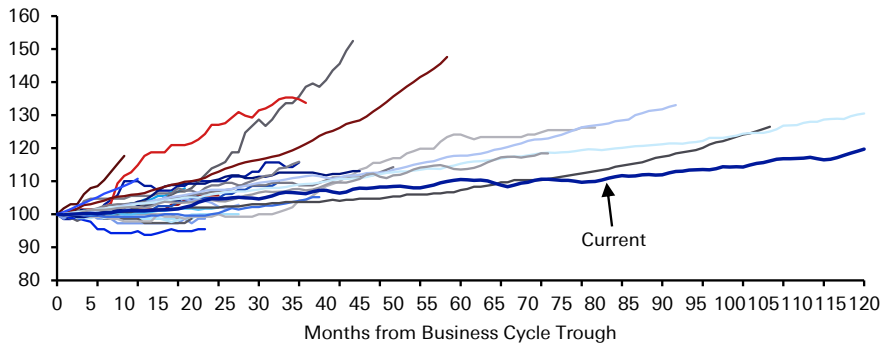


Source : Deutsche Bank, GFD, NBER.

Moving onto inflation now. The early cycles in our study covered a period where inflation was structurally much lower. So in this respect, this current expansion looks less extreme on the downside than it does on the growth front. However the impressive element to this cycle is how steady inflation has been throughout. Indeed prices are only up 18.5% over the now 10-year expansion. This has allowed the Fed to maintain an accommodative policy stance for as long as they have and has helped extend the cycle beyond any other.

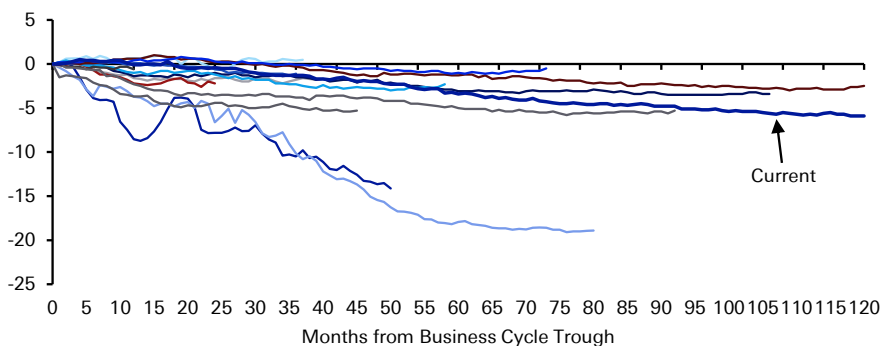


Figure 13: CPI Since 1879 During Business Cycles



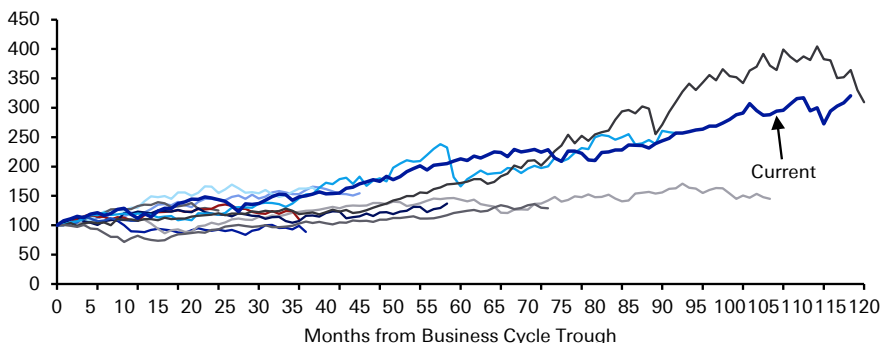
The decline in unemployment doesn't look particularly unusual in this cycle relative to the past but the key takeaway from this graph is that recessions tend to start with unemployment still trending down or at least flat lining. It proves the point that employment is a lagging indicator.

Figure 14: Unemployment Since 1933 During Business Cycles



In terms of equities, this cycle has always been at the upper end of those seen through the entire history back to 1854. As we go past the 1991 expansion - that was previously the longest on record - returns on the S&P 500 are similar to that remarkable cycle which ended with the 2000 stock market bubble bursting. In that cycle, the graph highlights that the equity market peaked in March 2000 before the eventual recession was deemed to have begun in March 2001.

Figure 15: S&P Since 1854 During Business Cycles





It's an interesting dynamic that this cycle has consistently been one of the weakest in terms of economic growth but one of the strongest in terms of asset price growth. This could hint at the extraordinary lengths global authorities have gone to ensure this recovery continued. Liquidity and intervention has been enormous and this has flowed into assets.

So as we celebrate the longest US expansion in history, and the fourth ultra long cycle in a row, we wonder what the costs of such a long cycle era will end up being?



Appendix 1

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*Other information available upon request

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