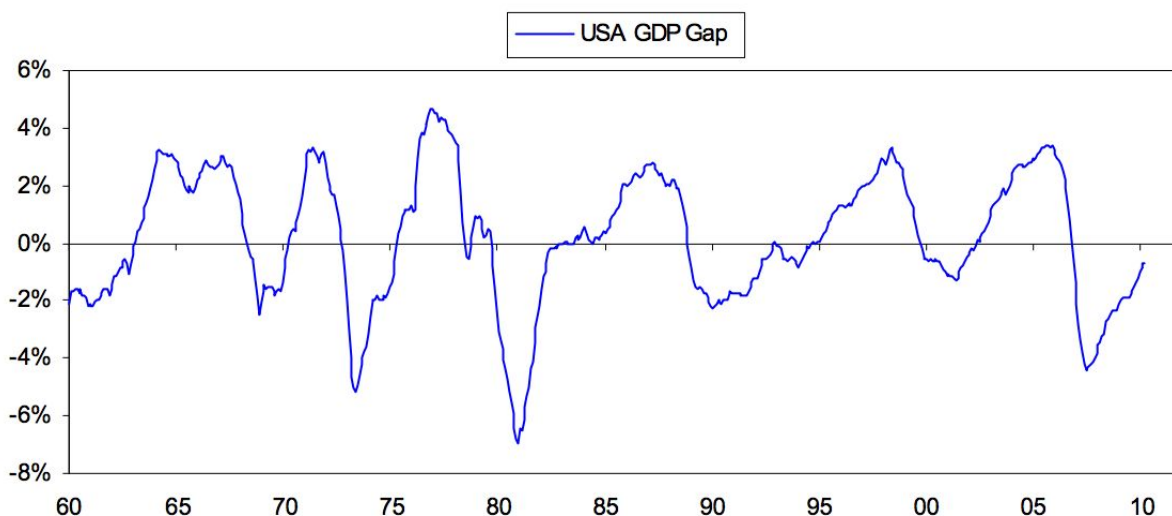


# Evaluating The GDP Gap

From Bridgewater's *How the Economic Machine Works* (emphasis mine):

*The short-term debt cycle, also known as the business cycle, is primarily controlled by central banks' policies that a) tighten when inflation is too high and/or rising uncomfortably because there isn't much slack in the economy (as reflected in the **GDP gap, capacity utilization and the unemployment rate**) and credit growth is strong; and b) ease when the reverse conditions exist. The cycles in the U.S. since 1960 are shown below.*



GDP gap, otherwise known as the output gap, is a closely watched model by many economists and central bank overlords.

It measures the difference between the actual output of an economy against its potential. An economy's potential gdp is the theoretical maximum amount of goods and services it can turn out when it's at full capacity.

Here's the IMF on the utility of monitoring GDP gap:

*Just as GDP can rise or fall, the output gap can go in two directions: positive and negative. Neither is ideal. A positive output gap occurs when actual output is more than full-capacity output. This happens when demand is very high and, to meet that demand,*

*factories and workers operate far above their most efficient capacity. A negative output gap occurs when actual output is less than what an economy could produce at full capacity. A negative gap means that there is spare capacity, or slack, in the economy due to weak demand.*

*An output gap suggests that an economy is running at an inefficient rate—either overworking or underworking its resources.*

*One thing that concerns economists and policymakers about these ups and downs (commonly called the business cycle) is how close current output is to an economy's long-term potential output. That is, they are interested not only in whether GDP is going up or down, but also in whether it is above or below its potential.*

Now there is no actual fixed potential GDP number. Potential GDP is just an estimate that tries to best gauge the most efficient output levels of an economy by looking at things like capacity utilization, productivity, and unemployment.

Economists care about GDP gap primarily because of its relationship to inflation. Here's the IMF again (emphasis mine):

*Policymakers often use potential output to gauge inflation and typically define it as the level of output consistent with no pressure for prices to rise or fall. In this context, the output gap is a summary indicator of the relative demand and supply components of economic activity. As such, the output gap measures the degree of inflation pressure in the economy and is an important link between the real side of the economy—which produces goods and services—and inflation. All else equal, if the output gap is positive over time, so that actual output is greater than potential output, prices will begin to rise in response to demand pressure in key markets. Similarly, if actual output falls below potential output over time, prices will begin to fall to reflect weak demand.*

***The output gap can play a central role in policymaking. For many central banks, including the U.S. Federal Reserve, maintaining full employment is a policy goal. Full employment corresponds to an output gap of zero. Nearly all central banks seek to keep inflation under control, and the output gap is a key determinant of inflation pressure.***

That last paragraph is why we as traders need to mind the (GDP) gap.

Inflation and inflation expectations are the primary factors dictating central bank policy and the setting of interest rates.

Since liquidity (credit and risk premiums) are the primary drivers of markets, and central bankers are the primary drivers of liquidity, we need to track what they track to anticipate the direction of their policy and its effect on liquidity.

This is why GDP gap is one of the primary data points Bridgewater uses to gauge where we are in the credit cycle. Here's the following from a speech Ray Dalio gave to a group of bankers back in October explaining where we are in the economic cycle:

*The most important differences that will exist in the future that did not exist in the past are that debt will not be able to rise as fast and the capital markets transmission mechanism won't work as well, as interest rates can't be lowered and risk premiums of other investments are low and shrinking. If appropriate risk premiums don't exist, the transmission mechanism of capital won't work as well and the economy will grind to a halt. For these reasons major central banks are facing a "pushing on a string" situation. The last time this happened was in the late 1930s.*

*There are two levers that policymakers use to bring about these equilibriums:*

*1) Monetary policy, which operates via interest rate changes and "quantitative easings", which depend on significant central bank purchases and appropriate capital market risk premiums, and*

*2) Fiscal policy, which depends on political coordination both within the central government and with the central bank's monetary policy.*

*Economic and market movements are like a perpetual motion machine of interactions of these. The most profound differences that now exist are the relative impotence of monetary policy and political fragmentation that makes coordination of fiscal and monetary policies hard to imagine.*

*By and large:*

*1) Productivity growth is slow, though properly accounting for it has never been more difficult*

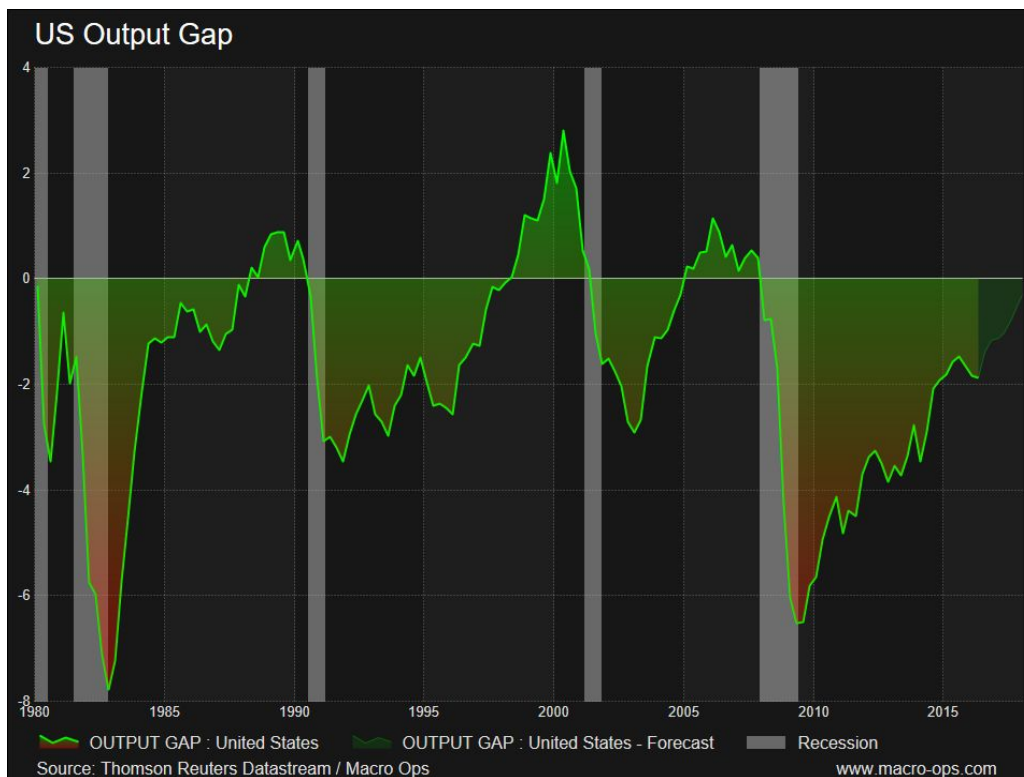
*2) The short-term debt/business cycles as measured by GDP gaps are closer to their mid-points than to their extremes, and*

*3) The long-term debt cycles are approaching their very late-stages as debts can't be raised much and central banks are approaching "pushing on a string" limitations to their effectiveness.*

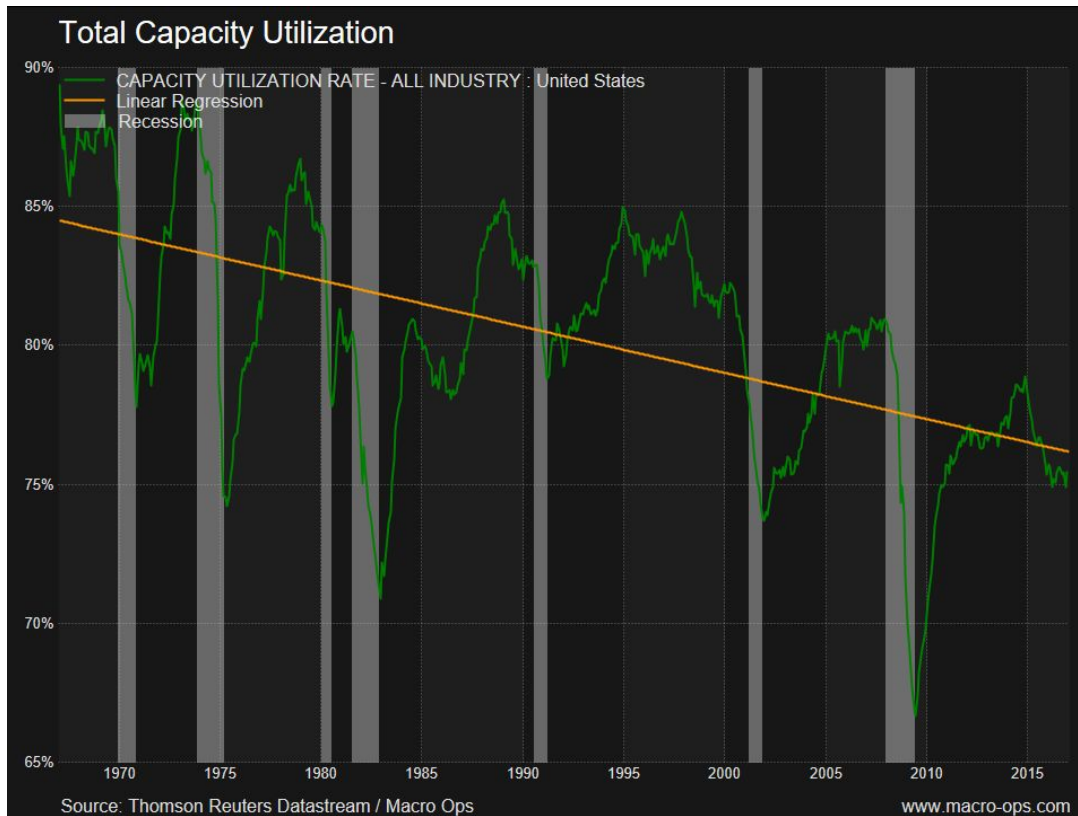
*The biggest issue is that there is only so much one can squeeze out of a debt cycle and most countries are approaching those limits. In other words, they are simultaneously approaching both their debt limits and central banks' "pushing on a string" limits. Central banks are approaching their "pushing on a string" limits both because interest rates are approaching their maximum lows, and because the effectiveness of QE is approaching its limits as the risk premiums and spreads are compressing. Also, the wealth gap and numerous other factors make lending to spenders more challenging. This is a global problem. Japan is closest to its limits, Europe is a step behind it, the US is a step or two behind Europe, and China is a few steps behind the United States.*

Take a look at the chart below and you can see what Dalio is talking about. The GDP gap is still below its theoretical level of maximum output but it's forecasted to exceed potential output by the end of this year.

This means that the recent pickup in inflation is mostly due to base effects versus capacity constraints. So we shouldn't see strong demand-pull inflation until later in the year once the slack is rung from the system. But of course this is just the measure of actual inflation drivers. It says little about inflation expectations which are also driven by expectations surrounding fiscal policy.

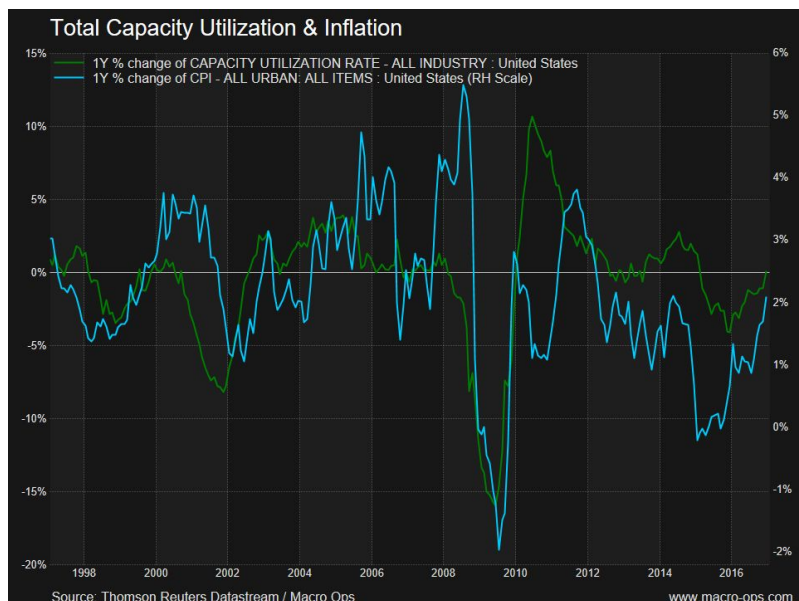


Another leading indicator of inflationary pressures is the total capacity utilization rate. Capacity utilization is the total percentage of US production capacity being used (ie, mining, manufacturing, utilities etc). This is one of the primary indicators used by the Economic Cycles Research Institute (ECRI) in their recession models.



The chart shows a similar picture to that of the GDP gap. We're currently below the 45-year linear regression trendline of our average capacity utilization percentage.

You can see the direct relationship between capacity utilization and the rate of inflation in the chart to the right. When you include the trend in the US dollar and the CRB commodities index, along with corporate and household interest payments relative to income, you arrive at a pretty



good model for gauging inflation pressures.

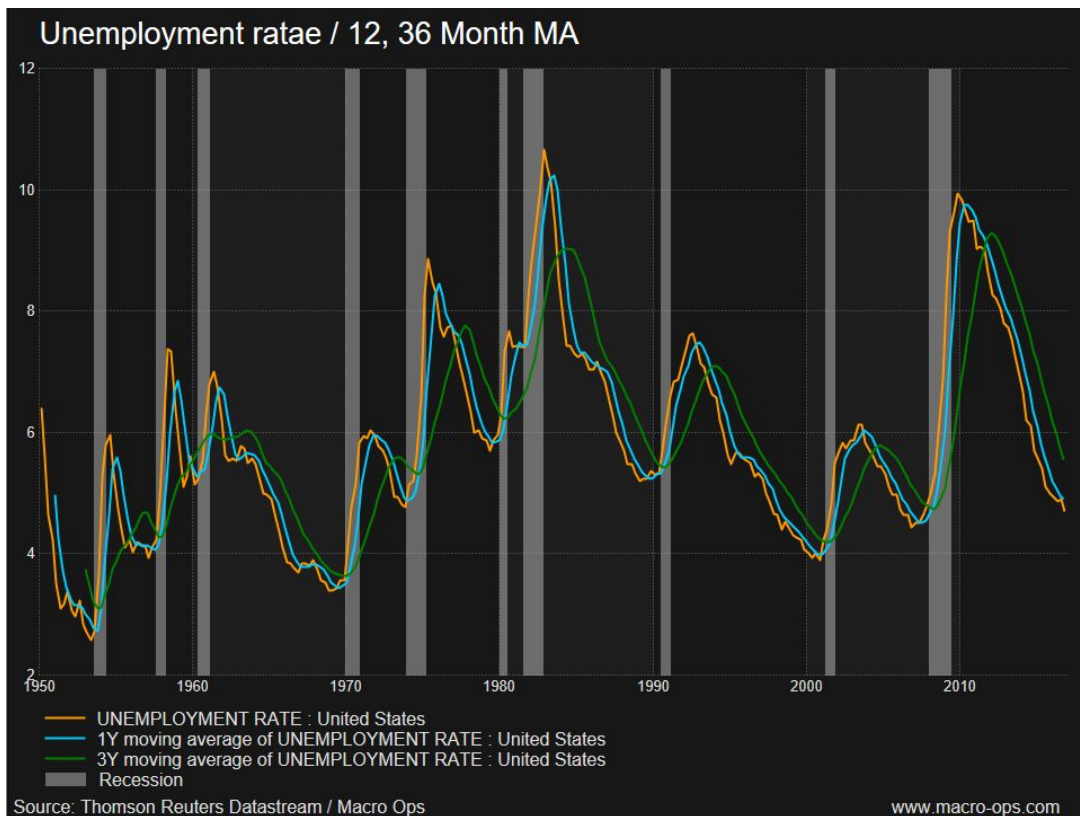
Lastly, to determine where we are in the short-term debt cycle, we can look at one of my favorite charts — the unemployment rate overlaid with both a 12 and 36 month moving average (the same chart that is hung up on our Dashboard).

The unemployment rate is just another way to gauge the economy’s capacity utilization since labor is a resource like anything else.

Labor is also the highest cost in producing things. That’s why when the labor market tightens inflationary pressures build because slack is removed and companies have to pay more in wages to compete for labor. Those rising costs get passed through to consumers.

The resulting inflation is what drives the Fed to tighten, which pulls liquidity from the system and widens risk-premium spreads. This in turn causes the short-term debt cycle to turn over (bear market) and the unemployment rate to go back up. That’s exactly why this is such a good leading indicator of recessions.

The chart right now shows what both the GDP gap and capacity utilization charts show — that we’re nearing the final innings of this business cycle but still have a bit more to go.



PTJ hit the nail on the head when he said, “You look at every bear market and they've always basically occurred because of an uptick in inflation and an uptick in interest rates.”

Tight capacity leads to inflation, inflation leads to higher rates, and higher rates widen risk spreads and tighten liquidity causing bear markets and recessions.

If we mind the gap, we'll stay one up on inflationary pressures and expectations, and the resulting Fed response to both.