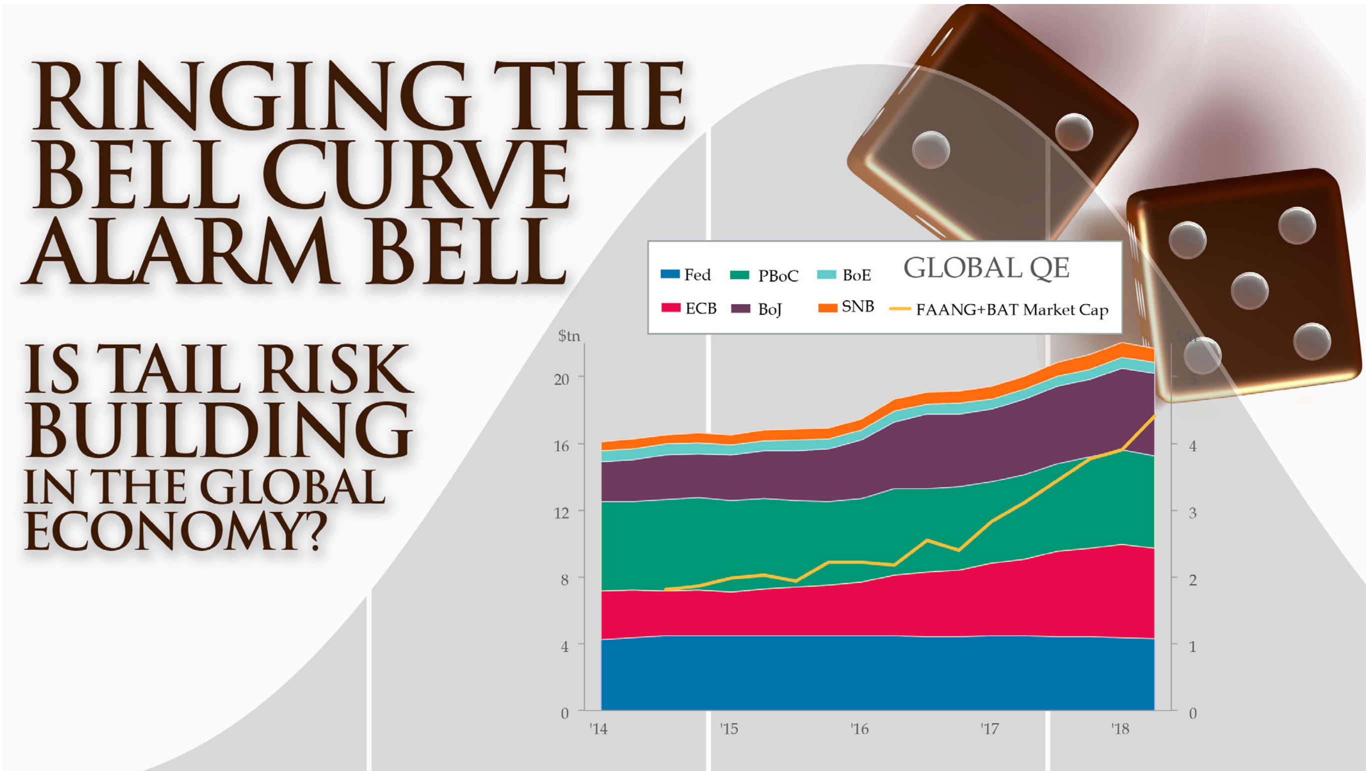


Ringing the Bell Curve Alarm Bell

Is Tail Risk Building in the Global Economy?

"And thus in all cases it will be found, that although chance produces irregularities, still the odds will be infinitely great, that in the process of time, those irregularities will bear no proportion to the recurrency of that order which naturally results from Original Design."

Abraham de Moivre, 1733

A game of chance, perchance? Such was the anguish that seized Abraham de Moivre and his self-inflated intellect upon his discovery of the "normal curve of error" that he recast it from a tool employed by gamblers to none other than proof of the existence of God. Little did we tortured souls in Applied Calculus for Business realize the bell curve that saved many of our grades had such lowly and lofty origins.

Clearly De Moivre's flaw was a lack of vision. Had he stopped to think, he would have realized the last thing that captivates gamblers is a binomial distribution resulting from random operations such as flipping a coin or rolling dice. By their very nature, risk-takers are driven by the illusion that luck is on their side. Why sacrifice the rush of "winning" to empirical statistical analysis?

Today the bell curve's adoption is universal, its applications infinite. The relevance of "tail risk" has been elevated to famed status as central bankers worldwide contort policy with the aim of elongating the length and shape of what we consider a 'normal distribution' as it applies to the business cycle. The more stretched policy gets, the higher the odds investors are shaken out of their comatose state by a tail event, something entirely unforeseen and unpredictable.

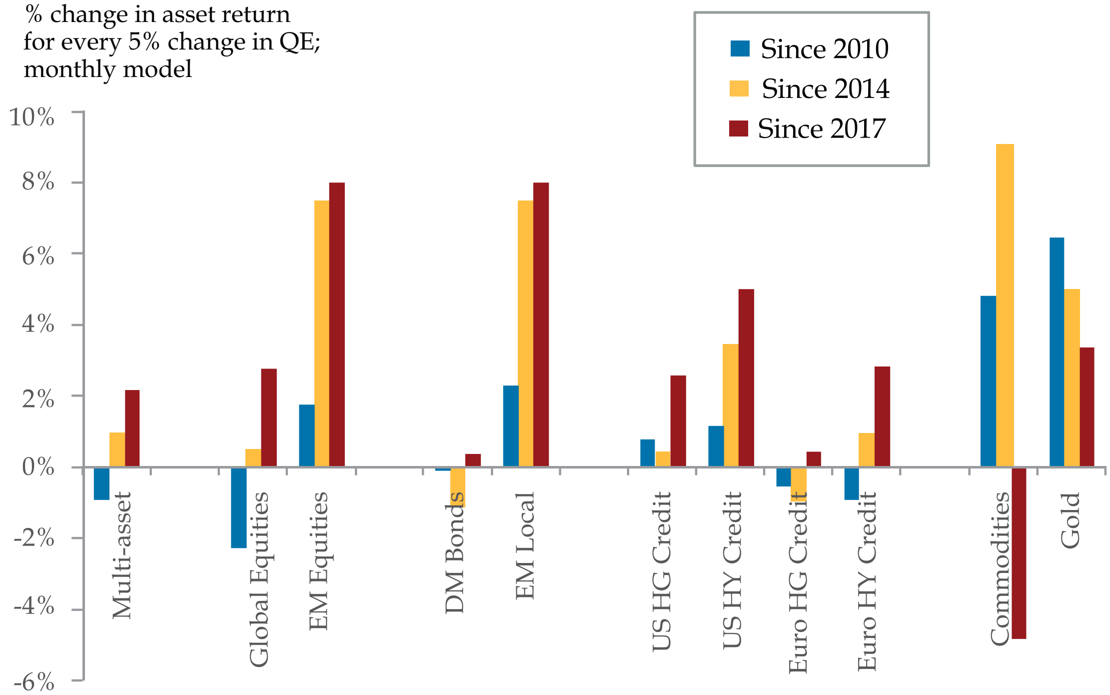
One of the most tired phrases of the past 30 years is "Lower for longer!" There was a time when there was no exclamation point at the end of those three words, but that predates it's being institutionalized as a trader rally cry. In the most recent post-bust cycle, the "lower" has taken on new meaning as central bankers have veered into negative interest rate policy and engaged in $22 trillion (and counting) of quantitative easing (QE) to synthesize even lower lows, make money cheaper than cheap.

The success of these endeavors is unquestioned in the here and now. At this time last year, the economies of the world were converging in a beautiful way, enjoying perfectly synchronized expansions. Economists marveled at the buoyancy in the factory sector in every major economy, save South Africa, humming along as if in a virtuous trance. It's futile to deny the data but critical to bear in mind that it took a record $22 trillion annual rate of global QE to induce such a suspended state of animation.

<u>Most sell-side firms have no desire to assign QE any credit for gunning growth; to do so implies the removal would have the opposite effect</u>. This from J.P. Morgan Chase: "Global QE as a stand-alone variable explains only a trivial amount of asset returns over the past several years." Adding to the calm, the rate of Quantitative Tightening will be a fraction of that of QE. On that second observation, there's very little quibbling to be done.

To be fair to JPMC's strategist team, they do nod to the rising "sensitivity" in asset markets to global QE over the past two years, a diplomatic take if there ever was one. As you can see, the riskier the asset class, the more likely it is to key off QE. One additional concern voiced: "markets haven't front-loaded 2019's Quantitative Tightening." Markets in denial? That must be a first.

The Riskier the Asset, the More Sensitive to QE



Source: J.P. Morgan

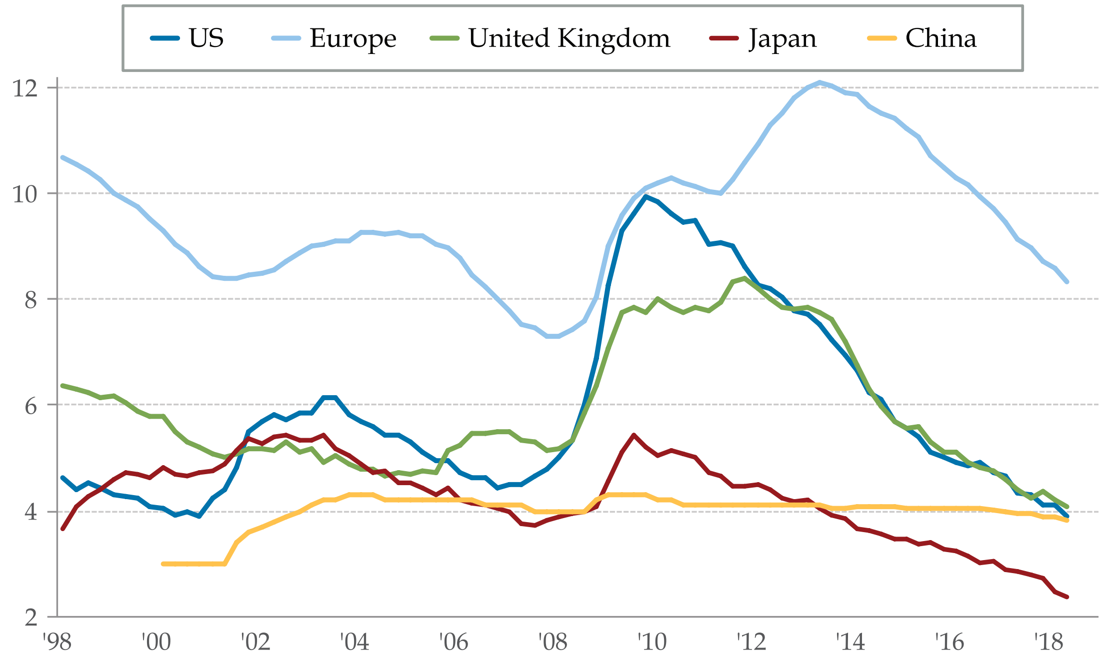
It is good, however, to be boss. Latitude in how you frame situations can be what you want it to be. As JPMC CEO Jamie Dimon said in a recent CNBC interview, "I don't want to scare the public, but we've never had QE, we've never had the reversal…people panic when things change."

Let's just say that Dimon and his painfully tactful tacticians are right, that markets have not prepared (which goes a long way towards explaining where they're trading) and that the QT could come as an abrupt shock if truly imposed, which few believe will be the case. It would help to have a sense of where we are in the global, not just the U.S., economic cycle. It's human nature to seek shelter when storms clouds gather. Investors are no different and will do the same, searching for economies that are better suited to withstand a lashing downpour.

A caveat before we venture down metric alley, comparing major economies on a variety of levels: even the most transparent statistics are malleable. Apply this stipulation in spades to notorious obfuscators such as perhaps, China. For the sake of your patience, let's stick to the Big Five – China, England, Europe, Japan and the United States.

Simple can be a good thing. In that spirit, let's begin with unemployment rates, the most lagging of all economic indicators, the very last to turn in any cycle. Based on this, it would appear that we are almost there, wherever there is (with the glaring exception of China…you will agree that its "influence" over its workforce is a modern marvel). Aside from that irrelevancy, it's clear Japan is running low on warm bodies.

Is Europe the Greatest Relative Economic Value?

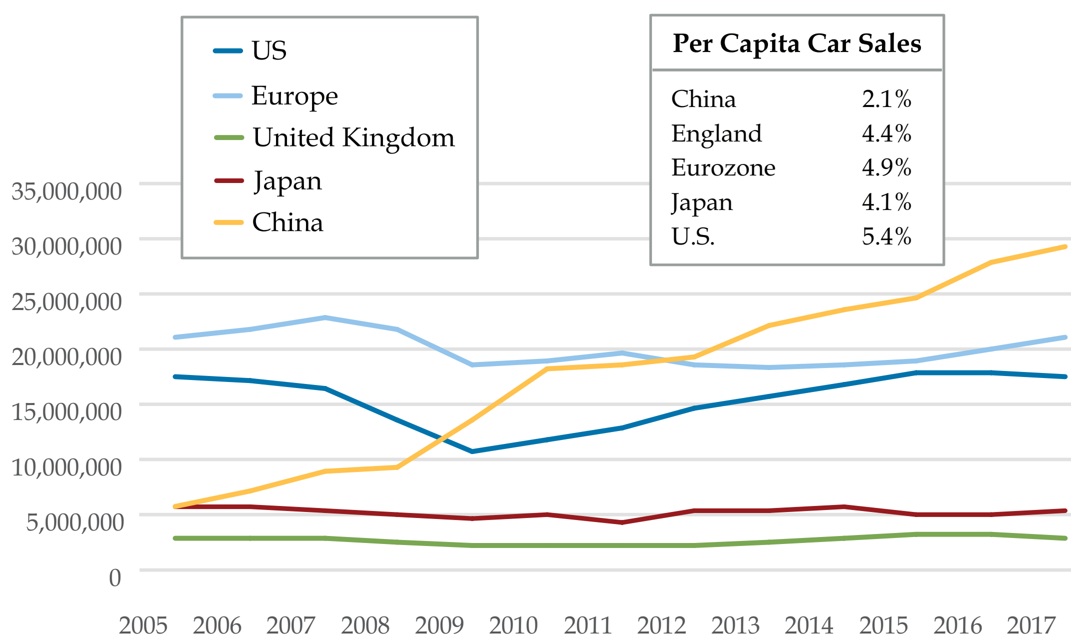


Source: National statistical agencies

The sclerosis of socialism is writ large across the Eurozone; at 8.3%, June's unemployment rate is one percentage point shy of its 20-year low. Should this, though, imply that Europe has the most room left to run in the current recovery? For the moment, let's leave that as an open question and move on to more exciting data, as in car sales.

The emergence of China as a developed economy is apparent in its car sales figures. It's been nearly a decade since China surpassed the U.S. in unit sales and over five since it skipped past Europe. That said, this is decidedly an industry with room to grow in the coming years as China endeavors to continue segueing growth towards domestic consumption.

China Dominates Global Car Sales but Has Plenty of Room to Run



Per Capita Car Sales	
China	2.1%
England	4.4%
Eurozone	4.9%
Japan	4.1%
U.S.	5.4%

Source: OICA

As for the outlook, it won't happen overnight, and China has its own demographic challenges that will act as a governor on growth in coming years. But it's entirely conceivable that over the long term, China's per capita car ownership doubles from its current level. The U.S., and European market, to a lesser extent, lie at the opposite end of the spectrum. Americans own too many cars, which we well should in the aftermath of subprime car lending opening up ownership to borrowers who would otherwise not have been able to get behind the wheel. At the risk of oversimplifying, the next global recession will be doubly painful for the auto industry. A Chinese slowdown will hurt on a pure unit sales basis while the right-sizing of U.S. per capita car ownership will drag down sales to a greater extent than prior periods of economic expansion. Consider yourself forewarned on that front.

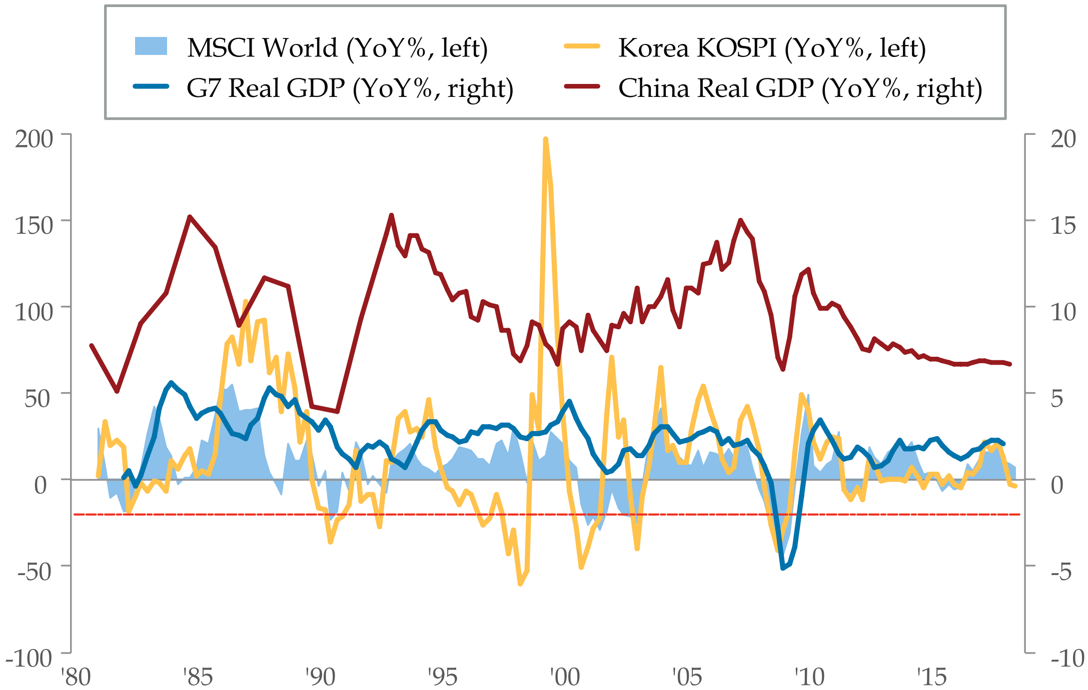
As for that other major consumer purchase, housing, the data are all over the map and make comparisons difficult, especially in the Eurozone. The best holistic view can be gleaned from the latest data from the International Monetary Fund (IMF). Driven by – you guessed it – credit, global house prices have surpassed their U.S. housing bubble peak levels. In most countries, housing prices are growing faster than incomes and rents. In other words, outside a handful of hobbled economies combatting secular challenges (Greece, Italy and the Ukraine are screaming bargains), housing is out of control expensive all over again.

Cracks in the edifice have begun to shake major markets worldwide. Home prices in Beijing, London, Manhattan, Sydney and Toronto have abruptly turned south. Think of these as parallels to the Sand States in the United States before home prices crashed in the U.S. These are the markets that have benefited the most from speculative money flows as was the case on U.S. coasts in the housing bubble years.

The IMF issued a warning at the end of July that speaks to the damaging effects of global QE on residential real estate. As per the recent Bloomberg article that detailed the report's findings: "Tax changes to damp demand, values out of kilter with affordability and tougher lending standards have combined to undermine the market. **That could have wider implications because the world's wealthy have been buying homes on multiple continents, meaning a downturn in one country could now pose more of a threat to markets elsewhere.**"

Unlike housing, developed world stock markets are showing amazing resilience. But even this bastion of speculative excess has begun to flash yellow. Macro analysts have long looked to Korea's stock market as a leading indicator for global growth. The Kospi Index is heavy on the technology and industrial stocks of massive multinational firms. It is thus viewed as a global bellwether for global trade and planned capital expenditures. As you can see, the Kospi has not yet hit bear market territory. But the flirtation does validate the slowdown that's becoming increasingly evident in developed markets.

The Korean Kospi Stock Index Issues a Warning



Source: Bloomberg, China National Bureau of Statistics, Haver Analytics

Echoing the nascent slowing in its larger economic counterparts, in June, South Korean Industrial Production unexpectedly reverted back to negative territory over the last year. And both its manufacturing and service sector surveys disappointed.

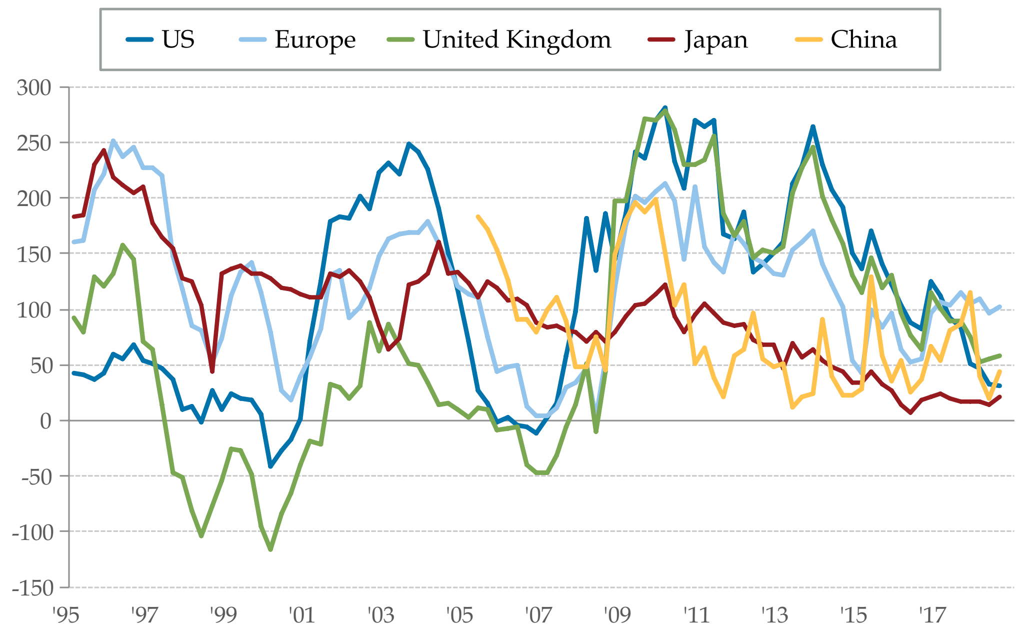
Before the gnashing of the teeth begins, yes, it's patently apparent that the Kospi can go into full contraction mode and not drag the global economy with it. The point of this week's vast exercise is to illustrate — across a wide array of indicators -- where the global economy is in the business cycle.

If you're looking for precision, you need a global yield curve, which sadly does not exist. The next best thing is to compare the spread between benchmark short and long-maturity bonds in the world's biggest bond markets. The greatest emphasis should, of course, be placed on U.S. Treasuries given they comprise the world's deepest and most liquid bond market.

The persistent U.S. yield curve flattening is a late-cycle phenomenon. But without inversion, we can't start the countdown clock on the business cycle. U.S. flattening is influencing other markets, like the U.K. and China, while the relative steepness in Europe and relative flatness in Japan speaks to the differences between ECB QE and BoJ Yield Curve Control (YCC).

Continued flattening should not be feared because it is consistent with a falling unemployment rate. Yield curve inversion, on the other hand, will be feared despite "this time is different" theories. When inversion occurs, expect a bottoming process in unemployment to happen in concert, also a late-cycle phenomenon and precursor to recession.

Don't Fear Late-Cycle Flattening, Fear Inversion



Source: Bloomberg, Japan MoF

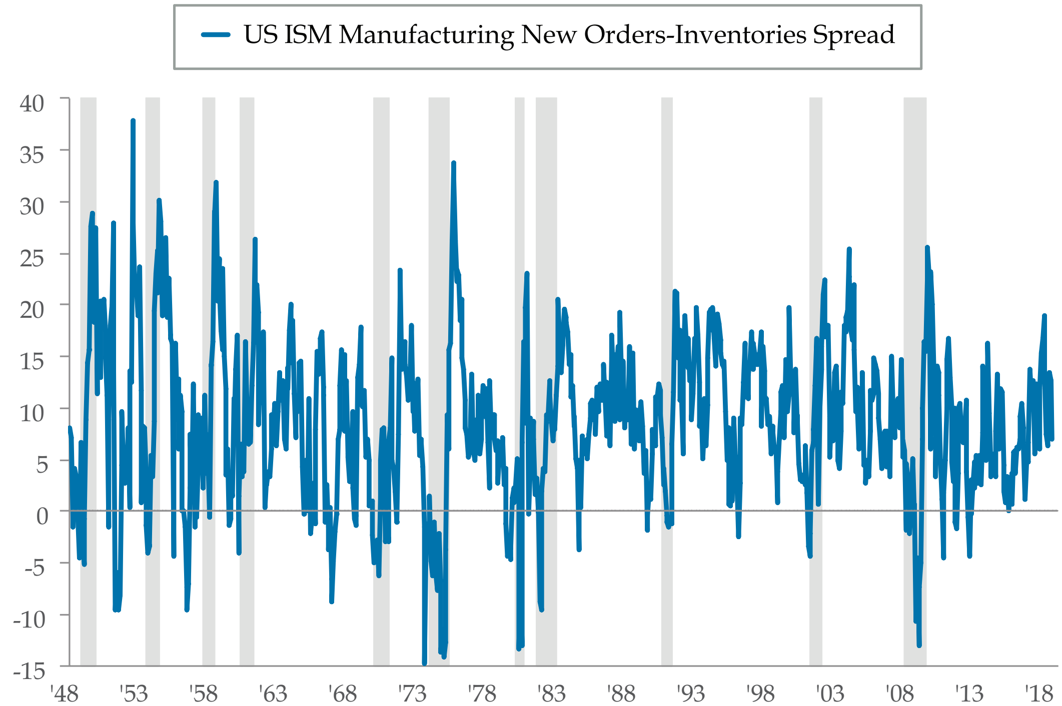
As for the incessant media coverage of why yield curves don't matter backed by reams of Federal Reserve staff papers, this excerpt from a recent Research Affiliates (RA) distills the nonsense in succinct fashion:

"In simple terms, our international evidence suggests that the slope of the yield curve is the steepest when the economy is rebounding after tough times and is close to flat or even inverted when the economy is entering a period of subdued growth following exuberant times. **The key insight is that the yield curve is a richer predictor of more than just recessions.** First, not all correction phases eventually result in a recession, yet a flattening of the curve should indicate, at a minimum, a loss of economic momentum. Second, macro rebounds can be detected by above-average slope levels."

One point of clarification: what RA calls a "correction phase" refers to the curve nearing inversion. In the case of the U.S. economy, yield curve inversions have never failed to presage recession though the lag time between the moment of inversion and recession varies from months to as protracted as two years.

A separate U.S.-centric indicator that tends to be a harbinger of global growth trends is contained within the Institute for Supply Management manufacturing survey. A favorite of equity strategists, the difference between New Orders and Inventories tends to lead the broad index level by three months. If inventory levels exceed demand, companies no longer have the need to replenish supplies which removes a critical source of support for GDP. The deeper the level of negativity between these two sub-indexes, the greater the drag on economic growth.

For Now, the Inventory Build Looks to Continue

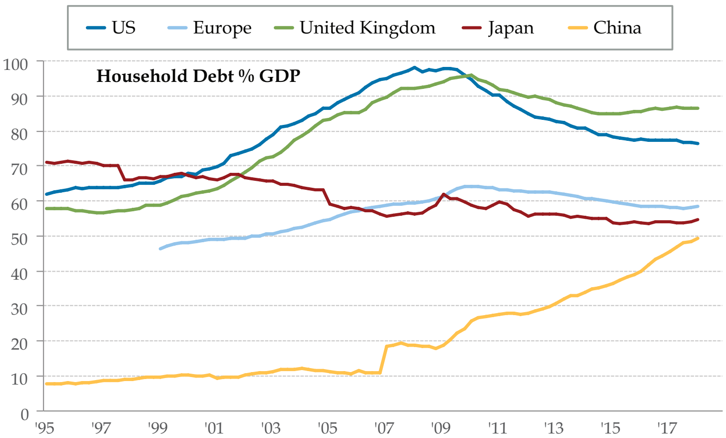


Source: ISM. Recessions shaded.

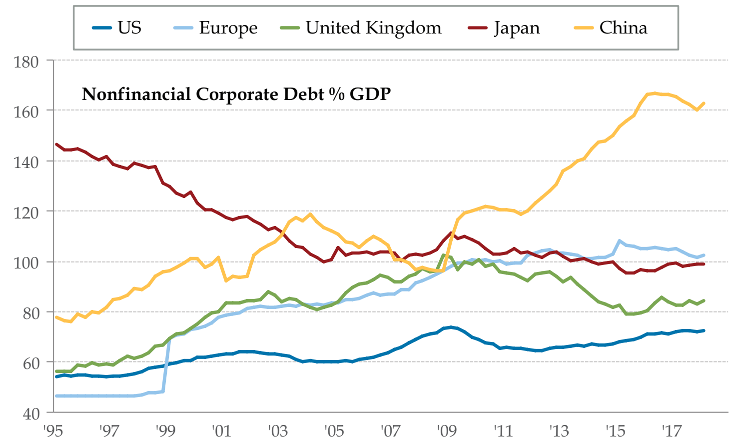
The current differential between the two remains positive but is well off its highs. The current bout of gap-narrowing will give markets more pause given the fiscal reforms have juiced the economy beyond its potential. That said, at 60.2, New Orders is still solidly in in expansion territory. But the level is off its highs and now sits at the lowest since May 2017.

We are told the one factor that need not concern us is global debt levels. Why quibble with $250 trillion in debt if central banks can monetize it out of existence? This is a subject that has been covered extensively in these newsletters. The bottom line is that this theory has yet to be tested and fail. Perhaps you should judge whether debt among the big boys of money printers is problematic for yourself using these next four charts to guide you.

Will the Next Round of Global QE Diffuse the Debt Bomb?



Source: IIF



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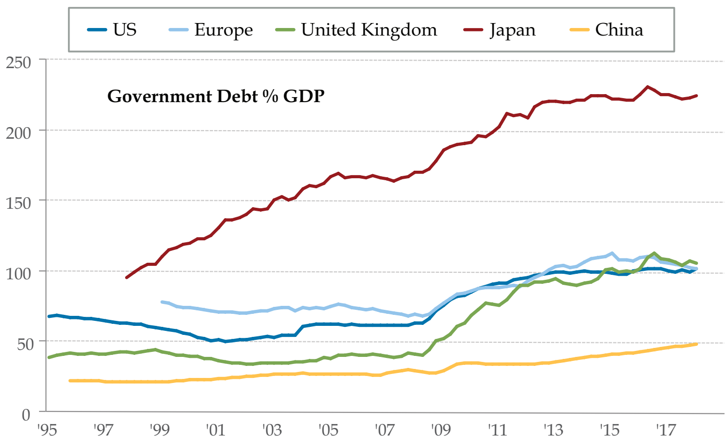

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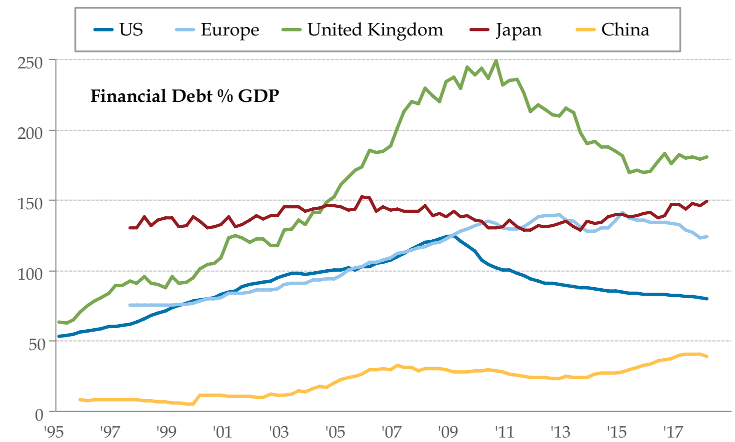

Source: IIF

For now, the opposite of money printing is taking place. That, according to JPMC strategists, is the "rub": "The problem of Quantitative Tightening is still to come next year, precisely when the risks from conventional tightening are highest because the Fed should be taking policy to restrictive by late 2019."

The working assumption is that the bond between excesses and central banks is unbreakable. But what of the day when the pain threshold is breached, and control is lost? Most say such a development is an impossibility. A true destruction of the unholy union between central banks and financial markets implies the bond could never be forged anew. For the world economy, which appears to be in the last throes of the current expansion, it would feel as if Mercury was to stay in retrograde indefinitely. As for risky asset prices, tail risks are by definition unpredictable. It is safe to deduce that "fat tail" will be redefined when the bell curve alarm bell finally rings.