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The notion of a natural rate of interest has been a holy grail for economists

Wicksell's great insight was that economic cycles are driven by divergences between the natural rate of interest and the market rate

Of Wicksell And Fed Fallacies

Let's start with the great Wicksellian "insight".

Knut Wicksell, the influential late nineteenth century Swedish economist, had a beautifully simple idea: at any given time, there are two interest rates: the "natural" or optimum rate (which we can only infer) and the actual or market rate (which we can see). Business cycles arise from periodic divergences of the market rate from the natural rate.

- The notion of a "natural rate of interest" has proven a holy grail for economists of all stripes and Wicksell defined it as the rate at which savings and investment tends to balance. Over many years, I have argued that the natural rate can be approximated by the economy's nominal growth rate. To be sure, I don't like GDP as a measure of economic output, but for the purpose of this study I will use US nominal GDP growth as a proxy for the "natural" rate on the basis that it's better to be roughly right than precisely wrong (Keynes).
- Next up is the "market rate" or the rate at which people can borrow. I will use the US treasury bill yields, or alternatively the yield on Baa bonds. To distinguish the two rates, think of it this way; treasury yields reflect the rates that the central bank, in its great wisdom, believes to be the correct one, while Baa bond yields reflect the level which the market believes to be true.

Wicksell postulated that entrepreneurs should assess an investment by comparing its return on invested capital with the economy's natural growth rate. Good investments are made when the former exceeds the latter. Of course, few investors are armed with this precise information, so in reality they assess a venture's likely ROIC and compare it with the prevailing market rate of interest. Hence, during periods when market rates are set too low, the public is duped into thinking that investments are "profitable" even though the market rate is, in fact, offering a false signal about the economy's true growth rate.

Over time, the opportunism of financial investors increases the demand for money through escalating leverage, so that the market rate tends towards the natural rate. This, in turn, threatens the profitability of investments made during the easy credit period. As the cycle turns, the process of unwinding leverage forces the market rate above the natural rate and a recession ensues. Suddenly, past investments look terrible, especially the ones that were made when interest rates were too low.

Looking back on such periods, it invariably turns out that "cheap" money was used not to invest in new productive assets, but rather to buy relatively unproductive assets using an unjustified low cost of capital. The resulting speculation has rarely boosted the stock of capital; rather, those who could borrow got richer at the expense of the broad population. Does any of this sound familiar to present day minds?

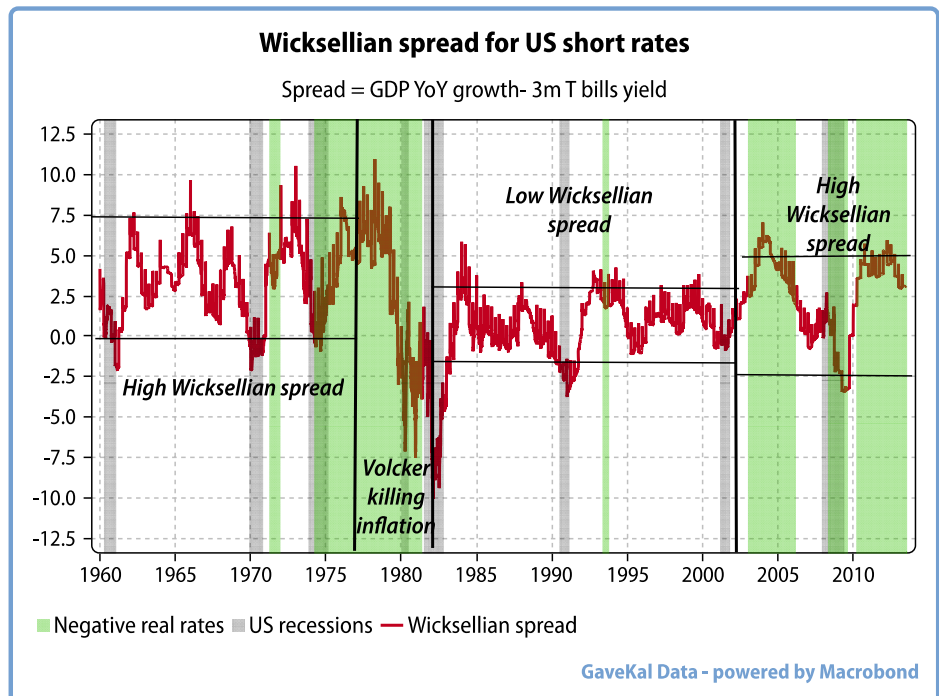
Of Wicksell And Fed Fallacies

The Idea of a Wicksellian Spread is a useful way to assess the consequences of monetary policy choices

Consider the spread between the Wicksellian natural rate of interest and US short rates

According to Wicksell, the job of a central bank was to avoid booms and busts by seeking to direct the market rate as close as possible to the natural rate. In order to stop mal-investment and a resulting destruction of capital, the two rates should not be allowed to diverge for any length of time. After all, any policy which shrinks the stock of capital directly reduces productivity growth, which is the driver of the economy's structural growth rate (more on this later).

This is a simple theory, whose main assumption is that the Wicksellian "natural" rate for the most part equates to the nominal growth rate of economic output. **My approach is to compute the spread between the rate of US GDP growth and different costs of money. I call these "Wicksellian spreads"** and in the following pages, I assess the relationship they have with a range of economic and financial variables.



Firstly, consider the spread between nominal US GDP growth (the "natural" rate) and US short rates. Remember, if the spread is strongly positive it means that market rates have been set too low and a bubble will likely follow. A negative spread means that short rates are above the natural rate, and so are probably too high. Since 1960, it can be seen that the US has gone through four distinct periods of management of short rates:

- 1) From 1960 to 1980, short rates were maintained way below the nominal growth rate of the economy on the (mistaken) belief that this favored growth. The refusal to let market rates rise toward the natural rate was so intense during the inflationary 1970s that real rates were almost constantly negative. As a result of these policy settings the US experienced multiple bubbles and four recessions between 1970 and 1982.
- 2) Then we had Paul Volcker's attack on the post-WWII policymaking consensus that aimed to kill inflation expectations by allowing short rates to go as high as necessary to do the job.

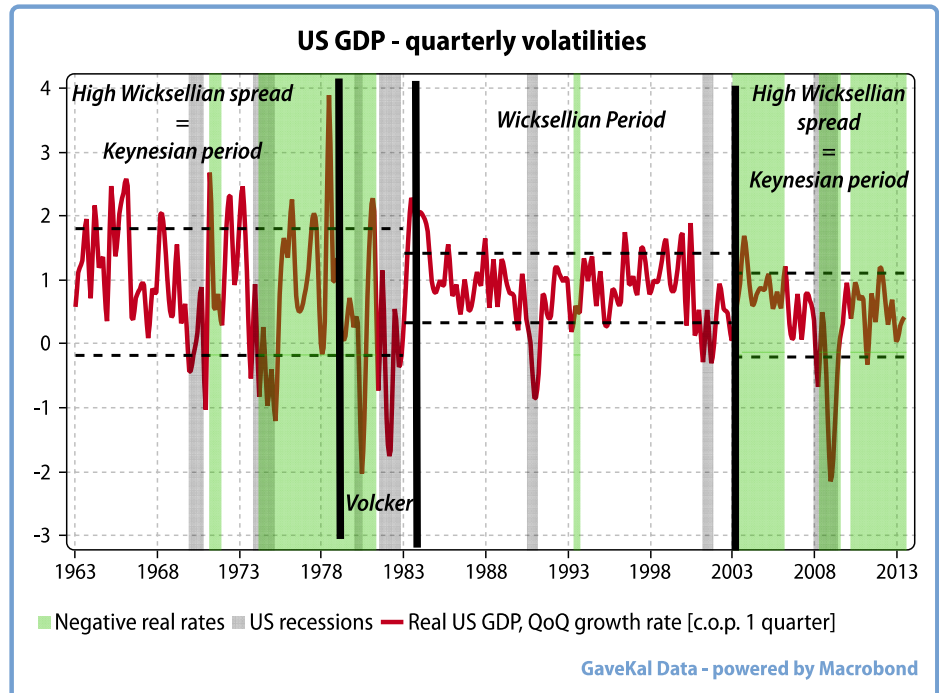
Of Wicksell And Fed Fallacies

We see distinct periods when the Fed thinks it knows better than the market

When market rates are kept significantly below the natural rate, economic output is far more volatile

- 3) There then followed a 20 year period (1981-2001) when Wicksellian spreads were kept in a tight range, although importantly, the spread was permitted to go negative (i.e., the market rate of interest rose above the economic growth rate) during periods of excess. Put another way, the Fed accepted the pain of a short term crisis to avert a bigger problem down the track. The central bankers remembered the 1970s recessions, and their actions were obviously rule-based.
- 4) In 2002-03 the US returned to an “abnormally low” interest rate environment to stimulate growth, and we have largely stayed there.

Hence, I label the first and fourth periods as times the Fed “knows better than the market.” This is an extraordinary proposition. After all, could you imagine a room full of Fed economists agreeing that price controls worked well? And yet they all believe in their ability to direct the one price that is within their power to control. **My only explanation for this intellectual disconnect is hubris.**



Next, let’s consider economic variables and their relationship to the Wicksellian spread. Firstly, the volatility in the growth rate of US GDP from one quarter to the next.

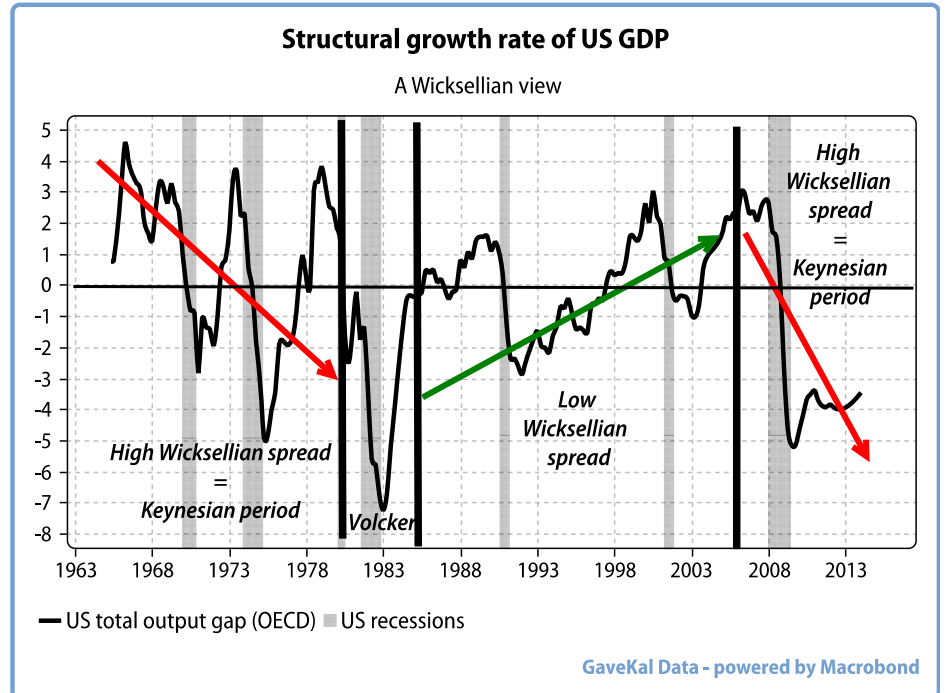
The result of keeping market rates decisively below the natural rate has been a constant cycle of booms and busts, some of which were extremely severe such as 1974, 1981-82 and 2008-09. During such periods, the volatility of quarterly GDP figures was about twice that seen in “Wicksellian” periods.

Such an environment makes it harder to run a business as the constant manipulation of the cost of money increases uncertainty. For the same reason, stress in the banking system increases, especially outside of the US, as is currently highlighted by the obsessive focus on the potential tapering of the Fed’s bond purchases. Perhaps such additional risk would be worth the trouble if the policy ultimately delivered higher growth. Unfortunately, the chart overleaf shows that sustained periods of “abnormally low rates” corresponds to lower structural growth.

Of Wicksell And Fed Fallacies

During “Fed knows best” periods of policy, the output gap tends to expand

The origin of a low structural growth rate is capital misallocation stemming from mispriced money



The tendency to low structural growth is reinforced by considering output gap measures prepared by the OECD. During “Fed knows best” periods of policy, the output gap sees a structural expansion which means growth is below the optimum rate. By contrast, in “Wicksellian” periods the output gap can be seen to have declined and then stabilized at about zero—a level which means the economy is growing close to its potential growth rate.

As an aside, true believers in low rates as an economic stimulant look at the worsening output gap and say there is no inflation risk, and so insist that rates must not be raised. What they miss is that growth does not derive from cheap money, but an efficient use of capital and that requires normal rates and not low rates. Negative real rates do not create inflation; they prevent a proper allocation of capital and thus lead to an expanding output gap; this can be inflationary (the UK in the 70's) or deflationary (Japan in the last 15 years).

Understanding why we get locked into periods of low structural growth is deceptively simple when using a Wicksellian intellectual framework. In a boom initiated by the wrong cost of money and accompanied by a massive increase in leverage, much capital is invested in existing assets using *borrowed* money at far too low a cost.

When the bust arrives these assets return to their original values, while the debt stays at its elevated levels. As a result, the stock of capital, net of debt, is lower than it was at the beginning of the cycle. And less capital to play with means the structural growth rate must go down. This is equivalent to saying that the Wicksellian natural rate is declining. And when the natural rate of growth contracts, the result is that corporate profits fall, investment slows, employment slumps and savings shrink.

This bad sequence can be avoided by keeping interest rates as close as possible to the natural rate. As a result, the economy is subject to repeated small and gradual adjustments, rather than a sudden jolt of the type that follows a major bust. Indeed, when short rates are kept close to the GDP growth rate, the incentive to fund asset purchases with debt is minimized

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A Wicksellian world tends to be unstable on a day-to-day basis...

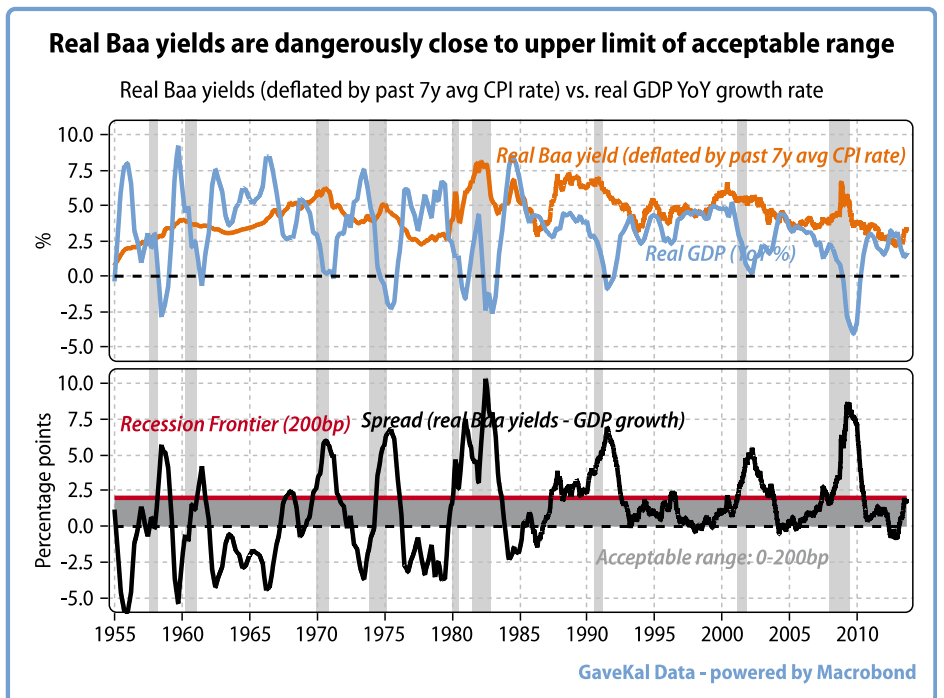
...however it tends to be less fragile and more resilient in the longer run

as the assets tend to be set at the right price. In such an environment, bubbles struggle to take hold as leverage does not generate excess returns.

In such an environment, the only way to get rich is to invest in productive assets. To borrow a concept developed by Nassim Taleb, a Wicksellian policy leads to a world that is unstable on a day-to-day basis, but robust on a long term basis (let's call it capitalism). A policy of excessively cheap money leads to an apparently stable environment that turns out to have extremely fragile underpinnings (let's call it socialism).

An obvious counter-factual dilemma for “Fed knows best” proponents is that recessions are a constant feature of periods when rates are set abnormally low. How so? The corollary is surely that a central bank need only maintain negative real short rates to ensure eternal prosperity! Alas, even the omnipotent Fed cannot control all interest rates, especially those longer-dated maturities where private sector preferences remain influential. Hence, **it is probably at the long end and in the private sector that market prices are closest to the natural rate.**

This supposition led me to build a “Wicksellian Spread” between the US GDP growth rate in volume and the Baa real long bond yield which is probably the best proxy for the cost of capital in the US economy.



The chart above clearly shows that each US recession since 1954 has been preceded by long rates moving above the GDP growth rate by at least 200bp. Moreover, no recession has occurred with a structural Wicksellian spread below 2%. Put another way, recessions occur when the private sector decides to revolt against the asinine policies followed by the central bank. This seems to confirm Wicksell's intuition that when the market rate moves above the natural rate a recession must occur.

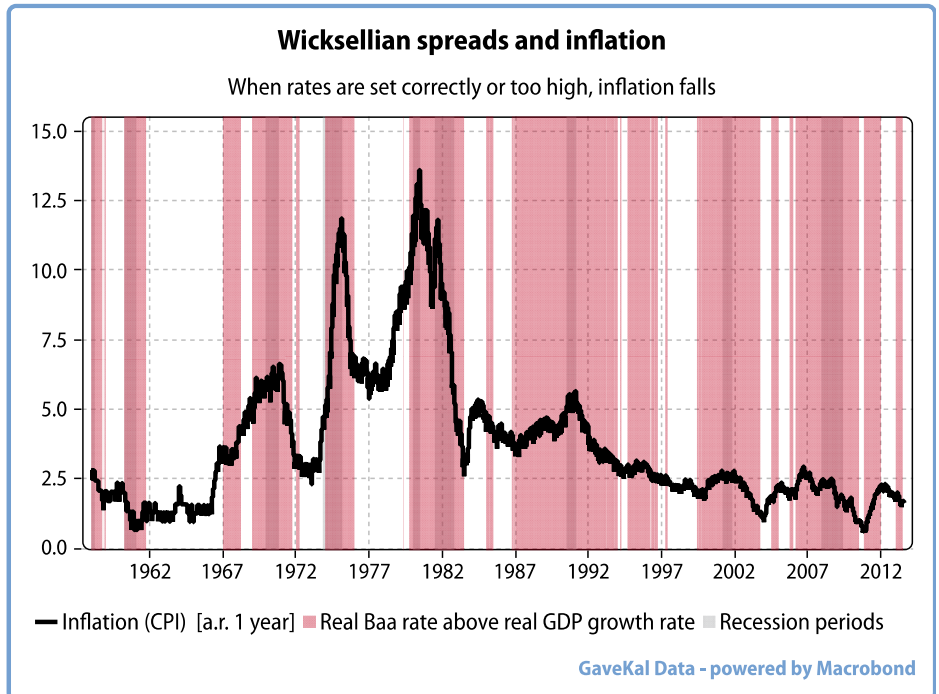
The reason this happens is that when long rates exceed the growth rate by more than 200bp, entrepreneurs are not rewarded to invest. Instead, the benefits of abnormally low rates accrue to the rentier, especially the leveraged rentier. Consequently, the economy moves ex-growth.

Of Wicksell And Fed Fallacies

Consider the signaling offered by an inverted “economic yield curve”

When the cost of money moves above the growth rate, prices tend to rapidly adjust lower

The next step in this story is to consider the impact on prices as a result of particular policy regimes adopted by central banks. Again, we see outcomes that Wicksell would have expected. In the chart below, the pink shaded periods correspond to moments when real Baa rates are both set at the correct level, corresponding to the natural rate, and also times when rates are set too high, or above the growth rate (since most readers are accustomed to thinking of growth in real terms, in the following three charts we compare real yields and real GDP growth). By contrast, the white shaded areas show periods when the price of money was maintained below the economic growth rate. The result is a rise in the prices of certain goods and services, which often has a knock-on effect as expectations adjust as to which prices might surge during the boom phase of the inevitable boom-and-bust cycle.



When the cost of money moves above the growth rate, (pink area), these artificially bloated prices crash so much so that in every “pink period” since 1954 consumer price inflation has reacted by declining precipitously. Today, market rates are above the natural rate and so inflation should continue to fall. Of course inflation is already very low so the implications are worrying. The concern is that the US is moving toward a Japan-type deflation situation. **And this, of course, brings us on to the question of how financial markets are reacting to such a distorted world.**

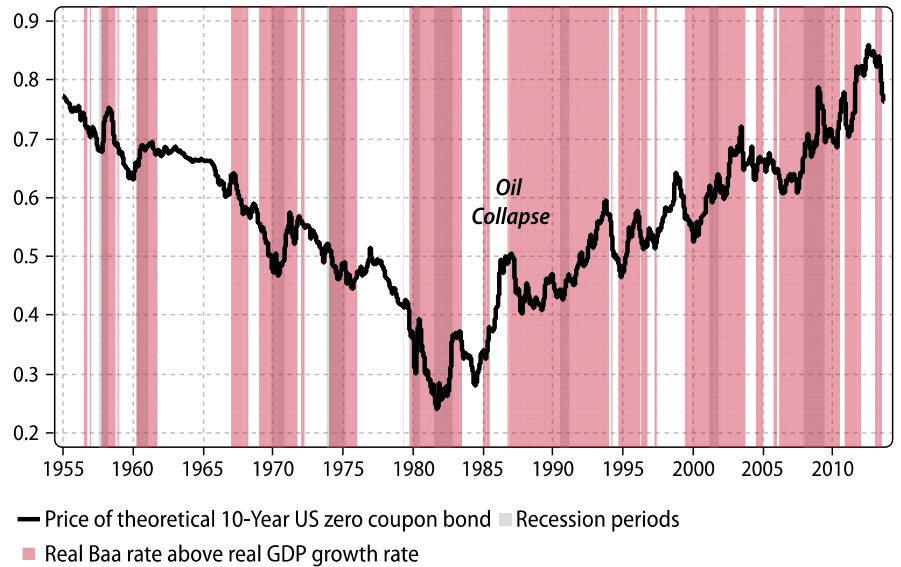
Consider first the bond market as shown on the chart overleaf. During “Fed knows best” periods (white on the graph), the price of a theoretical 10-year zero coupon treasury bond has declined. The exception was in 1985 when the oil price fell 66% in a few months, freeing large amounts of liquidity. When the Baa real rate moves above the growth rate (market rate above natural rate), the price of the zero coupon moves up with a lag of a few months. This has worked every time since 1955 from the beginning to the end of the period. What worries me is that since the end of May this year, we have moved into such a period.

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When the market rate moves above the natural rate, the price of a zero coupon tends to move higher—we are in such a period

A bull market for me is when equities outperform long bonds

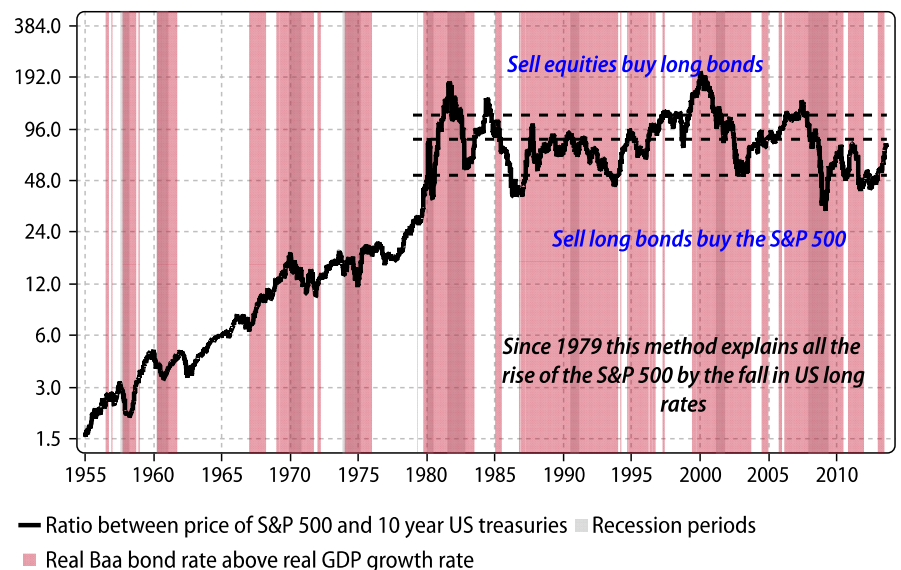
Wicksellin spreads and bond market performance



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In assessing the stock market we use the ratio between the S&P 500 and the price of a 30-year treasury. **I have always defined a bull market as a period when equities outperform long bonds.** By this reckoning a bull market happens when the black line in the chart below is rising. In Wicksellian periods the stock market underperforms the cost of money (the long bond) with a one year lag. This is rational as profits lag in proportion to the rise in interest rates and it takes about a year for market participants to realize that the music has stopped. By contrast, bull markets in equities tend to occur when the cost of money is below the growth rate; i.e., when the market rate is below the natural growth rate.

Wicksellian Spread and relative US equity market performance



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Ben Bernanke's great manipulation of the cost of money has clearly failed

Investors face a challenging environment—it is time to get defensive

Conclusion

My Wicksellian framework of analysis concludes that Ben Bernanke's great experiment in central planning will fail as did similar policies pursued by Arthur Burns and Alan Greenspan. This is because the only discernible goal of the current Fed chairman is to keep the cost of money sufficiently low to allow the emergence of a new and improved bubble. For Bernanke, the solution to the damages wreaked by previous bubbles, caused by money being too cheap, is to create another bubble. His problem is that the private sector seems to have bitten back since the cost of money is on the rise. The result of deregulated financial markets is that even the mighty Fed has been thwarted—the bond vigilantes have fought back... and the markets always win.

Investors face a challenging environment. An artificial asset bubble created by incorrect US monetary settings looks over-cooked. In the final analysis, the only cost of money which matters within a capitalist economy is that dictated by private sector. And as US long rates rise, we are moving to a level where past bubbles have started to deflate.

In such a world, **chasing short term returns is by far the most dangerous strategy** since the probability of a black swan event occurring is not small. As a result, I want to reduce the volatility of my portfolios; own US dollar cash, sell calls, buy puts, hedge my equity positions with US long-dated treasuries and high quality corporate bonds. Among equities, I only want companies which have zero debt and positive cash flow.