



# FIRE, THEN ICE

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#### THE FIRE AND ICE DEBATE

In the late 1990s two luminaries of the Morgan Stanley research department engaged in a debate that set the agenda for the macro conversation for years to come, and which is as relevant today as it was then. On one side of the debate, the great and sadly now much missed Barton Biggs posited that the world would freeze over as a glut of cheap Asian labour hit the world market; on the other, the brilliant Steve Roach, then the firm's chief economist, now a senior fellow at Yale, pointed to the Philips Curve and public deficits in the west, and predicted an inflationary bonfire. They called the debate Fire and Ice, inspired by the Robert Frost poem:

Some say the world will end in fire; Some say in ice. From what I've tasted of desire I hold with those who favor fire But if it had to perish twice, I think I know enough of hate To know that for destruction ice Is also great And would suffice

# THE STOCK-BOND CORRELATION

Why does this matter now? Well, stocks and bonds are behaving very strangely these days and watching their interaction can potentially tell us a lot about the inflation regime. For nearly the last 20 years, since 1998, stock prices and bond prices have been negatively correlated – meaning, obviously, that when stock prices go up, bond prices go down and vice versa. With both stocks and bonds currently at or very near all-time price highs it may seem counter-intuitive to say that they are acting in opposition to each other, but broken into short periods that is what we have seen.

For example, from June 2015 to June 2016 stocks fell and bonds rallied. Then, after June 2016 the reflation trade was on, equities rallied and bonds fell. There was a negative stock-bond correlation throughout both periods.

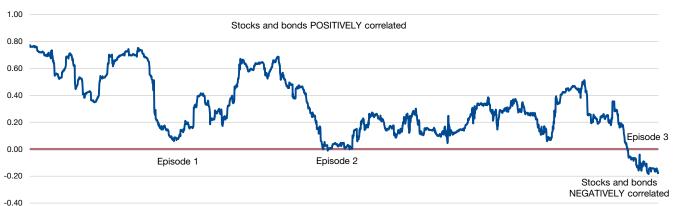
# **BREAKING A 250 YEAR RELATIONSHIP**

To show how unusual this is we can call on data from Matt Roberts-Sklar at the Bank of England in the excellent Bank Underground blogsite. He has shown, using data-sets spliced together from various sources, that in the UK at least, stocks and bonds moved up and down together throughout the 250 years prior to the start of this century! Chart 1 below shows this via the ten year rolling correlation of UK consols (perpetual bonds first issued in 1752) and equities. What is immediately clear is that there has never previously been a period when equities and bonds acted inversely to each other in all of that time – until recently.

## HISTORICAL PRECEDENT

There are interesting clues in these data too. Particularly of note are the only two extended periods when the stock-bond correlation fell close to zero, namely 1803-1821 and 1861-1895. (It also briefly approached zero for a few months in 1974 but this was a highly unusual period brought on by an extreme exogenous shock, namely the Yom Kippur war and first oil crisis of 1973 – the FTSE hit a trough valuation of 2.9x earnings and the pension funds were directly ordered by the Heath government to buy equities. Immediately post the shock the stock bond correlation quickly went back to new highs as inflation accelerated.)





-0.40 1764 1774 1784 1794 1804 1814 1824 1834 1844 1854 1864 1874 1884 1894 1904 1914 1924 1934 1944 1954 1964 1974 1984 1994 2004 2014 What are the similarities between those 19th century episodes and the last 15 years? Table 1 below shows summary statistics.

In all cases inflation decelerated and bond yields fell, and in all cases bond yields fell to below prevailing trend nominal GDP growth. Furthermore in all three cases the peak positive stock bond correlation roughly coincided with the peak of the yields, but importantly the trough in the stock bond correlation occurred almost exactly on the trough in the bond yield. In other words, as bond yield fell from high or relatively high levels, the stock bond correlation fell and as bond yields troughed out the stock bond correlation troughed. Now these are just three episodes but it does seem crystal clear from the trends that, historically, higher bond yields equated to a positive stock bond correlation and lower bond yields to a lower or zero or even negative stock bond correlation.

So it works in 250 years of practice, but does it work in theory?

Many serious people argue that there is or should be no relationship between bond yields and equity valuations – and therefore no structural correlation between stocks and bonds.

For our simplified take on the theory of this, see table 2.

Table 1. Three episodes of stock-bond de-coupling in the UK in 250 Years

Episode 1	Stock-bond correlation		10yr avg inflation rate		Bond yield	
Napoleonic wars	Start	End	Start	End	Start	End
Date	1803	1821	1801	1823	1797	1824
Level or rate	0.74	0.07	9.70%	6.80%	5.90%	3.30%
Episode 2	Stock-bond correlation		10yr avg inflation rate		Bond yield	
Victorian boom	Start	End	Start	End	Start	End
Date	1861	1895	1868	1895	1865	1896
Level or rate	0.66	0.06	2.20%	-0.50%	3.35%	2.06%
Episode 3	Stock-bond correlation		YoY inflation rate		Bond yield	
21st century	Start	End	Start	End	Start	End
Date	1986	2016	1980	2015	1981	2016
Level or rate	0.51	-0.17	22.10%	1.00%	13.01%	0.52%

Sources: Janssen, Nolan, Thomas (2002) "Money, Debt and Prices in the UK"; Mitchell (1988). "British Historical Statistics"; Office of National Statistics; Roberts-Sklar, M. Analysis by GLG Partners LP.

#### Table 2. 'Should' stocks and bonds be correlated?

The theoretical relationship between the two asset classes is determined by the interaction of bond yields, growth rates and the equity risk premium, as determined by Gordon's growth model:

$$p = d/(r-g)$$

Where p = stock price d = dividend per share (yr 1) r = discount rate for dividends g = growth rate for dividends

Gordon's model can be re-arranged thus:

$$d/p = r-q$$

#### → dividend yield = bond yield + risk premium - growth rate

and assuming that bond yield and growth rate are the same, simplified thus:

#### dividend yield = risk premium

Which makes a fundamental point about the valuation of equity: that there is no theoretical relationship between the bond yield and the risk premium.

And yet we have just observed using 250 years of data that this is not the case, and that there does appear to be a relationship between the risk premium and the bond yield. Keynes made a similar observation about the positive correlation of interest rates and the general level of prices. Defying the predictions of neoclassical theory, the correlation of interest rates to prices was "one of the most completely established empirical facts in the whole field of quantitative economics". The two observations are not unrelated.

## VISUALISING THE STOCK-BOND CORRELATION

Our simple view is that regardless of whether there is theoretical support for a predictable stock-bond correlation, there is substantial empirical support, and we feel the empirics can quite easily be rationalised. We have attempted a visualisation of this in chart 2 "Fire and ice".

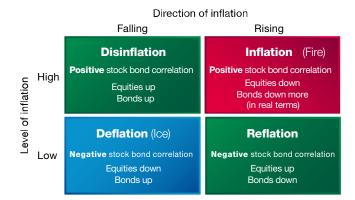
Start in the top left quadrant and work clockwise. We are in the **Disinflation** zone, with high but falling inflation – think 1980, Paul Volcker and 20% policy interest rates. Future inflation expectations fall with high current real interest rates. Less inflation means more real return to bond and equity holders: both asset classes rally. There is a strong positive correlation as markets price out inflation.

Then at a certain point, as inflation falls, markets switch from pricing <u>out</u> inflation to pricing <u>in</u> deflation. **Deflation** is terrible for equities (as we saw in 2008), and perfect for bonds. The stockbond correlation switches from positive to negative.

Central banks and other policymakers then attempt to stimulate the real economy, rates are cut, QE is enacted, fiscal policy is eased. Eventually, inflation expectations stop falling and start rising. Bond prices fall and equity prices rise. We are in the **Reflation** zone. The stock-bond correlation is still negative, but the directions have been switched as the market prices <u>out</u> deflation by pricing <u>in</u> a little inflation.

Which is all very nice until the market starts to contemplate not a little but a lot of inflation. As we move from the Reflation zone to the **Inflation** zone, the stock-bond correlation flips back to positive, and everything goes down in real terms even if not in nominal terms – there's a lot of inflation. We are back in the 1970s, and Volcker needs to be re-appointed!

#### Chart 2. Fire and ice



#### **IMPLICATIONS FOR EQUITY PORTFOLIOS**

So much for the theory; what does this mean for equity portfolios? We would highlight the following:

- In our view inflation may well accelerate around the world as the policy focus shifts from monetary to fiscal easing.
   Monetary easing is generally good for asset prices. Fiscal easing is good for nominal GDP in the short run (1-3 years).
- 2. As this happens, we believe that the stock-bond correlation will eventually flip from negative to positive.
- 3. We think that the level of bond yield at which this happens will be around the trend growth rate of nominal GDP. What that level is we cannot know for the US somewhere between 3 and 4% seems fair to us between 1 and 2% real GDP growth, 2% inflation is reasonable.
- We believe that until the US ten year is in that 3-4% range, we should welcome rising bond yields and accelerating inflation.
- We would therefore be inclined towards a Value driven portfolio which seeks to avoid higher valuation, DCF valued stocks.



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Ben is the lead Portfolio Manager of the GLG Euro Equity and Global Equity strategies (since August 2012) and of the GLG Balanced Managed and Stock Market Managed strategies (since March 2009). Previously he was Man GLG's ('GLG') chief equity strategist. Prior to joining GLG he spent 11 years at Morgan Stanley, the last nine of those years on the top II and Extel-rated European Equity Strategy team, which he co-headed in his final three years at the firm as a Managing Director. He was educated in modern languages at Durham University, UK. His approach to investing is both top-down and bottomup, with macro views influencing portfolio positioning.

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