

Cracking the Financial Code: Unveiling Spread-Yield dependence.

This report seeks to investigate the relationship between European credit spreads (difference between HY vs. IG indexes) and Bund yields between 2001 and 2015. Specifically, the study aims to shed light on the nature and magnitude of the association between these two variables, and to offer insights into the implications of this relationship for the investment process. By conducting a comprehensive analysis of the historical data on credit spreads and bond yields, this study seeks to inform and guide investment decisions.

I. Temporal Dependence Analysis between Spreads and Yields

In Fig. 1, Yields (Advanced by 8M) and Credit Spread evolution, and in Fig. 2, the corresponding Z-Scores. The Z-Score is a measure of how many standard deviations a data point is from the mean. Second figure shows better synchronization in the evolution of both time series since the units are identical.

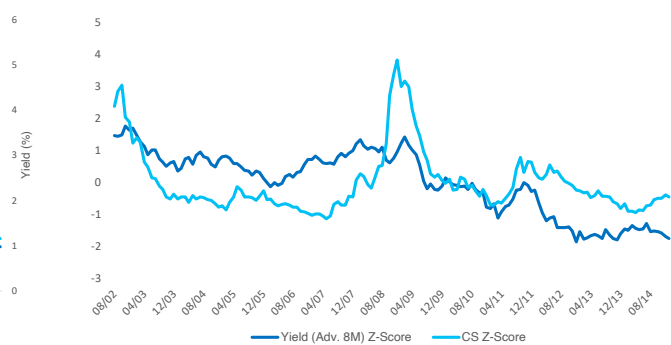
FIGURE 1

Yields and Spreads goes hand in hand...



FIGURE 2

...As shown by Z-Score metric



Yields and credit spreads seem to move together, with a moderate correlation coefficient (about 40%) and a validated cointegration test (95% confidence), indicating a long-term relationship between both series. While correlation measures short-term relationships, cointegration tests for long-term co-movement. Our findings suggest that lagged 8M Bund yields and credit spreads are related, and this synchronized evolution is likely to persist over time.

II. Unraveling the Macroeconomic Drivers

The result found in the previous section is not just a numerical fact, the relationship between government bond yields and credit spreads is driven by the underlying economic environment affecting both types of securities.

On the one hand, an increase in government bond yields is indeed typically driven by factors such as rising inflation expectations, a need to cool off an overheating economy, and heightened country risk. This increase in yields often precedes an uncertain economic environment and a restrictive monetary policy, leading to an increase in the yield spread between investment grade and high yield bonds, as investors demand higher returns from lower credit quality firms in the face of an increasing default risk. This situation is observable in past economic crises such as the Global Financial Crisis of 2008 and the European debt crisis of 2012.

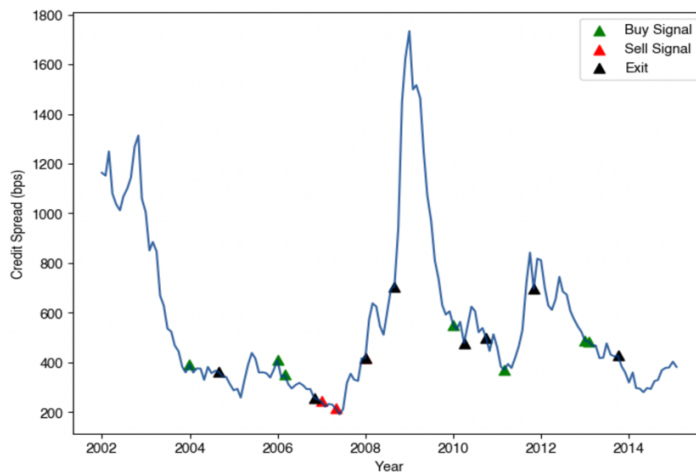
Conversely, a decrease in interest rates is typically accompanied by a period of economic expansion and lower credit risk, which in turn leads investors to perceive lower credit risk for lower credit quality firms. As a result, investors may demand a lower premium over investment grade firms, resulting in a decrease in the yield spread between investment grade (IG) and high yield (HY) bonds.

III. Trading Strategy

Based on the previous findings, it is evident that sovereign yields provide a reliable prediction of credit spreads in 8 months. We can exploit this relationship in the following manner: if the yields are at an excessively high level (as measured by a dynamic Z-Score metric that indicates short-term mean deviation from long-term levels), a long position in investment-grade (IG) bonds and a short position in high-yield (HY) bonds are recommended. Conversely, if the yields are at an excessively low level, the opposite strategy is suggested. In Fig. 3, buy and sell signals for the strategy, exit signal 8 months later.

FIGURE 3

Buy-Sell Signals



This trading strategy has been successful, as the vast majority of long exposures to the credit spread are followed by exiting the trade at a lower level, conversely for short exposures, where we managed to benefit from the market stress in 2008. The only point at which our strategy appears to have failed is in 2012, during the European debt crisis. This may have been caused by an exogenous shock of a fundamental nature on the markets.