Translating cointegration into profits in the financial markets

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ABSTRACT

Cointegration is a statistical property that describes a stable, long-term equilibrium relationship between multiple non-stationary time series.

This talk explores the utility of cointegration as a foundational concept for developing quantitative trading strategies. We initially begin by establishing a theoretical groundwork by identifying key concepts such as mean reversion and time series data, leading to a comprehensive explanation of cointegration itself. We then detail the Engle-Granger method as a practical test for identifying cointegrated relationships between financial instruments. The core of the presentation focuses on the application of this theory: first, by defining the 'spread' as a linear combination of two cointegrated assets, and second, by outlining a systematic strategy to trade this spread as it reverts to its mean by capitalising on the deviations of this spread from its long-term equilibrium. To provide a balanced perspective, we conclude with a critical discussion of the inherent limitations and challenges faced during the implementation of cointegration-based strategies.