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The Golden Ratio in Financial Markets: Analysis and Implications

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Abstract: *The paper examines how and to what degree the Golden Ratio (phi 1.618) works (or not) in the financial markets by thoroughly evaluating how the concept has been applied in the technical analysis, portfolio construction and capital structure choice. Golden Ratio has become subject to very attention in the study of modern finance as it can be applied both to technical analysis and to optimization of capital structures, where a positive correlation has been demonstrated to exist between the element of structure driven by golden ratio and the financial figures of the firm. The three main areas of application considered in this research are the use of Fibonacci retracement levels as a way of technical analysis, the allocation of portfolios based on the theory of the golden ratio and the best capital structure with the set of data related to the most important equity markets. We can conclude that even though the Fibonacci uses have little predictive ability as stand-alone indicators, they are helpful in combinations with other technical indicators. Diversified portfolios constructed with golden ratio proportions (61.8 percent equity, 38.2 percent fixed-income), may have potential returns with respect to risk adjustment and portfolio diversification. The analysis is quantitative and refers to the financial data available in the 2010-2024 period, with the consideration of statistic testing and the performance measures assessment. Findings suggest that the use of golden ratio in finance has limited utility when applied as a component of a larger analytical system and should not be applied as a separate predictive instrument. Its results add to the increasing knowledge on financial applications of mathematics and give hands-on advice to investment experts and portfolio managers.*

Keywords: Golden Ratio, Fibonacci Retracement, Portfolio Optimization, Technical Analysis, Capital Structure, Financial Markets, Risk Management

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