

# Application of The-sum-of-the-parts Method to Forecast Taiwan Stock Market Returns

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## ABSTRACT

This thesis applies the sum-of-the-parts (SOP) forecasting method proposed by Ferreira and Santa-Clara (2011) to firm-level equity returns in Taiwan. SOP method decomposes total equity returns into three components (dividend-price ratio, growth rate of net worth and growth rate of price-net worth ratio), makes the forecasts separately for those three components and then sum up the forecasts of each component into the forecast value for total equity returns. We investigate the improvement of forecasting accuracy as measured by mean absolute percentage error (MAPE) and mean square error (MSE) against the historical-average (HA) forecasting method across industries and over 1983/12-2011/12. The empirical evidence shows SOP method with only two components of dividend-price ratio and growth rate of net worth dominates HA method in all cases across industries and over periods with the largest improvement up to 27.9% in average. The results also show that SOP method provides stable forecasting performance compare with HA method during turbulent periods such as Taiwan stock market bubble, Asian financial crisis, Dot-com bubble and sub-prime crisis.

Keywords : Stock Returns、Forecasting、The-Sum-of-the-Parts Method

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