ABSTRACT

The study attempts to understand the performance of three futures pricing models (Cost of Carry Model (CCM), Hemler & Longstaff Model (HLM) and Hsu & Wang Model (HWM)) in Indian markets. The pricing models were developed under various economic conditions and assumptions. The standard CCM was developed under the assumption of capital markets are perfect. HLM incorporates market volatility and derived under the assumption of capital markets are perfect. HWM incorporates price expectation parameter and developed under the assumption of capital markets are imperfect. The study empirically tested the performance of futures pricing models on three stock index futures and forty one individual stock futures of National Stock Exchange (NSE), India. The study examined the impact of Absolute Pricing Errors (APE) on various explanatory factors using regression analysis. The study determines Mean Absolute Error (MAE), the Mean Percentage Error (MPE) and Mean Absolute Percentage Error (MAPE) to measure the pricing performance of selected models.

Overall, the study found that HWM provides best and more accurate pricing performance than HLM & CCM for all three stock index futures and all the forty one individual stock futures. CCM provides better pricing performance than HLM for individual stock futures, but no improvement over HLM for stock indices. HLM which incorporates market volatility as an explanatory factor, provides worst pricing performance than other models for individual stock futures, but provides better pricing performance than CCM for stock indices. HLM fails to provide better pricing performance even for the stocks which have highest volatility. The MAPEs of HLM are higher in magnitude than other two models.

The regression results show that Absolute Pricing Errors of CCM and HLM are positively related to one day and two day lagged pricing errors, implies persistent mispricing. APE of HWM not related to lagged pricing errors, implies no persistent mispricing. Further, APE are positively related to time to maturity, implies absolute percentage errors (APE) increase with the time to maturity. Finally, there are conflicting argument with respect to the nature of relationship between trading volume and absolute percentage errors.

The study strongly suggests investors to prefer HWM and determine the degree of market imperfection for the markets they would like to participate. Market
participants are suggested not to invest in long term maturity futures contracts. Investors are suggested to analyse lagged pricing errors to identify persistent mispricing throughout the sample period. Finally, the role of stock volatility is questioned in order to predict stock futures prices in Indian markets.