Evaluating Dynamic Trading Strategies:
The free lunch was no banquet

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Abstract

We examine the issues of evaluating the performance of technical trading rules applied to daily equity and exchange rates. First, we document the ability of the rules to predict mean, variance and higher moments of returns. Second, we contrast these often used measures with alternates more closely tied to the profitability of the rules, such as excess return on the buy-and-hold strategy and Sharpe ratio. While, as found by others, the evidence of predictability is statistically strong on very long samples of data, that on profitability is weaker. Third, we turn show that for realistic horizons below 10 years, the rules then do not consistently beat the buy-and-hold strategy. Moreover, when we consider measures of persistence in performance, the evidence is further weakened. Last, we incorporate the potential for data-snooping into the analysis. We use genetic algorithms, in a novel way, to quantify the effect of data-snooping in the evaluation of trading rules. We find that at horizons below 10 years, the bias due to data-snooping is so large that no true economic profitability remains. We also show that even sophisticated algorithms would have failed to yield profits in past 20 years. While we agree with others that "the party may have ended", our results show that any prior free lunch was no banquet.

JEL Classification: C12, C15, C63, G14.

Key words: Data mining, Efficient markets, Genetic algorithm, Moving average, Technical analysis, Trading rule.