Abstract

Technical Analysis using systematic pattern recognition:
about Kernel Regression and pattern recognition algorithm

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Technical Analysis (or charting) has been a part of financial practice for many years, but this discipline has not received the same level of academic scrutiny and acceptance as more traditional approaches such as fundamental analysis. One of the main obstacles is the highly subjective nature of technical analysis - the presence of geometric shapes in historical price charts is often in the eyes of the beholder. In this paper, we propose a systematic and automatic approach to technical pattern recognition using nonparametric kernel regression, and we apply this method to a 15 stocks listed in the Korea Stock Exchange (KSE) from 1984 to 2001 to evaluate the effectiveness of technical analysis. By comparing the unconditional empirical distribution of daily stock returns to the conditional distribution-conditioned on specific technical indicators such as head-and-shoulders or double bottoms, we find that over the 17 year sample period,
several technical indicators provide incremental information and may have some practice value.

Key words: Technical Analysis, Nonparametric estimation, Smoothing Estimator, Kernel Regression, Goodness-of-Fit test, Kolmogorov-Smirnov test

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