Technical analysis is a methodological framework of analyzing, primarily graphically, the historical evolution of financial assets’ prices and inferring from this assessment future predictions. Technicians use a variety of technical tools within their trading activities, like filter rules, technical indicators, patterns, and candlesticks. Although most academics regard technical analysis with great skepticism, a significant proportion of practitioners consider technical recommendation within their trading activities. Technical analysis is being used either by academics as an “economic test” of the weak-form efficient market hypothesis or by practitioners as a main or supplementary tool for deriving trading signals.

This book focuses mainly on technical patterns, a topic where existed bibliography usually suffers from critical problems. Books on technical analysis mainly deal with technical indicators, and when referring to patterns, the approach followed is most of times theoretical and descriptive rather than scientific and quantitative. In some cases, only optimal examples are illustrated, which might give the false impression to readers, lacking the required scientific background, that charting is most of the times profitable. Statistical framework for assessing the realized returns is also usually absent. Subjectivity embedded in the identification of technical patterns via visual assessment and various cognitive biases that affect the trading and investment activities of many practitioners place barriers in an unbiased assessment of technical patterns.

The purpose of this book is to deal with the aforementioned problems by approaching technical analysis in a systematic way. This is achieved through developing novel rule-based pattern recognizers and implementing statistical tests for assessing their performance. Our proposed methodology is based on the algorithmic and thus unbiased pattern recognition. The philosophy behind the design of the proposed algorithms is to capture the theoretical principles found in the literature for recognizing visually technical patterns and to quantify them accordingly. The methodological framework we present may prove to be useful for both future
academic studies that test the null hypothesis of the weak-form market efficiency and practitioners who want to embed technical patterns within their trading decision-making processes.

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