Chapter 3
Investigation of the Calendar Effect: Second-Order Stochastic Dominance Approach

Murat Isiker
https://orcid.org/0000-0002-1327-9982
Istanbul Sabahattin Zaim University, Turkey

Umut Ugurlu
https://orcid.org/0000-0002-6183-969X
Bahcesehir University, Turkey

Oktay Tas
https://orcid.org/0000-0002-7570-549X
Istanbul Technical University, Turkey

ABSTRACT
This chapter aims to examine calendar anomaly in selected sample countries by using second-order stochastic dominance (SSD) approach. Day-of-the-week and month-of-the-year effects are analysed for a group of 5 developed and 5 developing country indexes to estimate efficient (inefficient) weekdays and months for the period between 1988 and 2016. Then, back-testing procedure is applied for each sample country to compare performance of index returns for 2017-2019 with the strategy arisen by estimation results. Findings suggest that Monday and Friday returns are inefficient and efficient respectively in all developing countries where different results obtained for developed ones. In monthly analysis, December returns found efficient in 8 indexes including S&P 500. However, October is inefficient for all indexes. Positive January effect seems disappeared in most cases. Back-testing results indicate that in a bearish market condition SSD strategy outperforms index returns in general for daily and monthly comparison.

DOI: 10.4018/978-1-7998-5083-0.ch003
INTRODUCTION

There have been ongoing debates among researchers whether there exists a calendar anomaly on financial markets or not. Many studies in the finance literature focus on showing whether a day in a week, a week in a month or a month in a year, has statistically different and significant returns, in both developed and emerging markets. If a calendar anomaly is detected, researchers assert the absence of the strong form of the Efficient Market Hypothesis (EMH), which means that all publicly or privately available news is not yet reflected in capital markets. In general, calendar anomaly in the literature of finance is described as an unusual and consistent return behaviour of a financial instrument in a specific time frame, which cannot be attributed to all related news about this instrument and the facts of the economic environment. For example, if average of Monday returns of a security is statistically different from the returns of the other trading days in the long-term, it can be concluded that return of this security shows an anomaly in a daily basis. This kind of anomaly contradicts with the EMH. Thus, anomalies attract investors’ attention to chase arbitrage opportunity in the markets and researchers’ interest to seek possible answers about its causation.

The first important calendar effect which will be discussed in this chapter is the day-of-the-week effect. Pettengil (2003) provides an extensive literature review for the day-of-the-week effect. In this study, the author exemplifies about very early studies starting from the 1930s (See Kelly (1930)). Early studies analyse that day-of-the-week effect reveals a tendency for Mondays that has lower returns than the other trading days in the US stock markets. Moreover, many studies, such as Cross (1973), French (1980), Linn & Lockwood (1988), Lakonishok & Smidt (1988), show evidence that Monday has significant negative returns for different periods. Monday negative effect has been presented not only in the US but also in other developed markets. Jaffe & Westerfield (1985) show that capital markets of Canada and the UK have negative Monday returns while Tuesday returns are the lowest for Japan and Australia. The reason for negative Monday returns is stated in the literature as Monday returns are affected by positive Friday’s return (Lim, Mun & Dollery (2010), Tong (2000)).

The second major part of calendar anomaly literature is the month-of-the-year effect which in most studies investigated as the January effect. The first possible explanation for this effect has been that investors sell their stocks during December for tax-loss purposes and repurchase them in January. Secondly, individual investors who receive their year-end bonuses in January are likely to buy shares from stock markets that cause an abnormal rise. The third explanation is portfolio rebalancing strategies by fund managers that cause an abnormal increase in January. Many researchers empirically test this effect. Rossi (2015) provides a literature review study for the January effect (literature about other calendar anomalies can also be found in this study).

This chapter aims to show whether calendar anomaly still exists in stock markets of selected sample countries on a daily and monthly basis. Secondly, if there exists a calendar anomaly, performance comparison analysis will be conducted to determine whether a portfolio strategy suggested by findings that can beat benchmark indexes of each sample country in the back-testing period. Thirdly, it will also be examined whether there is a difference in terms of day-of-the-week and month-of-the-year effects between the developed and emerging countries. For this purpose, we selected five developed and five emerging countries indexes, namely US (S&P500), UK (FTSE100), Japan (Nikkei225), Germany (DAX30), France (CAC40), for developed countries; South Korea (KOSPI), Indonesia (Jakarta Composite), Malaysia (FTSE KLCI), Thailand (Bangkok SET), Turkey (BIST-100), for emerging countries. Closing values...
Related Content

Petroleum Exploration Risk in Prospect Portfolio Selection
(2018). Novel Six Sigma Approaches to Risk Assessment and Management (pp. 40-65).
www.igi-global.com/chapter/petroleum-exploration-risk-in-prospect-portfolio-selection/185958?camid=4v1a

The Threat of Ponzi Schemes: An Asian Perspective
www.igi-global.com/chapter/the-threat-of-ponzi-schemes/218678?camid=4v1a

Structuring of Information for Understanding: An Aid to Planning
(2018). Business Architectures for Risk Assessment and Strategic Planning: Emerging Research and Opportunities (pp. 53-65).
www.igi-global.com/chapter/structuring-of-information-for-understanding/191140?camid=4v1a

www.igi-global.com/chapter/a-business-driven-process-model-for-knowledge-security-risk-management/208333?camid=4v1a