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LUNAR EFFECT AND STOCK MARKET

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Abstract

This study discusses the relation between lunar phases and stock market returns. The lunar effects have been validated in the physical and biological sciences. However, until recently such effects have not been largely researched, though not completely ignored in the academic literature of financial economics. This study proposes to examine whether there is a lunar influence on stock prices. Moreover, the lunar effect is independent of other calendar-related anomalies such as the January effect, the day-of-week effect, the calendar month effect and the holiday effect. Investors mainly adopt fundamental analysis and/or technical analysis as the approach to security analysis in managing their investment in stock market. However, both the approaches fail to help the investors to determine proper timing of entry and exit from trade. But lunar effect deals with prediction of prices of stocks/index based on planetary positions.

Key words: *Lunar Effect, Academic Literature, Financial Economics, Calendar-Related Anomalies, Fundamental Analysis and Technical Analysis.*

1. INTRODUCTION

The term "**moon cycle**" (or "lunar cycle") refers to the moon's continuous orbit around the earth. As the moon orbits the earth, its appearance (the "phase") changes and thus gives us an indication of the moon's progress in the cycle **(http://www.moonconnection.com/moon_cycle.phtml)**. When the Moon appears perfectly round in the sky, it is known as "full moon," indicating that the disc of the Moon is full or complete. This happens on an average every 29 days and advances in astronomy have allowed scientists to carefully predict their patterns. Many traditions and superstitions are associated with the full moon in almost every culture on Earth, especially when the moon becomes eclipsed, as will happen periodically **(http://www.wise geek.org/what-is-a-full-moon.htm).** The New Moon occurs when the Moon is between the Earth and the Sun. During the New Moon, nights are the darkest as the Moon cannot be seen for most of the night since it is obscured by the Earth. The opposite of the new Moon is the Full Moon which occurs when the Earth is between the Moon and the Sun. The moon is at its brightest when it is full and it shines all night **(http://wiki.answers.com/Q/what does New Moon Mean).**

2. RELEVANCE OF LUNAR EFFECT AND STOCK MARKET

Every two weeks the whole world experiences a new moon and roughly two weeks later, a full moon is observed, in an ongoing cycle. The phase of the moon is important for one reason: nocturnal illumination. How much light at night time affects plants (photoperiodism - flowering) and animals (around the full moon, day animals can hunt or perform other activities and be hunted by other day animals (subj ect to cloud cover)). Artificial lighting has barged its way into this cycle in the last century but modern humans have acted on and reacted to the moon's illumination patterns for over 200,000 years. So even if its light matters less to us now, our reactions to its phases are 'hard wired' by evolution and critically the whole global population experiences the same illumination extremes at the same time.

There is extensive psychological and biological literature demonstrating that the lunar cycle can heavily influence our moods. A full moon increases our tendency to feel depressed and pessimistic and there is a higher rate of suicide around full moons. This may reflect the fear and tension surrounding increased nocturnal predator action, historically or psychological issues resulting from sleep deprivation in night light. So investors may feel more inclined to stay out of the stock market at or near that time or to sell out of positions: emotions trumping objectivity. A correlation between stock market returns and lunar phases was observed by **Dichev, Yuan** and **Hickey** in three separate studies. There is a positive pressure for the stock market around new moons and a negative pressure around full moons. A lunar cycle takes just under 30 days, which means new moons and full moons do not fall at the same time each month but gradually move. This means we are not mistaking a seasonal phenomenon related to month-end or mid-month.

3. OBJECTIVE OF THE STUDY

The objective of the study is to overview the relevance of lunar effect in the stock market.

4. ANNUALIZED RETURNS IN G-7 COUNTRIES

Chart -I shows the differences in stock market returns between the days around full moons and the days around new moons (using 30 years data) in seven countries. It is clear from the chart that the stock return in the market around New Moon was greater as compared to the stock returns around Full Moon.

5. STUDIES ON THE LUNAR EFFECT AND STOCK MARKET

Previous literature studied the effect of cyclical and lunar events on stock returns. **Dewey (1971),** in his study on lunar effects in stock market, argues that the moon, which traverses an approximately 29-day cycle around the earth, influences human behavior. The word 'lunacy' came into common use because of a general belief that certain forms of insanity occurred in a particular phase of the moon. **Danzl.D.F (1987)** explained the moon's perceived impact on emergency medicine and a survey was conducted using a modified Belief. In Lunar Effects **(BILE)** Scale. Eighty percent of nurses working in emergency department and 64%of emergency physicians, believe that the moon affects patients. In the same vein, **Saunders (1993)** shows that market returns on cloudy days are lower than during the sunny days. Other studies document how mood and behavior of individuals affect stock market returns. **De Castro and Pearcey (1995)** investigated the impact of moon cycles on market index returns. They observed Moon Phases (MP) Effect according to which the difference between the stock returns on the new moon dates and those on the full moon dates, was statistically significant. **Dichev.I.D. and T.D. Janes (2001),** in their study, "**Lunar cycle effects in stock returns**", found that people were more optimistic during new moon periods than during full moon periods. **Hirshleifer and Shumway (2003)** recorded a significant correlation between sunshine and stock market returns. **Yuan et al (2006)** reviewed the impact of lunar phases on stock market returns and observed that there was decline in return of 3% to 5 % per annum on a seven day window around a full moon as opposed to days near a new moon. **Shetty.S and Haensly.P (2007)** investigated the psychological aspect of investors during the period of lunar cycles and analysed the full moon effect and the new moon effect on the stock market. But the examination of stock market indices showed no evidence of a full moon or a new moon.

From the above literature, it is clear that people believe that certain forms of insanity occurred in phases like Full Moon and New Moon.

6. CONCLUSION

From the above discussion, it is clear that New Moon Day and Full Moon Day did have some impact on stock prices. The importance of auspicious day in stock market investment further justifies the Mahurat Trading (also pronounced Muhurat). Though Muhurat trading in the stock market happens for about an hour on the Diwali Day, the Sensex closes on a higher note on the Muhurat Trading Day. Most traders buy on this day. Hence further research could be conducted in India on a periodical basis regarding the impact of New Moon and Full Moon on share price.

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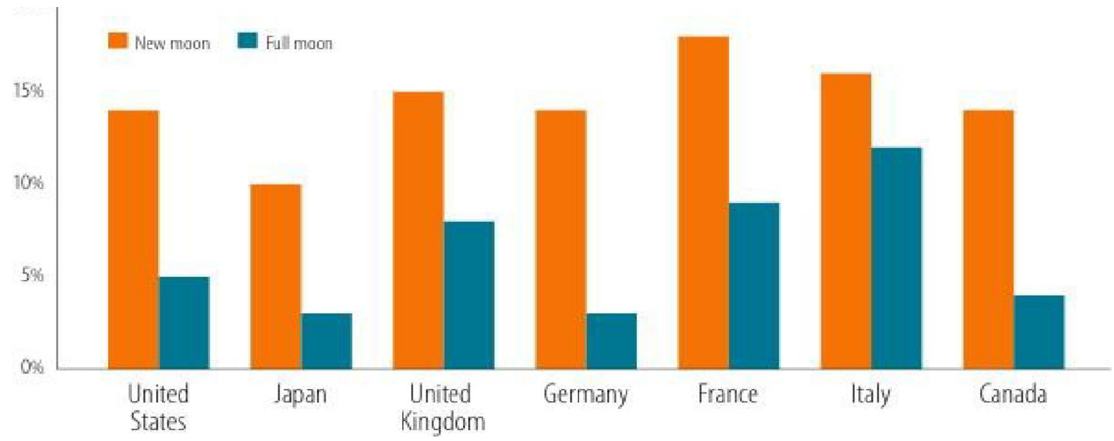
Chart- I
Annualized Returns in G-7 Countries



Source: Dichev/Janes (**John Hampson 2012**)