

JANUARY EFFECT IN STOCK RETURNS: EVIDENCE FROM EMERGING MARKETS

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Abstract

This study has investigated the existence of January effect in the Brazil, Shanghai, India, Argentina and Turkey indices with use of power ratio method. Monthly logarithmic returns of each market are used starting from the first transaction day to the December 31, 2012. Results indicate existence of the January effect in China, Argentina and Turkey returns. However no evidence of a January effect is found at Brazil and India stock markets. According to power ratio method abnormal January returns have been observed also within specified investigated periods for Brazil, Shanghai, Argentina and Turkey for 1994, 1993, 2002 and 1997 respectively.

Key Words: January effect, Abnormal stock return, Power ratio method

1. Introduction

Several studies have examined extensively the capital markets seasonal behavior to bring out the importance of market efficiency. According to Lian and Chen (2004), in the last couple of decades, a number of studies have been tried to examine seasonal anomalies in stock returns in markets ranging from developed markets such as U.S., U.K. and Japan, to less developed markets such as Thailand, Taiwan, Singapore, Philippines, Malaysia and Korea. These anomalies refer the day-of-the-week effect, the January effect and the firm-size effect. Wachtel (1942)'s study is the first study that be discussed the "January Effect" in stock markets that according to all research up to 1925, there is not seasonality in stock markets. According to Thaler (1987), January effect is primarily a small firm phenomenon. Mills and Coutts (1995), report that one of the most prevalent anomalies appears to be the January effect, in which returns are much higher than any other months. The month of the year effect and the January effect have been mostly explained by the size of the firm, tax-loss selling at the end of the year hypothesis, insider-trading: information, January seasonal in the risk-return relationship, and omitted risk factors, etc (Gultekin and Gultekin, 1983; Seyhun, 1993).

This study is organized as follows: section 2 reports the literature review on January effect; section 3 presents data and methodology on power ratio method; section 4 emphasizes the empirical results and final section conclude the article.

2. Literature Review on January Effect

There are several studies that investigate the existence of January effect across the world. Some of them find no evidence of higher return of January, others state that there appears to be persistent January effect in their native markets. Cheung and Coutts (1999) try to investigate the January effect or other monthly seasonalities in Hang Seng Index. They did not find January effect or other monthly seasonalities in Hong Kong market surprisingly. Coutts and Sheikh (2000)'s empirical results on the Johannesburg Stock Exchange are in parallel with Cheung and Coutts (1999)'s findings that they provide no evidence for existence of January effect in All Gold Index. Maghayereh (2003) tests seasonal anomalies/calendar effects with GARCH, EGARCH and GJR methods and did not find any evidence of monthly seasonality and January effect in Amman Stock Exchange.

Rozeff and Kinney (1976), with exception of 1929-1940 period, find statistically significant high returns in January from 1904-1974 on the New York Stock Exchange. Haugen and Jorion (1996), examine monthly returns in New York Stock Exchange from 1926 to 1993 and they found January effect in investigated period. Choudhary (2001) tests seasonal anomalies using a non-linear GARC-t model in German, UK and US stock markets during pre-WWI period. He finds January effect and the month of the year effect in the UK and the US returns. According to the study, the German returns do not show January effect but show the month of the year effect. Mehdian and Perry (2002), examine the major stock indexes (Dow Jones, NYSE and SP 500) from 1964-1998. They find positive January effect existed in three markets and added the time of the year 1987 could be called stock market crash that January effect was not significant after that year. Haug and Hirschey (2006), find a persistent January effect in US portfolio returns during various periods (1802-2004 and 1927-2004).

3. Data and Methodology

In this study emerging markets from Asia-Pacific and America are chosen and results are compared to Turkish stock index. Although having different date of commencement, different indices have used not to compare, to find out existence of January effect. Table 1 shows the indices and their analyzed period. The analyzed period is reorganized for each country to derive annual data and the data of stock market indices were downloaded from the Yahoo Finance website (<http://finance.yahoo.com>).

Table 1

Monthly return for January and other months have calculated as the natural logarithm differentials of the closing daily prices.

$$R_t = \ln P_t - \ln P_{t-1}$$

R_t return

$\ln P_t$ closing index value of last day of month

$\ln P_{t-1}$ closing index value of first day of month

t time (month)

According to Chien et al. (2002); dummy variable regression model widely employed in the literature may wind up unwarranted results as it fails to take into account the return variances for testing. Gu (2003) specify that when return in January and return of the year have opposite signs (i.e., January positive/year negative, January negative/year positive, or when both January and the year are negative), it can be difficult to measure the January effect. He developed power ratio method to give a consistent measurement of the contribution of January return to the return of the year. In Turkish capital markets Ege et.al. (2012) and Küçüksille (2012) try to reveal whether or not January anomaly exists for BIST 30, BIST 50 and BIST 100, with use of power ratio method. According to their results, January effect has been seen in Borsa Istanbul.

In this study it is used Gu (2003)'s power ratio method. Gu (2003) define the power ratio:

$R_j^* = (1 + \text{January Return})^{12}$, because of being 12 months in a year, power 12 is used in calculation. So R_j^* is always greater than zero.

$R_y = (1 + \text{Return of the year})$ and R_y is always greater than zero.

And power ratio is calculated like R_j^* / R_y .

When $R_j^* / R_y = 1$ then the January return is as good as the average of other months of the year;

When $R_j^* / R_y > 1$ then the January return is better than the average of other months of the year, and

When $R_j^* / R_y < 1$ then the January return is below the average of other months of the year.

If there is a January effect in indices, the power ratio is needed to be with much than fifty percent higher than 1 during the period.

4. Empirical Results

Empirical results are shown in table 2. According to power ratio analyze there is evidence in SSE (China), Merval (Argentina) and BIST 100 (Turkey) indices; but January effect has not been seen in Bovespa (Brazil) and in Sensex (India). Power ratio is higher than 1, from 02.01.1991 – 31.12.2012 for 12 years in SSE (China) (%54.5); from 03.01.1997 – 28.12.2012 for 9 years in Merval (Argentina) (%56.2) and from 04.01.1988 – 21.12.2012 for 14 years in BIST 100 (Turkey) (%56). And also power ratio is higher than 1 for 7 years in Bovespa (Brazil) (%36.8) and 6 years in Sensex (India) (%40) that these percentages are under %50.

Table 2

According to table 3, we can say that abnormal January returns have been observed in indices. 1994 is year of the in which higher January anomaly have seen in Brazil returns. In Shanghai Stock Exchange year of 1993, in Merval year of 2001 and 2002 and in BIST 100 year of 1988, 1990, 1991, 1996 and 1997 indicate abnormal return in January. We detect that in Turkey abnormal returns can be seen more than in other indices.

Table 3

Graph 1-5 presents the power ratio results for markets. Abnormal returns can be seen in graphs during the investigated periods. Bovespa in 1990, SSE in 1993, Merval in 2002 and BIST 100 in 1990, 1991 and in 1997 have the highest power ratio results that can be interpreted an abnormal January return for indices.

5. Conclusion

This paper has investigated the existence of January effect in emerging markets with use of Gu (2003)'s power ratio method. Data have reorganized to derive annually data for five indices (Bovespa, Shanghai Stock Exchange, Sensex, Merval and BIST 100). We find no evidence of a January effect in Brazil and India. However, our results provide a January effect in China, Argentina and Turkey.

REFERENCES

- Cheung, Kwong C.; Coutts, Andrew J. (1999). The January Effect and Monthly Seasonality in the Hang Seng Index: 1985-97. *Applied Economics Letter*. 5. 121-123
- Chien, Chin-Chen; Lee, Cheng-few; Wang, Andrew M. L. (2002). A note on stock market seasonality: The Impact Of Stock Price Volatility On The Application Of Dummy Variable Regression Model. *The Quarterly Review of Economics and Finance*. 42. 155-162
- Choudhry, Taufiq (2001). Month of the Year Effect and January Effect in Pre-WWI Stock Returns: Evidence from a Non-linear Garch Model. *International Journal of Finance and Economics*. 6. 1-11
- Coutts, Andrew J.; Sheikh, Mohamed A. (2000). The January Effect and Monthly Seasonality in the All Gold Index on the Johannesburg Stock Exchange 1987-1999. *Applied Economics Letter*. 7. 489-492
- Ege, İlhan; Topaloğlu, Emre E.; Coşkun Dilek (2012). Behavioral Finance and Anomalies: Testing of January Anomaly at ISE. *The Journal of Accounting and Finance*. October. 175-190
- Gu, Anthony Yanxiang (2003). The Declining January Effect: Evidence from the U.S. Equity Markets. *The Quarterly Review of Economics and Finance*. 43. 395-404
- Gultekin M; Gultekin N. (1983). Stock Market Seasonality: International Evidence. *Journal of Finance Economics* 12: 469-481.
- Haug, Mark; Hirschey, Mark (2006). The January Effect. *Financial Analysts Journal*. Volume 62. Number 5. 78-88
- Haugen, Robert A.; Jorion, Philippe. The January Effect: Still There After These Years. *Financial Analysts Journal*. Volume 52. Number 1. 27-31
- Küçükşille, Engin (2012). The Test of January Effect In ISE Indexes. *The Journal of Accounting and Finance*. January. 129-138
- Lian, Kok Kim; Chen, Wong Yoke (2004). Seasonal Anomalies of Stocks in Asean Equity Markets, *Sunway College Journal*, 1, 1-11
- Mehdian, Seyed; Perry, Mark J. (2002). Anomalies in US Equity Markets: a re-examination of the January Effect. *Applied Financial Economics*. 12. 141-145
- Maghayereh, Aktham (2003). Seasonality and January Effect Anomalies in an Emerging Capital Markets. *The Arab Bank Review*, Volume 5. Number 2. 25-32
- Mills, T.C.; Coutts, Andrew J. Calendar Effects in the London Stock Exchange FT-SE Indices. *European Journal of Finance*, 1. 79-93
- Rozeff, Michale S.; Kinney, William R. (1976). Capital Market Seasonality: The Case of Stock Returns. *The Journal of Financial Economics*. 3. 379-402
- Seyhun, H. Nejat (1993). Can omitted risk factors explain the January effect? A stochastic dominance approach. *Journal of Financial and Quantitative Analysis*. 28. 195-212.
- Thaler, Rihard H. (1987). Anomalies The January Effect. *Economic Perspectives*. Volume 1. Number 1. 197-201
- Wachtel, Sidney B. (1942). Certain Observations in Seasonal Movements in Stock Prices. *Journal of Business*. 15.1884-1993

Annexure

Table 1: Indices and Periods

Indices (Country)	Period	Analyzed Period
Bovespa (Brazil)	27.04.1993 – 31.12.2012	03.04.1994 – 28.12.2012
Shanghai Stock Exchange (China)	19.12.1990 – 31.12.2012	02.01.1991 – 31.12.2012
Sensex (India)	01.07.1997 – 31.12.2012	01.01.1998 – 31.12.2012
Merval (Argentina)	08.10.1996 – 31.12.2012	03.01.1997 – 28.12.2012
BIST100 (Turkey)	04.01.1988 – 31.12.2012	04.01.1988 – 21.12.2012

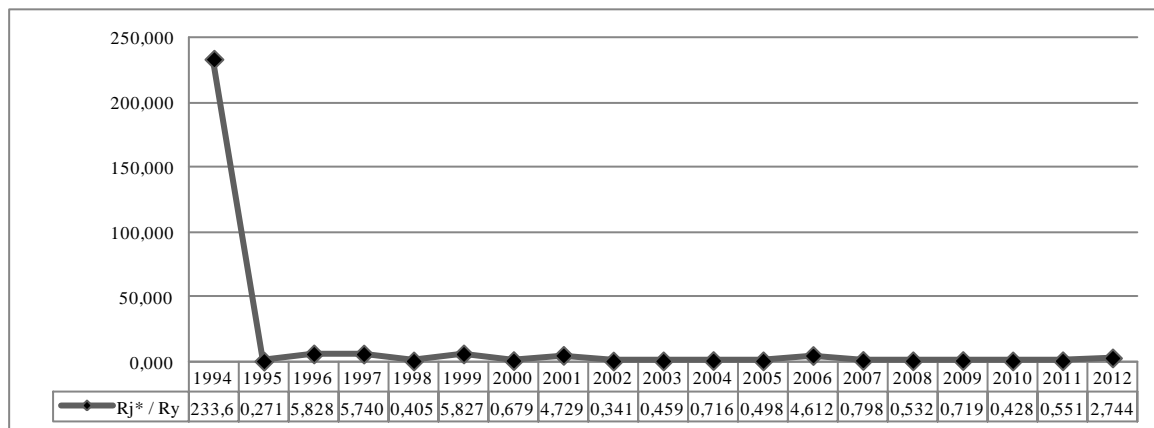
Table 2: Results of Power Ratio>1

Indices (Country)	Analyzed Period	Total Period (Year)	Power Ratio > 1
Bovespa (Brazil)	03.04.1994 – 28.12.2012	19	7/19
Shanghai Stock Exchange (China)	02.01.1991 – 31.12.2012	22	12/22*
Sensex (India)	01.01.1998 – 31.12.2012	15	6/15
Merval (Argentina)	03.01.1997 – 28.12.2012	16	9/16*
BIST 100 (Turkey)	04.01.1988 – 21.12.2012	25	14/25*

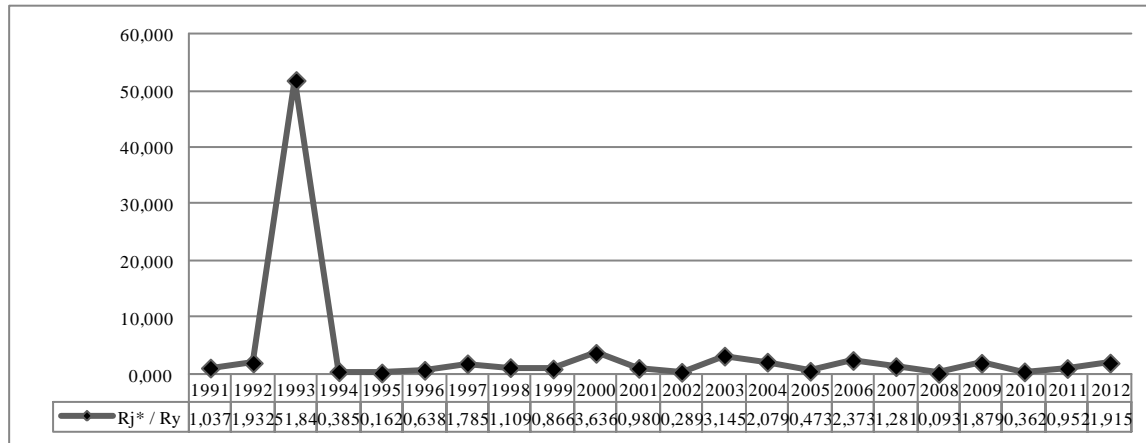
Table 3: Power Ratios (Rj* / Ry)

Years	Bovespa (Brazil)	SSE (China)	Sensex (India)	Merval (Argentina)	BIST 100 (Turkey)
1988					11,584
1989					0,954
1990					92,518
1991		1,037			23,944
1992		1,932			4,369
1993		51,847			2,079
1994	233,631	0,385			0,359
1995	0,271	0,162			0,467
1996	5,828	0,638			13,074
1997	5,740	1,785		2,049	101,246
1998	0,405	1,109	0,173	0,210	0,754
1999	5,827	0,866	1,932	0,133	0,357
2000	0,679	3,636	0,698	1,405	0,596
2001	4,729	0,980	2,405	14,088	3,896
2002	0,184	0,289	1,170	24,251	0,488
2003	0,459	3,145	0,625	1,798	1,539
2004	0,716	2,079	0,495	1,500	0,259
2005	0,498	0,473	0,775	1,038	2,244
2006	4,612	2,373	1,849	4,887	3,712
2007	0,798	1,281	1,093	0,671	1,825
2008	0,532	0,093	0,156	0,445	0,034
2009	0,719	1,879	0,479	0,449	0,577
2010	0,428	0,362	0,408	0,624	1,312
2011	0,551	0,952	0,235	0,912	0,448
2012	2,744	1,915	3,182	2,567	3,315

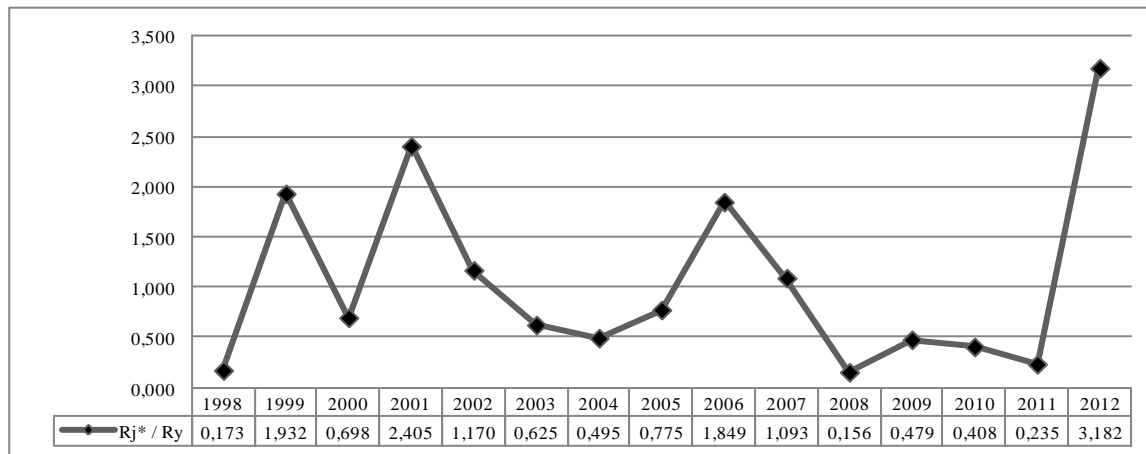
Graph 1: Power Ratio for Bovespa (Brazil)



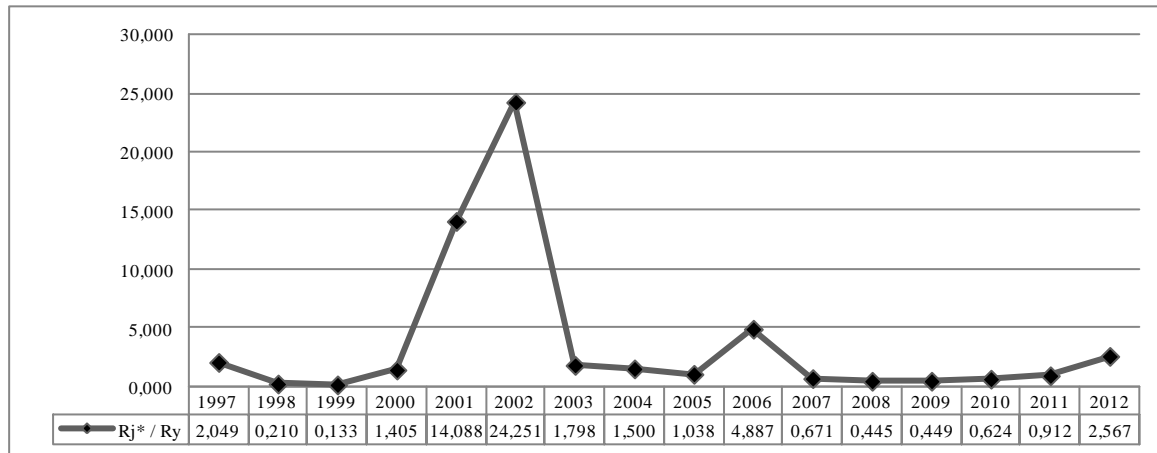
Graph 2: Power Ratio for SSE (China)



Graph 3: Power Ratio for Sensex (India)



Graph 4: Power Ratio for Merval (Argentina)



Graph 5: Power Ratio for BIST 100 (Turkey)

