# VALUE PREMIUMS AND THE JANUARY EFFECT: INTERNATIONAL EVIDENCE

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**ABSTRACT**

*Using data from the stock markets of Japan, the U.K, and France, this paper examines the distribution and source of value premium in average stock returns for the period 1975 through 2007. Results from this study indicate a January effect in value premium, which is valid and economically meaningful for all three major non-U.S. markets. Consistent with Loughran (1997), our study suggests that January value premium is more pronounced in large stocks and high January value premium is mostly driven by superior returns of value stocks in January. In particular, value premium for January month is nearly three to nine times that of non-January months. Annualized value premiums for January (non-January months) for Japan, the U.K. and France are 28.08% (9.12%), 15.36% (2.04%), and 30.96% (3.48%). The annualized excess January value premium ranges from 13.32% for the U.K. to 27.48% for France with 18.96% for Japan. Results are robust with respect to alternative value-growth indicators as well as sample periods.*

**JEL:** G12

**KEYWORDS:** Value premium, International, January effect

## INTRODUCTION

Ample evidence documents that firms with high ratios of book-to-market equity (B/M), earnings to price (E/P), cash earnings to price (CE/P), or dividends to price (D/P) - commonly referred to as value firms - tend to consistently deliver higher returns than firms with low ratios of B/M, E/P, CE/P or D/P - or growth firms - both in U.S and in markets around the world. This finding known as the value premium, turns out to be quite robust to alternative definitions of value and does not disappear over time (see for example, Chan, Hamao, and Lakonishok, 1991; DeBondt and Thaler, 1985, 1987; Fama and French, 1992, 1995, 1996, 1998; Haugen and Baker, 1996; Lakonishok, Shleifer, and Vishny, 1994).

Those who are fascinated by the value premium have hazarded three competing explanations about its cause. The first explanation is that the value premium is associated with the degree of 'relative distress' in the economy, is a rational phenomenon, which is priced in equilibrium, and is a compensation for systematic risk (Black and Fraser, 2004; Fama, 1998; Fama and French, 1995, 1996, 1998; Kiku, 2006; Lakonishok et al. 1994; Lettau and Ludvigson, 2001; Petkova and Zhang, 2005; Zhang, 2005). The second argument is a behavioral one that focuses on systematic irrationalities that characterize investor decision making. Contrarian strategies produce higher returns because they exploit the tendency of some investors to overreact to good or bad news (Daniel, Hirshleifer, and Teoh, 2001; De Bondt and Thaler, 1987; Haugen, 1995; Hirshleifer, 2001; Kothari, 2000; Lakonishok et al. 1994).

The third explanation proposed for the cause of value premium is not because of rational or irrational investor behavior, but because of random occurrences (Kothari, Shanken, and Sloan, 1995). In this situation, the value premium is neither reward-for-risk nor the basis for a profitable trading strategy.

Whether value premium reflects fully rational risk premium, market irrationality, or some of the both is still a matter of considerable controversy in empirical finance. This paper aims to add to the current debate on the source of value premium by presenting additional out-of-sample evidence.

Value premium still exists in major countries outside U.S. In this study, we investigate the impact of the January effect on value premium and examine distribution of returns on value and growth portfolios of Japan, the U.K, and France for January and non-January months for the period 1975 through 2007. Our results indicate that there is a pronounced January effect in value premium phenomenon. Results are robust for different sub-sample periods of 1975 through 1990 and 1991 through 2007. Evidence of greater value premium for January is further confirmed by regression tests with explanatory variables of excess market return and a dummy variable for January month.

This is the first exploratory study of the calendar seasonality of book-to-market effect outside of the U.S. This paper furnishes a link between research that explains value premium and research that focuses on January effect. There is surprisingly little empirical research in this area. The seasonality observed among value premium is inconsistent with the risk-based explanation of book-to-market premiums. Finding a pattern of changes in the value premium has implications for investment strategies. For example, the annualized excess January value premium ranges from 13.32% for the U.K. to 27.48% for France with 18.96% for Japan. Similarly, a 'Jan' investment strategy defined as holding a 'value minus growth' portfolio in January and risk-free asset in non-January months outperforms the 'Non-Jan' strategy of holding value minus growth in non-January and risk-free in January. For instance, the 'Jan' strategy in France generates 7.78% annual return over the sample period compared to 2.45% annual return in 'Non-Jan' strategy.

The organization of the paper is as follows. Section 2 discusses some of the work related to our study. In Section 3, we describe our data and methodology to form portfolios. Section 4 is a discussion of the January effect on value premium with B/M ratio as a value-growth indicator. As a robustness check, we also present evidence on the value premium in January and non-January returns by using E/P, CE/P, and D/P. In Section 5, we attempt to find an explanation for January value premium. Section 6 concludes.

## LITERATURE REVIEW

In the first study of January seasonal, Wachtel (1942) reports that odds in favor of either a rise or no change taking place in the values of twenty high yield stocks in January is 4 to 1 compared to 1 to 5 odds of decline in the value. The anomalous January return behavior caught the attention of finance researchers after Rozeff and Kinney (1976) found that the average monthly returns of New York Stock Exchange (NYSE) are higher in January than in other months. Using equal-weighted index of stocks listed on NYSE over the period 1904-1974, they report that stock market returns are higher in January compared to any other month; monthly return in January averaged 3.5 percent compared to 0.5 percent in other months. In subsequent studies, Roll (1983) and Reinganum (1983) report that January effect is predominantly strong in small size firm (measured by market capitalization). They find that January returns are more pronounced in firms with negative returns in the previous year. Furthermore, Keim (1983) finds that 50 percent of the difference between returns of small firm and large firm is concentrated in January. Blume and Stambaugh (1983) exposit that measurement of small-stocks' returns has a potential bid-ask bias; the year-end closing price is the bid price whereas the subsequent transaction price is based on ask price. They show that once Keim's results are corrected for bid-ask bounce, the size premium occurs only in January. Guletkin and Guletkin (1983) investigate the January seasonality in stock market returns of sixteen countries. They find that January effect is strong and large in fifteen countries and most of the countries have stronger January effect compared to U.S.

A multitude of explanations has been proposed for the anomalous January return. The first explanation provided in the literature is the tax-loss selling hypothesis. According to this hypothesis, investors sell 'loser' stocks in December to realize capital losses to set off capital gains and reduce their tax liability. Therefore, stocks with declining prices face a selling pressure in December and the prices rebound in January when the selling pressure disappears. Roll (1983) and Reinganum (1983) find that small firms have strong abnormal January returns. They argue that small-firms are more likely to lose value and affected by tax-loss selling hypothesis. Similar results are reported by Poterba and Weisbenner (2001) and Jones, Lee, and Apenbrink (1991) who examine the effect of changes in income tax rules on January effect. There is evidence of January effect in Australia (see Brown, Keim, Kleidon, and Marsh, 1983) where tax year starts from July and in Canada (see Berges and McConnell, and Schlarbaum, 1984) where there are no capital gains taxes.

Another explanation of January effect is based on window-dressing hypothesis proposed by Haugen and Lakonishok, (1987) and Lakonishok, Shleifer, Thaler, and Vishny, (1991). According to this hypothesis, institutional investors window-dress their portfolios before disclosing their portfolios at the year-end. Institutional managers invest in risky and small stocks to enhance their performance. However, they sell these risky and small stocks in December before making a disclosure of their holdings to SEC. Once the legal disclosure requirement is fulfilled, they reverse their positions and buy those small and risky stocks in January resulting in higher January returns of these stocks. Some other hypotheses proposed for explaining January effect are market microstructure biases related to bid-ask bounce (see Bhardwaj and Brooks, 1992; and Cox and Johnston, 1998) and differential information hypothesis (see Barry and Brown, 1984, 1985). Chen and Singal (2004) disentangle the various explanations to find the most important causes of the January effect. They attempt to separate the effect of various explanations and find that January effect in US equity market is mainly driven by tax-loss selling hypothesis.

Empirical evidence documenting the value effect and the size effect appeared almost at the same time. For example, Basu (1977) studies the return behavior of value and growth stocks and reports that value firms consistently outperform growth firms. Chan, Hamao, and Lakonishok (1991) analyze cross-sectional returns of Japanese stocks and find results supporting superior performance of value stocks compared to growth stocks. Fama and French (1992) argue that B/M is a proxy for distress risk and superior returns earned on value stocks are mainly a compensation for this distress risk. Fama and French (1993) and Davis, Fama, and French (2000) study post-1963 and pre-1963 data, respectively, and find that value stocks earned premiums in both periods. Fama and French (1998) provide international evidence of value effect in 13 countries over the period 1975-1995

While significant amount of research has been carried out to examine January effect related to size, very few studies have examined January seasonal related to book-to-market equity. This lack of research in seasonal anomalies related to book-to-market is evident in Schwert (2002), a survey paper related to market anomalies, where he highlights the seasonal impact of January on returns of small stocks, but does not mention January effect related to B/M. It is surprising that there has been a very limited research examining calendar seasonality of the book-to-market effect. In this section, we mention those studies that examine seasonal pattern observed in value premiums.

Fama and French (1993) test for January seasonal in excess stock returns after controlling for size and book-to-market. They find evidence of January seasonal related to size and book-to-market equity. They exposit that these abnormal returns are mostly explained by the corresponding seasonal in the risk factors of their multi-factor model. Daniel and Titman (1997) analyze January and non-January return patterns of different portfolios sorted on size and book-to-market. They find that value premium of large firms is exclusively a January phenomenon. Additionally, they claim that almost half of the annual value premium of medium and small size companies occurs in January.

Loughran (1997) explores the book-to-market and calendar seasonality and provides evidence supporting non-existence of value premium among large stocks outside of January. He shows that the value premium outside of January is mostly driven by low returns of small newly listed growth stocks. He further states that the largest three size quintiles, which account for 94% of the total market capitalization, exhibit negligible value premiums in non-January months.

Chou, Das, and Rao (2010) study the value premium in January and non-January months using B/M and E/P ratios as value growth indicators. Consistent with Daniel and Titman (1997) and Loughran (1997), they find that value premium of large and small stocks exhibit different seasonal patterns. They document that pronounced January value premium observed among large stocks can be explained by turn-of-the-year trading behavior. In support of their argument, they provide evidence showing that value premium is limited to the first ten trading days of the year and is driven by high value premium of loser stocks.

These studies document a seasonal pattern in the value premium in U.S. stock market. Our study examines the international reach of seasonal anomalies in three developed markets and provides out-of-sample evidence supporting calendar effect in premiums related to book-to-market.

## DATA AND METHODOLOGY

Value-weighted monthly portfolio returns for Japan, the UK, and France over the period of January, 1975 through December, 2007 are obtained from the website of Kenneth French. We use four different ratios as indicators of value and growth portfolios: book-to-market; earnings-price; cash earnings to price; and dividend yield. At the end of each year t, all stocks in each country are sorted on one of the four ratios. Firms in the top 30% (High) of a sort ratio constitute value portfolio and firms in the bottom 30% (Low) form growth portfolios. The monthly value-weighted return for each portfolio is calculated for all months of year t+1. The portfolio returns are based on raw data from Morgan Stanley's Capital International Perspectives (MSCI) for 1975 to 2006 and for 2007 from Bloomberg (See Fama and French, 1998, for more detailed information about the data). A firm is included in a sort variable's portfolio if data for that variable is available. It is worth mentioning that firms included in the MSCI index are large and constitute majority of a country's market capitalization (Fama and French, 1998). We select the top three countries ranked in country weights in the MSCI EAFE index. As of May 2010, these three countries constitute more than 54% of developed countries market outside North America.

Panel A of Table 1 summarizes country characteristics. There is a great variation in the sample at the country level. For example, the average number of firms included in the French market is 110, a little more than one-fourth of 418, the average number of firms included from the Japanese market. In addition, there is a considerable country level variation in the ratios used as value-growth indicators. The average B/M and CE/P ratios for France are higher than those of the UK, but the average E/P and D/P are almost equal to or less than those of the UK. Among the three countries, the average B/M, E/P, CE/P, and D/P ratios for Japan are the lowest.

Panel B of Table 1 provides summary statistics of value-weighted monthly returns of market, value, and growth portfolios. Consistent with Fama and French (1998), Table 1 shows existences of value premium outside of the U.S. Value stocks outperform growth stocks in all three countries irrespective of the value-growth indicator. However, the choice of the value-growth indicator affects the size of the value premium. For example, the value premium is 0.75% per month in French market when dividend yield is used as a value growth indicator, compared to 0.45% when earnings-price ratio is used as a value-growth indicator. Also, the standard deviations of High B/M portfolios are greater than Low B/M portfolios. However, when other ratios are used to sort value-growth stocks, the standard deviation of High portfolio is not necessarily higher than that of Low portfolio. For example, the standard deviation of High D/P portfolio in France is 6.67% versus 6.80% for Low D/P portfolio. The use of ratios other than B/M

produces results that have weaker statistical significance but are still quite large in economic terms. These results are consistent with Fama and French (1998) who suggest that value premium of countries in their study have large economic significance but statistically not significant because of high volatility of country returns.

Table 1: Country and Portfolio Characteristics of the Sample

| **Panel A: Country Characteristics** | | | | | |
|---|---|---|---|---|---|
| **Country** | **Number of Firms** | **B/M** | **E/P** | **CE/P** | **D/P** |
| Japan | 418 | 0.48 | 0.04 | 0.11 | 0.01 |
| UK | 195 | 0.67 | 0.09 | 0.15 | 0.05 |
| France | 110 | 0.79 | 0.09 | 0.22 | 0.04 |
| **Panel B: Portfolio Characteristics** | | | | | |
| | **Mean** | **Std. Deviation** | **Median** | **Maximum** | **Minimum** |
| | | | **Japan** | | |
| Market | 1.00 | 6.33 | 0.72 | 25.92 | -18.58 |
| High B/M | 1.53 | 6.94 | 1.03 | 34.78 | -15.96 |
| Low B/M | 0.64 | 6.69 | 0.38 | 27.51 | -21.58 |
| High E/P | 1.33 | 6.14 | 1.06 | 21.53 | -17.25 |
| Low E/P | 0.65 | 6.91 | 0.43 | 31.09 | -20.34 |
| High CE/P | 1.40 | 6.57 | 0.63 | 25.98 | -14.47 |
| Low CE/P | 0.63 | 6.46 | 0.56 | 29.46 | -23.46 |
| High D/P | 1.32 | 6.72 | 0.77 | 27.39 | -18.56 |
| Low D/P | 0.70 | 6.67 | 0.35 | 24.95 | -18.47 |
| | | | **UK** | | |
| Market | 1.47 | 6.28 | 1.25 | 54.90 | -22.43 |
| High B/M | 1.63 | 6.88 | 1.43 | 52.61 | -23.29 |
| Low B/M | 1.36 | 6.45 | 1.16 | 53.42 | -24.13 |
| High E/P | 1.74 | 6.57 | 1.58 | 53.92 | -24.71 |
| Low E/P | 1.36 | 6.48 | 1.18 | 54.01 | -24.59 |
| High CE/P | 1.82 | 6.79 | 1.77 | 57.33 | -22.22 |
| Low CE/P | 1.34 | 6.47 | 1.03 | 53.27 | -24.77 |
| High D/P | 1.57 | 6.35 | 1.49 | 47.74 | -19.18 |
| Low D/P | 1.37 | 6.62 | 1.04 | 56.51 | -24.79 |
| | | | **France** | | |
| Market | 1.34 | 6.35 | 1.53 | 27.53 | -23.80 |
| High B/M | 1.71 | 7.35 | 1.69 | 29.21 | -24.97 |
| Low B/M | 1.23 | 6.40 | 1.25 | 28.72 | -23.06 |
| High E/P | 1.64 | 7.35 | 1.45 | 30.85 | -27.5 |
| Low E/P | 1.19 | 6.57 | 1.26 | 35.36 | -19.52 |
| High CE/P | 1.74 | 7.62 | 1.61 | 34.39 | -26.25 |
| Low CE/P | 1.17 | 6.60 | 1.11 | 31.09 | -21.55 |
| High D/P | 1.73 | 6.67 | 1.76 | 29.28 | -24.61 |
| Low D/P | 0.98 | 6.80 | 0.83 | 27.97 | -27.45 |

*Panel A shows the average values for number of firms, book-to-market (B/M), earnings-price ratio (E/P), cash earnings to price ratio (CE/P), and dividend yield (D/P) for each country included in the sample. The average number of firms is calculated for all years. The average B/M, E/P, CE/P, and D/P is first calculated for a given year for all firms as a ratio of annual value weighted sum of numerator and denominator. Panel B reports the mean, standard deviation, median, maximum, and minimum of value weighted average of monthly dollar returns for market, high book-to-market (High B/M), low book-to-market (Low B/M), high earnings-price (High E/P), low earnings-price (Low E/P), high cash earnings to price (High CE/P), low cash earnings to price (Low CE/P), high dividend yield (High D/P), and low dividend yield (Low D/P) portfolios for each country. All figures reported in the Panel B are in percent. The sample period is 1975 to 2007. The three countries included in the sample are Japan, the UK, and France.*

## RESULTS

### The Value Premium and January Effect

Table 2 summarizes the January and non-January country returns for value and growth portfolios formed on B/M, E/P, CE/P and D/P for the period 1975 through 2007. The table also reports mean, standard deviation, median, percent positive, and sign test statistics for High, Low, and High-Low spread for January and non-January months. We also present the difference between January and non-January value premiums. The common theme running through all the panels A through D is positive January minus non-January value premium suggesting that January value premium is greater than non-January value

premium. The January value premium of France is 2.58%, which is 2.29% greater than non-January value premium of 0.29%. The January minus non-January value premium is also economically large for Japan (1.58%) and UK (1.11%). The annualized excess January value premium is 27.48% for France, 18.96% for Japan, and 13.32% for the U.K (The annualized excess January value premium is calculated by multiplying the difference between January value premium and monthly average of non-January value premium by 12.). The paired test between average January value premium and non-January value premium suggests that January value premium is greater than non-January value premium most of the time. The results on the statistical significance of the excess January value premium are shown using sign test statistics. The January minus non-January value premium is positive at least two-thirds of the time and sign test is statistically significant for all three countries. It is worth mentioning that the high value premium in January is mostly driven by superior returns of value stocks in January. Our study provides out-of-sample evidence relative to tests on U.S. data of Loughran (1997). He finds that large firms have greater January value premium and value stocks exhibit higher January returns compared to growth stocks. Given that our sample includes mostly large firms; our results are consistent with Loughran.

Table 2: Value-weighted Portfolio Returns for January and Non-January Months

| | January (N=33) | | | Non-January (N=363) | | | Jan-NonJ |
|---|---|---|---|---|---|---|---|
| | High | Low | H-L | High | Low | H-L | (H-L) |
| **Panel A: Book-to-market (B/M) ratio as a value-growth indicator** | | | | | | | |
| | | | Japan | | | | |
| Mean | 2.45* | 0.11 | 2.34* | 1.45 | 0.69 | 0.76 | 1.58 |
| Std. Deviation | 7.63 | 7.23 | 7.42 | 6.87 | 6.45 | 4.50 | 7.80 |
| Median | 1.56 | -0.10 | 2.36 | 0.94 | 0.43 | 0.52 | 2.18 |
| Percent positive | 69.70 | 45.45 | 72.73 | 57.85 | 57.90 | 58.95 | 66.67 |
| Sign test (z-stat) | 106.50 | -25.50 | 187.50 | 7316.50 | 3298.50 | 7133.50 | 142.50 |
| Sign test (prob) | 0.06 | 0.66 | 0.00 | 0.00 | 0.10 | 0.00 | 0.01 |
| | | | UK | | | | |
| Mean | 3.89* | 2.60 | 1.28* | 1.42 | 1.25 | 0.17 | 1.11** |
| Std. Deviation | 10.67 | 10.57 | 3.65 | 6.42 | 5.95 | 3.52 | 3.64 |
| Median | 2.27 | 0.02 | 0.81 | 1.38 | 1.25 | 0.46 | 1.38 |
| Percent positive | 69.70 | 51.52 | 63.64 | 61.16 | 59.50 | 55.10 | 66.67 |
| Sign test (z-stat) | 137.50 | 53.00 | 0.16 | 8934.00 | 8589.00 | 3031.00 | 112.50 |
| Sign test (prob.) | 0.01 | 0.35 | 0.04 | 0.00 | 0.00 | 0.13 | 0.04 |
| | | | France | | | | |
| Mean | 3.36* | 0.77 | 2.58** | 1.58 | 1.27 | 0.29 | 2.29* |
| Std. Deviation | 8.75 | 7.72 | 5.22 | 7.20 | 6.27 | 4.48 | 5.09 |
| Median | 2.37 | -0.19 | 2.61 | 1.50 | 1.29 | 0.43 | 2.06 |
| Percent positive | 72.73 | 48.48 | 72.73 | 59.50 | 59.23 | 53.17 | 69.69 |
| Sign test (z-stat) | 119.00 | 23.50 | 150.50 | 3126.50 | 7316.50 | 8521.00 | 134.50 |
| Sign test (prob) | 0.03 | 0.68 | 0.01 | 0.12 | 0.00 | 0.00 | 0.01 |
| **Panel B: Earnings-price ratio (E/P) as a value-growth indicator** | | | | | | | |
| | | | Japan | | | | |
| Mean | 1.15 | 0.09 | 1.06 | 1.35 | 0.70 | 0.65 | 0.41 |
| Std. Deviation | 5.52 | 6.81 | 5.15 | 6.20 | 6.93 | 4.09 | 5.17 |
| Median | 0.48 | 0.29 | 0.86 | 1.07 | 0.46 | 0.70 | 0.51 |
| Percent positive | 54.55 | 51.52 | 60.61 | 57.85 | 54.27 | 57.85 | 51.52 |
| Sign test (z-stat) | 46.00 | -5.50 | 99.00 | 7367.50 | 2865.50 | 6865.00 | 45.50 |
| Sign test (prob) | 0.42 | 0.92 | 0.08 | 0.00 | 0.15 | 0.00 | 0.42 |
| | | | UK | | | | |
| Mean | 3.75* | 2.82 | 0.93 | 1.55 | 1.23 | 0.32 | 1.62 |
| Std. Deviation | 10.34 | 10.81 | 3.46 | 7.21 | 6.46 | 4.04 | 4.46 |
| Median | 1.35 | 0.07 | 1.31 | 1.44 | 1.27 | 1.23 | 2.92 |
| Percent positive | 63.64 | 57.58 | 57.58 | 63.09 | 57.85 | 54.82 | 72.73 |
| Sign test (z-stat) | 123.50 | 56.00 | 73.50 | 10148.00 | 7939.50 | 3392.00 | 51.50 |
| Sign test (prob.) | 0.02 | 0.32 | 0.19 | 0.00 | 0.00 | 0.09 | 0.37 |
| | | | France | | | | |
| Mean | 2.61* | 0.68 | 1.94* | 1.55 | 1.23 | 0.32 | 1.62* |
| Std. Deviation | 8.75 | 7.75 | 4.50 | 7.21 | 6.46 | 4.04 | 4.46 |
| Median | 1.55 | -0.47 | 2.09 | 1.44 | 1.27 | 1.23 | 2.92 |
| Percent positive | 63.64 | 48.48 | 72.73 | 60.06 | 57.30 | 54.55 | 72.73 |
| Sign test (z-stat) | 100.00 | 18.50 | 131.50 | 8928.50 | 7561.00 | 4211.00 | 119.50 |
| Sign test (prob) | 0.07 | 0.75 | 0.02 | 0.00 | 0.00 | 0.04 | 0.03 |

Table 2 continued

| **Panel C: Cash earnings to price (CE/P) as a value-growth indicator** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | January (N=33) | | | Non-January (N=363) | | | Jan-NonJ |
| | High | Low | H-L | High | Low | H-L | (H-L) |
| | | | Japan | | | | |
| Mean | 1.24 | -0.34 | 1.58* | 1.41 | 0.71 | 0.70 | 0.88 |
| Std. Deviation | 5.88 | 5.13 | 4.09 | 6.64 | 6.57 | 4.02 | 4.06 |
| Median | 0.50 | 0.10 | 0.89 | 0.65 | 0.66 | 0.71 | 0.85 |
| Percent positive | 57.58 | 51.52 | 66.67 | 54.27 | 55.65 | 55.10 | 60.61 |
| Sign test (z-stat) | 49.50 | -19.50 | 111.50 | 6520.00 | 3906.50 | 5449.00 | 53.50 |
| Sign test (prob) | 0.38 | 0.73 | 0.04 | 0.00 | 0.05 | 0.01 | 0.35 |
| | | | UK | | | | |
| Mean | 4.13* | 2.51 | 1.62* | 1.62 | 1.24 | 0.38 | 1.24** |
| Std. Deviation | 11.00 | 10.65 | 3.46 | 6.25 | 5.96 | 3.97 | 3.58 |
| Median | 1.65 | -0.23 | 1.84 | 1.99 | 1.15 | 1.24 | 2.06 |
| Percent positive | 60.61 | 45.45 | 72.73 | 63.09 | 60.06 | 54.27 | 63.64 |
| Sign test (z-stat) | 129.00 | 27.00 | 133.00 | 10648.50 | 8152.50 | 3763.50 | 110.50 |
| Sign test (prob.) | 0.02 | 0.64 | 0.01 | 0.00 | 0.00 | 0.06 | 0.05 |
| | | | France | | | | |
| Mean | 2.94* | 0.58 | 2.36* | 1.63 | 1.23 | 0.41* | 1.95* |
| Std. Deviation | 9.14 | 7.83 | 4.99 | 7.47 | 6.49 | 4.50 | 5.05 |
| Median | 1.63 | -0.06 | 0.78 | 1.58 | 1.22 | 1.23 | 0.85 |
| Percent positive | 63.64 | 48.48 | 75.76 | 59.23 | 57.58 | 53.17 | 69.70 |
| Sign test (z-stat) | 102.00 | 9.50 | 158.00 | 8781.50 | 7872.00 | 3216.00 | 122.50 |
| Sign test (prob) | 0.07 | 0.87 | 0.00 | 0.00 | 0.00 | 0.11 | 0.03 |
| **Panel D: Dividend yield (D/P) as a value-growth indicator** | | | | | | | |
| | | | Japan | | | | |
| Mean | 1.20 | 0.22 | 0.98 | 1.33 | 0.75 | 0.58 | 0.40 |
| Std. Deviation | 6.17 | 7.23 | 5.31 | 6.77 | 6.63 | 4.74 | 5.62 |
| Median | 0.17 | 0.37 | 1.44 | 0.78 | 0.34 | 0.75 | 1.27 |
| Percent positive | 51.52 | 51.52 | 57.58 | 55.10 | 53.44 | 54.82 | 57.58 |
| Sign test (z-stat) | 38.50 | -20.50 | 76.50 | 6114.50 | 3488.50 | 4664.00 | 40.50 |
| Sign test (prob) | 0.50 | 0.72 | 0.18 | 0.08 | 0.02 | 0.08 | 0.48 |
| | | | UK | | | | |
| Mean | 4.06* | 2.46 | 1.61* | 1.35 | 1.27 | 0.08 | 1.53* |
| Std. Deviation | 9.67 | 11.17 | 4.31 | 5.92 | 6.05 | 3.57 | 4.28 |
| Median | 1.71 | -0.40 | 1.16 | 1.43 | 1.27 | 1.27 | 1.52 |
| Percent positive | 72.73 | 42.42 | 63.64 | 61.43 | 58.68 | 49.86 | 63.64 |
| Sign test (z-stat) | 155.50 | 18.50 | 103.00 | 8908.50 | 7812.50 | 425.50 | 110.50 |
| Sign test (prob.) | 0.00 | 0.75 | 0.06 | 0.00 | 0.00 | 0.83 | 0.05 |
| | | | France | | | | |
| Mean | 2.73* | 0.21 | 2.52** | 1.64 | 1.05 | 0.60** | 1.93* |
| Std. Deviation | 7.47 | 8.11 | 4.92 | 6.59 | 6.68 | 4.38 | 4.91 |
| Median | 2.09 | -1.16 | 1.86 | 1.66 | 0.87 | 1.05 | 1.46 |
| Percent positive | 69.70 | 48.48 | 66.67 | 61.71 | 58.95 | 58.68 | 75.76 |
| Sign test (z-stat) | 124.50 | -12.50 | 153.50 | 10459.50 | 6846.00 | 6596.50 | 137.50 |
| Sign test (prob) | 0.02 | 0.83 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |

*All firms included in the sample are sorted on the basis of book-to-market (B/M), earnings-price (E/P), cash earnings to price (CE/P), and dividend yield (D/P). Top 30 percent of firms in a given country form value portfolios (indicated with High), and bottom 30 percent of firms constitute growth portfolios (indicated with Low). The difference between high and low portfolios is indicated with H-L. The High, Low, and H-L values are shows for January and non-January months. The last column (Jan-NonJ) shows statistics for excess January H-L over non-January H-L. This table reports the mean, standard deviation, median percent positive, sign test, and p value of sign test statistics of value-weighted monthly returns of High, Low, and H-L portfolios. Panel A, B, C, and D use B/M, E/P, CE/P, and D/P ratios, respectively, to form value and growth portfolios. All returns reported are in percent. * and ** denote significance of Jan-Non-Jan at 5% and 10% level respectively. The sample period is 1975 to 2007.*

In Table 3, we report the January, non-January, and January minus non-January value premiums for two sub-samples: 1975-1990, and 1991-2007. The results indicate that high January value premium is not a result of sample selection bias and is evident in both samples. The January minus non-January value premium is of great economic importance but statistically not significant in many cases suggesting that large standard deviations of the value premium do not offer arbitrage opportunities. The non-significance of some Jan-NonJan should not be surprising given that Fama and French (1998) (Table III, page 1980) find that, out of their sample of thirteen countries, only five countries have significant value premium when B/M ratio is used to form value-growth portfolios (The number of countries with significant value premium declines for other ratios and are three for E/P, four for CE/P, and two for D/P ratios. When D/P

ratio is used, only Japan and France have significant value premium). Similarly, Capaul, Rowley, and Sharpe (1993) (Table IV, page 34) find that all six countries included in their sample (France, Germany, Switzerland, the U.K., Japan, and U.S.) have positive but non-significant value premium.

Table 3: Value-weighted Portfolio Returns for January And Non-January Months for Different Sub-samples

| | 1975-1990 | | | 1991-2007 | | |
|---|---|---|---|---|---|---|
| | **Japan** | **U.K.** | **France** | **Japan** | **U.K.** | **France** |
| *Book-to-market* | | | | | | |
| Jan | 0.03 | 2.75 | 3.52 | 4.52 | -0.10 | 1.71 |
| | 6.96 | 3.13 | 6.15 | 7.37 | 3.64 | 4.17 |
| NonJan | 0.81 | 0.14 | 0.46 | 0.71 | 0.20 | 0.12 |
| | 4.25 | 3.43 | 3.98 | 4.72 | 3.61 | 4.9 |
| Jan-NonJan | -0.78 | 2.61* | 3.06** | 3.81* | -0.30 | 1.60* |
| | (-0.41) | (3.47) | (1.92) | (2.10) | (-0.33) | (1.85) |
| *Earnings-price (E/P)* | | | | | | |
| Jan | -0.17 | 1.20 | 2.12 | 2.23 | 0.68 | 1.76 |
| | 5.36 | 4.07 | 5.29 | 4.81 | 2.87 | 3.76 |
| NonJan | 0.72 | -0.01 | 0.48 | 0.6 | 0.63 | 0.16 |
| | 4.14 | 3.26 | 3.92 | 4.06 | 3.53 | 4.15 |
| Jan-NonJan | -0.89 | 1.21 | 1.64 | 1.63 | 0.04 | 1.60* |
| | (-0.63) | (1.26) | (1.21) | (1.51) | (0.06) | (1.90) |
| *Cash-earnings to price (CE/P)* | | | | | | |
| Jan | 0.53 | 2.29 | 3.63 | 2.57 | 0.99 | 1.16 |
| | 2.99 | 3.72 | 6.60 | 4.80 | 3.18 | 2.42 |
| NonJan | 0.73 | 0.07 | 0.48 | 0.67 | 0.67 | 0.34 |
| | 4.31 | 3.76 | 4.34 | 3.75 | 4.15 | 4.67 |
| Jan-NonJan | -0.20 | 2.22* | 3.15** | 1.90** | 0.32 | 0.82 |
| | (-0.24) | (2.61) | -1.89 | (1.76) | (0.37) | (1.34) |
| *Dividend yield (D/P)* | | | | | | |
| Jan | 0.02 | 2.24 | 2.53 | 1.88 | 1.01 | 2.52 |
| | 5.72 | 5.06 | 5.39 | 4.90 | 3.53 | 4.60 |
| NonJan | 0.78 | -0.09 | 0.72 | 0.39 | 0.23 | 0.48 |
| | 4.64 | 3.49 | 4.65 | 4.83 | 3.66 | 4.12 |
| Jan-NonJan | -0.76 | 2.33** | 1.82 | 1.50 | 0.78 | 2.03 |
| | (-0.48) | (1.89) | (1.33) | (1.27) | (0.91) | (1.87) |

*All firms included in the sample are sorted on the basis of book-to-market (B/M), earnings-price (E/P), cash earnings to price (CE/P), and dividend yield (D/P). This table shows the difference between the average of value-weighted monthly returns of value portfolio consisting of top 30 percent (value) and growth portfolio of bottom 30 percent of firms in a given country for January (Jan) and Non-January (NonJan) months. The second number is standard deviation of value-weighted monthly returns. The numbers in parentheses are t statistics. The column Jan-NonJ shows statistics for excess January H-L over non-January H-L. The results shown are for sub-sample 1975-1990 and 1991-2007 respectively. * and ** denote significance of Jan-Non-Jan at 5% and 10% level respectively.*

It should be noted that January value premium is more volatile than non-January value premium. The non-January value premiums are very similar across the sub-samples. The January minus non-January value premium is mostly driven by higher January value premium. For example, the January value premium in Japan is 0.03% during 1975 to 1990 sub-period resulting in negative January minus non-January value premium. However, in the sub-period 1991-2007, the January minus non-January value premium is a remarkable 3.81% driven mostly by higher January value premium of 4.52%.

We also conduct the asset pricing tests to explain the January seasonal in the value premium. We follow Fama and French (2006) and use CAPM to test the January effect in the value premium. Our test model is

$$Premium_t = a + b(RM_t - RF_t) + JanDummy + e_t$$

where $Premium_t$ is value premium (value - growth) for month *t*, $RM_t$ is market return, $RF_t$ is one-month U.S. Treasury bill rate, and $JanDummy$, a dummy variable that takes the value 1 if month is January and zero otherwise. We use two different market returns, global market return and local market return. The monthly dollar returns of global and local market are calculated using MSCI indices.

In an efficient market, we should not expect these value premiums to be explained by the CAPM model. On the other hand, a positive $a$ would indicate existence of value premium in non-January months, and sum of $a + JanDummy$ is the total value premium in the month of January. A positive coefficient of $JanDummy$ implies that January value premium is greater than non-January value premium and would indicate presence of January seasonal in the value premium. We use all four ratios as value-growth indicators to calculate the value premiums. Table 4 reports results using book-to-market ratios as a value-growth indicator. Table 5 shows the coefficient of $JanDummy$ using E/P, CE/P, and D/P ratios as value growth indicators.

Table 4: CAPM Regressions Using Book-To-Market Ratios as a Value Growth Indicator

| | Japan | | UK | | France | |
|---|---|---|---|---|---|---|
| | $RM: Global$ | $RM: Local$ | $RM: Global$ | $RM: Local$ | $RM: Global$ | $RM: Local$ |
| a | 0.85** | 0.80* | 0.14 | 0.16 | 0.23 | 0.21 |
| t(a) | 3.38 | 3.17 | 0.75 | 0.85 | 0.96 | 0.86 |
| b | -0.17* | -0.08** | 0.06 | 0.02 | 0.09** | 0.09* |
| t(b) | -2.91 | -1.96 | 1.37 | 0.58 | 1.66 | 2.52 |
| Jan | 1.71** | 1.57** | 1.07** | 1.08** | 2.24* | 2.29* |
| t(Jan) | 1.97 | 1.81 | 1.67 | 1.67 | 2.72 | 2.79 |
| R Sq | 0.03 | 0.02 | 0.01 | 0.01 | 0.03 | 0.04 |
| F Value | 5.90 | 3.59 | 2.44 | 1.64 | 5.38 | 7.14 |
| Nobs | 396 | 396 | 396 | 396 | 396 | 396 |

*The regression model used is $Premium_t = a + b(RM_t - RF_t) + JanDummy + e_t$ where $Premium_t$ is value premium (difference between value-weighted returns of high and low book-to-market portfolios) for month t, $RM_t$ is either global market or local market returns in US dollars, $RF_t$ is one-month U.S. Treasury bills rate, $JanDummy$ is a dummy variable which takes value of 1 if month is January and 0 otherwise. t() is the t-statistics of a regression coefficient, and R sq is the coefficient of determination. Nobs is number of months included in the sample. The sample period is 1975 to 2007. * and ** denote significance at 5% and 10% level respectively.*

Table 4 confirms the existence of seasonality in the book-to-market effect. The positive and significant coefficients of $JanDummy$ across all countries suggest that value premium seasonality is not a manifestation of a single country. Since our sample constitutes of most of the developed markets outside of North America, it is safe to say that January effect observed in our results is prevalent in countries outside of the U.S.

Table 5: CAPM Regressions using Earnings-price, Cash Earnings to Price, and Dividend Yield ratios as Value Growth Indicators

| **Panel A: RM − Global** | | | | | | |
|---|---|---|---|---|---|---|
| | Earnings-price (E/P) | | Cash earnings to price (CE/P) | | Dividend Yield (D/P) | |
| | $JanDummy$ | t($JanDummy$) | $JanDummy$ | t($JanDummy$) | $JanDummy$ | t($JanDummy$) |
| Japan | 0.52 | 0.69 | 0.94 | 1.28 | 0.54 | 0.63 |
| UK | 0.56 | 0.90 | 1.19** | 1.67 | 1.59* | 2.40 |
| France | 1.57* | 2.12 | 1.92* | 2.31 | 2.02* | 2.43 |
| **Panel B: $RM - Local$** | | | | | | |
| Japan | 0.38 | 0.52 | 0.88 | 1.20 | 0.39 | 0.45 |
| UK | 0.66 | 1.06 | 1.24** | 1.73 | 1.70* | 2.59 |
| France | 1.60* | 2.18 | 1.93* | 2.69 | 1.94* | 2.43 |

*The regression model used is $= a + b(RM_t - RF_t) + JanDummy + e_t$ where $Premium_t$ is value premium (difference between value-weighted returns of high and low portfolios sorted on earnings-price ratio, cash earnings to price ratio, and dividend yield) for month t, $RM_t$ is either global market or local market returns in US dollars, $RF_t$ is one-month US Treasury bills rate, $JanDummy$ is a dummy variable which takes value of 1 if month is January and 0 otherwise. This table shows the regression coefficient and t-statistics of the dummy variable, $JanDummy$. * and ** denote significance at 5% and 10% level respectively. The sample period is 1975 to 2007.*

In Table 5, we report the coefficients of $JanDummy$ using E/P, CE/P, and D/P as value-growth separators. Panels A and B report results with excess global and local market returns, respectively, as one of the explanatory variables. The results clearly indicate presence of January seasonal, consistent with our earlier findings. For example, in case of France, the coefficients of *JanDummy* in panel A are 1.57 (t-statistic = 2.12), 1.92 (t-statistic = 2.31), and 2.02 (t-statistic = 2.43) for regressions based on E/P, CE/P,

and D/P as value growth indicators respectively. Similarly, when local market (panel B) is used as a proxy for market portfolio, the coefficients of *JanDummy* for regressions using E/P, CE/P, and D/P as value growth indicators are 1.60 (t-statistic = 2.18), 1.93 (t-statistic = 2.69), and 1.94 (t-statistic = 2.43) respectively. Consistent with our results in Table 4, these positive coefficients suggest that January effect of value premium is real and not an outcome of using any specific ratio as a value-growth indicator.

Finally, in Table 6, we investigate whether our findings have implications for the success, or otherwise, of investment strategies based on the existence of a seasonal value premium. In other words, we analyze whether a portfolio formed on buying value stocks and selling growth stocks in January performs better than the one in non-January months. We compare two different investment strategies. Investment strategy 'Jan' is defined as holding value minus growth portfolio in January and one-month US treasury bills in non-January. 'Non-Jan' investment strategy is holding value minus growth portfolio during non-January months and US treasury bills in January. We compare the returns generated by above-mentioned investment strategies for the sample period 1975 to 2007 and two subsamples period of 1975-1990 and 1991-2007. The results are reported in Table 6.

The results presented in Table 6 show that for the sample period 1975-2007, 'Jan' strategy based on B/M as a value growth indicator outperforms 'Non-Jan' strategy by 5.33% (7.78% - 2.45%) in France and 4.88% (6.56% - 1.68%) in the UK. The Jan strategy does not perform better in Japan mainly because of poor performance in the first half of our sample period. When we only consider the 1991-2007 period, 'Jan' strategy generates superior return even in Japan. Clearly, the January seasonal affects the performance of different investment strategies.

Table 6: Comparison of Different Investment Strategies

| **Panel A: Sample Period 1975:01-2007:12** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Country | B/M | | E/P | | CE/P | | D/P | |
| | Jan | Non-Jan | Jan | Non-Jan | Jan | Non-Jan | Jan | Non-Jan |
| Japan | 7.41 | 7.70 | 6.27 | 6.76 | 6.84 | 7.27 | 5.81 | 5.61 |
| UK | 6.56 | 1.68 | 6.21 | 3.37 | 6.90 | 3.75 | 5.81 | 0.60 |
| France | 7.78 | 2.45 | 7.17 | 3.03 | 7.57 | 3.82 | 5.81 | 5.98 |
| **Panel B: Subsample Period 1975:01-1990:12** | | | | | | | | |
| Japan | 6.99 | 8.50 | 6.91 | 7.56 | 7.72 | 7.62 | 7.85 | 8.06 |
| UK | 9.92 | 1.52 | 8.36 | -0.10 | 9.44 | 0.56 | 7.85 | -1.05 |
| France | 10.55 | 4.76 | 9.22 | 5.06 | 10.63 | 4.82 | 7.85 | 7.30 |
| **Panel C: Subsample Period 1991:01-2007:12** | | | | | | | | |
| Japan | 8.58 | 7.03 | 6.45 | 6.09 | 6.79 | 7.02 | 4.76 | 3.39 |
| UK | 4.18 | 1.92 | 4.98 | 6.72 | 5.28 | 6.85 | 4.76 | 2.23 |
| France | 5.97 | 0.36 | 6.03 | 1.20 | 5.47 | 2.96 | 4.76 | 4.82 |

*This table reports annual returns generated by two investment strategies: 'Jan' and 'Non-Jan'. Jan strategy is defined as holding value minus growth portfolio in January and one-month US treasury bills in non-January. Non-Jan investment strategy is holding value minus growth during non-January months and US treasury bills in January. The different ratios used to sort value and growth stocks are book-to-market (B/M), earnings-to-price (E/P), cash earnings to price (CE/P), and dividend yield (D/P). Panel A reports annual average return generated over sample period 1975-2007. Panel B and Panel C are for sub-sample periods 1975-1990 and 1991-2007 respectively. All returns reported are based on U.S. dollar and are in percent.*

## DISCUSSION

In this study we cannot tell whether positive value minus growth premiums for Japan, France and the U.K. are due to irrational investor behavior as described by behavioral theories or whether they result from compensation for risk as suggested by Fama and French (1993, 1995, and 1996). If the value premium of stocks is due to underlying risk, then the value premium should be evenly distributed among all the calendar months and should not appear only in January. Our results suggest that value stocks tend to have higher returns than growth stocks and this effect is more pronounced and impressive in January. As such, we lend support to behavioral explanation instead of risk-based one for January effect on value premium.

There is a large literature using financial market data to explore the causes of a 'January effect' which produces higher stock prices in January than in other months of the year. Proposed explanations of the January effect include tax-loss selling and window dressing. The tax-loss selling hypothesis holds that sales of 'loser' stocks in mid-December to establish tax losses tend to drive security prices below what they should be in light of earnings. Tax-loss-selling as an explanation of excess January value premium is rejected because the financial year for tax purposes in Japan and the U.K. ends in March and both countries exhibit strong January value premium. Yet another reason for rejection is that increasing number of people are using tax-sheltered retirement plans and therefore have no reason to sell at the end of the year for a tax loss. Window dressing hypothesis proposes that institutional investors 'window dress' their portfolios prior to disclosure in December by tilting their stocks with 'winner' stocks and sell 'loser' stocks. Though it seems that window dressing can be a possible explanation of the pronounced January value premium, the framework of our study does not allow us to test for this hypothesis.

## CONCLUSION

Value stocks are those firms with high ratios of book-to-market equity (B/M), earnings to price (E/P), cash earnings to price (CE/P), or dividends to price (D/P) and growth stocks are those with low ratios. Value stocks have outperformed growth stocks over long periods in many countries. This difference in higher average returns for value stocks and lower average returns for growth stocks is defined as value premium. While this phenomenon may be a manifestation of a systematic risk premium, the precise nature of that risk is not fully understood. Whether value premium reflects fully rational risk premium, market irrationality or some of both still is a matter of considerable controversy in empirical finance.

This study examines monthly returns on value and growth portfolios for the period 1975-2007 to test for the existence of January effect on value premium for Japan, the U.K., and France. These three countries constitute more than 54% of developed market outside of North America. We use four different ratios to sort value and growth stocks: book-to-market; earnings-price; cash earnings to price; and dividend yield. The top (bottom) 30% of a sort ratio constitute value (growth) portfolio.

Using value-weighted monthly portfolio returns from three different stock markets over the period of January, 1975 through December, 2007, we provide evidence supporting that monthly return distributions of value premium in January have large means relative to the remaining eleven months. The difference between January and non-January value premium is mostly positive and statistically significant. In particular, value premium for January month is nearly three to nine times that of non-January months. Annualized value premiums for January (non-January months) for Japan, the U.K. and France are 28.08% (9.12%), 15.36% (2.04%), and 30.96% (3.48%) respectively. We report strong international evidence supporting that the calendar effect of value premium exists in stock markets of Japan, the U.K. and France. Results are robust with respect to different value-growth indicators as well as sample periods. Evidence of greater value premium for January is further confirmed by regression tests with explanatory variables of excess market return and a dummy variable for January month. The findings are consistent with Loughran (1997), Daniel and Titman (1997), and Chou, Das, and Rao who report pronounced January value premium in large stocks in the U.S. equity market.

One of the limitations of this study is that the value premium may be sample specific. Its appearance in past stocks return is a chance result unlikely to recur in future returns. A standard check on this argument is to test for a value premium in other samples. However, we believe that our results are not a sample specific event because chance alone cannot explain the consistent strong January value premium observed in major stock markets globally. Data availability substantially limits the stocks included in the sample.
Our sample (MSCI indices) is biased towards large cap stocks. It would be interesting to investigate whether our results hold for a portfolio biased toward small-cap stocks. Nevertheless, MSCI indices

constitute greater than 80% of the market's invested wealth and provide a good description of the market performance.

Many issues remain for future research. In particular, future research may focus on microstructure considerations, window dressing hypothesis, and portfolio rebalancing as possible explanations for January effect. Research may also consider optimal investment policy based on the magnitude of future value premium. An interesting question concerns the relationship between future return premiums to value factor and the arbitrage opportunities.

This study has broad implications for the success of investment strategies based on the existence of a value premium. Investors should also keep a close eye on January since it might have an outsize impact on the rest of the year's trading. In the absence of a well-articulated theory to explain the seasonal effect in the value premium, we are unable to predict whether this phenomenon will persist, diminish, or disappear in the coming years.

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