The January Effect in Preferred Stock Investments

Daniel E. Vetter
Central Michigan University

John R. Wingender
Oklahoma State University

This study investigates the existence of a January effect in preferred stock returns. The findings indicate a significant positive return from investing in a preferred stock index and individual preferred stock issues in January. In addition, the risk-return tradeoff is superior in January to other months. Because the January seasonality anomaly is found in both the common and preferred equity market, a common explanation is possible.

INTRODUCTION

A January anomaly regularly has been detected in common stock returns, but it has not been investigated in preferred stock returns. Recent studies have tried to test whether or not the January effect is market dependent or financial asset dependent. For example, the January effect has been found in the common stock returns of many different countries, in certain bond series, and in the derivative securities of options and convertible bonds.

Studying the behavior of the preferred stock market is important. First, the preferred equity market still plays an important role as a source of capital for U.S. corporations. Second, if evidence of seasonality is found in the preferred stock market, studies that examine the reasons for seasonality can focus on factors common to all markets. If seasonality is not found in the preferred stock market, then researchers can concentrate on factors unique to the other markets. Therefore, in this study we extend the investigation into the previously unexamined market of preferred stock.

The following section reviews the literature on the January seasonal in various markets and financial assets. The sample is described. In assessing whether the January effect is present in preferred stock returns, both an index (Standard & Poor's preferred stock price index) and individual preferred stock returns are investigated. In the methodology section the tests for seasonality are presented, and the results document the substantial January seasonal in the two samples of preferred stock returns.

PREVIOUS RESEARCH

A pattern of returns for financial assets that is much higher in the month of January than in the other months of the year has been documented by many researchers. In a most readable account of the January effect, Haugen and Lakonishok (1988) recount the discovery of the common stock anomaly. Dyl (1977) and Rozeff and Kinney (1976), among others, detect abnormal returns in common stocks during the month of January. A satisfactory explanation for the January phenomenon has not been uncovered. One of the most

0747-5535/96/1600-0079 $02.50

examined explanations has been the tax effect. Pettengill (1986), however, has found the January anomaly in U.S. common stock returns before income taxes were in effect. In addition, Gultekin and Gultekin (1983) have found the January seasonal in the stock returns of 13 industrial countries with various tax laws. Aggarwal, Hiraki, and Rao (1990) and Jaffe and Westerfield (1985) have found the January seasonal in Japan, while Aggarwal and Rivoli (1989) have found the existence of the January effect in common stock returns of emerging Asian markets. Although these studies consider the same financial asset (common stock), the various countries have different market structures that could confound the tax issues. Thus, it is unlikely that any tax explanation alone will be able to describe the January effect fully.

Additional research into the January effect has indicated support for various other anomalies, such as the P/E, the dividend yield, the winners versus losers, and the size effects. The progression of research indicates that the January effect is driven by small companies. This fact would bias (e.g., Roll 1983) research on equally weighted indices toward finding a January effect. Thus, Lakonishok and Smidt (1988) did not find the January effect in their 90 year study of the Dow Jones Industrial Average, a price-weighted index. Ritter and Chopra (1989) use a value-weighted index to study individual common stock return patterns and find that the January effect is mainly due to small and risky companies. Their findings suggest that portfolio balancing is a reasonable explanation for the January seasonal in common stock returns.

On the other hand, studies investigating the January effect in other financial assets' returns where the size issue is ambiguous have found mixed seasonality results. Wilson and Jones (1990) suggest that neither the tax-loss selling nor portfolio rebalancing arguments adequately explain the seasonality in corporate bonds and commercial paper series. Schneeweis and Woolridge (1979) examine bond returns from corporate, public utility, municipal, and the ten year U.S. Treasury government bond indices. Jordan and Jordan (1991) investigate seasonalities in corporate bond indices. Smirlock (1985) also investigates a long-term government bond series, as well as long-term corporate bonds of high and low quality. Chang and Pinegar (1986) examine individual bond return data. While these bond studies have not yielded consistent findings, they do find that the January seasonal is most pronounced in more risky bonds. Mann and Solberg (1989) find a link between the default premium for corporate bonds and seasonality. They find that the riskier the bond, the stronger the January effect. Thus, a general characterization of these studies is that the more risky the bond instrument, the more like common stock a bond is; therefore, the more likely the bond is to demonstrate seasonality. Dickinson and Peterson (1989) with options and Ma, Rao, and Weintraub (1988) with convertible bonds have found that other stock-like derivative securities demonstrate the January effect. The findings of January seasonality in these financial assets are essentially independent of the small firm effect.

One large U.S. capital market that has not been investigated for seasonality is that of preferred stock. Preferred stocks are traded on the New York Stock Exchange. They are issued by larger companies and are liquid. Thus, in this research we propose to test for the January effect in individual preferred stock returns and a preferred stock index.

DATA

There are two preferred stock samples examined in this study. The first sample of preferred stock data is from the Standard & Poor's preferred stock price index. These data are gathered in order to test for seasonality in a general index of preferred stock returns (as has been done in most of the previously cited studies). The data are available from 1935 through 1987. The Standard & Poor's preferred stock price index is used to calculate the monthly returns. The formula is:

$$R_t = \frac{(P_t - P_{t-1})}{P_{t-1}},$$

where:

R_t = Monthly index return;
P_t = Price level for month t; and
P_{t-1} = Price level for month t - 1.

Because the Standard & Poor's monthly index is determined as the average of the weekly indexes for each month, the reported monthly return does not measure the return from the first of the month to the last as it is influenced by price changes in the previous month as well as the current month. There are 53 years of monthly price levels, but we report 52 years of monthly returns to include returns for entire years: 1936 through 1987.

The second sample consists of 90 individual preferred stock issues traded continuously on the New York Stock Exchange (NYSE) from January 1968 through December 1986. The preferred stock issues carry no sweeteners or special conditions; i.e., the preferred stock issues have stated dividends and cumulative, nonparticipating, nonvoting, and nonconvertible provisions. The sample selection identifies 90 preferred stock issues for 34 firms. The selected companies are from different industries that have varying dividend payout policies and capital structures. Because the issues are listed on the NYSE, liquidity risk is minimized. The time periods used in the study cover several market cycles and give us the opportunity to study the seasonality pattern of preferred stocks over a long period of time.

The monthly return series for the second sample is based on the total return and must be calculated for this study. Monthly closing preferred stock prices are recorded from the *Daily Stock Price Record* published by Standard & Poor's. Dividends and ex-dividend dates are obtained from *Moody's Dividend Record* for the same time period. In order to calculate monthly holding period returns, we match the monthly closing prices with the dividend in the ex-dividend month. Thus, there are over 19,000 preferred stock monthly return observations in the second sample.

METHODOLOGY

There is no underlying theory to suggest a particular seasonal pattern for preferred stock returns. The first approach to detect seasonality in preferred stock returns is to compute the descriptive statistics for the average return of each month for each sample. The

first statistical test is of the null hypothesis that the mean monthly return is equal to zero. The finding that an average monthly return is statistically different from zero would reject the hypothesis that the monthly return is equal to zero. A larger return for one month than other months would indicate a seasonal pattern. January specifically is compared to the combination of all the other months to see if the January seasonal found in other assets may be present in preferred stock returns.

In the descriptive statistics, the coefficient of variation (standard deviation divided by mean return) is reported. This statistic can be used to compare the risk-return performance of the preferred stock returns in January to the returns of the other months. This approach can check for a seasonal pattern in the risk-return relationship of preferred stocks similar to that of common stocks found by Tinic and West (1984).

Seasonality patterns also can be detected by regression analysis which effectively tests the difference of the mean January return versus all the other months of the year. The model is estimated as follows:

$$R_t = b_0 + b_1 \, Jan_t + e_t$$

where:

b_0 = The intercept of the model which is the average monthly return for the months other than January;
b_1 = The slope of the model which is the excess return for January; and
Jan_t = One for January returns and zero otherwise.

A positive and significant b_1 is consistent with a January seasonal in preferred stock returns.

RESULTS

The results of the descriptive statistics for the preferred stock samples are reported in Table 1. January has a much higher average return than any other month of the year in both samples. In the index, the January return is 1.26 percent and statistically significant at the .01 level versus the next highest monthly return which was in February (.35 percent). The only other months with positive returns are July and August, but these returns are statistically insignificant. In the sample of 90 preferred stocks the average return in January is 3.94 percent and statistically significant at the .01 level. The next highest monthly return is November (1.52 percent). The majority of the average monthly returns are positive and statistically significant. Nevertheless, they are well below the January average of 3.94 percent.

The risk-return relationship for January may be much better than for another month. The coefficient of variation compares the seasonal risk of investing in preferred stocks (as measured by the standard deviation) relative to its average return. Negative values are inferior to positive values. The lower the coefficient of variation, the better the return per unit of risk. In both samples the best coefficient of variation is for the January returns. Therefore, the evidence indicates that a January effect is present in the risk-return relationship of preferred stock returns.

Table 1—Descriptive Statistics

Month	Mean	t-Statistic	Standard Deviation	Coefficient of Variation
Panel A: S&P Preferred Stock Price Index's Monthly Percent Changes from 1936-1987 (n = 52 per month; 624 total observations)				
January	1.26	5.20**	1.74	1.39
February	0.35	1.73*	1.45	4.17
March	-0.22	-0.71	2.24	-10.1
April	-0.59	-2.17*	1.94	-3.32
May	-0.54	-1.84*	2.17	-3.92
June	-0.32	-1.24	1.88	-5.83
July	0.02	0.1	1.44	70.99
August	0.24	1.07	1.67	6.71
September	-0.55	-1.97*	2.00	-3.65
October	-0.34	-1.34	1.84	-5.39
November	-0.07	-0.24	2.07	-30.28
December	-0.39	-1.26	2.21	-5.73
Panel B: Average Monthly Preferred Stock Returns for 90 Issues from 1969-1986 (n = 1,620 per month; 19,440 total observations)				
January	3.94	28.64*	5.53	1.405
February	1.15	10.09*	4.58	3.986
March	-0.22	-1.95	4.53	-20.622
April	0.38	2.94	5.34	13.679
May	0.48	4.17	4.59	9.642
June	0.51	4.39*	4.64	9.167
July	0.23	2.10**	4.44	19.129
August	1.13	8.66*	5.24	4.65
September	0.15	1.33	4.64	30.291
October	0.74	5.80*	5.15	6.94
November	1.52	11.69*	5.23	3.442
December	-0.72	-5.38*	5.39	-7.481

* 0.01 level of significance
** 0.1 level of significance

Table 2 shows the number as well as the proportion of average monthly returns that are significantly different from zero. For January, 72 of the 90 preferred stock issues or 80 percent have a mean return that is significant at the .01 level. None of the other months exhibit such a high percentage. These findings suggest a significant January effect.

The estimation of regression model is reported in Table 3. The results also indicate a significant seasonality in preferred stock returns. The February-December average monthly returns are -.22 and .49 for the preferred stock index and sample, respectively. In addition, January's returns average about 1.47 percent above the returns of the other months in the Index and about 3.45 percent above the other months in the sample of 90 preferred stocks. In other words, the January returns are found to be significantly different from the average return of all the other months of the year for both samples. These findings indicate that a significant degree of positive return from investing in preferred stock occurs in January.

CONCLUSION

This study examines the possibility that the January seasonality effect can be observed in the preferred equity market. We find a significant seasonality in January returns of preferred stocks like that of the common stock market. The reasons for season-

ality in financial asset returns are not well understood. If seasonalities can be found in various financial assets traded in similar markets, there should be a common explanation; the seasonality existence may be due to the same effects. Based upon this evidence, the factor(s) that cause seasonality could be common to all markets.

Table 2—Frequency Distribution of the Average Monthly Returns of 90 Individual Preferred Stocks Statistically Different from Zero at the .01 Level of Significance or Less (n = 1,080; 12 months times 90 issues)

Month	Number of Average Monthly Returns Significantly Different From Zero (.01 Level of Significance)	Percent %
January	72	80
February	6	7
March	2	2
April	1	1
May	4	4
June	1	1
July	1	1
August	3	3
September	1	1
October	3	3
November	12	13
December	2	2

Table 3—Regression Analysis, January Returns vs. All Other Months

Coefficient	Estimate	t-Statistic
Panel A: S&P Preferred Stock Price Index ($R_t = b_0 + b_1 Jan_t + e_t$)		
Intercept	-0.22	-2.75*
b1	1.47	5.34**
F Value = 28.55		
$R^2 = 0.044$		
Prob. > F = 0.0001		
Adjusted $R^2 = 0.042$		
Panel B: 90 Preferred Stocks ($R_t = b_0 + b_1 Jan_t + e_t$)		
Intercept	0.49	13.03**
b1	3.45	26.74**
F Value = 715.25		
$R^2 = 0.036$		
Prob. > F = 0.0001		
Adjusted $R^2 = 0.035$		

* 0.10 level of significance
** 0.01 level of significance

REFERENCES

1. Aggarwal, A., T. Hiraki, and R. Rao, "Regularities in the Tokyo Stock Exchange Security Returns: P/E, Size, and Seasonal Influences," *Journal of Financial Research*, 13 (Fall 1990), pp. 249-263.

2. Aggarwal, R., and P. Rivoli, "Seasonal and Day-of-the-Week Effects in Four Emerging Stock Markets," *Financial Review*, 24 (November 1989), pp. 541-550.

3. Bildersee, J., "Some Aspects of the Performance of Non-Convertible Preferred Stocks," *Journal of Finance*, 28 (December 1973), pp. 1187-1201.

4. Branch, B., "A Tax Loss Trading Rule," *Journal of Business*, 50 (April 1977), pp. 198-207.

5. Brown, P., D. Keim, A. Kleidon, and T. Marsh, "Stock Return Seasonalities and Tax-Loss Selling Hypothesis: Analysis of the Australian Evidence," *Journal of Financial Economics*, 12 (June 1983), pp. 105-127.

6. Chang, E., and J. Pinegar, "Return Seasonality and Tax-Loss Selling in the Market for Long-Term Government and Corporate Bonds," *Journal of Financial Economics*, 17 (September 1986), pp. 391-414.

7. Constatinides, G., "Trading with Personal Taxes: Implications for Prices and Abnormal January Returns," *Journal of Financial Economics*, 13 (March 1984), pp. 65-89.

8. Dickinson, A., and D. Peterson, "Seasonality in the Option Market," *Financial Review*, 24 (November 1989), pp. 529-540.

9. Dyl, E., "Capital Gains Taxation and the Year-End Stock Market Behavior," *Journal of Finance*, 32 (March 1977), pp. 165-175.

10. Fooladi, I., and G. Roberts, "On Preferred Stocks," *The Journal of Financial Research* (Winter 1986), pp. 319-324.

11. Givoly, D., and A. Ovadia, "Year-End Tax-Induced Sales and Stock Market Seasonality," *Journal of Finance*, 38 (March 1983), pp. 171-185.

12. Gultekin, M., and N. Gultekin, "Stock Market Seasonality: International Evidence," *Journal of Financial Economics*, 12 (December 1983), pp. 469-481.

13. Haugen, R., and J. Lakonishok, *The Incredible January Effect* (Homewood, Illinois: Dow Jones-Irwin, 1988).

14. Jaffe, J., and R. Westerfield, "Patterns in Japanese Common Stock Returns: Day of the Week and Turn of the Year Effects," *Journal of Finance*, 20 (June 1985), pp. 261-272.

15. Jordan, S.D., and B.D. Jordan, "Seasonality in Daily Bond Returns," *Journal of Financial and Quantitative Analysis*, 26 (June 1991), pp. 269-282.

16. Khaksari, S., and E.L. Bubnys. "Risk Adjusted Day-of-the-Week, Day-of-the-Month, and Month-of-the-Year Effects on Stock Indexes and Stock Index Futures," *Financial Review*, 27 (November 1992), pp. 531-552.

17. Lakonishok, J., and S. Smidt, "Are Seasonal Anomalies Real? A Ninety Year Perspective," *The Review of Financial Studies*, 1 (Winter 1988), pp. 403-425.

18. Ma, C., R. Rao, and H. Weintraub, "The Seasonality in Convertible Bond Markets: A Stock Effect or Bond Effect?" *Journal of Financial Research*, 11 (Winter 1988), pp. 335-347.

19. Mann, S., and D. Solberg, "Seasonality in Corporate Bond Default and Term Premia," working paper, South Carolina University, 1989.

20. *Moody's Dividend Record*, various issues, 1968-1986.

21. Pettengill, G., "A Non-Tax Cause for the January Effect? Evidence from Early Data," *Quarterly Journal of Business and Economics*, 25 (Summer 1986), pp. 15-33.

22. Ritter, J., and N. Chopra, "Portfolio Rebalancing and the Turn-of-the-Year Effect," *Journal of Finance*, 44 (March 1989), pp. 149-166.

23. Roll, R., "Vas ist Das? The Turn-of-the-Year Effect and the Return Premium of Small Firms," *Journal of Portfolio Management*, 9 (Winter 1883) pp. 18-28.

24. Rozeff, M., and W. Kinney, Jr., "Capital Market Seasonality: The Case of Stock Returns," *Journal of Financial Economics*, 3 (September 1976), pp. 379-402.

25. Schneeweis, T., and J. Woolridge, "Capital Market Seasonality: The Case of Bond Returns," *Journal of Financial and Quantitative Analysis*, 14 (December 1979), pp. 939-958.

26. Smirlock, M., "Seasonality and Bond Market Returns," *Journal of Portfolio Management*, 12 (Spring 1985), pp. 42-44.

27. *Standard & Poor's Daily Stock Price Record* (New York, N.Y.: Standard & Poor's Corporation, various issues, 1968-1986).

28. *Standard & Poor's Security Price Index Record* (New York, N.Y.: Standard & Poor's Corporation, 1988).

29. Tinic, S., and R. West, "Risk and Return: January vs. the Rest of the Year," *Journal of Financial Economics*, 13 (Winter 1984), pp. 561-574.

30. Wilson, J., and C. Jones, "Is There is January Effect in Corporate Bond and Paper Returns?" *Financial Review*, 25 (February 1990), pp. 55-79.

Market Risk Premiums and the Macroeconomy: Canadian Evidence of Stock Market Predictability

John J. Schmitz*
University of Western Ontario

A simple theory for the formation of expected equity market risk premiums is presented that hypothesizes that premiums are correlated negatively with recent lags of output growth rates and correlated positively with future output growth rates. Both propositions are supported by Canadian data. The theory, by linking market premiums to the current and future health of the economy, allows for the modeling of market risk premium expectations as a function of financial state variables if the state variables can be shown to predict output growth. Five state variables are studied: dividend yield, default spread, term spread, T-bill rate, and industrial production growth. Significant forecasting power is found in ***ex post*** *regressions of quarterly and annual market risk premiums on the financial state variables over the 38 year sample period. To test the* ***ex ante*** *predictive power and profitability of the model, a moving window regression analysis is performed. Based on a simple investment rule, the model generates a return that is 356 basis points per annum higher than the return of the Toronto Stock Exchange 300 total return index with only 73 percent of the risk.*

INTRODUCTION

There has been much interest in the academic community regarding stock market predictability. Two broad streams of research have evolved. First, there is the stream that shows stock returns are predictable from previous returns. Fama and French (1988b), Lo and MacKinlay (1988), Poterba and Summers (1988), and Jegadeesh (1990) show that short-term stock returns exhibit significant positive serial correlation and long-term stock returns exhibit significant negative serial correlation. Brock, Lakonishok, and LeBaron (1992) and Jegadeesh and Titman (1993) examine technical trading rules and relative strength models, respectively, and demonstrate they may be implemented profitably. Second, many researchers have examined the predictability of stock returns using economic variables both endogenous and exogenous to the equity markets. For example, Campbell (1987), Fama and French (1988a, 1989), Fama (1990), Chen (1991), Harvey (1991), Campbell and Hamao (1992), and Ferson, Foerster, and Keim (1993) examine the predictability of stock returns from various economic variables.

This study follows the second stream by examining the predictability of stock market returns, or more specifically stock market risk premiums, using observable macroeconomic state variables. Risk premiums have been shown by Ferson and Harvey (1991) to account for the vast majority of the predictability of stock returns at the portfolio level and therefore are used instead of real stock market returns in this paper. The paper proceeds under the premise that if it is possible to find a set of financial state variables that predict

* The author is grateful for the helpful comments of Stephen R. Foerster, John S. Hulland, Joseph P. Kairys Jr., and Ronald G. Wirick. Useful comments also were received from Angela Downey and Robert Giberson, seminar participants at a Western Business School colloquium and the 1993 Northern Finance Association Meetings held in Halifax, Nova Scotia.

0747-5535/96/1600-0087 $02.50