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FISCAL YEAR END AND THE JANUARY EFFECT:
A NOTE

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ABSTRACT

The fiscal year and the calendar year coincide for a large frac-
tion of firms traded in the New York and American Stock Ex-
changes. It is therefore possible that part of the large positive
abnormal return earned by stocks as a group during the first week
of trading in January may be due to temporal resolution of uncer-
tainty accompanying the end of the fiscal year. We study this
hypothesis by examining whether stocks of firms with fiscal years
ending in months other than December also realize positive ab-
normal returns, following the end of their fiscal years. We find
that there are no excess returns for such firms in the first five
trading days following the end of the fiscal year.

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Introduction

Several researchers have found that stock returns exhibit seasonal cyclical behavior. Rozeff and Kinney [1976] find that the average monthly return on the equally weighted index of the NYSE stocks exhibit a large monthly return in January relative to the other eleven months, during the period 1904-1974. Keim [1983] presents evidence that the January effect is more pronounced during the first five trading days in January for firms in the smallest size decile. Several hypotheses have been advanced to explain this phenomenon. Branch [1977], Roll [1982] and Reinganum [1983] argue that part of the January effect may be due to investors taking tax losses. These authors present evidence that shows that the stocks' prior six month return tend to be negatively related to the subsequent turn of the year return. However, tax loss selling can not explain the entire January seasonal effect, since (i) as Reinganum points out even small firms which were winners in the previous year exhibit large positive January abnormal returns, and (ii) as Keim [1983a] finds, the abnormal return is too large and too insensitive to variations in the tax rate to be explained by the time value of the taxes saved.[1]

The month of January is also important in an informational sense, since the fiscal year of more than half the firms in the NYSE and AMEX ends on December 31. If a substantial part of the information of value contained in annual reports are available to corporate insiders by the end of December, then we may expect that this information will leak to the market through the trading process. This suggests that January marks a period of increased

uncertainty for most firms. Since information about most of the firms is made available at the same time, the associated risks are unlikely to be "diversifiable." It is therefore conceivable that part of the large January returns are due to temporal resolution of uncertainty taking place in January. To the extent that larger firms are followed by more analysts, we may also expect that January will be less important in an informational sense for larger firms when compared to the smaller firms.

If we find higher than average returns during the first five trading days even for firms whose fiscal years end in months other than December, then it would be reasonable to suppose that part of the abnormally high average returns during the first five trading days in January is due to resolution of uncertainty. Table 1 gives the distribution of firms with fiscal year ending in December and months other than December in the largest and the smallest size decile. Notice that 60 percent of all the firms in the sample have fiscal year ending in December. Because of this clustering, January is likely to be much more important with respect to temporal resolution of uncertainty than other months. Hence the effect is likely to be less pronounced on the first week of the fiscal year for non-December fiscal year firms. With this caveat in mind, we examine the daily excess returns on the first five trading days of the fiscal year for firms in different size classes. We find that there are no significant excess returns for firms with non-December fiscal years.

2. Methodology

2.1 The Data

We use daily return data from the Center for Research in Securities Prices at the University of Chicago (CRSP tape) during the period 1971-84. The fiscal years are from the 1984 Standard and Poor's Quarterly Industrial Compustat Services tape (COMPUSTAT).

2.2 Excess Return Measures

We start with the null hypothesis that there are no time variations in expected returns. To test whether expected returns are higher during the first five trading days of the fiscal year, we examine the excess returns around these days, using the event study methodology. We use the Mean Adjusted Return model to compute the excess returns.

We assume that nominal returns are generated according to the following process:

$$(1) \qquad r_{jt} = \mu_{jt} + \varepsilon_{jt}$$

where, r_{jt} denotes the continuously compounded rate of return on security j on day t, μ_{jt} denotes the day t expected return on security j, ε_{jt} denotes the excess return on security j on day t, and σ^2_{jt} denotes the variance of the excess return.

For notational simplicity, we will assign a unique label i, $i = 1, \ldots, n$, to each fiscal year of each firm, where n is the number of total firm-fiscal years in the sample period. We examine daily returns during day -60 to day +8, with day 0 being the first trading day of the fiscal year.

We assume that

(2) $\mu_{it} = \mu_i$, a constant specific to security-year i.

We obtain m_i, an estimate of μ_i for each i, i.e., each event date for each firm from the time series of realized r_{it}, $t = -60, \ldots, -9$. For each trading day t in the test period (days -8 to +8), the measure of abnormal return A_{it}, is given by:

(3) $A_{it} = r_{it} - m_i$.

The average excess return from all the n firm-fiscal years on event date t is given by:

(4) $\bar{A}_t - \dfrac{1}{n} \sum_{i=1}^{n} A_{jt}$.

Under suitable regularity conditions, $\bar{A}_t$ has an asymptotic normal distribution with zero mean and variance σ^2. Under the assumption that the variance σ_t^2 of $\bar{A}_t$ is the same for all the event dates, we can estimate σ^2 by s^2, given below.

(5) $s^2 = \dfrac{1}{17} \sum_{t=-8}^{8} (\bar{A}_t)^2$.

We use the average excess returns during the event dates -8 to +8 rather than during the estimation period to compute the sample variance, s^2, to allow for the increased volatility during the event period.

The null hypothesis that the abnormal returns have a zero mean on any event day t can be tested using the test statistic,

(6) $z_t = \dfrac{\bar{A}_t}{s}$

which has a student t distribution with 17 degrees of freedom as $n \to \infty$. We reject the null hypothesis that excess returns are zero on event day t if z_t is greater than a prespecified number, depending on the confidence level required.

3. Empirical Results

Table 2 presents the average excess returns during days -8 to +8 for all firms and firms in the largest and smallest size deciles with fiscal year ending on December 31. Size deciles were computed using the price and number of shares data from the CRSP daily return tape, for the last trading day of June of the previous year.[2]

For all firms, the average mean adjusted return is significantly positive on days 0, 2, and 3. For firms in the largest size decile, the average excess returns are significantly positive on days -4 and +2. For firms in the smallest size decile the average excess returns are significant (and positive) on days 0, 1, 2 and 3. Notice that our results are similar to those reported by other authors who examined the January return anomaly.

Table 3 gives the corresponding figures for firms with fiscal year ending in months other than December. There are no significant average excess returns during the first week of the fiscal year for non-December fiscal year ending firms.

Table 4 presents the cumulative five day return from day 0 to day 4. The figures in Table 4 indicate that the firms with fiscal year ending on December 31 experienced an average excess return of 3.6 percent. The firms in the largest size decile earned an excess return of only 1.65 percent whereas the firms in

the smallest size decile achieved an excess return of 7.57 percent. All these numbers are statistically significant at conventional significance levels. Again an examination of the daily returns during the first five trading days of the fiscal year for firms with fiscal years different from the calendar year shows that there is no such behavior.

4. Conclusions

We examined the daily abnormal returns during the first few trading days of the fiscal year. We find that firms with fiscal year ending December 31 show positive abnormal return during the first week of the fiscal year. The effect is more pronounced for small firms when compared to large firms. This evidence is consistent with the January effect found by other researchers. However, firms with fiscal years ending in months other than December earn no abnormally high average returns during the first week of the fiscal year.

Our results complement those of Keim [1983b] who found that there is no statistical difference in the magnitude of the January effect between firms with December and non-December fiscal year closures. These results might lead one to conclude that the January effect may not be due to resolution of uncertainty. However, 60 percent of all firms in our sample have fiscal years ending in December. Although the information revealed at the end of the fiscal year for any given firm is likely to be largely firm specific, it will also reveal something about the economy as a whole. When a large number of firms release information at the same time relatively more information will be revealed about the

underlying economic conditions. The resulting risk will be undiversifiable and will be accompanied by a higher return. Hence we cannot reject the possibility that the excess returns in January are due to the release of fiscal year end information.

Footnote

[1]See also Brown et al [1983] who find that the Australian data is not entirely consistent with the tax loss selling hypothesis.

[2]The Compustat list is biased in favor of relatively large firms. Hence, there are relatively fewer small firms in our sample.

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Table 1

Distribution of firms with fiscal year ending in
December and months other than December.
Period: 1971 to 1984

PANEL A

	December	Non-December	Total
All firms	60%	40%	100%
Largest size decile	81%	19%	100%
Smallest size decile	38%	62%	100%

PANEL B

Frequency distribution for the last month
of the fiscal year in 1984

	Frequency	
Month	Absolute	Relative
1	103	4.3
2	52	2.2
3	90	3.8
4	44	1.8
5	44	1.8
6	163	6.8
7	62	2.6
8	48	2.0
9	150	6.3
10	67	2.8
11	48	2.0
12	1,512	63.4
Total	2,383	100.0

Table 2

Average daily (excess) return around the first day

of the fiscal year for firms with

fiscal year ending on 31 December during 1971-84

Event Day	All Firms n = 10,768		Firms in the Largest Size Decile n = 2,026		Firms in the Smallest Size Decile n = 470	
	Mean	t(17)	Mean	t(17)	Mean	t(17)
-8	-0.152	(-0.45)	-0.085	(-0.30)	-0.115	(-0.18)
-7	-0.010	(-0.03)	0.039	(0.14)	-0.207	(-0.32)
-6	0.168	(0.50)	0.182	(0.65)	-0.045	(-0.07)
-5	-0.028	(-0.08)	-0.108	(-0.38)	0.304	(0.47)
-4	0.590	(1.75)	0.667	(2.36)*	0.477	(0.74)
-3	0.404	(1.20)	0.579	(2.05)	0.221	(0.34)
-2	-0.017	(-0.05)	-0.023	(-0.08)	0.218	(0.34)
-1	-0.048	(-0.14)	-0.027	(-0.09)	-0.386	(-0.60)
0	0.937	(2.77)*	0.512	(1.81)	1.436	(2.24)*
1	0.681	(2.02)	0.095	(0.34)	2.115	(3.30)**
2	0.890	(2.64)*	0.619	(2.19)**	2.025	(3.16)**
3	0.808	(2.39)*	0.339	(1.20)	1.360	(2.12)*
4	0.289	(0.85)	0.084	(0.30)	0.635	(0.99)
5	0.043	(0.13)	-0.197	(-0.70)	0.577	(0.90)
6	0.052	(0.15)	-0.091	(-0.32)	0.183	(0.28)
7	0.176	(0.52)	-0.024	(-0.08)	0.611	(0.95)
8	0.103	(0.30)	-0.141	(-0.50)	0.487	(0.76)

Notes:

t statistics (17 degrees of freedom) are in parenthesis.

n denotes the number of firm years in the study.

Excess returns were computed using the mean adjusted return model.

* and ** denote significant 1 percent and 5 percent levels respectively.

Table 3

Average daily (excess) return around the first day of the
fiscal year, for firms with fiscal year
ending in months other than December during 1971-84

Day	All Firms n = 7,147		Firms in the Largest Size Decile n = 467		Firms in the Smallest Size Decile n = 758	
-8	-0.196	(-2.29)*	-0.228	(-1.99)	-0.023	(-0.11)
-7	-0.044	(-0.51)	0.065	(0.56)	-0.142	(-0.68)
-6	-0.021	(-0.24)	-0.063	(-0.55)	0.066	(0.31)
-5	-0.122	(-1.42)	-0.128	(-1.12)	-0.021	(-0.10)
-4	-0.179	(-2.09)*	-0.172	(-1.50)	-0.321	(-1.53)
-3	-0.099	(-1.16)	-0.144	(-1.26)	0.107	(0.51)
-2	-0.138	(-1.62)	-0.083	(-0.73)	-0.349	(-1.66)
-1	-0.087	(-1.02)	-0.220	(-1.92)	0.075	(0.36)
0	0.051	(0.60)	-0.011	(-0.10)	-0.044	(-0.21)
1	-0.121	(-1.42)	-0.112	(-0.98)	-0.044	(-0.21)
2	0.018	(0.21)	0.003	(0.03)	0.009	(0.05)
3	0.052	(0.61)	0.182	(1.58)	0.069	(0.33)
4	0.069	(0.80)	0.071	(0.62)	0.128	(0.61)
5	-0.028	(-0.33)	0.139	(1.21)	-0.217	(-1.03)
6	-0.043	(-0.50)	0.073	(0.64)	-0.390	(-1.85)
7	0.021	(0.25)	-0.001	(-0.01)	0.418	(1.99)
8	-0.054	(-0.63)	0.080	(0.70)	-0.037	(-0.18)

Notes:

t statistics (17 degrees of freedom) are in parenthesis.

n denotes the number of firm years in the study.

Excess returns were computed using the mean adjusted return
model.

* and ** denote significant 1 percent and 5 eprcent levels
respectively.

Table 4

Average 5-day cumulative mean-adjusted excess return
from day 0 to day 4, during 1971-84

		Average	t(17)
I.	All fiscal years		
	All firms (n = 17,915)	.02194	4.54**
	Largest size decile (2,493)	.01365	2.67*
	Smallest size decile (1,228)	.02971	4.63**
II.	Fiscal year ending in December		
	All firms (n = 10,768)	.03605	4.77**
	Largest size decile (2,026)	.01648	2.61*
	Smallest size decile (470)	.07572	5.28**
III.	Fiscal year ending in months other than December		
	All firms (n = 7,147)	.00528	0.28
	Largest size decile (467)	.00133	0.54
	Smallest size decile (758)	.00118	0.25

Notes:

Period 1971-84.

n denotes the number of firm years.

* and ** denote significance at the 1 percent and 5 percent
levels respectively.