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DISCUSSION

KENNETH R. FRENCH*: This paper presents more evidence about the small firm effect and the period of listing effect, which Barry and Brown (1983) document in their recent paper "Differential Information and the Small Firm Effect." Using a simple market model, the authors report standardized one-step-ahead forecast errors for firms grouped by both size and period of listing. Unfortunately, they provide little guidance in interpreting these errors.

It is useful to ask what one expects to observe. First, under the null hypothesis, each firm's returns are generated by a market model with absolutely constant parameters. This seems very unlikely. Almost any change in the projects undertaken by a firm will affect its covariance with the market. Moreover, Barry and Brown are almost certain to detect this misspecification. They compute monthly forecast errors between January 1931 and December 1980 for an average of 885 firms per month. Also, they assume that all of these firms in all of these months are independent. In other words, their results are based on 531,000 observations that are assumed to be independent. The average cell in their six by six matrix in Table 1 has over 15,000 observations. With this many observations it should be easy to detect small misspecifications in the market model.

Can we predict how these misspecifications should look when the firms are grouped by size and period of listing? The effect of differential information can be interpreted as mismeasurement in the market model estimate of β; the estimate for low information stocks is too low and, on average, the estimate for high information stocks is too high. If this mismeasurement and the expected return on the market are both constant, the expected value of the one-step-ahead

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forecast errors should be zero; the intercept should compensate for errors in the estimate of β.

However, the mismeasurement in β is probably not constant. As the periods of listing get longer and longer with the passing of time, differences in information should shrink. Therefore, the true β's will converge to the estimated β's. In other words, the true β of low information stocks will continually fall and the β for high information stocks will rise. This implies that, on average, the forecast errors for low information stocks should be positive and the forecast errors for high information stocks should be negative.

The implications of firm size are not so clear. Keim (1983) documents the existence of size-related misspecifications. He finds that, on average, small firms earn usually large returns in January. However, it is not obvious how this should show up in the average forecast errors. While the small firm forecast errors for January will be negative, the large January returns will raise the intercept and induce positive forecast errors in the other months. If the yearly pattern is stationary, there should be no particular pattern in the average forecast errors.

Barry and Brown do not actually report the average forecast errors. Instead, they first standardize each error by its standard deviation so that the resulting average can be interpreted as a t-statistic. This standardization leads to one more prediction. The standard deviations probably vary inversely with firm size. The variance for large firms is low and the variance for small firms is high. Therefore, if the actual misspecification is about the same across the groups, the t-statistics should vary directly with size.

The results in Table 1 support several of these predictions. First, Barry and Brown do have enough observations to detect misspecification in the market model. Many of their t-statistics indicate that the means are reliably different from zero.

The effect of the period of listing is consistent with the second prediction. The returns for firms with long listing periods are almost always higher than the returns for firms with short listing periods. This evidence supports the results in Barry and Brown's (1983) earlier paper.

The results in Part B of Table 1 are also consistent with the third and fourth predictions. When January is excluded from the sample, the t-statistics increase with size. In other words, the t-statistics vary inversely with the standard deviation of the forecast errors.

However, the size predictions are not so successful when January is included in the sample. While the average errors for the four largest groups are reliably negative, the averages for the two smallest are reliably positive. On the surface, this appears to be perfectly consistent with the "January effect" documented by Keim (1983). However, since the intercept in the market model is free to vary across firms, it is not obvious why the errors should be related to firm size when they are averaged across all twelve months of the year. Perhaps the non-stationarity suggested by these results will offer a new clue about the small firm and January puzzles.

The results in this paper are very interesting. However, I think it would also be interesting to examine the averages of the raw forecast errors. These would

provide evidence on several questions. First, are the large t-statistics in Table 1 just caused by the large number of observations or are the average forecast errors also economically significant? Second, how large are the differences in the forecast errors for different size firms when January is included in the sample? Third, are the results when January is excluded just caused by differences in the standard deviations or do the forecast errors vary also?