as substantial as some studies have indicated. This result is reinforced to some degree in our quite limited matched sample tests where we can explain yield spreads of new issues on the release date in terms of yield spreads on seasoned bonds.

Nevertheless there are some aspects of our results which are worthy of additional research. For example, the impact of issue method is different in high versus low market yield environments. This suggests there may be market sectors or environments where investors can "beat the spread" and earn positive risk adjusted returns during the issue period.

REFERENCES

1. S. Bhagat, M. W. Marr, and G. R. Thompson. "The Rule 415 Experiment: Equity Markets." *Journal of Finance* 40 (December 1985), 1385–1401.
2. L. Ederington. "The Yield Spread on New Issues of Corporate Bonds." *Journal of Finance* 29 (December 1974), 1531–1543.
3. L. Fisher. "Some New Stock-Market Indexes." *Journal of Business* 39 (January 1966), 191–225.
4. R. Kessel. "A Study of the Effects of Competition in the Tax-Exempt Bond Market." *Journal of Political Economy* 79 (July–August 1971), 706–738.
5. D. S. Kidwel, M. W. Marr, and G. R. Thompson. "SEC Rule 415: The Ultimate Competitive Bid." *Journal of Financial and Quantitative Analysis* 19 (June 1984), 183–195.
6. J. R. Lindvall. "New Issue Corporate Bonds, Seasoned Market Efficiency and Yield Spreads." *Journal of Finance* 32 (September 1977), 1057–1067.
7. E. H. Sorensen. "The Impact of Underwriting Method and Bidder Competition Upon Corporate Bond Interest Cost." *Journal of Finance* 34 (September 1979), 863–870.
8. M. Weinstein. "The Seasoning Process of New Corporate Bond Issues." *Journal of Finance* 33 (December 1978), 1343–1354.

DISCUSSION

ROBERT A. TAGGART, JR.*: This paper has two facets. The first deals with issues in empirical methodology, while the second deals with the working of the corporate bond market.

The primary point stemming from the paper's methodological facet is that researchers should pay attention to even the smallest details of the bond trading process in order to construct effective empirical tests. Since corporate bonds are not as actively traded as stocks, the problem of synchronizing actual transaction prices across bonds with different characteristics assumes special importance. Fung and Rudd, therefore, take a number of steps to mitigate this problem, including:

1. the use of a daily Treasury securities index rather than a corporate bond index as a reference point, in order to ensure timely quotations;
2. measurement of the index as of the close of trading on the day prior to issuance of each corporate bond, in order to obtain a reference point that most accurately reflects market conditions at the precise time of issue;
3. comparison of yield behavior at the time of issue with behavior at the time the bond is released from syndication in an attempt to separate the issue cost component; and
4. the use of actual trader quotes at the release date to accurately measure holding period returns over the offering period.

Not all these methodological features are unique to the Fung and Rudd paper. For example, Rogowski and Sorenson [3] measure their reference index at the previous day's close in studying shelf registrations, although they do use a corporate bond index. Likewise, Maese [2] makes effective use of the distinction between the offering period and the secondary trading period in comparing competitive and negotiated bond issues. Nevertheless, I have not previously seen all of these features combined in one paper, and Fung and Rudd argue persuasively about the importance of trading details in studying the corporate bond market.

The primary point stemming from the paper's second facet is that the effects of the seasoning process and underwriting costs on bond yield behavior may not be as large as previously thought. While this facet of the paper could use further development, it at least suggests that attention to trading details, such as those mentioned above, can lead to significant changes in results.

My comments on the paper are largely in the nature of suggestions for further research. On the methodological front, I think it would be useful to pin down more precisely the importance of specific trading details. Application of the Fung and Rudd methodology to the same sample and time period used in those studies they compare with their own would give a better idea of how much of Fung and Rudd's results are attributable to methodology. It would also be useful to have more detailed knowledge of the differences in results from using the matched pair versus the regression methodology. Critics of the latter argue that the regression equation is never accurately specified. The instability of the coefficients in Panels B and C of Fung and Rudd's Table III appears to support that argument. However, critics of the matched pair technique cite the problem of data availability. Fung and Rudd tentatively suggest that, in this instance, the results stemming from both methodologies appear to be similar. Further investigation of this issue would be useful.

Finally, in terms of the paper's second facet, I would suggest further study of the process of underwriter competition. Using very recent data, Fung and Rudd find a smaller effect from shelf registration than did Kidwell, Marr, and Thompson [1]. However, using data that are intermediate to these two studies, Rogowski and Sorenson [3] also found a shelf registration effect of intermediate size. Rogowski and Sorenson present additional evidence that the growing use of shelf registration is associated with declining underwriter spreads for negotiated issues. It is quite possible, then, that the shelf registration effect was initially significant, but that is has been eliminated over time by competition. Further investigation of this competitive process might determine whether Fung and Rudd's results are more attributable to their methodology or to the time period encompassed by their sample.

REFERENCES

1. David S. Kidwell, M. Wayne Marr, and G. Rodney Thompson. "SEC Rule 415: The Ultimate Competitive Bid." *Journal of Financial and Quantitative Analysis* 19 (June 1984), 183–195.
2. Judy E. Maese. "Competitive Versus Negotiated Municipal Revenue Bond Issues: An Investigation of Underpricing." *Financial Management* 14 (Spring 1985), 26–32.
3. Robert J. Rogowski and Eric H. Sorenson. "Deregulation in Investment Banking: Shelf Registrations, Structure, and Performance." *Financial Management* 14 (Spring 1985), 5–15.