Revision Outline of:
"The Persistence of the Accruals Anomaly"

We have revised substantially the original draft, following carefully the very constructive and thoughtful suggestions of the editor and reviewers, for which we are deeply grateful. We outline below the main revisions made in the current draft.

1. Overall contribution. Both reviewers expressed a concern about the paper's contribution. We accordingly open this note by outlining briefly the current draft's contributions, followed by a detailed response to the editor/reviewers' comments.

We believe that our main contribution lies in providing a *comprehensive explanation* to an intriguing phenomenon—the persistence of the accrual anomaly, despite its wide recognition and documented gains. In essence, we explore the reasons investors leave "money on the table."

We open the paper by carefully documenting over a 38-year period that the accruals anomaly not only persists (as reported by others), *but is not even abating*. In fact, as shown in Figure 1, some of the largest gains from the accruals strategy are recorded in the late 1990s and in 2002, well after the anomaly became widely known. The fact that the anomaly doesn't even decline, as we document here for the first time, enhances the urgency to find an explanation to this seeming gross market inefficiency.

We then proceed to examine the accruals-related trading of institutional investors, the prime potential beneficiaries from the anomaly. We refine previous research by focusing on *quarterly* changes in institutional holdings, and expand the accruals window to include trailing accruals (quarterly accruals in year t). Given reviewers' concerns about the incremental contribution of this analysis, and their suggestion to probe deeper into the lead-lag question (do institutions lead or follow the accruals-related stock price changes?), we introduce a new analysis

which unequivocally demonstrates that some institutions indeed *lead* price changes. We do this by comparing the cumulative *monthly* abnormal price changes of extreme accruals firms with the cumulative changes in institutional ownership. This new analysis, reported in Figure 2, shows clearly that institutions move *before* price changes: In fact, institutions complete 40% of their entire accruals-related trading before stock prices start moving. We believe this new analysis (suggested by a reviewer) constitutes an interesting contribution to the literature.

Furthermore, probing even deeper into institutions' activities vis á vis accruals, we show (also, we believe, for the first time) that certain alert institutions exploit the accruals anomaly *during the year of accruals.* We document that the change of institutional holdings in the fourth quarter of the accruals year is significantly associated with the (year-to-date) third quarter accruals (trailing accruals).

The above findings increase, of course, the accruals mystery: How can it be that the timely trading on accruals by institutions doesn't affect the anomaly? We address this question by quantifying (once more, done, to the best of our knowledge, for the first time) the *magnitude* of the accruals-related institutional trading. Obviously, only substantial trading will affect the anomaly. Our estimates are surprising: The accruals-related institutional trade is very light. In fact, it is substantially lower than 10% of the normal institutional ownership change in the first quarter following the accruals year (the quarter with the strongest institutional response to accruals). Clearly such timid trade cannot have a noticeable effect on the accruals anomaly.

But, why is the accruals-related trade so timid, particularly given Bushee and Raedy's (2003) findings that the accruals anomaly is profitable even after transaction costs? To provide a comprehensive answer to this question we examine both institutions and individual investors. Regarding institutions, we discuss in this draft two important constraints on the activities of these

investors: Prudent-man laws and liquidity preference. Studies we quote have shown that institutional investors skew their activities toward investments that are considered prudent (e.g., large, profitable enterprises), and stocks which are liquid. But as we show in Tables 4 and 5, such prudent/liquid companies are far away from those reporting extreme accruals (typically, small, young, low-profit, and highly volatile enterprises). No wonder then that most institutions choose to forego the potential gains from an accruals strategy in order to comply with prudent-man laws and liquidity constraints. This goes a considerable way toward explaining the persistence of the accruals anomaly.

And what about individual investors who are not subject to prudent-man laws and liquidity concerns? Here we focus on information and transaction costs, mainly those related to portfolio size and short sales, which are particularly onerous for individuals. Using simulation, we show that a profitable (before transaction costs) accrual strategy requires a relatively large portfolio of extreme accruals firms (over 30 stocks). The *information processing* costs of such a strategy (usually not considered a transaction cost in empirical studies)—having to analyze 150-200 companies to choose the 30-40 extreme accruals firms—are obviously beyond the means of the large majority of individual investors. Add to this the fact we document that over 2/3 of the gains from an accruals strategy require short sales—a particularly expensive activity for individuals—and the reasons why these investors by and large shy away from exploiting the accruals anomaly become clear.

This then summarizes our contribution: Providing a comprehensive explanation to an important enigma. Starting with documenting the undiminished accruals anomaly, substantiating that certain institutions indeed trade actively on accruals information, documenting that the relative magnitude of this trade is very small—incapable to affect the anomaly, and ending up by

identifying the structural reasons and constraints deterring most institutions and individuals from attempting to exploit the accruals anomaly. True, certain elements of this analysis were probed by others. Yet we believe that this draft both extends previous research, and provides a comprehensive explanation to an intriguing phenomenon. We thus strongly believe that, with the important guidance of the editor and reviewers, the current draft of the paper makes a substantial contribution to the literature.

Below is our detailed response to the editors' comments (reflecting, among other things, most of the reviewers' concerns):

1. More refined tests. The new analysis reported in Section 4 (pp.19-22) and Figure 2 pins down, in the editor's words "whether trading by institutions precedes predictable accruals-induced price correction. This is your potential contribution…" Using monthly returns, we indeed show that certain institutions trade before the predictable price changes.
2. Carefully explaining your contribution. The completely rewritten Section 1 of the paper highlights our contribution, while fully recognizing that we "stand on the shoulders" of others, particularly the important contributions of Collins, Gong and Hribar, Bushee and Raedy, and of course, Sloan. It goes without saying that we will gladly modify the introduction in case it's still insufficient.
3. Explain your contribution relative to Bushee and Raedy. The important work of Bushee and Raedy (BR) is cited several times in the introductory section and the remainder of the paper. We added specific passages discussing the intriguing question of why does the anomaly persist despite BR's documentation of gains after transaction costs, see pages 5 and 28. In fact, BR's findings increase the need to provide an explanation for the persistence of the accruals anomaly.

Regarding the editor's comment: "In Table 5, B&R show that larger portfolio size is necessary to profit from the accruals anomaly," we would like to note the following differences between BR and our analysis:

(a) BR's analysis pertains to *institutional* investors. Describing Table 5, BR note (p. 25): For this analysis we apply the price impact adjustments…" Price impact obviously applies to institutions which generally hold large blocks of shares. In contrast, our portfolio size analysis pertains only to individual investors (our Section 6), for whom the price impact adjustment underlying BR's Table 5 is rarely relevant.

(b) BR portfolio size analysis, while very revealing, is discreet: 50, 100, 200, and 500 stocks. Our simulations (Figures 3 and 4) are continuous, showing, among other things, the different rates of increase in the significance of the accruals strategy gains with portfolio size (starting fast, and slowing significantly after 50-60 stocks).

(c) Somewhat more subtly, BR's portfolio-size analysis and ours highlight different factors affecting the gains from an accruals anomaly. In BR's framework, an increase in the portfolio size enhances the gain from the accruals strategy because the large number of stocks reduces the average investment in a stock, and consequently the price impact of each transaction. In contrast, in our pre-transaction cost analysis, an increase of portfolio size decreases the *standard error* of the returns, leading to an increase in the statistical significance of the gains from accruals strategy. We thus offer a different and complementary size-effect to that of BR.

(d) Finally, our Section 6 discusses an important cost for individuals—the high *information processing* costs required to select portfolios of 40-50 high accruals stocks. To do that, one has to analyze in a timely manner the accruals of hundred of companies—obviously a

prohibitive procedure for most individuals. Information processing costs are not included in most empirical studies of transaction costs, such as BR, because they are very idiosyncratic to investors.

Thus, we believe that our portfolio-size analysis, part of Section 6 dealing with individual investors, complements BR's size analysis, and more generally, is relevant to a study explaining why investors don't arbitrage away the accruals anomaly. Furthermore, we highlight in this section, quoting Ali and Trombley, the particularly high costs of short sales for individuals, sales which are critical for a successful implementation of an accruals strategy.

Having said all this, we have added to the current draft an extended footnote (no. 22) discussing BR's size analysis.

4. Clarify the specification of Equation (4): Levels and changes of institutional holdings. We added (p.15) a paragraph and an extended footnote (no.11) to address this issue. Essentially, previous researchers used similar variables to explain either the level or the change in institutional ownership (see, please, the references in p. 15). Indeed, when we regress levels, and alternatively changes in institutional ownership on the control variable (Tables 4 and 5), we find that most of the control variables are significant in both regressions.
5. Expositional concerns. We addressed these concerns in the current draft. We have also updated the institutional classification data from Brian Bushee, and derived data from updated COMPUSTAT and CRSP files.

In closing, we would like to reiterate our sincere thanks to the editor and reviewers for significantly improving our study.