Discussion of "The Differential Persistence of Accruals and Cash Flows for Future Operating Income versus Future Profitability"

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Abstract. Fairfield et al. (2003a, this issue) suggests that the accrual effect in Sloan (1996) is at least partly due to the fact that accruals signify an increase in (less-productive) net operating assets. Thus, the paper is a useful and thought-provoking reminder that accruals have both earnings and balance sheet effects. However, the impact of the empirical results is diminished by the lack of a convincing story that ties and grounds these results to other knowledge in the area.

Sloan (1996) is an influential study, which documents a simple but important relation: the accrual portion of earnings is less persistent than the cash portion of earnings. In addition, Sloan finds that investors do not seem to fully appreciate the implications of accruals for future earnings, so that firms with high current accruals earn lower future stock returns. This study prompted a flurry of subsequent research which investigates the specific causes and explanations for this phenomenon. For example, Xie (2001) finds that the lower persistence of accruals is primarily due to the role of discretionary accruals, while Desai et al. (2002) argue that the accrual effect for stock returns is a variation on the "value/glamor" anomaly.

Fairfield et al. (2003a, this issue), hereafter FWY, is another follow-up on Sloan (1996), which observes that the documented effects in accruals and cash flows concern variables scaled by some measure of investment (e.g., total assets). Thus, the documented lower persistence of scaled accruals could be due to one of two effects. First, it could be due to the lower persistence of unscaled accruals (a numerator effect), which is the commonly accepted explanation. Alternatively, FWY suggests that the lower persistence of scaled accruals could be due to the relation between accruals and growth in the investment base (a denominator effect). As the author points out, this alternative explanation seems promising because the concept of accruals is closely related to the concept of growth in assets. In fact, the commonly used balance sheet-based derivation of accruals reveals that the two concepts are at least somewhat mechanically related.

1.   Major Results and Comments

FWY implements the intuition behind the second explanation by comparing the results from the following two specifications (e.g., see Table 4 in FWY):

$$\frac{\text{OpInc}_{t+1}}{\text{NOA}_t} = \alpha_0 + \alpha_1 \frac{\text{CFO}_t}{\text{NOA}_{t-1}} + \alpha_2 \frac{\text{ACC}_t}{\text{NOA}_{t-1}} + \varepsilon_{t+1} \qquad \text{``Sloan equivalent''}$$

and

$$\frac{\text{OpInc}_{t+1}}{\text{NOA}_{t-1}} = \alpha_0 + \alpha_1 \frac{\text{CFO}_t}{\text{NOA}_{t-1}} + \alpha_2 \frac{\text{ACC}_t}{\text{NOA}_{t-1}} + u_{t+1}. \qquad \text{``FWY Specification''}$$

I call the first specification the "Sloan equivalent" because its form follows Sloan (1996), where one-year ahead operating profitability is regressed on current scaled cash flows and accruals. The "FWY specification" is the form that operationalizes the intuition behind FWY (variable definitions and other detail are clarified in FWY). Note that the only difference between these two specifications is the dependent variable, where the "FWY specification" uses a lagged scalar to isolate the effect of growth in net operating assets. Thus, the difference between the results for the two specifications will also be given by the effect on the dependent variable. An inspection of these expressions reveals that the dependent variable in the "FWY specification" can be derived by multiplying the dependent variable in the "Sloan equivalent" by $\text{NOA}_t/\text{NOA}_{t-1}$ or $(1 + \Delta\text{NOA}_t/\text{NOA}_{t-1})$. This realization also helps in drawing some expectations about how the ACC (and CFO) variable would load up in the "FWY Specification" vs. the "Sloan specification". Consider that (both expressions follow from Section 2.1 in FWY):

$$\Delta\text{NOA} = \Delta\text{AR} + \Delta\text{Inv} + \Delta\text{OCA} - \Delta\text{CL} - \Delta\text{OCL} + \Delta\text{LTA} - \Delta\text{LTL} \qquad (1)$$

$$\text{ACC} = \Delta\text{AR} + \Delta\text{Inv} + \Delta\text{OCA} - \Delta\text{CL} - \Delta\text{OCL} - \text{DepAm}. \qquad (2)$$

In other words, ΔNOA and ACC are closely related by construction, and the increase in the coefficient from the Sloan specification to the FWY specification is to be expected, partly for purely mechanical reasons. This point is cursorily discussed in note 2 of FWY, which claims that the relation does not obtain by construction. However, to me the more proper reading of note 2 is that the relation between ΔNOA and ACC has a sizable mechanical element, while it is not completely by construction. In any case, this point should have been given a more prominent place in the paper because it is important if not crucial for interpreting the results.

It is less clear what to expect about the effect on the sign of the CFO variable, but (as FWY comments) it is less likely that the CFO variable is as directly related to growth in NOA. The expectations about the link between NOA growth and ACC and CFO are confirmed in Table 3. Both CFO and ACC are positively related to NOA growth but the relation is much stronger for ACC. Thus, based on ex ante reasoning and the empirical results in Table 3, it is to be expected that the coefficient

on ACC in the FWY specification will become relatively more important than the coefficient on ACC in the Sloan specification. These expectations are again confirmed in Table 4, which contains the main results of the study. It compares the results for the Sloan specification vs. the FWY specification, showing an increase in both the CFO and ACC coefficient. However, the increase in the ACC coefficient is much larger, and in fact the two coefficients are economically and statistically about the same in the FWY specification.

Based on this equality, FWY draw their main conclusion that the lower persistence of the ACC variable in the Sloan specification is not due to a numerator effect but to the denominator effect of a close link between accruals and growth in net assets. The authors also document that this result is robust for a number of other plausible specifications, including scaling by other variables (e.g., assets), deletion of outliers, different definitions of accruals, and two versus one-year ahead measures of profitability.

As mentioned earlier, it is important to realize that this improvement in the relative explanatory power of ACC is partly to be expected by construction.[1] However, it is just as important to realize that the mechanical nature of this relation does not invalidate, and if anything reinforces, the authors' point. The reason is that the mechanical nature of this relation reflects the fundamental property that the creation of accruals has effects on both earnings and the balance sheet. In other words, the fact that a firm has large positive accruals is reflected in both higher earnings and the increase in net assets. It is really just a manifestation of the fact that GAAP accounting is "clean surplus" accounting, where income is equal to the change in net assets. In some sense, I feel that the motivation and the interpretation of the paper would be clearer if the authors had used this property as a central starting point instead of avoiding it, and the rest of the paper would have logically followed from there.

What then are the implications from this partly mechanical improvement in the ACC coefficient? As an aside, I must say that the paper only looks simple because of its fairly basic regressions. However, thinking about the meaning of the regressions and the results brings surprising complexity. FWY largely shies away from this complexity, limiting the paper mainly to establishing the main results and verifying that they are robust to alternative specifications. And yet, the most interesting questions from FWY are about what to make of their results, and it is also that direction which holds the biggest promise for future research.

To be honest, after quite a bit of thinking, I am still not sure I have the picture quite clear myself. However, I think the main implications from FWY are twofold. First, the core of Sloan's (1996) results largely stands. Per unit of invested capital, a large amount of accruals spells lower future earnings. In the discussion at the conference, there seemed to be a consensus that investors care about the prediction of scaled rather than unscaled earnings, and in that respect the Sloan specification is more useful than the FWY specification. Second, the major contribution of FWY is that it suggests that the Sloan effect in scaled earnings is not due to the fact that high accruals signify less-persistent accruals (which is the predominant current view) but that high accruals essentially signify a pile-up of unproductive assets.

This difference is subtle and is perhaps best illustrated with examples. Roughly speaking, the predominant current explanation for the Sloan effect is akin to that of large increases in receivables signaling the creation of questionable receivables, and the failure to fully collect the receivables leads to lower future earnings (in levels). On the other hand, the FWY explanation is more akin to a pile-up of inventory, which signals a slowing of future asset turnover and/or possibly lower gross margins. In other words, the FWY explanation is more about an indirect link between accruals and future profitability rather then the direct link we typically think of today.

The lack of such intuitive examples and a discussion of the implications of the results is probably the major shortcoming of FWY. My assessment is that these deficiencies truly detract from the potential of the paper to change the readers' thinking. Without some examples and practical grounding, the results are more likely to remain at the level of statistical abstraction, and less likely to firmly lodge into our collective view of the world.

The only explanation discussed in FWY is an allusion to the effect of "diminishing marginal returns on assets" or "conservative accounting," where the story seems to be that growth in assets signifies diminishing marginal returns, and it is for that reason that current accruals signal lower future profitability. However, this explanation is offered only as a passing conjecture, and in its current vague form it is difficult to assess its merits. Note that exactly the opposite stories are also plausible. For example, arguments and evidence that "capital follows profitability" imply that growth and returns on assets would be positively correlated. Limited evidence along these lines is also offered by the authors' descriptive statistics, where NOA growth is positively correlated with RNOA and OPINC. However, these correlations are cross-sectional, while the authors' story has more of a time-series flavor. In any case, these considerations reveal that the authors' explanation of their results is inadequate.

2.   More Limited and Specific Comments

First, the theory, the regressions, and the spirit of the evidence in FWY are close to those in Fairfield, et al. (2003b). At the conference, I suggested that the authors make an effort to ensure that FWY is different from their other paper or at least to discuss more specifically the defining differences between these two papers. Unfortunately, the post-conference revision has not made much progress in this regard, and that diminishes the incremental contribution of the paper.

Second, a puzzling feature of the results is that the variable coefficients in the multiple regressions are so much different from the coefficients in simple correlations. For example, in Table 2 the Pearson correlation between GrNOA and CFO is -0.02, and between GrNOA and ACC is 0.52. The corresponding coefficients in Table 3 are 0.38 and 1.41. As another example, the simple correlation between RNOA and ACC is 0.03 but the corresponding coefficient in Table 4 is 0.57. I understand that a simple correlation coefficient can be quite different from a

multiple regression coefficient. However, given what these variables are, and what we know about such variables, I wonder what the implications of these differences are.

Third, as discussed earlier, there are good theoretical and empirical reasons for why the coefficient on ACC increases relative to that of CFO in the FWY specification. However, intuitively I have more reservations with respect to the robustness of the result that the coefficients become "the same." As a result, at the conference I suggested that the paper would benefit from a brief presentation of key results from at least some alternative specifications. Reading the final version of the paper leaves the impression that the authors have done an admirable job of checking a variety of alternative specifications. However, there still is no tabulation or other specific reference to such alternative results, and that detracts from the message of the paper. The conference discussion also identified potential problems with non-linearities in the data, so evidence from some sort of robust estimation like the decile rankings regressions in Sloan (1996) would have been beneficial as well.

3. Conclusion

FWY is a useful reminder that accruals have both earnings and balance sheet effects, and thus the Sloan (1996) accrual effect can be due to high accruals indicating a pile-up of unproductive working capital rather than to the lower persistence of accruals *per se*. The paper succeeds on two dimensions. First, it provides robust empirical evidence that growth in assets is an important factor in explaining what the Sloan effect is. Second, the paper is thought-provoking. I have personally spent several happy hours pondering the possible explanations and implications of the authors' story and evidence. For these two contributions, the authors deserve our collective thank-you.

The principal shortcoming of the paper is that it avoids offering more specific stories and evidence about how and why growth in working capital is related to lower future profitability. The authors' story about "diminishing marginal returns" is at this point just a conjecture, and my attempts to offer something further in this direction are also limited. A more careful examination of these issues is probably the most natural and promising direction for future research.

Note

1. Note that the increase in the coefficient for ACC is surprisingly large. Since the change in the coefficient is driven by the re-scaling of the dependent variable, and the re-scaling is fairly small, I expected that the coefficient on ACC will increase relative to that on CFO but the increase would be small. However, for a re-scaling of the dependent variable of 6–7%, the coefficient on ACC nearly doubles.

References

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