

Accruals Management with Financing and Investing Transactions

Bala G. Dharan

J. Howard Creekmore Professor of Accounting
Jesse H. Jones Graduate School of Management
Rice University, Houston

Revised, December 2003

Abstract:

This paper examines the behavior of accounting accruals when a firm creates or participates in business transactions with outside entities that can shift accruals from operating to non-operating categories within its income statement, thus helping to manage a specific income statement bottom line (such as pro-forma earnings) in a desired way, or shift the accruals between the firm and the outside entities, thus selectively either adding accruals as desired or removing the negative consequences of reversing accruals. Such complex accruals-shifting transactions involving an investing cash flow or a financing cash flow were a common theme in several recent accounting scandals. While previous research has documented the reversal of accruals over time, this paper shows how the above types of transactions modify the normal reversal of accruals over time. Several example transactions are used to illustrate these two types of disruptions to the normal reversal of accruals. The paper also provides a model of the effect of accruals-shifting transactions on the balance sheet composition of operating assets and the means of financing them, and develops balance sheet proxies for the use of financing and investing transactions to manage accruals.

I appreciate the comments received on an earlier draft from Eli Amir, Hemang Desai, Ying Li, and Peter Pope.

Accruals Management with Financing and Investing Transactions

1. Introduction

Accruals, the difference between income from continuing operations and cash flows from operations, result from accounting rules and journal entries for the recognition of revenues and expenses. Following Healy (1985) who examined the use of discretionary accruals by managers to manage earnings used in bonus calculation, the management of accruals for earnings management has been the subject of several dozen accounting studies. Healy (1985) defined discretionary accruals as “adjustments to cash flows selected by the manager” in order to affect reported net income. In his model, discretionary accruals are constrained to sum to zero over two periods, i.e., they fully reverse in two periods. In studies on accruals by Healy (1985), Dechow (1994), Sloan (1996) and others, accounting accruals are generally described as a product of accounting entries and management estimations that have no cash flow effects.¹ A basic characteristic of these accounting accruals is that they sum to zero over time and are therefore both more predictable and less persistent compared to cash flow components of earnings. Sloan (1996) documents the lower persistence of the accrual component of earnings.² Hochberg, Newman and Rierson (2003) document a negative serial autocorrelation in accruals.³

¹ Despite their non-cash effects, Dechow (1994) shows that accruals do improve the ability of earnings to predict future performance and thus have an informational role.

² Sloan then shows that investors appear not to utilize this property of accruals in pricing the accruals and cash flows.

³ They estimate an ARMA(4,4) time-series model for quarterly changes in scaled accruals.

The negative autocorrelation of accruals presents management with a big problem with respect to the use of accruals to manage earnings. Specifically, left to themselves, accruals end up reversing over time, perhaps even within one year, thus undoing whatever original effect they had on earnings. For example, assume that a firm is interested in managing earnings and, using accepted accounting means such as valuation allowances, creates an upward adjustment in the value of ending inventory without cash effect (i.e., without spending additional cash for purchase).⁴ Such an action will result in a lower cost of goods sold and a higher income in the year of adjustment (and a positive accrual). But the accounting transaction will also irreversibly increase the beginning balance in inventory value in the next period by a corresponding amount and hence will lead to a lower income (and thus a negative accrual) in that period. Assuming that accruals such as these are used for earnings management, management would therefore have incentives to either structure the original transaction in a way that it does not result in this type of reversible accrual, or create additional transactions that could interrupt or stop the predictable reversal that is built into the accounting journal entries.

The main purpose of this paper is to examine what happens to accruals, earnings components, and balance sheet components when companies participate in business transactions that are designed to disrupt the normal reversal of the accruals over time. These transactions, sometimes labeled financial engineering transactions by the media and regulators because of their additional impact on investing and financing cash flows, have been at the center of several recent accounting scandals, including Enron, WorldCom, Tyco, Dynegy, and Xerox. These

⁴ See Dechow and Dichev (2002) and Richardson, Sloan, Soliman and Tuna (2003) for a definition of the various accrual concepts. The issue of the managerial motivation for using accruals for earnings management is not addressed in this paper. Efficient contracting motivations may also provide an alternative explanation for accruals management, and the case for managerial opportunism as the main motivation for accruals management may well be more limited in a general setting. See Kothari (2001) for a discussion of this issue. Also see section 2 below.

financing and investing transactions may be motivated by legitimate managerial objectives, such as a reduction of cost of capital or the redeployment of capital into more productive uses, but also by more questionable objectives, such as off-balance sheet financing. The focus of this paper is on the effect of these transactions on the behavior of accruals.

Specifically, in this paper I discuss what happens to the reversal behavior of accounting accruals when a firm creates or participates in business transactions with outside entities that can have two kinds of accrual shifting that affect the normal accrual reversal process. In the first kind, called “category-shifting” here, accruals are shifted from operating to non-operating categories within its income statement, thus helping to manage an income statement bottom-line, such as pro-forma earnings or other so-called non-GAAP performance measures, in a desired way. In the second kind, called “entity-shifting”, accruals are shifted or moved between the firm and outside entities. I call these types of accrual effects category-shifting and entity-shifting, to contrast them with the traditional time-shifting of accruals.

Unlike traditional accruals management with operating cash flow items, the transactions that result in the shifting of accruals to other entities or between bottom-line categories affect investing and financing cash flows, and therefore require participation by different levels of management and possibly require different corporate governance structures as well. These differences have implications for the detection of earnings management by investors, analysts, and regulators. In this paper, I discuss how accruals transfers by means of financing and investing transactions would affect the composition of accruals in earnings and balance sheet, and develop indicator variables in the balance sheet together that serve as a proxy for the use of such transactions to manage accruals.

The next section provides a background discussion of the accruals literature related to market efficiency studies and earnings management studies, and summarizes current evidence for firms' shifting of accruals. Section 3 provides a discussion of the managerial motivations for financing and investing transactions and their potential use for earnings management. Section 4 develops a model of the effect of financing and investing transactions on net accruals. This model provides the basis for developing balance sheet indicators for the use of financing transactions by firms to manage accruals which can thus serve as proxies for the detection of earnings management by investors and regulators. Section 5 provides summary statistics on the composition of accruals for Compustat firms based on these balance sheet indicators. Section 6 describes example transactions from recent corporate accounting controversies to illustrate category-shifting and entity-shifting of accruals. The last section provides a summary and implications for empirical research on market efficiency and earnings management, and for standard-setters and regulators.

2. Evidence for Category-Shifting and Entity-Shifting of Accruals

The earnings management literature relies on the notion that managers may attempt to shift accruals from one time period to another, even though accruals may still sum to zero over time.⁵ As Dechow and Dichev (2002) note, "The accounting system provides for accruals, temporary adjustments that shift the recognition of cash flows over time. When recognition of a cash flow is shifted, two accrual entries are created, an opening and a closing accrual." Time-shifting of accruals to manage earnings was the theme of the "Numbers Game" speech by Arthur Levitt

⁵ Healy and Wahlen (1999) provide a review of the earnings management literature.

(1998), former chairman of the Securities and Exchange Commission (SEC).⁶ There is some evidence in the accounting literature for the time-shifting of operating accruals by managers to manage reported earnings. For example, McNichols and Wilson (1988) find that firms with both unusually high and low earnings make larger provision for bad debt. Dechow, Sloan and Sweeney (1996) examine firms with aggressive accounting practices and find that accounts receivable is the most commonly manipulated accrual for earnings manipulation. Burgstahler and Dichev (1997) show that firms use changes in working capital to manage earnings to avoid reporting losses.⁷ Thomas and Zhang (2002) attribute much of the association between accruals and future returns documented by Sloan (1996) to inventory changes.⁸

To the extent that any earnings effect of managing operating accruals such as inventory, receivables and payables would reverse within a year or so, the above results of Thomas and Zhang (2002), Burgstahler and Dichev (1997) and others raise the question of why managers would attempt such a short-term earnings effects by means of working capital accruals. A similar question of managerial motivation can be raised for real activities that shift cash flow from operations from one period to next. Roychowdhury (2003) finds that firms reporting small positive annual profits often avoided losses by providing temporary price discounts to increase sales or by overproducing inventory. However, there is little evidence for widespread existence

⁶ For example, Levitt cited the use of “cookie jar reserves” as an unacceptable earnings management practice. These are liabilities and credits that are set aside in good periods so that they can be reversed and reported as earnings in other periods as needed.

⁷ See also Beneish (1997) who examines several accounting measures to detect earnings management by companies subject to SEC investigation, many of which measure the buildup or reversal of accruals. However, as noted earlier, while managerial opportunism may apply to Beneish’s sample, accrual management in other, more normal, cases may well be consistent with efficient contracting behavior. See Kothari (2001) for a discussion of this issue.

⁸ See also Xie (2001).

of this type of management practice even among firms with small profits, as Dechow, Richardson and Tuna (2003) show.

As an alternative to working capital accruals management, managers could focus on managing accruals that reverse more slowly, such as accruals arising from non-current assets. Fairfield, Whisenant and Yohn (2003) show that investors misprice accruals arising from non-current assets as much as they misprice current accruals. Additionally, managers could try to create new transactions that remove accruals from the company through divestment, mergers and acquisition, discontinued operations, or other similar transactions. Divestments and discontinued operations, for example, could be used to reclassify the income effect of accruals from income from continuing operations -- or operating income, a bottom line that financial analysts use as the basis for reporting their forecasts, to either "special items" or income from discontinued operations.

There is anecdotal and empirical evidence that firms have managed the various bottom line measures differentially. For example, from the third quarter of 2001 to the third quarter of 2003, aggregate gross profit and aggregate operating income for the companies in S&P 500 each grew less than 10%, but aggregate net income excluding extraordinary items grew 120%.⁹ The various profit margins (profit measures divided by sales) also changed differentially during the period. Operating margin for S&P 500 firms remained unchanged at 15.2% between 2001 and 2002, while net profit margin (excluding extraordinary items) grew from 4.8% to 5.3%. Thus, a large portion of the reported earnings increases between 2001 and 2002 were accounted for by non-operating items, such as gain on sale of assets, special items, and discontinued operations. By contrast, between 1997 and 2002, operating income for S&P 500 companies grew by an average

⁹ These and other data presented here were computed using Compustat.

of 33.9% while net income grew only by 9.2%.¹⁰ Excluding financial companies in the index, operating income for the S&P companies grew 25.3% during 1997 and 2002, but net income actually declined 6%, due to large asset impairment charges and goodwill writeoff.

More generally, Givoly and Hayn (2000) provide evidence of differential management of bottom lines, using data for all Compustat firms existing from 1950 to 1998. Using their data, the ratio of income from continuing operations to earnings before interest and taxes (EBIT) was 46.3% in 1950-1955, 48.7% during 1956-1960, and reached a high of 49.7% during 1960-1965. Since then, the ratio has declined steadily, and had a value of 39.0% for 1991-1998. In other words, their data indicate that an increasing proportion of EBIT in recent years has come from non-operating items and special items. Givoly and Hayn interpret these results as providing evidence for a general increase in “reporting conservatism” by US companies. However, their data are also consistent with the notion that firms have managed to shift an increasing percentage of accruals to reverse in these “below-the-line” income categories.

Other, indirect, evidence of differential management of various income and accruals categories is provided by the record one-time charges and earnings restatements reported by companies during 2001-2002 (Huron Group, 2002). One-time charges, along with earnings restatements, affect different components of total accruals, and hence would result in shifting accruals from one income category to another, even while leaving total accruals for the time period unchanged. Richardson, Tuna and Wu (2002) examine earnings restatements from 1971 to 2000, and conclude that the restatements are a form of earnings management and are motivated by pressure to maintain a string of consecutive positive earnings growth and consecutive positive quarterly earnings surprises. Restating firms, on average, had 1.97

¹⁰ These 5-year data for S&P 500 were calculated from Compustat.

consecutive quarters of earnings growth compared to an average of 1.31 quarters for other firms. Their results suggest an accruals-based motivation for voluntary earnings restatements – past growth in sales and earnings result in large, positive accruals, and the earnings restatements provide an accounting mechanism to report the reversal of these accruals as a special item in the income statement (or alternatively as an adjustment to retained earnings) rather than as a normal income statement item.

A primary motivation for the differential management of various income categories and the shifting of accruals from one category to another is provided by the recent widespread use of pro-forma earnings disclosures. In recent years, many firms have started to provide so-called non-GAAP performance measures as the baseline for analyst forecasts and investor expectations. These measures can range from company-defined terms such as pro-forma earnings and recurring earnings, to specific income statement line items such as EBITDA¹¹, net income before special items. First Call and other analyst forecast services that aggregate and report analysts' forecasts generally use these non-GAAP measures in their databases, which effectively provide a company a mechanism to meet or beat earnings expectations by selectively including or excluding accruals from the measure as needed.¹²

There is evidence that this strategy of shifting investors' attention toward selected non-GAAP measures leaves the excluded information out of current stock prices. Doyle, Lundholm and Soliman (2003) examine the information contained in the expense items excluded by firms

¹¹ EBITDA is a common term used by companies to refer to earnings before interest, taxes, depreciation and amortization. Other related terms such as EBITDDA (where DDA refers to depreciation, depletion and amortization) are also sometimes used in corporate disclosures.

¹² Recognizing the potential use of pro-forma reporting for earnings expectations management, the SEC has issued new disclosure rules to govern the format of reporting of non-GAAP measures. See SEC (2002).

from their pro-forma earnings disclosures and report that a trading strategy based on the excluded expenses yields a large positive abnormal return in the years following the announcement. More generally, investors are likely to consider “special items” reported by companies as transitory while in fact the items classified as special items may simply contain accruals that would have value relevance had they been part of income from continuing operations. This interpretation of the motivation for category-shifting of accruals into special items is consistent with the results of Burgstahler, Jiambalvo and Shevlin (2002) who find that investors appear to underestimate the effect of negative special items on future earnings. Further evidence that suggests the use of special items to manage the category in which accruals reverse is provided by Kinney and Trezevant (1997) who find that firms use the specific placement of the description of special items in the financial statements to manage investors' perceptions.

As discussed in the next section, a common feature of the transactions underlying the category-shifting alternatives to managing total accruals is that they do involve the company's participation in a real transaction with an outside entity that affects cash flow from investments or cash flow from financing.¹³ For example, reporting a gain on sale of assets would require an arms-length sale to an outside entity. One could argue that a company would only participate in such an external transaction when it is a positive net present value project. However, evidence from research examining the relationship between capital expenditures and stock returns, as well as indirect evidence from post-merger stock returns of companies involved in acquisitions, suggests that at least a subset of these external transactions might have had non-economic motivations. Beneish, Lee and Tarpley (2001) show a negative relationship between capital expenditures and future stock returns for their sample of “extreme winners and losers.”

¹³ Transactions that only affect operating cash flows, such as the pricing discounts documented by Roychowdhury (2003) are therefore excluded from this definition.

Specifically, they show that their sample of “losers” spend more on capital expenditures relative to “winners.” In a larger setting, a negative relationship between current investments and future returns is also found by Lamont (2000) due to the fact that managers respond to a fall in discount rate with increased capital expenditures, but do not fully take into account the mean-reverting behavior of discount rate. Examining long-run performance after mergers, Loughran and Vijh (1997) calculate abnormal returns for acquiring firms using common stock financing and those paying with cash over the period 1970-1989, and find that acquiring firms using common stock have abnormal returns of -24.2 percent over the five-year period after the merger, whereas firms paying cash have an abnormal return of +18.5 percent during the same period.¹⁴ The large difference between these groups, and the negative returns for stock-based financing, again suggest non-economic motivations for at least some of these transactions, especially stock-based ones.

To summarize, existing accruals management literature and other capital market studies suggest that managers have both the motivation and the ability to shift accruals across income statement lines and away from the firm. However, as noted, accounting entries alone (i.e., without cash flow consequences) are usually not sufficient to shift accruals this way. Instead, evidence from recent examples of accounting abuses by companies shows that companies will undertake specific, new transactions affecting investing and financing cash flows to be able to move accruals as desired. The next section provides an analysis of the impact of such transactions on various accrual categories and balance sheet items.

¹⁴ There have been a number of criticisms about the methodology to measure long-run abnormal returns. A recent study, Mitchell and Stafford (2000), addresses many of these criticisms and still finds negative future returns for firms with stock-based financing of mergers, compared to cash-based financing. Also see Andrade, Mitchell and Stafford (2001) for a discussion of other studies on mergers and future returns.

3. Accruals Management Goals of Financing and Investing Transactions

Accruals management with financing and investing transactions is a relatively new field of interest to accounting researchers. The corporate accounting scandals of 2000-2002 period provide several case studies of how firms can use specific financing and investing activities to remove accruals from the balance sheet altogether. The use of special purpose entities, or SPEs, by companies such as Enron to move assets and liabilities off-balance sheet is one such example that involves a combination of financing and investing cash flows to achieve accruals transfers. In addition, as noted, the disclosure practices of these companies show that financing and investing transactions can be used in combination with the so-called non-GAAP performance measures to move accruals into or items that are not included in the disclosed performance measures used by investors to form earnings expectations.

The term “financial engineering” is increasingly used by the media, managers, and even regulators as a short-hand to refer to use of financing and investing transactions by companies to shift accruals across entities or income statement categories. Of course, financial engineering is also a traditional term in finance and is used by financial economists and finance professionals to refer to more benign purposes. For example, Campbell Harvey’s *Hypertextual Finance Glossary* provides a technique-oriented definition of financial engineering as the “combining or carving up existing instruments to create new financial products.”¹⁵ However, other authors prefer a goal-oriented definition of the concept.¹⁶ Under this approach, the term financial engineering is

¹⁵ The glossary is available at <http://www.duke.edu/~charvey/Classes/wpg/bfglosf.htm>.

¹⁶ See Tufano (1996). See also an interview with Zvi Bodie in *Financial Engineering News* (2002).

broadly defined as the design and use of various financial and investing techniques to manage financial risk, to increase return on investment, and to raise capital at a lower cost.¹⁷

In the US, financial engineering tools have become a standard part of financing arrangements for all major firms, for raising funds and sharing risk. Currently the most common forms of financial engineering tools are credit default swaps, collateralized debt obligations, and mortgage-backed securities. Development of these latter securities required a legal innovation called the special purpose entity, or SPE. In a common application of SPEs to the asset-backed securities market, a manufacturer, such as Harley-Davidson, Inc., would “securitize” the customer receivables held by the firm by selling them to a special purpose entity which would in turn raise money by selling asset-backed securities.¹⁸ Without an SPE, the financial arrangement would not provide the isolation of risk that would be needed to attract investors in the asset-backed securities.

The above benign view of the use of financing and investing transactions or of the use of financial engineering tools has clearly been challenged in recent years. In the wake of corporate accounting scandals such as Enron, many policy makers, such as Ferguson (2002) and Pitt (2002), and analysts have started to use the term to mean complex earnings management activities and less-transparent financial statements.¹⁹ Neal Batson, a bankruptcy examiner

¹⁷ This goal-oriented definition of the term is consistent with the syllabus of the Harvard Business School course titled “Corporate Financial Engineering.” See HBS Course Number 1426, description available at <http://www.hbs.edu/mba/admin/acs/1426.html>.

¹⁸ During 2002, Harley-Davidson raised \$1,279 million in proceeds from the sale of its receivables through SPEs. This amount was shown as part of cash flow from investing activities. This compares to reported amounts of net cash flow from operations of \$779 million and net cash flow from financing of \$80 million. Thus sale of receivables was the main source of external financing for the company.

¹⁹ In a speech titled “Financial Engineering and Financial Stability,” Federal Reserve Board Governor (and then Vice Chairman) Roger Ferguson declared that “financial engineering has both created new opportunities and posed new challenges,” and the “use of the new instruments has resulted in large and well-documented losses to some firms, while other firms have used the new instruments to hide losses

assigned by the US Bankruptcy Court to investigate Enron's structured financial structures, also frequently described in his various interim reports the use of SPEs for earnings management as financial engineering.²⁰

Ferguson, Pitt, other policy makers and regulators, as well as financial analysts and investment bankers involved in structured finance have thus expanded the concept of financial engineering to include financing and investing transactions whose goal is to manage earnings or manage the balance sheet in a way that reduces financial statement transparency.²¹ For example, an article in the Wall Street Journal describing an accounting scandal at Bristol-Myers Squibb Co. observes that the company used financial engineering extensively to manage earnings:

“Bristol-Myers's efforts to meet financial targets in recent years went well beyond inventory games, according to more than two dozen of its former and current executives who spoke to The Wall Street Journal. Among moves the executives describe: dipping into restructuring reserves to bolster operating profits; making repeated asset sales -- small enough to escape disclosure -- that boosted operating profits; and taking an excessive research write-off after an acquisition. Taken together, the executives portray a leadership so intent on closing a gap between its forecasts and reality that it delved repeatedly into inappropriate financial engineering.”²²

from more traditional activities” (Ferguson, 2002). Similarly, Harvey Pitt, the former Chairman of the Securities and Exchange Commission, also described a goal of financial engineering as earnings management. See Pitt (2002).

²⁰ For example, Batson (2003) states: “The Examiner has concluded that, through pervasive use of structured finance techniques involving SPEs and aggressive accounting practices, Enron so engineered its reported financial position and results of operations that its financial statements bore little resemblance to its actual financial condition or performance. This financial engineering in many cases violated [generally accepted accounting principles] and applicable disclosure laws, and resulted in financial statements that did not fairly present Enron's financial condition, results of operations or cash flows.”

²¹ As another example of the widespread assumption that financing and investing transactions are used for earnings management, an article in CFO.com titled “Financial engineering: How derivatives debacles and off-balance-sheet shenanigans sank a concept,” starts with this observation: “These days, you're about as likely to hear [chief financial officers] speak glowingly of financial engineering as oral surgery” (Katz, 2002).

²² Harris (2002).

Interestingly the above comment about earnings management at Bristol-Myers makes a useful distinction between traditional accounting techniques that shift operating accruals over time (“inventory games”) and techniques that involve financial and investing transactions to shift accruals across income statement categories and across entities (such as taking an excessive research write-off after an acquisition, or making repeated asset sales). This distinction thus provides a useful operational definition of financial engineering transactions for the study of accruals.

4. Effect of Financing and Investing Transactions on Net Accruals

While early literature on accruals mainly focused on accruals as the difference between earnings and cash flow from operations, a broader concept of “net accruals” is more useful for modeling the effect of financing and investing transactions on financial reports. Net accruals for a period are defined as the change in net operating assets, or NOA, during the period.²³ Net accruals can be written in terms of changes in net financial liabilities (NFL) and other financial cash flows.²⁴ Defining the shareholders’ equity as the sum of paid-in capital (PIC) and retained earnings (RE), and using the balance sheet equation and the clean surplus concept, we get

$$\text{NOA} = \text{NFL} + \text{PIC} + \text{RE} \tag{1}$$

where all terms are measured using the balance sheet at the end of time t . Net accruals, NAC, is defined here as ΔNOA . Hence we get:

²³ Richardson et al. (2003) define an even broader accrual term to measure the difference between earnings and change in balance sheet cash, net of equity distributions.

²⁴ See Penman (2001) for a discussion of the concept of net operating assets and net financial liabilities.

$$\text{NAC} = \text{Earnings} + (\Delta\text{NFL} + \Delta\text{PIC} + \Delta\text{DIV}) \quad (2)$$

In this relationship, NAC and earnings are measured over time period t (such as a year or quarter), as well as DIV which represents dividends and other net cash distributions (financial cash flows) from/to shareholders during time period t .²⁵ Additionally, in (2), ΔNFL and ΔPIC refer to the change in the balance sheet items over period t . Since the term $(\Delta\text{NFL} + \Delta\text{PIC} + \Delta\text{DIV})$ represents the net cash flow from financing, CFF, in the cash flow statement for period t , equation (2) can be written as:

$$\text{NAC} = \text{Earnings} + \text{CFF} \quad (3)$$

where all terms are for the time period t .

Relationship (3) states that there are mainly two ways a company can create or manage its net operating assets, or net accruals. One way is to “earn” the necessary accruals through operations, i.e., operating earnings. The other alternative is to create (or remove) the accruals through a transaction that affects cash flow from financing, represented by CFF. The above equation expressing NAC as the sum of earnings and financing cash flows thus provides an operational means of examining the impact of financing and investing transactions on net accruals.

To see how net accruals are related to operating accruals, we can use the terminology of Sloan (1996) and other studies and define earnings as the sum of cash flow from operations, CFO, and accruals:

$$\text{Earnings} = \text{CFO} + \text{COAC} + \text{NCOAC} \quad (4)$$

²⁵ As with all cash flow variables used in this paper, ΔDIV will have a negative value if there is net cash outflow (such as dividend payments and stock repurchases).

where COAC is current operating accruals for time period t , mainly consisting of changes in working capital items, and NCOAC is non-current operating accruals for time period t , consisting of depreciation and amortization, gains and losses on sale of assets, restructuring charges, and other asset impairment charges that affect non-current operating assets.²⁶ For example, all other things being equal, an increase in inventory would result in an increase in COAC and therefore an increase in reported earnings. Alternatively, an increase in depreciation or a loss from sale of a non-current asset will result in a decrease in NCOAC and will reduce earnings. Substituting the above relationship into (3), we get

$$\text{NAC} = \text{CFO} + \text{COAC} + \text{NCOAC} + \text{CFF} \quad (5)$$

where all terms are measured for time period t .

The cash flow statement, as currently prepared in most countries, reports capital expenditures that create non-current assets as cash flow from investing activities, or CFI. Note that CFI is negative when new non-current assets are purchased. In the long-run, all non-current investments will be expensed to the income statement, either through depreciation, or through gains and losses on disposal, asset impairment charges or writeoff charges. Hence NCOAC will, in the long-run, equal CFI, i.e., $\sum \text{NCOAC} = \sum \text{CFI}$ over the long-run. Hence equation (5) says that in the long-run, cumulative net accruals will behave as follows:

$$\sum \text{NAC} = \sum \text{CFO} + \sum \text{COAC} + \sum \text{CFI} + \sum \text{CFF} \quad (6)$$

where all terms are measured as cumulative sums over a relatively long time period.

²⁶ In the sign convention used here, NCOAC is generally negative because of depreciation, amortization, and asset impairment charges.

Equation (6), like equation (3), captures the multiple ways in which net accruals can be created and or removed by a company, with an emphasis on the financing source of net accruals. For profitable companies, net accruals are mainly financed through cash generated in operations (CFO), and are created on the balance sheet through temporary accumulation of cash in working capital items (current operating accruals or COAC). In the long-run, COAC is generally expected to reverse and hence the cumulative sum $\sum \text{COAC}$ should tend to zero. However, equation (6) suggests that net accruals also can be financed or created through the CFI and CFF terms. In other words, financing and investing activities can be used to mitigate or otherwise manage the effects of potential reversals in operating accruals.

Thus equations (5) and (6) provide a conceptual basis for the earlier discussion that firms can shift accruals to specific income statement categories and across entities. Shifting between income statement items would require defining the desirable earnings bottom line in such a way that additional accruals are moved into NCOAC from either COAC or CFI and CFF. As an example, converting an operating lease to a capital lease would reduce lease expense and increase interest and depreciation expenses and also increase non-current assets. The net effect would be to increase CFO and reduce CFI. Note that a transaction to convert an operating lease to a capital lease would require a real transaction with an outside entity (as opposed to internal accounting journal entries by the company), and result in additional financing and/or investing cash flows.

In terms of journal entries that represent the effect of transactions on the balance sheet, asset growth financed through earnings results in the following entry:

Dr. Net Accruals

Cr. Retained Earnings

When accruals reverse, the effect on retained earnings is reversed:

Dr. Retained Earnings

Cr. Net Accruals

By contrast, financing and investing transactions create net accruals, or remove net accruals, through their effect on NFL and PIC, as reflected in equations (5) and (6). The journal entries for such transactions would be:

Dr. Net Accruals

Cr. Paid-in Capital (PIC) *or*

Cr. NFL

While many financing and investing transactions, such as those involving asset sales or leasing, result in extensive footnotes, equations (3), (5) and (6) and the above discussion of operating versus capital leasing transaction suggest that examining the components of net accruals in equation 6 could provide an operational measure. We will hypothesize that for firms that manage the net accruals through financing and investing transactions, the proportion of net accruals attributable to CFF components, specifically changes in NFL and changes in PIC, should be higher. The underlying motivation for this proxy is the way net accruals are financed, rather than their deployment in current or non-current operating assets. Consequently, for such firms the current operating accruals may not sum to zero as quickly over a given short intervals, compared to firms that do not use financing and investing transactions to finance net accruals.

5. Characteristics of Cumulative Net Accruals

To document the relationships between net accruals and its various components, the accruals data and balance sheet and cash flow components were examined for all firms in the Compustat.

Cumulative accruals were calculated for 1992-2002 period for firms that had sales revenues of at least \$100 million in fiscal 1992 and \$200 million in fiscal 2002. In addition to ensuring that a firm existed throughout the period, this criterion recognizes the fact that very small firms are unlikely to have the economic incentives, and perhaps market access, to participate in the various financial transactions described in the next section. Firms in the banking and insurance industries (SIC 2-digit codes 50 and 51, respectively) were also excluded, because of difficulty in comparing their cash flow components with those of other firms. This provided a sample of 1,470 firms after eliminating firms with missing data for net accruals.

Net accruals were computed as change in net operating assets. Net operating assets included all assets as reported by Compustat, less operating current liabilities and operating non-current liabilities. A limitation of the Compustat data is that financial assets are not separately identified. As noted in equation (1), net operating assets equal the sum of paid-in capital, retained earnings, and net financial liabilities. This relationship was used to compute net financial liabilities as a plug number. Average total assets over the ten years is used to scale all balance sheet and cash flow data.

Table 1 provides summary accruals statistics for the firms in the sample. Using median data, 10-year cumulative net accruals, or growth in net operating assets during the period, are about 26.5% of the average total assets of the period. For a significant number of firms in the sample (23% of the sample), net accruals actually shrank during the 10 year period. Thus, the 26.5% value for the cumulative average net accrual to total assets somewhat understates the growth in net operating assets of firms that did grow during the period.

Focusing on the subsample of firms that grew the net operating assets, about 36% of this growth was, on average, financed by changes in paid-in capital and net financial liabilities, and

the rest, 64%, was financed by retained earnings, i.e., internal cash flows from operations. The median value for the financing component of accruals was only 27%. The higher mean value reflects the fact that the sample includes a few large mergers that were financed by large equity and debt issuance.

Table 2 provides a more detailed look at the relationship between net accruals and financing through retained earnings, for firms that both grew net accruals during the period and those that shrank. The main surprise in Table 2 is the significant number of firms for which the cumulative retained earnings change during the ten-year period was negative. 32% of the sample firms reported a reduction in retained earnings during the period. This does not necessarily mean that these firms had operating losses. Instead, data show (not reported in Table 2) that these firms had major non-operating accrual charges in one or more years during the period, such as goodwill writeoff, asset impairment charges, discontinued operations, pension charges, and cumulative effect of accounting changes. These are category-shifting and entity-shifting accrual transactions.

Table 2 also shows that, as expected, firms that had a positive growth in net accruals were relatively more successful in retaining earnings through operations. 78% of these firms had positive retained earnings change. However, the remaining 22% grew their net operating assets despite having cumulative negative retained earnings change. These firms are particularly likely to be flagged as firms that used financial transactions to grow their assets.

Table 3 provides a further break-down of firms in Table 2 that had positive net accruals during the ten year period. These firms, on average, financed half of their net accruals from retained earnings and half from paid-in capital and net financial liabilities. In other words, the average firm is using both sources of financing equally. The data suggest that the use of financial liabilities and shareholder capital is therefore a normal characteristic of firms and that potentially

manipulative use of financial transactions is more likely present when external financing is used must more than average as a source of growth.

The hypothesis that the average share of external financing (PIC and NFL) in net accruals can be an indicator of excessive use of financial and investing transactions is suggested also by the data presented in Tables 4 and 5. (Companies with net negative net accruals are excluded in both tables by design.) Table 4 presents a selected list of firms that have been mentioned in financial media as doing “financial engineering” transactions of the kinds described in the next section. The table also includes a few companies that have been subject to a SEC action for aggressive financial reporting. For these companies, the proportion of PIC+NFL to net accruals over ten years ranges from 99 percent for Williams to over 4,100 percent for Tenneco. By contrast, Table 5 presents the proportion of retained earnings to net accruals for companies that have not been subjected to SEC inquiries or actions. The proportion is over one hundred percent for these companies, meaning that they generally used the cash flows from operations to repay debt and repurchase equity, and still grew net assets.

The next section uses specific transaction examples to provide inferences about the effect of financing and investing transactions on accrual shifting between the operating, investing and financing categories.

6. Impact of Financing and Investing Transactions on Accruals--Examples

Several common accounting practices involve financing and investing transactions that result in the shifting of accruals between operating and non-operating income categories and shifting of accruals between entities. These transactions include acquisitions and divestments (discussed in more detail below), discontinued operations, sale of assets, sale of investments, securitization of

financial assets (the so-called FASB 140 transactions, also discussed in more detail below), monetization of physical assets, and leasing transactions (including synthetic leases). As an example, leases shift accruals between income statement categories by converting depreciation and interest costs to operating expenses. Similarly, the so-called minority interest financing and share trust financing transactions can shift interest expense on the income statement to a “below the line” category called minority interest deduction. Minority interest financing has been a common form of financing in recent years. For the S&P 500 companies excluding financials, minority interest item on the balance sheet has grown 156% between 1997 and 2002, while total assets grew only 67%.²⁷ By some estimates, almost all the increases in the minority interest account in recent years could be explained by the use of minority interest financing. Various other tax-motivated financial transactions that have been discussed in the financial media in recent years, such as Project Alpha, a complex tax-motivated structured finance used by Dynegy Inc., are also commonly designed as accrual shifting transactions. In the case of Project Alpha, the ability of the arrangement to show financing cash flows as cash flows from operations was claimed by the Securities and Exchange Commission as the main motivation for the transaction rather than the tax saving per se. The company subsequently entered into an agreement with the SEC to restate the financial statements to reflect the transaction as financing cash flows.

In the remainder of this section, the specific accrual shifting effects of financial and investing transactions are detailed using acquisitions and divestments as an example. Additionally, two of the more complex financial arrangements used by Enron are also analyzed for their effects on accruals.

²⁷ Data computed from Compustat. Despite the growth, minority interest was still only 1.2 percent of total assets for the latest fiscal year reported.

Use of Acquisitions and Divestments to Create Accruals or Shift Accruals Across Entities

Acquisitions and divestments provide perhaps the most obvious way to shift accruals between entities and between operating and non-operating income categories. They clearly differ from the traditional accrual management decision of capitalization versus expensing, because they would require initiating a new transaction with an outside entity, and because of the additional need to raise financing for the purchase. When a firm acquires the net assets of another firm, there is an increase in its net operating assets, i.e., a creation of new net accruals, NAC. According to equation (6), this increase in net accruals is captured by CFI, since the acquisition is shown as a cash outflow in the investing section. To the extent new financing is required for the acquisition transaction, CFF will also increase. Acquisitions can thus be used to populate the right side of equation (6) with new accruals. Once created, these accruals can then be shifted into operating accruals, COAC, through additional transactions, including financing and investing transactions.

Equivalently, just as acquisitions add net accruals, divestments provide the opportunity to remove net accruals from the company altogether and thus can be a powerful way to remove operating accruals from the right side of equation (6). The accruals thus leave one entity and are absorbed into the net accruals of another entity (that may or may not have publicly reported financial statements). This analysis suggests that firms that have a relatively large amount of acquisitions and divestment activities will be adding additional net accruals or removing net accruals from the accrual balance in equation (6), with a consequent impact on the normal creation and reversal process of operating accruals. For example, a sale of a division that has a large amount of inventory would result in the removal of the inventory (an operating accrual), but the removal is accounted for as a cash inflow from investing activity, or CFI, rather than a reduction in operating accruals. Regardless of the motivation for such acquisition and divestment

activity, the operating accruals are thus likely to behave differentially over time in the presence of acquisition and divestment activity.

A form of accrual management with acquisition accounting was practiced by Tyco International Ltd. According to internal board investigations and Tyco's revised financial statements filed with the Securities and Exchange Commission,²⁸ Tyco used the technique of acquiring hundreds of dealers to reclassify normal marketing and customer acquisition costs as equity investments. The dealers would typically sell Tyco's home security systems to retail customers. Many of Tyco's dealers were not really independent businesses and were effectively just operating units of Tyco. Tyco invested in various partnerships with these dealers, and classified these costs as capital expenditures, or CFI. The alternative would have been for Tyco to incur the costs and report them as marketing costs, or CFO. The costs were incurred by the dealers and reported by them as expenses. The partnerships were structured such that the dealer acquisitions were not consolidated with Tyco and instead were reported as equity investments.

Batson's Classification of Enron's Structured Transactions

Enron's sudden descent into bankruptcy in late 2001 and the subsequent revelations of large-scale managerial misconduct and securities fraud have resulted in several Congressional inquiries and reports. There was also a report from an internal inquiry sponsored by Enron's board of directors (the Powers Report) that provided extensive details on various financial arrangements that led to overstatement of earnings. Finally, there was an extensive investigation by Neal Batson, a Bankruptcy Examiner appointed by the bankruptcy judge overseeing the case on behalf of Enron's creditors. Batson's work resulted in four major reports. The second report

²⁸ Restatements and other details from the first major internal investigation are given in the SEC Form 8-K filed by the company on December 30, 2002. Also see Maremont and Cohen (2002).

(Batson, 2003) addressed the legal and accounting issues with respect to the various special purpose entities and other transactions of Enron.

Batson (2003) classifies Enron's use of SPEs and other structured finance techniques into six categories. This classification can be used to examine how each of these categories would affect the various types of accrual categories discussed in section 4. The six accounting categories, or "techniques" identified by Batson (2003) are: FASB 140 Transactions; Tax Transactions; Non-Economic Hedges; Share Trust Transactions; Minority Interest Transactions; and Prepay Transactions. Of these, the FASB 140 transactions and prepay transactions have garnered the most in terms of media interest, and also happen to result in the most shifting of accrual categories. Each of these two transactions is briefly discussed below with respect to their effect on accrual shifting.

FASB 140 Transactions

FASB Statement No. 140, "Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities," provides the accounting rules for the recognition of revenues or gains from the transfer of financial assets such as accounts receivables. When a company recognizes sales revenue but has not yet collected the cash, it records accounts receivables, which are positive operating accruals since earnings are greater than cash flows from operations. Subsequently, the accruals reverse when the receivables are collected. A company that wishes to finance the receivables prior to its collection can do so in one of two ways—borrow against the receivables, or sell the receivables to a special purpose entity which then raises the money through an asset-backed security issue. In the traditional approach, the company would borrow against the receivable and record a cash flow from financing activity (i.e., CFF). Subsequently,

when receivables are collected, cash flow from operations (CFO) goes up. The cash is then used to repay the loan (CFF goes down). Using the framework in equations (5) and (6), the traditional approach can thus be summarized as follows:

Step 1. Record sales. Operating accruals, COAC, and net accruals, NAC, increase.

Step 2: Borrow against the receivables. NAC and CFF increase.

Step 3: Receive payment from customers. COAC is reversed (goes down), hence CFO is increased, and NAC is unchanged.

Step 4: Pay off the loan. NAC and CFF go down.

The net effect of the four steps is that cumulative net accruals, NAC, is increased and cumulative CFO is increased. Cumulative earnings and cumulative CFO would be equal (since there is no impact on non-current operating accruals, NCOAC). However, even though operating accruals, COAC, zero out overall, COAC would appear to build up during interim periods depending on how long the receivables remain on the company's books.

In the second alternative, the company sells the receivables to a specially formed, wholly owned, subsidiary which then raises money through securitization of the receivable. If the subsidiary is structured as a special purpose entity and satisfies the other requirements of FASB 140 for a "qualifying SPE", it then will not be consolidated. The sponsor company (the parent) would report the sale of receivables as an investing activity, CFI.²⁹ Hence the resulting effects on NAC and COAC are as follows:

²⁹ For example, Harley-Davidson, whose receivables financing was described earlier, reports the proceeds from the sale of receivables as an investing transaction in its 2002 annual report. However, some firms may report the cash flow as a financing transaction.

Step 1. Record sales, and immediately sell the receivables to the unconsolidated subsidiary.

Net accruals, NAC, increases, and CFI increases. There is no impact on operating accruals.

The net effect of the securitization is that cumulative NAC goes up and cumulative CFI is increased. There should be no effect on CFO. In contrast to the first alternative where CFO was increased in the aggregate by the sales amount, the second alternative would only show an increase in CFI. On a cumulative basis, the entire increase in NAC would therefore be explained by cumulative CFI amounts rather than by CFO. In sum, relative to the straight receivables financing, the SPE transaction results in a debit to CFO and a credit to CFI.

Legitimate FASB 140 transactions are commonly used by many corporations. For example, a Lexis-Nexis search for the term “special purpose entity” in annual reports of 2001 and 2002 retrieved 839 companies, of whom 300 companies also referred to FASB 140. Hence the differential impact of these transactions on the various accrual components, relative to traditional financing, is of continued interest to academics and regulators.

Prepay Transactions

The prepay transaction was a form of financing so extensively used by Enron that Batson (2003) refers to this technique as the “cash flow lifeblood of Enron.” In a typical prepay transaction, the originating or sponsor company would sell a prepaid commodity forward contract to a customer which was usually an SPE established and maintained by banks for the purpose of executing this transaction. The forward contract obligates the company deliver a specified quantity of the commodity (say oil or gas) at various specified future dates. In exchange, the customer pays the company in advance. Simultaneously, the company would enter into other commodity contracts

with similarly formed SPEs, which would obligate the company to buy the same commodity, matching the same quantities and time periods as the above prepay contracts. However, these latter contracts are settled upon delivery and do not require prepayment. When the two sets of transactions are combined, the commodity exchanges cancel out and the net effect is that the company has effectively borrowed money and has agreed to repay it at specified future dates, including an interest factor. According to Batson (2003), Enron had over \$4 billion of debt recorded at the end of 2000 which were reported as either a current or non-current operating liability called “price risk management liabilities.”

The alternative to a prepay transaction is a straight borrowing and repayment, which would appear in the cash flow statement as increases and decreases in CFF, respectively. By contrast, the net effect of prepay transactions is that the cash received from prepay contracts is shown as part of cash flow from operations. While the subsequent cash repayment is also shown as part of CFO, Enron appeared not to be concerned with that eventuality and appeared to be more motivated by the short-term urgency of having to borrow without showing it as a CFF. Using the framework of net accruals in equations (5) and (6), the two alternatives to borrowing can be summarized as follow:

Straight borrowing:

Step 1: Borrow money from a bank. Net accruals, NAC, increases, and CFF increases.

Step 2: Repay the loan. Net accruals, NAC, decreases, and CFF decreases.

Borrowing with prepay transaction:

Step 1: Sell prepay contracts, and report unearned revenues or “price risk management liabilities” (an operating liability). Net accruals, NAC increases, and CFO increases.

Step 2: Purchase commodity from SPE vendor, report as cost of goods sold, and deliver to SPE prepay customer, and report sales. NAC decreases, and CFO decreases (because of reduction in price risk management liabilities). Sales revenue and cost of goods sold are increased as well.

The net effect of straight borrowing is that CFF is increased when the loan is taken, and CFF is later decreased when the loan is repaid. There is no impact on income statement (other than interest cost), or on operating accruals or CFO. By contrast, the net effect of prepay transaction, relative to straight borrowing, was to transfer the CFF increase to CFO. In sum, relative to the straight financing, the SPE transaction results in a debit to CFF and a credit to CFO. In other words, accruals changes are shifted from CFF to CFO.

While FASB 140 transactions are legitimate and, as noted, are widely used, there is no evidence that prepay transactions are widespread. Also, the accounting rules for the disclosure of similar transactions have since changed. However, the accrual shifting idea behind the prepay transaction, namely shifting CFF changes into CFO, is a basic theme, perhaps even the main objective, in several other financial transactions, especially many tax shelters.

7. Summary

The analysis of the differing behavior of net accruals for companies that employ financing and investing transactions to finance the growth of their balance sheet shows that there are new challenges to investors and corporate managers in analyzing accruals. Traditional techniques of financial statement analysis that focus on the predictable reversals of accruals are hardly suited to analyze companies that make extensive use of financing transactions, including risk management and structured finance products. This analysis also leads to the inference that several existing

auditing rules and control techniques, including inventory audit and receivables audit, are inadequate and not capable of monitoring and controlling the performance of companies where structured financial techniques are used to create or remove net accruals from the balance sheet to unconsolidated entities. Future research needs to focus on accruals analysis and financial analysis techniques to identify and better understand the effect of financial transactions on a firm's credit quality, risk, and future returns.

References

- Andrade, G., M. Mitchell, and E. Stafford, 2001. New Evidence and Perspectives on Mergers. *Journal of Economic Perspectives* 15 (Spring), 103-120.
- Collins, D. and P. Hribar, 2002. Errors in Estimating Accruals: Implications for Empirical Research. *Journal of Accounting Research* 40, 105-134.
- Batson, N., 2003. Second Interim Report of Neal Batson, Court-Appointed Examiner, In Re: Enron Corp. et al., Debtors. United States Bankruptcy Court, Southern District of New York Case No. 01-16034 (January 21).
- Beneish, D., 1997. Detecting GAAP Violation: Implications for Assessing Earnings Management among Firms with Extreme Financial Performance. *Journal of Accounting and Public Policy* 16, 271-309.
- Beneish, D., C. M. C. Lee, and R. L. Tarpley, 2001. Contextual Fundamental Analysis Through the Prediction of Extreme Returns. *Review of Accounting Studies* 6, 165-189.
- Burgstahler, D., and I. Dichev, 1997. Earnings Management to Avoid Earnings Decreases and Losses. *Journal of Accounting and Economics* 24, 99-126.
- Burgstahler, D., J. Jiambalvo and T. Shevlin, 2002. Do Stock Prices Fully Reflect the Implications of Special Items for Future Earnings? *Journal of Accounting Research* 40 (June), 585-612.
- Dechow, P. M., 1994. Accounting Earnings and Cash Flows as Measures of Firm Performance: The Role of Accounting Accruals. *Journal of Accounting and Economics* 18, 3-42.
- Dechow, P. M., and I. D. Dichev, 2002. The Quality of Accruals and Earnings: The Role of Accrual Estimation Errors. *The Accounting Review* 77 (Supplement), 35-59.

- Dechow, P. M., S. A. Richardson, and I. Tuna, 2003. Why are Earnings Kinky? *Review of Accounting Studies* 8, 355-384.
- Dechow, P. M., R. G. Sloan and A. Sweeney, 1996. Causes and Consequences of Earnings Manipulation: An analysis of Firms Subject to Enforcement Actions by the SEC. *Contemporary Accounting Research* 13, 1-36.
- Doyle, J. T., R. J. Lundholm, and M. T. Soliman, 2003. The Predictive Value of Expenses Excluded from Pro Forma Earnings. *Review of Accounting Studies* 8, 145-174.
- Fairfield, P. M., J. S. Whisenant and T. L. Yohn, 2003. Accrued Earnings and Growth: Implications for Earnings Persistence and Market Mispricing. *Accounting Review* 78, 353-371.
- Ferguson, R. W., 2002. Financial Engineering and Financial Stability. Remarks of the Vice Chairman at the Annual Conference on the Securities Industry, New York. Federal Reserve Board (November 20).
- Financial Engineering News, 2002. The Future Challenges for Financial Engineering: A One on One Interview with Professor Zvi Bodie of Boston University. *Financial Engineering News* Issue No. 24 (February).
- Givoly, D., and C. Hayn, 2000. The Changing Time-Series Properties of Earnings, Cash Flows and Accruals: Has Financial Reporting Become More Conservative? *Journal of Accounting and Economics* 29, 287-320.
- Harris, G., 2002. Ex-Executives Tell How Bristol Burnished Its Financial Results. *The Wall Street Journal* (December 12).
- Healy, P. M., and J. M. Wahlen, 1999. A Review of the Earnings Management Literature and Its Implications for Standard Setting. *Accounting Horizons* 13 (December), 365-383.

- Hochberg, Y. V., Y. S. Newman, and M. A. Rierson, 2003. Information in the Time-Series Dynamics of Earnings Management: Evidence from Insider Trading and Firm Return. Working Paper.
- Huron Consulting Group, 2002. An Analysis of Restatement Matters: Rules, Errors, Ethics, For the Five Years Ended December 31, 2002. Huron Consulting Group, Boston.
- Katz, D., 2002. Financial Engineering: How Derivatives Debacles and Off-Balance-Sheet Shenanigans Sank a Concept. CFO.com (December 31).
- Kinney, M. and R. Trezevant, 1997. The use of Special Items to Manage Earnings and Perceptions. *Journal of Financial Statement Analysis* 3 (Fall), 45-53.
- Kothari, S. P., 2001. Capital Markets Research in Accounting. *Journal of Accounting and Economics* 31, 105-231.
- Lamont, O. A., 2000. Investment Plans and Stock Returns. *Journal of Finance* 6 (December), 2719-2745.
- Levitt, A., 1998. The Numbers Game. Remarks at the NYU Center for Law and Business, New York, NY, September 28.
- Loughran, T., and A. M. Vijh, 1997. Do Long-Term Shareholders Benefit from Corporate Acquisitions? *Journal of Finance* 52, 1765-1790.
- Maremont, M., and L. P. Cohen, 2002. Tyco's Internal Report Finds Extensive Accounting Tricks. *The Wall Street Journal* (December 31).
- McNichols, M., and G. P. Wilson, 1988. Evidence of Earnings Management from the Provision for Bad Debts. *Journal of Accounting Research* 26 (Supplement), 1-31.
- Mitchell, M. L., and E. Stafford, 2000. Managerial Decisions and Long Term Stock Price Performance. *Journal of Business* 73, 287-329.

- Neil, G., P. F. Pope, and V. Aljosa, 2002. Asymmetric Timeliness, Conservatism and Earnings Components: International Evidence. Working Paper.
- Penman, S. H., 2001. Financial Statement Analysis and Security Valuation. McGraw-Hill.
- Pitt, H., 2002. Testimony of Harvey I. Pitt, Chairman, SEC, before the U.S. Senate Committee on Banking, Housing and Urban Affairs. Securities and Exchange Commission (March 21).
- Richardson, S. A., R. G. Sloan, M. T. Soliman, and I. Tuna, 2003. Accrual Reliability, Earnings Persistence and Stock Prices. Working paper.
- Richardson, S. A., I. Tuna, and M. Wu, 2002. Predicting Earnings Management: The Case of Earnings Restatements. Working Paper, Wharton.
- Roychowdhury, S., 2003. Management of Earnings through the Manipulation of Real Activities That Affect Cash Flow From Operations. Working Paper, MIT.
- Securities and Exchange Commission (SEC), 2002. Final Rule: Conditions for Use of Non-GAAP Financial Measures. Release No. 33-8176.
- Sloan, R. G., 1996. Do Stock Prices Fully Reflect Information in Accruals Flows about Future Earnings? *The Accounting Review* 71, 289-315.
- Thomas, J. K. and H. Zhang, 2002. Inventory Changes and Future Returns. *Review of Accounting Studies* 7, 163-187.
- Tufano, P., 1996. How Financial Engineering Can Advance Corporate Strategy. *Harvard Business Review* (January-February), 136-146.
- Xie, H., 2001. The Mispricing of Abnormal Accruals. *The Accounting Review*, 76 (July), 357-373.

Table 1**Net Accruals and Components**

	Mean	Median	Quartile 1	Quartile 3
Average total assets (\$m)	8,889	1,587	521	5,328
Net accruals (\$m)	2,935	289	17	1,187
Net accruals / Average Total Assets	0.265	0.265	0.027	0.535
Change in RE / Average Total Assets	0.133	0.112	-0.037	0.370
Change in PIC / Average Total Assets	0.128	0.052	-0.020	0.221
Change in NFL / Average Total Assets	0.004	0.023	-0.203	0.225
Change in (PIC+NFL) / Net accruals*	0.364	0.266	0.131	0.470

Note: PIC is Paid-in-capital; NFL is net financial liabilities. Net accruals and changes in liabilities, retained earnings and paid-in capital are accrued over 1992-2002. The scaled variables are divided by average total assets over the ten years. Sample includes all firms with sales over \$100 million in 1992 and \$200 million in 2002. Sample excludes financial and insurance firms (SIC 50, 51). Sample size: 1,470 firms.

*Computed for 1,134 firms in the sample with positive net accruals.

Table 2
Net Accruals and Change in Retained Earnings

	Change in RE Positive	Change in RE Negative	Total
Net Accruals Positive	888 78.3% of row total	246 21.7% of row total	1,134 77.1% of column total
Net Accruals Negative	118 35.1% of row total	218 64.9% of row total	336 22.9% of column total
Total	1,006 68.4% of row total	464 31.6% of row total	1,470 100%

Note: PIC is Paid-in-capital; NFL is net financial liabilities. Net accruals and changes in liabilities, retained earnings and paid-in capital are accrued over 1992-2002. The scaled variables are divided by average total assets over the ten years. Sample includes all firms with sales over \$100 million in 1992 and \$200 million in 2002. Sample excludes financial and insurance firms (SIC 50, 51). Sample size: 1,470 firms.

Table 3

Relative Contribution of Net Accruals from PIC and Liabilities

Number of firms with positive net accruals:	1,134 (77.1%)
Firms with majority of net accruals contribution from paid-in-capital and net financial liabilities:	567 (50.0%)
Median percentage of accruals contributed by paid-in-capital and net financial liabilities:	49.5%
Firms with negative net accrual contribution from Retained Earnings: (All accruals came from PIC and NFL)	246 (21.5%)

Note: PIC is Paid-in-capital; NFL is net financial liabilities. Net accruals and changes in liabilities, retained earnings and paid-in capital are accrued over 1992-2002. The scaled variables are divided by average total assets over the ten years. Sample includes all firms with sales over \$100 million in 1992 and \$200 million in 2002. Sample excludes financial and insurance firms (SIC 50, 51). Sample size: 1,470 firms.

Table 4**Relative Contribution of Net Accruals from PIC and Liabilities:
Example Potential Financial Engineering Firms**

	Net Accruals	Change in PIC+NFL	Change in RE	PIC+NFL Portion %
Tenneco	0.007	0.280	-0.274	4106.8
Corning Inc.	0.272	0.932	-0.660	343.2
Sara Lee Corp	0.035	0.150	-0.116	910.5
Qwest	0.055	0.221	-0.166	402.5
AT&T	0.447	0.526	-0.079	117.6
Sears	0.063	0.160	-0.097	255.2
Xerox	0.173	0.352	-0.179	203.5
General Motors	0.218	0.313	-0.095	143.7
General Electric	0.518	0.397	0.122	76.5
Williams	0.697	0.691	0.005	99.2

Note: Net accruals and changes in net financial liabilities, retained earnings and paid-in capital are accrued over 1992-2002. The scaled variables are divided by average total assets over the ten years. Data for the above table include only firms with positive net accruals.

Table 5**Relative Contribution of Net Accruals from PIC and Liabilities:
Example Firms with Operating Earnings**

	Net Accruals	Change in PIC+NFL	Change in RE	RE Portion %
Sysco	0.266	-0.175	0.441	165.6
SBC	0.159	-0.131	0.290	182.2
Merck	0.421	-0.473	0.894	212.2
Best Buy	0.190	-0.267	0.457	240.4
Lands End	0.331	-0.752	1.083	327.2
Exxon Mobil	0.079	-0.270	0.349	443.3
Coca-Cola	0.573	-0.248	0.820	143.2
Alcoa	0.005	-0.091	0.096	1952.0
Ethan Allen	0.001	-0.742	0.743	--

Note: PIC is Paid-in-capital; NFL is net financial liabilities. Net accruals and changes in liabilities, retained earnings and paid-in capital are accrued over 1992-2002. The scaled variables are divided by average total assets over the ten years. Sample includes all firms with sales over \$100 million in 1992 and \$200 million in 2002. Sample excludes financial and insurance firms (SIC 50, 51). Sample size: 1,470 firms. Data for the above table include only firms with positive net accruals.