AN ACCOUNTING CHECKUP: ACCOUNTING ANALYSIS AS A TOOL FOR BETTER GOVERNANCE

The accounting practice attempts to summarize the transactions of multinational corporations in a few pages of text and figures. This article examines the extent to which such accounting can reflect economic reality and considers the relevant extraneous issues of reviewing a company's financial statements.

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Accounting analysis is the process of evaluating the extent to which a company's accounting reflects economic reality. Every day, financial statements are reviewed by directors, shareholders, analysts, employees, and governments. The quality of the decisions made by these stakeholders is dependent on both the quality of financial information available to them and their understanding of the limitations of financial statements. Stakeholders need to be more aware of the accounting choices companies make and how these choices impact companies' financial information. The purpose of this article is to provide a framework for an accounting "checkup" that may be used by stakeholders to access this important aspect of a company's governance. We highlight both the general limitations of financial statements and some specific issues that provide warning signs of overly flexible accounting.

Regulators all over the world have become more aggressive towards misleading accounting in the wake of many accounting scandals. This means that directors must be more vigilant in ensuring they don't mislead investors. It also means that investors are becoming more aware of the limitations of accounting. This article draws from the experiences of companies that have been investigated by regulators to illustrate the dangers of taking financial statements at face value.

Accounting analysis and the quality of financial information

Arthur Levitt, former chairman of the Securities and Exchange Commission (SEC), stressed the importance of high-quality information in a speech given in 1999: "Quality information is the lifeblood of strong, vibrant markets. Without it, investor confidence erodes. Liquidity dries up. Fair and efficient markets simply cease to exist."[1]

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COMPANIES THAT CONSISTENTLY USE VISIBLY AGGRESSIVE ACCOUNTING POLICIES ARE ALSO LIKELY TO HAVE PROBLEM AREAS THAT ARE LESS VISIBLE.

Traditionally, financial statements have been a very important source of information. Mr. Levitt went on to voice concerns over their quality. He observed "a gradual, but perceptible, erosion in the quality of financial reporting. The motivation to satisfy Wall Street earnings expectations was beginning to override long established precepts of financial reporting and ethical restraint. A culture of gamesmanship over the numbers was not only emerging, but weaving itself into the fabric of accepted conduct."[2]

The quality of financial reporting relies on three things. First, it relies on the quality of the generally accepted accounting principles (GAAP) in force. This includes company law, accounting standards, and stock-exchange requirements. Second, it relies on the willingness of boards of directors to apply GAAP properly in preparing their financial statements. Third, it relies on the enforcement of GAAP by regulators and auditors. We aim to help decision makers identify the critical choices that have been made by the preparers of financial statements. In many cases, these choices will involve subjective judgement. This is to be expected, but investors must understand the scope of these judgements and the flexibility that they introduce into financial statements. These accounting choices may also raise questions that may be raised at board meetings, annual general meetings, and analysts' meetings.

Careful study of financial statements can yield great benefits for investors and analysts. Fairfield and Whisenant have found that detecting firms that are masking operational problems with aggressive accounting is possible.[3]

Careful review of a company's financial statements can yield important information about that company. However, some problems with the way financial statements have been prepared are not necessarily obvious. This article takes the approach of looking at some of the more visible aspects of accounting policies. Companies that consistently use visibly aggressive accounting policies are also likely to have problem areas that are less visible.

Accounting choices

Accounting standards were introduced in the United Kingdom and Ireland in the early 1970s in response to a number of corporate financial reporting scandals. Accounting standards aim to do two things. First, they aim to reduce the number of options available to a company when it is selecting how it will calculate accounting numbers. This increases the comparability of financial statements across time and across firms. Second, they aim to increase the disclosure of important information about a firm and its accounting policies. Accounting standards differ among countries, although there are significant similarities among US GAAP, UK GAAP, and International Accounting Standards (IAS). The European Union has required listed companies to prepare their accounts under IAS. This will greatly enhance the international comparability of financial statements.

When examining the quality of financial reporting, we keep in mind four different aspects of how accounting policies are chosen and applied: disclosure, comparability, complexity, and changes.

Disclosure. In some cases, accounting standards require companies to disclose certain information and in other cases firms are given a choice. For example, in the case of segmental analysis companies can choose not to give any segmental information under UK GAAP. Companies should make a concerted effort to disclose information that is of assistance in the investment decision. An international study of twenty-two countries found that the accuracy of analysts' earnings forecasts was related to the level of disclosure in financial statements.[4] This shows that additional disclosure is useful to analysts and investors.

Comparability. Comparison with other potential investments is a key part of the investment decision. Firms that use accounting policies that are not standard for their peer group or industry make the comparison of results very difficult. Firms should adopt accounting policies that are in line with other companies in their industry.

Complexity. The complexity of financial statements has grown exponentially as more accounting standards have been introduced. This complexity is a substantial bar-

rier to investors' and analysts' understanding of a firm's results. For example, some firms have very simple accounting policies in relation to revenue recognition while others take several pages to explain their approach. This may in some part reflect the complexity of the firm's business, but it could also be due to reliance on loopholes or literal interpretations of accounting standards.

Change. Firms can change their accounting policies. Some of these changes are forced onto firms by changes in accounting standards and some are voluntary. A change in accounting policy usually requires a restatement of prior-year results. These restatements are confusing for analysts and investors as past analyses are rendered useless when the accounting numbers are changed. This also creates opportunities to shift current costs and expenses into the past and move past revenues into the present. Callen, Livnat, and Segal found that "40% of the restatements due to changes in accounting principles actually increase income."[5] Richardson, Tuna, and Wu have investigated accounting restatements and found "that firms restating earnings have high market expectations for future earnings growth and have higher levels of outstanding debt. We also find that a primary motivation for the earnings manipulation is the desire to attract external financing at a lower cost. . . . Together, our evidence is consistent with capital market pressures acting as a motivating factor for companies to adopt aggressive accounting policies."[6]

Carrying out an accounting checkup

To carry out an accounting checkup one has to identify areas in which the company's accounting does not reflect economic reality. Before looking at the accounting, it is a good idea to be familiar with the business and its environment. Ask yourself where the company receives and spends its cash. For example, a retailer receives cash from its customers at the time of sale and spends cash on the premises, stock, wages, and other expenses. At first glance, this seems straightforward. However, modern retailers offer credit cards to their customers, offer generous return policies, do complex deals with suppliers, and have sophisticated tenancy agreements. Retailers, like other companies, also provide pensions and other benefits for their employees. All of these areas could potentially be accounted for in complex and difficult ways. The decision maker must understand, at least in general terms, how the accounting works for each of these areas. For example, a basic but very important question for a retailer could be, Are customer credit-card debts shown on our balance sheet or handled by a third party?

The following sections look at some major accounting issues that are relevant for most businesses.

Revenue recognition. A firm's revenue-recognition policy determines when the firm recognizes a sale. Accounting has always distinguished between the making of a sale and the collection of debt for that sale. Traditionally, firms recognized a sale when the goods were delivered to the customer. Applying this simple rule has become much more difficult as companies have used more complex sales contracts. For example, software licences, goods on sale or return, and customer subscriptions all constitute difficulties.

At present there is no accounting standard specifically on revenue recognition in the UK and Ireland. There is an International Accounting Standard that takes a principles-based approach. In essence, it insists that all of the risk and rewards of the goods or services should have passed to the customer and that the outcome of the transaction should be able to be reliably measured before a sale can be recognized. In the US there is no standard dealing specifically with revenue recognition. The SEC has issued a "Staff Accounting Bulletin"[7] that offers its views on a number of contentious issues; many US companies have adopted this. This bulletin takes a more rules-based approach and lays out conservative revenue-recognition rules for particular situations.

How complex is the revenue-recognition policy? Some firms have simple revenue-recognition policies. Most firms with a physical product recognize a sale when the product is delivered. For example, the revenue-recognition policy for CRH, an Irish building materials company, is as follows: "Revenue is recognized at the time

TO CARRY OUT AN ACCOUNTING CHECKUP ONE HAS TO IDENTIFY AREAS IN WHICH THE COMPANY'S ACCOUNTING DOES NOT REFLECT ECONOMIC REALITY.

EXHIBIT 1 The Wiggins Group's Balance Sheet Extract

	Unaudited as at 30.9.00 £'000	Audited as at 31.3.00 (Restated) £'000	Audited as at 31.3.99 (Restated) £'000
Current Assets			
Stocks and work in progress	14,767	13,907	15,159
Debtors:			
-Amounts falling due within one year	14,052	9,152	4,309
-Amounts falling due after one year	21,779	26,503	-

products are shipped or services are supplied to customers. Turnover on long-term contracts is recognized using the percentage-of-completion method, calculated on an input cost basis."[8] It is a model of clarity and brevity. This is because the company mainly sells manufactured products, and the revenue-recognition procedures for this business are well established and easy to understand.

High-tech firms may have a number of criteria that have to be met before a sale can be recognized. This complexity may indicate a much greater level of uncertainty about revenues. For example, the revenue-recognition policy from Amazon.com's financial statements is over 500 words long and deals with a number of complex and controversial issues.[9] It starts by outlining the tests that Amazon.com uses to recognize revenue. It then deals with the revenue-recognition implications of selling goods as an agent, discounts and promotional pricing, incentive offers, commissions, and shipping. There is, of course, nothing wrong with this policy. Indeed, it is commendable that the policy is so detailed. However, its length and complexity indicate that managers must exercise careful judgement in recognizing revenue. This means that the financial information produced by the company is subject to complex judgements that may make the resulting financial statements difficult to understand.

Are revenues turning into cash? The ultimate test of revenue-recognition policies is the speed with which revenues turn into cash. If revenues are not turning into cash, receivables and debtors on the balance sheet will be growing. This may not be immediately obvious, as some firms classify certain types of receivables as something other than "debtors." This question can also be tackled by looking at the cash-flow statement, which looks at the cash flows into the business rather than the revenues that have been recognized. The cash inflow or outflow from operations tells us how much cash has been generated from the day-to-day operations of the business.

The Wiggins Group, a UK-listed property developer, provides an example of this. In its financial statements of March 31, 2000, the company showed revenues of £49 million and profits of £18 million. Exhibit 1 shows the current assets from the balance sheet at the end of March 1999, March 2000, and September 2000.

The figures for stocks have not changed significantly during this time period. However, the company is now showing a significantly higher level of debtors, especially debtors that are due after one year. Debtors usually show the amount of money owed to a company by its customers. In this case, a large portion of these debtors relates to the sale of land to a property developer. Further reading of the financial statements and an investigation by the Financial Report-

EXHIBIT 2 The Wiggins Group's Cash-Flow Statement Extract

	Unaudited Six Months to 30.9.00	Audited Year to 31.3.00 (Restated)	Audited Year to 31.3.99 (Restated)
	£ 000	£ 000	£ 000
Operating (loss)/profit	(5,871)	22,783	(3,163)
Depreciation and amortization	382	471	252
(Increase)/decrease in stocks and work in progress	(860)	1,252	(28)
Increase in debtors	(282)	(32,245)	(2,303)
(Decrease)/increase in creditors and other items	(753)	6,935	(593)
Loss on sale of tangible fixed assets	-	(1)	(71)
Net cash outflow from operating activities	(7,384)	(805)	(5,905)

ing Review Panel showed that although some agreement to sell the land had been concluded, it was dependent on planning permission being granted for the site, which had not happened.[10] We can see from the balance sheet that the company has not received the money nine months after the March 2000 balance sheet. This is unusual, as most companies' debtors are a short-term item and debts are usually paid three to six months after the sale.

Exhibit 2 gives the cash-flow statements for the Wiggins Group for the years ended March 1999, March 2000, and the six months ended September 2000.

The cash-flow statement shows that the operating profit was £22,783,000 for the year ended March 2000. However, the cash-flow statement also shows that the cash outflow for the year was £805,000. This means that bank balances decreased by £805,000 due to operations during the year. How can the company have generated such huge profits without generating any cash? The answer is that there is a difference between recording a profit and receiving cash. Most businesses sell goods on credit and collect the cash three to six months later. They record the sale in the profit-and-loss account immediately, and it becomes part of "profit." The money due from the customer becomes a debtor and stays on the balance sheet until the customer pays for the goods. In this case, Wiggins Group recorded the sale of the land that generated its large profit, but the purchaser had not paid for the land so we do not see the profit being supported by a cash inflow.

The moral of this story is that items can be recorded in profits without any money changing hands. This is perfectly normal except where the cash associated with these items is not received within a reasonable length of time.

In Wiggins Group's financial statements it was possible to see the effect of individual transactions. This is seldom the case: One usually has to rely on ratios and percentages to examine the effect of accounting for revenue. Lucent Technologies in the late 1990s was alleged to have had an aggressive revenue-recognition policy. Revenues and accounts receivable from the fiscal years ended September 30, 1999 and 1998 are given in Exhibit 3. Receivables grew 41% from 1998 to 1999. At the end of 1999, receivables were 27.45% of sales revenues.

Lucent Technologies loaned money to customers so that they could purchase equipment. These transactions were booked as "sales" in Lucent's accounts. Lucent also

EXHIBIT 3 Extract from Lucent's 10-K for the Year Ended September 30, 1999

	Sept 30 1999	Sept 30 1998
Revenues	38,303	31,806
Accounts receivable (or Debtors)	10,438	7,405
Accounts receivable as a % of revenues	27.45%	23.28%

EXHIBIT 4 Revenues and Accounts Receivable for Lucent Q2 2000–Q3 2001

	Q3 2001 June 2001 $m	Q2 2001 March 2001 $m	Q1 2001 Dec 2000 $m	Q4 2000 Sept 2000 $m	Q3 2000 June 2000 $m	Q2 2000 March 2000 $m
Revenues	5,819	5,915	4,354	8,680	7,412	7,230
Accounts Receivable (or Debtors)	4,618	6,136	7,286	9,558	10,101	10,573

granted very long credit terms to customers. Exhibit 4 shows Lucent's sales revenue and its accounts receivables for six quarters.

At the end of quarter 1, 2001 Lucent had to revise downwards its reported revenues for the fiscal year to September 2000 by $679 million. Revenues dropped from nearly $9 billion a quarter to about $5 billion. Receivables also were a problem. At the end of the 2000 fiscal year, Lucent was owed about $9.5 billion by telecom companies. Many of these companies were approaching Chapter 11 or bankruptcy. Since then, Lucent has had to write off receivables and sell them to financial institutions at heavily discounted prices. All of these problems go back to recognizing revenue too early. Of course, outsiders cannot observe how the company's revenue-recognition policy is working, but they can keep an eye on the relationship between sales and amounts owed by customers. They can also look at whether the debtors that are being created are turning into cash in a reasonable amount of time.

Have there been any changes in the company's revenue-recognition policy? Changes in a company's revenue-recognition policy can make financial statements very difficult to interpret. For example, consider a company that sells software with a three-year user license. Under past accounting rules, it could account for the sale of the three-year license at the start of the first year, account for the sale evenly over the three years, or use some other method. In general it would seem to make sense to spread the revenue from the licence over the three-year period (see Exhibit 5). The company sells a three-year contract for €100 in year 1. This can either be immediately recognized (a.), or spread over three years (b.).

The effects of changing the revenue-recognition policy can be subtle. For example, the company in Exhibit 5 originally accounted for its revenue when it was received (at the start of the three-year contract). This seems to be quite aggressive

EXHIBIT 5 Change in a Firm's Revenue Recognition

	Year 1	*Year 2*	*Year 3*
a. Sales on an "immediate recognition" of the three-year contract basis	100	90	60
b. Sales on a "recognize-over-period-of-license" basis			
Year 1 sales	33	33	33
Year 2 sales		30	30
Year 3 sales			20
Total	33	63	83

accounting. Suppose in year 3 the company changed to a revenue-recognition policy of spreading the revenue over three years. This is a seemingly less aggressive revenue-recognition policy: The company is waiting longer to recognize its revenue. However, this would lead to revenue's jumping from €60 to €83. Why? Because when a company changes its revenue-recognition policy it must restate past years "as if" it were using the new policy. In year 3, only €20 of €60 of the year's revenue is recognized. But revenue reallocated from past years more than compensates for this.

Revenue recognition summary. The policies and judgements that a company uses to recognize revenue are critical to the financial statements. These policies and judgements must reflect the realities of a company's business. If there is doubt that the revenue will be collected in cash, the company should wait until the situation is resolved to record revenue. It is essential to understand, in general terms, the kinds of revenue-recognition issues a company faces and how it resolves those issues.

Costs and expenses/provisions. Like revenues, costs can be included in the profit of the company even though they have not been paid out in cash. They are recognized in the profit-and-loss account when they are "incurred." It is quite normal to include costs for goods and services that have been acquired even though no cash has changed hands. For example, a company uses telephone services for November and December but only pays the telephone bill in January, after the accounting year's end. In this case, the telephone costs for November and December would be included in the same accounting year in which the services were used. The inclusion of costs and revenues in the profit-and-loss account that have not been received or paid is called the accruals principle. The other side of this principle is that costs such as the acquisition of fixed assets have a cash outflow immediately but only appear in the profit-and-loss account in the future as depreciation.

In addition to the accruals principle, accountants also apply the "conservatism," or "prudence," principle, which states that accountants should make sure that all future unavoidable losses have been included in the firm's financial statements. For example, if the company found out that it would have to pay out damages to a customer, it would have to record that cost immediately rather than wait until the cash was actually paid out. Another example of conservatism would be making a provision for restructuring. The costs of the restructuring are charged to the profit-and-loss account in the current year, but these costs may not be paid out until future years.

Academics have analyzed the relationship between a firm's revenues, costs and expenses, and its subsequent performance. Sloan found that firms that generally

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recorded profits before receiving cash and costs after paying cash tended to have subsequent falls in profit.[11] Teoh, Wong, and Rao found that firms tended to record profits early and avoid recording costs in the year of an initial public offering.[12] Recording lower-than-normal provision for bad debts expense is an example of this behavior.

How has the relationship between the cash flow from operations and operating profit been evolving? Cash flow from operations measures the amount of cash that has been generated from the company's day-to-day activities. This cash flow can be compared with operating profit. If the company is profitable and yet is not turning its profits into cash flow, it is because cash is being used up by increases in debtors, stocks, or decreases in creditors. Companies are often in this position when they are growing fast, but mature companies usually generate cash flows from operations that are roughly comparable to operating profits. The first part of the cash-flow statement starts with profits from operations and works towards cash from operations. Costs that have been included in profit but have not been paid out to the bank must be added back. For example, we may have bought goods on credit. These goods are shown as a cost in the profit-and-loss account, but if we have not paid for them they have not yet reduced the bank balance. This effect is shown in the "increase/decrease in creditors" line in the cash-flow statement. The revenue-recognition section above explained that revenues could be recorded as sales and included in the company's profits without being received in cash. If sales have not been received in cash they must still be with the debtors, and the "increase/decrease in debtors" line in the cash-flow statement adjusts for this.

How often has the company had to make significant provisions? When a company realizes that it will make unavoidable losses in the future, it must make provision for those losses. This involves reducing current profits by the amount of those losses and recording a liability for those losses in the balance sheet. The cash outflows associated with these provisions are netted against the liabilities rather than taken out of profit. Thus, future costs have been written off current profits and those losses will not affect the profits of future years.

The example in Exhibit 6 shows a firm with a restructuring expense of €120 over three years. The first panel shows this expense spread over the three years while the second panel shows the expense in the first year. Accounting for the expense in the first year means that the firm makes a loss in the current year but profits bounce back much more quickly in subsequent years.

Accounting rules demand that companies write off future unavoidable losses immediately. The future costs are immediately signalled to shareholders, but it also allows the company to show better performance in subsequent years. IBM was one of the first companies to make provisions for an extremely large restructuring program. Exhibit 7 shows IBM's net earnings for the years affected by the restructuring. In 1993, IBM reported net losses of $8.1 billion; this was after provisions of $8.9 billion. Only $3.7 billion of the total provisions of $8.9 billion were actually spent in 1993. The remainder of the provision was used in 1994 and 1995. IBM's reported net earnings recovered sharply to $2.9 billion in 1994 and $4.1 billion in 1995. If the restructuring had been charged to the profit-and-loss account when the restructuring expenses were paid out, the loss in 1993 would have been reduced to $2.9 billion and the recovery in 1994 and 1995 would have seemed slower and more painful.

Provisions are difficult to interpret for two reasons. First, they only tell the bad side of the story. For example, a restructuring provision shows the costs of closing operations, but the benefit of reducing costs will make its way into the financial statements over a number of years in the future. Second, they rely on the judgement of management about future events. It is particularly difficult for auditors to argue with managers for wanting to provide too much as opposed to too little.

Many accounting studies have investigated the association between provisions and stock returns. Bartov, Lindahl, and Ricks concluded from these studies that write-offs "are associated with stock-price responses of less than 1%."[13] This highlights the difficulties of interpreting the economic implications of such accounting transactions.

EXHIBIT 6 Change in a Firm's Restructuring

a. Firm that accounts for restructuring at the time of the expense

	Year 1	*Year 2*	*Year 3*
Profit before interest and tax	100	130	160
Restructuring expenses	20	40	60
Profit after restructuring expenses	80	90	100

b. Firm that accounts for restructuring in the current year

	Year 1	*Year 2*	*Year 3*
Profit before interest and tax	100	130	160
Restructuring expenses	120		
Profit/(loss) after restructuring expenses	(20)	130	160

EXHIBIT 7 IBM's Net Earnings Adjusted for Restructuring

For the year ended December	**1995 $m**	**1994 $m**	**1993 $m**
Net earnings (loss) as reported - including provision	4,116	2,937	(8,148)
Provision			8,945
Restructuring cash outflow	(2,119)	(2,772)	(3,715)
Net earnings (loss) if restructuring accounted for on a cash basis	1,997	165	(2,918)

Are profits and losses on disposals of assets and business segments disclosed and explained separately? When a company disposes of an asset or an entire business, the profit or loss on disposal is the amount received minus the book value of the asset. In many cases, the amount received for an asset can be much more than the asset's value in the balance sheet. This can lead to large profits on disposal. These profits are usually disclosed separately on the face of the profit-and-loss account because of their large size and nonrecurring nature. However, in some cases they are not disclosed separately and this may mean that current profits include nonrecurring items.

How well are costs and expenses disclosed and explained? The basic disclosures of costs and expenses that are required by UK and Irish accounting standards and company law are limited. Some companies supplement this with extra information in the segmental analysis. More information on costs and cost movements over time enables the analyst to get a much better picture of the operations of the company and its relationship with the external business environment. It is important to be able to distinguish accurately between revenues and costs that recur every year and those that only occur once.

Does the company defer costs? Findel is a UK-listed company that has a large retail business based mainly on catalogue sales. In 2002, its accounting policy allowed it to defer customer-acquisition costs.

EXHIBIT 8 Findel—Extract From Notes to Accounts

Note 15 Debtors

	2002 £'000	2001 £'000
Trade debtors subject to non-recourse financing	83,572	58,217
Non-recourse funding received	(47,389)	(37,835)
	36,183	20,382
Other trade debtors	33,059	25,451
Corporation tax	74	100
Other debtors	7,549	27,481
Payments and accrued income	37,054	31,877
	113,919	105,291

Findel's accounting policy explains that some current expenses are not shown as an expense in the current period but are written off over a longer period: "The costs of recruitment of home shopping customers are deferred and written off over the average trading lives of those customers with the group."[14] The unamortized balance is included within prepayments and accrued income. The effect of this policy is to increase current profits and decrease future profits. These kinds of policies can be justified by arguing that deferring some costs allows for better matching of costs and revenues. For example, if a company buys a building, it will get benefits from owning that business over a long period, and it is perfectly justifiable to show the costs of the building over a long period rather than charging them in one year. In a case like this, management is to judge whether the costs would be better shown as part of this year's costs or spread over a longer period.

The costs that have been deferred to future periods must be shown as an asset on the balance sheet. In this case, they are shown as part of the "payments and accrued income" account, which is a component of the debtors figure on the balance sheet. Exhibit 8 shows that at the end of 2002 the cost that had been deferred to future periods was £37,054,000.[15]

In 2003, Findel changed its accounting policy for catalogue costs and customer recruitment expenditure. Under the new policy, these costs were to be written off as incurred. In order to implement this new policy the 2002 figure for payments and accrued income was reduced by £33,574,000.

A company's board of directors and accountants must make judgements about the nature of transactions in order to reflect the economic reality of these transactions in their financial statements. Sometimes these judgements are not clear-cut. We can all agree that the purchase of a building yields benefits in the future and that the costs of the building should probably be spread over the years. It is also easy to see that expenses such as telephone costs should be shown as costs in the year in which the services were used, as these costs are not directly linked with benefits in future years. Other items, such as customer-acquisition costs are harder to call. Sometimes accounting rules determine which costs can be capitalized. For example, AOL deferred some of its advertising costs during 1995 and 1996. The SEC concluded that these costs should not have been capitalized "because the unstable business environment precluded reliable forecasts of future net revenues."[16] If the circumstances of the business had been different, the capitalization of these costs might have been appropriate.

How much is contributed to the employee's pension fund? Pension obligations to a company's employees are the ultimate long-term liability. There are two types of pension scheme. First, a defined contribution scheme in which employees and

employer contribute to an investment account. When employees retire, they get a pension equal to the investment account. Since the company has not taken on liabilities, there are no accounting implications to this kind of fund. Second, a defined benefit scheme in which the pension employees can expect to receive if they stay in employment to retirement is laid out. The pension is usually based on the employees' final salary and their years of service to the company. These schemes are usually set up as separate legal entities of the company with their own trustees to look after the fund. Both the company and the individual employees contribute to the fund each year. Every couple of years an actuary reviews the scheme to see if the current fund will grow to an amount sufficient to cover the expected liabilities. The major assumptions that have to be made are the expected growth in employees' salaries and the expected returns on the fund's assets. If the fund is not sufficient to meet these expected liabilities, the company must make extra contributions to increase the fund. Given the excellent stock-exchange performance during much of the 1990s, many companies had revised upwards their estimates of future stock-exchange performance. However, the crash of 2000 and subsequent disappointing stock-exchange performance has left many defined benefit pension funds underfunded. Under accounting rules, a part of this deficit has to be shown on the balance sheet as a liability.

During the 1990s, high stock-exchange returns and optimistic assumptions about future growth combined to indicate that some companies' pension funds were in surplus. Companies in this situation reduced their contributions to the fund for a period of years. In some cases, this was not clearly disclosed to investors, and increases in profitability were due to reduced pension-fund contributions rather than improved operational performance.

Accounting for pension funds is very complex and the disclosures are difficult to interpret. The important points that can be established from the financial statements are whether the pension fund is underfunded and what assumptions have gone into this calculation. For example, the assumption that the fund will grow at 10% is very optimistic, although such a rate would have been regarded as normal during the 1990s.

Segmental disclosure. Most listed companies have a number of business activities or segments. It is very important for the investor or analyst to be able to examine the results from each of these segments separately, as their operating characteristics can vary greatly. If the company has business segments, it should disclose a segmental analysis. Many companies offer a geographic analysis in addition to business segment analysis.

Do the segments agree with those discussed in management's discussion of the business? US GAAP requires the segments to be defined in terms of the internal structure of the business. If the business is organized into divisions for management purposes then these are the divisions that should be used for the segmental analysis. Many annual reports include extensive discussion of results in an informal way. The divisions used to discuss these results should also be used for the segmental analysis. The segmental analysis is a part of the financial statements and is therefore audited information, though the management discussion is not audited.

Have the segment definitions changed? In the case of segmental disclosures, investors and analysts are usually interested in a long-term series of results. Analysts also become familiar with the segments that a company uses to analyze its performance. The company becomes more difficult to understand if the definition of the segments change.

How much information is given for each segment? The information provided for each segment should be sufficient to allow for the calculation of gross profit percentage, net profit percentage, and return on investment. In some businesses, figures such as research-and-development spending can be very important to the understanding of the business.

Groups. Most large companies are not organized as one legal company unit. Instead, they have a holding company that holds some or all of the shares in a number of other companies. Modern multinational enterprises require complex group structures for many reasons. Group com-

IF THE COMPANY HAS BUSINESS SEGMENTS, IT SHOULD DISCLOSE A SEGMENTAL ANALYSIS.

A VERY COMPLEX STRUCTURE THAT IS NOT JUSTIFIED BY THE BUSINESS ENVIRONMENT MAY BE A SIGN THAT THE COMPANY IS NOT REFLECTING ECONOMIC REALITY IN ITS FINANCIAL STATEMENTS.

panies may be required to minimize taxation and to operate in different regulatory environments. In the distant past, companies were allowed to report only the financial statements of the holding company, which was almost completely meaningless. This concept lives on under UK GAAP in that companies still report a balance sheet for "the company" and a consolidated balance sheet for the group. Accounting rules started to insist that companies report their financial statements for the economic entity rather than the legal entity. The process of combining the financial statements for a number of related companies is called consolidation. In common with other areas of accountancy, it is difficult to develop a set of rules that capture the economic significance of the relationships among companies in all possible situations.

How complex is the group structure? Complex group structures can result from geographic diversity, tax rules, and historical accident. Companies are also increasing carry-out business across organizational boundaries. Joint ventures and shared projects may require new legal structures to reflect their joint ownership. Accounting rules define three types of group company. A brief explanation of each follows.

Subsidiaries. A subsidiary company is controlled by the main company and must be fully consolidated into the main company's accounts. This consolidation process means that the financial statements of the group of companies are prepared as if all of the group companies were one economic entity. One can have some assurance that all of the group's assets and liabilities have been included in the consolidated financial statements.

Associates. Associate companies are those in which the main company holds a substantial holding but not full control. These companies are accounted for using what is called the equity method of accounting: The main company brings in its share of the associate's income into its income statement. However, assets and liabilities of associates do not appear on the main company's balance sheet.

Investments. If the main company has only a small holding in another company, these holdings are carried at cost as financial investments in the balance sheet. Their value in the balance sheet should be reduced if it falls below cost.

Associates and investments provide challenges as they may contain assets and liabilities that are related to the group company but do not appear on the group company's balance sheet. These are known as off-balance-sheet transactions.

How many different types of accounting are required? Many companies have a variety of investment in companies that are accounted for in different ways. This makes it difficult to understand the company's consolidated financial statements. Stakeholders should consider what the purpose of a very complex group structure is. Such a structure is understandable if it relates to joint ventures in new markets or another good reason. However, a very complex structure that is not justified by the business environment and strategy of the company may be a sign that the company is not reflecting economic reality in its financial statements.

Are there many transactions with related companies? Are these disclosed and explained? Companies may buy and sell goods to companies that have links to a main company. These intercompany transactions will be cancelled out in the consolidation process if the group company is a subsidiary. But if the group company is an associate or an investment, sales to group companies may appear as revenues.

In January 2002, the *Wall Street Journal* published an article on the accounting practices of Elan, a pharmaceutical firm that at that time invested in many joint ventures:

> In their most typical form, Elan invests $20 million in a partner and the joint venture, and the venture immediately pays Elan $15 million for a medical-technology license. Elan books that as revenue. But the money that Elan invested doesn't cut into its earnings because that's an investment, and appears only on the balance sheet, where it's an asset. In effect, Elan converts $15 million of money it already had into new revenue.[17]

The SEC investigated these accounting practices at Elan and issued a litigation release:

> Elan misled investors about its joint venture program, which generated approximately $490 million of revenue during 2000 and 2001. The company failed to disclose that it required its joint venture

partners to engage in "round-trip" transactions, in which the ventures paid license fees to Elan using money that Elan had provided to the partners. Elan also failed to disclose that none of the partners or joint ventures ever used any of their own assets to pay for the license fee (most of them did not have the financial resources to do so), that the company never sold a license for its drug delivery technology to any unaffiliated entity at the prices charged to the joint ventures ($10-15 million, in most cases), and that during 2000 and 2001, Elan did not sell any such licenses other than through the joint venture program. By failing to disclose these facts, Elan obscured the true demand for the licensed technology and its ability to generate license revenue in the future, thereby misleading investors about the quality of the revenue, earnings and cash flow generated by the joint venture program.[18]

This case illustrates that group companies can be used to present financial results differently than they would otherwise appear.

The process of consolidation results in financial statements that are significantly more meaningful than they would be otherwise. For a group company that is considered a subsidiary, accounting rules demand that it be considered part of the economic group when preparing financial statements. If a group company is only partly related to the holding company, there are more situations in which the financial statements could omit items that are part of the economic group but not legally associated with the group. For example, Enron transferred some of its assets to special purpose entities (SPEs) that it argued were independent from the Enron group. In actual fact, these SPEs were not independent of Enron. In one case, the SEC alleged that Enron officials gave the Canadian Imperial Bank of Commerce (CIBC) "the strongest possible assurances" that CIBC's equity would be repaid.[19] This meant that the economic reality was contrary to the accounting treatment, which assumed that CIBC was now bearing the risk of holding the assets.

In general, overly complex group structures are difficult to understand and difficult to reflect accurately in financial statements. Investors should appreciate that such structures give managers opportunities to move items off the balance sheet. On the other hand, such structures are a necessary part of business in multinationals and other industries.

Conclusion

Accounting struggles to summarize all of the transactions of giant multinational companies in a few pages of text and figures. It is very difficult to make sure that all that is important is highlighted and all that is routine is properly included. A short period of time thinking about the company's business and accounting methods can shed a great deal of light on how well the financial statements actually reflect economic reality. Not all of these issues are caused by management's attempting to mislead investors. Many of these issues are merely a reflection of accounting's inability to capture all the complexities of modern organizations. An awareness of the limitations of accounting can lead to a better appreciation of its value. ■

NOTES

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10 The Financial Reporting Review Panel examines the annual accounts of public and large private companies to see whether they comply with the require-

ments of the UK Companies Act. Where a company's accounts are defective, the Panel will, wherever possible, endeavor to secure their revision by voluntary means. If this approach fails, it is empowered to make an application to the court under section 245B of the UK Companies Act 1985 for an order compelling their revision. The report on the Wiggins Group (now called the PlaneStation Group) is available at http://apb.org.uk/frrp/press/pub0227.html.

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