and growing earnings over time. Given securities market efficiency, this requires them to draw on their inside information. Thus, earnings management can be a vehicle for the communication of management's inside information to investors.

These considerations lead to the interesting, and perhaps surprising, conclusion that a little bit of earnings management is a good thing. Of course, the efficiency aspects of earnings management can be pushed too far, since earnings management reduces reliability. It should not be used to rationalize misleading or fraudulent reporting. There is a fine line between earnings management and earnings mismanagement. Ultimately, the location of this line must be determined by standard setters, securities commissions, and the courts.

11.2 EVIDENCE OF EARNINGS MANAGEMENT FOR BONUS PURPOSES

A paper by Healy (1985) entitled "The Effect of Bonus Schemes on Accounting Decisions" is perhaps the best-known empirical investigation of earnings management. Managers have inside information on the firm's net income before earnings management. Since outside parties, including the board itself, may be unable to learn what this number is, Healy predicted that managers would opportunistically manage net income so as to maximize their bonuses under their firms' compensation plans. Here we will review Healy's methods and findings.

Healy's paper is based on positive accounting theory (Section 8.2). It attempts to explain and predict managers' choices of accounting policies. More specifically, it is an extension of the bonus plan hypothesis, which states that managers of firms with bonus plans will maximize current earnings. By looking more closely at the structure of bonus plans, Healy comes up with specific predictions of how and under what circumstances managers will engage in this type of earnings management.

As discussed earlier, most incentive plans have more than one component. However, Healy's study was confined to firms whose compensation plans are based on current reported net income only. These will be called **bonus schemes** for the rest of this section.

In Section 10.4, we saw that, for risk-reduction reasons, bonus schemes may have bogies and caps. In Healy's sample, not all schemes have caps, although they all have bogeys. Figure 11-1 illustrates a typical bonus scheme.

In the figure the bonus increases linearly (for example, 10% of net income) between the bogey and the cap. Below the bogey, the bonus is zero. If there is no cap, the bonus would increase along the dotted line. Otherwise, the bonus becomes a constant for net income greater than the cap. Healy denotes the bogey and cap as L and U, respectively.

The bonus scheme depicted in Figure 11-1 is simpler than that of Rockwell's incentive plan, where the rate of bonus depends on both the amount of earnings and also on dividends. Nevertheless, the basic idea carries over. Also the bogey of the Rockwell incentive plan is zero.

Now consider the incentives to manage reported net income faced by a manager subject to such a scheme. If net income is low (that is, below the bogey), the manager has an incentive to lower it even further, which is called **taking a bath.** If no bonus is to be received anyway, the manager might as well adopt accounting policies to reduce further reported net income. In so doing, *the probability of receiving a bonus the following year is*

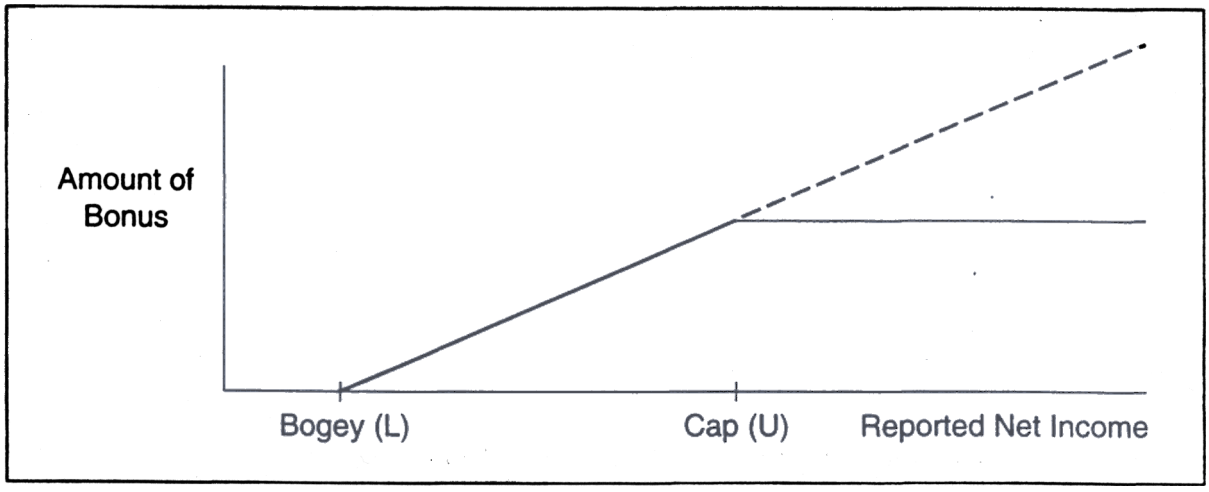

FIGURE 11-1 Typical Bonus Scheme

increased, since current write-offs will reduce future depreciation and amortization charges.

Similarly, if net income is high (above the cap), there is motivation again to adopt accounting policies and procedures to reduce reported net income because a bonus would be permanently lost on reported net income greater than the cap.

Only if net income is *between* the bogey and cap is the manager motivated to adopt accounting policies and procedures to increase reported net income. Thus, Healy refines the bonus plan hypothesis—it really applies only when net income is between the bogey and the cap.

How does a manager control net income? Healy considers two approaches. The first is by controlling various accruals, where accruals are defined broadly to include that portion of revenue and expense items on the income statement that are not represented by cash flows. The second is by changing accounting policies. Let us consider first the accruals procedure.

To illustrate accruals that might be made by a manager who wanted to increase reported net income, consider the following hypothetical example in Table 11-1:

TABLE 11-1 Discretionary and Nondiscretionary Accruals

Cash flow, as per cash flow statement		$1,000
Less: Amortization expense	− 50	
Add: Increase in (net) accounts receivable during the year	+ 40	
Add: Increase in inventory during the year	+100	
Add: Decrease in accounts payable and accrued liabilities during the year	+ 30	120
Net income, as per income statement		

Note that a positive sign for an accrual means that, for given cash flow, it *increases* net income, and vice versa. For simplicity, we have assumed that there are no extraordinary income statement items and no income tax expense. Assume that explanations for the four accrual items are as follows:

Amortization Expense Amortization expense is laid down by the firm's amortization policy including its estimates of assets' useful lives. Given this policy, amortization expense is a nondiscretionary accrual.

Increase in Net Accounts Receivable Assume that this derives from a decrease in the allowance for doubtful accounts, resulting from a less conservative estimate than in previous years. This accrual is discretionary because management has some flexibility to control the amount.

Other reasons for the increase could include one or more of a more generous credit policy, keeping the books open beyond the year end, or simply an increase in volume of business. The first two of these accruals are discretionary; the third is nondiscretionary. Thus, we see that there can be several reasons for an increase in receivables. A researcher with access only to the comparative financial statements would be unlikely to know the particular reason or reasons that accounted for the increase or whether the increase was discretionary or nondiscretionary, or both. Nevertheless, it is clear that the manager who wishes to increase reported net income through accounts receivable accruals has several means available.

Increase in Inventory Assume that this derives from the firm manufacturing for stock during a period of excess manufacturing capacity. The result is to include fixed overhead costs in inventory rather than charging them off to expense as unfavorable volume variances.

While other reasons for the increase are possible, just as in the case of accounts receivable, this illustrates that discretionary, income-increasing accruals are available for inventory as well.

Decrease in Accounts Payable and Accrual Liabilities Assume that this derives from the firm being more optimistic about warranty claims on its products than it has been in previous years.

Alternatively, or in addition, the decrease could be due to regarding certain borderline items as contingencies rather than accruals. Again, we see that there can be ample room for discretionary accruals in accounts payable.

The main point to note is that the manager has considerable discretion to manage reported net income within the rules of GAAP. Notice also that, for many of these discretionary accruals, it would be difficult for the firm's auditors to discover the earnings management or, if they did discover it, to object, since all of the techniques mentioned, with the exception of holding the books open past the year end, are within GAAP.

It is also clear that a similar set of discretionary accruals to *decrease* reported net income are available to the manager, simply by reversing those described previously.

Healy did not have access to the books and records of his sample firms. Consequently, he was unable to determine the specific discretionary accruals made by those

firms' managers. As a result, he used total accruals as a proxy for discretionary accruals. Thus, in our example, he would estimate discretionary accruals as +$120, instead of the +$170 that would be used if he had full information. The +$170 of *discretionary* accruals will raise *total* accruals by $170, regardless of what other nondiscretionary accruals may be present; that is, higher total accruals contain higher discretionary accruals. Similarly, lower total accruals contain lower discretionary accruals. However, using total accruals as a proxy for discretionary accruals may get the researcher into trouble if nondiscretionary accruals are large relative to discretionary. Then finding evidence of earnings management is like finding a needle in a haystack.

Note also that total accruals can be calculated two ways. One way is to take the change in each balance sheet account that is subject to accruals and add up the changes. A short-cut approach, however, is simply to take the difference between operating cash flow and net income.

Healy obtained a sample of 94 of the largest U.S. industrial companies. He followed each company over the period 1930 to 1980 and obtained a total of 1,527 usable observations, that is, 1,527 firm years where the bogey and (if applicable) cap for a firm's bonus scheme could be calculated. Of these, 447 observations included both a bogey and a cap.

Each observation was then classified into one of three categories (or "portfolios," as Healy calls them). Portfolio UPP consisted of observations where earnings were above the cap, portfolio LOW of observations where earnings were below the bogey, and portfolio MID where they were between the bogey and cap. The theory underlying Table 11-1 predicts that total accruals should be *greater* for the MID portfolio than for UPP and LOW—recall that income-increasing accruals have a positive sign in Table 11-1.

For the 447 observations that had both a bogey and a cap, the results are summarized in Table 11-2.

TABLE 11-2 Observations with Both a Bogey and a Cap

	PROPORTION OF ACCRUALS WITH GIVEN SIGN		NUMBER OF OBSERVATIONS	AVERAGE ACCRUALS
	Positive	***Negative***		
LOW	0.09	0.91	22	–0.0671
MID	0.46	0.54	281	+0.0021
UPP	0.10	0.90	144	–0.0536
			447	

Source: P. M. Healy, "The Effect of Bonus Schemes on Accounting Decisions," *Journal of Accounting & Economics;* Vol. 7; No. 1–3 (April 1985), p. 96, Table 2. Reprinted with permission.

We see that 46% of the 281 observations in the MID portfolio had total accruals which were positive, that is, income increasing. This is the situation facing our firm in Table 11-1, where total accruals were +$120. The average accrual of these 281 observations was +.0021 of total assets (accruals were deflated by total assets so that they could be

compared across firms of different sizes). For the observations in the LOW and UPP portfolios, the proportions with positive total accruals were much lower—only 9% and 10%, respectively. In fact, the average accruals for these observations were *negative* (income decreasing). These results are consistent with Healy's arguments (see Figure 11-1), that firm managers whose net incomes are below the bogey and above the cap will tend to adopt income-decreasing accruals and only managers with net income between the two will tend to adopt income-increasing accruals. Thus, Healy's predictions of earnings management by managers subject to bonus schemes were supported by the empirical results.

Results for observations where the bonus scheme had only a bogey are summarized in Table 11-3.

TABLE 11-3 Observations with Bogey Only

	PROPORTION OF ACCRUALS WITH GIVEN SIGN		NUMBER OF OBSERVATIONS	AVERAGE ACCRUALS
	Positive	***Negative***		
LOW	0.38	0.62	74	–0.0367
MID	0.36	0.64	1,006	–0.0155
			1,080	

Source: P. M. Healy, "The Effect of Bonus Schemes on Accounting Decisions," *Journal of Accounting & Economics;* Vol. 7; No. 1–3 (April 1985), p. 96, Table 2. Reprinted with permission.

Here there is no UPP portfolio. The proportions of positive and negative accruals are about the same for each portfolio. However, the average accrual is significantly greater for MID, being –0.0155 of total assets compared to –0.0367 for LOW. Thus, we can conclude that while the MID observations did not engage in a higher *proportion* of positive accruals, the accruals they did make were significantly *larger* (that is, less negative) on average. These results, while perhaps not as dramatic as those of Table 11-2, also are significantly consistent with Healy's arguments for earnings management by managers subject to bonus schemes.

The second approach to searching for evidence consistent with earnings management is to examine voluntary changes in accounting policies. From the firms in his sample, Healy collected 242 accounting policy changes over the 12 years 1968 to 1980 for which the effect on net income could be determined.

As Healy notes, accounting policy changes are not as desirable an earnings management vehicle as accruals. Reasons are that such changes are highly visible compared to accruals—they have to be disclosed in the annual report—and that the standard of consistency prevents a particular policy from being changed very often. Thus, accounting policy changes tend to be a blunt and inflexible weapon. Healy did *not* find that his sample firms used accounting policy changes the same way they used accruals. That is, policy changes were not used to increase annual reported net income in the MID range and to decrease it

for LOW and HIGH incomes. Presumably, a reason is that accruals are a more effective way to accomplish this objective.

Nevertheless, it can be argued that if managers are going to change accounting policies, a good time to do it is just after the introduction or amendment of a bonus plan. A manager may be motivated at that time to adopt an income-increasing accounting policy change (for example, a switch from accelerated to straight-line amortization) if a period of healthy earnings is anticipated. This policy change would increase the expected bonus in future years, particularly if there were no cap on the bonus scheme.

To test this reasoning, Healy classified his sample companies into two portfolios for each year from 1968 to 1980. One portfolio consisted of firms that adopted or modified their bonus plan in the year; the other consisted of firms that did not. If the preceding argument is correct, the first portfolio should have more accounting policy changes than the second.

Healy found that in 9 of the 12 years over which comparisons were made, the portfolio of firms with bonus plan changes did in fact have more accounting policy changes. This provides significant evidence that managers also use such changes as an earnings management vehicle.

However, in view of the finding that managers did not use accounting policy changes to influence individual years' net income, it seems that their use of accounting policy changes is a longer-run earnings management device. Such changes can be used to give a general upward or downward influence on net income over a period of time extending from adoption or modification of a bonus plan. Presumably, individual years in this time period can then have their reported net incomes fine-tuned by means of accruals.

It should be mentioned that earnings management studies face severe methodological problems. As mentioned earlier, a major difficulty is that discretionary accruals cannot be observed. Consequently, some proxy must be used. Using total accruals, as Healey did, introduces measurement error into the discretionary accruals variable, which makes it more difficult to detect earnings management should it exist. Another problem arises if the amount of nondiscretionary accruals is correlated with net income. For example, as Kaplan (1985) has pointed out, a firm with reported net income above the cap of its bonus plan may have low nondiscretionary accruals if its high income is due to an unexpected increase in demand which runs down inventory. Then the low total accruals that are used to infer earnings management are really due to the level of the firm's real economic activity and not to low discretionary accruals. Healy was aware of these problems and conducted additional tests to control for them, which he interpreted as confirming his findings. The methodology used by Jones (1991) (see Section 8.3) provides a more refined way to estimate nondiscretionary accruals. For further discussion of methodological issues in this area, see McNichols and Wilson (1988), Schipper (1989), and Dechow, Sloan, and Sweeney (1994).

McNichols and Wilson (1988) also studied the behavior of accruals in a bonus context. They confined their investigation to the provision for bad debts, on the grounds that a precise estimate of what the bad debts allowance *should* be (i.e., the nondiscretionary accrual) can be made. Then discretionary accruals can be taken as the difference between this estimate and the actual bad debts provision. A precise estimate of nondiscretionary accruals will reduce the problem of measurement error in the discretionary accruals variable. This approach also reduces the problem of correlation between net income and nondiscretionary accruals, since the impact on the bad debts provision of the firm's level of

economic activity is captured by their estimate of what the bad debts allowance should be. They found that, over the period 1969 to 1985, discretionary bad debt accruals were significantly positive (that is, income reducing) both for firm years that were very profitable and very unprofitable (and thus likely to be below and above the bogeys and caps, respectively, of the bonus agreements). For firm years that were between these profitability extremes, discretionary accruals were much lower and usually negative. These results are consistent with those of Healy.

More recently, Holthausen, Larcker, and Sloan (1995) studied managers' accruals behavior for bonus purposes. They were able to obtain data on whether managers' annual earnings-based bonuses were in fact zero, greater than zero but less than the maximum bonus, or at the maximum. These are substantially better data than in Healy, who had to estimate whether earnings before discretionary accruals were below bogey, between bogey and cap, or above cap based on available descriptions of bonus contracts, and *assume* that if earnings were below the bogey the manager would not receive a bonus, and so on.

Using a version of the Jones (1991) model to estimate nondiscretionary accruals for a sample of 443 firm-year observations over 1982 to 1990, Holthausen, Larcker, and Sloan found that managers who were at their bonus maxima managed accruals so as to lower reported earnings. This is consistent with Healy's results—see row 3 of Table 11-2. However, Holthausen, Larcker, and Sloan did not find that managers who received zero bonus also used accruals to manage earnings downward, which differed from Healy's findings (row 1, Table 11-2). Holthausen, Larcker, and Sloan concluded that methodological problems arising from Healy's procedures for estimating discretionary accruals explained why he appeared to find negative accruals for his low portfolio.

In summary, we may conclude that, despite methodological challenges, there is significant evidence that managers use accruals to manage earnings so as to maximize their bonuses, particularly when earnings are high. This evidence is consistent with the bonus plan hypothesis of positive accounting theory.

11.3 OTHER MOTIVATIONS FOR EARNINGS MANAGEMENT

Managers may engage in earnings management for a variety of reasons besides a bonus scheme. Now we will look at these briefly.

Other Contractual Motivations Healy's investigation suggests that earnings management to affect bonuses does exist. Such earnings management is an example of a **contractual** motivation; that is, the incentive for earnings management arises from the characteristics of bonus schemes, which are contracts between the firm and its managers that set forth the basis of managerial compensation.

There are other contractual motivations for earnings management. An important case arises from long-term lending contracts, which typically contain covenants to protect the lenders against actions by managers that are against the lenders' best interests, such as excessive dividends, additional borrowing, or letting working capital or shareholders' equity fall below specified levels, all of which dilute the security of existing lenders.

Earnings management for covenant purposes is predicted by the debt covenant hypothesis of positive accounting theory. Given that covenant violation can impose heavy

costs, firm managers will be expected to avoid them. Indeed, they will even try to avoid being *close* to violation because this will constrain their freedom of action in operating the firm. Thus, earnings management can arise as a device to reduce the probability of covenant violation in debt contracts.

Earnings management in a debt covenant context was investigated by Sweeney (1994), reviewed in Section 8.3. For a sample of firms that had defaulted on debt contracts, Sweeney found significantly greater use of income-increasing accounting changes relative to a control sample, and also found that defaulting firms tended to undertake early adoption of new accounting standards when these increased reported net income, and vice versa.

Defond and Jiambalvo (1994) also examined earnings management by firms disclosing a debt covenant violation during 1985 to 1988. They found evidence of the use of discretionary accruals to increase reported income in the year prior to and, to a lesser extent, in the year of the covenant violation.

Somewhat different results are reported by DeAngelo, DeAngelo, and Skinner (1994), however. They studied a sample of 76 large, troubled firms. These were firms that had three or more consecutive loss years during 1980 to 1985 and which had reduced dividends during the loss period. For 29 of these firms, the cut in dividends was forced by binding debt covenant constraints.

After controlling for the influence of declining sales and cash flows on accruals, DeAngelo, DeAngelo, and Skinner failed to find evidence that these 29 firms used accruals to manage earnings upward in years prior to the cut in dividends, relative to the remaining sample firms that did not face debt covenant constraints. Rather, all the sample firms exhibited large *negative* (that is, earnings-reducing) accruals extending for at least three years beyond the year of the dividend cut. DeAngelo, DeAngelo, and Skinner attribute this behavior as due in part to large, discretionary noncash write-offs. Apparently, these were to signal to lenders, shareholders, unions, and others that the firm was facing up to its troubles, and to prepare the ground for subsequent contract renegotiations which frequently took place.

It thus seems that when its troubles are profound, the firm's behavior transcends that which is predicted by the debt covenant hypothesis and, instead, earnings management becomes part of the firm's (and its manager's) overall strategy for survival.

Political Motivations Many firms are quite politically visible. This will be the case for very large firms, simply because their activities touch large numbers of people. Also firms in strategic industries, such as oil and gas, will be visible, as will monopolistic or near-monopolistic firms like airlines and power companies. Such firms may want to manage earnings so as to reduce their visibility. This would entail, for example, accounting practices and procedures to minimize reported net income, particularly during periods of high prosperity. Otherwise, public pressure may arise for the government to step in with increased regulation or other means to lower profitability. You will recognize that this motivation underlies the size hypothesis of positive accounting theory.

Jones (1991), reviewed in Section 8.3, found that her sample firms made significantly greater income-decreasing accruals during the year of ITC investigation than in years outside the investigation year. Also Cahan (1992), using methodology similar to that

used by Jones, found that a sample of firms under investigation for monopolistic practices by the Department of Justice and the Federal Trade Commission during 1970 to 1983 used more income-decreasing accruals during investigation years relative to other years in the sample period.

Taxation Motivations Income taxation is perhaps the most obvious motivation for earnings management. However, taxation authorities tend to impose their own accounting rules for calculation of taxable income, thereby reducing firms' room to maneuver.

An exception, however, occurs with respect to the choice of LIFO versus FIFO inventory method. Firms that use LIFO for tax purposes must also use it for financial reporting. During periods of rising prices, LIFO will usually result in lower reported profits and lower taxes, relative to FIFO. Yet, even when prices are rising, we observe that not all firms switch to LIFO. In effect, firms can either manage income down by choosing LIFO, resulting in lower taxes and increased cash flows, or manage income up by choosing FIFO, at the cost of higher taxes and lower cash flows. The question then is, why?

Much positive theory research has tried to explain and predict firms' inventory policy choices. It does appear that tax savings are an important factor. For example, Dopuch and Pincus (1988) report evidence that tax savings are high for LIFO firms and that firms which remain on FIFO do not suffer large tax consequences, for reasons such as low amounts of inventory, high variability of inventory levels, high inventory turnover, and low effective tax rates. Lindahl (1989) also reports results consistent with these reasons.

From an efficient capital markets perspective, we would expect that cash savings would dominate the effects of a lower reported net income under LIFO. Then we would expect a favorable effect on firms' share prices upon switching from FIFO to LIFO when prices are rising. Sunder (1973) was one of the first to document such an effect.

However, studies of LIFO/FIFO choice are complicated by methodological problems. For example, firms' betas may change after a switch. Also firms may tend to adopt LIFO when their earnings can "stand it." That is, reported earnings may increase despite a switch to LIFO. Then it is difficult to know whether a market response is due to earnings performance or to LIFO tax savings. Subsequent research has generated mixed results. Abdel-khalik and McKeown (1978) and Ricks (1982) report that the market did not react positively to a switch to LIFO while Biddle and Lindahl (1982) report that it did. This issue is still unresolved.

From a contracting perspective, one can suggest why some firms may forgo tax savings in favor of higher reported earnings under FIFO. Managerial bonuses may be favorably affected by higher reported profits, and the probability of technical violation of debt covenants will fall. However, empirical evidence that contracting variables explain LIFO/FIFO choices is not strong. For example, Abdel-khalik (1985) found that managers of LIFO firms did not suffer adverse bonus effects. Also Hunt (1985) failed to find evidence of bonus plan effects. There is some evidence that firms with high debt-to-equity levels are more likely to use FIFO, reported by Cushing and LeClere (1992), Lindahl (1989), and Hunt (1985). However, Lee and Hsieh (1985) and Dopuch and Pincus (1988) did not find the debt-to-equity ratio to be significant. Overall, the evidence seems to support tax savings as the most important factor in LIFO/FIFO choice. Firms that switch to LIFO have the most to gain, and vice versa. However, this raises questions about the strength of the bonus

plan and debt covenant hypotheses. Perhaps other methods which do not require a cash flow sacrifice, such as accruals management and paper accounting policy changes, are sufficient for managers concerned about contract rigidities.

Changes of CEO A variety of income management motivations exist around the time of a change of chief executive officer (CEO). For example, the bonus plan hypothesis predicts that CEOs approaching retirement would be particularly likely to engage in a strategy of income maximization to increase their bonuses. Similarly, CEOs of poorly performing firms may income maximize to prevent, or postpone, being fired. Alternatively, consistent with the findings of DeAngelo, DeAngelo, and Skinner (1994) as discussed earlier, such CEOs may take a bath so as to increase the probability of future earnings. This motivation also applies to new CEOs, especially if large write-offs can be blamed on the previous CEO.

These motivations were studied by Murphy and Zimmerman (1993). They examined the behavior of four discretionary variables (that is, variables with earnings management potential), namely, research and development (R&D), advertising, capital expenditures, and accruals. Their study included a large sample of CEO changes in U.S. companies during the period from 1971 to 1989.

Note that three of the variables examined by Murphy and Zimmerman affect the firm's *real* operations. While reducing R&D, advertising, and capital expenditures may be an effective way to increase current earnings, it is potentially quite costly to the firm since its competitive position may be adversely affected in the future. The accrual and accounting policy variables that we have considered to this point are less costly since, with the exception of LIFO inventory, they are strictly paper devices with no direct effect on current or future cash flows. The possibility of using real variables such as R&D alerts us to the fact that the managers have more scope to manage earnings than might be at first thought.[1] Also it emphasizes that while GAAP may serve to constrain earnings management, it is unlikely they could ever eliminate it.

Studies such as the one by Murphy and Zimmerman also face difficult methodological problems. For example, the probability of CEO change is affected by the firm's operating performance. But operating performance will also affect the magnitude of discretionary variables. Thus, accounts receivable may be lower if sales are down, and financially stressed firms may simply not have the cash to maintain R&D, advertising, and capital expenditures. If lower accruals, and lower expenditures on the other three discretionary variables, are observed, is this due to earnings management or to poor operating performance? Another problem is that it may be difficult to tell, in the transition year, whether any apparent earnings management is due to the new CEO or the old.

After controlling for problems such as these, Murphy and Zimmerman concluded that most of the unusual behavior of the four discretionary variables was due to poor operating performance. For example, they found no evidence that CEOs approaching retirement income maximized. Somewhat surprisingly, they also found little evidence that CEOs of poorly performing firms income maximized either. Both of these findings are inconsistent with the opportunistic form of the bonus plan hypothesis. However, Murphy and Zimmerman did find evidence that incoming CEOs of poorly performing firms took baths.

It is interesting to speculate on these findings of a lack of earnings management by outgoing executives. Pourciau (1993), in a study of nonroutine executive change, finds a

similar result and gives extensive discussion of possible reasons. If methodological problems are ruled out, one possibility is that some poorly performing managers may have used earnings management successfully to avoid being fired. If so, they would not be included in the sample. Another possibility is that the outgoing executive engaged in income-increasing earnings management in years prior to departure, and earnings in the departure year are forced down by the inevitable reversal of these earlier discretionary accruals. Yet another possibility is that boards of directors monitor the activities of poorly performing and outgoing managers with care, particularly with respect to real variables such as R&D, so that opportunistic earnings management would be nipped in the bud. Furthermore, the extent of board monitoring may vary with the firm's corporate governance structure. For example, an entrenched manager who dominates the board may feel less need to manage earnings. Smith (1993) gives further discussion of issues such as these.

Initial Public Offerings By definition, firms making IPOs do not have an established market price. This raises the question of how to value the shares of IPO firms. Presumably, financial accounting information included in the prospectus is a useful information source. For example, Hughes (1986) shows analytically that information such as net income can be useful in helping to signal firm value to investors, and Clarkson, Dontoh, Richardson, and Sefcik (1992) find empirical evidence that the market responds positively to earnings forecasts as a signal of firm value. This raises the possibility that managers of firms going public may manage the earnings reported in their prospectuses in the hope of receiving a higher price for their shares.

Friedlan (1994) investigated this issue. For a sample of 155 U.S. IPOs during 1981 to 1984, he examined whether the firms managed earnings upward in the latest accounting period prior to the IPO by means of discretionary accruals.

Since IPO firms are usually growing rapidly, it is particularly difficult to estimate their discretionary accruals, since growth itself drives an increase in accruals, such as accounts receivable, inventories, and so on. After extensive tests to control for this problem, Friedlan concluded that IPO firms did indeed make income-increasing discretionary accruals in the latest period prior to the IPO, relative to accruals in a comparable previous period. Furthermore, accruals management seemed to be concentrated in the poorer-performing sample firms as measured by operating cash flows (such firms presumably have greater motivation to increase reported income) and in the smaller sample firms (about which less may be known).

11.4 PATTERNS OF EARNINGS MANAGEMENT

From the foregoing discussion, it is apparent that managers may engage in a variety of earnings management patterns. Here we will collect and briefly summarize these patterns.

Taking a Bath This can take place during periods of organizational stress or reorganization, including the hiring of a new CEO. If a firm must report a loss, management may feel compelled to report a large one—it has nothing to lose at this point. Consequently, it will write off assets, provide for expected future costs, and generally "clear the decks." This will enhance the probability of future reported profits.

Healy also mentions that managers whose net income is below the bogey of the bonus plan may take a bath for similar reasons—it will enhance the probability of future bonuses.

In effect, the recording of large write-offs puts future earnings "in the bank."

Income Minimization This is similar to taking a bath but is less extreme. Such a pattern may be chosen by a politically visible firm during periods of high profitability. Policies which suggest income minimization include rapid write-offs of capital assets and intangibles, expensing of advertising and research and development expenditures, successful-efforts accounting for oil and gas exploration costs, and so on. Income taxation, such as for LIFO inventory, provides another set of motivations for this pattern, as does enhancement of arguments for relief from foreign competition.

Income Maximization As we saw in Healy's study, managers may engage in a pattern of maximization of reported net income for bonus purposes, providing this does not put them above the cap. Firms that are close to debt covenant violations may also maximize income.

Income Smoothing This is perhaps the most interesting earnings management pattern. We saw from Healy that managers have an incentive to smooth income sufficiently so that it remains between the bogey and cap. Otherwise, earnings may be temporarily or permanently lost for bonus purposes. Furthermore, if managers are risk averse, they will prefer a less variable bonus stream and, hence, may want to smooth net income.

We considered covenants in long-term lending agreements in Section 9.4.3. Clearly, the more volatile the stream of reported net income, the higher the probability that covenant violation will occur. This provides another smoothing incentive: to reduce volatility of reported net income so as to smooth covenant ratios.

Firms may also smooth reported net income for external reporting purposes. This can convey inside information to the market and, by enabling the firm to communicate its expected longer-term earnings growth, can lower its cost of capital.

It should be apparent that these various earnings management patterns can be in conflict. Over time, the pattern chosen by a firm may vary due to changes in contracts, changes in levels of profitability, changes in CEO, and changes in political visibility. Even at a given point in time, the firm may face conflicting needs to, say, reduce reported net income for political reasons, but to smooth it for borrowing purposes. Then the particular pattern chosen by the firm would be difficult to predict.

11.5 IS EARNINGS MANAGEMENT "GOOD" OR "BAD"?

Probably, most people would feel that earnings management is "bad," since, as we have suggested several times in earlier chapters, it implies a reduction in the reliability of financial statement information. This raises the question of why it seems to persist. Also, why can't boards of directors, lenders, government agencies, and investors "unravel" the earnings management, so that there is no point in engaging in it?

One reason, as pointed out by Schipper (1989), is that managers have inside information and it is prohibitively costly for others to find out this information. For example, amounts of discretionary accruals would be very difficult to know, even by boards of directors. Also other possible earnings management techniques, such as accounting policy changes, timing of capital gains and losses, and provisions for restructuring, can be very difficult for outsiders to interpret. For example, is a firm's sale of one of its divisions driven by necessity or by timing considerations, or is a provision for restructuring excessive? Answers to questions such as these are typically private, inside information. There must be some blockage of manager/board or manager/investor communication, or earnings management will be unraveled.

It should be emphasized that "prohibitively costly" does not mean that the unraveling of earnings management is impossible, but simply that it is not cost-effective. For example, the board of directors may be able to determine the extent of accruals manipulation by hiring an auditor to give a complete report. However, the board may not feel that this is worth the cost, particularly if it had anticipated some efficient earnings management when setting the manager's compensation contract in the first place. Also evaluating the reasonableness of gains and losses on capital assets or of the adequacy of restructuring provisions could be very costly even for analysts, large blockholders, and other sophisticated investors. Large corporations are extremely complex, often spanning several industries and conducting operations worldwide.

Jones (1991) argues that individual consumers may not feel that it is worth becoming informed about applications for tariff protection before the ITC, since the impact on them of price increases following a successful application would be small. Even the ITC may not bother to investigate earnings management if it does not receive complaints from consumers.

Another reason for the persistence of earnings management is that there is a "good" side to it. We can consider the pros and cons of earnings management from both a contracting and a financial reporting perspective. From a contracting perspective, the question of whether earnings management is good or bad is related to the efficient contracting versus opportunistic forms of positive accounting theory, as discussed in Chapter 8. Under efficient contracting, it is desirable to give managers some ability to manage earnings in the face of incomplete and rigid contracts. We must be careful not to interpret evidence of earnings management for bonus, debt covenant, and political reasons as necessarily bad. Such an interpretation would be valid only if managers go too far and behave opportunistically with respect to existing contracts. Thus, we would expect some earnings management to persist for efficient contracting reasons.

From a capital markets perspective, earnings management can be a device to convey credibly inside information to the market, thereby affecting firms' cost of capital. To see how this could come about, consider the **blocked communication** concept of Demski and Sappington (1987). Frequently, agents obtain specialized information as part of their expertise, and this information can be prohibitively costly to communicate to the principal; that is, its communication is blocked. For example, it may be difficult for a physician to communicate to the patient exact details of an examination and diagnosis. Then the physician's act (for example, operating on the patient) must stand in not only for the physician's surgical skills but also for the information acquired during the diagnosis. Demski and Sap-

pington show that the presence of blocked communication can reduce the efficiency of agency contracts, since the agent may shirk on information acquisition and compensate by taking an act that, from the principal's standpoint, is suboptional—the physician may simply sew up a badly cut hand on the basis of a cursory examination that fails to check for possible tendon or nerve damage, for example. If so, the principal has an incentive to try to eliminate or reduce the blocked communication.

In a financial reporting context, earnings management can be a device to do this. To illustrate, suppose that the board of directors (the principal) wants to encourage the manager (the agent) to communicate the firm's long-run earnings potential. This is complex inside information of the manager. If the manager simply announced this information, the announcement would not likely be credible, since the board or the market would find it prohibitively costly to verify. Suppose, however, that the firm has just realized a profit of $200 million from the sale of a division. Rather than report a net income substantially higher than what is sustainable in the long run, the manager decides to record a provision for restructuring of, say, $180 million, thereby reducing current earnings to what the manager feels is sustainable.

This way of "unblocking" the manager's inside information has some credibility, since it involves the financial statements for which the manager has formal responsibility. If the manager reported a provision for restructuring that differed materially from internal plans, this could result in auditor objection and possible legal liability. Thus, the board may allow a reasonable amount of earnings management to persist as a way to communicate blocked, inside information to the market. Notice that the market cannot unravel this earnings management since it is based on inside information about sustainable earning power. However, the market can use the earnings management to infer what this inside information is.

This argument that net income can convey inside information to investors while at the same time being useful for contracting purposes has been further explored by Demski and Sappington (1990). We can think, for example, of operating cash flows or some other relatively unmanaged performance measure, such as net income before extraordinary items, as reporting on manager effort. Then they show that judicious choice and disclosure of accruals, such as the provision for restructuring mentioned earlier can, in addition, convey value-relevant information to investors.

This "dual-purpose" role for net income is encouraging and helps to meet the fundamental problem of financial accounting theory outlined in Chapter 1. However, as Demski and Sappington (1990) point out, the information conveyed by the financial statements in their model does not purport to convey fully the value of the firm. All that is claimed is that *some* value-relevant information is conveyed by net income. That is, their model does not get around our general observation that net income is only well defined under ideal conditions. Consequently, it is still the case that the best net income for contracting need not be the same as the most useful net income for informing investors.

Dye (1988) also modeled the foregoing capital market considerations. He envisaged two generations of shareholders—current and future. The current shareholders will sell their shares to the next generation in a future period. Given inside information, and given that it is prohibitively costly for the future shareholders to unravel the firm's earnings management, Dye showed that a manager acting on behalf of the current shareholders has an

ability and incentive to manage earnings so as to maximize the selling price received by the current shareholders. In effect, in Dye's model, the firm uses earnings management to minimize its cost of capital.

Incentives to smooth can also arise from *short-term* borrowing, which typically does not impose covenants (accounts payable, for example). The more volatile its stream of cash flows, the greater the probability that the firm will be unable to pay its contractual obligations as they mature. If failure to repay means the firm goes bankrupt, the short-term lenders will suffer. Hence, the firm may engage in income smoothing to disguise its underlying cash flow volatility. As a result, lenders who look to net income as a measure of the security of their loans will be more willing to provide short-term credit. Of course, this argument works only when lenders do not see through the smoothing activity. However, as mentioned previously, accruals may provide such a smoothing vehicle because they can be hard to detect.

11.6 SUMMARY AND CONCLUSIONS

Earnings management is motivated by contracts which depend on reported net income, by critical events such as manager retirement, takeover bids, and appeals for tariff protection, and by a desire to minimize cost of capital. There are several patterns of earnings management that firms may adopt at different times—bath, income maximization, income minimization, and income smoothing.

Earnings management is made possible by the costliness of unraveling management's inside information. There must be limits to earnings management, or investors and firm owners would quickly lose confidence in net income as a reliable measure of firm performance. However, some earnings management is desirable from the standpoint of owners and managers both because it provides room to maneuver to avoid the costly consequences of contract renegotiation, and because it provides a vehicle for the enhancement of firm value by communicating inside information to the market.

Our study of earnings management shows that reporting of net income goes well beyond the communication of useful information to investors as implied by single-person decision theory. Instead, choosing net income has aspects of a game, in which accounting policies are chosen for strategic reasons. Of course, reporting to investors remains as a necessary objective. The role of GAAP is to ensure socially acceptable levels of relevance and reliability.

Nevertheless, GAAP does not completely constrain a firm's choice of accounting policies and their timing. The reason, as we have seen, is that except under ideal conditions net income is not well defined, so that there are no "right answers" to many accounting questions. We can thus think of GAAP as a set of constraints. Violation of GAAP for financial reporting could result in auditor qualification, SEC investigation, and lawsuits. However, within GAAP, we can think of accounting policies as being chosen for a variety of strategic reasons to accomplish manager and firm objectives.

Note that it is information asymmetry that creates opportunities for strategic accounting policy choice. Moral hazard creates the need to compensate managers based on measures of performance, and to include covenants for the protection of lenders. Without moral hazard, managers could be paid a salary, and protection of lenders would not be of