

How and Why Firms Disregard the Controllability Principle

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INTRODUCTION

ONE of the most commonly cited principles of control is that individuals should be held accountable only for results they can control. Here is a representative expression of the controllability principle:

It is almost a self-evident proposition that, in appraising the performance of divisional management, no account should be taken of matters outside the division's control.¹

In practice, however, the controllability principle seems often to be ignored; it is common, even typical, for managers to be held accountable for areas over which they have little, or even no, control. For example, Harold Geneen, the former long-time chief executive of ITT believes:

Managing means that once you set your business plan and budget for the year, you must achieve the sales, the market share, the earnings, and whatever to which you committed yourself. . . . An experienced chief ex-

This paper has been abridged considerably for publication. For a more complete discussion, see Kenneth A. Merchant, "An Investigation into the Reasons for Firms' Selective Disregard of the Controllability Principle: A Field Study." Harvard Business School Working Paper, #9-787-010.

ecutive can choose from among a thousand good plausible explanations for a no-fault rationale of why the company failed to achieve the results he had promised at the beginning of the year. . . . However, if you believe that *management must manage*, then all those perfectly logical explanations do not count. The only thing that counts is that the desired results were achieved or that they were not achieved.²

Here, as an important step toward developing a theory of practice in the area, I report the findings of a field study designed to explore managers' thinking about the controllability issue. The following research questions were explored:

1. Do firms hold their profit center managers accountable for results and events over which they do not have complete control? If so, when and why? Can firms be ordered along a continuum according to the extent to which they implement the controllability principle?
2. What are the consequences, both favorable and unfavorable, of holding managers accountable for uncontrollables?
3. If firms differ in their implementation of the controllability principle, what causes the difference?

The field study was conducted in three corporations chosen from different industries. The findings suggest that firms do indeed differ markedly in the extent to which their managers are held accountable for uncontrollable events. Comparisons and contrasts made among firms' managerial-evaluation practices provide a basis for a tentative refinement and elaboration of the controllability principle.

LITERATURE SEARCH

Before starting the field portion of the study, I reviewed the literature related to the controllability issue. The rationale for the controllability principle, which is discussed in many works, including Magee (1986, 268-69), Merchant (1985, 21-24), and Maciariello (1984, 135-36) is: first, if performance indicators are influenced by uncontrollable events, the indicators become less informative about the desirability of the actions the individual has taken; and second, holding individuals accountable for uncontrollable events can lead to dysfunctional behavior. If individuals feel their evaluations are not fair—for example, if they are being evaluated poorly when they feel

their personal performance has been good—the consequences may include game playing, loss of motivation, and employee turnover.

Some research has presented plausible reasons for not implementing the controllability principle. It has used both deductive and inductive reasoning.

The deductive work, based on economic theory, has presented three arguments as to why principals (e.g., upper-level managers) should hold agents (e.g., lower-level managers) accountable for outcomes over which they do not have complete control. One argument shows that holding agents accountable for the effects of random and uncontrollable phenomena (e.g., changes in product demand) and the effects of actions of other managers (i.e., those effects caused by organizational interdependency) will cause agents' decisions to reflect "a [proper] degree of risk aversion, and the combined risk-bearing abilities of the owner and manager will exceed that of either alone" (Demski 1976, 233). This argument introduces the desirability of having subordinates share risks with their superiors as a justification for evaluating subordinates on random outcomes.

A second reason for holding agents accountable for some categories over which they have no control is to tell them how their decisions affect areas outside their control. Baiman and Noel (1985) show that it can be useful to charge agents for the costs of capacity. Zimmerman (1979) makes a similar argument for assigning the costs of shared resources.

A third argument is that in situations with imperfect postdecision information, agents should be evaluated on their accomplishments as they compare with those of other agents who face the same environment—even though those other agents' accomplishments are clearly outside the first agent's control. This relative performance evaluation is desirable because the broader data provide information about the agent's unobservable actions (Baiman and Demski 1980; Holmstrom 1982).

These deductive works are based on some simplifying assumptions. For example, in Demski's (1976) model, simplifications include excluding the cost of evaluation and the existence of alternative risk-sharing possibilities. Demski also assumed that principal and agent were cooperative; that is, preference and belief information were assumed to be freely and completely passed among the individuals. Whether the findings are descriptive of a more realistic setting remains largely untested. The single empirical study available to date

provided only partial support for the relative performance evaluation argument (Antle and Smith 1986; but see Maher 1987).

Inductive researchers have not discussed the controllability principle by name, but they have provided some limited evidence about managers' lack of complete implementation of the controllability principle and some plausible reasons for the managers' actions. Hofstede (1967, 32) observed several cases where the accounting system did not coincide with the responsibility structure of the organization, "mostly because the rather static reporting system had not followed recent changes in the responsibility organization."

Vancil (1979) collected data from 291 firms and found that profit-center managers almost never have control over all the items for which they are held responsible. He concluded that assigning largely uncontrollable expenses (e.g., for administrative services) can be functional because it tells managers they should become involved in the benefit/cost trade-offs involved.

RESEARCH METHOD

With this knowledge of the literature, I conducted a field study in three firms: (1) a large distribution corporation, (2) a large chemical corporation, and (3) a medium-sized high-technology corporation. The firms were selected because they are divisionalized and arguably well run. I did not know the extent to which each of the firms implemented the controllability principle prior to the initial contact with the firm.

To limit the scope of investigation, the study focused on one important role: lower-level general managers. I made this choice because within the decentralized form of organization, which predominates among firms of any significant size (see surveys by Reece and Cool 1978; and Vancil 1979), the general manager is probably the most important position over which good control must be exercised (Solomons 1965; Vancil 1979).

To understand the extent to which each firm implemented the controllability principle at the general-manager level, I interviewed corporate staff personnel who were knowledgeable about how the firm's general managers were evaluated and rewarded. Also at this

time, relevant written company documents were reviewed. Then I interviewed a small sample of general managers, their immediate superiors and, where appropriate, financial staff at either (or both) organizational levels.

All interviews were largely unstructured so as to minimize the possibility of interviewer bias and to allow the managers to describe the factors they felt were important. Two interviewers were present at most interviews.

At the corporate level, the questioning was designed to provide a basic understanding of the degree to which the company's philosophy reflects the controllability principle and how that philosophy is implemented. At the general-manager level, the emphasis was on understanding the managers' business(es), probing for recent events that affected measures of performance but were not totally controllable by the general manager, understanding the extent to which the general managers were held accountable for those events, and learning the managers' reactions to and feelings about their company's incentive systems.

The following sections provide brief descriptions of each of the companies studied and one or more examples that illustrate the extent to which the company holds its general managers accountable for events outside their control.

THE DISTRIBUTION CORPORATION

The distribution corporation has annual revenues of several billion dollars; it ranks among the *Fortune* 50 list of largest diversified service companies. Its businesses distribute a wide range of products, including paper, pharmaceuticals, office products, steel, beverages, and gifts and glassware.

The corporation consists of approximately eighty companies. The manager of a company is called a company president. The companies are organized into groups, headed by group vice presidents who report to the president of the corporation.

The corporation has grown primarily by acquiring privately held businesses. It attempts to retain the identity and management of the acquired companies.

Performance of the distribution corporation has been excellent.

In the twenty years since its founding, it has grown one hundredfold and more in both revenues and net income.

Management Bonus Plan

The distribution corporation uses a management bonus plan to give substantial extra compensation to managers, at the level of company president and higher, who achieve certain predetermined performance objectives. Company presidents can earn up to 50 percent of base salary as compensation under the plan.

Performance of each company is judged in terms of two components:

1. The *income component* is defined as either profit before tax or gross profit, depending on the business. This income number excludes (in addition to taxes) allocated corporate expenses, gains or losses on investment transactions, interest expense or income, and gains or losses from foreign currency translation.
2. The *key objectives component* is usually comprised of one or more of the following: selling, general and administrative expenses as a percent of gross profit, days' sales outstanding, inventory turns, return on capital employed, and/or return on investment.

The income component is included in all company plans and is weighted very heavily (60–80 percent). Furthermore, if a minimum level of performance on the income component is not reached, no bonus is paid, regardless of how good performance is in other areas. The elements of the key objectives component are chosen in advance, based on a judgment of what is important to the business and, very often, where performance is judged to need improvement.

For bonus calculation purposes, adjustments are made for unanticipated, nonrecurring gains or losses during the year. The corporate manager in charge of monitoring the plan acknowledged some ambiguity in it. He observed that "it is difficult to legislate when you make exceptions and when you don't." The following examples show some adjustments made and not made.

Example #1: Adjustments for Uncontrollables

In 1985, circumstances arose that had significant effects on the performance of a liquor distribution company. During the 1985 annual

planning process, group and company management were aware of several factors

- a federal excise (FET) tax increase scheduled for October 1, 1985
- possible consolidation of the operations of the company with those of a company operating in an adjacent territory
- the expiration of the Teamster labor contract at the rectifying plant where a major private brand is produced

The impact of each of these items caused management to consider performance adjustments with bonus implications.

The *FET increase* was planned for and an increase in sales was forecasted owing to expectations that customers would try to “beat the tax increase.” Results around the nation were mixed, but in this company’s territory, sales were up significantly and operating profits for the year were well above plan. This performance, while extraordinary, was thought to have occurred, to some degree, because of the efforts of management. Consequently, the increases in sales and profits were accepted for bonus award; no adjustments were made.

Some time after the 1985 bonus parameters had been established, group management decided to *consolidate* the company’s operations with those of an adjacent company to make the physical distribution system more efficient. The work, which took place in November and December 1985, caused some unusual expenses. These expenses were deducted from the 1985 operating results, but the practical effect was nil since the company’s actual operating-profit performance already exceeded the bonus program maximum. If this had not been the case, an adjustment to the actual results would have been made; the expenses would have been removed.

With the pending *expiration of the labor contract* at the production facility, group management decided to require each distributor location to increase private-brand inventory by the equivalent of one month’s sales as protection against the possibility of a work stoppage. The president of the company had a key performance objective based on inventory turns’ performance, so at the close of the fiscal year, it became necessary to adjust the actual inventory turns’ number by an estimate of the impact of the centralized decision. Without the adjustment, the inventory turns’ number would have been 12.0, below the allowable minimum; with the adjustment, it became 13.0. The adjustment increased the company president’s bonus by just over \$1,000 (2 percent of salary).

Example #2: An Adjustment Not Made

In another liquor distributorship, a decision was made not to adjust for an event that cost the manager all of his 1986 bonus. His company faced a major price war which broke out in February 1986. The war caused the margins on a case of product (spirits, wines, water) to decline from a normal level of \$6–7 per case to \$1.50. (Distribution costs were approximately \$4.20 per case.) It was decided early in 1986 to make no adjustment for the effects of the price war.

When the plan for 1986 was being prepared, the company president knew of the possible price war; he saw a nonfull-service wholesaler making market share gains at the expense of a full-service company. But he noted that

There is no way to include such things in the forecast. Such “blips” occur on the upside as well as on the downside. For example, we have experienced tremendous sales growth of wine coolers which no one forecast.

At the time of the interview the manager felt that his chances of getting a bonus for 1986 were “nil to none.” A price war is particularly costly because it affects both margins and sales volume, and it is impossible to reduce the fixed expenses to match falling revenues. He felt that he could have met his plan if the price war had not started until the second or third quarter, instead of the first. While he was not happy about the prospect of losing his 1986 bonus, he recognized that such possibilities are part of being a company president.

Hypothetical Adjustments

To enrich our understanding of the types of uncontrollables that are and are not adjusted for in calculating management bonuses, we asked managers who evaluate the performances of the company presidents how they would deal with four hypothetical events: a labor strike, a fire in a warehouse, the loss of a supplier, and a new competitor. They concluded that they would adjust for a strike and a fire; they would adjust for the loss of a supplier only if the company was highly dependent on a single source; they would not adjust for the effects of a new competitor entering the market.

Two managers also commented generally about making adjustments:

We don't want to make an adjustment for every uncontrollable event that comes along. We say that if the economy turns sour, it's too bad. If you owned your own company, who could you turn to? (Nobody was complaining last year when the economy was better than forecast.) We might, though, take personal consideration into account, such as if a manager was retiring or if we wanted to make a commitment to someone for retention purposes.

I frequently receive calls from company presidents claiming that they are suffering costs which are uncontrollable and which, therefore, should be adjusted for. I have to explain to them that while these things might be unexpected from their point of view, most of them are just part of running their business. For instance, it is common for managers to ask me for allowances toward the extra costs they have incurred to support an unexpected increase in sales volume, such as to build a new warehouse. I explain to them that the profit calculations are designed to test whether these incremental expenditures should have been made.

Discussion

These examples show that the managers in this corporation attempt to implement the controllability principle, but only partially. Their basic definition of profit excludes some potentially major expense items that are largely uncontrollable by company presidents: corporate G&A, interest expenses, exchange gains and losses, and taxes. Also, they tend to make adjustments to actual results so as not to hold managers accountable when decision-making autonomy is taken away from them or when completely uncontrollable events occur.

On the other hand, the corporation is willing to have its company presidents bear considerable business risk. If economic conditions change after the plan is finalized, the presidents are expected to adapt to the new reality. This does not seem to trouble them as many were the president of their company when it was acquired; they are used to bearing that risk. The presidents' risks have actually been lessened now that they are part of a large corporation because the risk is borne only until changing economic scenarios are incorporated in the new annual plan.

The interviews provided some indication that the adjustments tend to be somewhat one-sided; that is, adjustments are more likely to be made for uncontrollable events that hurt company presidents; they are less likely when surprises affect performance favorably.

THE CHEMICAL CORPORATION

The chemical corporation has annual revenues of several billion dollars; it is on the *Fortune* 100 list of largest industrial corporations. Many of the corporation's businesses are mature, and the corporation wants to redeploy assets toward some new faster-growing businesses.

The corporation is organized into groups that are divided into a total of twenty functionally organized divisions. The autonomy of the division managers varies considerably; some of the divisions are nearly totally self-contained, while others have to rely on extensive support from group-level functions.

The corporation has a long, successful history, but its recent performance has not been good. Sales have been flat for five years, and profitability has been only moderate (about 7 percent of sales, after tax). The year 1985 showed a large loss, however, owing to a major corporate restructuring that involved write-offs, plant closings, and layoffs.

The Definition of Net Income

The corporation regards each entity as an independent unit so it pushes as many costs as possible down to the operating-unit level. Thus, the key business-unit and manager-performance measure—net income—includes a nearly full allocation of corporate costs, interest expense, currency expense, other income (or expense), corporate headquarters expenses, and taxes.

As many elements of cost as possible are charged to business units on the basis of usage, but significant amounts of indirect expenses remain. Most indirect expenses are allocated as a percent of capital employed in the business. For most businesses, the corporate allocation is less than two percent of sales. Only a few nonoperating items, such as those caused by acquisitions and debt defeasances, are not allocated and are, therefore, excluded from the operating units' net income calculations.

Performance Incentive Plan

The chemical corporation uses a single short-term, performance-dependent incentive plan for its general managers.³ Annual awards of cash and restricted stock are made to managers.

The calculation of awards is done in three steps. First, a total award fund is determined, depending on the corporation's net income performance compared with budget. Subjective adjustments of the award funding are permitted, but they are rarely made. Upper-level managers observed that every year some unforeseen economic factors, such as demand changes, currency devaluations, or changes in significant factor inputs (e.g., oil), affect net income performance, and these are often discussed by the compensation committee. Almost without exception, however, the committee has ignored these factors. In the words of one manager, "They don't bend very much."

In the second step, the award fund is allocated to the various operating entities by comparing net income performance to budget at the entity level. The CEO can vary the allocation of awards among the groups, but he is constrained by the total of the corporate award fund.

The third step is to determine the awards for each individual. The manager of each entity has complete discretion in recommending the amount of the award for each reporting subordinate, although the compensation committee does review the recommendations.

The intent of the system is to have the managers vary the awards according to each individual's accomplishments, with the evaluation done as an established part of the corporation's MBO system. Each year as part of the annual planning process, individuals prepare a list of the targets that are most appropriate for their position, a weighting of these targets, and a list of environmental factors that could affect performance in any or all of these areas. The document is updated during the year if necessary.

The quantitative goals are supposed to be adjusted only if actual conditions differ from those assumed when establishing the goals and only if the manager being evaluated had identified those conditions as contingencies. One manager noted, however, that the system has evolved so that most superiors were more sensitive to the actual conditions faced whether the managers identified them beforehand or not. This evolution has reduced the need for managers to change their MBO document, which some managers had been doing four or five times during the year to capture all the contingencies.

The actual implementation of the individual award assignments apparently varies considerably across the company. Some managers implement the system as designed, while others assign the same percent award to all managers.

An Example: A Subjective Award

A general manager in one of the chemical divisions described his goals for 1985 as being 30 percent quantitative and 70 percent qualitative. Quantitative targets were set for cash flow, net income, and return on capital. The weighting among these factors was not specified, but according to the manager, it was clear that cash flow was his most important goal. (His division sells products in the mature phase of the product life cycle.) The qualitative targets included a list of concerns, including accomplishment of information-system-development milestones and personnel outplacement.

The year 1985 was a very poor year for the corporation. Significant losses were incurred at the corporate level. Sales were flat, and top management took strong steps to reposition the company toward faster-growing markets. They wrote off some businesses, laid off a significant number of people, and implemented an early retirement program. According to the formula for the performance incentive plan, no bonuses should have been paid. Bonuses were paid, however, on a subjective basis, to about 25 percent of the personnel participating in the plan. These bonuses were called "special payments."

The manager of the chemical division described above was one of the individuals who received a special payment. He said he thought he received the award because it was recognized that he handled well the restructuring of his business, which included a plant closing.

Discussion

This corporation can be said to implement the controllability principle partially, but in a way that is quite different from that of the distribution corporation. Measures are purposefully designed to provide good measures of the businesses as inputs for divestment, investment, and acquisition decisions. The use of these bottom-line measures for performance evaluation purposes means that managers are held accountable for many items over which they have little or no control.

The controllability principle is implemented partially by moving away from a strict formula and allowing for subjective judgments of individual performance. There is some evidence, however, that different managers impart different degrees of subjectivity to their eval-

uations, so implementation of the controllability principle apparently differs throughout the corporation.

THE HIGH-TECHNOLOGY CORPORATION

The high-technology corporation has total annual revenues of several hundred million dollars. Most of the corporation's products use electronics and microprocessor-based technologies. The firm targets its products for rapid-growing niches in large markets.

Performance of the high-tech corporation has been excellent. Its ten-year compounded growth rate is 38 percent in sales, 42 percent in net income, and 23 percent in earnings per share. The corporation has grown both internally and through acquisition.

The firm has three levels of general managers. Presidents of twenty-four companies report to four group vice presidents who report to the corporate president. Each company is nearly self-contained, with its own product-development, control, administration, marketing, and sales staff. Each company writes its own checks. There is little interdependence among the companies, and no pressure is applied to the company presidents to source internally.

Incentives for Company Presidents

The high-tech corporation has an executive bonus program for company presidents.⁴ The bonus, expressed as a percent of base salary, is computed according to the following formula:

$$F x \left[0.35 \times ROS + 0.15 \times ROA + 0.50 \times \frac{\Delta PBT}{0.2Sp} \right] \times 100 \times \text{size factor}$$

where

F = factor defined by level in the organization—for company presidents, F equals 1.7;

ROS = ratio of profit before tax to sales, with a maximum ratio value of 0.50;

ROA = ratio of profit before tax to average net asset base, with a maximum value of 1.00—net asset base is calculated as the average at the beginning of each of the four quarters;

ΔPBT = change in profit before tax from previous fiscal year—the ratio of $\Delta PBT/0,2Sp$ has a maximum value of 1.00;

Sp = sales of prior fiscal year;

Size = ratio from zero to one, depending on the size of the company. (In 1986, for all companies with annual sales greater than \$3.2 million, this ratio equals 1.0.)

The payments under the bonus plan are large; the maximum bonus possible for a company president is 140 percent of salary, and 80–100 percent bonuses are typical.

Accountability for Uncontrollable Events

In the high-tech corporation, I conducted interviews in four companies with managers who gave examples of factors that affected bonuses and over which they had little or no control, such as economic conditions, interest rates, and the success of major customers. Here are two specific examples.

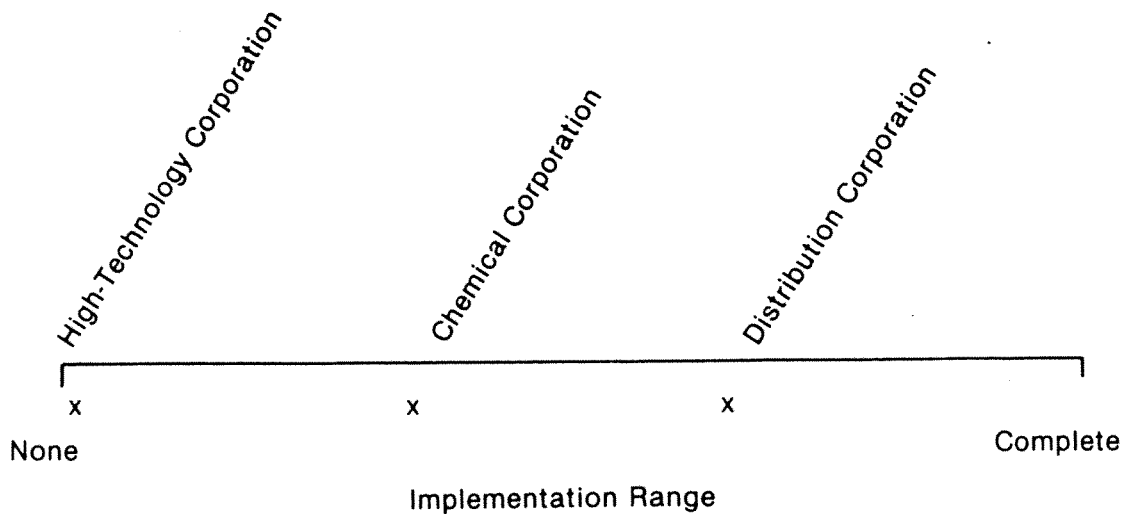
In one company that sells automation and video graphics products to television networks and stations, sales were virtually flat last year, and the budget was missed by a substantial margin. One major problem was that the merger and takeover activities in the communications industry had caused many potential customers to delay their capital expenditure plans. Although it was agreed that the slowdown was not the fault of the company president, no adjustment was made for purposes of assigning bonuses.

Similarly, in another company, a customer that had been expected to buy a full 15 percent of the company's total output got into financial difficulty and, in fact, later went out of business. No allowance for this sales problem was granted to the company president for bonus purposes.

Discussion

The high-tech company has implemented the philosophy espoused by Harold Geneen; the controllability principle is purposely not implemented. Managers are allocated corporate and group expenses over which they have virtually no control, and they are held accountable for changing economic conditions. The bonus formula is absolute; the

Exhibit 12-1 Implementation of the Controllability Principle



payoffs are not calibrated according to the annual budget targets, and no adjustments are made for events outside the managers' control.

SYNTHESIS AND TENTATIVE CONCLUSIONS

The discussion of the data collected from the companies is organized in terms of the research questions presented earlier.

#1: Do firms hold managers accountable for results and events over which they do not have complete control?

The simple answer to this question is yes! None of the corporations implements the controllability principle in the extreme form in which it is usually stated. In all of the situations studied, the managers are held accountable for at least some uncontrollable factors.

Exhibit 12-1 is a crude ordering of the three firms studied as to the extent to which they implement the controllability principle. Immediately apparent is the large dispersion of the firms. At one end of the range, the distribution corporation attempts to eliminate the effects of some uncontrollable factors before bonuses are assigned. At the other end of the range, the high-technology corporation subjects managers to the risks of many uncontrollables.

The discussion of the treatment of uncontrollables can be sharpened, however, by distinguishing among the firms' treatment of three types of uncontrollables: (1) uncontrollable but relevant cost and revenue factors, (2) economic and competitive conditions, and (3) acts of

Exhibit 12-2 Managerial Accountability for Uncontrollable Factors

Type of Uncontrollable			
Uncontrollable but relevant cost and revenue factors	None	D	C H
Economic and competitive conditions	None	C	D Complete H
Acts of nature	None	D	C Complete H
	None		Complete
Extent to Which Managers Are Held Accountable for Each Factor			

Key: D = Distribution Corporation
 C = Chemical Corporation
 H = High-Technology Corporation

nature. The uncontrollable but relevant cost and revenue items are those that affect the corporation's performance and that can be traced (although perhaps with some difficulty) to operating entities. Examples are taxes, interest expenses and income, exchange gains and losses, the costs of centralized administrative functions, and the effects of entity-relevant decisions for which the entity manager does not have complete autonomy. The economic and competitive conditions include such concerns as business cycles and price and product competition. These concerns are largely uncontrollable ones that most firms want managers to respond to. They can be distinguished in theory (but perhaps not at the margin) from those acts of nature that are uncontrollable: usually large, one-time events with adverse effects on performance that are beyond the ability of managers to anticipate, including disasters such as fires, earthquakes, and accidents.

Exhibit 12-2 shows a subjective ranking of the three firms in terms of the degree to which they hold managers accountable for each of these types of uncontrollables. For the first factor, the *uncontrollable but relevant cost and revenue factors*, a major difference was observed between the distribution firm and the other two firms. For bonus purposes, the high-tech and chemical corporations, in charging or allocating virtually all group- and corporate-level expenses, hold managers accountable for nearly all elements of cost. The chemical company is rated slightly lower because a few items of expense are not charged back to the operating entities (e.g., costs of litigation, gains from debt defeasance). The distribution corporation, on the other hand, evaluates managers on profit *before* taxes, interest, corporate allocations, and gains or losses on investments and foreign exchange.

All three firms hold their managers accountable for most *economic*

and competitive conditions. The high-technology corporation is an extreme example of a company that ignores the controllability principle for economic and competitive conditions. In this company, the payout function is not linked to the annual plan, so that bonuses are never calibrated by economic and competitive conditions. Managers are made to bear the same risk as the firm's shareholders; in fact, their risk is even more because the shareholders' returns are diversified across the twenty-four companies in the firm.

In the chemical and distribution corporations, managers bear the risk of uncontrollable economic factors only within the planning horizon. When a plan is revised, managers can adjust their performance targets to economic conditions. Allowing more frequent revisions is one way to limit managers' risk. For this reason, the chemical corporation is rated lower than the distribution corporation because its subjective performance evaluations of individuals in essence allow the evaluators to apply totally flexible performance standards.

The greatest variance among the firms is for the *acts of nature*. In the high-tech corporation, no adjustments are allowed. In the distribution corporation, the evaluators attempt to adjust for most of the effects of acts of nature, although they apply a materiality rule: no adjustment unless the effect is material. In the chemical corporation, acts of nature are discussed by the board of directors, but they rarely influence decisions. At the level of evaluating individuals, however, adjustments presumably are made for their effects.

#2: What are the consequences of holding managers accountable for results and events over which they do not have complete control?

The consequences of holding managers accountable for uncontrollables can be usefully discussed in terms of each of the three types of uncontrollables described above. As the diversity in practice suggests, holding managers accountable for each type of uncontrollable has advantages and disadvantages.

Uncontrollable but Relevant Cost and Revenue Factors

When managers are held accountable for uncontrollable but relevant cost and revenue factors, they pay attention to these factors. For example, several managers in the high-tech and chemical corporations mentioned that they consider taxes and allocated costs in making de-

cisions. Taxes and corporate expenses are outside the concern of managers in the distribution corporation, however, so upper management in this firm occasionally has to intervene and modify decisions proposed by general managers in order to incorporate these factors. This takes autonomy away from their profit-center managers.

Contrary to the prevailing textbook wisdom, some of the managers in the high-tech and chemical corporations mentioned they actually prefer to be assigned the full range of relevant costs. The assignments give them (and upper management) the feeling that they are managing a complete, presumably more autonomous, entity, and this gives them some power to influence centralized functions in ways that are beneficial to their profit centers.

In the firms I studied, managers mentioned two arguments against assigning a full set of relevant cost and revenue factors. First, it is sometimes difficult to determine what factors are relevant for the profit centers to see. The links between the cost/revenue elements and profit-center decision making become difficult to see after a point, and assignment of irrelevant costs on the basis of controllable factors changes the economics of the decisions, perhaps in dysfunctional ways.

A second, related argument against assigning full costs and revenues is that the managers sometimes feel that the assignments of uncontrollable expenses are unfair. For example, in the high-tech firm, a manager who was feeling considerable budget pressure complained about the allocations going up:

There are certain things you can't control that other people can, such as corporate G&A. Assigning these costs can lead to bad feelings. The numbers aren't large, but it bugs me that they have gone up. We're below 20 percent profit this year, and I'm fighting for everything I can get. When corporate changes the rules, even a tenth of a percent can hurt because it can be a significant part of the margin we're trying to close.

If allowed to build and persist, feelings of unfairness may lead to decreases in managerial morale and possibly higher turnover.

Economic and Competitive Conditions

All three firms usually hold managers accountable for uncontrollable economic and competitive conditions, so it is apparent that there is a feeling that the advantages of doing so outweigh the disadvantages.

The main argument in favor of not adjusting performance for fluctuations in economic and competitive conditions is the same as that for the uncontrollable cost and revenue factors: managers will then react to these conditions, and that is clearly desirable.

Managers also argue that it is difficult to adjust objectively for uncontrollable economic factors, and they have strong feelings against subjective performance evaluations. For example, a manager in the high-technology corporation stated:

I think having no subjectivity in the assignment of awards is good [for the corporation]. Subjective interpretations can lead to a lot of bad feelings about managers who have to work together. At [a corporation at which he used to work], subjectivity was used to limit awards, and it didn't work well. If I have a bad year, I can accept it because I understand the rules of the game. If subjectivity is allowed, I will assume my boss is supposed to forgive some of the things that went wrong. If he does not, I will feel bad, and I'll probably hold it against him.

The main argument against the firms' practices and in favor of making adjustments for changing economic and competitive conditions is that without them some evaluations are unfair. The unfairness argument is usually presented in support of managers who are perceived to be doing a good job in difficult times, not when the reverse is true. This argument is so compelling in some circumstances that such adjustments are made occasionally in both the chemical and distribution corporations.

Most of the general managers, however, either were unconcerned about, or felt that they *should be* held accountable for, economic and competitive factors. One manager in the high-tech corporation observed that "these things have a way of cancelling each other out. I don't see any problem with it." Another noted that:

I've seen a lot of people try to blame economic conditions for their poor performance. That's a lot of [expletive]. In the technology field, you're finding opportunities; you're insulated from the market. External forces are just an excuse. When I hear a manager give those excuses, it tells me he is just a passenger, not a driver.

Most managers at all levels in the high-tech firm go one step further and argue that the bonus awards should not even be calibrated by the annual planning targets, even though this shields the company presidents from some risk. Their argument is that such shields cause the presidents to bias their plans in a conservative direction. It should be

observed, though, that this type of sandbagging does not always seem to occur in other firms. In the distribution corporation, for example, top management considers most company plans to be optimistic.

Acts of Nature

Adjusting for acts of nature is easier to justify than adjusting for uncontrollable economic and competitive factors. Acts of nature tend to be large, single events, and they clearly bias the performance measures downward; yet their effects are relatively easy to calculate. Furthermore, it is usually not necessary for the manager to respond to the events except to minimize the one-time damage.

The distribution and chemical corporations tend to make, or at least consider, adjustments for these types of events. The high-tech corporation, on the other hand, is apparently unwilling to risk getting into subjective discussions of gray areas, such as whether an event is an act of nature or an economic or competitive condition, or whether the effects are large enough to warrant consideration for an adjustment, or how the effects should be calculated.

#3: What causes the differences in firms' implementation of the controllability principle?

Although it is obvious that these three firms exhibit considerable diversity in the extent to which they implement the controllability principle, explaining why these differences exist is not easy. The obvious answer is that the managers in each firm have made judgments as to the relative benefits and costs of each of the predicted consequences of holding managers in the firm accountable for each uncontrollable result or event. In the high-tech firm, top management judgments are important because a corporatewide policy has been implemented. In the other firms, some of the judgments have been delegated to group management (and even lower), and some intrafirm variance in applying the controllability principle is present.

While much more research is necessary to get a better understanding of the judgments made by the managers in each of these firms, some tentative observations can be made. It is tempting to ascribe the high-tech firm's complete disregard for the controllership principle to its history. The firm has grown by acquisition, and company presidents are often the original founder of their company.

Thus, they are used to bearing full responsibility for risk and facing the consequences of uncontrollable factors. As entrepreneurs, they perhaps even enjoy risk.

Although this explanation is probably essentially correct, it is not complete because the distribution firm, too, has grown primarily by acquiring small privately held firms, and most of its managers were also the owner of the firm at the time of its acquisition. This company, however, has chosen to shield the managers from part of the risk, perhaps because the environment is more stable, the uncontrollable shocks are therefore fewer, and their effects are easier to calculate.

The chemical corporation by itself is an interesting case. It has vacillated over the years in the extent to which it allows subjective judgments of actual performance to influence assigning bonuses. The cause of this vacillation appears to be top management style, particularly the chairman's taste for allowing subjectivity in performance evaluations.

System cost also seems to be an important concern in the chemical corporation. Its current concern is not to measure managers; it is to measure business entities so that the corporation's primary data base can be used as an input to important upper-management strategic decisions, particularly those concerning the businesses to be in. A dual emphasis—one that seeks good information about both the business entities and the controllable performance of their managers—would demand a very complex and confusing system.

Other than these few observations, little can be said about why the managers of these three firms made their choices. The differences among the corporations do not seem to be related to firm size or industry. It is certainly possible, however, that in a study of a larger number of firms, or even just a different set of firms, these variables might have useful explanatory power.

Clearly the best-supported conclusion of this study is that the absolute form of the controllability principle, as described at the start of this chapter, is incorrect. The agency-theory-modified controllability principle proposed by Baiman and Noel (1985) and Holmstrom (1982)—that managers should be evaluated using all information that gives insight into their action choices—seems to provide a better description of some of the practices used in the three firms. But that modified principle is at best incomplete because it does not explain all of the practices observed. This study has described some of the concerns that seem to affect management judgments of the costs and ben-

efits of various alternatives, but further research is necessary before a much more definitive controllability principle, or perhaps set of principles, can be proposed.

NOTES

1. D. Solomons (1965, 83).
2. H. Geneen (1984, 106, 109). Emphasis in original.
3. The company also has a stock option plan that annually awards stock options with a ten-year horizon to general managers. I have not described that plan because the number of shares awarded is determined by grade level, not performance.
4. The high-tech corporation has recently implemented a stock option plan. The plan is not described here because company presidents reported that they are not familiar with its details and that it has not yet affected their decisions.

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