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Where **mergers** go wrong

Most companies routinely overestimate the value of synergies they can capture from acquisitions. Lessons from the front lines can help.

Scott A. Christofferson, Robert S. McNish, and Diane L. Sias

It's known as the winner's curse. In mergers, it is typically not the buyer but the seller who captures most of the shareholder value created. On average, in fact, acquirers pay sellers all of the value created by the merger in the form of a premium that typically ranges from 10 to 35 percent of the target company's preannouncement market value. But while the fact is well established, the reasons for it have been less clear.[1]

Our exploration of postmerger integrations points to an explanation: the origins of the curse[2] lie in the average acquirer materially overestimating the synergies that can be captured in a merger.[3] Even a good faith acquisition effort can stumble over what appears to be a remarkably small margin for error in estimating synergy values.

No question, acquirers face an obvious challenge in coping with an acute lack of reliable information. They typically have little actual data about the target company, limited access to its managers, suppliers, channel partners, and customers, and insufficient experience to guide synergy estimation and benchmarks. Even highly experienced acquirers rarely capture their data systematically enough to improve their estimates for their next deal. And external transaction advisers—usually investment banks—are seldom involved in the kind of detailed, bottom-up estimation of synergies before the deal that are necessary for developing meaningful benchmarks. Fewer still get involved in the postmerger work, when premerger estimates come face to face with reality.

Lessons learned

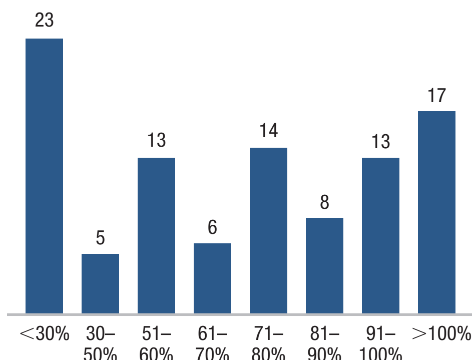
To address this challenge, we have begun developing a detailed database of estimated and realized merger synergies, grounded in our experience in postmerger integration efforts across a range of industries, geographies, and deal types. We have accumulated data from 160 mergers so far, and combining it with industry and company knowledge we believe that there are practical steps executives can take to improve their odds of successfully capturing acquisition synergies.

For starters, they should probably cast a gimlet eye on estimates of top-line synergies, which we found to be rife with inflated estimates. They ought to also look hard at raising estimates of one-time costs and better anticipate common setbacks or dis-synergies likely to befall them. They might also vet pricing and market share assumptions, make better use of benchmarks to deliver cost savings, and get a better fix on how long it will take to capture synergies. When applied together, especially by savvy acquisition teams chosen for maximum expertise and ability to counter gaps in information, we believe acquirers can do more than merely avoid falling victim to the winner's curse—they can improve the quality of most of their deals.

EXHIBIT 1

Top-line trouble: 70 percent of mergers failed to achieve expected revenue synergies

Mergers achieving stated percentage of expected revenue synergies, percent $N = 77$



Typical sources of estimation error

- Ignoring or underestimating customer losses (typically 2% to 5%) that result from the integration
- Assuming growth or share targets out of line with overall market growth and competitive dynamics (no "outside view" calibration)

Source: McKinsey (2002) Postmerger Management Practice client survey; client case studies

Reduce top-line synergy estimates

Wall Street wisdom warns against paying for revenue synergies and, in this case, the conventional wisdom is right. The area of greatest estimation error is on the revenue side—a particularly unfortunate state of affairs, since the strategic rationale of entire classes of deals, such as those pursued to gain access to the target's customers, channels, and geographies, is founded on these very synergies. Nearly 70 percent of the mergers in our database failed to achieve the revenue synergies estimated by the acquirer's management (Exhibit 1).

Acknowledge synergy setbacks

Another regular—and large—contributor to revenue estimation error is that few acquirers explicitly account for the common revenue dis-synergies that befall merging companies. Sometimes these stem from simple disruption of business as usual, but often they are the direct result of cost reduction efforts. For example, in retail banking, one of the most important cost savings comes from consolidating branches. Some customers may leave, but the cost savings are expected to more than make up for the losses. When one large US bank acquired a competitor with substantial geographic overlap, however, it suffered unusually high losses among the target company's customers, rendering the deal unprofitable and making the entire company vulnerable to takeover. Due diligence on the target's customer base would have revealed that they were heavy branch users and thus especially likely to defect during an integration that closed more than 75 percent of the acquired company's branches. This company's customer loss experience may be at the high end, but according to our research, the average merging company will see 2 to 5 percent of their combined customers disappear.[4]

Most acquiring companies can do better, especially in industries that have undergone considerable consolidation. Data on the severity of customer loss experienced by merging parties in retail banking, for example, can be gleaned from a variety of sources: industry associations, regulatory filings, and press articles. Examples are numerous enough not only to identify helpful benchmarks (e.g., 8 percent of retail deposits at closing branches will be lost to competitors) but also underlying drivers of whether a deal will see losses above or below the benchmark (e.g., the number of customers who also bank with a competitor, the distance to the next-

closest remaining branch, or the presence of competitors to take over closing branches). In other industries, a search may yield only two or three good precedents and only limited data on those; even this can greatly improve management's revenue estimates.

Increase estimates of one-time costs

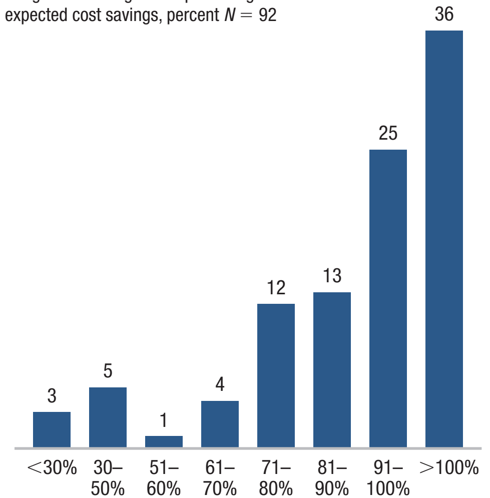
Many deal teams neglect or underestimate the impact of one-time costs. For example, one chemicals manufacturer publicly committed itself to reducing annual costs by $210 million at a one-time cost of $250 million.[5] Had it put as much due diligence into that one-time figure as the annual synergy target, it would have found a few relevant precedent transactions suggesting that it was unlikely to spend less than $450 million. In trying to fulfill their original commitment, the company ended up running over budget, under-delivering on promised synergies, and falling well short of revenue growth targets.

Compare pro forma projections with market and competitive realities

Many acquirers rely too heavily on assumptions about pricing and market share that are simply not consistent with overall market growth and competitive reality. Instead, acquirers must calibrate the assumptions in their pro-forma analysis with the realities of the market place. For example, one global financial concern estimated that a recent acquisition would net €1 billion in mostly top-line synergies within 5 years and 13 percent profit growth in the first year. With limited overall market growth, these goals could be achieved only by using cross-selling to increase market share without triggering a competitive response. Actual profit growth was a mere 2 percent.

EXHIBIT 2

Cost-synergy estimation is better, but there are patterns emerging in the errors



Typical sources of estimation error

- Underestimating one-time costs
- Using benchmarks from noncomparable situations
- Not sanity-checking management estimates against precedent transactions
- Failing to ground estimates in bottom-up analysis (e.g., location-by-location review of overlaps

Source: McKinsey (2002) Postmerger Management Practice client survey; client case studies

Apply outside-in benchmarks to cost synergies

While managers in about 60 percent of mergers can be commended for delivering nearly all of their planned cost synergies, we find that about a quarter overestimate cost synergies by at least 25 percent (Exhibit 2). That can easily translate into a 5 to 10 percent valuation error.[6]

One route to overestimating cost synergies starts by failing to use the benchmarks that are available as outside-in sanity-checks. One European industrial company, for example, planned on cost savings of €110 million from selling, general, and administrative (SG&A) cost savings, even

though precedent transactions suggested that a range of €25 million to 90 million was more realistic, and the company neglected to conduct bottom-up analysis to justify the higher figure. Worse, this was an especially risky area in which to aim high, because cutting sales and marketing expense puts revenue growth at risk, and the net present value of pre-synergy revenue growth was roughly four times more valuable than all synergies combined.

Synergies that are not captured within, say, the first full budget year after consolidation may never be captured, overtaken as they are by subsequent events.

Temper expectations for synergy timing and sustainability

Deal teams often make simplistic and optimistic assumptions about how long it will take to capture synergies and sustain them. Important deal metrics such as near-term earnings and cash flow accretion can end up looking better than they deserve as a result, leading to a substantial overestimates of synergy net present value.

One company we worked with had budgeted headcount cost savings (including severance) as if they were spread out evenly over each quarter. In practice, however, managers tended to wait until the last month of the quarter before making reductions. As it happens, this example did not have a material impact on the net present value of the transaction, but it did cause the post-merger integration leaders to miss their projections for first-year synergies, thereby undermining the credibility of their process.

Neglecting to "phase out" certain synergies can be equally problematic. Companies often plan to reduce operating costs by squeezing production capacity and logistics across the merged organization. But if the merging companies are growing quickly on a standalone basis, sloppy incremental analysis will attribute benefits to the merger that would have been realized by the standalone companies. Indeed, one medical products company, growing at 10 to 15 percent a year, estimated that it would be using the full capacity of existing plants within three to four years without a merger. So many of the savings from closing or streamlining plants could not rightly be expected to last long, as the affected facilities would be quickly reopened. Many savings, while real, are not perpetual, and must be phased out. In general, we believe that it is overly optimistic to include the full amount of targeted annual synergies in the "continuing value" calculation of a net present value model.

Moreover, the problem isn't just one of properly translating synergy timing into present values: bad timing can even affect whether synergies are captured at all. Persistent management attention matters in capturing synergies. We have found some evidence to suggest that synergies that are not captured within, say, the first full budget year after consolidation may never be captured, overtaken as they are by subsequent events. We have also observed that synergies are captured more quickly and efficiently when the transaction closes at the start of the two companies' annual operational planning and budgeting process. One financial institution even learned that its plans to migrate IT systems had to be radically altered (i.e., move onto the acquirer's platform rather than the target's)

accommodate the relatively narrow window of opportunity between peaks in the lending season.

Forming effective deal teams

Estimating synergies is difficult, but the practice is critical and needs more investment than it usually receives. Companies we've studied have used a variety of ways to improve their synergy estimates.

Involve key line managers

Involving line managers in problem solving and due diligence not only improves the quality of estimates but also builds support for postmerger integration initiatives. Synergy analysis also illuminates issues that will shape due diligence, deal structure, and negotiations.

For example, one client had its head of operations take the lead in estimating the savings from rationalizing manufacturing capacity, distribution networks, and suppliers. His knowledge of the unusual manufacturing requirements of a key product line and looming investment needs at the acquirer's main plant helped improve the estimates. He also used a due diligence interview with the target's head of operations to learn that they had recently renegotiated their supply contracts and had not yet implemented an enterprise resource planning (ERP) system; both of these facts refined synergy estimates even more. All of this helped during negotiations and deal structuring (e.g., knowing that it was all right to promise that the target's main European location would be retained, but to make no promises about their main US facility). Moreover, his involvement ensured that he was prepared to act quickly and decisively to capture savings once the deal closed.

Another company with substantial acquisition experience left synergy estimation up to the mergers and acquisitions department, and paid the price. Based on accurate but high-level financial analysis (total cost per customer served), they concluded that there was no value in integrating customer service operations. Line managers would probably have discovered during due diligence that the target's smaller centers had much lower labor productivity but compensated for this with an innovative Web servicing program. Consolidating operations could have both improved labor productivity and brought the Web servicing program to the acquirer's larger service center. But they missed the "unfreezing" time immediately following the merger announcement, and the acquirer lost the opportunity.

Codify experiences

Internal M&A teams should do more to codify and improve their synergy estimation techniques. Every deal represents a valuable lesson. Some specific actions we have seen make a difference include: holding a formal post-integration debrief session with both the integration and M&A teams (which ideally should overlap); requiring future M&A and integration leaders to review the results of past deals; tracking synergies relative to plan for two years; and calculating after the fact what the net present value of the transaction turned out to be.

On the other hand, one must not overstate what can legitimately be learned from experience, since not all deals are alike. One bank balanced what it learned from one acquisition quite skillfully against the idiosyncrasies of its second major acquisition. The first had gone badly; the bank underestimated integration costs

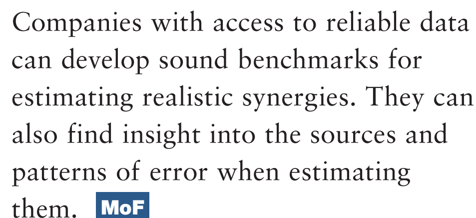
by a factor of three. The second went better because executives leading the deal understood that they needed to get the cost (and deposit loss) estimates right. Instead of simply applying the loss data from the first merger, which did not involve nearly as much geographic overlap as the second, they involved a line manager who had been part of a recent branch closure program. By applying benchmarks carefully and involving line management, the bank avoided making the same estimation error twice.

One client had its head of operations take the lead in estimating the savings from rationalizing manufacturing capacity, distribution networks, and suppliers.

What's next?

Companies with access to reliable data can develop sound benchmarks for estimating realizable synergies, insights into the sources and patterns of error in estimating synergies, and tools to estimate deal synergies. Obviously, these efforts can be thorny, but in our experience they are well worth the effort.

Once companies have a database in place, they can explore other strategic issues, such as whether some synergies are consistently imbedded in the acquisition premium paid while others are captured by the acquirer, or whether the stimulating effect of a transaction is even necessary to improve the standalone performance of an acquirer. The former will obviously inform price-setting and negotiation strategies for acquiring companies, while the latter will lead companies to consider tactics other than an acquisition to accomplish the same ends. It's important to recognize, however, that a well-designed post-merger integration effort can sometimes even do better.[7]


Companies with access to reliable data can develop sound benchmarks for estimating realistic synergies. They can also find insight into the sources and patterns of error when estimating them. MoF

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[1] *See*, for example, Hans Bieshaar, Jeremy Knight, and Alexander van Wassenaer, "Deals that create value," *The McKinsey Quarterly*, 2001 Number 1, pp. 64–73.

[2] Richard H. Thaler, *The Winner's Curse: Paradoxes and Anomalies in Economic Life*, Princeton, New Jersey: Princeton University Press, 1992.

[3] Based on our experience assisting in the postmerger integration of about 160 recent mergers and acquisitions. These synergies include such elements as economies of scale and scope; best practice, capability, and opportunity sharing; and, often, the simple stimulating effect of the combination on the stand-alone companies.

[4] Based on the 124 mergers for which we have relevant data, these are the 25th and 75th percentile figures. Not all merging parties experienced customer loss, but some saw more than 30 percent.

[5] In this and other examples derived from our client experience, we have altered the figures (but not the proportions) as needed to disguise the company's identity.

[6] For example, in the most recent deal one of the authors was involved in, the net present value (NPV) of the target (stand-alone value plus "base case" synergies) would have been $2.3 billion instead of $2.5 billion if cost synergy estimates had been off 25 percent.

[7] In our experience, companies are routinely amazed to find that the "unbeatable" deal they negotiated with a supplier is inferior to the deal their merger counterpart has—sometimes with the same supplier!

Running with **risk**

It's good to take risks—if you manage them well.

Kevin S. Buehler and Gunnar Pritsch

Risk is a fact of business life. Taking risk and managing risk are part of what companies must do to create profits and shareholder value. But the corporate meltdowns of recent years suggest that many companies neither manage risk well nor fully understand the risks they are taking.

Indeed, a 2002 survey by McKinsey and the newsletter *Directorship* showed that 36 percent of participating directors felt they didn't fully understand the major risks their businesses faced. An additional 24 percent said their board processes for overseeing risk management were ineffective, and 19 percent said their boards had no processes. The directors' unfamiliarity with risk management is often mirrored by senior managers, who traditionally focus on relatively simple performance metrics, such as net income, earnings per share, or Wall Street's growth expectations. Risk-adjusted performance[1] seldom figures in these managers' targets.

Moreover, our research indicates that the problem goes well beyond a few high-profile scandals. McKinsey analyzed the performance of about 200 leading financial-services companies from 1997 to 2002 and found some 150 cases of significant financial distress at 90 of them.[2] In other words, every second company was struck at least once, and some more frequently, by a severe risk event. Such events are thus a reality that management must deal with rather than an unlikely "tail event.

Companies that fail to improve their risk-management processes face a different kind of risk: unexpected and often severe financial losses (Exhibit 1) that make their cash flows and stock prices volatile and harm their reputation with customers, employees, and investors.

Improving risk management includes both the provision of effective oversight by the board and the integration of risk management into day-to-day decision-making. Companies in some industries have begun investing in developing sound risk-management processes. For example, many financial institutions—prodded by regulators and shaken by periodic crises like the US real-estate debacle of 1990, the emerging-markets crisis of 1997, and the bursting of the technology and telecommunications bubble in 2001—have worked to upgrade their risk-management capabilities over the past decade. In other sectors, such as energy, basic materials, and manufacturing, most companies still have much to learn.

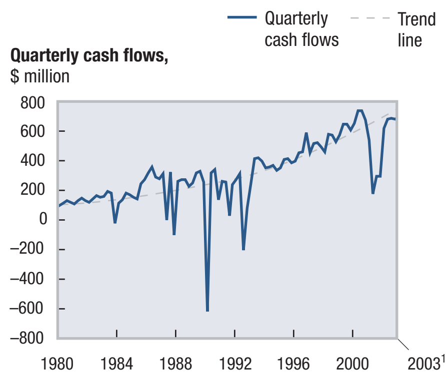
Lining up the essential elements

To manage risk properly, companies must first understand what risks they are taking. The following steps will go a long way toward improving corporate risk management.

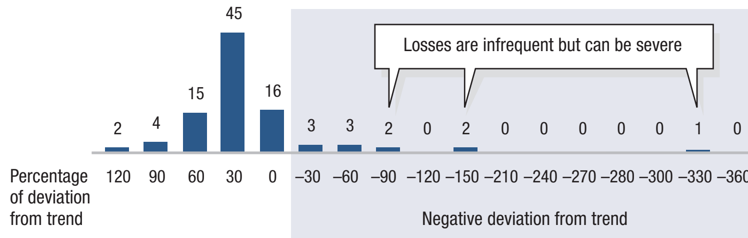
EXHIBIT 1

Partly cloudy with a chance of catastrophic loss

Disguised example of global financial services firm



Deviation of quarterly cash flows from trend,
number of occurrences, Q1 1980–Q1 2003



[1] Through Q1 2003.
Source: McKinsey analysis

Achieving transparency

To manage risk properly, companies need to know exactly what risks they face and the potential impact on their fortunes. Often they don't. One North American life insurance company had to write off hundreds of millions of dollars as a result of its investments in credit products that were high-yielding but structured in a risky manner. These instruments yielded good returns during the 1990s, but the severity of subsequent losses took top management by surprise.

Each industry faces its own variations on four broad types of risks; each company should thus develop a taxonomy that builds on these broad risk categories. In pharmaceuticals, for instance, a company could face business-volume risk if a rival introduced a superior drug and higher operational risk if an unexpected product recall cut into revenues. In addition, the company would have to consider how to categorize and assess its R&D risk—if a new drug failed to win approval by the US Food and Drug Administration, say, or to meet safety requirements during clinical trials.

Less obviously, a company needs an integrated view of how the risks different business units take might be linked and the effect on its overall level of risk. American Express, for example, might discover that a sharp slump in the airline industry had exposed it to risk in three ways: business-volume risk in its travel-related services business, credit risk in its card business (the risk of reimbursing unused but paid-for tickets), and market risk from investments made in airline bonds or aircraft leases by its own insurance unit.

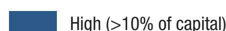
One way of gaining a transparent, integrated view is to use a heat map: a simple diagram showing the risks (broken down by risk category and amount) each business unit bears and an overall view of the corporate earnings at risk. Heat maps tag exposures in different colors to highlight the greatest risk concentrations; red might indicate that a business unit's risk accounted

EXHIBIT 2

A heat-seeking approach

Annualized earnings at risk for disguised global financial services company, $ million

Risk concentration


High (>10% of capital)

Medium (>5% of capital)

	Business unit							
	A	B	C	D	E	F	Other	Total
Total market risk[1]	55	**275**	25	10	15	5	10	395
Credit risk[2]	**150**	**350**	**125**	**625**	40	N/A	N/A	1,290
Operational risk	30	**210**	30	**150**	10	2	N/A	432
Business-volume risk	80	**270**	60	**275**	25	5	5	720
Total earnings at risk	315	1,105	240	1,060	90	12	15	2,837

[1] Includes equity market and interest rate risks.
[2] Includes lending, investment, and counterparty risks.
Source: McKinsey analysis

for more than 10 percent of a company's overall capital, green for more than 5 percent. (Exhibit 2 shows a risk heat map that flags high credit risk in two units.) To make risks transparent—and to draw up an accurate heat map—companies need an effective system for reporting risk, and this requires a high-performing risk-management organization.

Top management should review the heat maps frequently (perhaps monthly) and the board should review them periodically (for instance, quarterly) to foster dialogue and to decide whether the current level of risk can be tolerated and whether the company has attractive opportunities to take on more risk and earn commensurately larger returns.

Deciding on a strategy

Formulating a risk strategy is one of the most important activities a company can undertake, affecting all of its investment decisions. A good strategy makes clear the types of risks the company can or is willing to assume to its own advantage, the magnitude of the risks it can bear, and the returns it demands for bearing them. Defining these elements provides clarity and direction for business unit managers who are trying to align their strategies with the overall corporate strategy while making risk-return trade-offs.

The level of returns required will vary according to the risk appetite of the CEO, who should define the company's risk strategy with the help of the board. Some might be happy taking higher risks in pursuit of greater rewards; others might be conservative, setting an absolute ceiling on exposure regardless of returns. At a minimum, the returns should exceed the cost of the capital needed to finance the various risks. Instead, the risk profile of many companies today evolves inadvertently, every day, by dozens of business and financial decisions. One executive, for example, might be more willing to take risks than another or have a different view of a project's level of risk. The result may be a risk profile that makes the company uncomfortable or can't be managed effectively. A shared understanding of the strategy is therefore vital.

One common approach for defining an acceptable level of risk is for companies to decide on a target credit rating and then assess the amount of risk they can bear given their capital structure. Credit ratings serve as a rough barometer, reflecting the probability that companies can bear the risks they face and still meet their financial obligations. The greater the level of risk and the lower the amount of capital and future earnings available to absorb it, the lower the credit ratings of companies and the more they will need to pay their lenders. Companies that have lower credit ratings than they desire

will likely need to reduce their risk exposure or to raise costly additional capital as a cushion against that risk.

As with any strategy, a company's risk strategy should be "stress-tested" against different scenarios. A life insurance company, for example, should examine how its returns would vary under different economic conditions and ensure that it felt comfortable with the potential market and credit losses (or with its ability to restructure the portfolio quickly) in difficult economic times. If it isn't comfortable, the strategy needs refining.

Creating a high-performing risk-management group

The task of a risk organization is to identify, measure, and assess risk consistently in every business unit and then to provide an integrated, corporate-wide view of these risks, ensuring that their sum is a risk profile consistent with the company's risk strategy. The structure of such organizations will vary according to the type of company. In a complex and diverse conglomerate, such as GE, each business might need its own risk-management function with specialized knowledge. More integrated companies might keep more of the function under the corporate wing. Whatever the structure, certain principles are nonnegotiable.

Top-notch talent. Risk executives at both the corporate and the business-unit level must have the intellectual power to advise managers in a credible way and to insist that they integrate risk-return considerations into their business decisions. Risk management should be seen as an upward career move. A key ingredient of many successful risk-management organizations is the appointment of a strong chief risk officer who reports directly to the CEO or the CFO and has enough stature to be seen as a peer by business unit heads.

Segregation of duties. Companies must separate employees who set risk policy and monitor compliance with it from those who originate and manage risk. Salespeople, for instance, are transaction driven—not the best choice for defining a company's appetite for risk and determining which customers should receive credit.

Clear individual responsibilities. Risk-management functions call for clear job descriptions, such as setting, identifying, and controlling policy. Linkages and divisions of responsibility also need to be defined, particularly between the corporate risk-management function and the business units.

Risk ownership. The existence of a corporate risk organization doesn't absolve business units of the need to assume full ownership of, and accountability for, the risks they assume. Business units understand their risks best and are a company's first line of defense against undue risk taking.

Encouraging a risk culture

These elements will go a long way toward improving risk management but are unlikely to prevent all excessive or recklessly conservative risk taking. Companies might thus impose formal controls—for instance, trading limits. Indeed, the recently adopted Sarbanes-Oxley Act in the United States, makes certifying the adequacy of the formal controls a legal requirement. Yet since today's businesses are so dynamic, it is impossible to create processes that cover every decision involving risk. Instead, companies need to nurture a risk culture.

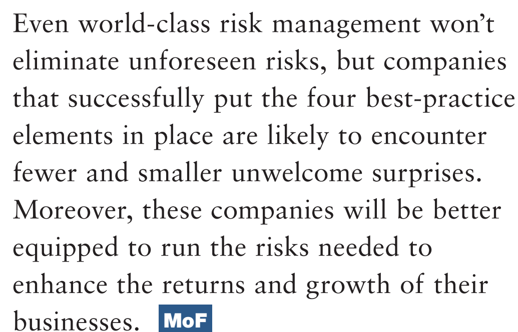
The goal is not just to spot immediately the managers who take big risks but also to ensure that managers instinctively look at both risks and returns when making decisions.

To create a risk culture, companies need a formal, company-wide process to review risk, with individual business units developing their own risk profiles, which are then aggregated by the corporate center. Such reviews help ensure that managers at all levels understand the key risk issues and know how to deal with them. Drawing up a monthly heat map is one way of establishing a formal risk-review process.

But more needs to be done. By focusing on risk-adjusted performance, not just on traditional accounting measures, business managers will develop a better understanding of the risk implications of their decisions. For businesses that require large amounts of risk capital, suitable metrics include shareholder value analysis and risk-adjusted returns on capital. A risk-adjusted lens helped one credit card company understand, contrary to expectations, that returns from new customers and customers about whom it had little information were more volatile than returns from existing customers, even if these groups had the same expected customer value. Now the approval process also takes into account the higher risk that is associated with new customers.

Companies must also provide education and training in risk management, which for many managers is quite unfamiliar, and establish effective incentives to encourage the right risk-return decisions at the front line. Judging the performance of business unit heads on net income alone, for instance, could encourage excessive risk taking; risk-adjusted performance should be assessed, too. Ultimately, people must be held accountable for their behavior. Good risk behavior should be acknowledged and rewarded and clear penalties handed out to anyone who violates risk policy and processes.

Finally, to convey the message that the potential downside of every decision must be considered as carefully as the potential rewards, CEOs should be heard talking about risk as well as returns, in order to emphasize the importance of risk/return trade-offs. The CEO's open recognition of the importance of good risk management will influence the entire company.



Even world-class risk management won't eliminate unforeseen risks, but companies that successfully put the four best-practice elements in place are likely to encounter fewer and smaller unwelcome surprises. Moreover, these companies will be better equipped to run the risks needed to enhance the returns and growth of their businesses. MoF

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[1] Measures of risk-adjusted performance revise accounting earnings to take into consideration the level of risk a company assumed to generate them.

[2] For this analysis, we defined financial distress as a bankruptcy filing, a ratings-agency downgrade of two or more notches, a sharp decline in earnings (50 percent or more below analysts' consensus estimates six months earlier), or a sharp decline in total returns to shareholders (at east 20 percent worse than the overall market in any one month).

Viewpoint

The CFO's **central role**

Whether leading or supporting the effort, the CFO often ends up at the center of risk management.

Joseph M. Cyriac and Bryan Fisher

A company's CEO may be the person who sets broad risk guidelines and approves an overall strategic risk plan. But to build and maintain an effective risk-management approach, it often falls to the chief financial officer to play the central executive role. Although the nature and extent of their role varies, CFOs are uniquely situated to build and communicate an integrated risk view, optimize business decisions, and build a strong risk culture.

In some organizations, such as financial institutions and commodity trading companies, the risk-measurement team typically reports directly to the CEO. For others, such as processing companies or consumer-services companies, the risk group reports to the CFO. Whatever reporting structure is chosen, the crucial element is that the CFO and the chief risk officer must be closely aligned. In this way the CFO and the risk-measurement group can provide solid direction to boards and senior management who are currently struggling to understand risk.

The CFO's financial-reporting role provides natural insight into the universe of risks across various business units and the impact that those risks, either alone or in combination, can have on the corporation as a whole. The CFO can leverage the finance organization's existing infrastructure to build an integrated-risk view, such as a risk heat map, and earnings-risk profile. A better understanding of risks and their impact on earnings can significantly improve the planning/budgeting and investor-communication processes. It allows companies to communicate the impact of certain market events—for example, a dollar-per-barrel increase in the cost of oil—on their overall earnings and adjust expectations accordingly.

Unique risk insights can permit a CFO to drive more effective strategy and business decisions, particularly in lining up the organization's capital structure with its strategy. This is a dynamic process that shifts with company strategies and external market changes. Obviously, an overly aggressive balance sheet can lead to higher risk of downgrade and even bankruptcy. Conversely, an overly conservative balance sheet can also

be undesirable, leading to lower utilization of tax shields.

CFOs can also assist in mitigating the price risk of certain business decisions. For example, after the risk organization at one processing company executed a hedging strategy to mitigate the earnings risks embedded in fixed-price contracts, it enabled a business unit to sell such contracts to customers. It was the CFO's organization that quantified the risk premium to embed in customer contracts and that determined which hedging contracts the company should buy to mitigate risk. This resulted in increased sales to customers who preferred this contracting arrangement (versus a formula price) and increased earnings certainty for the organization. Elsewhere, the CFO of a basic-materials company was instrumental in aligning sales and purchasing practices to ensure that market shifts in terms of prices and risks were considered in future contracts and pricing.

Unique risk insights can permit a CFO to drive more effective strategy and business decisions, particularly in lining up the organization's capital structure with its strategy.

Finally, CFOs can also play a significant role in building a strong risk culture. This should include providing greater transparency into business-unit-level performance and implementing a full complement of risk-related performance metrics across the organization. For example, at one manufacturing company, one business-unit president's performance was historically based on the overall profitability of the division—even though the business-unit president controlled only 15 percent of the factors driving profitability. By isolating and measuring controllable factors, including sales contracts and marketing expenditures, from factors such as commodity price swings that cannot be controlled, the CFO initiated more accurate and transparent measurements of actual performance. In one large industrial processing company, management was unable to measure the performance of its purchasing organization due to the blending of different activities (e.g., hedging, commercial optimization) into one general guideline. The CFO steered the company toward clearly articulating levels of risk it could accept and related metrics and guidelines that made the links between performance goals and overall risk policy clearer. MoF

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What is **stock index membership** worth?

Gaining—or losing—a place in a major stock index has only short-term impact on share price: about 45 days.

Marc H. Goedhart and Regis Huc

What is it worth for a company to be included in an important equity index such as the S&P 500? A great deal, it would appear, judging by how frequently executives admit that the planning and timing of acquisitions, divestitures, and other strategy moves are influenced by the effect their actions may have on gaining or preserving membership in an equity index club.

Or is it? Research we conducted into the phenomenon of inclusion in the S&P 500 indicates that executives are right to believe that gaining entry to or dropping out of a major index does indeed move a company's share price. But that effect is short-lived, we found, and inclusion in a major index is not a factor in a company's long-term valuation in the capital market.[1] The implication: executives should plan and pursue a strategy irrespective of whether it excludes them from a major index or gains them access to one.

On the surface, the arguments for being a member of an index have appeal because many large, institutional investors track indexes such as the S&P 500 by investing in its stocks. Once a stock is added to the index, it is argued, demand will increase dramatically—and along with it the share price—as institutional investors rebalance their portfolios. And as long as that demand continues, so will the stock's price premium.

Adjustments to the S&P 500 index in 2002 did nothing to dispel the myth. When seven non-US companies—including Unilever, Nortel, and Shell—were removed from the index and replaced by the same number of US-domiciled companies, the departing companies on average lost nearly 7.5 percent of their value in the three days following announcement. New entrants—including UPS, Goldman Sachs, and eBay—gained around 3 percent over the same period.

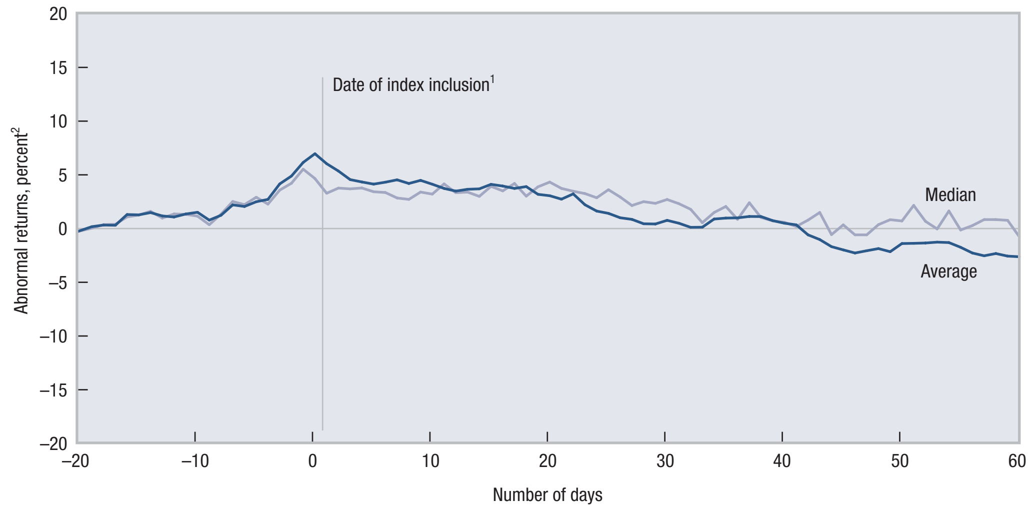
A short-lived premium

We decided to test whether inclusion provided a longer-term strategic advantage, and we analyzed the price effect of the inclusion of 103[2] US-listed stocks in the S&P 500 index since December 1999. Academic research[3] has focused largely on short-term price patterns around index changes to determine how investors might structure profitable trading strategies around inclusion. We focused instead on longer-term price effects to see whether a place in the index creates a lasting price premium.

To determine whether or not index inclusion made a difference, we estimated the abnormal stock returns over an 80-day test period (from 20 days before the effective date of inclusion to 60 days after). Clearly, the best measure of abnormal returns[4] is whether the new entrants enjoy a pattern of lasting positive returns, driven by the

EXHIBIT 1

Hello . . .



[1] For 103 US companies listed on S&P 500 index between December 1999 and March 2004.
[2] Buy and hold abnormal returns (BHAR) vs. market model.

Source: Thomson Financial; Standard & Poor's; McKinsey analysis

inclusion itself. This was clearly not the case. Indeed, although abnormal returns in the ten days prior to the effective date did amount to a maximum average around 7 percent and a median around 5 percent, they returned to zero within 45 days after the effective date (Exhibit 1). In terms of statistically significant positive returns, the effect disappears even sooner—after a mere 20 days.

This result is consistent with the phenomenon of liquidity pressure driving up share prices initially as investors adjust their portfolios and prices subsequently reverting to "normal" when portfolios are rebalanced. In the end, there was no permanent price premium for new entrants to the S&P 500. This underlines the fact that the value of a stock is ultimately determined by its cash flow potential, unrelated to membership in a major equity index. As the S&P 500 is probably the most widely and intensively tracked index worldwide, we speculate that this holds for other major equity indexes, such as the FTSE 100 and the Dow Jones Industrial Average, as well.

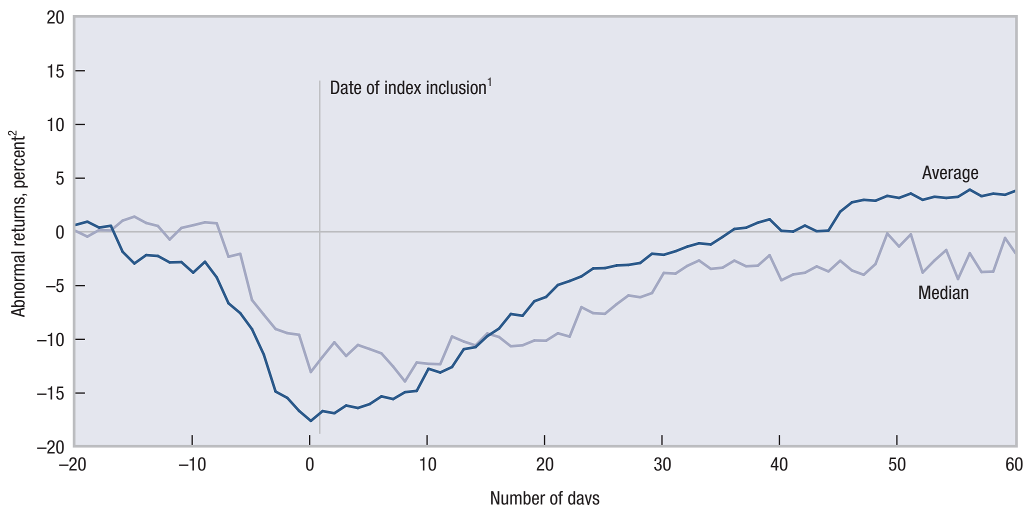
We also looked at deletions from the S&P 500 index over the same period and found similar patterns of temporary price changes around announcement (Exhibit 2). The price pressure following exclusion from the S&P 500 faded after 40 to 50 days.

Implications for executives

Since no lasting effect on a company's share price can be expected from the simple inclusion or exclusion effect alone, executives should not refrain from spin-offs and divestitures that would exclude a corporation from a major index. Nor should they pursue major transactions solely because these would gain them entry. Of course, other factors behind such transactions could well influence a

EXHIBIT 2

. . . and goodbye



[1] For 41 US companies delisted from S&P 500 index between December 1999 and March 2004.
[2] Buy and hold abnormal returns (BHAR) vs. market model.
Source: Thomson Financial; Standard & Poor's; McKinsey analysis

company's share price and should be taken very seriously.

On the other hand, extending our findings and recommendations to emerging-market stocks may be inappropriate, because their inclusion in international equity indexes could represent a form of "recognition" of quality, sparking analyst coverage and investor interest in US or European markets. There, the result could well be a permanent increase in the company's stock price as it gains access to these equity markets. **MoF**

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[1] *See also*, for example, B. G. Malkiel and A. Radisich, "The growth of index funds and the pricing of equity securities," *The Journal of Portfolio Management*, 2001, Vol. 27, Number 2, pp. 9–21; R. A. Brealey, "Stock prices, stock indexes and index funds," *Bank of England Quarterly Bulletin*, 2000, Vol. 40, Number 1, pp. 61–8; R. Dash, "Price changes associated with S&P 500 deletions," *Standard & Poor's*, July 9, 2002.

[2] A total of 116 stocks were added to the S&P 500 during this period including 1 due to a name change, 4 that were subsequently acquired or delisted and 8 that we eliminated as outliers because of their extremely negative returns after inclusion. (Excluding the outliers had no effect on our conclusions; including them would have resulted in even lower abnormal returns for the entire sample.)

[3] *See*, for an exception, M. Beniesh and R. Whaley [2002], "S&P 500 index replacements: a new game in town", *Journal of Portfolio Management*, Vol. 29, Number 1, pp.1–60. The authors conclude that there is a permanent price impact from index inclusion when measuring excess returns of added (or deleted) stocks versus the market return. They acknowledge significant excess returns of added stocks versus the market already long before index inclusion, but they do not incorporate this in their analysis.

[4] To account for the return patterns of new entrants prior to index inclusion, we first estimated a simple market model for each of the included stocks over the 250 trading days preceding the start of the test period. From this we estimated the abnormal buy and hold returns $(BAHR)_i$ for included stocks around the effective date of inclusion following the method used by S. P. Kothari and J. B. Warner [1997], "Measuring long-horizon security price performance, *Journal of Financial Economics*, Vol. 43, Number 3, pp. 301–339.

Viewpoint

Why the biggest and best **struggle to grow**

The largest companies eventually find size itself an impediment to creating new value. They must recognize that not all forms of growth are equal.

Nicholas F. Lawler, Robert S. McNish, and Jean-Hugues J. Monier

The largest, most successful companies would seem to be ideally positioned to create value for their shareholders through growth. After all, they command leading market and channel positions in multiple industries and geographies; they employ deep benches of top management talent utilizing proven management processes; and they often have healthy balance sheets to fund the investments most likely to produce growth.

Yet after years of impressive top- and bottom-line growth that propelled them to the top of their markets, these companies eventually find they can no longer sustain their pace. Indeed, over the past 40 years North America's largest companies—those, say, with more than about $25 billion in market capitalization—have consistently underperformed the S&P 500,[1] with only two short-lived exceptions.

Talk to senior executives at these organizations, however, and it is difficult to find many willing to back off from ambitious growth programs that are typically intended to double their company's share price over three to five years. Yet in all but the rarest of cases such aggressive targets are unreasonable as a way to motivate growth programs that create value for shareholders—and may even be risky, tempting executives to scale back value creating organic growth initiatives that may be small or long-term propositions, sometimes in favor of larger, nearer-term, but less reliable acquisitions.

In our experience, executives would be better off recognizing the limitations of size and revisiting the fundamentals of how growth creates shareholder value. By understanding that not all types of growth are equal when it comes to creating value for shareholders, even the largest companies can avoid bulking up on the business equivalent of empty calories and instead nourish themselves on the types of growth most likely to create shareholder value.

What holds them back?

At even well-run big companies, growth slows or stops—and for complex reasons. Ironically, for some it's the natural result of past success: their portfolios are weighed down by large, leading businesses that may have once delivered considerable growth, but that have since matured with their industries and now have fewer natural avenues for growth. At others, management talent and processes are more grooved to maintain, not build, businesses; and their equity- and cash-rich balance sheets dampen the impact growth has on shareholder value. For all of them, their most formidable growth challenge may be their sheer size: it takes large increments of value creation to have a meaningful impact on their share price.

The other crucial factor is how management responds when organic growth starts to falter. This is often a function of

compensation that ties bonuses to bottom-line growth. In any case, management is often tempted to respond as if the slowing organic growth were merely temporary, rejecting any downward adjustment to near-term bottom-line growth.

That may work in the short run, but as individual businesses strip out controllable costs, they soon begin to cut into the muscle and bone behind whatever value-rich organic growth potential remains—sales and marketing, new product development, new business development, R&D. At one industrial company we are familiar with, management proudly points to each savings initiative that allows them to meet quarterly earnings forecasts.

But the short-term focus on meeting unrealistically high growth expectations can undermine long-term growth. Ultimately, the scramble to meet quarterly numbers will continue to intensify as cost cutting further decelerates organic growth. If the situation gets more desperate, management may turn to acquisitions to keep bottom-line growth going. But acquisitions, on average, create relatively little value compared to the investment required, while adding enormous integration challenges and portfolio complexity into the mix. Struggling under the workload, management can lose focus on operations. In this downward spiral management chases growth in ways that create less and less value—and in the end winds up effectively trading value for growth.

Some companies seem to have recognized the danger in constantly striving to exceed expectations. One company's recent decision to vest half of its CEO's stock award for simply meeting (rather than handily beating) the five-year share price appreciation of the S&P 500 may be one such bow to good reason. Ironically, relieving the CEO of the pressure to substantially outperform the market may have given him the freedom he needs to focus on longer-term investments in value-creating organic growth.

All growth is not created equal

The right way for large companies to focus on growth, we believe, is to differentiate among entire classes of growth on the basis of what we call their value creation intensity.[2] The value creation intensity of a dollar of top-line growth directly depends on how much invested capital is required to fuel that growth—the more invested capital, the lower the value creation intensity. Sorting growth initiatives this way requires understanding the timeframe in which shareholder value can be created—as short as a matter of months for some acquisitions or more than a decade for some R&D investments. It also requires assessing the size of an opportunity by the amount of value it creates for shareholders, not merely how much top-line revenues it adds. These are the particularly crucial factors for very large companies, where smaller investments can get lost on the management agenda, long-term investments fail to capture management's imagination, and the temptation is to invest in highly visible near-term projects with low value creation intensity.

To illustrate, we dipped into M&A research to see how much value creation even top-notch acquirers can reasonably expect. We have also modeled the value creation intensity of four different modes of organic growth, by estimating results for prototypical organic growth opportunities in the consumer packaged goods industry.

While this specific hierarchy of value creation intensity may not hold for every industry, it can serve as a useful example.

New product/market development tends to have the highest value creation intensity. It provides top-line growth at attractive margins, since competition is limited and the market is growing. We estimate that the prototypical new product in the consumer goods industry can create between $1.75 and $2.00 in shareholder value for every dollar of new revenue. Ironically, while this type of growth creates the most value, it's particularly difficult for really large companies. Creating new demand for a product that did not previously exist requires outstanding innovation capabilities—and big companies that have tightened the screws on operational performance are notorious for cutting away at research and development spending.

Expanding into adjacent markets typically requires incremental invested capital that leads to lower, though still very attractive, value creation intensity in the range of $0.30 to $0.75 per dollar of new revenue. Facilitating adjacent market expansion requires outstanding execution skills and organizational flexibility.

Maintaining or growing share in a growing market requires substantial incremental investments to make the product and its value distinctive. But as long as the market is still growing, margins are not competed away. As a result, we estimate value creation in the range of $0.10 to $0.50 per dollar of new revenue.

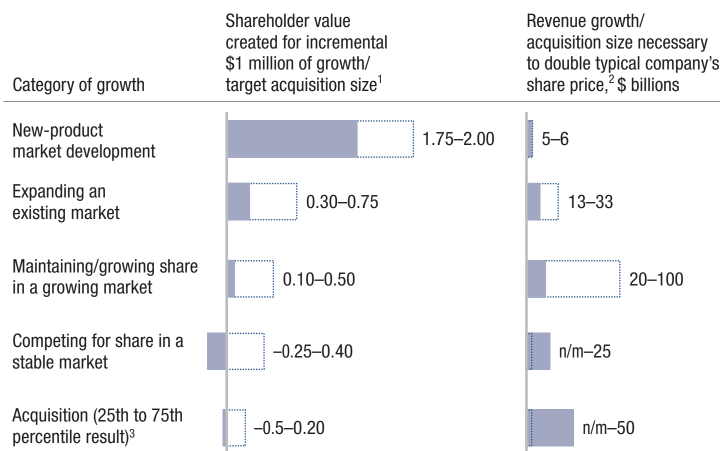
Growing share in a stable market does not always create value. While incremental investments are not always material, competition for share in order to maintain scale is typically intense, leading to lower margins. We estimate that increasing share in a relatively mature market may *destroy* as much as $0.25 or *create* as much as $0.40 of shareholder value for every dollar of new revenue. And for companies whose growth is already stalling, growth in a stable market merely postpones the inevitable.

Acquisitions. While they can drive a material amount of top-line growth in the relatively short order, it is now widely accepted that the average acquirer captures relatively little shareholder value from its deals.[3] In fact, the numbers suggest that even an acquirer who consistently enjoys a top-quartile market reaction in each of its deals will create only about $0.20 in shareholder value for every $1 million in revenues acquired.[4]

Obviously, the size and timing of growth opportunities are determined by business fundamentals within each industry. Typically, though, they tend to come in relatively small increments and mature over multiple years. In the packaged consumer goods industry, one study[5] found that almost half of product launches had first year sales of less than $25 million, and the largest was only a little more than $200 million. The number of these sorts of top-line growth projects needed to move the needle for the biggest companies is daunting. When we stand back from this analysis, we can't help but draw a very dispiriting observation for very large companies: there are remarkably few growth opportunities that are large and near-term and highly value creating all at the same time. Put another way, the amount of top-line growth required to achieve a doubling in shareholder value varies

EXHIBIT

Modes of organic growth vary in value creation intensity—consumer goods industry



[1] Stylized results based on consumer products examples.
[2] Assumes a $50 billion market cap, all-stock company with $23 billion of revenue expected to grow at GDP rates and constant return on invested capital (ROIC)
[3] Examination of 338 deals revealed short-term value creation for acquirer of 11% for 75th percentile deals and –1% for 50th percentile deals.

Source: McKinsey analysis

dramatically by mode of growth, and is huge in even the most favorable modes of growth (Exhibit).

Some executives will no doubt find uncomfortable the shift to a perspective that emphasizes the value creation intensity of growth initiatives. Though such a shift would serve shareholders well, it may also lead to lower overall levels of top-line and earnings-per-share growth.

Executive credibility will be on the line in communicating this message to the markets. One executive we've worked with, for example, recognized that his company lacked the credibility to quickly lower his overall EPS growth targets in favor of a richer mix of value-creating growth without getting pummeled by the markets. Instead, the company made one more big push on operations, letting only enough of the savings fall to the bottom line to meet the company's short-term growth projections. The rest of the savings was redirected toward slower, but more value creating, organic growth, with the expectation that once the company had built some credibility in that respect with shareholders, it could more easily make its case to the markets.

When growing gets tough in the largest companies, tough executives must learn to get growing in value creating ways. Rather than bulk up on the business equivalent of empty calories, they should explore the value creation intensity of different modes of growth to build shareholder value muscle. **MoF**

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[1] Credit Suisse First Boston, "The pyramid of numbers," *The Consilient Observer*, Volume 2, Issue 17. September 23, 2003

[2] Shareholder value creation per dollar of top-line revenue growth.

[3] *See*, for example, Hans Bieshaar, Jeremy Knight, and Alexander van Wassenaer, "Deals that create value," *The McKinsey Quarterly*, 2001 Number 1, pp. 64–73.

[4] It is important to note, however, that market-entering or capability-building acquisitions designed to fuel subsequent organic growth are more likely to create value than market-consolidating acquisitions designed to capture cost efficiencies.

[5] Innen, Steve, Ed. "Innovation awards 2002," *Food Processing*, December 2002, pp. 35–40.

Viewpoint

Investing when interest rates are low

Projects that wouldn't have created value because interest rates were higher aren't necessarily attractive when interest rates drop.

Timothy M. Koller, Jiri Maly and Robert N. Palter

Call it investment limbo. After nearly three years of historically low interest rates, it's the rare company investment strategist who isn't puzzling over his or her next move. With interest rates near 40-year lows, some projects whose returns couldn't have matched the cost of capital just a few years ago now have allure. But if stronger economic growth pushes interest rates up, those projects could spill red ink. Similarly, planners must consider the chance that projects with lower returns on invested capital (ROIC) than they've become accustomed to might pay off—but would lower a company's average return.

In our experience, companies need to be aware of the temptations and traps that lurk in this environment. With signs of economic recovery becoming more widespread, it will take close analysis to determine if today's marginal projects will become tomorrow's winning growth plays—or if a turnaround in interest rates will threaten their value altogether. The smartest response, we believe, includes an objective look at real investment costs and a thorough reexamination of what constitutes realistic returns. Only then can companies confidently assess investment options and pursue growth strategies rather than sit passively on the sidelines while competitors capture the best available investment opportunities.

Reexamining the cost of capital

If management teams could lock in today's low cost of capital as easily as a home owner locks in a long-term interest rate, investing would be easy. Since they cannot,[1] companies must be particularly careful in assessing a project's potential value. The best assessment should not only take into account both the real cost of capital and an estimate of inflation. It should also ensure that the same inflation rate is explicitly included in analyses of a project's cash flow as is used in estimates of cost of capital. The fact is that in general projects that were unattractive in the past do not magically become attractive just because interest rates drop.

This is a crucial point for many companies, particularly those whose various investment teams either don't interact or don't understand the varying approaches they employ to estimate a prospective project's cost of capital and approximate cash flow. As a result, companies sometimes overlook the fact that lower inflation rates should produce lower nominal cash flow forecasts, offsetting a lower discount rate. For example, in November the inflation expectations as reflected in ten-year US Treasury bonds were about 2 to 2.25 percent, nearly a full point lower than in January 1997. Companies evaluating investment projects in November, therefore, should have assumed a 2 to 2.25 percent inflation rate when calculating both the cost of capital and when calculating nominal growth rates and revenues. If a

team analyzing an investment updated its cost of capital calculations but not its growth and revenue calculations, its overall assessment of any given project would inevitably overstate the project's value.

The fact is that in general projects that were unattractive in the past do not magically become attractive just because interest rates drop.

Another critical point often overlooked by companies is that lower real interest rates on government bonds don't always lead to lower real costs of equity. For example, with real government bond rates around 2 percent at the time of this writing—after more than 15 years of hovering around 3 percent—many companies also reduced their estimates of the cost of equity. Over the past year, we have seen nominal cost of equity estimates in the range of 7.5 to 8 percent.[2] However, recent research by some of our colleagues[3] demonstrates that the nominal cost of equity is probably closer to 9 percent, including a 7 percent real cost of equity and a 2 percent expected inflation rate.[4] Indeed, the real cost of equity appears to be more stable than the real risk-free rate, suggesting that while interest rates may decline, investors' demands for higher risk premiums likely offset the effect of interest rate declines on the nominal cost of equity.

Setting a better hurdle rate

Finance theory suggests that companies should invest in all projects that earn just slightly more than the cost of capital—the rate at which investors will discount cash flows to estimate a company's value. Even when the analytics are correct, companies are often concerned that such low-return projects run a high risk of winding up destroying value, since they provide no margin for shareholders and will always run some risk of encountering negative developments.

Theory aside, there are valid reasons for companies to set hurdle rates above—and in some cases, even well above—the cost of capital. A better approach, we believe, is to base hurdle rates on a periodic assessment of industry microeconomic fundamentals to determine the likely range of returns for the industry over an appropriate cycle. This approach ensures that project teams are pursuing only the best opportunities available within a sector and not settling for projects that may be easier to identify and execute but that will yield lower returns.

For example, companies in industries such as pharmaceuticals and branded consumer products frequently earn returns on capital exceeding 30 percent after-tax. For these companies, it is harder to find and develop management talent than it is to get the necessary capital to pursue available opportunities. So it makes sense not to invest in projects with returns at only 10 percent—even though that may technically be more than the company's cost of capital.

Oil companies provide a good example of evaluating projects based on expected long-term industry fundamentals. While crude prices are relatively high today by historical standards, and constitute an equivalent to low costs of capital, the volatility in crude oil prices driven by short-term supply/demand fluctuations through the past 30 years has taught petroleum companies to use a crude price based more on

fundamentals to evaluate new projects. As such, today, most leading crude companies undertake their assessment at $18 to $20 per barrel, which is more representative of a longer-term average price for crude. If new developments are economically attractive at this price level, oil majors will likely proceed with an investment, even though the price is well below current oil prices.

Dealing with ROIC dilution

Companies also express concerns that investing today even in projects that are modestly positive on a net present value basis runs the risk of diluting average return on invested capital. Many projects developed when interest rates were higher now earn returns considerably above the current weighted average cost of capital, and today's investment opportunities have difficulty matching them. Many managers are therefore reluctant to make such investments and are inclined simply to sit on their capital, waiting for a better investment environment.

> Theory aside, there are valid reasons for companies to set hurdle rates above—and in some cases, even well above—the cost of capital.

That may be a dangerous practice. Investors value both growth and return on invested capital, and managers need to figure out the best trade-offs and communicate their decisions to the market. The decision to dilute a company's average return on capital is a difficult one and there are no universal solutions. We think companies should address this issue by asking themselves several questions: Have the long-term economics of the industry declined as the industry matured, and do you therefore need to reduce your expected returns on capital? Does the stock market already incorporate its expectations of lower future returns in industry share prices? Will you get shut out of future growth opportunities by passing up investments today that will make you stronger over the long term? If a company answers yes to some or all of these questions, it might be time to start preparing for lower average returns on capital.

Getting the most out of today's low interest rates isn't as simple as refinancing a home. To navigate the crosscurrents of this low-interest-rate environment, companies require realistic assessment of their investment costs, their breakeven points, and their need to stay active with new investments rather than waiting passively for a new interest rate environment to improve their competitive position. **MoF**

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[1] While it is possible for a finite period to lock in the low cost of debt (through fixed interest rate obligations), it is not possible to lock in the cost of equity.

[2] Risk-free rate of 4 percent plus 3.5 to 4 percent equity risk premium.

[3] Marc H. Goedhart, Timothy M. Koller, and Zane D. Williams, "The real cost of equity," *McKinsey on Finance*, Number 5, Autumn 2002, pp. 11–15.

[4] The real cost of equity is very stable at about 7 percent, and the equity risk premium varies inversely with real interest rates.

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