Accelerating Out of the Great Recession
Seize the Opportunities in M&A
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Accelerating Out of the Great Recession

Seize the Opportunities in M&A

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With the global economy returning to growth after the worst financial crisis in the lives of most business executives, the outlook for mergers and acquisitions (M&A) is improving. Yet, while M&A activity appeared to bottom out in 2009, the recovery in the number and value of deals remains patchy and the prospects for the rest of 2010 are mixed. Although financial markets are reopening and risk perceptions are well below the peaks reached at the height of the crisis, concerns persist about the prospect of a double-dip recession.

Previous research by The Boston Consulting Group demonstrated that while the initial market response to acquisition announcements is usually negative, buyers can create significant value over the longer term through M&A. This edition of BCG’s annual M&A report includes the findings of a new study by the BCG M&A Research Center into the long-term value created by acquisitions. Drawing on a unique global database of more than 3,500 deals since 1992, it confirms that downturn deals create significantly more value on average than deals initiated during boom times. It also identifies the key drivers of success for buyers in both downturn and upturn periods.

A recent BCG survey found that despite the uncertainties, many senior executives of large European companies were planning either to make a major acquisition or to divest businesses in 2010. As the M&A outlook improves, companies must be ready to take advantage of the opportunities that present themselves.

The M&A market appears to have bottomed out in 2009, providing opportunities for financially strong companies to make acquisitions, including significant consolidation deals.

- The number of deals fell by 14 percent in 2009, and their value fell by 44 percent. However, 2009 was a game of two halves: the decline that began with the insolvency of Lehman Brothers in September 2008 ended in the second quarter of 2009; the value of M&A deals turned upward in the second half of the year—though it leveled off again in the first few months of 2010.

- M&A activity involving private-equity (PE) firms fell even more steeply, with the number of deals down almost 28 percent in 2009 and their value 61 percent lower than in 2008. As the shortage of financing for PE deals reduces the degree of leverage in acquisitions, PE is struggling to recover.

- Consolidation deals were a dominant feature of 2009, with ten very large transactions contributing more than 20 percent of total M&A value. At the smaller end of the spectrum, there has been a continuing increase in the percentage of acquisitions worth less than $125 million, as companies sell noncore activities and underperforming assets.

- Asian buyers continued to acquire targets in the Americas and Europe in 2009. While the numbers of such deals were down compared with previous years, they fell less than the number of acquisitions in Asia by companies from other regions.

- Buyers in 2009 were typically cash-rich companies that were not constrained by financing issues. Their targets were more vulnerable than before the financial crisis, with lower margins and higher leverage, on average. The short-term returns from M&A in 2009 were down relative to 2008.
A new BCG study has analyzed about 3,500 deals from around the world since 1992 to understand better how acquisitions can generate long-term value for acquirers. This approach complements the conventional methodology, which focuses on short-term returns during the period around the announcement of a deal. The study found that there was a significant correlation between short-term and long-term returns, and it identified key drivers of value creation through M&A.

- While most acquisitions dilute value for the buyer, approximately 40 percent of deals create value over both the short and the long term.

- A comparison of value creation in the 2001–03 economic downturn and in the 2004–07 upturn confirms BCG’s earlier findings that returns from M&A are higher on average in downturn periods. There is no perfect time for doing a deal in a downturn, however: during the 2001–03 downturn, returns from acquisitions two years after the announcement date were 9 percent or more, on average—no matter whether the deal was done during the first, second, or third year of the downturn.

- Deals involving acquirers and targets from the same sectors are much more likely to deliver short- and long-term value for the buyers, illustrating the importance of operational and cost synergies as sources of value.

- For the buyers, cash-only deals outperform acquisitions using other forms of payment over the two years following the announcement.

- While the short-term reaction to a deal is a good predictor of its long-term return, markets can occasionally underestimate the value created.

The M&A recovery has been anemic, with uncertainties hanging over the economy. However, there are many signs of an improvement in the M&A environment that could lead to an increase in deal-making activity in the coming months.

- Confidence has returned to the debt markets, with high-yield debt issuance heading back toward precrisis levels and a continuing increase in investment-grade issuance. The cost of debt financing continued to fall in 2009, though it remains about double the level before the crisis began.

- Initial public offerings (IPOs) have risen, averaging $35 billion per month in the fourth quarter of 2009. The number of secondary-equity issues surged to 3,152 in 2009—almost double the number in 2008.

- Despite recent turbulence caused by the debt crisis in Greece and fears of similar crises in other countries, the global economy seems to be returning to growth in 2010. GDP growth has been a significant driver of M&A activity over the past 30 years.

- Most companies have emerged from the recession in reasonable health. Large companies have increased their cash reserves, and many companies are reporting increases in profits.

- Previous downturns in M&A ended after two years of decline. If this pattern holds true, M&A activity should increase in 2010.

Despite the positive indicators, there are many concerns about the economy that dampen enthusiasm for M&A. Investors have tended to greet deal announcements with caution.

- Early recoveries in some previous recessions—notably in the 1930s—were followed by a second downturn.

- Sustained growth might be undermined by factors such as deleveraging, which could reduce consumption and investment; withdrawal of liquidity by central banks; increases in interest rates; and stubborn levels of unemployment.

- Potential bidders are deterred by the valuation gap between what they are willing to pay and the prices that targets expect. There is uncertainty around valuations, increased by volatility in stock market ratings and fears about the degree of recovery in some sectors. That uncertainty is heightened by continuing concerns over credit availability and liquidity.

- Reactions to recent sovereign default threats, especially in the euro zone, have exposed the jitteriness of markets and disrupted new issues even after the €750 billion rescue package organized for Greece.
A recent BCG survey found that, despite concerns about the outlook, a significant proportion of senior executives in the largest publicly listed European companies were preparing for a major deal in 2010. There are deal opportunities for companies with robust finances that are ready to take advantage of them.

- Consolidation deals will be attractive as companies emerge from the crisis—especially because they create the most value.

- Acquirers will include companies that scaled back investment during the crisis and need to accelerate their growth to meet investors’ expectations.

- Corporate restructuring will continue to provide divestment candidates, which are often attractive targets. As corporate orphans, they offer the prospect of turnaround under new owners able to refinance or improve their performance.

- PE will be a source of distressed sales as firms face problems in refinancing debt accumulated in the easier credit markets of the precrisis era. The recovery in the IPO markets could allow PE to exit from assets held through the credit crunch, releasing funds for a limited return to the M&A market on the buy side as well.

- Acquisitions by buyers in emerging markets—including sovereign wealth funds—will continue to develop.

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After the most serious financial crisis in two generations, the global economy is at last beginning to recover—apparently ending the decline in the M&A market since 2007. The value of deals reached bottom during the first half of 2009 and turned upward during the second half of the year. Companies that have been ready to take advantage of the opportunities over the past 12 months have been able to strengthen their financial and strategic positions—even, in some cases, to complete significant consolidation deals.

Yet the economic recovery is unsteady, and the outlook for M&A—while improving—is still uncertain. Capital markets have begun to reopen, but private-equity deal making has still not recovered to the levels before the credit crunch. Analysis of the deals done in 2009 shows that the successful bidders were typically companies that could take advantage of M&A opportunities because they were not constrained by financing issues.

**Tentative Recovery in the M&A Market**

The M&A market, in decline since the start of the financial crisis in the late summer of 2007, appeared to bottom out in 2009. The drop in the value of deals, which had accelerated after the collapse of Lehman Brothers in September 2008, came to an end in the middle of 2009 and began a slow and patchy recovery in the second half of the year.

Overall, in 2009 the number of deals—at just over 20,000—was 14 percent less than in 2008. The value of M&A transactions fell much more steeply: at $1.26 trillion, it was 44 percent less than the total for 2008. The number of M&A deals was the lowest since 1995, and the value of those deals the lowest since 2003, at the bottom of the last downturn.

However, the monthly figures for 2009 tell a rather different story. (See Exhibit 1.) The value of M&A deals continued to decline during the first few months of the year but then leveled off into a trough that continued throughout the summer. Tentative signs of recovery began to appear in the fall, with deal values increasing sharply in the final quarter. However, the fragility of that recovery was demonstrated when it stuttered in the first months of 2010, with numbers falling again and values showing no consistent improvement.

Private-equity activity also bottomed out in 2009. (See Exhibit 2.) The number of PE deals, at just under 3,500, was down almost 28 percent from 2008 and was the lowest figure since 2004. The value of PE deals fell even more steeply to $184 billion—down 61 percent from 2008 and 84 percent from the peak year of 2007. As with overall M&A deals, there was a slow recovery in the second half of the year, but activity leveled off in the first quarter of 2010.

Data for M&A activity in Europe highlight the cause of PE’s weakness: the shortage of financing for leveraged-buoyout deals, which has reduced PE firepower. LBO deals must now be executed with less debt: an average of four times earnings before interest, taxes, depreciation, and amortization in 2009, compared with just over six times EBITDA in 2007. The buyers had to fund more than half the price of an average LBO with their own equity last year, compared with about a third two years earlier. As a result, the average European buyout loan was €271 million in 2009—56 percent below the peak year of 2007.
Exhibit 1. The Decline in M&A Value Bottomed Out in 2009

Exhibit 2. Private-Equity M&A Value Hit a Six-Year Low in 2009

Sources: BCG M&A Research Center; Thomson Reuters SDC Platinum.
Note: Figures are based on completed M&A transactions, excluding repurchases, exchange offers, recapitalizations, and spinoffs. Enterprise values include the net debt of the target.

Sources: BCG M&A Research Center; Thomson Reuters SDC Platinum.
Note: Figures are based on completed deals, including buyouts or deals with financial-sponsor involvement.
The shortage of financing has not only reduced the prices that PE can pay, it has also reduced levels of leverage—making it harder for PE firms to hit their internal-rate-of-return targets.

A further problem in restoring previous levels of M&A activity is the perception gap in valuations. Buyers believe that valuation levels have fallen to more realistic levels as a result of the financial crisis. Sellers see the fall as a temporary dip and are unwilling to sell at what they regard as “crisis prices.” Attempts by buyers to bridge the valuation gap have included share offers and earn-out clauses in contracts that entitle the seller to a higher price only if certain postmerger performance targets are achieved.

**M&A Trends in 2009**

The financial services industry was the top sector for M&A in 2009, as restructuring after the financial crisis continued. The industry accounted for 40 percent of total deal value, above its long-term average share of 36 percent between 1998 and 2008. Energy was second at 14.4 percent, followed by health care at 13.4 percent—both also above their long-term average. The telecommunications and media sector, in fourth place at 7 percent, was below its long-term average, as were the other sectors.

A notable trend in 2009 was the domination of M&A activity by large consolidation deals. Just five bank deals, each worth more than $10 billion, accounted for almost half the industry’s total deal value. They included the acquisitions of Merrill Lynch by Bank of America (valued at $48.8 billion), HBOS by Lloyds TSB Bank ($25.4 billion), and Fortis Bank by BNP Paribas ($12.8 billion)—government-backed rescues for prominent casualties of the credit crunch.

More than 8 percent of total M&A value came from two large health-care deals: Pfizer’s $67.3 billion acquisition of Wyeth and the $38.4 billion merger of Merck and Schering-Plough. In energy and power, three deals each worth more than $10 billion contributed 3.4 percent to the M&A total: EDF’s $16.9 billion acquisition of British Energy, the $15.6 billion merger of Suncor Energy and Petro-Canada, and RWE’s $10.4 billion acquisition of Essent’s production-and-delivery assets.

At the same time, the percentage of deals worth less than $125 million rose slightly in 2009—continuing a trend that began in 2007. A key contribution to this mid-cap M&A activity came from corporate restructuring by companies disposing of noncore activities or underperforming assets. While the value of divestiture deals fell in 2009, their share of global M&A rose in both number and value terms.

Another trend that continued in 2009 was the growth of cross-border deal activity involving Asian buyers. The growing importance of M&A in Asia is demonstrated by the fact that intra-Asian M&A transactions are the only type of deals whose numbers in 2009 were above those in the boom year of 2000. The number of acquisitions elsewhere in the world by companies in the Asia-Pacific region has also been on a gradual upward trend since 2001. The financial crisis reduced the number of cross-regional deals in 2009, but the number involving an Asian buyer fell less than acquisitions in Asia by companies from other regions.

More interesting, the number of Asian acquisitions in the Americas was higher in 2009 than in 2005, as was the number of Middle Eastern acquisitions in Europe. Although the numbers are not huge, there is a discernible change from 2001, when Western companies were buying Asian businesses to reduce manufacturing costs. In recent years, Middle Eastern and Asian companies have been buying businesses in Europe and the Americas to extend their reach up the value chain—as with the Chinese automaker Geely’s purchase of Volvo, the upmarket Swedish car brand, from Ford Motor Company of the United States.

In looking for signs of M&A activity in the immediate future, perhaps the most significant trend can be found in the characteristics of buyers in 2009. They were typically cash-rich firms that were not held back by the shortage of financing that still remains an issue for many acquisitive companies. The median amount of cash held on the balance sheets of acquirers was 17 percent of their market value during the 2008–09 downturn—up from 8 percent in the upturn period between 2004 and 2007. (See Exhibit 3.)
There was no significant difference between downturn and upturn acquirers in terms of profitability or leverage. However, their targets have been more vulnerable during the last two downturn years than in the previous four upturn years. The median margin on earnings before interest and taxes (EBIT) of targets in 2008 and 2009 was 6.6 percent, compared with 10.3 percent for targets between 2004 and 2007—a difference that was not a result of the generally lower earnings level in the downturn. The median leverage of targets rose from 26 percent in 2004–07 to 32 percent in 2008–09.

Our analysis in last year’s M&A report suggested that companies’ financial strength would be critical in determining how they would weather the crisis. Some would have the financial muscle to take on the risks of a deal without putting themselves in play: they were classical predators. Others were prey—so weak and vulnerable that they would have to strive to survive the downturn without becoming targets. The remainder, in a gray area in between, had the potential to be predators or prey—or simply to miss the boat.

The pattern of M&A in 2009 confirmed this analysis. Companies with strong financial and strategic positions were able seize the opportunities, while those with weaker balance sheets and lower profitability were potential targets. (See the sidebar “A Successful Serial Acquirer Has Remained Active During the Financial Crisis.”) The bottoming out of the M&A market should offer further opportunities for predators and highlight the vulnerability of those that fail to lift themselves out of the target zone.

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1. See Be Daring When Others Are Fearful: Seizing M&A Opportunities While They Last, BCG report, September 2009.
A series of acquisitions has left Teva among the top 15 pharmaceutical groups in the world and the largest generic-pharmaceutical company—raising its share price sixfold over the past decade while worldwide pharmaceutical stocks have been flat. (See the exhibit “Teva’s Share Price Has Surged Ahead of Its Peer Group.”)

The Israeli group started the new millennium by buying Canada’s Novopharm, increasing its sales by one-third, and making it the largest generic-pharmaceutical company in North America. After two smaller acquisitions in 2002, Teva’s next step up came with the 2004 acquisition of Sicor, which raised revenues by almost one-quarter. The purchase of Ivax Corporation in 2006 provided a further boost to sales of more than one-third.

In July 2008, almost a year after the subprime crisis began, Teva agreed to buy Barr Pharmaceuticals, adding another 27 percent to revenues and giving the group a presence in more than 60 countries. And in March 2010, Teva announced that it was buying Ratiopharm, Germany’s second-largest generics producer and the sixth-largest generic-drug company worldwide. With a further boost to sales of almost 17 percent when the deal is completed, Teva will have raised its revenues from €1.2 billion in 2000 to €16.2 billion a decade later.

Sources: Thomson Reuters Datastream; BCG analysis.
Returns on M&A deals in 2009 followed the pattern demonstrated by many academic research studies: the average deal destroys value for the acquirer in the short term. Event study analysis of returns from deals calculated over a seven-day window centered around the announcement date found that the average cumulative abnormal return for buyers in 2009 was –2.3 percent. This return was worse than those in the previous seven years, but short-term returns have been negative in every year since 1996, averaging –1.3 percent over the 14 years.

These negative results are, of course, no more than averages: many deals create value for the buyer, while others produce even worse outcomes. So as life slowly returns to the M&A market, it is vital to understand how acquisitions can generate value to the satisfaction of investors. BCG has developed a unique global database of approximately 3,500 deals completed since 1992 and analyzed the returns from each of them over the two years following the announcement of the deal. Its findings complement studies of the short-term returns from M&A and identify key drivers of long-term value creation in the deals that produce the best returns.

The Long-Term View

The generally accepted approach for analysis of value creation through M&A focuses on shareholder returns during the period around the announcement. It assumes that all the relevant information about the value created by a deal is known and reflected in share prices within a short period of time. However, new information may become available as execution and integration proceed in the weeks following the announcement. In other words, announcement returns may not fully capture the long-term returns from deals, especially in periods of volatility.

BCG’s new study tracks the stock market performance of acquirers relative to the relevant index for their region for two years following the announcement date. This complements the approach of our M&A reports in previous years, which focused on the short-term announcement returns to buyers and sellers. By drawing on the large and comprehensive database of global deals since 1992, the long-term impact of M&A deals on the value of acquirers can be analyzed, and the factors that enhance that value identified.

The results of this new research show that there is a significant correlation between the short-term returns and the long-term returns from M&A. If the announcement of a deal creates value for a buyer at the time of the announcement, it is more likely to create value over the longer term. Thus, our study demonstrates that the first judgments of the markets are typically borne out as time goes by. While this has been suggested in academic research before, the relationship can now be confirmed by findings drawing on a study of more than 3,500 transactions over 18 years.

This is not to say that the shareholder return during the two years following a deal is entirely attributable to that transaction; it will also reflect other effects that are not dis-
rectly related to the acquisition. However, the new study focuses on deals that are large enough to have a significant impact on the companies involved, so it is reasonable to assume that the impact on value creation is likely to be of similar significance. The long-term perspective thus offers a valuable supplement to the established short-term event-study approach, shedding light on aspects of M&A-related value creation beyond the scope of studies focusing only on announcement effects.

One finding of short-term studies that is confirmed by the BCG study is that the average deal also dilutes value for the acquirer in the long run. However, both approaches show that more than 40 percent of all deals create value for the acquirer. (See Exhibit 5.) We now turn to the factors identified by the study that help those deals outperform the average returns.

**Key Drivers of Value Creation**

The most significant finding from the new BCG analysis is that returns from M&A are higher on average in economic downturns. Acquisitions in periods when annual
GDP growth in the global economy is below the long-term average of 3 percent are much more likely to create superior value than deals done in upturn years. The new database makes this comparison possible, because it includes the 2001–03 downturn and the 2004–07 upturn. The share performance of acquirers in both cycles can be tracked for the two years following the announcement—something that cannot yet be done for deals in the downturn period that began in 2008.

On average, both downturn and upturn acquisitions suffer an adverse market reaction during the announcement window. But two years after the announcement, downturn deals have outperformed the market by 7 percent, while upturn deals have underperformed it by 5 percent. Downturn deals thus outperform upturn deals by 12 percentage points. (See Exhibit 6.)

While it is unlikely to be the mere existence of a downturn that produces the superior returns, several characteristics of downturn M&A could contribute to them:

- Buyers may be less tempted to overpay—a common cause of poor returns—in a downturn, when targets tend to be cheaper because some are distressed and there may be fewer bidders
- Acquisitions will probably be subject to more robust scrutiny and more probing due diligence in downturns, when capital is likely to be scarcer than in more prosperous times
- Acquirers that execute deals successfully in downturns are likely to have a good M&A record that helps them overcome additional challenges such as financing constraints, a management distracted by adverse operating conditions, and board skepticism about the wisdom of transactions in such an environment

The new BCG study has also found that there is no perfect time for doing a deal in a downturn. During the last complete downturn cycle of 2001 to 2003, returns from acquisitions two years after the announcement were 9 percent or more on average—whether the deal was done

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**Exhibit 6. Downturn Mergers Systematically Outperform Upturn Deals**

Cumulative relative-total-shareholder-return performance
\((T-3 = 100)\)

- **Downturn mergers create value**
  - Cumulative return: 107.3
  - Year 2: 104.3
  - T-3: 99.3
- **Upturn mergers destroy value**
  - Cumulative return: 94.8
  - Year 2: 97.7
  - T-3: 98.5

Sources: Thomson Reuters Datastream; Thomson Reuters Worldscope; BCG analysis.
Note: Analysis based on median returns per sample; T-3 is three days before the announcement date, while T+3 is three days after the announcement date. The number of deals with two-year data available is 1,030 for upturn acquisitions, 560 for downturn acquisitions.

There is no perfect time for doing a deal in a downturn.
in the first, second, or third year of the downturn. As the prospects for M&A are analyzed in the remainder of this report, it should be borne in mind that action on an acquisition should not be delayed in the mistaken belief that there is a perfect window of opportunity at a set point in a downturn.

A second factor that distinguishes value-creating deals from those that destroy value is whether there are obvious synergies to be extracted from the two businesses. Acquirers that buy targets in the same core sector are much more likely to deliver long-term value to their owners. (See Exhibit 7.) In other words, consolidation deals are usually more attractive than diversification M&A. This finding confirms earlier BCG research that found a similar pattern of short-term value creation for acquirers of divested assets within their own sector.4

Third, the method of payment for an acquisition is also a significant factor in value creation. Acquirers paying in cash significantly outperform acquirers using other forms of payment over the two years following the deal. Again, this finding is consistent with previous findings on short-term announcement returns.

Long-Term Returns Versus Short-Term Reactions

Research on value creation in M&A has focused on stock market returns during the period around the time of the deal’s announcement, assuming that markets efficiently price in the relevant information about any deal. The new BCG study is among the first research studies outside the academic community to carry out the detailed statistical work necessary to measure the value created by a large number of deals over a much longer period. While it finds that there is a significant correlation between announcement returns and the long-term returns from M&A, there are also occasional exceptions.

This can be seen from one of the top-performing large deals of recent years—the $18.2 billion acquisition of Falconbridge of Canada by the Swiss mining group Xstrata in 2006. While it gave Xstrata investors a negative return of ~5.2 percent in the seven days around the deal's announcement, this turned into a positive 41 percent over the relevant index after one year and surged to 144 percent after two years.

Although short-term returns are usually a very good indicator of the long-term value created by acquisitions, there were other examples of negative announcement returns among large deals analyzed by BCG that turned out to be significant creators of long-term value. Even when top-performing deals produced positive short-term returns, their long-term returns were invariably greater—usually climbing in the first full year and then rising further in the second. (See the sidebar “Bayer Beat Its Synergy Targets After Buying Schering in 2006” for an example of a deal in which the announcement return was exceeded over the longer term.)

The initial market reaction to the large deals that created the most value in the longer term often underestimated their potential—or even misjudged the deals as dilutive of value. The reason for this can be found in information asymmetries: not all of the relevant information is available to investors at the time of an M&A announcement. The acquirer’s management might have strategic ideas or options that it chooses not to share publicly when making the announcement, in order not to alert rivals. And, of course, events after the announcement, such as legislative or scientific developments, can radically improve the potential for the enlarged enterprise.

The upshot, therefore, is that while the reaction to the announcement is a good predictor of the long-term value creation of a particular acquisition, it can on occasion be misleading. As an advisor to acquirers, BCG has seen such effects in particular M&A deals, especially very big acquisitions in which investors feared that the deal was driven by overambitious chief executives, hubris, or exaggerated synergy expectations. The perception that such exceptions exist is now confirmed by the first study to undertake the cumbersome task of analyzing the long-term success of transactions on such a scale in terms of the value they created for the buyer.

It should be emphasized, however, that such a reversal in sentiment will happen only if the acquisition was strategically correct, the price paid allowed the deal to create value, and the postmerger integration was well managed. 5

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5. The success factors in postmerger integration are discussed in BCG PMI publications. See, for example, Real-World PMI: Learning from Company Experiences, BCG Focus, June 2009; Special Issues in PMI: Dealing with Carve-Outs, Unions, and Other Challenges, BCG Focus, June 2008; and Thinking Laterally in PMI: Optimizing Functional Synergies, BCG Focus, January 2008. See also BCG on PMI: Unlocking the Value of a Merger, BCG handbook, May 2009.

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Although the M&A market bottomed out in 2009, the recovery so far has been anemic. Uncertainties continue to hang over the immediate future, with the continuing absence of PE bidders and the perception gap in valuations. However, there has been a consistent improvement in many of the factors needed to accelerate the recovery in the M&A market, and this could boost the number of deals in the coming months.

The Capital Markets’ Recovery Has Continued

The availability of funding for M&A transactions plunged after the summer of 2007, as capital markets ground almost to a halt following the subprime crisis. Not only were funds scarce, the cost of financing was often very high. However, the recovery in the capital markets that began in the second quarter of 2009 has continued into the first quarter of 2010, increasing the availability of financing and reducing its cost.

For example, it has become easier for companies to raise financing by issuing corporate debt. Issues of investment grade debt globally have risen from a low of just 192 in October 2008 to an average of just under 500 per month in the first quarter of 2010. (See Exhibit 8.) The value of investment grade debt has also jumped, from only $61 billion in October 2008 to a monthly average of $221 billion in the first quarter of 2010.

The recovery in high-yield debt issuance has been even sharper, with issues up from a monthly average of 8 in 2008 to 49 in the first quarter of 2010. The total value of high-yield debt issuance in 2009, $176 billion, was back to pre-subprime-crisis levels and has risen further in 2010—a clear sign of confidence returning to the debt markets.

Debt financing has continued to become cheaper over the past year. (See Exhibit 9.) The cost of insuring against the risk of corporate default, as measured by the iTraxx Crossover index, reached a record peak in March 2009 of more than five times the cost in the pre-credit-crunch summer of 2007. By the end of 2009, it had dropped 60 percent since that peak, and in 2010 it has leveled off at about double the cost before the financial crisis. Credit spreads over Treasury bills have also fallen sharply since their peak in the fourth quarter of 2008 but again are around double the spreads in the second quarter of 2007.

Favorable capital-market conditions have led to a rise in secondary equity issuance, which is often an indicator of market sentiment. (See Exhibit 10.) There were 3,152 issues in 2009—almost double the number in 2008. Their total value was up from $724 billion to almost $1 trillion, though numbers and volume have fallen somewhat in 2010—perhaps as a result of market jitters caused by the Greek debt crisis.

A further sign of improving confidence in the equity markets is that IPO issuance has become easier. Though not yet back to 2007 levels, the number of IPOs rose from 13 in January 2009 to 101 in December 2009, averaging $35 billion per month in the fourth quarter of 2009. Greece’s crisis brought a sharp reduction in IPOs in early 2010, but the market rebounded in March, leaving activity over the first quarter of the year on a par with that in the second half of 2009. Although IPOs rarely play a direct role in M&A, they are used by PE firms to exit from existing investments and could thus release capital that would allow them to step up M&A activity again.
Exhibit 8. Corporate Debt Issuance Is Almost Back to Normal

Global investment-grade debt issuance

$billions

Global high-yield debt issuance

$billions

Sources: Thomson One Banker; BCG analysis.

Exhibit 9. The Costs of Default Insurance and Debt Financing Continued to Fall

The price of insuring against the risk of credit defaults

The cost of debt financing

Sources: Thomson Reuters Datastream; BCG analysis.

*Composition of series 7 to 13 of the iTraxx Europe Crossover five-year (midfixing) indexes; credit spread analysis based on Barclays bond indexes for the U.S. market. Data from May 1, 2007, through April 28, 2010.
The Global Economy Moves Back into Growth

The growing recovery in the capital markets is one consequence of the abundant liquidity that has been pumped into the financial system by central banks over the past two years. This easing of monetary policy has also contributed to the turnaround in the global economy, which has rebounded sharply after shrinking in 2009 for the first time since 1945. Economic forecasts predict GDP growth in 2010 and the following four years in Western Europe, the United States, and the world as a whole. BCG analysis shows that GDP growth has been a significant driver of M&A activity over the past 30 years. (See Exhibit 11.)

Many uncertainties remain about the extent of the global recovery, especially the impact on economies when their central banks begin to withdraw liquidity. Yet confidence in the outlook has been rising in 2010 as evidence emerges that companies managed the downturn well by scaling back activity as demand plummeted and focusing on cash generation. Large companies have increased their cash reserves, with the S&P 500 sitting on a cushion worth almost $2.1 trillion at the end of 2009—a 10 percent increase from 2008 and 50 percent more than in 2005. While operating-cash generation is very sensitive to top-line sales, these high cash reserves could help fuel an M&A upswing.

A final reason for optimism about the M&A market comes from a BCG analysis of the number of deals and their value over the past 30 years. (See Exhibit 12.) In previous M&A downturns, the declines in both lasted about two years before the number and value of transactions turned up again. If this pattern holds, the M&A market should return to growth once again in 2010, following two years of decline during the recent financial crisis.

However, investors have learned from experience that the past is not always a reliable guide to the future. While there are plenty of reasons to be optimistic about a recovery in M&A, there are also several factors that suggest a cautious approach would be advisable. In the next section, we look at risks still hanging over the M&A market.

---

Exhibit 11. Judging from the Economic Outlook, the M&A Market Could Recover in 2010

GDP growth is closely correlated with M&A deal value

\[ R^2 = 86\% \]
\[ y = 2.0x - 0.53 \]

Real GDP growth

\[ \text{Annual change (\%)} \]

\[ \text{Global M&A}^1 \]

\[ \text{Western Europe} \]
\[ \text{United States} \]
\[ \text{World} \]

\[ '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13 '14 \]

\[ 3.3 \]
\[ 2.3 \]
\[ 2.0 \]

\[ 0 \]
\[ -1 \]
\[ -2 \]
\[ -3 \]
\[ -4 \]
\[ -5 \]

Sources: Economist Intelligence Unit; Thomson One Banker; BCG analysis.
Note: Global M&A value excludes repurchases, exchange offers, recapitalizations, and spinoffs. Values of transactions include net debt of target. Data for 2010 through 2014 are projections.

^Global M&A value (originally stated in billions of dollars) and GDP (originally stated in trillions of dollars) are calculated as natural logarithms.

Exhibit 12. During Downturns in the Last 30 Years, the Trough Was Reached After About 2 Years

\[ \text{\$billions} \]

\[ \text{Number of deals} \]

\[ 4,000 \]
\[ 3,000 \]
\[ 2,000 \]
\[ 1,000 \]
\[ 0 \]

\[ 40,000 \]
\[ 30,000 \]
\[ 20,000 \]
\[ 10,000 \]
\[ 0 \]

Sources: Thomson Reuters SDC Platinum; BCG analysis.
Note: Figures include all announced M&A transactions with reported deal values. Values of transactions include net debt of target.


The Economic Recovery Is Still Fragile

While Few Investors in the Market Today Were Active During the Great Depression of the 1930s, Many Are Familiar with the False Dawn Experienced in 1930. After the 1929 Wall Street Crash, the Value of the Dow Jones Industrial Average Almost Halved from September to November 1929, Only to Rebound 60 Percent Over the Following Five Months. That Recovery Was Short-Lived, However: With Bank Credit Drying Up, Corporate Bankruptcies Proliferated and Unemployment Began to Climb Steeply. In April 1930, the Dow Plunged Again, Reaching Bottom in July 1932—89 Percent Below the Level at the Start of the Crash in 1929. (See Exhibit 13.) In 2010, There Are Continuing Fears About a Repeat of That Experience and About the Possibility of a Second Downturn After the Partial Recovery That Began Toward the End of 2009.

Concerns About the Possibility of a Double-Dip Recession Are Fueled by Several Factors:

- Consumers and Companies Have Been Lowering Their Debt Over the Last Two Years. This Deleveraging Process Is Likely to Continue and to Reduce Consumption and Investment.
- Central Banks Might at Some Point Try to Withdraw the Liquidity They Pumped In at the Height of the Crisis, Which Has Supported the Revival in the Capital Markets. Premature Withdrawal Could Reduce the Supply of Credit at a Time When the Recovery Is Still Fragile.
- The Threat of Further Sovereign-Debt Crises Is Likely to Lead to Tax Increases and Cuts in Public Expenditures That Would Reduce Demand in the Countries Affected.
- Interest Rates Will Have to Move Up at Some Point, From What Were Unprecedentedly Low Levels in Many Countries. The Timing of This Increase Has Great Potential to Derail the Recovery: Raising Interest Rates Too Fast Could Create a Deflationary Spiral, While Raising Them Too Late Might Allow Excessive Inflation to Develop.
- International Imbalances Continue to Provoke Demands for Exchange Rate Adjustments to Rebalance Interna-
tional trade. If protectionist measures were to be introduced, international trade could be weakened and the process of globalization slowed or even halted.7

None of these problems are inevitable. Policymakers are aware of the dangers of premature monetary tightening, for example, and serious protectionism has largely been avoided through international action. However, if any of these potential threats materialized, growth could falter—weakening or even reversing the economic recovery.

Investors Remain Cautious

Despite the stock market rebound that began in the second quarter of 2009, investors remain cautious about the outlook and jittery about any signs of instability. Investor caution can be seen in the short-term response to deals, which—as discussed earlier—was more negative in 2009 than in previous years. While these negative sentiments may not fully capture the long-term potential of 2009 deals, it is clear that markets were more skeptical about the value of acquisitions in 2009 than in the previous two years.

One reason for this caution is the uncertainty surrounding valuations. A BCG survey in 2009 of CEOs and senior managers at more than 160 of the largest publicly listed European companies found that more than half of those in industries such as aerospace and technical equipment considered valuations in their industry to be high, while more than half of those in media and utilities considered valuations to be low.8 (See Exhibit 14.) There are also fears that signs of recovery are weaker in some sectors than in others and that companies in the weaker sectors have yet to stabilize and emerge from their distressed situations.

The uncertainty is reflected in the volatility of the aggregate price-to-earnings ratio for the S&P 500. (See Exhibit 15.) After several years of what looked like a gradual decline, price-to-earnings ratios suddenly plummeted from 17 in the summer of 2008 to 11 in February 2009. Then

Exhibit 14. There Is No Clear Opinion About Current Valuations

Note: A total of 166 publicly listed European companies participated in the survey; the proportion of respondents that consider current valuations to be fair is not shown.

The aggregate price-to-earnings ratio has demonstrated significant volatility lately

Sources: Bloomberg; BCG analysis.
they sharply rebounded to peak above the 15-year-average of 20 in November 2009—a level not seen since 2002—before falling sharply in the following three months. Such volatility will tempt potential sellers to wait for further price rises, frustrating buyers who can see opportunities that they believe may be short-lived.

Further evidence of the jitteriness of the markets has been provided by the reaction to recent sovereign-debt default threats. When Dubai’s problems with servicing $60 billion of public debt emerged in November 2009, the Dow Jones Asia/Pacific index fell 3 percent in one day. The Greek debt crisis pushed the Euro Stoxx index down 11 percent in less than a month after the country’s problems with more than $400 billion of debt came to light in January. When a financial rescue for Greece was announced at the end of April, the Euro Stoxx fell by 5 percent in one day. Volatility on both indexes averages less than 0.1 percent per day.

As a result of these two debt crises in relatively small economies, large planned IPOs faltered at around the time of the relevant announcements. Hochtief, a German construction company, called off the stock market debut of its Hochtief Concessions subsidiary in December 2009, saying it could not realize its target price. The Blackstone Group cited market volatility as a reason for postponing the London flotation of Merlin Entertainments in February 2010. However, in March 2010, before the announcement of the Greek debt rescue package, there were several successful large IPOs, including Joyou, a Chinese sanitary-ware manufacturer; German cable-network provider Kabel Deutschland; and Brenntag, a German chemical-distribution group.

Brenntag was sold by a private-equity investor, but the ups and downs of the IPO market have made it harder for PE firms to exit from their investments. More generally, however, failed IPO attempts—even if sporadic—cast a pall over the capital markets and may deter M&A. While there has been evidence that M&A activity is increasing, the concerns that hang over the economy and the markets will mean that it is an unsteady recovery.
The incipient recovery in M&A activity has demonstrated that there are deal opportunities for companies that are ready to take advantage of them. Large consolidation deals were announced even before the global recession ended, helping some acquirers to transform their market positions. The restructuring or sale of distressed companies has provided a stream of targets, while well-managed companies have been divesting themselves of noncore and underperforming businesses to strengthen their balance sheets.

Ready for Action

One significant indicator that confidence will return to the M&A market is provided by the 2009 BCG survey of European chief executive officers and senior managers mentioned earlier. The survey found that while uncertainties about the economic outlook and valuations were likely to deter some companies from entering the M&A market, a significant proportion were preparing for a major deal in 2010.

- One in five of the companies had plans to buy a business with sales of more than €500 million in 2010, including nearly half the large companies with market capitalizations in excess of €20 billion.

- The most likely sectors for such acquisitions were insurance (60 percent), aerospace and retailing (both 50 percent), and chemicals (44 percent). The sectors in which there was less interest in acquisitions included banking (17 percent), telecommunications (13 percent), industrials (12 percent), and pharmaceuticals and biotech (11 percent).

- Nearly one in three of the senior executives were planning to divest businesses in order to strengthen their strategic and financial positions.

- More than two out of three of the executives expected the most likely M&A activity to be horizontal consolidation deals—smaller, lower-risk acquisitions—rather than transformational deals.

- More than half the executives—notably in the chemical, telecommunications, and support services sectors—believed that PE firms would increase their level of disposals in their industries. This would be driven partly by PE restructuring of portfolios and partly by the need to demonstrate successful exits and returns to investors.

Although the reluctance of more cautious companies to do a deal will slow the upswing in M&A activity, it will create significant opportunities for companies that are ready to make acquisitions before the competition intensifies and target prices rise.

Opportunities in 2010

In view of the uncertain outlook, companies waking from their hibernation during the financial crisis and considering their growth options are likely to go for what they know best. That means consolidation deals in their industries, which—as the BCG study outlined earlier in this report found—are also the deals that create the most value.

The companies that have emerged from the crisis with strong balance sheets will be the predators, while the weaker companies, whose shares have fallen the most, could find themselves as prey.

One significant group of predators will be those companies that conserved cash during the crisis by making large cuts in R&D, and in sales and back-office staff. Many also reduced capital expenditures sharply—often below the level needed to maintain their capital stock. (See Exhibit 16.) Companies that scaled back on investment in innovation, marketing, and capital assets will now be under pressure from investors to accelerate sales growth. Since investment in organic growth is inevitably slow to produce the necessary top-line results, M&A could be seen as a faster way of bridging the growth gap—though investors will need to be convinced that it will create growth in the combined business, not simply add the target’s sales to the acquirer’s.

Divestiture assets will appeal to a variety of buyers, including private-equity investors and strategic buyers who believe they can manage them better. Divested businesses have often been neglected corporate orphans under their former ownership; they are thus viewed by acquirers as offering a compelling turnaround story under new owners able to refinance or restructure them, or to improve their operational performance. However, buyers of divested businesses could face competition from the recovering IPO market if sellers believe that a stock market flotation could realize a higher price than a trade sale.

Another source of targets will be distressed sales by private equity, with many firms facing the need to refinance

### Exhibit 16. Significant Dips in Investment Are Likely to Curtail Organic Growth

**Large cuts have recently been made in R&D and in sales, general, and administrative expenditures**

<table>
<thead>
<tr>
<th>Growth rates (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
</tr>
<tr>
<td>2007</td>
</tr>
<tr>
<td>SG&amp;A</td>
</tr>
</tbody>
</table>

**Reinvestment ratios have also fallen significantly**

<table>
<thead>
<tr>
<th>Capital expenditures as a percentage of depreciation plus amortization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
</tr>
<tr>
<td>2007</td>
</tr>
</tbody>
</table>

**Sources:** Bloomberg; BCG analysis.
debt over the next few years. Large amounts of that debt were accumulated in the pre-credit-crunch era, when cheap and often covenant-free credit fueled a steep increase in leverage. Much of that debt is trading below par and will be difficult to roll over. (Some participants even speak about a “debt mountain.”) And while there will be further equity injections, limited partners will be reluctant to participate unless it is unavoidable. Where banks and limited partners do not accept a haircut, there will be distressed sales or debt-to-equity conversions that will put investors who have bought the debt at distressed prices in the driver’s seat.10

There is certainly pent-up demand in the M&A pipeline. The number of rumored deals as a percentage of completed deals is higher coming out of the downturn than it was in the precrisis upturn years. (See Exhibit 17.) The pipeline of potential flotations is also bulging. In Europe, for example, more than 300 IPOs were announced in the first four months of 2010, but over 250 were still waiting to make their stock-market debut at the end of that period.

An IPO recovery could promote a limited return to the M&A market by PE firms. A sustained IPO recovery could promote a limited return to the M&A market by PE firms, by allowing them to sell assets they were forced to retain during the credit crunch. Successful exits from their investment would provide new capital for PE firms, which may also allow them to repay fund money to limited partners and thus have better arguments for calling previously committed funds than they would have had in 2009. Any resurgence in bidding by PE firms will remain far below precrisis levels, however, as they struggle to refinance their existing investments.

Finally, the growth in acquisitions by buyers in emerging markets looks set to continue. Most of the leading emerging economies suffered less in the global financial crisis than many developed economies. They have also emerged from it earlier. The growth ambitions of their national champions, especially the international challengers, are

---

**Exhibit 17. The Pipeline for M&A Deals and IPOs Is Full**

<table>
<thead>
<tr>
<th>The share of “rumored” deals is high coming out of the downturn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rumored deals as a percentage of completed deals&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>Average, 2006–2007</td>
</tr>
<tr>
<td>Average, 2008–2010</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The IPO pipeline is also full</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of European IPOs announced</td>
</tr>
<tr>
<td>Total announced</td>
</tr>
<tr>
<td>Completed</td>
</tr>
<tr>
<td>Pending</td>
</tr>
</tbody>
</table>

Sources: Thomson One M&A database; Thomson Reuters European IPO database; BCG analysis.
<sup>1</sup>Based on global M&A deals from 2006 to 2010 (including all deal types).

---

not confined to their national borders or regions—as highlighted earlier in this report.

Outbound M&A activity from Asia has been particularly notable, often backed by sovereign wealth funds and significant dollar reserves. With the global balance of economic power shifting to the East, Asian companies will increasingly seek acquisitions that will allow them to challenge their longer-established competitors in the developed countries.

Companies that aim to take advantage of the M&A opportunities in the current environment will need to be prepared to find a gap between the valuation expectations of buyers and sellers. Deals may take a lot longer to consummate than they normally do, as both sides seek ways to bridge the gap.
The value of deals has risen above its low point in mid-2009, as more companies see the opportunities that acquisitions present. Many companies are ready to strike now, with corporate cash reserves at unusually high levels. Others should be seeking to strengthen their balance sheets by restructuring—disposing of noncore assets whose proceeds can be put to work in acquisitions in core business activities.

To participate successfully in the increasing M&A activity, companies should make their preparations now. The following six-point plan will help CEOs optimize their positions over the coming period, so they can take advantage of the opportunities.

1. Scan the market for optimal targets and potential predators. Identify businesses that would fit strategically with your company, analyze the strategic logic for a combination, and quantify the synergy potential for each target. Attractive deals may become available unexpectedly in the current environment; if you have already examined the options, you may have the edge in a tightly scheduled bidding competition. Equally, identifying potential predators will help you take appropriate action, either to avoid becoming prey or to optimize the returns from any deal.

2. Prepare the board for action. If you have board approval to go ahead with a suitable deal were it to become available, you may become a preferred bidder if the seller has to act fast. Take the time to explain to the board why now is the right time to act and how you have analyzed the target and bidder landscape.

3. Evaluate optimal deal structures. These should include joint bids with competitors; ways of sharing risk, such as earn-out provisions in the deal; and the financing options you could adopt. Also look to nontraditional forms of cooperation, such as joint ventures, as a way of generating the benefits of a combination while bridging the valuation gap.

4. Check your financial firepower. If your company is still highly leveraged, find out how much remaining debt you can take on without imperiling your rating when an attractive asset is in your sights. Do you have an edge over weaker competitors, such as stock you can use as a currency?

5. Assess your restructuring options. Further actions to clean up your portfolio could strengthen your financial position in a bid—and you have more freedom in the current economic environment to take those actions. Make sure you have drawn up a list of potential bidders for assets that could be divested.

6. Carry out regular vulnerability checks. If your company’s valuation is within reach of a private-equity bidder, take action now. Imagine yourself as a PE investor, and calculate what internal rate of return would be feasible given current valuations and credit conditions. Explore the strategies that a PE investor would use to generate more value from your business—and then adopt them where (and while) possible. Prepare shareholders and stakeholders for potential bids. Understand your reservation price should your company be put in play.

While there are still concerns about the outlook for M&A, the value of deals has risen since the bottom was reached.
in 2009. As the global economy returns to growth, that recovery will accelerate—and with it competition for the most attractive opportunities. Private equity will return to the market sooner or later, and competitors with less robust financials will be able to fund deals in the reopening capital markets.

Companies that sit on the sidelines risk being left behind as confidence grows in the M&A market. Rushed acquisitions in reaction to M&A activity by others create the worst-performing deals for buyers. The winners in this patchy M&A recovery will be the companies that are ready to capitalize on the opportunities.
The research that underpins this report was conducted by the BCG M&A Research Center in the first half of 2010. It is based on analyses of two different data sets totaling more than 400,000 M&A transactions.

◊ General Market Trends. We analyzed all reported M&A transactions in North America, Europe, and Asia-Pacific from 1981 through the end of 2009. For the analysis of deal values and volumes, we looked at deals with a minimum transaction value of $25 million and excluded transactions that do not cause a change in ownership, such as repurchases, exchange offers, recapitalizations, and spinoffs.1

◊ Shareholder Value Created and Destroyed by Public-to-Public M&A.2 We analyzed deals involving publicly listed acquirers and targets from 1992 through 2009 (4,708 deals), focusing on the largest deals. To ensure that sufficient explanatory data would be available, we set the minimum transaction size at $150 million for North America, $50 million for Europe, and $25 million for Asia-Pacific. Shareholder value was measured by total shareholder returns and calculated using the event study method. Unless otherwise stated, value creation and destruction refer to the value gained or lost by the acquirer.

Appendix
Methodology

Equation 1

\[ AR_{i,t} = R_{i,t} - E(R_{i,t}) \]

with:

\[ AR_{i,t} = \text{Abnormal return for given security } i \text{ and day } t \]
\[ R_{i,t} = \text{Observed return for given security } i \text{ and day } t \]
\[ E(R_{i,t}) = \text{Expected return for given security } i \text{ and day } t \]

Following the most commonly used approach, we employed a market model estimation to calculate expected returns.3 The market model approach runs a one-factor ordinary least squares (OLS) regression of an individual stock’s daily returns against the contemporaneous returns of a benchmark index over an estimation period preceding the actual event. (See Equation 2.)

Equation 2

\[ E(R_{i,t}) = \alpha + \beta R_{m,t} + \epsilon_{i,t} \]

with:

\[ \alpha = \text{Regression Intercept} \]
\[ \beta = \text{Beta factor} \]

The derived alpha and beta factors are then combined with the observed market returns for each day within the event window to calculate the expected return for each day. (See Equation 3.) The market model thus accounts for the overall market return on a given event day, as well

1. Exchange offers seek to exchange consideration for equity or securities convertible into equity.
2. This analysis was taken from The Brave New World of M&A: How to Create Value from Mergers and Acquisitions, BCG report, July 2007.
as the sensitivity of the particular company's returns relative to market movements.

**Equation 3**

\[
AR_{i, t} = R_{i, t} - (\alpha_i + \beta_i R_{m, t})
\]

In Exhibit 1, we show the event study setup that we used to estimate the value created by an M&A transaction. Using a 180-day period starting 200 days and ending 21 days before the deal’s announcement, we estimate a market model relating the return on an individual stock to the return of a relevant benchmark index.4 We do not consider the 17-day grace period from 20 days to 4 days before an M&A announcement, in order to ensure that the data are not contaminated by leaks during the run-up to the official announcement. We then derive the cumulative abnormal return, or CAR, by aggregating the abnormal returns (that is, the difference between actual stock returns and those predicted by the market model) day by day throughout the event period of 3 days before to 3 days after the announcement date.

**Long-Term Value Creation**

The long-term value-creation study that we launch in this year’s report uses the data sample applied in the event study analysis as a starting point. For the public-to-public deals in the sample, we then track the stock market performance of the acquirers over a two-year period following the acquisition announcement. Note that we cannot track the targets owing to their delisting from the public-equity markets in most cases. As with the short-term event study, the starting point for the long-term value-creation analysis is a grace period prior to the actual deal announcement. The starting price is the average stock price during the 30-day trading period between 60 and 30 days prior to the announcement.5 We then capture the long-term value creation in two stages.

First, we measure the absolute total shareholder return (ATSR) generated by the acquirer from the starting price over a 365-day period (one-year return), as well as over a 730-day holding period (two-year return). (See Equation 4.) To avoid short-term distortions, we use the average stock return index in the period from 15 days before to 15 days after the one-year and two-year anniversaries of the announcement.

**Equation 4**

\[
P_{\text{start}} = \text{average} [P_{t-60}, P_{t-30}]
\]

\[
P_{\text{1yr}} = \text{average} [P_{t+350}, P_{t+380}]
\]

\[
P_{\text{2yr}} = \text{average} [P_{t+715}, P_{t+745}]
\]

Second, we subtract from this ATSR the return made by a benchmark index over the same period to find the relative total shareholder return (RTSR) generated by the acquirer.

---

4. We used the Dow Jones Industrial Average for North America, the Dow Jones Euro Stoxx index for Europe, and the Dow Jones Asia/Pacific index for the Asia-Pacific region.

5. For calculation purposes, we base our analyses on the stock’s return index, which allows us to control for any dividend payments throughout the year.

---

**Exhibit 1. Event Study Setup**

![Event Study Setup Diagram](https://via.placeholder.com/150)
quirer—in other words, the return in excess of the benchmark return.6 (See Equation 5.)

**Equation 5**

\[
\begin{align*}
\text{TSR}_{\text{acq}} &= \frac{P_{1\text{yr}}}{P_{\text{start}}} - 1 \\
\text{TSR}_{\text{index}} &= \frac{P_{1\text{yr}}}{P_{\text{start}}} - 1 \\
\text{RTSR}_{\text{acq}} &= \text{TSR}_{\text{acq}} - \text{TSR}_{\text{index}}
\end{align*}
\]

There is a total of 3,012 deals for which one-year relative returns can be calculated, and a total of 2,909 deals for which we can calculate the two-year relative return. This subset is the basis for the analyses undertaken in the second section of this report, “Value Creation in M&A.” Note that we cannot include in this analysis deals undertaken in 2008 and 2009, because the time elapsed since the announcement is too short to calculate the long-term relative returns.

Finally, using macroeconomic time-series data, we further subdivide our sample into periods of economic upturn and downturn. An economic downturn is defined as a period when the average annual growth rate of GDP for the world is below the long-term average of 3 percent. In 2008, the outbreak of the financial crisis caused the first downturn year since the bursting of the Internet bubble. (See Exhibit 2.)

---

6. The benchmark indexes we apply are the relevant regional blue-chip Dow Jones stock-price indexes: the Dow Jones Industrial Average for North American acquirers, the Dow Jones Euro Stoxx index for European acquirers, and the Dow Jones Asia/Pacific index for Asian acquirers.

---

**Exhibit 2. An Economic Downturn Is Defined as a Period of Below-Average GDP Growth**

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP change per year (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>2.9</td>
</tr>
<tr>
<td>1991</td>
<td>2.5</td>
</tr>
<tr>
<td>1992</td>
<td>2.3</td>
</tr>
<tr>
<td>1993</td>
<td>1.7</td>
</tr>
<tr>
<td>1994</td>
<td>3.4</td>
</tr>
<tr>
<td>1995</td>
<td>3.2</td>
</tr>
<tr>
<td>1996</td>
<td>2.9</td>
</tr>
<tr>
<td>1997</td>
<td>3.6</td>
</tr>
<tr>
<td>1998</td>
<td>3.1</td>
</tr>
<tr>
<td>1999</td>
<td>4.2</td>
</tr>
<tr>
<td>2000</td>
<td>1.6</td>
</tr>
<tr>
<td>2001</td>
<td>1.8</td>
</tr>
<tr>
<td>2002</td>
<td>2.6</td>
</tr>
<tr>
<td>2003</td>
<td>3.9</td>
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<tr>
<td>2004</td>
<td>3.4</td>
</tr>
<tr>
<td>2005</td>
<td>3.8</td>
</tr>
<tr>
<td>2006</td>
<td>3.3</td>
</tr>
<tr>
<td>2007</td>
<td>1.6</td>
</tr>
<tr>
<td>2008</td>
<td>1.6</td>
</tr>
<tr>
<td>2009</td>
<td>-2.3</td>
</tr>
</tbody>
</table>

**Long-term average:** 3%

---

Sources: Economist Intelligence Unit; BCG analysis.

Note: Figures are based on real change in worldwide GDP (2008 and 2009 were not included in the long-term average because of their distorting effect).
For Further Reading

The Boston Consulting Group publishes other reports and articles on the topic of M&A that may be of interest to senior executives. Recent examples include:

- **Collateral Damage, Part 9—In the Eye of the Storm: Ignore Short-Term Indicators, Focus on the Long Haul**
  A White Paper by The Boston Consulting Group, May 2010

- **The Art of And: Growing While Cutting Costs**
  An article by The Boston Consulting Group, April 2010

- **Strategic Optimism: How to Shape the Future in Times of Crisis**
  BCG Perspectives, April 2010

- **Value Creators 2010: Rebound but Not Yet Recovery**
  An article by The Boston Consulting Group, March 2010

- **Time to Engage—or Fade Away: What All Owners Should Learn from the Shakeout in Private Equity**
  A White Paper by The Boston Consulting Group and the IESE Business School of the University of Navarra, February 2010

- **Collateral Damage, Part 8—Preparing for a Two-Speed World: Accelerating Out of the Great Recession**
  A White Paper by The Boston Consulting Group, January 2010

- **M&A: Ready for Liftoff? A Survey of European Companies’ Merger and Acquisition Plans for 2010**
  A White Paper by The Boston Consulting Group, December 2009

- **Be Daring When Others Are Fearful: Seizing M&A Opportunities While They Last**
  A report by The Boston Consulting Group, September 2009

- **Driving the Shakeout in Private Equity: The Role of Investors in the Industry’s Renaissance**
  A White Paper by The Boston Consulting Group and the IESE Business School of the University of Navarra, July 2009

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