



© dane\_mark/DigitalVision Vectors/Getty Images

SEMICONDUCTORS

# Winning through M&A?

## Deal making in the semiconductor sector

Semiconductor companies have much to gain through M&A if they can overcome their misconceptions and upgrade their execution strategy.

Helen Chen, Vineet Gupta, Mark Patel, and Maggie Stringfellow

After a number of years of limited deal making, the semiconductor industry has been experiencing an uptick in mergers and acquisitions. The reasons behind the shift are clear: revenues are slowing, forcing players to seek other sources of growth, and customers increasingly prefer purchasing integrated solutions from one company. In response, semiconductor companies are acquiring or merging with enterprises that will take them into new areas of the value chain. Each deal prompts other companies to consider M&A to gain scale and remain competitive.

This article went to press in late 2015, before fourth-quarter results were available, but M&A activity for the year had already set records for volume and

value. Even with this surge in deals, semiconductor companies are still less likely to engage in M&A than their counterparts in other high-tech sectors. What explains this pattern? Are semiconductor companies justified in their restraint, or should industry consolidation accelerate?

### How semiconductor M&A is evolving

The growth in semiconductor M&A is most apparent when comparing the activity of the past few years with historical patterns. From 2001 through 2005, semiconductor companies conducted only about 7 deals per year, with an average value of \$0.4 billion each. Between 2011 and 2014, by contrast, they completed about 15 deals per year, with an average

value of almost \$1.3 billion each (Exhibit 1). Results for the first three quarters of 2015 suggest that M&A activity is becoming even more intense; companies closed 23 deals, with an average value of \$4.3 billion.

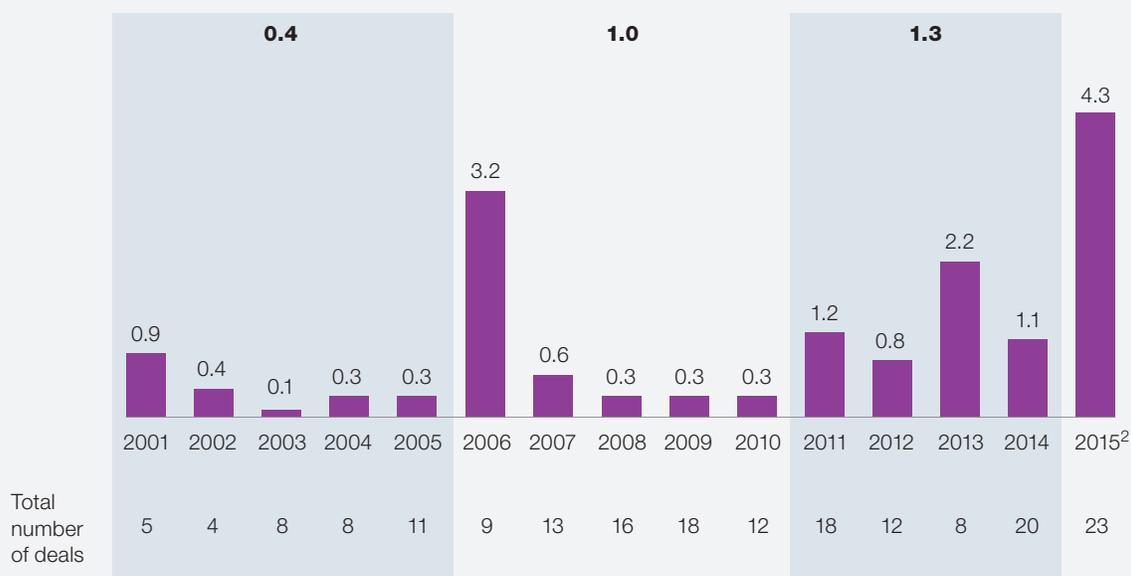
Despite these trends, the deal-making volume for semiconductor players, on average, is lower than that of other computer and electronics manufacturers (Exhibit 2). The sector’s annual activity would be even lower were it not for another statistical aberration: the average deal value for semiconductor companies is about 75 percent greater than in other high-tech industries. While high price premiums are responsible for the large valuations, the industry’s low volume is driven by a less quantifiable force: the industry’s

belief that M&A benefits do not justify the risks entailed or the effort required.

It’s easy to understand why semiconductor players have historically been reluctant to undertake M&A. With targets commanding such high price premiums, the consequences of undertaking the wrong deal are severe. But this conservatism—although admirable in theory—may have been holding the sector back, according to a recent McKinsey analysis that looked at more than 15,000 M&A deals executed by the world’s top 1,000 nonbanking companies. The analysis found that the companies with the best growth rates followed a high-volume deal strategy.<sup>1</sup> Of those companies on the list in December 1999, only 423 were

**Exhibit 1 Semiconductor M&A activity has been gaining momentum.**

**Average deal value,<sup>1</sup> \$ billion**



<sup>1</sup>Private-equity transactions are included.

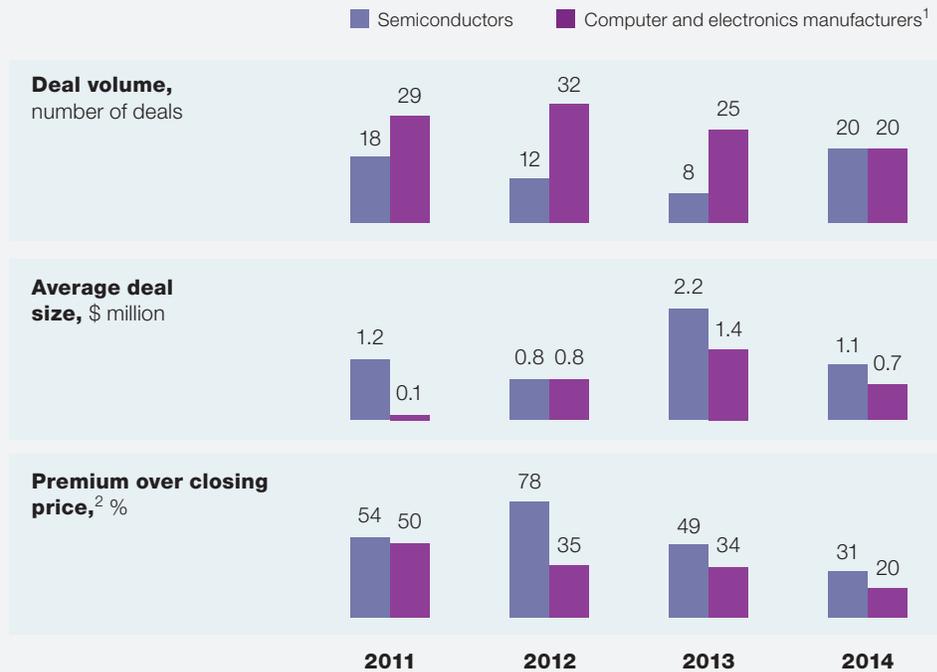
<sup>2</sup>Includes data through Dec 10, 2015.

Source: Dealogic; McKinsey analysis

Exhibit 2

**Compared with other computer and electronics manufacturers, semiconductor companies have used a low-volume, large-deal M&A strategy.**

**M&A deals**



<sup>1</sup>Includes manufacturers of PCs and peripherals, networks, components, memory devices, and other related electronics products.

<sup>2</sup>Premium ultimately paid compared with share price 1 day prior to announcement date.

Source: Dealogic; McKinsey analysis

still in the top 1,000 by December 2012. Notably, 55 percent of the survivors frequently engaged in M&A. The results are even more striking when restricted to the top 100 companies by market capitalization, showing that 78 percent of survivors followed a high-volume strategy.

The survey also revealed that the most active deal makers had the highest returns. Companies that made more than five deals per year had a median excess total return to shareholders (TRS) of 3.8 percent from December 1999 through December 2012. This was higher than that for companies with three to five deals (2.2 percent) and those with one to three deals (0.8 percent) (Exhibit 3).

**A look at common misconceptions**

If companies in other industries benefit from M&A, why do semiconductor players hold back? Does deal making produce less favorable results in this sector, or are other forces at play? In our research on the industry, we found that many semiconductor companies refrain from M&A because they believe that high price premiums are unjustified, that deals do not produce value, and that the market will not reward partnerships between dissimilar companies.<sup>2</sup> They also believe that executing a deal is difficult. When we looked at selected semiconductor deals completed between 2006 and 2013, we found a few cases where these beliefs were justified. Overall, however, the reality was quite different.

### High price premiums may be justified

Recent semiconductor deals have had high price premiums. In fact, the average company sold for 40 percent more than its closing stock price from 2006 through the first half of 2015. But after examining 15 semiconductor deals, we found that the value created typically exceeded the price premium—often by a significant margin.<sup>3</sup> In 12 of the 15 deals we examined, the value captured—defined as the product of reported synergies and the enterprise multiples of the target and acquirer—was higher than the premium paid.<sup>4</sup> In one-third of the deals, the value captured was more than twice the premium paid.

Semiconductor companies may be underestimating potential synergies because they typically review high-level data when assessing opportunities. For example, most companies will look at the overall

general and administrative costs for each partner, rather than assessing opportunities by function, such as human resources, finance, and legal.

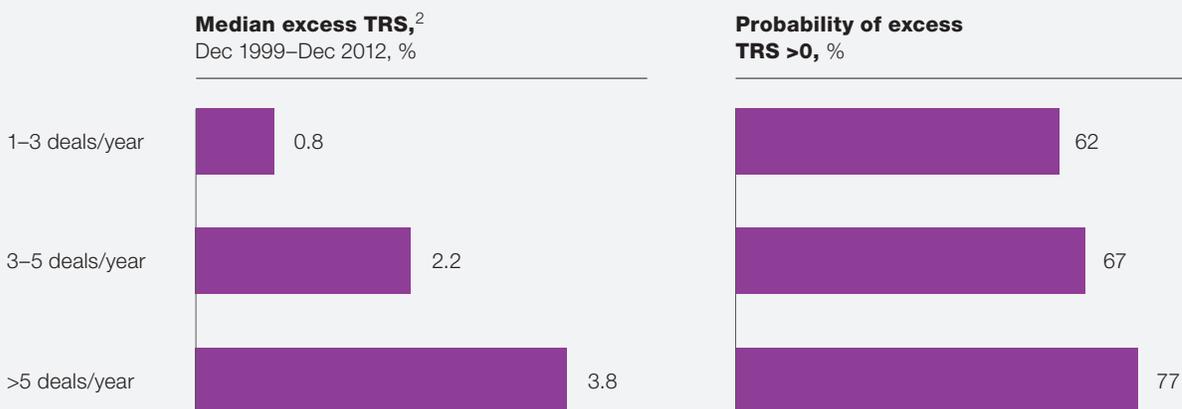
A bottom-up analysis of the supplier and customer bases at both companies is also valuable because it might identify redundancies in sales and operations. Likewise, a detailed analysis of all engineering and R&D activities required to support the product and technology road maps can provide more insight into synergy potential than a simple comparison of overall R&D spending.

### Deals can add value quickly

Many semiconductor companies doubt that they will derive value from M&A, or they expect to wait years for strong returns. But our analysis showed that 8 of 11 recent major deals—about 70 percent—were accretive within a year of closing, including

## Exhibit 3 The most active deal makers earn the highest returns across industries.

Global 1,000 companies,<sup>1</sup> by number of deals



<sup>1</sup>Companies that were among the top 1,000 by market capitalization as of Dec 31, 1999 (>\$4.9 billion) and were still trading as of Dec 31, 2012; excludes companies headquartered in Africa or Latin America.

<sup>2</sup>Total returns to shareholders.

Source: Dealogic; TPSi; McKinsey analysis

acquisitions of companies with lower profitability. Furthermore, more than half the deals were accompanied by an increase in the enterprise multiple within a year of closing.

**The market may reward M&A between dissimilar companies**

When considering M&A, semiconductor players typically look for targets within their own segment, believing that their share price will not rise substantially if they buy a dissimilar company. But many unconventional alliances have produced substantial gains, since they allow players to offer more comprehensive products while simultaneously

diversifying the customer base—changes that the market will perceive favorably. Consider one recent merger of a company that makes discrete components and another player with lower margins that makes logic circuits. Before the deal, the discrete manufacturer was highly dependent on its top three customers, which accounted for 38 percent of revenues. High customer concentration is a risk, since a drop in sales from just one company can have a significant bottom-line impact. In this case, the merger allowed the company to diversify its customer base, with revenues attributed to the top three falling to 29 percent. The annual cost synergies from the deal, estimated at \$400 million,

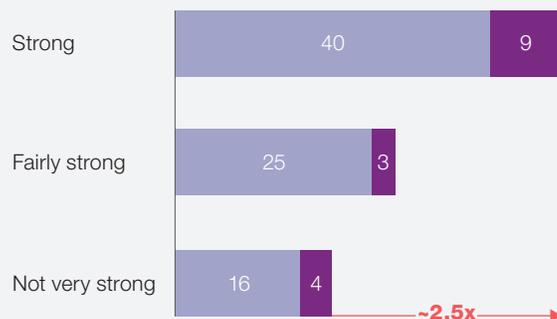
**Exhibit 4 Value creation should occur rapidly after a deal and be driven from the top.**

**Degree of merger success**

■ High ■ Very high

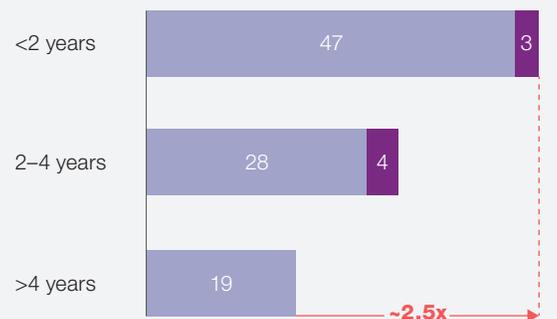
**Deals with strong CEO involvement are ~2.5x more likely to succeed**

Involvement of CEO or other senior leader during transformation, n = 269,<sup>1</sup> %



**Deals are ~2.5x more likely to succeed if targets are met in under 2 years**

Time frame to achieve targets, n = 207,<sup>1</sup> %



<sup>1</sup>Unweighted data.

Source: Expert interviews; McKinsey survey on transformational change, Jan 2010

were also significant. As with many deals involving dissimilar companies, most synergies existed within back-office functions, such as human resources and procurement, rather than engineering. The market responded favorably to these developments, and the company's share price rose 25 percent postmerger.

#### Deals can be executed rapidly and efficiently

Most semiconductor companies are not well prepared for handling the increased work load required for successful integration. Many postdeal tasks are complex, and companies may not capture full value if they are done poorly.

While M&A does present many challenges, semiconductor companies can overcome them with a more disciplined and rigorous approach to deal execution. Two factors that can significantly increase the likelihood of success include leadership support and a commitment to rapid integration. Our research shows that companies that achieve their value-capture targets within the first two years after a deal are two and a half times more likely to report success, as are those with strong CEO involvement in post-integration activities (Exhibit 4). Appointing a dedicated leader for postmerger management also contributes to smooth execution.



By nature, M&A activity entails a degree of risk. However, conservative players that overestimate the potential dangers may overlook rewarding opportunities. To succeed in M&A, companies should consider a broad set of potential partners rather than focusing on those within their own segment. They should also seek cost savings and efficiencies through a detailed analysis of potential synergies. With a solid execution strategy that guides them from planning through postmerger management, the semiconductor industry can add value from M&A. ■

---

<sup>1</sup> Based on a survey conducted by McKinsey's Corporate Finance Practice. For more, see Anders Nielsen, Robert Uhlener, and Bill Wiseman, "Creating value through M&A and divestiture," *McKinsey on Semiconductors*, Autumn 2012, mckinsey.com.

<sup>2</sup> Based on interviews with corporate officers at semiconductor companies in 2014.

<sup>3</sup> This analysis only included deals greater than \$100 million in value.

<sup>4</sup> The enterprise multiple is used to define company value. It is calculated by looking at two metrics. The first is a company's enterprise value (EV), which is defined as its market capitalization plus debt, minority interest, and preferred shares, minus total cash and cash equivalents. The second metric is a company's earnings before interest, taxes, depreciation, and amortization (EBITDA). To compute the enterprise multiple, EV is divided by EBITDA.

**Helen Chen** is a consultant in McKinsey's Silicon Valley office, **Vineet Gupta** is a consultant in the Chicago office, **Mark Patel** is a principal in the San Francisco office, and **Maggie Stringfellow** is an associate principal in the Seattle office.

Copyright © 2016 McKinsey & Company.  
All rights reserved.