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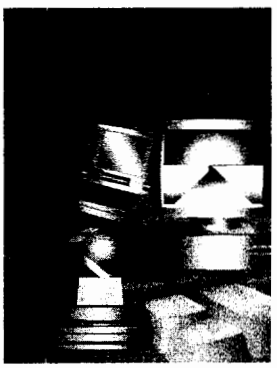
# Computers: Hardware





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from outside the United States, and thus are affected by changes in the dollar's value versus other currencies. For example, revenues transferred from IBM's Japanese subsidiary to the U.S. parent company are hurt when the dollar strengthens against the yen. Conversely, those revenues will increase when the dollar weakens compared with the yen.

For U.S. computer hardware companies that have a significant operating presence in international markets, currency swings also affect the expense side of their ledgers. The increasing level of global exposure often causes wide variations in these companies' reported results.

To limit the financial risk associated with currency swings, companies are increasing their use of hedging techniques. This has helped them to limit foreign currency impacts on financial results. Still, it is important to understand both the net impact of currency swings on reported financial statements and the true level of business activity on a constant currency basis.

▶ ***Global Sales Report.*** This report, which is compiled monthly by the San Jose, California–based Semiconductor Industry Association (SIA), measures semiconductor sales in major chip markets around the world — the United States, Japan, Asia-Pacific, and Europe. The PC market is the largest consumer of semiconductors.

The semiconductor industry has been characterized by a four-year cycle, sporadically modified by unexpected economic factors. It has grown at a compound annual growth rate of 17% over the past 40 years.

Worldwide sales of semiconductors rose 7.2% in March 2002, to $10.75 billion, from $10.03 billion in February, according to the SIA. Growth was witnessed in all major regions except Japan.

The industry is recovering from a depressed 2001, which itself followed a boom year in 2000. The SIA reported that semiconductor industry sales grew more than 37% in 2000, surpassing $200 billion for the first time. Then sales collapsed in 2001, falling to $139 billion, depressed by excess inventory and an economic slowdown.

The *Global Sales Report* replaced the previous measure, the book-to-bill ratio, in early 1997. The widely watched book-to-bill ratio, which was also compiled by the SIA, compared new orders for semiconductor products (bookings) to shipments (billings). In addition to indicating future demand for semiconductors, the book-to-bill ratio was considered a leading indicator of demand for computers, since computer hardware vendors are the principal buyers of semiconductor products.

Although it was widely used, the book-to-bill ratio was fundamentally flawed in that it measured only North American consumption. According to industry data, chip consumption outside the United States represents about two-thirds of worldwide consumption. Although the *Global Sales Report* has a wider geographic representation, it is not an indicator of the potential demand for semiconductors or PCs, because it reports only past sales information.

## HOW TO ANALYZE A COMPUTER HARDWARE COMPANY

Rapid technological change makes it imperative for analysts and investors to go beyond traditional quantitative methods in assessing a computer hardware company's outlook. To be sure, financial statement analysis is a critical ingredient in determining the future prospects of any company. However, qualitative judgments must also be made about technology, competition, business and marketing strategies, and the credibility and potential of a company's management team, as well as prospects for the industry as a whole.

All analysis of the quantitative and qualitative aspects of a computer hardware company should be considered within the context of the omnipresent threat posed by new technology. Again, rapid change is a key characteristic of the industry, and how well a company manages this variable can determine whether it emerges as an industry leader, a second- or third-tier player, or worse yet, not a player at all.

The history of the computer industry contains vivid examples of companies with dominant franchises that failed to keep up with technological shifts away from their core markets. These include Apple Computer, Digital Equipment, and IBM — all of which dominated key segments of the computer hardware industry only to see their financial positions deteriorate as the market shifted toward faster,

cheaper, and more functional products. Their declining positions eventually showed up on the companies' financial statements, but an individual attuned to industry dynamics would have been alerted by earlier clues.

We note that Apple and IBM, with the benefit of keen management, and a renewed focus on core competencies to differentiate themselves from their peers, have improved their financials markedly over the past few years. Digital was acquired by Compaq in 1998.

More recently, as networked computing has become ubiquitous, a layer of complexity has been added to computing environments. Increasingly, customers are requesting that their hardware vendor offer more of a consulting role than in the past. Therefore, in analyzing the competitive standing of a hardware vendor, an analyst should evaluate the computer company's services capabilities and its strategy for the future in this area.

## Comparative analysis is critical

An analyst must identify a company's competitive advantages — and its disadvantages. What are the company's key products and markets, and how does it differentiate itself from its peers? How does its current strategy compare with its plans for the future, and how does this compare with the strategies of its peers? Has management been able to articulate this strategy, and does its past performance indicate it will be successful in executing its plans? Does the company have a technological edge over its competitors? If so, is it likely to maintain that edge?

In most industries, product differentiation is one strategy a company can use to achieve a competitive advantage over its peers; in the personal computer industry, however, it has meant relatively little. Most PCs are based on an Intel microprocessor and Microsoft software, so there is little in the way of product differentiation. In fact, PCs are often referred to as being "commodity-like" because of this lack of product differentiation. Consequently, price becomes the key differentiator. Quality, reliability, and the level of service and support also play key roles, partly because these factors affect the total cost of ownership of a computer.

Ultimately, market forces will determine the relative importance of considerations other than price. An analyst needs to understand how each company has positioned itself concerning these factors and whether the strategy makes sense, given the trend seen for overall market demand.

### Growth is relative

How does a company's financial performance compare with others in its peer group? Again, while absolute numbers are an important part of the financial assessment of any company, comparing performance and financial ratios with those of its peers is critical. For example, it's clearly a cause for concern if a company achieved revenue growth of 5% in a year in which the average industry growth rate was 10%. Why did the company underperform? Similarly, if a company's growth outpaces the average, analysts will want to uncover the reasons. Is that above-average growth rate sustainable?

The next step is to consider the growth rate for the particular industry segments in which the company participates. The outlook for mainframe computers, for example, differs from the higher growth prospects for PCs and servers.

Finally, the financial results of a company should always be considered within the context of the markets it serves. Does the company primarily serve the consumer or corporate market for PCs? In which geographic areas does it participate? What is the company's growth relative to its competition in these geographic areas and the market's overall growth potential?

## Quantitative analysis: looking at financial statements

Analyzing a company's principal financial documents — the income statement and the balance sheet — provides an important base for assessing its overall performance.

### Key elements in the income statement

A company's income statement shows its operating results over a specific period and thus is a key part of any analytical endeavor. An analyst should determine the components and trends of a company's profits, then compare these results against those of its competitors.

◆ **Sales trends.** Beginning at the top of the income statement, analysts should look at

short-term and long-term growth trends in sales or revenues. Ideally, sales in the current period should show growth from the year-earlier period. Moreover, if the company participates in a high growth industry, such as PCs — or if it is in the early stage of a new product cycle — sequential growth (from quarter to quarter) would be expected, although seasonal factors should also be considered. Again, sales growth should be compared with that of direct competitors, and against the overall industry rate.

◆ **Gross profit margin.** This is arguably the most important profitability measure to consider in assessing a computer hardware company. Gross margins (the percentage of sales remaining after subtracting the cost of goods sold, or costs such as materials, labor, and overhead) can be affected by a number of variables, including sales mix, sales volumes, pricing pressures, and component costs.

Significant gross margin pressure has been the norm in the computer hardware industry in recent years, as pricing competition has intensified. Successful companies have been able to counter margin pressure somewhat by adding a higher-margin mix of products, improving their manufacturing efficiency, and maintaining lean inventory levels.

Gross margins differ greatly among hardware platforms. Gross margins for large-system manufacturers typically range from 40% to 50%, while PC vendors typically have gross margins between 15% and 20% (these levels were likely lower in 2001 due to lower volumes). This divergence reflects the large gap in the average selling price between these two segments.

Recently, vendors of high-end systems have emphasized their service offerings. This has put pressure on margins, since services typically carry lower gross margins than large system sales. PC vendors, meanwhile, have recently buoyed gross margins by emphasizing sales of non-PC items, such as software, bundled Internet access, and other higher-margin products.

◆ **Expense line items.** These include selling, general, and administrative (SG&A) costs and research and development (R&D) costs, which should be evaluated relative to industry norms. Ideally, expenses should increase at a slower rate than sales. However, technology companies with high growth prospects typically must expand their personnel base rapidly to support sales growth, and/or new product development. Consequently, their expenses can grow faster than sales in these years. Moreover, R&D is critical to sustaining a competitive advantage in the computer hardware industry (although not within the PC segment), so healthy growth rates in this area can be viewed positively. However, one should make sure these investments are paying off in the form of higher sales and market share gains for the company, to determine that the company is making the right choices in its R&D spending.

◆ **Operating margins.** How adept is the company at making a profit on its sales dollar? Operating margins (operating profits divided by net sales) in the computer hardware industry have been extremely volatile over the past five to 10 years, largely reflecting the degradation of gross margins. Still, companies adept at limiting expense growth to match that of sales growth can preserve operating margins.

◆ **Net profit margin.** This measure — calculated as net income divided by total sales — is the bottom line. It reflects a company's adjustments for taxes, and nonoperating income and expense items, such as interest income and interest expense. As many companies have reduced debt levels and have improved operating efficiencies, net profit margins have improved in recent periods.

◆ **ROA and ROE.** Any financial statement analysis would be incomplete without some discussion of return on investment, of which the two most popular measures are return on assets (ROA) and return on equity (ROE). ROA (net income divided by total assets) measures the operating efficiency of a firm or the return earned on assets under management's discretion. ROE (net income divided by total shareholders' equity) measures the return earned on shareholders' capital. Both ratios measure management's ability to earn a reasonable profit on the assets and capital entrusted to them.

As is the case with profit margins, ROA and ROE trends in the computer hardware industry have been inconsistent over the past five years. The top-tier companies —