



## Chapter

# 5

# FINANCIAL ANALYSIS

The goal of financial analysis is to assess the performance of a firm in the context of its stated goals and strategy. There are two principal tools of financial analysis: ratio analysis and cash flow analysis. Ratio analysis involves an assessment of how various line items in a firm's financial statements relate to one another. Cash flow analysis allows the analyst to examine the firm's liquidity and to assess the management of operating, investment, and financing cash flows.

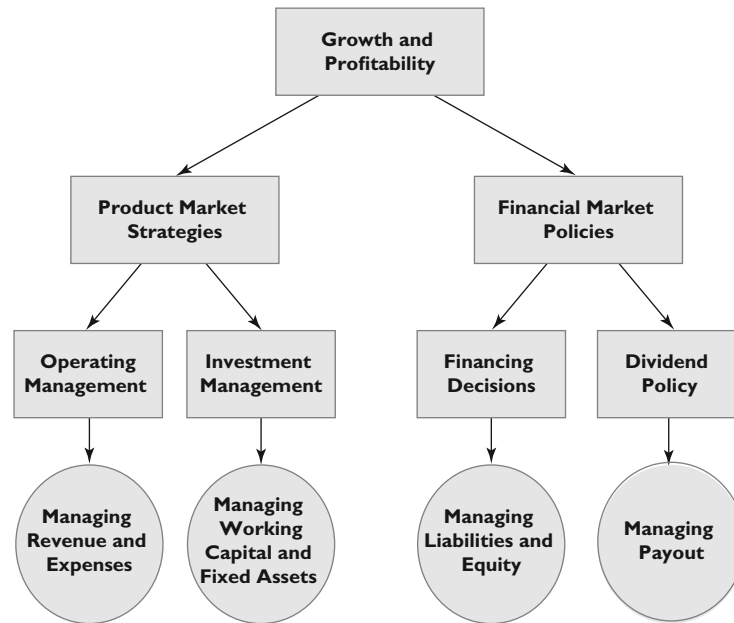
Financial analysis is used in a variety of contexts. Ratio analysis that compares a company's present performance to its past performance and/or to the performance of its peers provides the foundation for making forecasts of future performance. As we will discuss in later chapters, financial forecasting is useful in company valuation, credit evaluation, financial distress prediction, security analysis, and mergers and acquisitions analysis.

## RATIO ANALYSIS

The value of a firm is determined by its profitability and growth. As shown in Figure 5-1, the firm's growth and profitability are influenced by its product market and financial market strategies. The product market strategy is implemented through the firm's competitive strategy, operating policies, and investment decisions. Financial market strategies are implemented through financing and dividend policies.

Thus, the four levers managers can use to achieve their growth and profit targets are (1) operating management, (2) investment management, (3) financing strategy, and (4) dividend policy. The objective of ratio analysis is to evaluate the effectiveness of the firm's policies in each of these areas. Effective ratio analysis involves relating the financial numbers to the underlying business factors in as much detail as possible. While ratio analysis may not give an analyst all the answers regarding the firm's performance, it will help the analyst frame questions for further probing.

In ratio analysis, the analyst can (1) compare ratios for a firm over several years (a time-series comparison), (2) compare ratios for the firm and other firms in the industry (cross-sectional comparison), and/or (3) compare ratios to some absolute benchmark. In a time-series comparison, the analyst can hold firm-specific factors constant and examine the effectiveness of a firm's strategy over time. Cross-sectional comparison facilitates examining the relative performance of a firm within its industry, holding industry-level factors constant. For most ratios there are no absolute benchmarks. The exceptions

**FIGURE 5-1 Drivers of a Firm's Profitability and Growth**

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are measures of rates of return, which can be compared to the cost of the capital associated with the investment. For example, subject to distortions caused by accounting, the rate of return on equity (ROE) can be compared to the cost of equity capital. In the discussion below, we will illustrate two of these approaches using the examples of TJX and Nordstrom, the retailers introduced in Chapter 2. As we discussed in Chapter 2, TJX is an off-price competitor that pursues a cost-leadership strategy. Nordstrom has established itself as a high-end competitor that pursues a differentiation strategy by providing superior customer service and broad, differentiated merchandise selection. Our comparison will allow us to examine the impact of these two strategies on the financial ratios of the companies.

In addition to pursuing different competitive strategies, TJX and Nordstrom also follow very different strategies when it comes to financing their stores. TJX leases virtually all of its stores using off-balance sheet operating leases. In contrast, while Nordstrom also utilizes operating leases to some extent, the company owns at least a portion of more than two-thirds of its store square footage (land, buildings, or both), and finances the owned portion with long term debt. These financing strategies impact many of the ratios that we will calculate in this chapter.

In order to fully explore the above choices made by the two companies, we will focus in on two types of cross-sectional comparison—comparing TJX and Nordstrom's ratios for the fiscal year ending January 29, 2011, both on an "As Reported" and "As Adjusted" basis, with the adjustments in the second comparison taking into account the differing use of off-balance sheet operating leases mentioned above. Comparison of TJX with Nordstrom on an "As Reported" basis allows us to see the impact of the different strategic, financial, and operational decisions on the financial ratios of the two companies. Comparison on an "As Adjusted" basis removes the distortion caused by the differing magnitude of their operating lease usage so that we can more clearly compare their true operating performance.

While in certain cases companies being compared will make differing strategic choices that strongly impact their financial performance and ratios, the analyst will not always choose to make adjustments to their financials in order to compare them. In the comparison of TJX and Nordstrom, a major difference between the competitors relates to how each executes its branded credit card offering. TJX has chosen to out-source its credit card operations, giving up operational control and potential earnings but also insulating itself from potential losses due to bad debt. Nordstrom, on the other hand, views its in-house credit card operations as a strategic advantage and part of its broader strategy of providing superior customer service. The result of these business decisions is seen primarily in Nordstrom's much higher accounts receivables balance as compared to TJX, and impacts many of the ratio calculations that we will discuss later in this chapter. Given that Nordstrom views this segment as an integral part of its operations, we choose not to remove it when comparing Nordstrom to TJX. However, it pays to be aware of the choices being made here and to understand the resultant impact on any comparative analysis, and as such we highlight this impact in the ratio analysis where appropriate.

As a final consideration, it is important to ensure that the financial statements of the company being analyzed do not include any additional data that will distort the analysis. Since the purpose of financial statement analysis is to better understand the performance of the firm as it relates to its strategy, care needs to be taken that any operations and events that are extraneous to that strategy do not change the picture that the analyst forms of the firm. The major categories of such distortions include one-time write-offs of assets and results from discontinued operations, including the gain or loss on the disposal of such operations. In such instances, it is useful to look at financial results of the core operations of the firm by adjusting the presented financial statements to exclude the impact of one-time effects. For example, TJX sold its interest in Bob's Stores in 2008. As a result, its 2008 income statement contains a \$34 million loss on the discontinued operations. Without adjusting for this effect it would have been difficult to meaningfully use TJX's 2008 results as a benchmark for performance in 2009 and beyond, or to compare it to a competitor such as Nordstrom. For the same reason, we have excluded a \$3.6 million gain due to discontinued operations for TJX in 2010, with this adjustment being included in the "As Adjusted" financial statements for TJX.

In order to facilitate replication of the ratio calculations presented below, we present in the appendix to this chapter two versions of the 2010 financial statements of TJX and Nordstrom.<sup>1</sup> The first set of financial statements is presented in the standardized format described in Chapter 4. These "Standardized" financial statements put both companies' reported financials in one standard format to facilitate direct comparison.<sup>2</sup> The second, "Condensed" financial statements recast the standardized financial statements to facilitate the calculation of several ratios discussed in the chapter. We will discuss later in the chapter how this recasting process works. These two statement formats are presented on both an "As Reported" and "As Adjusted" basis as described above.

### Measuring Overall Profitability

The starting point for a systematic analysis of a firm's performance is its return on equity (ROE), defined as

$$\text{ROE} = \frac{\text{Net income}}{\text{shareholders' equity}}$$

ROE is a comprehensive indicator of a firm's performance because it provides an indication of how well managers are employing the funds invested by the firm's

TABLE 5-1		Return of Equity for TJX and Nordstrom		
Year ended January 29, 2011	As Reported		As Adjusted	
	<u>TJX</u>	<u>Nordstrom</u>	<u>TJX</u>	<u>Nordstrom</u>
<b>Return on Equity</b>	46.5%	39.0%	55.4%	40.0%

Source: © Cengage Learning 2013

shareholders to generate returns. On average over the twenty-year period 1991–2010, publicly traded firms in the United States generated ROEs of a little over 10 percent.<sup>3</sup>

In the long run, the value of the firm's equity is determined by the relationship between its ROE and its cost of equity capital.<sup>4</sup> That is, those firms that are expected over the long run to generate ROEs in excess of the cost of equity capital should have market values in excess of book value, and vice versa. (We will return to this point in more detail in Chapters 7 and 8.)

A comparison of ROE with the cost of capital is useful not only for analyzing the value of the firm but also in considering the path of future profitability. The generation of consistent supernormal profitability will, absent significant barriers to entry, attract competition. For that reason ROEs tend over time to be driven by competitive forces toward a “normal” level—the cost of equity capital. Thus, one can think of the cost of equity capital as establishing a benchmark for the ROE that would be observed in a long-run competitive equilibrium. Deviations from this level arise for two general reasons. One is the industry conditions and competitive strategy that cause a firm to generate supernormal (or subnormal) economic profits, at least over the short run. The second is distortions due to accounting.

Table 5-1 shows the ROE based on reported and adjusted earnings for TJX and Nordstrom.

TJX outperformed Nordstrom in 2010, which on the surface is perhaps not surprising given that the difficult financial climate at the time tended to favor discount retailers. While Nordstrom's unadjusted ROE of 39.0 percent trails the 46.5 percent earned by TJX in 2010, the performance of both companies exceeded both historical trends of ROE in the economy and reasonable estimates of the cost of equity capital for the firms.<sup>5</sup> When ROE is calculated using adjusted financials the differential grows significantly, reflecting the greater impact of the adjustment to TJX due to its much larger use of operating leases. We will examine the drivers behind these adjustments as we deconstruct ROE below.

TJX's superior profitability performance relative to Nordstrom is reflected in the difference between the market value of equity to book value ratios for the two firms. As we will discuss in Chapter 7, ROE is a key determinant of a company's market to book ratio. As of January 29, 2011, which represented the end of both companies' fiscal year 2010, TJX's market to book ratio was 6.0 and Nordstrom's ratio was 4.4. This differential in market valuation could be an indication that investors expected TJX to continue to outperform Nordstrom in the coming years and to earn a superior return for its shareholders.

### Decomposing Profitability: Traditional Approach

A company's ROE is affected by two factors: how profitably it employs its assets and how big the firm's asset base is relative to shareholders' investment. To understand the

effect of these two factors, ROE can be decomposed into return on assets (ROA) and a measure of financial leverage, as follows:

$$\begin{aligned}\text{ROE} &= \text{ROA} \times \text{Financial leverage} \\ &= \frac{\text{Net income}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Shareholders' equity}}\end{aligned}$$

ROA tells us how much profit a company is able to generate for each dollar of assets invested. Financial leverage indicates how many dollars of assets the firm is able to deploy for each dollar invested by its shareholders.

The return on assets itself can be decomposed into a product of two factors:

$$\text{ROA} = \frac{\text{Net income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}}$$

The ratio of net income to sales is called net profit margin or return on sales (ROS); the ratio of sales to assets is known as asset turnover. The profit margin ratio indicates how much the company is able to keep as profits for each dollar of sales it makes. Asset turnover indicates how many sales dollars the firm is able to generate for each dollar of its assets.

Table 5-2 displays the three drivers of ROE for our retail firms: net profit margins, asset turnover, and financial leverage. In comparing TJX to Nordstrom on an As Reported basis, a significantly higher asset turnover is key to explaining how TJX, even with a slightly lower net profit margin and a much lower financial leverage than Nordstrom, was able to post an overall higher return on equity of 46.5 percent against 39.0 percent for Nordstrom in FY 2010.

This preliminary decomposition of ROE begins to show us how an examination of the building blocks of these ratios can yield a deeper understanding of how strategic, investment, and financing decisions made by the firm affect its ratios. For instance, in noting that higher asset turnover is a key driver of TJX's higher ROE when compared to Nordstrom, an analyst would recall TJX's decision to outsource its credit card operations (resulting in a much lower Accounts Receivable balance when compared to Nordstrom, who maintains its credit card operations in house), and TJX's more extensive use of off-balance sheet operating leases to finance its stores (which reduces both overall reported asset and debt level). While adjusting for the operating lease impact for both firms brings the asset turnover of TJX closer to that of Nordstrom, the difference in credit card strategies continues to drive a higher ROA for TJX. The greatly increased ROE for TJX of 55.4 percent on an As Adjusted basis is the result primarily of increased financial leverage resulting from the addition of long-term debt to TJX's balance sheet as part of the operating lease adjustment. Finally, the higher adjusted ROS for TJX is the result of lower current expense incurred as a result of the operating lease adjustment.

**TABLE 5-2 Traditional Decomposition of ROE**

Year ended January 29, 2011	As Reported		As Adjusted	
	<u>TJX</u>	<u>Nordstrom</u>	<u>TJX</u>	<u>Nordstrom</u>
Net profit margin (ROS)	6.1%	6.3%	7.3%	6.5%
× Asset turnover	2.94	1.47	1.84	1.36
= Return on assets (ROA)	18.0%	9.3%	13.4%	8.8%
× Financial leverage	2.58	4.19	4.12	4.55
= Return on equity (ROE)	46.5%	39.0%	55.4%	40.0%

Source: © Cengage Learning 2013

### Decomposing Profitability: Alternative Approach

Even though the above approach is popularly used to decompose a firm's ROE, it has several limitations. In the computation of ROA, the denominator includes the assets claimed by all providers of capital to the firm, but the numerator includes only the earnings available to equity holders. The assets themselves include both operating assets and financial assets such as cash and short-term investments. Further, net income includes income from operating activities as well as interest income and expense, which are consequences of financing decisions. Often it is useful to distinguish between these two drivers of performance. Finally, the financial leverage ratio used above does not recognize the fact that a firm's cash and short-term investments are in essence "negative debt" because they can be used to pay down the debt on the company's balance sheet.<sup>6</sup> These issues are addressed by an alternative approach to decomposing ROE.<sup>7</sup>

Before discussing this alternative ROE decomposition approach, we define in Table 5-3 some terminology used in this section as well as in the rest of this chapter.

We use the terms defined above to recast the financial statements of TJX and Nordstrom. These recast financial statements, which are shown in the appendix as condensed statements, are used to decompose ROE in the following manner:

$$\begin{aligned}
 \text{ROE} &= \frac{\text{NOPAT}}{\text{Equity}} - \frac{(\text{Net interest expense after tax})}{\text{Equity}} \\
 &= \frac{\text{NOPAT}}{\text{Net assets}} \times \frac{\text{Net assets}}{\text{Equity}} - \frac{\text{Net interest expense after tax}}{\text{Net debt}} \times \frac{\text{Net debt}}{\text{Equity}} \\
 &= \frac{\text{NOPAT}}{\text{Net assets}} \times \left(1 + \frac{\text{Net debt}}{\text{Equity}}\right) - \frac{\text{Net interest expense after tax}}{\text{Net debt}} \times \frac{\text{Net debt}}{\text{Equity}} \\
 &= \text{Operating ROA} + (\text{Operating ROA} - \text{Effective interest rate after tax}) \\
 &\quad \times \text{Net financial leverage} \\
 &= \text{Operating ROA} + \text{Spread} \times \text{Net financial leverage}
 \end{aligned}$$

Operating ROA is a measure of how profitably a company is able to deploy its operating assets to generate operating profits. This would be a company's ROE if it were financed

**TABLE 5-3** Definitions of Accounting Items Used in Ratio Analysis

Item	Definition
Net interest expense after tax	(Interest expense – Interest income) × (1 – Tax rate) <sup>a</sup>
Net operating profit after taxes (NOPAT)	Net income + Net interest expense after tax
Operating working capital	(Current assets – Cash and marketable securities) – (Current liabilities – Short-term debt and current portion of long-term debt)
Net long-term assets	Total long-term assets – Non-interest-bearing long-term liabilities
Net debt	Total interest-bearing liabilities – Cash and marketable securities
Net assets	Operating working capital + Net long-term assets
Net capital	Net debt + Shareholders' equity

<sup>a</sup>The calculation of net interest expense treats interest expense and interest income as absolute values, independent of how these figures are reported in the income statement.

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entirely with equity. Spread is the incremental economic effect from introducing debt into the capital structure. This economic effect of borrowing is positive as long as the return on operating assets is greater than the cost of borrowing. Firms that do not earn adequate operating returns to pay for interest cost reduce their ROE by borrowing. Both the positive and negative effect is magnified by the extent to which a firm borrows relative to its equity base. The ratio of net debt to equity provides a measure of this net financial leverage. A firm's spread times its net financial leverage, therefore, provides a measure of the financial leverage gain to the shareholders.

Operating ROA can be further decomposed into NOPAT margin and operating asset turnover as follows:

$$\text{Operating ROA} = \frac{\text{NOPAT}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Net assets}}$$

NOPAT margin is a measure of how profitable a company's sales are from an operating perspective. Operating asset turnover measures the extent to which a company is able to use its operating assets to generate sales.

Table 5-4 presents the alternative decomposition of ROE for TJX and Nordstrom. The ratios in this table show that on an As Reported basis TJX's 2010 operating ROA was almost four times higher than its traditional ROA, with 2010 operating ROA of 70.6 percent compared to traditional ROA of 18.0 percent. The difference between TJX's operating ROA and traditional ROA is driven by a much higher net operating asset turnover (11.33 in 2010) when compared to its traditionally defined asset turnover (2.94 in 2010) shown in Table 5-2—a result of TJX's large cash balance and use of non interest-bearing liabilities (such as accounts payable) to finance a significant portion of its net operating assets.

Nordstrom also had a higher As Reported operating ROA than traditional ROA (20.4 percent compared to 9.3 percent). While a higher net operating asset turnover as compared to traditional asset turnover (2.86 as compared to 1.47) was the primary driver of Nordstrom's higher operating ROA, a higher net operating profit margin as compared to traditional net profit margin (7.1 percent as compared to 6.3 percent) also was a factor.

Comparing the two firms on an As Reported basis, TJX's dramatically higher operating asset turnover as compared to Nordstrom's is driven (as was asset turnover discussed previously) by its relatively low net assets that result from its strategy of outsourcing its branded credit card (and thus not carrying a high accounts receivable balance) and leasing virtually all of its stores (thus carrying low net long-term assets relative to Nordstrom).

**TABLE 5-4 Distinguishing Operating and Financing Components in ROE Decomposition**

Year ended January 29, 2011	As Reported		As Adjusted	
	<u>TJX</u>	<u>Nordstrom</u>	<u>TJX</u>	<u>Nordstrom</u>
Net operating profit margin	6.2%	7.1%	8.1%	7.5%
× Net operating asset turnover	11.33	2.86	3.44	2.44
= Operating ROA	70.6%	20.4%	27.8%	18.4%
Spread	73.1%	16.1%	22.8%	14.2%
× Net financial leverage	−0.33	1.16	1.21	1.52
= Financial leverage gain	−24.1%	18.6%	27.6%	21.6%
ROE = Operating ROA + Financial leverage gain	46.5%	39.0%	55.4%	40.0%

Source: © Cengage Learning 2013

Continuing on an As Reported basis, Nordstrom is able to create shareholder value through its financing strategy. In 2010, the spread between Nordstrom's operating ROA and its after-tax interest cost was 16.1 percent, and its net financial leverage (net debt as a percentage of equity) was 116 percent. These factors combined to contribute a financial leverage gain of 18.6 percent in 2010, which is the incremental difference between Nordstrom's operating ROA of 20.4 percent and its ROE of 39.0 percent.

TJX, on the other hand, while it had a 73.1 percent spread between operating ROA and its after-tax interest cost (which actually calculates at a negative rate due to its negative net debt position; that is, the company had more cash than debt), had a negative financial leverage gain resulting from that negative net debt position. As a result, its operating ROA at 70.6 percent is actually higher than its ROE of 46.5 percent in 2010. Remembering once more TJX's use of off-balance sheet financing for its stores (which results in TJX having artificially low reported financial leverage) will help the analyst understand the impact of that decision on the financing component of its ROE.

As noted above, TJX shows an adjusted ROE of 55.4 percent—a significant increase over its As Reported ROE of 46.5 percent, and well above Nordstrom's As Adjusted ROE of 40.0 percent (Nordstrom as a whole generally sees minor impact from the operating lease adjustment given its more limited use of operating leases). The impact of the operating lease adjustment can be seen most strongly in net operating asset turnover for TJX, which falls from 11.33 to 3.44 due to the greatly increased asset base, bringing operating ROA down from 70.6 percent to 27.8 percent. This in turn reduces the spread between TJX's operating ROA and after tax interest cost from 73.1 percent to 22.8 percent. Even so, the change in net financial leverage from  $-0.33$  on an As Reported basis to  $1.21$  on an As Adjusted basis creates a positive financial leverage gain of 27.6 percent, as compared to a  $-24.1$  percent gain on an As Reported basis. What this says is that TJX's use of additional leverage (as simulated with the adjustments made for the operating leases) has actually helped—through an increase in net operating profit margin, but primarily by reversing a negative financial leverage gain, to create additional shareholder return as seen in the higher As Adjusted ROE.

The appropriate benchmark for evaluating operating ROA is the weighted average cost of debt and equity capital, or WACC. In the long run, the value of a firm's assets is determined by how its operating ROA compares to this norm. Moreover, over the long run and absent some barrier to competitive forces, operating ROA will tend to be pushed toward the weighted average cost of capital. Since the WACC is typically lower than the cost of equity capital, operating ROA over time tends to be pushed to a level lower than that to which ROE tends. We will discuss further the use and calculation of the WACC in Chapter 8.

The average operating ROA for public firms in the United States in the twenty-year period 1991–2010 was 9 percent.<sup>8</sup> In 2010 both TJX and Nordstrom significantly exceeded this benchmark. The impressive operating performance of both firms would have been obscured by using the simple ROA measure.<sup>9</sup>

### Assessing Operating Management: Decomposing Net Profit Margins

A firm's net profit margin, or return on sales (ROS), shows the profitability of the company's operating activities. Further decomposition of a firm's ROS allows an analyst to assess the efficiency of the firm's operating management. A popular tool used in this analysis is the common-sized income statement in which all the line items are expressed as a percentage of sales revenues.

Common-sized income statements make it possible to compare trends in income statement relationships over time for the firm and trends across different firms in the industry. To illustrate how the income statement analysis can be used, common-sized income



**TABLE 5-5 Common-Sized Income Statement and Profitability Ratios**

Year ended January 29, 2011	As Reported		As Adjusted	
	TJX	Nordstrom	TJX	Nordstrom
<b>Line Items as a Percent of Sales</b>				
Sales	100.0%	100.0%	100.0%	100.0%
Cost of Sales	71.0%	57.4%	68.1%	56.8%
SG&A	16.9%	27.7%	16.9%	27.7%
Other operating expense	2.1%	3.4%	2.1%	3.4%
Other income, net of other expense	0.0%	0.0%	0.0%	0.0%
Net interest expense (income)	0.2%	1.3%	1.3%	1.7%
Tax expense	3.8%	3.9%	4.4%	4.0%
Unusual gains, net of unusual losses	0.0% <sup>a</sup>	0.0%	0.0%	0.0%
Net income	6.1%	6.3%	7.3%	6.5%
<b>Key Profitability Ratios</b>				
Gross profit margin	29.0%	42.6%	32.0%	43.2%
EBITDA margin	12.1%	14.9%	15.1%	15.5%
NOPAT margin	6.23%	7.13%	8.10%	7.53%
Recurring NOPAT margin	6.19%	7.13%	8.10%	7.53%

<sup>a</sup>This figure is rounded to zero although there was actually a gain of \$3.6 million here (which is reflected in the difference in NOPAT and recurring NOPAT margin below).

Source: © Cengage Learning 2013

statements for TJX and Nordstrom are shown in Table 5-5. The table also shows some commonly used profitability ratios. We will use the information in Table 5-5 to investigate the drivers behind TJX and Nordstrom's net income margins (ROS) in 2010.

In this section we focus primarily on an analysis of As Reported numbers. As can be seen in Table 5-5, the operating lease adjustment results in revised As Adjusted numbers for both companies, with TJX showing the larger change due to its greater use of operating leases. The impact of the adjustment is straightforward on the income statement, in that both companies show an increase in profitability metrics (gross profit, EBITDA, NOPAT, and ROS) due to a lower cost of goods sold (due to the depreciation component of COGS being only a portion of the previously utilized lease expense), and show increased interest expense (due to the added debt component) and tax expense (due to higher net income). We will point out a few of the more interesting results of the adjustment where warranted.

### Gross Profit Margins

The difference between a firm's sales and cost of sales is gross profit. Gross profit margin is an indication of the extent to which revenues exceed direct costs associated with sales, and it is computed as

$$\text{Gross profit margin} = \frac{\text{Sales} - \text{Cost of sales}}{\text{Sales}}$$

Gross margin is influenced by two factors: (1) the price premium that a firm's products or services command in the marketplace and (2) the efficiency of the firm's

procurement and production process. The price premium a firm's products or services can command is influenced by the degree of competition and the extent to which its products are unique. The firm's cost of sales can be low when it can purchase its inputs at a lower cost than competitors and/or run its production processes more efficiently. This is generally the case when a firm has a low-cost strategy.

Table 5-5 indicates that consistent with Nordstrom's premium price strategy, its gross margin on an As Reported basis of 42.6 percent in 2010 was significantly higher than that of TJX.

### Selling, General, and Administrative Expenses

A company's selling, general, and administrative (SG&A) expenses are influenced by the operating activities it has to undertake to implement its competitive strategy. As discussed in Chapter 2, firms with differentiation strategies have to undertake activities to achieve that differentiation. A company competing on the basis of quality and rapid introduction of new products is likely to have higher R&D costs relative to a company competing purely on a cost basis. Similarly, a company that attempts to build a brand image, distribute its products through full-service retailers, and provide significant customer service is likely to have higher selling and administration costs relative to a company that sells through warehouse retailers or direct mail and does not provide much customer support.

A company's SG&A expenses are also influenced by the efficiency with which it manages its overhead activities. The control of operating expenses is likely to be especially important for firms competing on the basis of low cost. However, even for differentiators, it is important to assess whether the cost of differentiation is commensurate with the price premium earned in the marketplace.

Several ratios in Table 5-5 allow us to evaluate the effectiveness with which TJX and Nordstrom manage their SG&A expenses. First, the ratio of SG&A expense to sales shows how much a company is spending to generate each sales dollar. We see that TJX has a significantly lower ratio of SG&A to sales than does Nordstrom. This should not be surprising given that TJX pursues a low-cost strategy whereas Nordstrom pursues an intensively customer-service-focused strategy. Given that TJX and Nordstrom are pursuing radically different pricing, merchandising, and service strategies, it is not surprising that they have very different cost structures: TJX's lower gross margins and lower SG&A to sales are reflective of its low cost strategy, while Nordstrom's higher margins and also higher SG&A expenses reflect its focus on providing a high service, differentiated offering to more affluent customers. A key question is, when both these costs are netted out, which company performed better? Two ratios provide useful signals here: net operating profit margin (NOPAT margin) and EBITDA margin:

$$\text{NOPAT margin} = \frac{\text{NOPAT}}{\text{Sales}}$$

$$\text{EBITDA margin} = \frac{\text{Earnings before interest, taxes, depreciation, and amortization}}{\text{Sales}}$$

NOPAT margin provides a comprehensive indication of the operating performance of a company because it reflects all operating costs and eliminates the effects of debt policy. EBITDA margin provides similar information, except that it excludes depreciation and amortization expense, a significant non-cash operating expense. Some analysts prefer to use EBITDA margin because they believe that it focuses on "cash" operating

items. While this is to some extent true, it can be potentially misleading for two reasons. EBITDA is not a strictly cash concept because sales, cost of sales, and SG&A expenses often include non-cash items. Also, depreciation is a real operating expense, and it reflects to some extent the consumption of resources. Therefore, ignoring it can be misleading.

Table 5-5 shows that TJX was able to earn 6.2 cents in operating profits out of every dollar of sales it generated, whereas Nordstrom earned 7.1 cents per sales dollar. It is interesting to note that on an As Adjusted basis TJX actually earns a higher operating profit to sales than Nordstrom.

Recall that in Table 5-3 we define NOPAT as net income plus net interest expense after tax. Therefore, NOPAT is influenced by any unusual or non-operating income (expense) items included in net income. We can calculate a “recurring” NOPAT margin by eliminating these items. Nordstrom’s recurring and traditional NOPAT margins are the same, indicating no unusual or non-operating income or expense items impacting net income in 2010. For TJX as well the major portion of its profits came from its core business. TJX’s recurring NOPAT margin is slightly lower than its traditional NOPAT margin in 2010 (6.19 percent compared to 6.23 percent) due to the small gain on discontinued operations in 2010 (mentioned at the beginning of the chapter) related to the reduction of a reserve related to settling lease-related obligations of former businesses.<sup>10</sup> While in this particular example there was only a minor difference between recurring and traditional NOPAT margin, in general, recurring NOPAT may be a better benchmark to use when extrapolating current performance into the future since it reflects margins from the core business activities of a firm, especially if in the particular years analyzed the firm generated significant income from non-core or discontinued operations. The alternate approach that we take, of course, is to adjust the financials to remove this non-recurring item entirely as we do in As Adjusted numbers.

Nordstrom also has a better EBITDA margin than TJX on an As Reported basis, although the difference narrows when comparing As Adjusted numbers, since on an As Reported basis TJX’s use of operating leases results in much higher leasing expense, which is included in EBITDA, while Nordstrom’s higher depreciation expense resulting from its store ownership strategy is excluded.

## Tax Expense

Taxes are an important element of a firm’s total expenses. Through a wide variety of tax planning techniques, firms can attempt to reduce their tax expenses.<sup>11</sup> There are two measures one can use to evaluate a firm’s tax expense. One is the ratio of tax expense to sales, and the other is the ratio of tax expense to earnings before taxes (also known as the average tax rate). The firm’s tax footnote provides a detailed account of why its average tax rate differs from the statutory tax rate.

Table 5-5 shows that Nordstrom had a slightly higher income tax expense as a percent of sales than TJX. Given that the two companies had the same average tax rate in 2010 at 38 percent, this difference can be attributed to Nordstrom’s higher pretax profits as a percent of sales, although the situation is reversed on an As Adjusted basis.

In summary, an examination of common-sized income statement ratios can illuminate strategic and operational differences among competitors. While Nordstrom’s positioning as a high-end retailer allows it to earn a larger gross margin on sales than TJX, it is a tight control over expenses that helps TJX to compensate for its lower gross margin and to ultimately earn a similar net income margin.

### Key Analysis Questions

A number of business questions will be useful to an analyst assessing the various elements of operating management:

- *Are the company's margins consistent with its stated competitive strategy?* For example, a differentiation strategy should usually lead to higher gross margins than a low-cost strategy.
- *Are the company's margins changing? Why? What are the underlying business causes—changes in competition, changes in input costs, or poor overhead cost management?*
- *Is the company managing its overhead and administrative costs well? What are the business activities driving these costs? Are these activities necessary?*
- *Are the company's tax policies sustainable, or is the current tax rate influenced by one-time tax credits?*
- *Do the firm's tax planning strategies lead to other business costs?* For example, if the operations are located in tax havens, how does this affect the company's profit margins and asset utilization? Are the benefits of tax planning strategies (reduced taxes) greater than the increased business costs?

### Evaluating Investment Management: Decomposing Asset Turnover

Asset turnover is the second driver of a company's return on equity. Since firms invest considerable resources in their assets, using them productively is critical to overall profitability. A detailed analysis of asset turnover allows the analyst to evaluate the effectiveness of a firm's investment management. There are two primary areas of investment management: (1) working capital management and (2) management of long-term assets, both of which are discussed in further detail below.

#### Working Capital Management

Working capital is defined as the difference between a firm's current assets and current liabilities. However, this definition does not distinguish between operating components (such as accounts receivable, inventory, and accounts payable) and financing components (such as cash, marketable securities, and notes payable). An alternative measure that makes this distinction is operating working capital, defined in Table 5-3 as

$$\begin{aligned} \text{Operating working capital} &= (\text{Current assets} - \text{cash and marketable securities}) \\ &\quad - (\text{Current liabilities} - \text{Short-term and current portion of long-term debt}) \end{aligned}$$

The components of operating working capital that analysts primarily focus on are accounts receivable, inventory, and accounts payable. A certain amount of investment in working capital is generally necessary for the firm to run its normal operations. For example, a firm's credit policies and distribution policies determine its optimal level of accounts receivable. The nature of the production process and the need for buffer stocks determine the optimal level of inventory. Finally, accounts payable is a routine source of financing for the firm's working capital, and payment practices in an industry determine the normal level of accounts payable.

The following ratios are useful in analyzing a firm's working capital management: operating working capital as a percent of sales, operating working capital turnover, accounts receivable turnover, inventory turnover, and accounts payable turnover. The

turnover ratios can also be expressed in number of days of activity that the operating working capital (and its components) can support. These ratios are defined below:

$$\text{Operating working capital to sales ratio} = \frac{\text{Operating working capital}}{\text{Sales}}$$

$$\text{Operating working capital turnover} = \frac{\text{Sales}}{\text{Operating working capital}}$$

$$\text{Accounts receivable turnover} = \frac{\text{Sales}}{\text{Accounts receivable}}$$

$$\text{Inventory turnover} = \frac{\text{Cost of goods sold}^{12}}{\text{Inventory}}$$

$$\text{Accounts payable turnover} = \frac{\text{Purchases}}{\text{Accounts payable}} \text{ or } \frac{\text{Cost of goods sold}}{\text{Accounts payable}}$$

$$\text{Days' receivables} = \frac{\text{Accounts receivable}}{\text{Average sales per day}}$$

$$\text{Days' inventory} = \frac{\text{Inventory}}{\text{Average cost of goods sold per day}}$$

$$\text{Days' payables} = \frac{\text{Accounts payable}}{\text{Average purchases (or cost of goods sold) per day}}$$

Operating working capital turnover indicates how many dollars of sales a firm is able to generate for each dollar invested in operating working capital. Accounts receivable turnover, inventory turnover, and accounts payable turnover allow the analyst to examine how productively the three principal components of working capital are being used. Days' receivables, days' inventory, and days' payables are another way to evaluate the efficiency of a firm's working capital management.<sup>13</sup>

### Long-Term Assets Management

Another area of investment management concerns the utilization of a firm's long-term assets. It is useful to define again a firm's investment in long-term assets:

$$\begin{aligned} \text{Net long-term assets} &= (\text{Total long-term assets} \\ &\quad - \text{Non-interest-bearing long-term liabilities}) \end{aligned}$$

Long-term assets generally consist of net property, plant, and equipment (PP&E), intangible assets such as goodwill, and other assets. Non-interest-bearing long-term liabilities include items such as deferred taxes. We define net long-term assets and net working capital in such a way that their sum, net operating assets, is equal to the sum of net debt and equity, or net capital. This is consistent with the way we defined operating ROA earlier in the chapter.

The efficiency with which a firm uses its net long-term assets is measured by the following two ratios: net long-term assets as a percent of sales and net long-term asset turnover, defined as

$$\text{Net long-term asset turnover} = \frac{\text{Sales}}{\text{Net long-term assets}}$$

Property plant and equipment (PP&E) is the most important long-term asset in a firm's balance sheet. The efficiency with which a firm's PP&E is used is measured either by the ratio of PP&E to sales or by the PP&E turnover ratio:

$$\text{PP\&E turnover} = \frac{\text{Sales}}{\text{Net property, plant, and equipment}}$$

### Key Analysis Questions

The ratios discussed in the two preceding sections allow the analyst to explore a number of business questions:

- *How well does the company manage its inventory? Does the company use modern manufacturing techniques? Does it have good vendor and logistics management systems? If inventory ratios are changing, what is the underlying business reason? Are new products being planned? Is there a mismatch between the demand forecasts and actual sales?*
- *How well does the company manage its credit policies? Are these policies consistent with its marketing strategy? Is the company artificially increasing sales by loading the distribution channels?*
- *Is the company taking advantage of trade credit? Is it relying too much on trade credit? If so, what are the implicit costs?*
- *Is the company's investment in plant and equipment consistent with its competitive strategy? Does the company have a sound policy of acquisitions and divestitures?*

Table 5-6 shows the asset turnover ratios for TJX and Nordstrom on an As Reported and As Adjusted basis. The major impact of the operating lease adjustment comes in long-term asset ratios, with small secondary impacts in the ratios that use cost of goods sold. Due to the narrow impact of the operating lease adjustment in this section, we will focus here on an analysis of As Reported numbers and quickly summarize the key changes due to the adjustments at the end of the section.

TJX is extremely efficient at managing its working capital needs, with operating working capital representing less than 1 percent of total sales in 2010. Tight inventory management, a slightly slow payment policy (seen in a 35.3 days payable), low short-term debt, and the small accounts receivable balance (reflective of TJX's decision to outsource its branded credit card) contribute to TJX's low operating working capital levels.

Nordstrom is using its vendors to provide operating working capital even more effectively (and is more willing perhaps to stretch out payments to vendors) than TJX with days accounts payable in 2010 of 47.6. The primary driver of Nordstrom's much higher ratio of operating working capital to sales (and thus lower operating working capital turnover) of 16.5 percent in 2010 (as compared to 0.76 percent for TJX) is its large accounts receivable balance that results from its previously discussed strategy of financing its customers through its in-house credit card operations (which results in a lengthy days accounts receivable of 76.6 in 2010 compared to 2.5 for TJX). Nordstrom is quite efficient in managing its inventory with inventory turnover of 6.2 times in 2010, the same as TJX. This is interesting in that intuitively, one would expect that TJX (as a company pursuing a low-cost, efficient supply chain strategy) would be

**TABLE 5-6 Asset Management Ratios**

Year ended January 29, 2011	As Reported		As Adjusted	
	<u>TJX</u>	<u>Nordstrom</u>	<u>TJX</u>	<u>Nordstrom</u>
Operating working capital/Sales	0.76%	16.5%	0.76%	16.5%
Net long-term assets/Sales	8.1%	18.4%	28.4%	24.4%
PP&E/Sales	11.3%	25.5%	31.3%	31.3%
Operating working capital turnover	132.2	6.1	132.2	6.1
Net long-term assets turnover	12.4	5.4	3.5	4.1
PP&E turnover	8.9	3.9	3.2	3.2
Accounts receivable turnover	148.2	4.8	148.2	4.8
Inventory turnover	6.2	6.2	5.9	6.1
Accounts payable turnover	10.3	7.7	9.9	7.6
Days' accounts receivable	2.5	76.6	2.5	76.6
Days' inventory	59.3	58.9	61.9	59.5
Days' accounts payable	35.3	47.6	36.9	48.1

Source: © Cengage Learning 2013

much more successful at efficient inventory management than a company such as Nordstrom, which prides itself on a broad and differentiated selection. The ratios show that Nordstrom appears to achieve both a broad selection and efficient inventory management at the same time.

TJX shows significantly better net long-term asset and PP&E utilization than Nordstrom as seen in its higher net long-term asset and PP&E turnover ratios. This is reflective of the difference in store financing strategies discussed previously. When this difference is adjusted for, these ratios are much more comparable, as seen in the comparison of As Adjusted numbers for net long-term assets/sales, PP&E/sales, net long-term asset turnover, and PP&E turnover (which are just the inverse of the first two ratios). There are small differences between As Reported and As Adjusted figures for inventory turnover and accounts payable turnover and their inverse days' inventory and days' accounts payable, but these differences are minor and can be attributed to the adjustment made to cost of goods sold.

### Evaluating Financial Management: Analyzing Financial Leverage

Financial leverage enables a firm to have an asset base larger than its equity. The firm can augment its equity through borrowing and the creation of other liabilities such as accounts payable, accrued liabilities, and deferred taxes. Financial leverage increases a firm's ROE as long as the cost of the liabilities is less than the return from investing these funds. In this respect, it is important to distinguish between interest-bearing liabilities such as notes payable, other forms of short-term and long-term debt that carry an explicit interest charge, and other liabilities. Some of these other forms of liability, such as accounts payable or deferred taxes, do not carry any interest charge at all. Others, such as capital lease obligations and pension obligations, carry an implicit interest charge. Finally, some firms carry large cash balances or investments in marketable securities. These balances reduce a firm's net debt because conceptually the firm can pay down its debt using its cash and short-term investments.

While financial leverage can potentially benefit a firm's shareholders, it can also increase their risk. Unlike equity, liabilities have predefined payment terms, and the firm faces risk of financial distress if it fails to meet these commitments. There are a number of ratios to evaluate the degree of risk arising from a firm's financial leverage.

### Current Liabilities and Short-Term Liquidity

The following ratios are useful in evaluating the risk related to a firm's current liabilities:

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

$$\text{Quick ratio} = \frac{\text{Cash} + \text{Short-term investments} + \text{Accounts receivable}}{\text{Current liabilities}}$$

$$\text{Cash ratio} = \frac{\text{Cash} + \text{Marketable securities}}{\text{Current liabilities}}$$

$$\text{Operating cash flow ratio} = \frac{\text{Cash flow from operations}}{\text{Current liabilities}}$$

All the above ratios attempt to measure the firm's ability to repay its current liabilities. The first three compare a firm's current liabilities with its short-term assets that can be used to repay those liabilities. The fourth ratio focuses on the ability of the firm's operations to generate the resources needed to repay its current liabilities.

Since both current assets and current liabilities have comparable duration, the current ratio is a key index of a firm's short-term liquidity. Analysts view a current ratio of more than one to be an indication that the firm can cover its current liabilities from the cash realized from its current assets. However, the firm can face a short-term liquidity problem even with a current ratio exceeding one when some of its current assets are not easy to liquidate. Quick ratio and cash ratio capture the firm's ability to cover its current liabilities from liquid assets. Quick ratio assumes that the firm's accounts receivable are liquid. This is true in industries where the creditworthiness of the customers is beyond dispute, or when receivables are collected in a very short period. When these conditions do not prevail, cash ratio, which considers only cash and marketable securities, is a better indication of a firm's ability to cover its current liabilities in an emergency. Operating cash flow is another measure of the firm's ability to cover its current liabilities from cash generated from operations of the firm.

The liquidity ratios for TJX and Nordstrom are shown in Table 5-7. Nordstrom's significantly higher accounts receivable balances drive its higher current and quick ratios

Year ended January 29, 2011	Liquidity Ratios			
	As Reported		As Adjusted	
	TJX	Nordstrom	TJX	Nordstrom
Current ratio	1.66	2.01	1.66	2.01
Quick ratio	0.65	1.41	0.65	1.41
Cash ratio	0.60	0.39	0.60	0.39
Operating cash flow ratio	0.73	0.62	0.73	0.62

Source: © Cengage Learning 2013



relative to TJX. The cash ratios are somewhat more comparable given that accounts receivable is not included in this calculation and both companies have a healthy cash balance in 2010. TJX's operating cash flow ratio was slightly ahead of that of Nordstrom, indicating overall stronger cash flow from operations relative to its current liabilities. In general, both firms' liquidity situations are comfortable and are not likely to be a point of concern for short-term creditors. Finally, it can be noted that the operating lease adjustment had no impact on these ratios.

### Debt and Long-Term Solvency

A company's financial leverage is also influenced by its debt financing policy. There are several potential benefits from debt financing. First, debt is typically cheaper than equity because the firm promises predefined payment terms to debt holders. Second, in most countries interest on debt financing is tax deductible whereas dividends to shareholders are not tax deductible. Third, debt financing can impose discipline on the firm's management and motivate it to reduce wasteful expenditures. Fourth, for non-public debt, it is likely to be easier for management to communicate their proprietary information on the firm's strategies and prospects to private lenders than to public capital markets. Such communication can potentially reduce a firm's cost of capital. For all these reasons, it is advantageous for firms to use at least some debt in their capital structure. Too much reliance on debt financing, however, is potentially costly to the firm's shareholders. The firm will face financial distress if it defaults on the interest and principal payments. Debt holders also impose covenants on the firm, restricting the firm's operating, investment, and financing decisions.

The optimal capital structure for a firm is determined primarily by its business risk. A firm's cash flows are highly predictable when there is little competition or there is little threat of technological changes. Such firms have low business risk; hence they can rely heavily on debt financing. In contrast, if a firm's operating cash flows are highly volatile and its capital expenditure needs are unpredictable, it may have to rely primarily on equity financing. Managers' attitudes toward risk and financial flexibility also often determine a firm's debt policies.

There are a number of ratios that help the analyst in this area. To evaluate the mix of debt and equity in a firm's capital structure, the following ratios are useful:

$$\text{Liabilities to equity ratio} = \frac{\text{Total liabilities}}{\text{Shareholders' equity}}$$

$$\text{Debt-to-equity ratio} = \frac{\text{Short-term debt} + \text{Long-term debt}}{\text{Shareholders' equity}}$$

Net-debt-to-equity ratio

$$= \frac{\text{Short-term debt} + \text{Long-term debt} - \text{Cash and marketable securities}}{\text{Shareholders' equity}}$$

Debt-to-capital ratio

$$= \frac{\text{Short-term debt} + \text{Long-term debt}}{\text{Short-term debt} + \text{Long-term debt} + \text{Shareholders' equity}}$$

Net-debt-to-net-capital ratio

$$= \frac{\text{Interest bearing liabilities} - \text{Cash and marketable securities}}{\text{Interest bearing liabilities} - \text{Cash and marketable securities} + \text{Shareholders' equity}}$$

The first ratio reformulates one of the three primary ratios underlying ROE, the assets-to-equity ratio (it is the assets-to-equity ratio minus one). The second ratio provides an indication of how many dollars of debt financing the firm is using for each dollar invested by its shareholders. The third ratio uses net debt, which is total debt minus cash and marketable securities, as the measure of a firm's borrowings. The fourth and fifth ratios measure debt as a proportion of total capital. In calculating all the above ratios, it is important to include all interest-bearing obligations, whether the interest charge is explicit or implicit. Recall that examples of line items that carry an implicit interest charge include capital lease obligations and pension obligations.

Analysts sometimes include any potential off-balance-sheet obligations that a firm may have, such as non-cancellable operating leases, in the definition of a firm's debt. We show that (as previously described) in the As Adjusted numbers in our TJX and Nordstrom example.

The ease with which a firm can meet its interest payments is an indication of the degree of risk associated with its debt policy. The interest coverage ratio provides a measure of this construct:

$$\text{Interest coverage (earnings basis)} = \frac{\text{Net income} + \text{Interest expense} + \text{Tax expense}}{\text{Interest expense}}$$

$$\begin{aligned} \text{Interest coverage (cash flow basis)} \\ = \frac{\text{Cash flow from operations} + \text{Interest expense} + \text{Taxes paid}}{\text{Interest expense}} \end{aligned}$$

The earnings-based coverage ratio indicates the dollars of earnings available for each dollar of required interest payment; the cash-flow-based coverage ratio indicates the dollars of cash generated by operations for each dollar of required interest payment. In both these ratios, the denominator is the interest expense. In the numerator we add taxes back because taxes are computed only after interest expense is deducted. A coverage ratio of one implies that the firm is barely covering its interest expense through its operating activities, which is a very risky situation. The larger the coverage ratio, the greater the cushion the firm has to meet interest obligations.

### Key Analysis Questions

Some of the business questions to ask when the analyst is examining a firm's debt policies follow:

- *Does the company have enough debt? Is it exploiting the potential benefits of debt—interest tax shields, management discipline, and easier communication?*
- *Does the company have too much debt given its business risk? What type of debt covenant restrictions does the firm face? Is it bearing the costs of too much debt, risking potential financial distress and reduced business flexibility?*
- *What is the company doing with the borrowed funds? Investing in working capital? Investing in fixed assets? Are these investments profitable?*
- *Is the company borrowing money to pay dividends? If so, what is the justification?*

We show debt and coverage ratios for TJX and Nordstrom in Table 5-8. On an As Reported basis, TJX carries a much lower debt load than Nordstrom, which is reflected

**TABLE 5-8 Debt and Coverage Ratios**

Year ended January 29, 2011	As Reported		As Adjusted	
	<u>TJX</u>	<u>Nordstrom</u>	<u>TJX</u>	<u>Nordstrom</u>
Liabilities to equity	1.58	3.19	3.12	3.55
Debt to equity	0.27	1.66	1.81	2.03
Net debt to equity	-0.33	1.16	1.21	1.52
Debt to capital	0.22	0.62	0.64	0.67
Net debt to net capital	-0.49	0.54	0.55	0.60
Interest coverage (earnings based)	45.2	8.5	9.7	7.0
Interest coverage (cash flow based)	60.1	13.3	14.1	11.2

Source: © Cengage Learning 2013

in the As Reported debt ratios shown in Table 5-8. As discussed, this makes sense given that Nordstrom finances its ownership of a large proportion of its stores with long-term debt, while TJX avoids this debt with the use of operating leases. In addition, TJX shows extraordinarily high interest coverage ratios, but this picture changes when one again considers TJX's store leasing strategy. When both companies are adjusted for the impact of their operating lease usage, the debt ratios align much more closely, as seen in the As Adjusted ratios in Table 5-8.

If the present value of minimum lease rental obligations is added to TJX's net debt, its net debt to equity ratio increases dramatically—which can be seen in the As Adjusted net debt to equity. The impact of the operating lease adjustment is similar but of much less magnitude for Nordstrom given its more limited use of operating leases. Also, notice how the additional interest expense added as part of the operating lease adjustment brings the interest coverage ratios of the companies much closer together (seen in As Adjusted interest coverage). These items illustrate the importance of considering off-balance sheet obligations in analyzing a company's financial management. In general, both companies are in a relatively comfortable situation relative to their fixed obligations, even after factoring in operating lease commitments.

### Ratios of Disaggregated Data

So far we have discussed how to compute ratios using information in the financial statements. Analysts often probe the above ratios further by using disaggregated financial and physical data. For example, for a multibusiness company, one could analyze the information by individual business segments. Such an analysis can reveal potential differences in the performance of each business unit, allowing the analyst to pinpoint areas where a company's strategy is working and where it is not. It is also possible to probe financial ratios further by computing ratios of physical data pertaining to a company's operations. The appropriate physical data to look at varies from industry to industry. As an example in retailing, one could compute productivity statistics such as sales per store, sales per square foot, customer transactions per store, and average amount of sale per customer transaction. In the hotel industry, room occupancy rates provide important information; in the cellular telephone industry, acquisition cost per new subscriber and subscriber retention rate are important. These disaggregated ratios are particularly useful for young firms and young industries such as Internet firms, where accounting data may not fully capture the business economics due to conservative accounting rules.

### Putting It All Together: Assessing Sustainable Growth Rate

Analysts often use the concept of sustainable growth as a way to evaluate a firm’s ratios in a comprehensive manner. A firm’s sustainable growth rate is defined as

$$\text{Sustainable growth rate} = \text{ROE} \times (1 - \text{Dividend payout ratio})$$

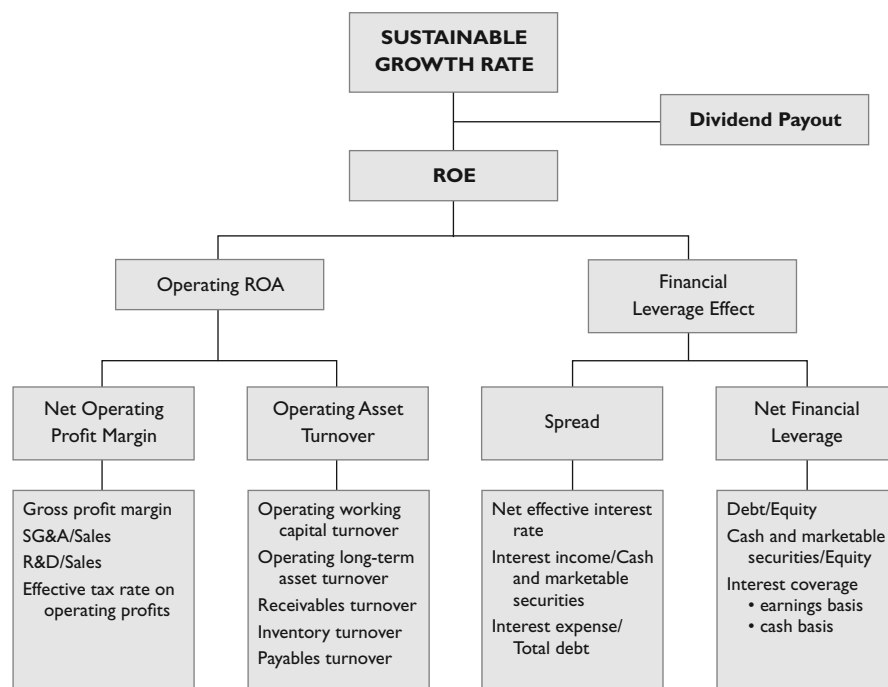
We already discussed the analysis of ROE in the previous four sections. The dividend payout ratio is defined as

$$\text{Dividend payout ratio} = \frac{\text{Cash dividends paid}}{\text{Net income}}$$

A firm’s dividend payout ratio is a measure of its dividend policy. Firms pay dividends for several reasons. They provide a way to return to shareholders any cash generated in excess of the firm’s operating and investment needs. When there are information asymmetries between a firm’s managers and its shareholders, dividend payments can serve as a signal to shareholders about managers’ expectations of the firm’s future prospects. Firms may also pay dividends to attract a certain type of shareholder base.

Sustainable growth rate is the rate at which a firm can grow while keeping its profitability and financial policies unchanged. A firm’s return on equity and its dividend payout policy determine the pool of funds available for growth. Of course the firm can grow at a rate different from its sustainable growth rate if its profitability, payout policy, or financial leverage changes. Therefore, the sustainable growth rate provides a benchmark against which a firm’s growth plans can be evaluated. Figure 5-2 shows how a firm’s sustainable growth rate can be linked to all the ratios discussed in this chapter.

**FIGURE 5-2 Sustainable Growth Rate Framework for Financial Ratio Analysis**



Source: © Cengage Learning

These linkages allow an analyst to examine the drivers of a firm's current sustainable growth rate. If the firm intends to grow at a higher rate than its sustainable growth rate, one could assess which of the ratios are likely to change in the process.

### Key Analysis Questions

Analysis of sustainable growth can lead to asking the following types of business questions:

- *How quickly can the firm grow its business by keeping its profitability and financial policies unchanged?*
- *If it intends growing faster, where is the growth going to come from? Is management expecting profitability to increase? Or asset productivity to improve? Are these expectations realistic? Is the firm planning for these changes?*
- *If the firm is planning to increase its financial leverage or cut dividends, what is the likely impact of these financial policy changes?*

Table 5-9 shows the sustainable growth rate and its components for TJX and Nordstrom. TJX had a significantly higher sustainable growth rate relative to Nordstrom on both an As Reported and As Adjusted basis, due to both its higher ROEs and a lower dividend payout ratio. TJX's actual sales, asset, and liability growth rates in 2010 were considerably lower than implied by its sustainable growth rate, reflecting management's balanced approach to growth, investment, and returning funds to shareholders in the form of dividends and stock repurchase.

### Historical Patterns of Ratios for U.S. Firms

To provide a benchmark for analysis, Table 5-10 reports historical values of the key ratios discussed in this chapter. These ratios are calculated using financial statement data for all publicly listed U.S. companies. The table shows the values of ROE, its key components, and the sustainable growth rate for each of the years 1991 to 2010, and the average for this twenty year period. The data show that the average ROE over this time frame has been 10.3 percent, average operating ROA has been 9.0 percent, and the average spread between operating ROA and net borrowing costs after tax has been 2.5 percent. The average sustainable growth rate for U.S. companies during this period has been 4.9 percent. Of course, an individual company's ratios might depart from these economy-wide averages for a number of reasons, such as industry effects, company strategies, and management effectiveness. Nonetheless, the average values in the table serve as useful benchmarks in financial analysis.

**TABLE 5-9 Sustainable Growth Rate**

Year ended January 29, 2011	As Reported		As Adjusted	
	<u>TJX</u>	<u>Nordstrom</u>	<u>TJX</u>	<u>Nordstrom</u>
Return on equity	46.5%	39.0%	55.4%	40.0%
Dividend payout ratio	17.1%	27.2%	17.1%	27.2%
Sustainable growth rate	38.6%	28.4%	45.9%	29.1%

Source: © Cengage Learning 2013

**TABLE 5-10**      **Historical Values of Key Financial Ratios**

Year	ROE	NOPAT Margin	Operating Asset Turnover	Operating ROA	Spread	Net Financial Leverage	Sustainable Growth Rate
1991	6.6%	6.3%	1.55	7.2%	-0.1%	1.20	0.5%
1992	4.4%	4.4%	1.60	6.1%	-0.6%	1.14	-1.6%
1993	8.8%	5.0%	1.67	6.5%	0.7%	1.17	2.6%
1994	14.0%	7.1%	1.77	11.0%	3.9%	1.16	7.9%
1995	13.8%	6.1%	1.83	8.3%	6.8%	1.11	7.3%
1996	14.8%	6.6%	1.83	9.4%	7.5%	1.14	8.7%
1997	13.8%	7.5%	1.83	10.4%	3.7%	1.11	8.2%
1998	13.1%	7.9%	1.76	9.7%	2.3%	1.22	7.4%
1999	13.5%	7.8%	1.69	9.9%	3.8%	1.25	8.4%
2000	10.1%	7.0%	1.71	8.0%	1.8%	1.31	5.2%
2001	1.4%	4.0%	1.47	3.0%	-3.0%	1.34	-2.7%
2002	-2.2%	1.7%	1.31	-2.7%	-7.9%	1.51	-4.4%
2003	13.3%	8.3%	1.57	9.5%	3.5%	1.58	8.7%
2004	13.3%	8.0%	1.70	10.1%	3.4%	1.49	8.3%
2005	13.8%	9.0%	1.78	11.9%	3.7%	1.21	8.2%
2006	16.7%	10.3%	1.88	14.1%	7.4%	1.23	11.1%
2007	12.1%	8.8%	1.75	12.4%	5.2%	1.23	6.6%
2008	0.1%	3.4%	1.68	6.8%	-0.7%	1.33	-4.7%
2009	8.9%	7.6%	1.49	9.8%	3.3%	1.31	4.4%
2010	12.4%	10.3%	1.65	12.9%	5.6%	1.04	7.9%
<b>Average</b>	<b>10.3%</b>	<b>6.9%</b>	<b>1.68</b>	<b>9.0%</b>	<b>2.5%</b>	<b>1.23</b>	<b>4.9%</b>

Ratios are based on beginning balance sheet data.

Source: Financial statement data for all publicly traded U.S. companies between 1991 and 2010, listed in Standard & Poor's Compustat database.

## CASH FLOW ANALYSIS

The ratio analysis discussion focused on analyzing a firm's income statement (net profit margin analysis) or its balance sheet (asset turnover and financial leverage). The analyst can get further insights into the firm's operating, investing, and financing policies by examining its cash flows. Cash flow analysis also provides an indication of the quality of the information in the firm's income statement and balance sheet. As before, we will illustrate the concepts discussed in this section using TJX's and Nordstrom's cash flows.

### Cash Flow and Funds Flow Statements

All U.S. companies are required to include a statement of cash flows in their financial statements under Statement of Financial Accounts Standard No. 95 (SFAS 95). In the cash flow statement, firms report their cash flows in three categories: cash flow from operations, cash flow related to investments, and cash flow related to financing activities. Cash flow from operations is the cash generated by the firm from the sale of goods and services after paying for the cost of inputs and operations. Cash flow related to investment activities shows the cash paid for capital expenditures, intercorporate investments, acquisitions, and cash received from the sales of long-term assets.

Cash flow related to financing activities shows the cash raised from (or paid to) the firm's stockholders and debt holders.

Firms use two cash flow statement formats: the direct format and the indirect format. The key difference between the two formats is the way they report cash flow from operating activities. In the direct cash flow format, which is used by only a small number of firms, operating cash receipts and disbursements are reported directly. In the indirect format, firms derive their operating cash flows by making adjustments to net income. Because the indirect format links the cash flow statement with the firm's income statement and balance sheet, many analysts and managers find this format more useful. As a result, the FASB requires firms using the direct format to report operating cash flows in the indirect format as well.

Recall from Chapter 3 that net income differs from operating cash flows because revenues and expenses are measured on an accrual basis. There are two types of accruals embedded in net income. First, there are current accruals like credit sales and unpaid expenses. Current accruals result in changes in a firm's current assets (such as accounts receivable, inventory, prepaid expenses) and current liabilities (such as accounts payable and accrued liabilities). The second type of accruals included in the income statement is noncurrent accruals such as depreciation, deferred taxes, and equity income from unconsolidated subsidiaries. To derive cash flow from operations from net income, adjustments have to be made for both these types of accruals. In addition, adjustments must be made for nonoperating gains included in net income such as profits from asset sales.

Some firms outside the United States report a funds flow statement rather than a cash flow statement of the type described above. Prior to SFAS 95, U.S. firms also reported a similar statement. Funds flow statements show working capital flows, not cash flows. It is useful for analysts to know how to convert a funds flow statement into a cash flow statement.

Funds flow statements typically provide information on a firm's working capital from operations, defined as net income adjusted for noncurrent accruals, and gains from the sale of long-term assets. As discussed above, cash flow from operations essentially involves a third adjustment, the adjustment for current accruals. Thus it is relatively straightforward to convert working capital from operations to cash flow from operations by making the relevant adjustments for current accruals related to operations.

Information on current accruals can be obtained by examining changes in a firm's current assets and current liabilities. Typically, operating accruals represent changes in all the current asset accounts other than cash and cash equivalents, and changes in all the current liabilities other than notes payable and the current portion of long-term debt.<sup>14</sup> Cash from operations can be calculated as follows:

- Working capital from operations
  - Increase (or + decrease) in accounts receivable
  - Increase (or + decrease) in inventory
  - Increase (or + decrease) in other current assets excluding cash and cash equivalents
  - + Increase (or – decrease) in accounts payable
  - + Increase (or – decrease) in other current liabilities excluding debt.

Funds flow statements also often do not classify investment and financing flows. In such a case, the analyst has to classify the line items in the funds flow statement into these two categories by evaluating the nature of the business transactions that give rise to the flow represented by the line items.

## Analyzing Cash Flow Information

Cash flow analysis can be used to address a variety of questions regarding a firm's cash flow dynamics:

- How strong is the firm's internal cash flow generation? Is the cash flow from operations positive or negative? If it is negative, why? Is it because the company is growing? Is it because its operations are unprofitable? Or is it having difficulty managing its working capital properly?
- Does the company have the ability to meet its short-term financial obligations, such as interest payments, from its operating cash flow? Can it continue to meet these obligations without reducing its operating flexibility?
- How much cash did the company invest in growth? Are these investments consistent with its business strategy? Did the company use internal cash flow to finance growth, or did it rely on external financing?
- Did the company pay dividends from internal free cash flow, or did it have to rely on external financing? If the company had to fund its dividends from external sources, is the company's dividend policy sustainable?
- What type of external financing does the company rely on? Equity, short-term debt, or long-term debt? Is the financing consistent with the company's overall business risk?
- Does the company have excess cash flow after making capital investments? Is it a long-term trend? What plans does management have to deploy the free cash flow?

While the information in reported cash flow statements can be used to answer the above questions directly in the case of some firms, it may not be easy to always do so for a number of reasons. First, even though SFAS 95 provides broad guidelines on the format of a cash flow statement, there is still significant variation across firms in how cash flow data are disclosed. Therefore, to facilitate a systematic analysis and comparison across firms, analysts often recast the information in the cash flow statement using their own cash flow model. Second, firms include interest expense and interest income in computing their cash flow from operating activities. However, these two items are not strictly related to a firm's operations. Interest expense is a function of financial leverage, and interest income is derived from financial assets rather than operating assets. Therefore it is useful to restate the cash flow statement to take this into account.

Analysts use a number of different approaches to restate the cash flow data. One such model is shown in Table 5-11. This presents cash flow from operations in two stages. The first step computes cash flow from operations before operating working capital investments. In computing this cash flow, the model excludes interest expense and interest income. To compute this number starting with a firm's net income, an analyst adds back three types of items: (1) after-tax net interest expense because this is a financing item that will be considered later; (2) non-operating gains or losses typically arising out of asset disposals or asset write-offs because these items are investment related and will be considered later; and (3) long-term operating accruals such as depreciation and deferred taxes because these are non-cash operating charges.

Several factors affect a firm's ability to generate positive cash flow from operations. Healthy firms that are in a steady state should generate more cash from their customers than they spend on operating expenses. In contrast, growing firms—especially those with heavy outlays for research and development, advertising and marketing, or building an organization to sustain future growth—may experience negative operating cash flow. Firms' working capital management also affects whether they generate positive cash flow from operations. Firms in the growing stage typically use cash flow for



**TABLE 5-11 Cash Flow Analysis**

Year ended January 29, 2011	As Reported		As Adjusted	
	<u>TJX</u>	<u>Nordstrom</u>	<u>TJX</u>	<u>Nordstrom</u>
<b>Net Income</b>	<b>1,343.1</b>	<b>613.0</b>	<b>1,600.3</b>	<b>629.1</b>
After-tax net interest expense (income)	24.2	78.6	176.0	101.2
Non-operating losses (gains)	158.4	0.0	162.0	0.0
Long-term operating accruals	587.8	465.0	1,087.6	510.5
<b>Operating cash flow before working capital investments</b>	<b>2,113.5</b>	<b>1,156.6</b>	<b>3,025.9</b>	<b>1,240.8</b>
Net (investments in) or liquidation of operating working capital	(5.0)	99.0	(5.0)	99.0
<b>Operating cash flow before investment in long-term assets</b>	<b>2,108.5</b>	<b>1,255.6</b>	<b>3,020.9</b>	<b>1,339.8</b>
Net (investment in) or liquidation of operating long-term assets	(708.2)	(462.0)	(2,591.2)	(630.6)
<b>Free cash flow available to debt and equity</b>	<b>1,400.3</b>	<b>793.6</b>	<b>429.7</b>	<b>709.2</b>
After-tax net interest income (expense)	(24.2)	(78.6)	(176.0)	(101.2)
Net debt (repayment) or issuance	(2.4)	179.0	1,120.0	286.0
<b>Free cash flow available to equity</b>	<b>1,373.7</b>	<b>894.0</b>	<b>1,373.7</b>	<b>894.0</b>
Dividend (payments)	(229.3)	(167.0)	(229.3)	(167.0)
Net stock issuance (repurchase), and other equity changes	(1,017.2)	(16.0)	(1,017.2)	(16.0)
<b>Net increase (decrease) in cash balance</b>	<b>127.2</b>	<b>711.0</b>	<b>127.2</b>	<b>711.0</b>

Source: © Cengage Learning 2013

operating working capital items such as funding customers (accounts receivable) and purchasing inventories (net of accounts payable financing from suppliers). Net investments in working capital are a function of firms' credit policies (accounts receivable), payment policies (payables, prepaid expenses, and accrued liabilities), and expected growth in sales (inventories). Thus, in interpreting firms' cash flow from operations after working capital, it is important to keep in mind their growth strategy, industry characteristics, and credit policies.

The cash flow analysis model next focuses on cash flows related to long-term investments. These investments take the form of capital expenditures, intercorporate investments, and mergers and acquisitions. Any positive operating cash flow after making operating working capital investments allows the firm to pursue long-term growth opportunities. If the firm's operating cash flows after working capital investments are not sufficient to finance its long-term investments, it has to rely on external financing to fund its growth. Such firms have less flexibility to pursue long-term investments than those that can fund their growth internally. There are both costs and benefits from being able to fund growth internally. The cost is that managers can use the internally generated free cash flow to fund unprofitable investments. Such wasteful capital expenditures are less likely if managers are forced to rely on external capital suppliers. However, reliance on external capital markets may make it difficult for managers to

undertake long-term risky investments if it is not easy to communicate to the capital markets the benefits from such investments.

Any excess cash flow after these long-term investments is free cash flow that is available for both debt holders and equity holders. Debt cash transactions include interest payments and principal payments as well as new borrowing. Cash flow after payments to debt holders is free cash flow available to equity holders. Cash transactions involving shareholders include dividend payments and stock repurchases, as well as issues of new equity.

Firms with negative free cash flow to both debt and equity have to borrow additional funds to meet their interest and debt repayment obligations, cut dividend payments, or issue additional equity. Managers of firms in this situation are often reluctant to cut dividends for fear that it will be viewed negatively by investors. While this may be feasible in the short term, it is not prudent for a firm to continue to pay dividends to equity holders unless it has a positive free cash flow on a sustained basis. In contrast, firms with large positive free cash flow to debt and equity run the risk of making unproductive investments to pursue growth for its own sake. An analyst, therefore, should carefully examine the investment plans of such firms.

The model in Table 5-11 suggests that the analyst should focus on a number of cash flow measures: (1) cash flow from operations before investment in working capital and interest payments, to examine whether or not the firm is able to generate a cash surplus from operations; (2) cash flow from operations after investment in working capital, to assess how the firm's working capital is being managed and whether or not it has the flexibility to invest in long-term assets for future growth; (3) free cash flow available to debt and equity holders, to assess a firm's ability to meet its interest and principal payments; and (4) free cash flow available to equity holders, to assess the firm's financial ability to sustain its dividend policy and to identify potential agency problems from excess free cash flow. These measures have to be evaluated in the context of the company's business, its growth strategy, and its financial policies. Further, changes in these measures from year to year provide valuable information on the stability of the cash flow dynamics of the firm.

### Key Analysis Questions

The cash flow model in Table 5-11 can also be used to assess a firm's earnings quality. The reconciliation of a firm's net income with its cash flow from operations facilitates this exercise. Following are some of the questions an analyst can probe in this respect:

- *Are there significant differences between a firm's net income and its operating cash flow? Is it possible to clearly identify the sources of this difference? Which accounting policies contribute to this difference? Are there any one-time events contributing to this difference?*
- *Is the relationship between cash flow and net income changing over time? Why? Is it because of changes in business conditions or because of changes in the firm's accounting policies and estimates?*
- *What is the time lag between the recognition of revenues and expenses and the receipt and disbursement of cash flows? What type of uncertainties need to be resolved in between?*
- *Are the changes in receivables, inventories, and payables normal? If not, is there adequate explanation for the changes?*

Finally, as we will discuss in Chapter 7, free cash flow available to debt and equity and free cash flow available to equity are critical inputs into the cash-flow-based valuation of firms' assets and equity, respectively.

### Analysis of TJX's and Nordstrom's Cash Flow

Both TJX and Nordstrom reported their cash flows using the indirect cash flow statement. Table 5-11 recasts these statements using the approach discussed above so that we can analyze the two companies' cash flow dynamics.

The cash flow analysis presented in Table 5-11 shows that on an As Reported basis TJX had an operating cash flow before working capital investments of \$2.114 billion in 2010. The difference between its earnings and this cash flow is attributable primarily to depreciation and amortization charges, which is a non-cash expense that is included in the company's income statement. TJX made a small net investment in operating working capital (the result of increases in accounts receivable and inventory netted out against increases in accounts payable, income taxes payable, and inventory) resulting in an operating cash flow before investment in long-term assets of \$2.109 billion for 2010. Investment in store renovations and improvements, fit ups for new stores, and expansion of office and distribution centers comprised the bulk of net investment in operating long-term assets of \$708.2 million, resulting in a free cash flow available to debt and equity of \$1.4 billion in 2010. Netting out a small amount of after-tax net interest income and debt repayment resulted in a free cash flow available to equity of \$1.37 billion. As part of an ongoing share repurchase program, TJX repurchased roughly \$1.0 billion in shares. That, combined with a dividend of \$229.3 million resulted in a net increase of cash of \$127.2 million in 2010. Generally, TJX had a strong cash flow situation in 2010, as it was able to fund its rapid expansion, an increasing dividend to shareholders, and an aggressive share repurchase program while increasing its cash balance.

Nordstrom's As Reported operating cash flow before working capital investments was \$1.16 billion in 2010. By liquidating \$99 million of operating capital mainly through increases in accounts payable and other liabilities (partially offset by increases in accounts receivable and inventory), Nordstrom was able to generate \$1.26 billion in operating cash flow before investment in long-term assets. Like TJX, Nordstrom invested heavily in its expansion, leaving free cash flow available to debt and equity of \$793.6 million in 2010. Net proceeds from a \$500 million debt issue, an increase in short-term borrowings, and the reduction in after-tax net interest expense resulted in free cash flow available to equity of \$894 million. Like TJX, Nordstrom issued a dividend and bought back a small amount of stock, resulting in a net increase in its cash balance of \$711 million.

As discussed in Chapter 4 and shown in Table 5-11, bringing the operating leases onto the balance sheet as capital leases boosts net income. It also increases operating cash flows as adjustments for depreciation and the increase in deferred tax liability are included in long-term operating accruals. In the investments segment, investments in long-term assets increase as new lease agreements are entered and capitalized. Finally, in the financing section, net debt issuance increases as debt is added from newly capitalized leases and annual payments are made for principal and interest (after-tax).

## SUMMARY

This chapter presents two key tools of financial analysis: ratio analysis and cash flow analysis. Both these tools allow the analyst to examine a firm's performance and its financial condition given its strategy and goals. Ratio analysis involves assessing the firm's income statement and balance sheet data. Cash flow analysis relies on the firm's

cash flow statement. In this chapter we applied these tools to TJX and Nordstrom in order to compare the two firms' performance on both an As Reported and As Adjusted (for the use of off-balance sheet operating leases) basis.

The starting point for ratio analysis is the company's ROE. The next step is to evaluate the three drivers of ROE, which are net profit margin, asset turnover, and financial leverage. Net profit margin reflects a firm's operating management, asset turnover reflects its investment management, and financial leverage reflects its financing policies. Each of these areas can be further probed by examining a number of ratios. For example, common-sized income statement analysis allows a detailed examination of a firm's net margins. Similarly, turnover of key working capital accounts such as accounts receivable, inventory, and accounts payable, and turnover of the firm's fixed assets, allow further examination of a firm's asset utilization. Finally, short-term liquidity ratios, debt policy ratios, and coverage ratios provide a means of examining a firm's financial leverage.

A firm's sustainable growth rate—the rate at which it can grow without altering its operating, investment, and financing policies—is determined by its ROE and its dividend policy. The concept of sustainable growth provides a way to integrate the different elements of ratio analysis and to evaluate whether or not a firm's growth strategy is sustainable. If a firm's plans call for growing at a rate above its current sustainable rate, then one can analyze which of the firm's ratios is likely to change in the future.

Cash flow analysis supplements ratio analysis in examining a firm's operating activities, investment management, and financial risks. Firms in the United States are currently required to report a cash flow statement summarizing their operating, investment, and financing cash flows. Firms in other countries typically report working capital flows, but it is possible to use this information to create a cash flow statement.

Since there are wide variations across firms in the way cash flow data are reported, analysts often use a standard format to recast cash flow data. We discussed one such cash flow model in this chapter. This model allows the analyst to assess whether a firm's operations generate cash flow before investments in operating working capital, and how much cash is being invested in the firm's working capital. It also enables the analyst to calculate the firm's free cash flow after making long-term investments, which is an indication of the firm's ability to meet its debt and dividend payments. Finally, the cash flow analysis shows how the firm is financing itself, and whether its financing patterns are too risky.

The insights gained from analyzing a firm's financial ratios and its cash flows are valuable in forecasting the firm's future prospects.

## DISCUSSION QUESTIONS

1. Which of the following types of firms do you expect to have particularly high or low asset turnover? Explain why.
  - a supermarket
  - a pharmaceutical company
  - a jewelry retailer
  - a steel company
2. Which of the following types of firms do you expect to have high or low sales margins? Why?
  - a supermarket
  - a pharmaceutical company
  - a jewelry retailer
  - a software company

3. James Broker, an analyst with an established brokerage firm, comments: “The critical number I look at for any company is operating cash flow. If cash flows are less than earnings, I consider a company to be a poor performer and a poor investment prospect.” Do you agree with this assessment? Why or why not?
4. In 2005 IBM had a return on equity of 26.7 percent, whereas Hewlett-Packard’s return was only 6.4 percent. Use the decomposed ROE framework to provide possible reasons for this difference based on the data below:

	IBM	HP
NOPAT/Sales	9.0%	2.7%
Sales/Net Assets	2.16	2.73
Effective After Tax Interest Rate	2.4%	1.1%
Net Financial Leverage	0.42	−0.16

Source: Thomson One

5. Joe Investor asserts, “A company cannot grow faster than its sustainable growth rate.” True or false? Explain why.
6. What are the reasons for a firm having lower cash from operations than working capital from operations? What are the possible interpretations of these reasons?
7. ABC Company recognizes revenue at the point of shipment. Management decides to increase sales for the current quarter by filling all customer orders. Explain what impact this decision will have on
  - Days’ receivable for the current quarter
  - Days’ receivable for the next quarter
  - Sales growth for the current quarter
  - Sales growth for the next quarter
  - Return on sales for the current quarter
  - Return on sales for the next quarter
8. What ratios would you use to evaluate operating leverage for a firm?
9. What are the potential benchmarks that you could use to compare a company’s financial ratios? What are the pros and cons of these alternatives?
10. In a period of rising prices, how would the following ratios be affected by the accounting decision to select LIFO, rather than FIFO, for inventory valuation?
  - Gross margin
  - Current ratio
  - Asset turnover
  - Debt-to-equity ratio
  - Average tax rate

## NOTES

1. Both TJX and Nordstrom end their fiscal years on the last Saturday in January. TJX calls the fiscal year ending January 30, 2011, fiscal year 2011, while Nordstrom calls that same time period fiscal year 2010. For clarity, we will call the fiscal year ending January 30, 2010, as fiscal year 2009, and the fiscal year ending January 29, 2011, as fiscal year 2010.
2. TJX and Nordstrom financial statements used as the source for creating the standardized statements accessed via Thomson ONE.
3. Financial statement data for all publicly traded U.S. companies between 1991 and 2010, listed in Standard & Poor’s Compustat database, accessed October 2011.

4. In computing ROE, one can either use the beginning equity, ending equity, or an average of the two. Conceptually, the average equity is appropriate, particularly for rapidly growing companies. However, for most companies, this computational choice makes little difference as long as the analyst is consistent. Therefore, in practice most analysts use ending balances for simplicity. This comment applies to all ratios discussed in this chapter where one of the items in the ratio is a flow variable (items in the income statement or cash flow statement) and the other item is a stock variable (items in the balance sheet). Throughout this chapter we use the beginning balances of the stock variables.
5. We discuss in greater detail in Chapter 8 how to estimate a company's cost of equity capital.
6. Strictly speaking, part of a cash balance is needed to run the firm's operations, so only the excess cash balance should be viewed as negative debt. However, firms do not provide information on excess cash, so we subtract all cash balances in our definitions and computations. An alternative possibility is to subtract only short-term investments and ignore the cash balance completely.
7. See D. Nissim and S. Penman, "Ratio Analysis and Valuation: From Research to Practice," *Review of Accounting Studies* 6 (2001): 109–154, for a more detailed description of this approach.
8. Financial statement data for all publicly traded U.S. companies between 1991 and 2010, listed in Standard & Poor's Compustat database, accessed October 2011.
9. Both TJX and Nordstrom have a solid credit rating and a relatively low cost of debt. We will discuss in Chapter 8 how to estimate a company's weighted average cost of capital.
10. TJX Companies, Inc., January 29, 2011, Form 10-K (filed March 30, 2011), p. 25, [http://www.tjx.com/investor\\_landing.asp](http://www.tjx.com/investor_landing.asp), accessed May 2011.
11. See *Taxes and Business Strategy* by M. Scholes and M. Wolfson (Englewood Cliffs, NJ: Prentice-Hall, 1992).
12. If firms that are analyzed use different inventory methods, the analyst can adjust to a common method for computing inventory turnover and days' inventory. This can be accomplished by adjusting LIFO inventory and LIFO cost of sales to FIFO values using disclosures on the effect of LIFO inventory valuation in the inventory footnote disclosure.
13. There are a number of issues related to the calculation of these ratios in practice. First, in calculating all the turnover ratios, the assets used in the calculations can either be beginning of the year values, year-end values, or an average of the beginning and ending balances in a year. We use the beginning of the year values in our calculations. Second, strictly speaking, one should use credit sales to calculate accounts receivable turnover and days' receivables. But since it is usually difficult to obtain data on credit sales, total sales are used instead. Similarly, in calculating accounts payable turnover or days' payables, cost of goods sold is substituted for purchases for data availability reasons.
14. Changes in cash and marketable securities are excluded because this is the amount being explained by the cash flow statement. Changes in short-term debt and the current portion of long-term debt are excluded because these accounts represent financing flows, not operating flows.

## APPENDIX A THE TJX COMPANIES, INC. FINANCIAL STATEMENTS

We present here for reference Standardized and Condensed financial statements for TJX, on both an As Reported and As Adjusted (as detailed in the chapter) basis. It is important to note that “As Reported” and “As Adjusted” refers to the numbers included in the statements—as noted previously, the Standardized and Condensed financial statement formats have been developed as a way to facilitate comparison and forecasting, and differ from the format presented by a specific company in its filings. Also note that the standardized statements shown below are generated by the BAV software tool and based on data reported by the Thomson ONE database, which makes minor modifications to the data as reported by the firm. As a consequence, the standardized statements shown below will not be an exact match to the standardized statements shown in the appendix to Chapter 4, which were manually compiled to illustrate the general methodology of creating standardized statements. Finally, As Adjusted statements show differences from As Reported statements only in the years (FY 2010 for income and cash flow statements, FY 2011 and 2010 for beginning balance sheets) where adjustments have been made.

### The TJX Companies, Inc. Standardized Statements of Income (\$ millions)

Fiscal Year	AS REPORTED		
	2010	2009	2008
<b>Sales</b>	<b>21,942.2</b>	<b>20,288.4</b>	<b>18,999.5</b>
Cost of Sales	15,576.8	14,538.2	13,993.0
<b>Gross Profit</b>	<b>6,365.4</b>	<b>5,750.2</b>	<b>5,006.5</b>
SG&A	3,712.6	3,319.7	3,170.0
Other Operating Expense	458.1	435.2	371.2
<b>Operating Income</b>	<b>2,194.7</b>	<b>1,995.3</b>	<b>1,465.3</b>
Investment Income	0.0	0.0	0.0
Other Income, net of Other Expense	8.5	(1.7)	0.0
Other Income	15.3	7.5	0.0
Other Expense	6.8	9.2	0.0
Net Interest Expense (Income)	39.1	42.0	14.3
Interest Income	9.9	9.8	22.2
Interest Expense	49.0	51.8	36.5
Minority Interest	0.0	0.0	0.0
<b>Pre-Tax Income</b>	<b>2,164.1</b>	<b>1,951.6</b>	<b>1,451.0</b>
Tax Expense	824.6	738	536.1
Unusual Gains, Net of Unusual Losses (after tax)	3.6	0.0	(34.3)
<b>Net Income</b>	<b>1,343.1</b>	<b>1,213.6</b>	<b>880.6</b>
Preferred Dividends	0.0	0.0	0.0
<b>Net Income to Common</b>	<b>1,343.1</b>	<b>1,213.6</b>	<b>880.6</b>

Source: Thomson ONE database and Business Analysis and Valuation (BAV) Model V.5.

**The TJX Companies, Inc.**  
**Standardized Beginning Balance Sheet (\$ millions)**

**AS REPORTED**

Fiscal Year	2011	2010	2009
<b>Assets</b>			
Cash and Marketable Securities	1,821.5	1,745.2	453.5
Accounts Receivable	200.1	148.1	143.5
Inventory	2,765.5	2,532.3	2,619.3
Other Current Assets	312.4	378.2	409.8
<b>Total Current Assets</b>	<b>5,099.5</b>	<b>4,803.8</b>	<b>3,626.1</b>
Long-Term Tangible Assets	2,689.9	2,478.4	2,372.6
Long-Term Intangible Assets	182.3	181.7	179.5
Other Long-Term Assets	0.0	0.0	0.0
<b>Total Long-Term Assets</b>	<b>2,872.2</b>	<b>2,660.1</b>	<b>2,552.1</b>
<b>Total Assets</b>	<b>7,971.8</b>	<b>7,464.0</b>	<b>6,178.2</b>
<b>Liabilities</b>			
Accounts Payable	1,683.9	1,507.9	1,276.1
Short-Term Debt	2.7	2.4	395.0
Other Current Liabilities	1,446.4	1,384.7	1,096.8
<b>Total Current Liabilities</b>	<b>3,133.0</b>	<b>2,895.0</b>	<b>2,767.9</b>
Long-Term Debt	787.5	790.2	383.8
Deferred Taxes	241.9	192.4	127.0
Other Long-Term Liabilities (non-interest bearing)	709.3	697.1	765.0
<b>Total Long-Term Liabilities</b>	<b>1,738.7</b>	<b>1,679.7</b>	<b>1,275.8</b>
<b>Total Liabilities</b>	<b>4,871.9</b>	<b>4,574.7</b>	<b>4,043.7</b>
Minority Interest	0.0	0.0	0.0
<b>Shareholders' Equity</b>			
Preferred Stock	0.0	0.0	0.0
Common Shareholders' Equity	3,099.9	2,889.3	2,134.6
<b>Total Shareholders' Equity</b>	<b>3,099.9</b>	<b>2,889.3</b>	<b>2,134.6</b>
<b>Total Liabilities and Shareholders' Equity</b>	<b>7,971.8</b>	<b>7,464.0</b>	<b>6,178.2</b>

Balance sheet items are shown as beginning of period balances.

Source: Thomson ONE database and Business Analysis and Valuation (BAV) Model V.5.

**The TJX Companies, Inc.**  
**Standardized Statements of Cash Flows (\$ millions)**

**AS REPORTED**

Fiscal Year	2010	2009	2008
<b>Net Income</b>	<b>1,343.1</b>	<b>1,213.6</b>	<b>880.6</b>
After-tax net interest expense (income)	24.2	26.1	9.0
Non-operating losses (gains)	158.4	(21.5)	55.2
Long-term operating accruals	587.8	456.6	489.3
Depreciation and amortization	458.1	435.2	401.7
Other	129.7	21.4	87.6

(continued)



Fiscal Year	2010	2009	2008
<b>Operating cash flow before working capital investments</b>	<b>2,113.5</b>	<b>1,674.8</b>	<b>1,434.1</b>
Net (investments in) or liquidation of operating working capital	(5.0)	548.6	(347.8)
<b>Operating cash flow before investment in long-term assets</b>	<b>2,108.5</b>	<b>2,223.4</b>	<b>1,086.3</b>
Net (investment in) or liquidation of operating long-term assets	(708.2)	(434.9)	(568.6)
<b>Free cash flow available to debt and equity</b>	<b>1,400.3</b>	<b>1,788.5</b>	<b>517.7</b>
After-tax net interest income (expense)	(24.2)	(26.1)	(9.0)
Net debt (repayment) or issuance	(2.4)	371.4	(2.0)
<b>Free cash flow available to equity</b>	<b>1,373.7</b>	<b>2,133.8</b>	<b>506.7</b>
Dividend (payments)	(229.3)	(197.7)	(176.7)
Net stock issuance (repurchase), and other equity changes	(1017.2)	(774.9)	(608.9)
<b>Net increase (decrease) in cash balance</b>	<b>127.2</b>	<b>1,161.2</b>	<b>(278.9)</b>

Source: Thomson ONE database and Business Analysis and Valuation (BAV) Model V.5.

**The TJX Companies, Inc.**  
**Condensed Statements of Income (\$ millions)**

AS REPORTED

Fiscal Year	2010	2009	2008
<b>Sales</b>	<b>21,942.2</b>	<b>20,288.4</b>	<b>18,999.5</b>
<b>Net Operating Profit after Tax</b>	<b>1,367.3</b>	<b>1,239.7</b>	<b>889.6</b>
Net Income	1,343.1	1,213.6	880.6
+ Net Interest Expense after Tax	24.2	26.1	9.0
<b>= Net Operating Profit after Tax</b>	<b>1,367.3</b>	<b>1,239.7</b>	<b>889.6</b>
- Net Interest Expense after Tax	24.2	26.1	9.0
Interest Expense	49.0	51.8	36.5
- Interest Income	9.9	9.8	22.2
<b>= Net Interest Expense (Income)</b>	<b>39.1</b>	<b>42.0</b>	<b>14.3</b>
× (1 - Tax Expense/Pre-Tax Income)	0.62	0.62	0.63
<b>= Net Interest Expense after Tax</b>	<b>24.2</b>	<b>26.1</b>	<b>9.0</b>
<b>= Net Income</b>	<b>1,343.1</b>	<b>1,213.6</b>	<b>880.6</b>
- Preferred Stock Dividends	0.0	0.0	0.0
<b>= Net Income to Common</b>	<b>1,343.1</b>	<b>1,213.6</b>	<b>880.6</b>

Source: Thomson ONE database and Business Analysis and Valuation (BAV) Model V.5.

**The TJX Companies, Inc.**  
**Condensed Beginning Balance Sheet (\$ millions)**

AS REPORTED

Fiscal Year	2011	2010	2009
<b>Beginning Net Working Capital</b>	<b>147.7</b>	<b>166.0</b>	<b>799.7</b>
Accounts Receivable	200.1	148.1	143.5
+ Inventory	2,765.5	2,532.3	2,619.3

(continued)

Fiscal Year	2011	2010	2009
+ Other Current Assets	312.4	378.2	409.8
– Accounts Payable	1,683.9	1,507.9	1,276.1
– Other Current Liabilities	<u>1,446.4</u>	<u>1,384.7</u>	<u>1,096.8</u>
= <b>Beginning Net Working Capital</b>	<b>147.7</b>	<b>166.0</b>	<b>799.7</b>
+ <b>Beginning Net Long-Term Assets</b>	<u>1,921.0</u>	<u>1,770.6</u>	<u>1,660.1</u>
Long-Term Tangible Assets	2,689.9	2,478.4	2,372.6
+ Long-Term Intangible Assets	182.3	181.7	179.5
+ Other Long-Term Assets	0.0	0.0	0.0
– Minority Interest	0.0	0.0	0.0
– Deferred Taxes	241.9	192.4	127.0
– Other Long-Term Liabilities (non-interest bearing)	<u>709.3</u>	<u>697.1</u>	<u>765.0</u>
= <b>Beginning Net Long-Term Assets</b>	<b>1,921.0</b>	<b>1,770.6</b>	<b>1,660.1</b>
= <b>Total Beginning Net Assets</b>	<b>2,068.7</b>	<b>1,936.6</b>	<b>2,459.8</b>
<b>Beginning Net Debt</b>	(1,031.3)	(952.6)	325.3
Short-Term Debt	2.7	2.4	395.0
+ Long-Term Debt	787.5	790.2	383.8
– Cash	<u>1,821.5</u>	<u>1,745.2</u>	<u>453.5</u>
= <b>Beginning Net Debt</b>	<b>(1,031.3)</b>	<b>(952.6)</b>	<b>325.3</b>
+ <b>Beginning Preferred Stock</b>	0.0	0.0	0.0
+ <b>Beginning Shareholders' Equity</b>	<u>3,099.9</u>	<u>2,889.3</u>	<u>2,134.6</u>
= <b>Total Net Capital</b>	<b>2,068.6</b>	<b>1,936.7</b>	<b>2,459.9</b>

Source: Thomson ONE database and Business Analysis and Valuation (BAV) Model V.5.

**The TJX Companies, Inc.**  
**Standardized Statements of Income (\$ millions)**

**AS ADJUSTED**

Fiscal Year	2010	2009	2008
<b>Sales</b>	<b>21,942.2</b>	<b>20,288.4</b>	<b>18,999.5</b>
Cost of Sales	<u>14,930.8</u>	<u>14,538.2</u>	<u>13,993.0</u>
<b>Gross Profit</b>	<b>7,011.4</b>	<b>5,750.2</b>	<b>5,006.5</b>
SG&A	3,712.6	3,319.7	3,170.0
Other Operating Expense	<u>458.1</u>	<u>435.2</u>	<u>371.2</u>
<b>Operating Income</b>	<b>2,840.7</b>	<b>1,995.3</b>	<b>1,465.3</b>
Investment Income	0.0	0.0	0.0
Other Income, net of Other Expense	8.5	(1.7)	0.0
Other Income	15.3	7.5	0.0
Other Expense	6.8	9.2	0.0
Net Interest Expense (Income)	283.9	42.0	14.3
Interest Income	9.9	9.8	22.2
Interest Expense	293.8	51.8	36.5
Minority Interest	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
<b>Pre-Tax Income</b>	<b>2,565.3</b>	<b>1,951.6</b>	<b>1,451.0</b>
Tax Expense	965.0	738	536.1
Unusual Gains, Net of Unusual Losses (after tax)	<u>0.0</u>	<u>0.0</u>	<u>(34.3)</u>
<b>Net Income</b>	<b>1,600.3</b>	<b>1,213.6</b>	<b>880.6</b>
Preferred Dividends	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
<b>Net Income to Common</b>	<b>1,600.3</b>	<b>1,213.6</b>	<b>880.6</b>

Source: Thomson ONE database and Business Analysis and Valuation (BAV) Model V.5.

**The TJX Companies, Inc.**  
**Standardized Beginning Balance Sheet (\$ millions)**

**AS ADJUSTED**

Fiscal Year	2011	2010	2009
<b>Assets</b>			
Cash and Marketable Securities	1,821.5	1,745.2	453.5
Accounts Receivable	200.1	148.1	143.5
Inventory	2,765.5	2,532.3	2,619.3
Other Current Assets	312.4	378.2	409.8
<b>Total Current Assets</b>	<b>5,099.5</b>	<b>4,803.8</b>	<b>3,626.1</b>
Long-Term Tangible Assets	8,663.7	6,928.6	2,372.6
Long-Term Intangible Assets	182.3	181.7	179.5
Other Long-Term Assets	0.0	0.0	0.0
<b>Total Long-Term Assets</b>	<b>8,846.0</b>	<b>7,110.3</b>	<b>2,552.1</b>
<b>Total Assets</b>	<b>13,945.5</b>	<b>11,914.1</b>	<b>6,178.2</b>
<b>Liabilities</b>			
Accounts Payable	1,683.9	1,507.9	1,276.1
Short-Term Debt	2.7	2.4	395.0
Other Current Liabilities	1,450.0	1,384.7	1,096.8
<b>Total Current Liabilities</b>	<b>3,136.6</b>	<b>2,895.0</b>	<b>2,767.9</b>
Long-Term Debt	6,360.1	5,240.4	383.8
Deferred Taxes	382.3	192.4	127.0
Other Long-Term Liabilities (non-interest bearing)	709.3	697.1	765.0
<b>Total Long-Term Liabilities</b>	<b>7,451.7</b>	<b>6,129.9</b>	<b>1,275.8</b>
<b>Total Liabilities</b>	<b>10,588.3</b>	<b>9,024.9</b>	<b>4,043.7</b>
Minority Interest	0.0	0.0	0.0
<b>Shareholders' Equity</b>			
Preferred Stock	0.0	0.0	0.0
Common Shareholders' Equity	3,357.1	2,889.3	2,134.6
<b>Total Shareholders' Equity</b>	<b>3,357.1</b>	<b>2,889.3</b>	<b>2,134.6</b>
<b>Total Liabilities and Shareholders' Equity</b>	<b>13,945.5</b>	<b>11,914.1</b>	<b>6,178.2</b>

Balance sheet items are shown as beginning of period balances.

Source: Thomson ONE database and Business Analysis and Valuation (BAV) Model V.5.

**The TJX Companies, Inc.**  
**Standardized Statements of Cash Flows (\$ millions)**

**AS ADJUSTED**

Fiscal Year	2010	2009	2008
<b>Net Income</b>	<b>1,600.3</b>	<b>1,213.6</b>	<b>880.6</b>
After-tax net interest expense (income)	176.0	26.1	9.0
Non-operating losses (gains)	162.0	(21.5)	55.2
Long-term operating accruals	1,087.6	456.6	489.3
Depreciation and amortization	817.5	435.2	401.7
Other	270.1	21.4	87.6
<b>Operating cash flow before working capital investments</b>	<b>3,025.9</b>	<b>1,674.8</b>	<b>1,434.1</b>

(continued)

Fiscal Year	2010	2009	2008
Net (investments in) or liquidation of operating working capital	<u>(5.0)</u>	<u>548.6</u>	<u>(347.8)</u>
<b>Operating cash flow before investment in long-term assets</b>	<b>3,020.9</b>	<b>2,223.4</b>	<b>1,086.3</b>
Net (investment in) or liquidation of operating long-term assets	<u>(2,591.2)</u>	<u>(434.9)</u>	<u>(568.6)</u>
<b>Free cash flow available to debt and equity</b>	<b>429.7</b>	<b>1,788.5</b>	<b>517.7</b>
After-tax net interest income (expense)	(176.0)	(26.1)	(9.0)
Net debt (repayment) or issuance	<u>1,120.0</u>	<u>371.4</u>	<u>(2.0)</u>
<b>Free cash flow available to equity</b>	<b>1,373.7</b>	<b>2,133.8</b>	<b>506.7</b>
Dividend (payments)	(229.3)	(197.7)	(176.7)
Net stock issuance (repurchase), and other equity changes	<u>(1,017.2)</u>	<u>(774.9)</u>	<u>(608.9)</u>
<b>Net increase (decrease) in cash balance</b>	<b>127.2</b>	<b>1,161.2</b>	<b>(278.9)</b>

Source: Thomson ONE database and analyst calculation.

**The TJX Companies, Inc.**  
**Condensed Statements of Income (\$ millions)**  
**AS ADJUSTED**

Fiscal Year	2010	2009	2008
<b>Sales</b>	<b>21,942.2</b>	<b>20,288.4</b>	<b>18,999.5</b>
<b>Net Operating Profit after Tax</b>	<b>1,777.4</b>	<b>1,239.7</b>	<b>889.6</b>
Net Income	1,600.3	1,213.6	880.6
+ Net Interest Expense after Tax	<u>177.1</u>	<u>26.1</u>	<u>9.0</u>
<b>= Net Operating Profit after Tax</b>	<b>1,777.4</b>	<b>1,239.7</b>	<b>889.6</b>
– Net Interest Expense after Tax	<u>177.1</u>	<u>26.1</u>	<u>9.0</u>
Interest Expense	293.8	51.8	36.5
– Interest Income	9.9	9.8	22.2
<b>= Net Interest Expense (Income)</b>	<b>283.9</b>	<b>42.0</b>	<b>14.3</b>
× (1 – Tax Expense/Pre-Tax Income)	<u>0.62</u>	<u>0.62</u>	<u>0.63</u>
<b>= Net Interest Expense after Tax</b>	<b>177.1</b>	<b>26.1</b>	<b>9.0</b>
<b>= Net Income</b>	<b>1,600.3</b>	<b>1,213.6</b>	<b>880.6</b>
– Preferred Stock Dividends	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
<b>= Net Income to Common</b>	<b>1,600.3</b>	<b>1,213.6</b>	<b>880.6</b>

Source: Thomson ONE database and Business Analysis and Valuation (BAV) Model V.5.

**The TJX Companies, Inc.**  
**Condensed Beginning Balance Sheet (\$ millions)**  
**AS ADJUSTED**

Fiscal Year	2011	2010	2009
<b>Beginning Net Working Capital</b>	<b>144.1</b>	<b>166.0</b>	<b>799.7</b>
Accounts Receivable	200.1	148.1	143.5
+ Inventory	2,765.5	2,532.3	2,619.3
+ Other Current Assets	312.4	378.2	409.8
– Accounts Payable	<u>1,683.9</u>	<u>1,507.9</u>	<u>1,276.1</u>

(continued)

Fiscal Year	2011	2010	2009
– Other Current Liabilities	1,450.0	1,384.7	1,096.8
= <b>Beginning Net Working Capital</b>	<b>144.1</b>	<b>166.0</b>	<b>799.7</b>
+ <b>Beginning Net Long-Term Assets</b>	<b>7,754.4</b>	<b>6,220.8</b>	<b>1,660.1</b>
Long-Term Tangible Assets	8,663.7	6,928.6	2,372.6
+ Long-Term Intangible Assets	182.3	181.7	179.5
+ Other Long-Term Assets	0.0	0.0	0.0
– Minority Interest	0.0	0.0	0.0
– Deferred Taxes	382.3	192.4	127.0
– Other Long-Term Liabilities (non-interest bearing)	709.3	697.1	765.0
= <b>Beginning Net Long-Term Assets</b>	<b>7,754.4</b>	<b>6,220.8</b>	<b>1,660.1</b>
= <b>Total Beginning Net Assets</b>	<b>7,898.5</b>	<b>6,386.9</b>	<b>2,459.8</b>
<b>Beginning Net Debt</b>	4,541.3	3,497.6	325.3
Short-Term Debt	2.7	2.4	395.0
+ Long-Term Debt	6,360.1	5,240.4	383.8
– Cash	1,821.5	1,745.2	453.5
= <b>Beginning Net Debt</b>	<b>4,541.3</b>	<b>3,497.6</b>	<b>325.3</b>
+ <b>Beginning Preferred Stock</b>	0.0	0.0	0.0
+ <b>Beginning Shareholders' Equity</b>	<b>3,357.1</b>	<b>2,889.3</b>	<b>2,134.6</b>
= <b>Total Net Capital</b>	<b>7,898.4</b>	<b>6,386.9</b>	<b>2,459.9</b>

Source: Thomson ONE database and Business Analysis and Valuation (BAV) Model V.5.

## APPENDIX B NORDSTROM, INC. FINANCIAL STATEMENTS

We present here for reference Standardized and Condensed financial statements for Nordstrom, on both an As Reported and As Adjusted (as detailed in the chapter) basis. A reminder that “As Reported” and “As Adjusted” refers to the numbers presented in the statements, not the format, which is used to facilitate comparison and forecasting, and is not specifically representative of the format presented in company filings. Finally, As Adjusted statements show differences from As Reported statements only in the years (FY 2010 for income and cash flow statements, FY 2011 and 2010 for beginning balance sheets) where adjustments have been made.

### Nordstrom, Inc. Standardized Statements of Income (\$ millions)

#### AS REPORTED

Fiscal Year	2010	2009	2008
<b>Sales</b>	<b>9,700.0</b>	<b>8,627.0</b>	<b>8,573.0</b>
Cost of Sales	5,570.0	5,015.0	5,115.0
<b>Gross Profit</b>	<b>4,130.0</b>	<b>3,612.0</b>	<b>3,458.0</b>
SG&A	2,685.0	2,465.0	2,386.0
Other Operating Expense	327.0	313.0	302.0
<b>Operating Income</b>	<b>1,118.0</b>	<b>834.0</b>	<b>770.0</b>
Investment Income	0.0	0.0	0.0
Other Income, net of Other Expense	0.0	0.0	9.0
Other Income	0.0	0.0	9.0

(continued)

Fiscal Year	2010	2009	2008
Other Expense	0.0	0.0	0.0
Net Interest Expense (Income)	127.0	138.0	131.0
Interest Income	6.0	10.0	14.0
Interest Expense	133.0	148.0	145.0
Minority Interest	0.0	0.0	0.0
<b>Pre-Tax Income</b>	<b>991.0</b>	<b>696.0</b>	<b>648.0</b>
Tax Expense	378.0	255.0	247.0
Unusual Gains, Net of Unusual Losses (after tax)	0.0	0.0	0.0
<b>Net Income</b>	<b>613.0</b>	<b>441.0</b>	<b>401.0</b>
Preferred Dividends	0.0	0.0	0.0
<b>Net Income to Common</b>	<b>613.0</b>	<b>441.0</b>	<b>401.0</b>

Source: Thomson ONE database and Business Analysis and Valuation (BAV) Model V.5.

**Nordstrom, Inc.**  
**Standardized Beginning Balance Sheet (\$ millions)**

**AS REPORTED**

Fiscal year	2011	2010	2009
<b>Assets</b>			
Cash and Marketable Securities	1,506.0	795.0	72.0
Accounts Receivable	2,026.0	2,035.0	1,942.0
Inventory	977.0	898.0	900.0
Other Current Assets	315.0	326.0	303.0
<b>Total Current Assets</b>	<b>4,824.0</b>	<b>4,054.0</b>	<b>3,217.0</b>
Long-Term Tangible Assets	2,585.0	2,472.0	2,391.0
Long-Term Intangible Assets	53.0	53.0	53.0
Other Long-Term Assets	0.0	0.0	0.0
<b>Total Long-Term Assets</b>	<b>2,638.0</b>	<b>2,525.0</b>	<b>2,444.0</b>
<b>Total Assets</b>	<b>7,462.0</b>	<b>6,579.0</b>	<b>5,661.0</b>
<b>Liabilities</b>			
Accounts Payable	846.0	726.0	563.0
Short-Term Debt	6.0	356.0	299.0
Other Current Liabilities	1,027.0	932.0	739.0
<b>Total Current Liabilities</b>	<b>1,879.0</b>	<b>2,014.0</b>	<b>1,601.0</b>
Long-Term Debt	2,775.0	2,257.0	2,214.0
Deferred Taxes	0.0	0.0	0.0
Other Long-Term Liabilities (non-interest bearing)	787.0	736.0	636.0
<b>Total Long-Term Liabilities</b>	<b>3,562.0</b>	<b>2,993.0</b>	<b>2,850.0</b>
<b>Total Liabilities</b>	<b>5,441.0</b>	<b>5,007.0</b>	<b>4,451.0</b>
Minority Interest	0.0	0.0	0.0
<b>Shareholders' Equity</b>			
Preferred Stock	0.0	0.0	0.0
Common Shareholders' Equity	2,021.0	1,572.0	1,210.0
<b>Total Shareholders' Equity</b>	<b>2,021.0</b>	<b>1,572.0</b>	<b>1,210.0</b>
<b>Total Liabilities and Shareholders' Equity</b>	<b>7,462.0</b>	<b>6,579.0</b>	<b>5,661.0</b>

Source: Thomson ONE database and Business Analysis and Valuation (BAV) Model V.5.

**Nordstrom, Inc.**  
**Standardized Statements of Cash Flows (\$ millions)**

**AS REPORTED**

Fiscal year	2010	2009	2008
<b>Net Income</b>	<b>613.0</b>	<b>441.0</b>	<b>401.0</b>
After-tax net interest expense (income)	78.6	87.4	81.1
Non-operating losses (gains)	0.0	0.0	0.0
Long-term operating accruals	465.0	495.0	445.0
Depreciation and amortization	327.0	313.0	302.0
Other	138.0	182.0	143.0
<b>Operating cash flow before working capital investments</b>	<b>1,156.6</b>	<b>1,023.4</b>	<b>927.1</b>
Net (investments in) or liquidation of operating working capital	99.0	315.0	2.0
<b>Operating cash flow before investment in long-term assets</b>	<b>1,255.6</b>	<b>1,338.4</b>	<b>929.1</b>
Net (investment in) or liquidation of operating long-term assets	(462.0)	(541.0)	(792.0)
<b>Free cash flow available to debt and equity</b>	<b>793.6</b>	<b>797.4</b>	<b>137.1</b>
After-tax net interest income (expense)	(78.6)	(87.4)	(81.1)
Net debt (repayment) or issuance	179.0	108.0	35.0
<b>Free cash flow available to equity</b>	<b>894.0</b>	<b>818.0</b>	<b>91.0</b>
Dividend (payments)	(167.0)	(139.0)	(138.0)
Net stock issuance (repurchase), and other equity changes	(16.0)	44.0	(239.0)
<b>Net increase (decrease) in cash balance</b>	<b>711.0</b>	<b>723.0</b>	<b>(286.0)</b>

Source: Thomson ONE database and Business Analysis and Valuation (BAV) Model V.5.

**Nordstrom, Inc.**  
**Condensed Statements of Income (\$ millions)**

**AS REPORTED**

Fiscal year	2010	2009	2008
<b>Sales</b>	<b>9,700.0</b>	<b>8,627.0</b>	<b>8,573.0</b>
<b>Net Operating Profit after Tax</b>	<b>691.6</b>	<b>528.4</b>	<b>482.1</b>
Net Income	613.0	441.0	401.0
+ Net Interest Expense after Tax	78.6	87.4	81.1
= <b>Net Operating Profit after Tax</b>	<b>691.6</b>	<b>528.4</b>	<b>482.1</b>
– Net Interest Expense after Tax	78.6	87.4	81.1
Interest Expense	133.0	148.0	145.0
– Interest Income	6.0	10	14.0
= Net Interest Expense (Income)	127.0	138.0	131.0
× (1 – Tax Expense/Pre-Tax Income)	0.62	0.63	0.62
= <b>Net Interest Expense after Tax</b>	<b>78.6</b>	<b>87.4</b>	<b>81.1</b>
= <b>Net Income</b>	<b>613.0</b>	<b>441.0</b>	<b>401.0</b>
– Preferred Stock Dividends	0.0	0.0	0.0
= <b>Net Income to Common</b>	<b>613.0</b>	<b>441.0</b>	<b>401.0</b>

Source: Thomson ONE database and Business Analysis and Valuation (BAV) Model V.5.

**Nordstrom, Inc.**  
**Condensed Beginning Balance Sheet (\$ millions)**

**AS REPORTED**

Fiscal year	2011	2010	2009
<b>Beginning Net Working Capital</b>	1,445.0	1,601.0	1,843.0
Accounts Receivable	2,026.0	2,035.0	1,942.0
+ Inventory	977.0	898.0	900.0
+ Other Current Assets	315.0	326.0	303.0
– Accounts Payable	846.0	726.0	563.0
– Other Current Liabilities	1,027.0	932.0	739.0
= <b>Beginning Net Working Capital</b>	<b>1,445.0</b>	<b>1,601.0</b>	<b>1,843.0</b>
<b>+ Beginning Net Long-Term Assets</b>	<b>1,851.0</b>	<b>1,789.0</b>	<b>1,808.0</b>
Long-Term Tangible Assets	2,585.0	2,472.0	2,391.0
+ Long-Term Intangible Assets	53.0	53.0	53.0
+ Other Long-Term Assets	0.0	0.0	0.0
– Minority Interest	0.0	0.0	0.0
– Deferred Taxes	0.0	0.0	0.0
– Other Long-Term Liabilities (non-interest bearing)	787.0	736.0	636.0
= <b>Beginning Net Long-Term Assets</b>	<b>1,851.0</b>	<b>1,789.0</b>	<b>1,808.0</b>
<b>= Total Beginning Net Assets</b>	<b>3,296.0</b>	<b>3,390.0</b>	<b>3,651.0</b>
Beginning Net Debt	1,275.0	1,818.0	2,441.0
Short-Term Debt	6.0	356.0	299.0
+ Long-Term Debt	2,775.0	2,257.0	2,214.0
– Cash	1,506.0	795.0	72.0
= <b>Beginning Net Debt</b>	<b>1,275.0</b>	<b>1,818.0</b>	<b>2,441.0</b>
<b>+ Beginning Preferred Stock</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>+ Beginning Shareholders' Equity</b>	<b>2,021.0</b>	<b>1,572.0</b>	<b>1,210.0</b>
<b>= Total Net Capital</b>	<b>3,296.0</b>	<b>3,390.0</b>	<b>3,651.0</b>

Source: Thomson ONE database and Business Analysis and Valuation (BAV) Model V.5.

**Nordstrom, Inc.**  
**Standardized Statements of Income (\$ millions)**

**AS ADJUSTED**

Fiscal Year	2010	2009	2008
<b>Sales</b>	<b>9,700.0</b>	<b>8,627.0</b>	<b>8,573.0</b>
Cost of Sales	5,508.0	5,015.0	5,115.0
<b>Gross Profit</b>	<b>4,191.2</b>	<b>3,612.0</b>	<b>3,458.0</b>
SG&A	2,685.0	2,465.0	2,386.0
Other Operating Expense	327.0	313.0	302.0
<b>Operating Income</b>	<b>1,179.2</b>	<b>834.0</b>	<b>770.0</b>
Investment Income	0.0	0.0	0.0
Other Income, net of Other Expense	0.0	0.0	9.0
Other Income	0.0	0.0	9.0
Other Expense	0.0	0.0	0.0
Net Interest Expense (Income)	163.4	138.0	131.0
Interest Income	6.0	10.0	14.0
Interest Expense	169.4	148.0	145.0

*(continued)*



Fiscal Year	2010	2009	2008
Minority Interest	0.0	0.0	0.0
<b>Pre-Tax Income</b>	<b>1,015.8</b>	<b>696.0</b>	<b>648.0</b>
Tax Expense	386.7	255.0	247.0
Unusual Gains, Net of Unusual Losses (after tax)	0.0	0.0	0.0
<b>Net Income</b>	<b>629.1</b>	<b>441.0</b>	<b>401.0</b>
Preferred Dividends	0.0	0.0	0.0
<b>Net Income to Common</b>	<b>629.1</b>	<b>441.0</b>	<b>401.0</b>

Source: Thomson ONE database and Business Analysis and Valuation (BAV) Model V.5.

**Nordstrom, Inc.**  
**Standardized Beginning Balance Sheet (\$ millions)**  
**AS ADJUSTED**

Fiscal year	2011	2010	2009
<b>Assets</b>			
Cash and Marketable Securities	1,506.0	795.0	72.0
Accounts Receivable	2,026.0	2,035.0	1,942.0
Inventory	977.0	898.0	900.0
Other Current Assets	315.0	326.0	303.0
<b>Total Current Assets</b>	<b>4,824.0</b>	<b>4,054.0</b>	<b>3,217.0</b>
Long-Term Tangible Assets	3,294.8	3,050.0	2,391.0
Long-Term Intangible Assets	53.0	53.0	53.0
Other Long-Term Assets	0.0	0.0	0.0
<b>Total Long-Term Assets</b>	<b>3,347.8</b>	<b>3,103.0</b>	<b>2,444.0</b>
<b>Total Assets</b>	<b>8,171.8</b>	<b>7,157.0</b>	<b>5,661.0</b>
<b>Liabilities</b>			
Accounts Payable	846.0	726.0	563.0
Short-Term Debt	6.0	356.0	299.0
Other Current Liabilities	1,027.0	932.0	739.0
<b>Total Current Liabilities</b>	<b>1,879.0</b>	<b>2,014.0</b>	<b>1,601.0</b>
Long-Term Debt	3,460.0	2,835.0	2,214.0
Deferred Taxes	8.7	0.0	0.0
Other Long-Term Liabilities (non-interest bearing)	787.0	736.0	636.0
<b>Total Long-Term Liabilities</b>	<b>4,255.7</b>	<b>3,571.0</b>	<b>2,850.0</b>
<b>Total Liabilities</b>	<b>6,134.7</b>	<b>5,585.0</b>	<b>4,451.0</b>
Minority Interest	0.0	0.0	0.0
<b>Shareholders' Equity</b>			
Preferred Stock	0.0	0.0	0.0
Common Shareholders' Equity	2,037.1	1,572.0	1,210.0
<b>Total Shareholders' Equity</b>	<b>2,037.1</b>	<b>1,572.0</b>	<b>1,210.0</b>
<b>Total Liabilities and Shareholders' Equity</b>	<b>8,171.8</b>	<b>7,157.0</b>	<b>5,661.0</b>

Source: Thomson ONE database and Business Analysis and Valuation (BAV) Model V.5.

**Nordstrom, Inc.**  
**Standardized Statements of Cash Flows (\$ millions)**  
**AS ADJUSTED**

Fiscal year	2010	2009	2008
<b>Net Income</b>	<b>629.1</b>	<b>441.0</b>	<b>401.0</b>
After-tax net interest expense (income)	101.2	87.4	81.1
Non-operating losses (gains)	0.0	0.0	0.0
Long-term operating accruals	510.5	495.0	445.0
Depreciation and amortization	363.8	313.0	302.0
Other	146.7	182.0	143.0
<b>Operating cash flow before working capital investments</b>	<b>1,240.8</b>	<b>1,023.4</b>	<b>927.1</b>
Net (investments in) or liquidation of operating working capital	99.0	315.0	2.0
<b>Operating cash flow before investment in long-term assets</b>	<b>1,339.8</b>	<b>1,338.4</b>	<b>929.1</b>
Net (investment in) or liquidation of operating long-term assets	(630.6)	(541.0)	(792.0)
<b>Free cash flow available to debt and equity</b>	<b>709.2</b>	<b>797.4</b>	<b>137.1</b>
After-tax net interest income (expense)	(101.2)	(87.4)	(81.1)
Net debt (repayment) or issuance	286.0	108.0	35.0
<b>Free cash flow available to equity</b>	<b>894.0</b>	<b>818.0</b>	<b>91.0</b>
Dividend (payments)	(167.0)	(139.0)	(138.0)
Net stock issuance (repurchase), and other equity changes	(16.0)	44.0	(239.0)
<b>Net increase (decrease) in cash balance</b>	<b>711.0</b>	<b>723.0</b>	<b>(286.0)</b>

Source: Thomson ONE database and analyst calculation.

**Nordstrom, Inc.**  
**Condensed Statements of Income (\$ millions)**  
**AS ADJUSTED**

Fiscal year	2010	2009	2008
<b>Sales</b>	<b>9,700.0</b>	<b>8,627.0</b>	<b>8,573.0</b>
<b>Net Operating Profit after Tax</b>	<b>730.3</b>	<b>528.4</b>	<b>482.1</b>
Net Income	629.1	441.0	401.0
+ Net Interest Expense after Tax	101.2	87.4	81.1
= <b>Net Operating Profit after Tax</b>	<b>730.3</b>	<b>528.4</b>	<b>482.1</b>
– Net Interest Expense after Tax	101.2	87.4	81.1
Interest Expense	169.4	148.0	145.0
– Interest Income	6.0	10	14.0
= Net Interest Expense (Income)	163.4	138.0	131.0
× (1 – Tax Expense/Pre-Tax Income)	0.62	0.63	0.62
= <b>Net Interest Expense after Tax</b>	<b>101.2</b>	<b>87.4</b>	<b>81.1</b>
= <b>Net Income</b>	<b>629.1</b>	<b>441.0</b>	<b>401.0</b>
– Preferred Stock Dividends	0.0	0.0	0.0
= <b>Net Income to Common</b>	<b>629.1</b>	<b>441.0</b>	<b>401.0</b>

Source: Thomson ONE database and Business Analysis and Valuation (BAV) Model V.5.

**Nordstrom, Inc.**  
**Condensed Beginning Balance Sheet (\$ millions)**

**AS ADJUSTED**

Fiscal year	2011	2010	2009
<b>Beginning Net Working Capital</b>	1,445.0	1,601.0	1,843.0
Accounts Receivable	2,026.0	2,035.0	1,942.0
+ Inventory	977.0	898.0	900.0
+ Other Current Assets	315.0	326.0	303.0
– Accounts Payable	846.0	726.0	563.0
– Other Current Liabilities	<u>1,027.0</u>	<u>932.0</u>	739.0
= <b>Beginning Net Working Capital</b>	<b>1,445.0</b>	<b>1,601.0</b>	<b>1,843.0</b>
<b>+ Beginning Net Long-Term Assets</b>	<b><u>2,552.1</u></b>	<b><u>2,367.0</u></b>	<b><u>1,808.0</u></b>
Long-Term Tangible Assets	3,294.8	3,050.0	2,391.0
+ Long-Term Intangible Assets	53.0	53.0	53.0
+ Other Long-Term Assets	0.0	0.0	0.0
– Minority Interest	0.0	0.0	0.0
– Deferred Taxes	8.7	0.0	0.0
– Other Long-Term Liabilities (non-interest bearing)	<u>787.0</u>	<u>736.0</u>	<u>636.0</u>
= <b>Beginning Net Long-Term Assets</b>	<b>2,552.1</b>	<b>2,367.0</b>	<b>1,808.0</b>
<b>= Total Beginning Net Assets</b>	<b>3,997.1</b>	<b>3,968.0</b>	<b>3,651.0</b>
Beginning Net Debt	1,960.0	2,396.0	2,441.0
Short-Term Debt	6.0	356.0	299.0
+ Long-Term Debt	3,460.0	2,835.0	2,214.0
– Cash	<u>1,506.0</u>	<u>795.0</u>	<u>72.0</u>
= <b>Beginning Net Debt</b>	<b>1,960.0</b>	<b>2,396.0</b>	<b>2,441.0</b>
<b>+ Beginning Preferred Stock</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>+ Beginning Shareholders' Equity</b>	<b>2,037.1</b>	<b>1,572.0</b>	<b>1,210.0</b>
<b>= Total Net Capital</b>	<b>3,997.1</b>	<b>3,968.0</b>	<b>3,651.0</b>

Source: Thomson ONE database and Business Analysis and Valuation (BAV) Model V.5.