



PROBING  
**Financial Statements**  
IN A  
**Post-Sarbanes-Oxley**  
WORLD

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It's vitally important to management accountants and senior executives that financial disclosures adequately represent the performance, financial condition, and prospects of a publicly traded company—especially now, given the certification requirements of the Sarbanes-Oxley Act of 2002.

Confidence in the correctness of those disclosures can be built (or destroyed) by relentlessly asking questions motivated by standard methods of financial analysis. Moreover, in an age when powerful spreadsheet and database software has made the financial analysis process much easier and more robust, senior executives can and should be directly involved in formulating the relevant questions. Our description of financial analysis techniques is based on developments that expand their scope beyond the traditional examination of ratios to include issues of accounting quality and security valuation. We illustrate the methodology by examining three publicly traded retailers: Walmart, Costco, and Target.

## Asking the Right Questions

Financial statement analysis involves exploring a company's numbers in search of explanations for past performance as well as telltale signs about the future. Like a detective, the analyst is seeking the key to unravel a mystery or patterns to help organize a vast array of numbers. The search follows hierarchical lines of command. The CEO asks the CFO, who summons the controller, who confers with the assistant controller, who turns to the head of corporate planning, who demands of a senior analyst: Are investors informed about the true performance, risks, and opportunities of our company? What's the probable margin of error in the numbers? Members of the board, the audit committee, external auditors, and attorneys join the analytical process. At stake is management's responsibility for ensuring that investors have timely and fair access to reliable information. In this article we'll discuss the types of questions that help management acquire confidence in financial disclosures.

According to Benjamin S. Bloom's *Taxonomy of Educational Objectives: Book 1, Cognitive Domain* (Addison Wesley, New York, 1956), there are six kinds of questions. In order of increasing complexity, they cover recall, comprehension, application, analysis, synthesis, and evaluation. Questions in the last three categories can help executives verify the quality of financial disclosures:

- ◆ Questions of *analysis* target the components and time-series behavior of the firm's risk and return metrics;
- ◆ Questions of *synthesis* help to integrate a multitude of facts and perspectives about the company when, for example, creating pro-forma financial reports; and
- ◆ Questions of *evaluation* attempt to resolve differences of opinion or obtain a ranking of alternative decisions the company faces.

Sharp queries supported by a comprehensive business model demonstrate the inquirer's depth of knowledge and affect the quality of the answers they elicit. The mere anticipation of good questions can be a powerful instrument to promote diligence and honesty in preparing reports at all levels of the organization.

We've chosen Walmart to illustrate the approach because, with the notable exception of 2008, its disappointing stock price performance since 2004 follows four extraordinarily successful decades during which it rose from a small chain of variety stores in Rogers, Ark., to become the largest retailer in the world. We use two of Walmart's competitors, Costco and Target, as benchmarks for comparison.

## Kicking the Corporate Tires

The terms "fundamental analysis" and "value-based investing" are indelibly linked to Benjamin Graham and David Dodd, authors of *Security Analysis* (McGraw-Hill, New York, 1940). Writing in the midst of the devastation that followed the market crash of 1929, Graham and Dodd recommended that investors apply the tenets of economic theory in attempting to identify mispriced securities. Seven decades later, their recommendation is no less relevant.

Financial analysis also has been influenced by a number of more recent developments. Among these are powerful and user-friendly software (spreadsheets, for example), the hierarchical diagnostic technique popularized by DuPont, models that measure accounting quality and help predict manipulation (see Messod D. Beneish's "The Detection of Earnings Manipulation" in the September/October 1999 issue of *Financial Analysts Journal*), and the Edwards-Bell-Ohlson residual income valuation model (see C.M.C. Lee's "Accounting Based Valuation: Impact on Business Practice and Research," *Accounting Horizons*, December 1999).

Financial statements typically are analyzed in four stages: (1) preliminary data adjustments, (2) ratio analysis, (3) assessment of accounting quality, and (4) valuation. Let's examine each of these in turn.

**Stage One: Data Adjustments.** Financial analysts seek to minimize measurement errors by converting financial statements to a common set of accounting rules, recognizing off-balance-sheet items, and distinguishing between necessary and superfluous assets. Standard adjustments include separating transitory from recurring items and distinguishing financing from operating effects. More-complex adjustments include capitalization of operating leases, capitalization of R&D expenses, and consolidation of subsidiaries accounted for under the "equity method."

**Stage Two: Ratio Analysis.** Ratio analysis involves using ratios of financial statement and market-based numbers to examine companies over time and to compare them with each other in terms of profitability, efficiency, and risk. Are there abrupt changes in relationships, sharp differences with respect to companies in the same business sector, or numbers that just don't make sense? An obvious weakness in ratios is that they presume linear, stationary-parameter, single-equation models of a firm. The advantage of ratios lies in their simplicity and in their power to generate important questions in short order. A good way to understand the story numerous

ratios have to tell is to organize them according to the DuPont Model, as follows:

- ◆ Level 1 disaggregates business value in terms of growth, risk, and *return on equity*.
- ◆ Level 2 explains return on equity as *return on assets* plus financial leverage.
- ◆ Level 3 looks at return on assets as *profitability of sales* times *asset turnover*.
- ◆ Level 4.a explains *profitability of sales* via common-size analysis of income.
- ◆ Level 4.b explains *asset turnover* via turnover ratios for specific assets.

In this article we recommend the advanced version of the DuPont Model that was published in *Equity Valuation and Analysis with eVal, 2nd Edition* (McGraw-Hill/Irwin, New York, 2004) because of its ability to adjust for variations in capital structure.

#### Stage Three: Accounting Quality Analysis.

Accounting quality is associated with how well a company conveys its performance and financial position to investors by means of accounting reports. Since historical performance is often indicative of prospective earnings, accounting quality is associated with the degree of linkage between changes in reported income and changes in value. Accounting quality is a key concept for executives responsible for certifying that financial statements are “fair and true” and for financial analysts and management accountants who rely on these numbers to make recommendations.

There are both qualitative and quantitative approaches to measuring quality. Qualitative approaches assign scores to companies based on attributes normally associated with accounting failures, such as frequent changes in accounting methods, ongoing restructuring charges, and changes in auditors. Quantitative approaches produce measures of *likelihood* of manipulation that integrate evidence from myriad signals contained in accounting reports.

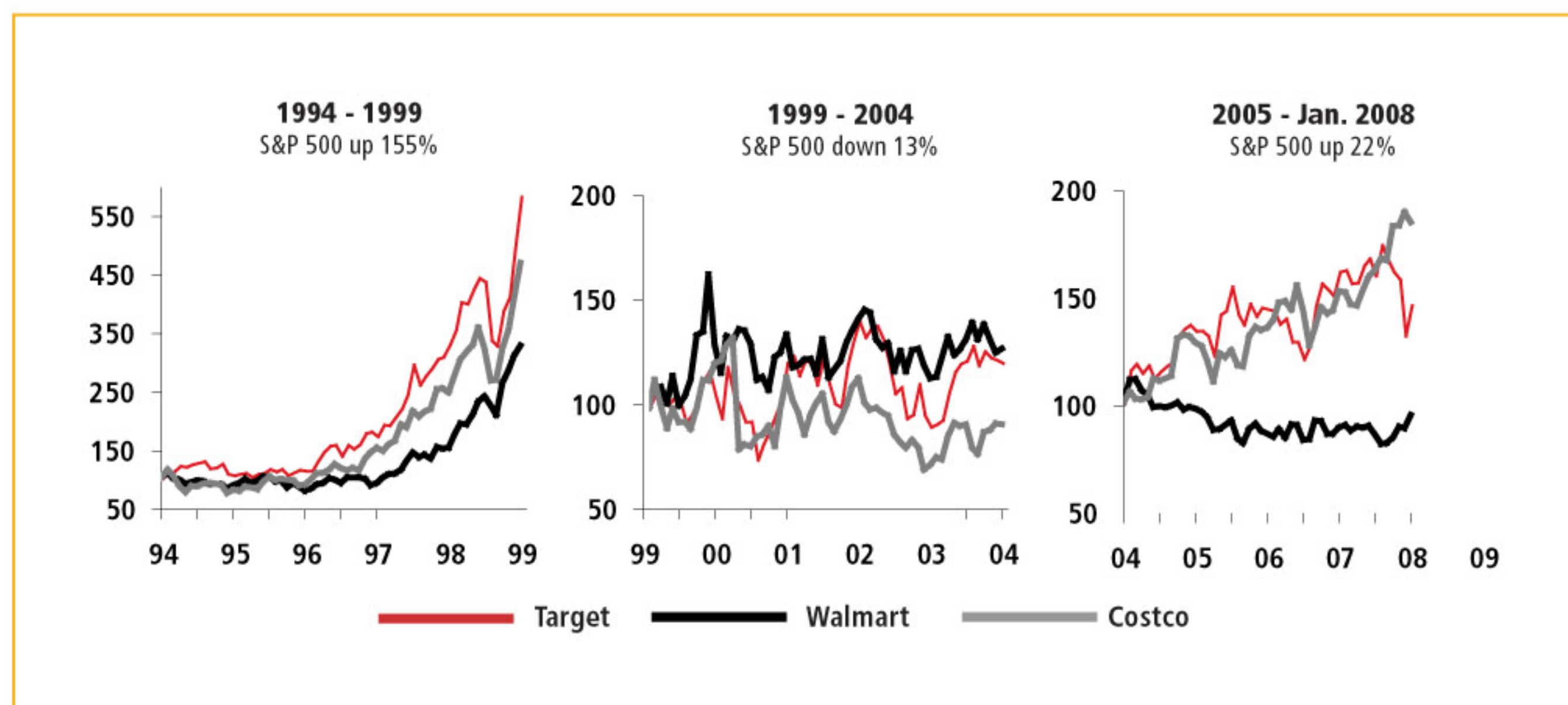
**Stage Four: Valuation.** Financial forecasts supported by the three prior stages lead to fair value estimates. Significant gaps between fair values and market prices hint at important differences between what management and investors expect. Such differences can cause significant losses to investors and may lead to legal action against the company and its executives. Therefore, a thorough analysis of any gaps between market prices and fair values is an indispensable step toward relevant, fair, and transparent disclosures.

### Financial Analysis in Action

In 2007, Walmart was the world’s largest company by sales (*Fortune* Global 500) and the world’s largest private-sector employer with about 1.9 million on its payroll. The company has been a top-four *Fortune* 500 company since 1995 and was ranked first from 2002 to 2005 and again in 2007. Its success is attributed to a few relentlessly implemented directives such as “always low prices,” investing in little towns ignored by everyone else, and saturating an area by spreading out then filling in. Details of this strategy are

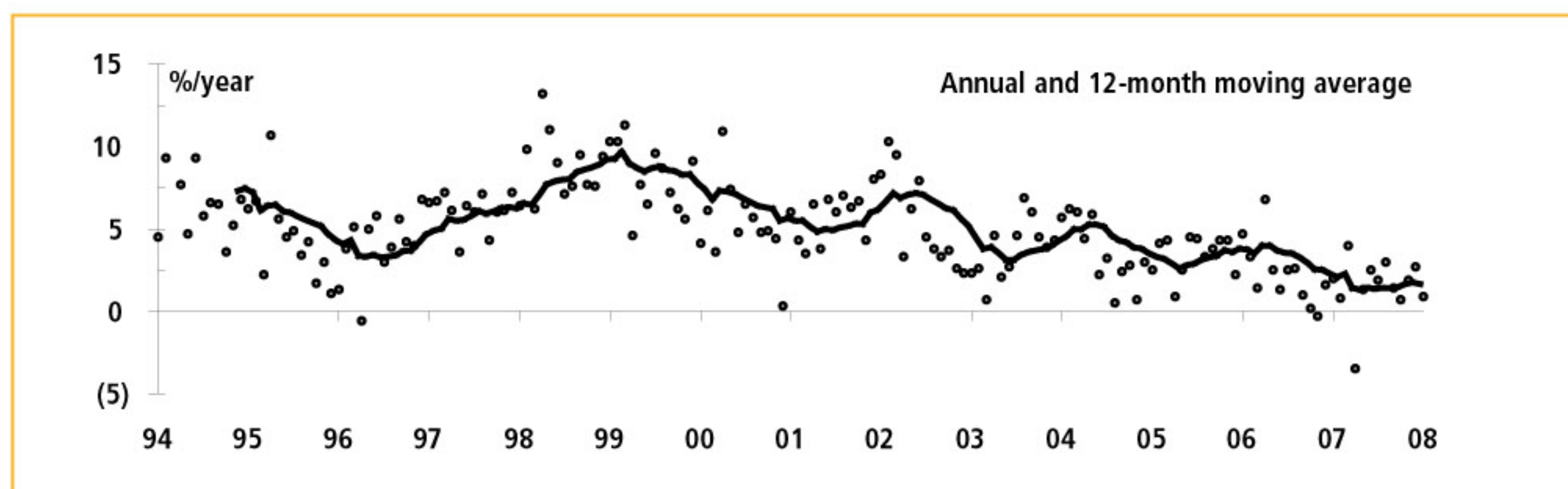
**Figure 1: Comparative Evolution of Stock Prices: Target, Walmart, and Costco**

(Each series begins at 100% on the left. Source: Standard & Poor’s Research Insight.)



**Figure 2: Growth in U.S. Comparable Store Sales**

(Source: Walmart's investor relations site)



revealed in *Made in America: My Story*, by Sam Walton with John Huey (Bantam Books, New York, 1992).

As of Jan. 31, 2007, Walmart operated 4,022 stores in the United States and 2,757 abroad. Worldwide revenues grew at a 13% average annual rate from 1998 through 2007, and the proportion of overseas revenues went from 5% in 1996 to 22.4% in 2006. In the analysis that follows, we use Target (revenues of \$63.4 billion in the year ended Jan. 28, 2008) as a benchmark for the “Stores” segment of Walmart and Costco (a rival “wholesale club” with revenues of \$64.4 billion in the year ended Aug. 28, 2007) as a benchmark for Sam’s Club. (We label Walmart’s fiscal year that ended on Jan. 31, 2008, as 2007.)

In 1998, Walmart’s sales were 2.4 times the sales of Costco and Target combined. By 2007, that ratio had increased to three. But from January 1994 until January 2008, Target achieved the best total stock price appreciation (+911%), followed by Costco (+665%) and Walmart (+283%). In the four-year period ending Jan. 31, 2008 (Figure 1), Costco led in terms of stock appreciation (+84%), followed by Target (+46%) and Walmart (-6%). In Walmart’s annual report of Jan. 31, 2005, Chairman Rob Walton admitted to being frustrated because “over the last five years, sales have gone up almost 83% and earnings have grown almost 100%, but our stock price hasn’t moved.” This was partly because of the poor performance of stock markets as a whole: During the five years Walton referred to, the S&P 500 fell 13.1%. But that was also a period of slower growth for Walmart’s domestic operations (see Figure 2) when momentum was shifting to lower-margin, albeit higher-turnover, operations: The Walmart Stores to Sam’s Club quotient of sales growth rates went from 7.2%/2.7% between January 1994 and December 1998 to 2.3%/4.8% between January 2004 and January 2008.

In the discussion that follows, we’ll analyze the three

major discounters in terms of accounting rates of return, profitability, asset productivity (turnover), segment footnotes, and accounting quality.

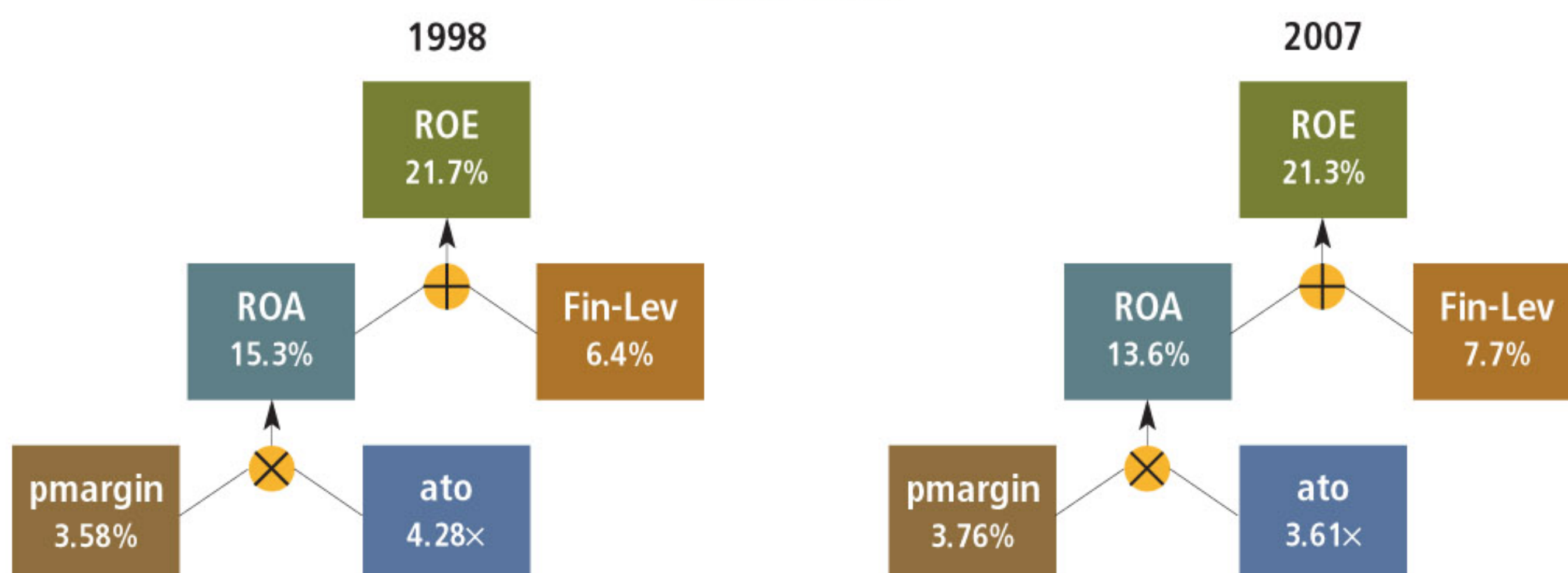
**Accounting Rates of Return.** Between 1998 and 2007, average returns on equity (ROE) at Walmart and Target were 22.4% and 19.3%, respectively, while Costco’s was about 14% (see Table 1). Differences in average returns on assets (ROA) were smaller: Walmart led with 15% ROA, followed by Target and Costco with about 12% each. The fact that Target maintained the highest debt-to-equity ratio (0.93 on average), followed by Walmart (0.66) and Costco (0.20), helps explain the ROE ranking of these companies.

Walmart’s ROE reached a low point of 18.3% in 2001, recovered to 26% in 2004, but has mostly remained in the low to mid-20s. The observed volatility in ROE and ROA stems from transitory components of income, such as losses from discontinued operations and the impact of foreign currency translation. Without transitory items, Walmart’s ROA exceeded Target’s and Costco’s practically every year since 1998. The loss of 1.7 percentage points in Walmart’s sustainable ROA between 1998 and 2007 (see Figure 3) is because of a favorable change in profit margin (+0.8 ROA points) offset by an unfavorable change in turnover (-2.4 ROA points).

**Profitability.** With or without transitory items, Target (5%) was the leader in terms of average profit margins from 1998 through 2007, followed by Walmart (4%) and Costco (2%), which isn’t surprising given the strategies these companies follow. Common-size analysis shows that profitability was boosted across the board by downward trends in cost of merchandise sold as a percentage of sales.

At Walmart, however, higher SG&A (selling, general, and administrative) expenses meant that total operating expenses (including depreciation) decreased by only 100

**Figure 3: DuPont Analysis for Walmart Based on Sustainable Profitability: 1998-2007**



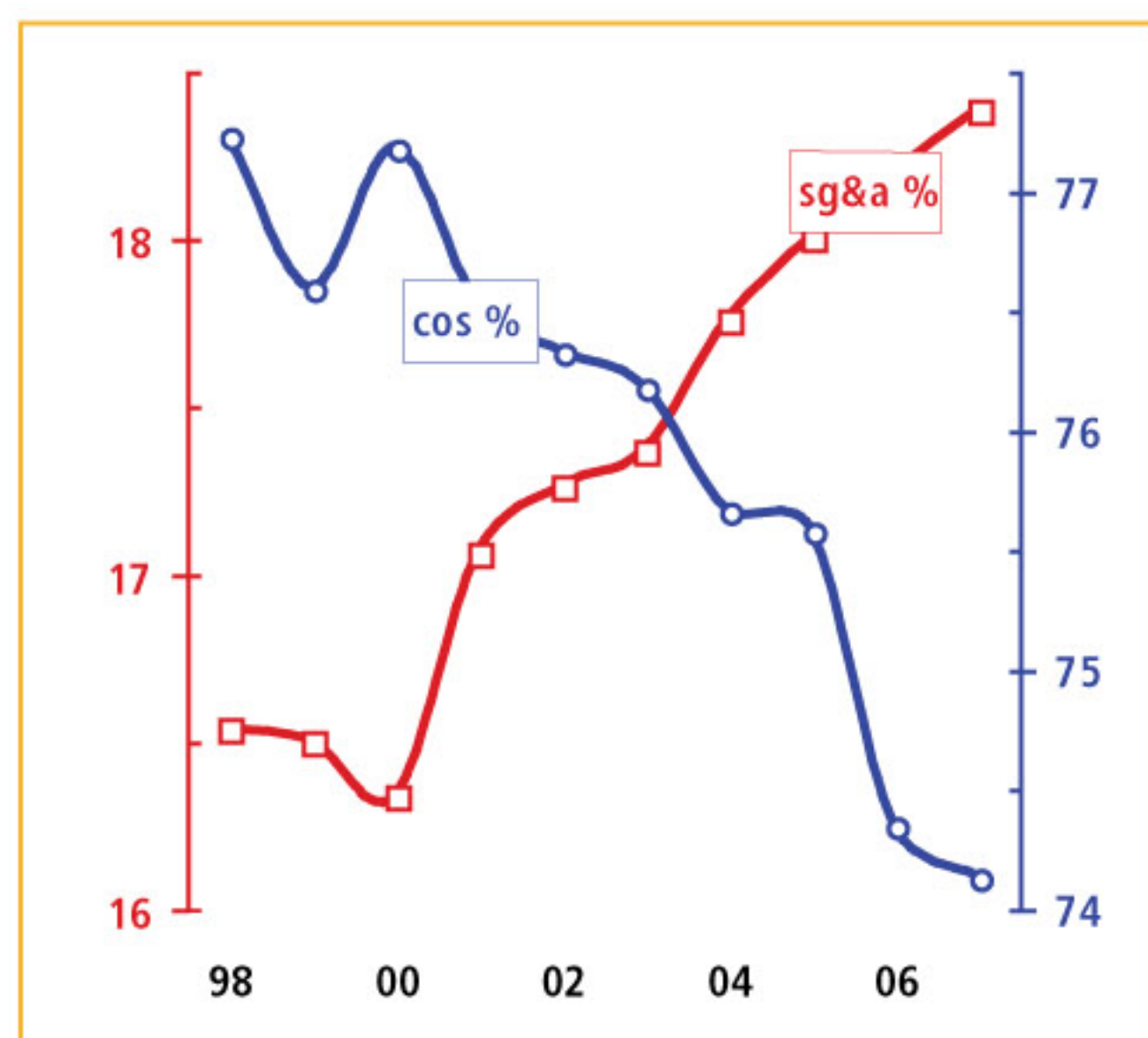
basis points. At Costco, the increase in SG&A expenses as a percentage of sales entirely offset the benefit obtained from lower proportional costs of merchandise sold, and total operating expenses ended up increasing by 78 basis points. Target—benefiting from falling SG&A expenses—secured a 200-basis-point decrease in total operating expenses as a percentage of sales. Thus, the net increase in Walmart’s permanent income between 1998 and 2007 is largely because of a reduction of 310 basis points in proportional cost of sales counteracted by an increase of 187 basis points in SG&A (see Figure 4). What’s behind these opposing trends?

Part of the answer—provided in the “management’s

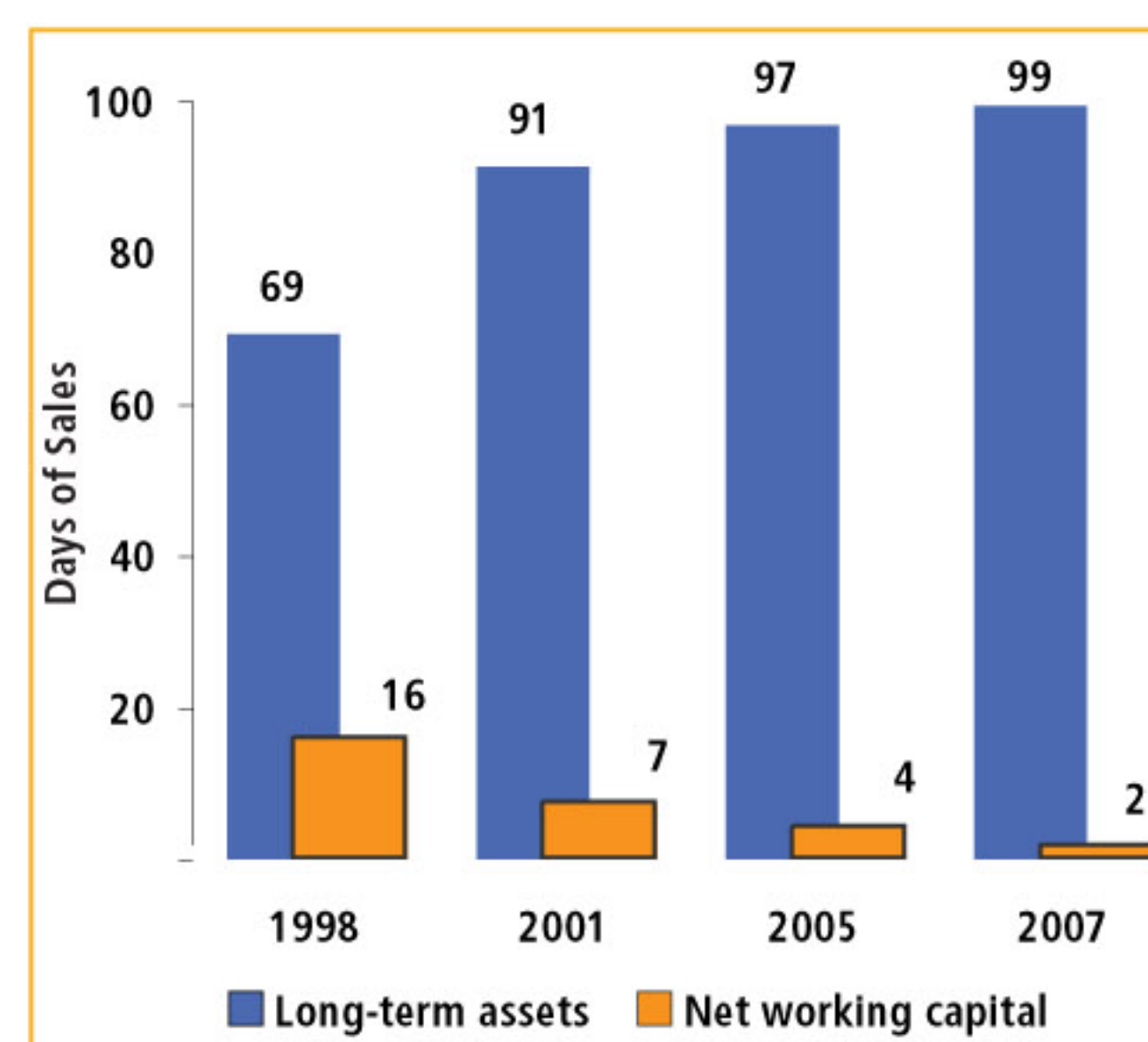
discussion and analysis” (MD&A) section of successive annual reports—is that Sam’s Club (a lower gross margin and cheaper SG&A operation relative to sales) has become a smaller component of Walmart’s worldwide business. Also, costs of insurance, advertising, utilities, and wages are increasing. Global sourcing, higher selling prices, and reductions in inventory shrinkage contributed as well.

**Asset Productivity (Turnover).** Sales increases between 1997 and 2007 at Walmart (238%), Costco (194%), and Target (130%) required large capital investments that were accompanied by significant declines in asset turnover (see Table 1). Since 2005, Costco has succeeded in reversing most of its loss. Walmart’s turnover,

**Figure 4: Walmart: Opposing Trends in Cost of Sales (↓) and SG&A Expenses (↑)**



**Figure 5: Walmart: Turnover Breakdown, 1998-2007**



**Table 1: Advanced DuPont Ratios for Target, Walmart, and Costco, 1998-2007**

(All ratios are expressed as percentages, except for asset turnover and debt/equity.)

| YEAR*                      | 98          | 99          | 00          | 01          | 02          | 03          | 04          | 05          | 06          | 07          |
|----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>TARGET</b>              |             |             |             |             |             |             |             |             |             |             |
| Leverage                   | 6.82        | 7.23        | 7.69        | 7.96        | 8.22        | 7.55        | 10.59       | 6.08        | 5.47        | 5.88        |
| (+) ROA                    | 12.4        | 13.4        | 12.9        | 11.2        | 10.7        | 10.1        | 16.0        | 11.7        | 11.7        | 9.6         |
| <b>(=) ROE</b>             | <b>19.2</b> | <b>20.6</b> | <b>20.6</b> | <b>19.2</b> | <b>18.9</b> | <b>17.7</b> | <b>26.6</b> | <b>17.8</b> | <b>17.2</b> | <b>15.5</b> |
| Profit margin on sales     | 3.87        | 4.14        | 4.17        | 4.19        | 5.34        | 5.14        | 7.62        | 5.18        | 4.87        | 4.39        |
| (X) Asset turnover         | 3.19        | 3.23        | 3.10        | 2.68        | 2.00        | 1.97        | 2.10        | 2.26        | 2.40        | 2.19        |
| <b>(=) ROA</b>             | <b>12.4</b> | <b>13.4</b> | <b>12.9</b> | <b>11.2</b> | <b>10.7</b> | <b>10.1</b> | <b>16.0</b> | <b>11.7</b> | <b>11.7</b> | <b>9.6</b>  |
| (-) After-tax cost of debt | 5.34        | 5.17        | 4.71        | 3.88        | 3.66        | 3.17        | 3.67        | 3.25        | 3.55        | 2.94        |
| (=) Spread                 | 7.03        | 8.22        | 8.20        | 7.33        | 7.02        | 6.96        | 12.36       | 8.47        | 8.15        | 6.67        |
| (X) Debt/equity (leverage) | .97         | .88         | .94         | 1.08        | 1.17        | 1.08        | .86         | .72         | .67         | .88         |
| Sustainable profit margin  | 3.96        | 4.26        | 4.17        | 4.19        | 4.67        | 4.69        | 4.83        | 5.18        | 5.28        | 5.13        |
| (X) Asset turnover         | 3.19        | 3.23        | 3.10        | 2.68        | 2.00        | 1.97        | 2.10        | 2.26        | 2.40        | 4.39        |
| (=) Sustainable ROA        | 12.6        | 13.8        | 12.9        | 11.2        | 9.4         | 9.2         | 10.2        | 11.7        | 12.7        | 11.2        |
| <b>WALMART</b>             |             |             |             |             |             |             |             |             |             |             |
| Leverage                   | 6.36        | 8.02        | 7.54        | 5.75        | 8.05        | 8.83        | 8.98        | 6.54        | 7.82        | 7.72        |
| (+) ROA                    | 15.8        | 15.1        | 13.7        | 12.6        | 15.6        | 16.6        | 17.1        | 12.2        | 14.6        | 14.9        |
| <b>(=) ROE</b>             | <b>22.2</b> | <b>23.1</b> | <b>21.2</b> | <b>18.3</b> | <b>23.6</b> | <b>25.4</b> | <b>26.0</b> | <b>18.7</b> | <b>22.4</b> | <b>22.6</b> |
| Profit margin on sales     | 3.70        | 3.85        | 3.63        | 3.41        | 4.13        | 4.36        | 4.51        | 3.36        | 4.03        | 4.14        |
| (X) Asset turnover         | 4.28        | 3.92        | 3.77        | 3.69        | 3.77        | 3.80        | 3.78        | 3.61        | 3.62        | 3.61        |
| <b>(=) ROA</b>             | <b>15.8</b> | <b>15.1</b> | <b>13.7</b> | <b>12.6</b> | <b>15.6</b> | <b>16.6</b> | <b>17.1</b> | <b>12.2</b> | <b>14.6</b> | <b>14.9</b> |
| (-) After-tax cost of debt | 4.07        | 3.61        | 3.97        | 3.92        | 2.91        | 2.45        | 2.64        | 2.62        | 3.02        | 3.27        |
| (=) Spread                 | 11.76       | 11.51       | 9.71        | 8.65        | 12.68       | 14.13       | 14.42       | 9.54        | 11.54       | 11.66       |
| (X) Debt/equity (leverage) | .54         | .70         | .78         | .67         | .64         | .63         | .62         | .69         | .68         | .66         |
| Sustainable profit margin  | 3.58        | 3.83        | 3.64        | 3.59        | 3.70        | 3.70        | 3.86        | 3.89        | 3.83        | 3.76        |
| (X) Asset turnover         | 4.28        | 3.92        | 3.77        | 3.69        | 3.77        | 3.80        | 3.78        | 3.61        | 3.62        | 3.61        |
| (=) Sustainable ROA        | 15.3        | 15.0        | 13.7        | 13.2        | 14.0        | 14.1        | 14.6        | 14.1        | 13.9        | 13.6        |
| <b>COSTCO</b>              |             |             |             |             |             |             |             |             |             |             |
| Leverage                   | 2.87        | 2.30        | 2.45        | 1.66        | 2.20        | 2.03        | 1.91        | 1.41        | .85         | 1.41        |
| (+) ROA                    | 11.35       | 10.97       | 13.83       | 10.29       | 11.34       | 11.05       | 11.86       | 13.19       | 12.72       | 11.84       |
| <b>(=) ROE</b>             | <b>14.2</b> | <b>13.3</b> | <b>16.3</b> | <b>12.0</b> | <b>13.5</b> | <b>13.1</b> | <b>13.8</b> | <b>14.6</b> | <b>13.6</b> | <b>13.3</b> |
| Profit margin on sales     | 1.71        | 1.67        | 2.04        | 1.62        | 1.89        | 1.94        | 2.08        | 2.32        | 2.04        | 1.89        |
| (X) Asset turnover         | 6.64        | 6.58        | 6.78        | 6.34        | 5.99        | 5.71        | 5.71        | 5.70        | 6.22        | 6.27        |
| <b>(=) ROA</b>             | <b>11.4</b> | <b>11.0</b> | <b>13.8</b> | <b>10.3</b> | <b>11.3</b> | <b>11.0</b> | <b>11.9</b> | <b>13.2</b> | <b>12.7</b> | <b>11.8</b> |
| (-) After-tax cost of debt | 3.02        | 2.91        | 2.75        | 2.12        | 1.52        | 1.72        | 1.70        | 2.01        | 1.20        | 2.84        |
| (=) Spread                 | 8.33        | 8.07        | 11.07       | 8.18        | 9.82        | 9.34        | 10.16       | 11.18       | 11.51       | 9.00        |
| (X) Debt/equity (leverage) | .34         | .28         | .22         | .20         | .22         | .22         | .19         | .13         | .07         | .16         |
| Sustainable profit margin  | 2.01        | 1.97        | 2.04        | 1.79        | 1.85        | 1.75        | 1.88        | 2.05        | 1.85        | 1.74        |
| (X) Asset turnover         | 6.64        | 6.58        | 6.78        | 6.34        | 5.99        | 5.71        | 5.71        | 5.70        | 6.22        | 6.27        |
| (=) Sustainable ROA        | 13.4        | 13.0        | 13.8        | 11.3        | 11.1        | 10.0        | 10.7        | 11.7        | 11.5        | 10.9        |

\* Time is indicated as Walmart's fiscal year minus 1. Thus, 07 corresponds to data for the 12-month period ended Jan. 31, 2008.

**Table 2: Walmart's International and Domestic Segments: Depreciation, Growth, and Return on Assets, 1996-2007**

(All values are percentages, except for asset turnover.)

| Year <sup>†</sup>                                | 96   | 97    | 98   | 99    | 00   | 01   | 02   | 03   | 04   | 05*  | 06*  | 07*  |
|--------------------------------------------------|------|-------|------|-------|------|------|------|------|------|------|------|------|
| <b>INTERNATIONAL</b>                             |      |       |      |       |      |      |      |      |      |      |      |      |
| Depreciation rate                                | 2.70 | 2.30  | 2.98 | 2.46  | 2.20 | 2.29 | 2.24 | 2.46 | 2.41 | 2.25 | 2.69 | 2.83 |
| Growth in sales                                  | 34.8 | 50.3  | 62.9 | 85.6  | 41.2 | 10.6 | 15.0 | 16.6 | 18.3 | 5.3  | 30.2 | 17.5 |
| Growth in assets                                 | 25.2 | 156.0 | 29.0 | 165.6 | 1.6  | 2.3  | 16.7 | 14.7 | 16.3 | 19.0 | 14.7 | 12.6 |
| Profit margin                                    | .48  | 3.49  | 4.50 | 3.59  | 3.46 | 4.11 | 4.90 | 4.98 | 5.31 | 5.80 | 5.53 | 5.26 |
| Asset turnover (X)                               | 1.93 | 1.46  | 1.45 | 1.30  | 1.26 | 1.36 | 1.43 | 1.44 | 1.48 | 1.32 | 1.47 | 1.53 |
| Return on assets                                 | .92  | 5.10  | 6.51 | 4.69  | 4.35 | 5.60 | 7.01 | 7.19 | 7.84 | 7.66 | 8.15 | 8.02 |
| <b>DOMESTIC: STORES, SAM'S CLUB, &amp; OTHER</b> |      |       |      |       |      |      |      |      |      |      |      |      |
| Depreciation rate                                | 3.87 | 4.06  | 4.13 | 4.75  | 4.73 | 4.92 | 4.56 | 4.60 | 4.67 | 4.36 | 4.42 | 4.72 |
| Growth in sales                                  | 11.1 | 10.6  | 11.7 | 15.3  | 11.9 | 14.5 | 3.6  | 10.6 | 9.7  | 9.1  | 7.3  | 6.0  |
| Growth in assets                                 | 4.2  | 3.5   | 6.5  | 11.3  | 16.4 | 9.2  | 8.7  | 12.8 | 12.9 | 10.4 | 9.4  | 5.1  |
| Profit margin                                    | 5.71 | 5.65  | 6.13 | 6.53  | 6.51 | 5.88 | 5.98 | 5.31 | 5.32 | 6.12 | 6.06 | 6.07 |
| Asset turnover (X)                               | 2.78 | 2.96  | 3.15 | 3.33  | 3.27 | 3.33 | 3.16 | 3.15 | 3.06 | 3.00 | 2.93 | 2.89 |
| Return on assets                                 | 15.8 | 16.7  | 19.3 | 21.7  | 21.3 | 19.6 | 18.9 | 16.8 | 16.3 | 18.3 | 17.7 | 17.6 |

(†) Time is indicated as Walmart's fiscal year minus 1. Thus, 07 corresponds to data for the 12-month period ended Jan. 31, 2008.

(\*) In the annual report for the fiscal year ended Jan. 31, 2008, Walmart changed the measurement of segment operating income and assets of continuing operations. This table reflects the revised numbers for the columns labeled 05, 06, and 07.

however, dropped from 4.3 (85 days of sales) in 1998 to just 3.6 (101 days) in 2007. Still, the loss wasn't uniformly distributed: Productivity of working capital has improved, but that of long-term assets has deteriorated (see Figure 5).

One likely explanation for the worsening productivity of long-term assets at Walmart is that newer stores are increasingly being located where competition is intense or where sales from an older Walmart store are cannibalized. Another plausible explanation is that venturing into new geographic areas requires special skills. Absent a direct explanation for these trends in the annual reports, we looked for clues in the company's segment footnotes.

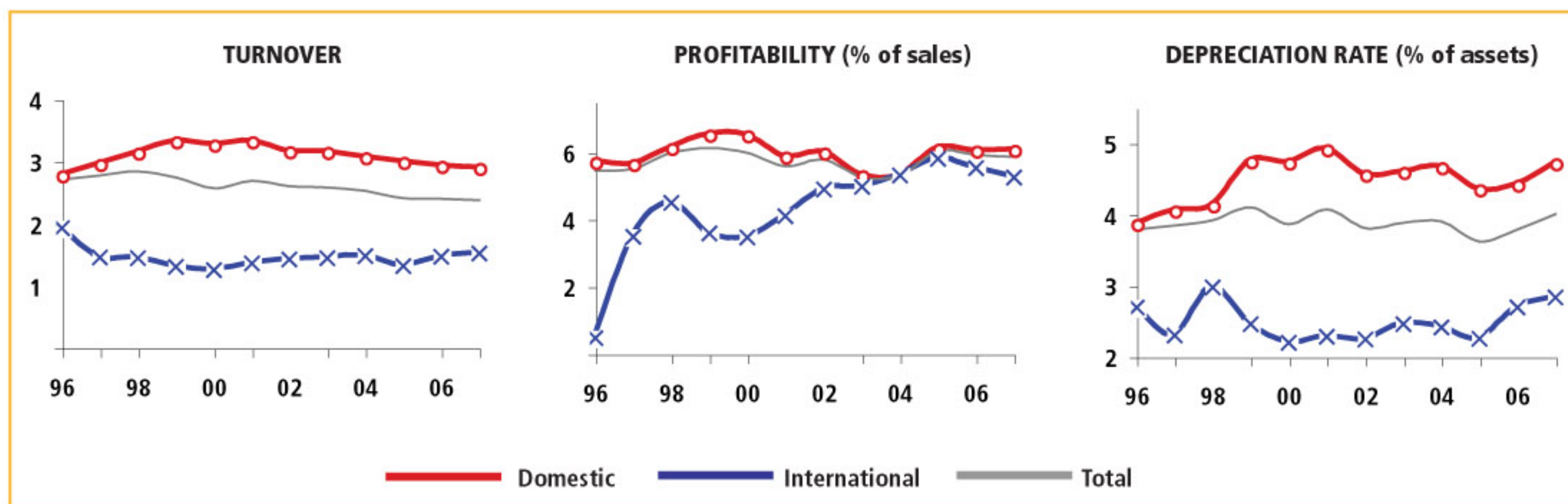
**Segment Footnotes.** Walmart's international operations have generally lagged domestic operations in terms of profitability and turnover (see Table 2). From 1998 through 2007, international turnover (1.4) averaged less than half of domestic turnover (3.1). The best level of international turnover (1.93) was achieved in 1996, a year of net losses abroad for Walmart. Although the gap between domestic and international turnover ratios has steadily decreased since 1999, a dollar invested abroad still generated only 53% of the sales generated by a dollar

at home in 2007. The company's lower productivity of international assets (39% of total assets in 2007), coupled with the continuing increase in the proportion of total assets deployed overseas, has dragged worldwide turnover to 2.4, the lowest point in a decade (see Figure 6).

Walmart's average international profitability from 1998 through 2007 (4.8%) was also lower than its average domestic profitability (6%), but overseas profitability has generally improved since the late 1990s as the company's overseas investments have matured, market shares have expanded, and the company has generally acquired a better understanding of each new market. Another measure that can be derived from the segment footnote is the ratio of depreciation expense to segment assets. The average rate of depreciation abroad (2.5%) from 1998 through 2007 was about half the domestic rate (4.6%). We couldn't find an obvious explanation for this difference in Walmart's annual reports.

Summing up, from 2000 through 2007, the profitability and turnover of Walmart's international operations improved significantly. But despite these improvements, international ROA (8%) remained far below domestic ROA (17.6%) in 2007. Since ROA is a key driver of share-

Figure 6: Comparison of Walmart's International and Domestic Segments



holder value, we believe that a discussion about the reasons for this discrepancy and whether it's likely to endure are issues that deserve attention in Walmart's communications with investors.

**Accounting Quality.** Income from continuing operations and operating cash flows for Target, Walmart, and Costco are plotted in Figure 7. The fact that income doesn't grow out of proportion to cash flows suggests that accruals are probably not being used to inflate earnings.

Messod D. Beneish's model—linking the probability of manipulation to changes in gross margin, SG&A expenses

as a percentage of sales, the ratio of depreciation to operating assets, growth in sales, days of sales in receivables, leverage, and quality of assets—confirms our initial assessment that there's a low probability that Target, Walmart, or Costco engaged in accounting manipulation at any time from 1999 through 2007.

### Valuing Walmart's Common Stock

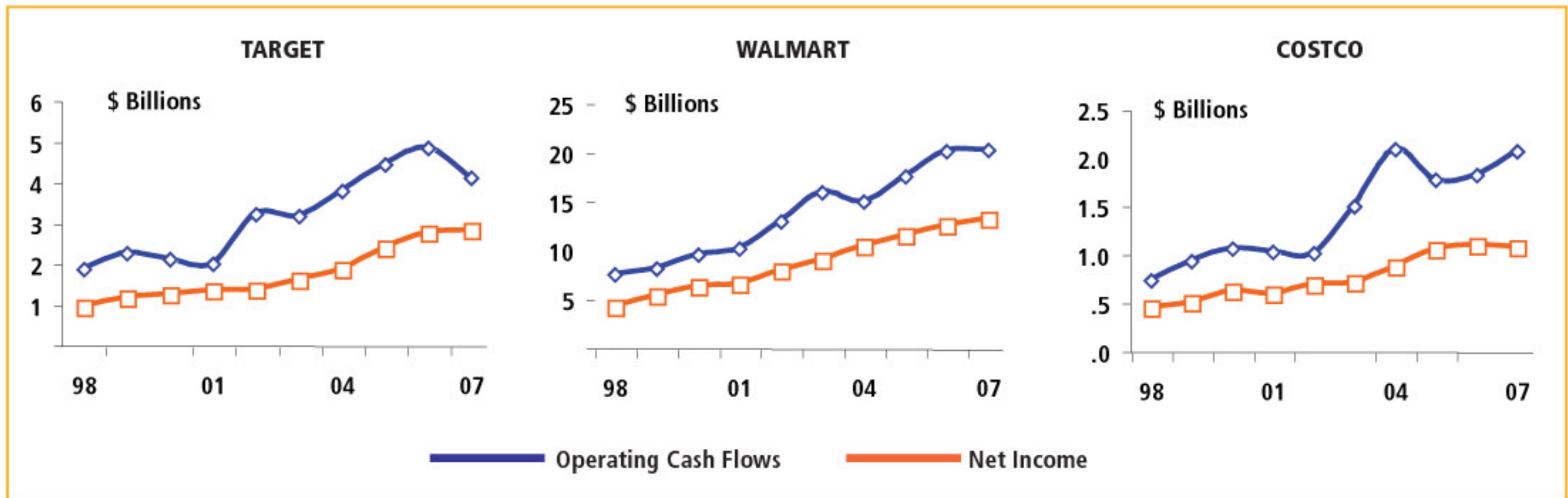
In terms of sustainable ROA, Walmart outperformed Target and Costco every year between 1998 and 2007, except in 2000 when Costco had a very small edge over its two competitors. And yet in the midst of a strong globaliza-

Table 3: Forecasting Scenarios and Corresponding Fair Values of Walmart's Stock

| Closing stock price on Jan. 31, 2008 = \$50.50 per share<br>Previous 12-month trading range = \$42 to \$51 per share |                                                                                                                        | <b>R<sup>LOW</sup></b><br>Turnover (3.6) and operating expenses (93.6% of revenues) remain forever at their 2007 levels. | <b>R<sup>HIGH</sup></b><br>Turnover improves to 4.3, while operating expenses increase to 93.8% of revenues by 2014. |
|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>G<sup>FAST</sup></b>                                                                                              | Revenues expand by 8% between 2010 and 2013, by 6% between 2014 and 2017, and then by 4% every year beginning in 2018. | \$81.60                                                                                                                  | \$95                                                                                                                 |
| <b>G<sup>SLOW</sup></b>                                                                                              | Revenues expand by 6% between 2010 and 2013, by 5% between 2014 and 2017, and then by 4% every year beginning in 2018. | \$75.40                                                                                                                  | \$87.40                                                                                                              |
| <b>G<sup>STEADY-STATE</sup></b>                                                                                      | Revenues expand by 4% in perpetuity beginning in 2010.                                                                 | \$69.80                                                                                                                  | \$80.50                                                                                                              |
| <b>G<sup>ZERO</sup></b>                                                                                              | Revenues remain stagnant in perpetuity beginning in 2010.                                                              | \$40.70                                                                                                                  | \$44.50                                                                                                              |

Note: Revenues in 2008 and 2009 grow according to consensus market expectations of 6% and 6.9%, respectively. The expected cost of equity capital is 7.7%, based on Value Line's Feb. 8, 2008, beta of 0.8 and a risk-free interest rate of 3.5%. Other parameters remain as they were during the year ended Jan. 31, 2008.

**Figure 7: Comparison of Operating Cash Flows with Net Income**



tion effort, Walmart has seen a steady erosion in sustainable ROA (-1.75 percentage points) as declines in asset turnover weren't offset by increases in profitability. In order to assess the impact of these trends on Walmart's stock price, we developed two ROA scenarios ( $R^{\text{HIGH}}$  and  $R^{\text{LOW}}$ ) combined with four growth scenarios ( $G^{\text{FAST}}$ ,  $G^{\text{SLOW}}$ ,  $G^{\text{STEADY-STATE}}$ , and  $G^{\text{ZERO}}$ ). In each scenario, revenues in 2008 and 2009 (the first two years in the forecasting horizon) grow according to market expectations of 6% and 6.9%, respectively (Reuters.com), and the discount rate for equity is 7.7%. Other details and fair value estimates for Jan. 31, 2008, are shown in Table 3.

Fair value with  $R^{\text{LOW}}$  and above steady-state growth is \$75.40 to \$81.60 per share. Fair value with  $R^{\text{HIGH}}$  at steady-state is \$80.50, which means that the faster growth rate bought at the expense of lower ROA either detracts from value or adds insignificantly to it. And this before any SG&A expense savings or reductions in risk that could be achieved by slowing the rate of expansion into new areas.

Assuming we're insiders (and our analysis therefore reflects the best current information about Walmart's prospects), the analysis above leads to two conclusions and generates further questions:

1. The market seemed to undervalue Walmart as of Jan. 31, 2008, in any scenario at or above steady-state growth. Even assuming sales stagnate beginning in 2010 ( $G^{\text{ZERO}}$ ), the price range over the previous 12 months was barely above fair value! Why is there such a large gap between fair value and the market's perception of value? Would additional disclosures help close this gap?

2. If it were possible to return to Walmart's higher levels of asset productivity achieved in 1998, the gain in shareholder value would be approximately 15% to 18%, independent of growth rates. Current disclosures provide

little if any insight as to whether this result can or can't be achieved. Would amending disclosure policy reduce uncertainty about this issue?

As our example illustrates, a systematic process of investigation generates important questions of analysis, synthesis, and evaluation about a company's financial reports. The key to acquiring confidence in the data lies in obtaining plausible, verifiable answers to such questions.

When corporate officers ask questions, they're likely to get excellent answers. But this doesn't mean that their questions are superfluous. On the contrary: The expectation of sharp questions posed by an experienced and diligent executive is itself a powerful contributor to high-quality financial disclosures. Although the development of analytical tools (models and software) should be assigned to specialists, the business acumen needed to pose good questions—and to interpret the answers—should be the bread and butter of not only executives but management accountants, financial analysts, and others who might be seeking a top managerial position. **SF**

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*Note: One of the authors owns no more than \$1,500 in Walmart stock, one of the authors owns \$13,668 in Costco stock, and neither of the authors owns Target stock at the time of publication.*