

# The Effects of Lease Capitalization on Various Financial Measures: An Analysis of the Retail Industry

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The FASB, in conjunction with the International Accounting Standards Board, is currently in the planning stages of a project that would revise SFAS 13, Accounting for Leases. What is proposed is that leases that are presently accounted for as operating leases, that is, those leases that do not meet the current requirements for on-balance-sheet treatment, would be accounted for as capital leases and brought onto the financial statements. For companies that use a significant amount of operating leases to finance operations, the financial statement impact could be far-reaching, including material effects on various measures of profitability, financial leverage, debt coverage and cash flow.

In this research report, we look at the retail industry, an industry that uses operating leases extensively, to evaluate how certain key measures of financial performance and position might be affected by the capitalization of operating leases. Among the findings are an increase in EBITDA, though reductions in income from continuing operations and earnings per share. Financial leverage is increased and debt coverage measures are reduced. Measures of profitability, such as return on assets and return on equity are reduced. Finally, we find an increase in operating cash flow and free cash flow.

## Introduction

Since its inception in 1976, SFAS 13, *Accounting for Leases*, has been an example of standards setting gone awry. Originally intended to bring more leases onto the balance sheet, its four bright-line tests have resulted in financial engineering activities designed to actually keep more leases off of the balance sheet. It has been amended eighteen times; it is the subject of twenty interpretative pronouncements, and it has been addressed by more than thirty Emerging Issues Task Force (EITF) issues. The practice of excluding leases from balance sheets is so pervasive that most financial analysts and credit analysts adjust financial statements to include the off-balance sheet transactions.

In response to the SEC's 2005 *Report and Recommendations Pursuant to Section 401(c) of the Sarbanes-Oxley Act of 2002 on Arrangements with Off-Balance Sheet Implications, Special Purpose Entities, and Transparency of Filings by Issuers*, the FASB announced a project to reconsider lease accounting.<sup>1</sup> The project will be an international effort composed of FASB members and IASB members. A discussion paper is expected in 2008, with a final document expected in 2009.

This research report examines the effects on key measures of performance and financial position of bringing onto the financial statements operating leases that are presently accounted for off-balance sheet. Our focus is on the retail sector. This sector was selected because of its significant reliance on leased facilities such as stores and warehouses.

## Data Collection and Assumptions

We analyze and make pro-forma calculations to bring onto the financial statements operating leases found in 10-K filings for selected companies for the two most recent fiscal years. Because we did not know the actual inception date of the leases or the actual interest rate used in the leases, in our calculations we made the following simplifying assumptions (see Exhibit 1 for sample calculations):

Total discount period for present value calculations: Corporate lease footnotes disclose operating lease payments due for each of the five years following the current year. An aggregate amount is reported for all payments due beyond the fifth year. To obtain the remaining life of the leases beyond the fifth year, we divided the aggregate lease payment for the period beyond five years by the lease payment due in year five. The midpoint of the resulting time frame was used in computing the discount period for the remainder of the lease payments. The total discount period for present value calculations was computed by adding the first five years of the lease term to the calculated midpoint of the term beyond year five.

Life of leases for amortization purposes: Because lease payments decline over time, indicating that some leases have shorter terms, we used 50% of the total discount period for present value calculations in determining the amortization period. We chose 50% on the premise that some leases will be expiring soon while others will run the full calculated term. In Appendix A and Appendix B we provide additional data on the effects of using 100% of the total discount period for amortization purposes.

Discount rate for present value calculations: There is no standard disclosure of effective interest rates in operating leases. While some companies may disclose the effective interest rate, most do not. We chose a tiered approach to determine the appropriate discount

rate to use in calculating net present value (NPV) of the operating leases. We used the specified interest rate for the companies that disclosed that rate in their annual reports. When that rate was not disclosed, for companies where we were able to identify a debt rating, we used the 10-year treasury rate on the last day of the fiscal year and added to it a corporate default spread based on the debt rating (see Exhibit 2). If we could not identify a debt rating, we used the discount rate imputed from the firm's existing capital leases. Finally, if the company did not have any capital leases, we used the average discount rate calculated for all companies that met any of the first three criteria.

## Balance Sheet Adjustments

For each sample company, we calculated the NPV of the operating lease payments for the two most recent fiscal years. The inception date of the operating leases was assumed to be the last day of each fiscal year. Based on this assumption, shareholders' equity did not have to be adjusted for any changes in retained earnings resulting from capitalizing the leases. We used two years of data because we needed average assets to compute Return on Assets. We also needed the current portion of the lease obligations in the first year to calculate incremental lease amortization and interest expense in the second year. Total assets were increased each year by the NPV of the operating leases. The current portion of the lease obligation, that is, the principal amount of the lease payments due within one year, was determined by subtracting interest due on the NPV of the operating leases from the scheduled lease payment. Current liabilities were increased by the current portion of the lease obligation. Long-term liabilities were increased by the remaining lease obligation.

## Income Statement Adjustments

Amortization expense associated with the capitalized lease assets in the most recent fiscal year was calculated by dividing the NPV of the operating leases at the beginning of the year by the calculated amortization period of the leases. Operating expenses were adjusted by deducting the reported lease expense and adding the calculated amortization expense. Interest expense was increased by the interest due on the NPV of the operating leases, and income tax expense was adjusted based on the effective tax rate and the calculated change in income before taxes.

## Cash Flow Statement Adjustments

Operating cash flow (OCF) in the most recent fiscal year was adjusted for the decrease in rent expense, the increase in interest expense, and the change in income taxes. Capital expenditures (CapEx), were adjusted for the change in the NPV of the operating leases from the first year to the second year.

## Effects on Income Measures

We looked at the effects of capitalizing our sample firms' operating leases on three identified measures of income, EBITDA, income from continuing operations, and earnings per share (EPS). EBITDA was calculated by adding interest expense and amortization expense to reported income before taxes. We expected EBITDA to increase by the amount of rent expense

**Table 1: Effects of Capitalizing Operating Leases on Key Measures of Income, Fiscal Year 2006 (Dollars in thousands)**

Company	EBITDA		Income from Continuing Operations		Earnings Per Share	
	Before	After	Before	After	Before	After
Belk	\$ 480,928	\$ 529,954	\$ 181,850	\$ 172,186	\$ 3.59	\$ 3.40
Big Lots	266,684	506,033	112,618	110,734	1.01	1.00
BJ's Wholesale	256,309	388,034	92,957	18,556	1.40	0.28
Costco	2,279,272	2,413,678	1,103,215	1,073,757	2.30	2.24
Dillard's	664,554	720,034	245,646	247,154	3.05	3.07
Dollar General	455,886	799,826	137,943	143,720	0.44	0.46
Dollar Tree	478,400	741,100	192,000	160,920	1.85	1.55
Family Dollar	458,876	757,238	195,111	176,335	1.26	1.14
Federated	3,162,000	3,413,000	988,000	915,123	1.80	1.67
JC Penney	2,451,000	2,746,000	1,134,000	1,157,613	4.88	4.99
Kohls	2,229,487	2,617,972	1,108,681	979,278	3.31	2.93
Maidenform Brands	58,331	63,885	27,762	28,244	1.15	1.17
PriceSmart	29,556	37,856	8,184	6,117	0.30	0.22
Retail Ventures Inc	(26,571)	154,552	(150,913)	(185,788)	(3.35)	(4.12)
Saks	136,533	251,251	(7,342)	(60,105)	(0.05)	(0.44)
Sears Holdings	3,943,000	4,830,000	1,490,000	1,371,438	9.57	8.81
Target	6,590,000	6,748,000	2,787,000	2,763,587	3.21	3.18
Tuesday Morning	76,358	141,724	36,429	36,019	0.87	0.86
Wal Mart	26,236,000	27,636,000	12,178,000	12,306,148	2.92	2.95
<b>Median % Change</b>		<b>22.5%</b>		<b>(5.3%)</b>		<b>(5.3%)</b>

EBITDA was adjusted by adding the incremental interest and depreciation expense associated with the capitalized operating leases. Income from continuing operations was adjusted by eliminating rent expense, adding interest and depreciation expense associated with the capitalized operating leases and adjusting income taxes.

Please see Appendix A where we look at the effects on Income from Continuing Operations and EPS of extending the amortization period for capitalized lease assets.

removed from the income statement because the increased interest and amortization expenses are excluded from this calculation. Our expectation was that income from continuing operations and EPS would decrease because the incremental interest and amortization expenses were expected to exceed the reduced rent expense.

Table 1 shows the effects of our adjustments on the three key measures of income. We determined the median change of each metric by calculating the median of the percent changes for each firm. As we expected, EBITDA increased by the amount of the reduction of rent expense (a median increase of 22.5%). In most cases, income from continuing operations and EPS declined. The median reduction in income from continuing operations and the median reduction in EPS were both 5.3%. The exceptions to this decline were Dillard's, Dollar General, J.C. Penney, and Wal-Mart. For these companies, the combination of the assumed discount rate and the remaining amortization life resulted in interest and depreciation expenses being less than the reported rent expense. In Appendix A we look at the effects of lease capitalization on income from continuing operations and EPS assuming a longer amortization period for capitalized lease assets.

Retail Ventures experienced a nearly 700% increase in EBITDA as a result of capitalizing their operating leases. The significant shift resulted from the size of Retail Ventures' rent expense (\$181,123) compared to its negative unadjusted EBITDA.

BJ's Wholesale and Saks exhibited significant percentage reductions in Income from Continuing Operations. For both companies, the increased interest and amortization expenses were greater than the reduction in rent and income tax expenses. When coupled with a low net income or a net loss, the impacts were significant.

## Effects on the Balance Sheet

We examined the effects of capitalizing our sample firms' operating leases on total assets, total liabilities and financial leverage. We used the ratio of liabilities to equity, a measure of the relative proportion of borrowed capital and owned capital, to gauge the level of each firm's financial leverage. This ratio gives an indication of a firm's financial position. Although a debt is a useful tool to enhance a firm's value, too much debt can cause financial distress.

We determined the median change of each metric by calculating the median of the percent changes for each firm. The median increase in assets (14.6%) was significantly overshadowed by the median increase in liabilities (26.4%). While we expected these measures to increase, the percentage increase in some cases was surprising. Table 2 shows the effects on the balance sheet resulting from the capitalization of operating leases.

BJ's Wholesale, Dollar Tree, and Kohl's experienced 137%, 136%, and 135% increases in the liabilities / equity ratio, respectively. These companies have long-lived leases that resulted in a significant difference between adjusted assets and liabilities and the reported numbers. The NPV of the operating leases represented 67%, 51%, and 51% of the reported assets of BJ's Wholesale, Dollar Tree, and Kohl's, respectively. The NPV of the operating leases represented 131%, 82%, and 83% of their respective shareholders' equity values.

**Table 2: Effects of Capitalizing Operating Leases on Total Assets, Total Liabilities, and Financial Leverage, Fiscal Year 2006 (Dollars in thousands)**

Company	Total Assets		Total Liabilities		Liabilities / Equity	
	Before	After	Before	After	Before	After
Belk	\$ 2,848,615	\$ 3,250,881	\$ 1,522,593	\$ 1,924,859	114.8%	145.2%
Big Lots	1,720,526	2,331,957	590,823	1,202,254	52.3%	106.4%
BJ's Wholesale	1,992,811	3,325,320	972,924	2,305,433	95.4%	226.0%
Costco	17,495,070	18,586,619	8,288,273	9,379,822	90.6%	102.6%
Dillards	5,408,015	5,562,002	2,821,062	2,975,049	109.0%	115.0%
Dollar General	3,040,514	4,223,568	1,294,767	2,477,821	74.2%	141.9%
Dollar Tree	1,873,300	2,835,095	705,600	1,667,395	60.4%	142.8%
Family Dollar	2,523,029	3,487,433	981,435	1,899,421	108.8%	188.6%
Federated	29,550,000	31,375,854	17,296,000	19,121,854	141.1%	156.0%
JC Penney	12,673,000	13,814,097	8,385,000	9,526,097	195.5%	222.2%
Kohls	9,041,177	13,676,881	3,437,782	8,073,486	61.4%	144.1%
Maidenform Brands	244,853	269,234	169,952	194,333	226.9%	259.5%
PriceSmart	359,043	420,738	121,752	183,447	51.9%	78.2%
Retail Ventures Inc	1,267,217	2,280,666	1,037,169	2,050,618	1132.0%	2238.2%
Saks	2,544,303	2,909,088	1,448,164	1,812,949	132.1%	165.4%
Sears Holdings	30,066,000	34,461,459	17,352,000	21,747,459	136.5%	171.1%
Target	37,349	38,961	21,716,000	23,327,577	138.9%	149.2%
Tuesday Morning	393,134	563,161	149,257	319,284	61.2%	130.9%
Wal Mart	151,193,000	158,308,324	87,460,000	94,575,324	142.0%	153.6%
Median % Change		14.6%		26.4%		26.4%

Assets and liabilities were adjusted by adding to the reported amounts the net present value of the minimum lease payments of the capitalized operating leases.

**Table 3: Effects of Capitalizing Operating Leases on Key Measures of Profitability, Fiscal Year 2006**

Company	Return on Assets (Pretax)		Return on Equity (After Tax)	
	Before	After	Before	After
Belk	10.6%	8.9%	14.4%	13.7%
Big Lots	10.2%	7.3%	10.2%	10.0%
BJ's Wholesale	7.5%	0.9%	9.1%	1.8%
Costco	10.3%	9.4%	12.2%	11.9%
Dillards	4.6%	4.5%	10.0%	10.0%
Dollar General	7.3%	5.6%	8.0%	8.3%
Dollar Tree	16.5%	9.3%	16.4%	13.8%
Family Dollar	12.6%	8.3%	14.8%	13.4%
Federated	4.6%	4.0%	7.7%	7.1%
JC Penney	14.3%	13.4%	27.3%	27.9%
Kohls	19.5%	11.5%	19.2%	16.9%
Maidenform Brands	19.1%	18.1%	43.5%	44.3%
PriceSmart	4.9%	3.1%	5.5%	3.0%
Retail Ventures Inc	(9.5%)	(9.7%)	(145.0%)	(178.5%)
Saks	(1.3%)	(3.4%)	(0.5%)	(3.9%)
Sears Holdings	8.1%	6.6%	12.3%	11.3%
Target	12.4%	11.8%	18.7%	18.5%
Tuesday Morning	14.8%	10.3%	15.2%	15.0%
Wal Mart	13.1%	12.6%	22.0%	22.2%
Median % Points Change		(1.7%)		(0.6%)

Please see Appendix B where we look at the effects on ROA and ROE of extending the amortization period for capitalized lease assets.

## Impact on Profitability Measures

We examined the effects of capitalizing our sample firms' operating leases on two key measures of profitability, pretax return on average assets (ROA) and after tax return on average equity (ROE). ROA measures a firm's ability to efficiently generate pre-tax returns from the use of its assets. ROA was calculated by dividing income before taxes by average assets. The use of income before taxes results in a measurement that is unaffected by the firm's tax situation. ROE measures a firm's ability to earn a profit on the money shareholders have invested. ROE was calculated by dividing income from continuing operations by average stockholders' equity. Capitalization of operating leases causes an increase in amortization and interest expense and a reduction in rent expense. The increase in amortization and interest expense is expected to be greater than the reduction in rent expense, so income tax expense should also decrease. An overall reduction in profitability is expected.

We determined the median change of each metric by calculating the median of the percent point changes ('before' minus 'after') for each firm. There was a 1.7 percent median percentage point reduction in ROA and a 0.6% median reduction in ROE. Table 3 shows the impact on Return on Average Assets and the Return on Average Equity. In Appendix B we look at the effects of lease capitalization on ROA and ROE assuming a longer amortization period for capitalized lease assets.

Overall, the percentage point change in ROA and ROE does not appear to be significant. However, when compared against a median ROA of 10.3%, the median reduction in ROA represents a 15.5% reduction. Similarly, when compared against a median ROE of 12.3%, the median reduction in ROE represents a 4.8% reduction.

One company, Retail Ventures Inc (RVI) had a significant change in ROE. Further examination shows that RVI is very thinly capitalized. Against reported fiscal year 2006 assets of \$1,267 million, RVI has equity of only \$92 million. On such a low equity base, even a small change in income can have a large effect on ROE. RVI has sustained significant operating losses and net losses for the last two years. The large negative return on equity is a result of both of these factors.

## Effects on Cash Flow

We examined the effects of capitalizing our sample firms' operating leases on three key measures of cash flow, operating cash flow, capital expenditures, and free cash flow. Operating cash flow (OCF) is the cash generated by a firm from its operations. OCF is calculated by adding depreciation to net income and subtracting changes in working capital. Capital expenditures (CapEx) are the funds used by a firm to acquire or upgrade property, plant, and equipment. For our purposes, we considered assets acquired pursuant to the capitalized operating lease obligations to be components of capital expenditures. Free cash flow (FCF) is cash available for the firm to use for such discretionary purposes as stock buybacks, dividends, and acquisitions. It is calculated by subtracting CapEx from operating cash flow. We determined the median change of each metric by calculating the median of the percent changes for each firm.

Because rent expense associated with the operating leases is greater than the interest expense associated with capitalizing those leases, we expected that OCF would increase for the after-tax difference between the two. Note that under capital lease treatment, a portion of cash payments made on the leases is recorded as a reduction in lease principal - a financing use of cash. Thus, while under operating lease treatment, all rent payments are treated as reductions in operating cash flow, under capital lease treatment, only the interest component of each payment is accounted for as a reduction in operating cash flow. We did, however, treat the increase in the net present value of the capitalized leases as an increase in capital expenditures, a component of free cash flow. While under generally accepted accounting principles, assets acquired with capital leases are reported as "non cash" capital expenditures and excluded from the cash flow statement, we felt it proper to include them. Our expectation, then, was that CapEx would increase for growing companies. The change in free cash flow was dependent on whether OCF increased more than the increase in CapEx. Table 4 shows the effects on these key measures of cash flow.

**Table 4: Effects of Capitalizing Operating Leases on Key Measures of Cash Flow, Fiscal Year 2006 (Dollars in thousands)**

Company	Operating Cash Flow		Capital Expenditures		Free Cash Flow	
	Before	After	Before	After	Before	After
Belk	\$ 277,393	\$ 316,771	\$ 176,082	\$ 306,533	\$ 101,311	\$ 10,238
Big Lots	381,477	575,733	35,878	(9,954)	345,599	585,687
BJ's Wholesale	172,889	258,341	190,667	209,805	(17,778)	48,536
Costco	1,827,290	1,925,134	1,196,827	1,225,849	630,463	699,285
Dillard's	360,582	402,293	314,161	283,633	46,421	118,660
Dollar General	405,357	663,413	261,515	401,122	143,842	262,291
Dollar Tree	412,800	635,209	175,300	306,009	237,500	329,200
Family Dollar	450,993	695,803	190,373	236,791	260,620	459,013
Federated	3,692,000	3,855,417	1,317,000	998,582	2,375,000	2,856,835
JC Penney	1,255,000	1,449,324	772,000	839,339	483,000	609,986
Kohls	3,099,378	3,327,026	1,142,247	1,417,011	1,957,131	1,910,016
Maidenform Brands	21,633	26,047	2,716	15,964	18,917	10,083
PriceSmart	24,649	30,302	32,185	22,407	(7,536)	7,895
Retail Ventures Inc	47,301	178,301	65,554	179,949	(18,253)	(1,648)
Saks	55,285	145,863	123,508	(218,577)	(68,223)	364,439
Sears Holdings	1,444,000	1,987,452	513,000	581,096	931,000	1,406,356
Target	4,862,000	4,950,068	3,866,000	3,904,868	996,000	1,045,200
Tuesday Morning	54,312	108,609	15,701	24,012	38,611	84,597
Wal Mart	20,164,000	21,147,335	15,272,000	15,721,684	4,892,000	5,425,650
Median % Change		22.9%		10.0%		51.1%

Operating cash flow was adjusted by adding rent expense and subtracting incremental interest and taxes associated with the capitalized operating leases. Capital expenditures were adjusted by adding the change in the NPV of the operating leases from the first year to the second year.

All measures of cash flow were characterized by extremes. Although the median percent increase in OCF was 22.9%, the changes ranged from a 1.8% increase to a 277% increase. On the low end of the range, Costco, Federated, Kohls, Target, and Wal Mart exhibited single-digit increases in OCF. On the high end of the range, RVI, Saks, and Tuesday Morning exhibited 100 percent or greater increases. In all three cases, the companies had low reported OCF. The increase in operating cash flow resulting from capitalizing the operating leases was significantly greater than the actual reported amount of OCF.

The median increase in CapEx was 10.0%; however, the percentage changes by company ranged from a 277% reduction to a 488% increase. Big Lots and Saks had significant reductions in adjusted CapEx. Both companies had a large number of store closings which resulted in a significant decrease in operating lease payments. Retail Ventures and Maidenform Brands had 175% and 488% increases, respectively in CapEx. Retail Ventures increased its operating lease obligations by \$114 million, but their reported CapEx was only \$65.5 million. Maidenform's reported CapEx is primarily related to information technology enhancements. Additionally, Maidenform more than doubled its level of operating leases from fiscal year 2005 to fiscal year 2006.

The median percentage increase in FCF was 51.1%, with changes ranging from a 90% reduction (Belk) to a 634% increase (Saks). Belk experienced strong growth, increasing their operating leases by almost 50%. As a result of store closings, Saks reduced their operating leases by the same percentage.

## Effects on Coverage Ratios

We looked at the effects of capitalizing our sample firms' operating leases on three key measures of debt coverage, EBITDA to Interest, OCF to Interest, and OCF to the current portions of long term debt and capital leases (CP). Coverage is the ability of a firm to make the required payments on its debt. EBITDA / Interest measures a firm's ability to at least make required interest payments with earnings available to pay interest. OCF / Interest measures a firm's ability to make required interest payments from cash flow derived from its operations. OCF / CP measures a firm's ability to make required debt and lease payments from cash flow derived from its operations.

We determined the median change of each metric by calculating the median of the percent changes for each firm. Coverage ratios were expected to decline because of the increased interest expense associated with capitalizing the operating leases. The median EBITDA / Interest ratio declined by 46.3%. In some cases, the decrease was dramatic. As an example, Big Lots' EBITDA / Interest ratio declined from 459.0X to 10.8X. Big Lots has no long-term obligations on their balance sheet and only a small amount of interest due in 2006. However, once interest on its operating leases was included in interest expense, the company's EBITDA / interest expense ratio declined. Other companies, such as BJ's Wholesale and Costco, while not debt free, had low levels of long-term debt and were similarly impacted.

The median percentage reduction in the OCF / Interest ratio was 38.4%. Firms with low levels of debt, such as Big Lots, BJ's Wholesale, and Costco, experienced a significant reduction in their OCF / Interest ratios, as pro-forma interest paid was increased. One firm, Saks, actually had an increase in its

OCF / Interest ratio. The increase in OCF more than offset the increase in interest expense, leading to an improvement in the ratio.

The median percentage reduction in the OCF / CP ratio was 58.5%. Once again, firms with low levels of debt displayed the largest reductions in this ratio. Big Lots had no reported current debts or capital lease obligations, so they are not included in this metric.

Table 5 shows the changes in the various coverage ratios.

## Conclusions

The purpose of the balance sheet is to provide a snapshot of the financial status of a company. Based on the information presented above, it is clear that excluding operating leases from the balance sheet causes a material distortion of the financial position of the company. That distortion is further evidenced in understated EBITDA and overstated income from continuing operations. Additionally, key cash flow metrics are understated by the exclusion of operating leases.

The FASB, with significant prodding from regulators and key constituents, has finally agreed to address the issue of leases. Until the FASB amends the lease standards, users of financial statements will want to manually adjust financial statements to more appropriately reflect the true financial condition of a company. **JARAF**

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**Table 5: Effects of Capitalizing Operating Leases on Key Measures of Coverage, Fiscal Year 2006**

Company	EBITDA/Interest		OCF/Interest		OCF/(CP LTD+Capital Lease)	
	Before	After	Before	After	Before	After
Belk	8.1	7.2	4.7	4.3	16.50	6.85
Big Lots	459.0	10.8	656.6	12.3	NA	4.09
BJ's Wholesale	279.8	4.2	188.7	2.8	375.85	6.80
Costco	181.3	36.3	145.4	29.0	566.60	30.06
Dillard's	6.2	5.9	3.4	3.3	1.76	1.68
Dollar General	13.1	6.8	11.6	5.7	46.14	3.19
Dollar Tree	29.0	9.9	25.0	8.5	21.96	3.12
Family Dollar	35.0	9.7	34.4	8.9	N/A	3.70
Federated	7.0	6.0	8.2	6.7	2.79	2.69
JC Penney	9.1	7.7	4.6	4.1	59.76	10.73
Kohls	33.4	8.6	46.4	10.9	28.71	15.85
Maidenform Brands	6.8	6.8	2.5	2.8	N/A	6.42
PriceSmart	9.3	4.9	7.7	3.9	4.55	3.88
Retail Ventures Inc	NM	1.4	1.7	1.6	75.92	2.25
Saks	2.7	2.4	1.1	1.4	7.09	0.54
Sears Holdings	11.7	6.4	4.3	2.6	2.53	2.01
Target	11.0	9.9	8.1	7.3	6.46	6.14
Tuesday Morning	33.2	10.4	23.6	8.0	NA	2.56
Wal Mart	14.5	12.8	11.1	9.8	4.13	3.97
Median % Change		-46.3%		-38.4%		-58.5%

**Exhibit 1: Sample Calculations**

Consider a firm with the following operating lease payments:

Year 1	\$100,000
Year 2	100,000
Year 3	100,000
Year 4	100,000
Year 5	100,000
Thereafter	850,000

Step 1. Calculate the discount rate

- If the firm identifies its discount rate in the lease note, use that rate
- If the firm has a debt rating, add the corporate spread adjustment obtained from Exhibit 2 to the 10-year U.S. Treasury rate published for the last day of the company's fiscal year.
- If the firm does not have a debt rating, use the discount rate imputed from its existing capital leases.
- If the firm does not have any capital leases, use the average of the discount rates calculated for the other firms.

Step 2. Calculate the remaining life of the leases and total discount period for NPV calculations

- Divide the aggregate lease payments beyond five years by the lease payment due in the fifth year.
  - $850,000 \div 100,000 = 8.5$  years
- Determine the midpoint of the remaining lease life
  - $8.5 \text{ years} \div 2 = 4.25$  years
- Add the first five years to the midpoint of the remaining life to get the total discount period
  - $5 + 4.25 = 9.25$  years

Step 3. Calculate the net present value of the minimum lease payments (assume the discount rate is 5%)

$$\frac{100,000}{(1.05)} + \frac{100,000}{(1.05)^2} + \frac{100,000}{(1.05)^3} + \frac{100,000}{(1.05)^4} + \frac{100,000}{(1.05)^5} + \frac{850,000}{(1.05)^{9.25}}$$

$$\text{NPV} = \$974,223$$

Step 4. Calculate the lease life for depreciation purposes

- Divide the aggregate lease payments beyond five years by the lease payment due in the fifth year.
  - $850,000 \div 100,000 = 8.5$  years
- Add remaining five years to the remaining lease life
  - $5 + 8.5 = 13.5$
- Divide by 2
  - $13.5 \div 2 = 6.75$  years

Step 5. Calculate annual depreciation expense

$$\text{Depreciation expense} = \text{NPV} / \text{depreciable life}$$

$$\text{Depreciation expense} = 974,223 / 6.75$$

$$\text{Depreciation expense} = \$144,329$$

Step 6. Calculate interest expense

$$\text{Interest expense} = \text{NPV} * \text{discount rate}$$

$$\text{Interest expense} = \$974,223 * 0.05$$

$$\text{Interest expense} = \$48,711$$

Step 7. Calculate current portion of lease obligation

$$\text{Current portion} = \text{Minimum lease payment} - \text{Interest expense}$$

$$\text{Current portion} = \$100,000 - \$48,711$$

$$\text{Current portion} = \$51,289$$



## Exhibit 2

## Reuters Corporate Spreads (in Basis Points) for Industrials\* 2

Rating	1 yr	2 yr	3 yr	5 yr	7 yr	10 yr	30 yr
Aaa/AAA	5	10	15	22	27	30	55
Aa1/AA+	10	15	20	32	37	40	60
Aa2/AA	15	25	30	37	44	50	65
Aa3/AA-	20	30	35	45	53	55	70
A1/A+	30	40	45	58	62	65	79
A2/A	40	50	57	65	71	75	90
A3/A-	50	65	79	85	82	88	108
Baa1/BBB+	60	75	90	97	100	107	127
Baa2/BBB	65	80	88	95	126	149	175
Baa3/BBB-	75	90	105	112	116	121	146
Ba1/BB+	85	100	115	124	130	133	168
Ba2/BB	290	290	265	240	265	210	235
Ba3/BB-	320	395	420	370	320	290	300
B1/B+	500	525	600	425	425	375	450
B2/B	525	550	600	500	450	450	725
B3/B-	725	800	775	800	750	775	850
Caa/CCC	1500	1600	1550	1400	1300	1375	1500

\* As of June 30, 2004

Methodology: Reuters Pricing Service (RPS) has eight experienced evaluators responsible for pricing approximately 20,000 investment grade corporate bonds. Corporate bonds are segregated into four industry sectors; industrial, financial, transports and utilities. RPS prices corporate bonds at a spread above an underlying treasury issue. The evaluators obtain the spreads from brokers and traders at various firms. A generic spread for each sector is created using input from street contacts and the evaluator's expertise. A matrix is then developed based on sector, rating, and maturity.

Example:

Ten-year U.S. Treasury rate = 5%

Company debt rating = A3

From the table, the corporate spread is 88 basis points (0.88%). The company's imputed discount rate would be the sum of the U.S. Treasury rate and the corporate spread, which is 5.88%

## Appendix A

### The Effects on Income from Continuing Operations and EPS Of Extending the Amortization Period for Capitalized Lease Assets

Note: Income from continuing operations and EPS are especially sensitive to the effects of the assumed amortization period for capitalized lease assets. The shorter the amortization period, the higher the amount of amortization expense, which reduces income from continuing operations and EPS. In Table 1 we use an amortization period that is 50% of the total calculated period over which all of a subject company's operating leases are scheduled to run. We chose 50% to represent the average life of all remaining operating leases on the premise that some leases will be expiring soon while others will run the full term. In the absence of specific data on the average remaining lives of outstanding operating leases (data that is not available in publicly reported financial statements), we think that 50% of the total calculated lease period is the fairest measure of the amortization period for capitalized lease assets that we could employ.

However, on the premise that at some firms the average remaining lives of outstanding operating leases may run longer than our assumed amortization period, in this appendix we look at the effects of lease capitalization on income from continuing operations and EPS assuming that the amortization period is 100% of the total calculated lease period.

As can be seen below, extending the amortization period changes the results, causing an increase in median income from continuing operations and EPS.

#### The Effects of Lease Capitalization

Company	Income from Continuing Operations		EPS	
	Before	After	Before	After
Belk	\$ 181,850	\$ 188,165	\$ 3.59	\$ 3.71
Big Lots	112,618	175,515	1.01	1.58
BJ's Wholesale	92,957	68,041	1.40	1.02
Costco	1,103,215	1,113,851	2.30	2.32
Dillard's	245,646	265,626	3.05	3.30
Dollar General	137,943	222,681	0.44	0.71
Dollar Tree	192,000	241,260	1.85	2.32
Family Dollar	195,111	258,979	1.26	1.67
Federated	988,000	995,849	1.80	1.82
JC Penney	1,134,000	1,211,627	4.88	5.22
Kohls	1,108,681	1,090,822	3.31	3.26
Maidenform	27,762	29,406	1.15	1.22
PriceSmart	8,184	8,107	0.30	0.29
Retail Ventures	(150,913)	(126,875)	(3.35)	(2.81)
Saks	(7,342)	(15,669)	(0.05)	(0.12)
Sears Holdings	1,490,000	1,577,511	9.57	10.13
Target	2,787,000	2,798,132	3.21	3.22
Tuesday Morning	36,429	53,403	0.87	1.28
Wal Mart	12,178,000	12,590,256	2.92	3.02
Median % Change		5.9%		5.7%

## Appendix B

### The Effects on Return on Assets (ROA) and Return on Equity (ROE) Of Extending the Amortization Period for Capitalized Lease Assets

Note: Measures of pretax and after-tax net income that are used in ROA and ROE are especially sensitive to the effects of the assumed amortization period for capitalized lease assets. The shorter the amortization period, the higher the amount of amortization expense, which reduces income. In calculating ROA and ROE reported in Table 3 we use an amortization period that is 50% of the total calculated period over which all of a subject company's operating leases are scheduled to run. We chose 50% to represent the average life of all remaining operating leases on the premise that some leases will be expiring soon while others will run the full term. In the absence of specific data on the average remaining lives of outstanding operating leases (data that is not available in publicly reported financial statements), we think that 50% of the total calculated lease period is the fairest measure of the amortization period for capitalized lease assets that we could employ.

However, on the premise that at some firms the average remaining lives of outstanding operating leases may run longer than our assumed amortization period, in this appendix we look at the effects of lease capitalization on ROA and ROE assuming that the amortization period is 100% of the total calculated lease period.

As can be seen below, extending the amortization period changes the results. While return on assets still declines after adjustment, return on equity now increases.

#### The Effects of Lease Capitalization

Company	Return on Assets (Pretax)		Return on Equity (After Tax)	
	Before	After	Before	After
Belk	10.6%	9.7%	14.4%	14.9%
Big Lots	10.2%	11.5%	10.2%	15.9%
BJ's Wholesale	7.5%	3.3%	9.1%	6.7%
Costco	10.3%	9.7%	12.2%	12.4%
Dillard's	4.6%	4.9%	10.0%	10.8%
Dollar General	7.3%	8.6%	8.0%	12.8%
Dollar Tree	16.5%	13.9%	16.4%	20.6%
Family Dollar	12.6%	12.1%	14.8%	19.6%
Federated	4.6%	4.4%	7.7%	7.7%
JC Penney	14.3%	14.0%	27.3%	29.2%
Kohls	19.5%	12.8%	19.2%	18.9%
Maidenform	19.1%	18.9%	43.5%	46.1%
PriceSmart	4.9%	4.1%	5.5%	4.0%
Retail Ventures Inc	-9.5%	-5.3%	-145.0%	-121.9%
Saks	-1.3%	-1.5%	-0.5%	-1.0%
Sears Holdings	8.1%	7.5%	12.3%	13.0%
Target	12.4%	12.0%	18.7%	18.8%
Tuesday Morning	14.8%	15.2%	15.2%	22.3%
Wal Mart	13.1%	12.9%	22.0%	22.7%
Median % Points Change		-0.3%		0.7%

## Footnotes

1 FASB Formally Adds Project to Reconsider Lease Accounting, [www.fasb.org/news/nr071906.shtml](http://www.fasb.org/news/nr071906.shtml), accessed January 29, 2007

2 [www.bondsonline.com/Search\\_Quote\\_Center/Corporate\\_Agency\\_Bonds/Spreads](http://www.bondsonline.com/Search_Quote_Center/Corporate_Agency_Bonds/Spreads)