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Off-Balance Sheet Arrangements:
Revisiting Constructive Capitalization of Operating Leases by Lessees

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Introduction

Pursuant to the Sarbanes-Oxley Act, Securities and Exchange Commission (SEC) staff produced a report (June 2005) concerning arrangements with "off-balance sheet implications," special purpose entities, and transparency of filings by issuers. Most notable among the areas of off-balance arrangements is accounting for operating leases. Indeed, the SEC study estimates that the total (undiscounted) cash flows committed associated with off-balance sheet operating leases for all U.S. financial statement issuers at over $1.25 trillion (p. 64). Due to the significance of this off-balance sheet liability, the SEC recommended that the Financial Accounting Standards Board (FASB) reconsider the current lease accounting standards and guidance. In response, the FASB has instructed its staff to perform research and recommend potential alternatives for improving the current accounting guidance on leases. In the near future, the FASB will determine whether to add a project to its agenda for lease accounting (FASB 2006).

The purpose of this paper is to determine whether the use of operating leases as source of off-balance sheet financing has increased on a *relative* basis over the past several years. In carrying out this study, we replicate the constructive capitalization of operating leases for nine companies originally examined by Imhoff et al. (1991).

The rest of this paper is organized as follows. The next two sections provide background discussions of lease requirements under FASB Statement of Financial Accounting Standard (SFAS) No. 13 and the constructive capitalization of operating leases. The data and procedures are then covered, followed by a comparison of the 2004 impacts with the 1987 impacts from the Imhoff et al. (1991) study. Finally, we present a summary.

Background – Accounting for Leases

SFAS No. 13, Accounting for Leases (FASB 1976), provides the current rules for leases. In general terms, the lessee classifies leasing transactions under one of two categories. If sufficient risks and rewards of ownership are transferred to the lessee, the lessee records the transaction as a purchase (i.e., a capital lease); absent this transfer of sufficient risks and rewards of ownership, the lessee records the transaction as a rental (i.e., an operating lease).

SFAS No. 13 specifies four main criteria for treating a lease as a capital lease by the lessee:

1. The lease transfers ownership to the lessee at the end of the lease term; or
2. The lease contains a bargain option, under which the lessee can purchase the leased property at a price significantly below the expected fair value of the leased property at the end of the lease term; or
3. The term of the lease is equal to or greater than 75% of the estimated economic life of the leased property; or
4. The present value of the minimum lease payments to be made by the lessee is equal to or greater than 90% of the fair value of the leased property.

If any of the above criteria are met, the lessee records an asset and a related liability for the present value of the required minimum lease payments on its balance sheet. Annual expenses include imputed interest charges on the lease obligation and depreciation on the capitalized lease asset.

If none of the above criteria are met, the lessee treats the lease arrangement as an operating lease. Since this treatment is essentially that of a rental contract, the lessee does not record an asset or a related liability for the future required lease payments on its balance sheet. Instead, the lessee records an annual rental expense on its income statement. Thus, by structuring a lease contract to avoid the above capital lease criteria (even by some minute degree, such as setting the present value of the lease payments to equal only 89% of the property's fair value), a lessee can avoid any balance sheet impacts from the arrangement, thereby giving the appearance of improved leverage and performance ratios.

Disclosures by lessees required under SFAS No. 13 include the following information:

- A general description of the lessee's leasing arrangements, including:
  - the existence and terms of renewal or purchase options and escalation clauses,
  - restrictions imposed by lease agreements (e.g., any concerning dividends, additional debt, and further leasing; and
  - the basis on which any contingent rental payments are determined.

- For capital leases:
  - future minimum lease payments as of the balance sheet date, in the aggregate and for each of the five succeeding fiscal years, along with separate deductions for the amount of imputed interest necessary to reduce net minimum lease payments to present value;
  - total minimum rentals to be received in the future under noncancelable subleases as of the balance sheet;
  - total contingent rentals; and
  - assets recorded under capital leases, the accumulated amortization thereon, and depreciation expense on the capitalized lease assets separately disclosed in the financial statements or notes.
- For operating leases:
  - future minimum rental payments required as of the balance sheet date, in the aggregate and for each of the five succeeding fiscal years;
  - total minimum rentals to be received in the future under noncancelable subleases as of the balance sheet; and
  - rental expense for each period with separate amount for minimum rentals, contingent rentals, and sublease rentals.

Constructive Capitalization of Operating Leases - Prior Studies

In a series of papers, Imhoff et al. (1991, 1993, 1995, 1997) developed procedures for constructive capitalization of operating leases. This process involves using the operating lease disclosures to estimate the amount of debt and assets that would have been reported on the balance sheet if the operating lease had been treated as a capital lease from its inception. The initial 1991 paper developed a uniform set of procedures for estimating the balance sheet impact of capitalizing operating leases, while the 1993 and 1995 papers employ firm-specific procedures, and the 1997 paper examined the income statement impact of lease capitalization.

It should be noted from the disclosures (discussed in the preceding section) that the future cash flows associated with an operating lease (i.e., the minimum rental or lease payments) disclosed in the footnotes are identical to those for capital leases, except for the imputed interest disclosed in capital leases. Based on that information, Imhoff et al. (1991) estimated the incremental borrowing rate and remaining lives of the leased assets. This process resulted in an estimate of the off-balance sheet debt represented by the present value of the remaining lease obligations under operating leases, as well as an estimate of the related unamortized off-balance sheet asset.

Over the life of a lease, the lease rental payment is equal to the sum of the depreciation and the interest expense. However, in any particular year, the estimated impact on net income from constructive capitalization is entirely dependent on the stage of the lease's life. That is, in the early stages of a lease, the total of depreciation and interest expenses under the capital lease method exceed the rent expense under the operating lease method. After a certain point, the reverse is true. (These differences assume level rental payments and straight-line depreciation; thus, the interest expense resulting from amortizing the capital lease obligation causes this pattern.) Although determined to be potentially material, the income effect was eventually ignored by Imhoff et al. (1991), due to the lack of information regarding the exact stage of the lease life. Moreover, assuming a company has multiple operating leases originating at different times, any income differences resulting from the various stages of those leases would tend to offset each other.

The Imhoff et al. (1991) study resulted in a uniform set of assumptions being applied to a sample of seven pairs of firms in different industries for the 1987 fiscal year. Firms were paired based on relative similarity in size, but relative difference in their use of operating leases. The constructive capitalization for those firms was based on the following uniform assumptions:

- A interest rate of 10% for discounting the required minimum lease obligation;
- An average remaining life of 15 years for operating leases;
- End-of-year cash flows;
- The unrecorded asset equals 70% of the unrecorded debt;
- A combined effective tax rate of 40%; and
- The net effect on the current period's net income of zero.

While the above uniform assumptions were perhaps not equally appropriate for all the companies examined in the study, sensitivity tests indicated that the results were robust. For each of the fourteen companies included in the study, the changes in two ratios, the debt-to-equity multiple and return on assets (ROA), resulting from the capitalization of operating leases were compared. Their results suggest that operating leases have a significant effect on risk and return measures.

Data and Procedures

Of the 14 companies in the Imhoff et al. (1991) study, five (Rhodes, Inc.; Church's Fried Chicken; TGI Friday's; Petrie Stores; and TWA) have since either ceased operations or were acquired by another company. The resulting nine companies included Pier 1 Imports; Winn-Dixie; A&P; Foodmaker (Jack-in-the-Box); Luby's Cafeteria; The Limited; Walgreen Co.; American/Albertsons Stores; and Delta Airlines.

We examined the 2004 financial statements of these nine companies, using their footnote disclosures to estimate the balance sheet impact of capitalizing their operating leases using the same procedures employed in the Imhoff et al. (1991) study. In two instances (A&P and Delta), the constructive capitalization of their operating leases was so large that they resulted in negative equity, thereby making comparisons of the traditional debt-to-equity ratio problematic (i.e., interpreting the percentage change in a debt-to-equity ratio that changes from a positive to a negative number is meaningless). Therefore, we recalculated the data from the Imhoff et al. (1991) study to show percentage changes in total liabilities, total assets, and total equity, as well as converting the leverage ratio from their original debt-to-equity ratio to a debt-to-assets ratio. While the percentage changes resulting from constructive capitalization of the operating leases are not as dramatic (i.e., the denominator is a larger number), it did enable us to use all nine of the remaining companies.

Impact of Operating Lease Capitalization – 1987 Compared with 2004

In Table 1, we present summary statistics of the estimated amounts resulting from the operating lease capitalization procedures, compared with those in the Imhoff et al. (1991) study. The mean lease liability (discounted) for the nine companies rose from $722.6 million to $2,649.6 million, an increase of $1,927 million, or 267%. While this appears to be a staggering increase in the amount of operating lease liability, as a percentage of total liabilities, this amount represented 72.8% (1987) and 87.7% (2004), a *relative* increase of about 20%. The mean lease asset, as a percentage of total assets, rose from 32.4% to 36.7%, a *relative* increase of 13%, while the mean decrease in equity, as a percentage of total equity, further decreased from 21.4% to 30.0%, a relative *decrease* of 40%.

Table 1
Summary Statistics for Impact of Operating Lease Capitalization
1987 Compared with 2004

	Imhoff et al. Study Mean 1987	*Kilpatrick & Wilburn Study Mean 2004*
Capitalized Lease Liability *(Discounted, Net of Deferred Tax)*	$722.6 m	$2,649.6 m
Balance Sheet Impact:		
% Increase in Total Liabilities	72.8%	87.7%
% Increase in Total Assets	32.4%	36.7%
% Decrease in Equity	- 21.4%	- 30.0%
Debt-to-assets Ratio Impact:		
Pre-capitalization	57.6%	65.5%
Post-capitalization	73.2%	81.4%
% change	28.9%	33.6%
Return on Assets Impact:		
Pre-capitalization	7.5%	3.7%
Post-capitalization	5.7%	2.7%
% change	- 23.7%	- 25.0%

Impacts on the financial ratios, also presented in Table 1, are more moderate. The average percentage increase in the leverage ratios (debt-to-assets) for the nine companies was 28.9% for 1987 and 33.6% for 2004, a 4.7 percentage-point increase. Similar impacts were found in the ROA measures. The average ROA for the nine companies as a result of capitalizing operating leases decreased 23.7% in 1987 and 25.0% in 2004, a 1.3 percentage-point decline.

Table 2
Individual Comparisons of Impact of Operating Lease Capitalization
1987 Compared with 2004

	Imhoff et al. Study			*Kilpatrick & Wilburn Study*		
	1987			*2004*		
Company	*Reported Debt-to-Asset*	*Revised Debt-to-Asset*	*% Change Debt-to-Asset*	*Reported Debt-to-Asset*	*Revised Debt-to-Asset*	*% Change Debt-to-Asset*
American/Albertson	75.7%	80.0%	5.6%	70.4%	75.7%	7.6%
A&P	61.9%	71.4%	15.4%	91.7%	102.2%	11.5%
Delta	63.7%	81.5%	27.9%	125.3%	125.4%	0.0%
Jack in the Box	75.0%	84.8%	13.1%	56.9%	79.8%	40.1%
Limited	54.1%	79.2%	46.4%	61.7%	74.1%	20.2%
Lubys	22.6%	28.6%	26.6%	44.2%	48.5%	9.6%
Pier 1	63.5%	85.7%	35.0%	35.0%	69.3%	97.9%
Walgreen	54.3%	73.7%	35.7%	39.0%	70.3%	80.4%
Winn Dixie	47.8%	73.7%	54.0%	65.0%	87.7%	35.1%

	1987			*2004*		
Company	*Reported ROA*	*Revised ROA*	*% Change*	*Reported ROA*	*Revised ROA*	*% Change*
American/Albertson	4.2%	3.9%	-7.6%	2.6%	2.3%	-9.6%
A&P	4.6%	4.0%	-13.0%	-6.6%	-4.5%	-31.0%
Delta	4.9%	3.5%	-29.1%	0.0%	0.0%	-15.1%
Jack in the Box	3.0%	2.4%	-18.8%	5.8%	3.9%	-33.2%
Limited	14.8%	9.6%	-35.2%	11.6%	9.3%	-19.4%
Lubys	14.6%	13.4%	-8.3%	0.8%	0.8%	-5.2%
Pier 1	6.2%	4.0%	-35.9%	11.2%	7.0%	-37.8%
Walgreen	7.6%	5.6%	-26.3%	10.1%	6.5%	-36.1%
Winn Dixie	7.9%	5.3%	-33.1%	-1.9%	-1.2%	-37.5%

Summary and Future Analysis

This study presents a comparison of the results of the financial statement impact of constructive capitalization for nine firms originally examined in a 1991 study by Imhoff et al. Results suggest that not only does operating lease capitalization continue to have a material impact on financial statements and the resulting financial ratios, but also that the impact is even more significant than the original study.

These results provide further evidence suggesting that the FASB should reexamine the current all-or-nothing approach to classifying leases as either capital or operating and require capitalization of all noncancelable lease obligations. At a minimum, the FASB should require additional disclosures for operating leases to include the amount of implied interest in noncancelable lease obligations and the net book value of the related leased asset to allow easier constructive capitalization in order to enhance comparability.

References

Financial Accounting Standards Board (FASB), *Statement of Financial Accounting Standard (SFAS) No. 13, "Accounting for Leases,"* (Stamford, Conn.: FASB, 1980).

Financial Accounting Standards Board (FASB), *FASB Response to SEC Study on Arrangements with Off-Balance Sheet Implications, Special Purpose Entities, and Transparency of Filings by Issuers,* (March, 2006).

Imhoff, E.A., R.C. Lipe, and D.W. Wright, "Operating Leases: Impact of Constructive Capitalization," *Accounting Horizons*, 5(1) (1991), pp. 51-63.

Imhoff, E.A., R.C. Lipe, and D.W. Wright, "The Effects of Recognition Versus Disclosure on Shareholder Risk and Executive Compensation," *Journal of Accounting, Auditing and Finance*, 8(4) (1993), pp. 335-368.

Imhoff, E.A., R.C. Lipe, and D.W. Wright, "Is Footnote Disclosure an Adequate Alternative to Financial Statement Recognition?" *Journal of Financial Statement Analysis*, Fall (1995), pp. 70-813.

Imhoff, E.A., R.C. Lipe, and D.W. Wright, "Operating Leases: Income Effects of Constructive Capitalization," *Accounting Horizons*, 11(2) (1997), pp. 12-32.

Office of the Chief Accountant, Office of Economic Analysis, and Division of Corporation Finance, *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*, June 15, 2005.