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The economic implications of the earnings impact from lease capitalization

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ABSTRACT

We observe a substantial earnings impact from capitalizing the operating leases for firms on Compustat over 1996–2010. This earnings impact is derived from the disclosed lease information and is similar to the earnings difference that arises from applying the accelerated versus the straight-line model, two alternative models proposed by the Financial Accounting Standards Board and the International Accounting Standards Board (the Boards) in 2013 to account for lease expense for lessees. Our focus is on the economic implications of this earnings impact. Applying a one-year cash flow prediction model, we observe a significant relationship between the negative impact and future operating cash flows. Using a return-earnings model, we find that both negative and positive impacts possess an incremental explanatory power for contemporaneous stock returns beyond reported earnings. Our findings provide timely empirical evidence for the Boards to evaluate two alternative models for lessees' expenses as they are in the midst of redeliberations of accounting for leases.

1. Introduction

According to the extant accounting standards for leases (i.e., Accounting Standards Codification (ASC) 840), companies have two options in reporting leases: reporting them as operating leases or as capital leases. Operating lease reporting is usually preferred by companies as it keeps both the leased assets and liabilities off the balance sheet, with future lease liabilities disclosed only in footnotes. Capital lease reporting, on the other hand, requires both leased assets and liabilities to be reported on the balance sheet. Prior studies not only report that significant lease liabilities have been kept off the balance sheet via operating lease reporting (Beattie, Edwards, & Goodacre, 1998; Bennett & Bradbury, 2003; Duke, Hsieh, & Su, 2009; Imhoff, Lipe, & Wright, 1991),[3] but they also find that the disclosed operating lease liabilities, through the process of constructive operating lease capitalization, are positively associated with equity risk (Bratten, Choudhary, & Schipper, 2013; Dhaliwal, Lee, & Neamtiu, 2011; Ely, 1995; Imhoff, Lipe, & Wright, 1993), the cost of debt (Bratten et al., 2013) and bond ratings (Sengupta & Wang, 2011), despite the off-balance sheet nature of these liabilities.[4]

In addition to the liability impact, the alternative lease reporting can also have a different impact on reported earnings. For a capital lease, the lessee's expense includes depreciation on the leased asset(s) and interest expense on the remaining lease liability, whereas it is only the lease payment for an operating lease. Although the total expenses charged under operating versus capital leases are the same over the lease term, the capital lease expense is often greater than the operating lease expense in the early part of a lease term. This is because depreciation plus interest expense (i.e., the capital lease expense) usually exceeds the lease payment (i.e., the operating lease expense) in the early part of a lease term with a reversed phenomenon later on. The difference in lease expense between the capital and the operating lease reporting is referred to as *the earnings impact* from operating lease

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[3] Duke et al. (2009), for example, report that the top 25% users of operating leases (91 firms) in their sample have an average of $1.04 billion in off-balance sheet lease liabilities (or equivalent to 34% of their reported total liabilities) and $808 million of unreported leased assets (or 11% of the reported assets) as a result of operating lease reporting.

[4] Even though reporting leases as operating leases exempts companies from recognizing leased assets and liabilities arising from the lease contract on their financial reports, future lease payments are required disclosures by ASC 840-20-50-2. Given an appropriate discount rate (i.e., the incremental borrowing interest rate of the lessee), the present value of these future lease payments can be readily derived and therefore, the lease liabilities, leased assets, and the earnings impact from reporting operating leases as capital leases can also be calculated. The approach employed to derive all these financial variables is referred to as constructive operating lease capitalization (Imhoff et al., 1991), which has been used in many empirical research studies (Beattie, Goodacre, & Thomson, 2000; Bratten et al., 2013; Duke et al., 2009; Ely, 1995; Imhoff, Lipe, & Wright, 1997; Imhoff et al., 1993; Lim, Mann, & Mihov, 2003; Sengupta & Wang, 2011, etc.).

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capitalization. This impact can be derived using the operating lease information disclosed in footnotes.

Although the risk relevance of the liability impact from operating lease capitalization has been well studied (e.g., Beattie et al., 2000; Bratten et al., 2013; Dhaliwal et al., 2011; Ely, 1995; Imhoff et al., 1993), to the best of our knowledge, no academic study has investigated whether the earnings impact from operating lease capitalization is as informative as off-balance sheet operating lease liabilities even though the magnitude of this impact can be substantial.[5] Our study extends the extant research on the value relevance of off-balance sheet operating lease liabilities by investigating the economic implications of this earnings impact. Specifically, we examine whether the earnings impact from operating lease capitalization possesses incremental predictive value on future cash flows beyond reported earnings (i.e., information relevance) and whether it is associated with contemporaneous stock returns (i.e., value relevance).

2. Accounting for leases and motivation of the study

The manipulative nature of the current rules-based accounting standards for leases (i.e., ASC 840) allows companies to effectively structure lease provisions to qualify as operating leases. For example, a company can ensure operating lease status by setting the present value of future lease payments equal to 89% or less of the fair value of the leased asset, among other conditions.[6] This reporting flexibility in the current lease accounting rules causes a lack of comparability in lease reporting. It also provides easy access to off-balance sheet financing for many companies.

In an attempt to curtail this form of off-balance sheet financing, the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) (hereafter, the Boards) began a joint project in July 2006 to develop standards for leases to ensure that assets and liabilities arising from lease contracts are accounted for in the balance sheet. In August 2010, the Boards issued an exposure draft (hereafter, 2010 ED) in which a new approach treating all lease contracts as acquiring the right-of-use assets and incurring obligations for lease payments was proposed. Thus, based on the 2010 ED, both leased assets and liabilities will be recognized on the balance sheet. In addition, the lease expense for lessees will be determined by a single *accelerated model*, a model resulting in the lessee's expense being similar to that of the *capital lease expense*. The accelerated model's front-loaded pattern of expense for lessees spurred many negative comments from firms, which may have contributed to the FASB's support of a dual model in a joint meeting with the IASB in June 2012. The dual model allows companies to adopt either the accelerated model or a straight-line model (which results in a lease expense similar to the operating lease expense) to estimate lease expenses for lessees based on the consumption/nature of the leased assets (PWC, 2012). Although the IASB favored the single accelerated model, it compromised and accepted the "dual" model on the convergence ground (KPMG, 2012). In May 2013, the Boards issued a revised exposure draft for leases (hereafter, the revised ED) in which the Boards maintained their position on the balance sheet reporting of leased assets and lease liabilities but proposed the dual model for lease expense calculation. Depending on the lease type, either the accelerated or the straight-line model would be applied to calculate the lease expense.[7] While the estimated lease expense under the accelerated model is similar to the capital lease expense, it is equivalent to the operating lease expense under the straight-line model. Therefore, our study of the earnings impact from operating lease capitalization is equivalent to studying the differential earnings impact of the proposed accelerated versus straight-line models. As the Boards are in the midst of redeliberations for the accounting standards for leases, our findings provide timely empirical evidence for the Boards to evaluate alternative expense models under consideration. Our study is especially relevant since the IASB changed its position and supported the single accelerated model while the FASB continued to favor the dual model in their separate Board meetings in 2014.[8]

We find evidence that market participants incorporate the negative earnings impact from operating lease capitalization in both cash flow predictions and stock returns/firm valuation. However, the positive earnings impact is only assimilated by investors in firm valuation. Our findings, in part, complement the findings of Bratten et al. (2013). They conclude that both as-if recognized disclosed operating lease liabilities and the reported capital lease liabilities are associated with the costs of debt and equity with similar degree of association.

The remainder of the paper is organized as follows: Section 3 reviews related literature. Section 4 formulates hypotheses and presents the research design. Section 5 describes derivations of the variables used in hypotheses testing, sample selection, and data collection procedures. Empirical analyses and results are reported in Section 6. Section 7 provides the conclusion.

3. Related literature

Prior studies have investigated whether the market incorporates off-balance sheet operating lease liabilities in assessing equity risk (Beattie et al., 2000; Bratten et al., 2013; Ely, 1995; and Imhoff et al., 1993), the cost of debt (Bratten et al., 2013), and the ex-ante cost of capital (Dhaliwal et al., 2011). In addition, Lim et al. (2003) and Sengupta and Wang (2011) examine whether bond rating agencies consider these liabilities when setting bond ratings. Using firms in the airline (29 firms) and grocery (59 firms) industries, Imhoff et al. (1993) apply a model to regress equity risk on the reported and adjusted debt-to-assets ratio (to include the as-if recognized operating lease liabilities) with no control of the asset risk. They find that equity risk is more correlated with the adjusted debt-to-assets ratio than with the reported ratio. Ely (1995) applies a model[9] to study the association between equity risk (σ_E) with financial risk (D/E) and asset risk (σ_A),

[5] For the 215 sample firms in Duke et al. (2009), the average negative earnings impact from the operating lease capitalization ranges from a moderate −3.59% (or $21.99 million) of the reported earnings to a significant −11.08% (or $58.88 million) for top quartile firms ranked by the impact. For the 151 positive earnings impact firms, Duke et al. (2009) report that the average impact is 5.12% (or $18.66 million) of the reported earnings while the percentage rises to a substantial 18.11% (or $30.21 million) for top quartile firms.

[6] Based on ASC 840-10-25-1, the other three criteria to report a lease as a capital lease are: 1) the lease provision contains a transfer of ownership at the end of lease term, 2) the lease includes a bargain purchase option, and 3) the lease term is equal to or greater than 75% of the leased asset life. As long as the lease contract meets one of these three criteria or the 90% rule, the lease is reported as a capital lease.

[7] The *accelerated model* will apply to a Type A lease if the underlying asset is not property (e.g. equipment) unless 1) the lease term is insignificant relative to the total economic life of the leased asset, or 2) the present value of the lease payments is insignificant compared to the fair value of the leased asset (Proposed Accounting Standards Update (ASU) (Revised) 842-10-25-6). On the other hand, the *straight-line model* will apply to a Type B lease if the leased asset is property (e.g. building) unless 1) the lease term covers a significant portion of the remaining economic life of the leased asset, or 2) the present value of the lease payments considerably represents all of the fair value of the leased asset (Proposed ASU (Revised) 842-10-25-7).

[8] The Boards resumed their redeliberations on the revised ED in January 2014 and continued their discussion in July 2014. While the FASB reconfirmed its support of the *dual* model (and proposed to require a lessee to apply the accelerated (straight-line) model to the existing capital (operating) leases) in its August 2014 Board meeting, the IASB decided to support the *single* accelerated model to account for a lessee's expense during its Board meeting in the first half of 2014 (Project Update, September 2014, FASB and Project Update, August 2014, IASB). Although the IASB expects to issue a new leases standard in 2015, its U.S. counterpart did not indicate when that would occur.

[9] This model is derived by Modigliani and Miller (1958 and 1963) and applied by Bowman (1979) to the accounting data. The model is expressed as: $\sigma_E = (1 + (1 - t)\, D/E)\, \sigma_A$, in which t is the marginal tax rate. Ely (1995) defines σ_E as the standard deviation of stock returns while Bowman defines it as the systematic risk of levered firms. σ_A is defined by Ely (1995) as the standard deviation of return on assets while it is defined by Bowman (1979) as the systematic risk of an unlevered firm.

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