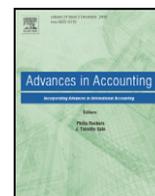




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## Decision usefulness of whole-asset operating lease capitalizations

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### ABSTRACT

Monson (2001) and Hepp and Scoles (2012) argue that some leased assets should be capitalized at the assets' purchase price (whole-asset value) rather than at the present value of future minimum lease payments (right-of-use asset value). The argument is based in part on the notion that the assets under lease generate future income not the obligation related to future lease payments. To test the notion we compare associations between capitalizations representing whole asset values and current and future return on assets (ROA) and return on equity (ROE) with capitalizations representing right-of-use asset values and current and future ROA and ROE. Our results indicate that the whole-asset annuity values are incrementally associated with future ROA and ROE over right-of-use asset values. We interpret our results to suggest that the current practice of capitalizing future lease payments does not fully reflect the income generation provided by leased assets.

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### 1. Introduction

The objective of this study is to provide evidence on the decision usefulness of operating lease disclosures as the basis for the capitalization of lease assets. Operating lease disclosures concerning future minimum lease payments reflect a firm's contractual obligations for the current and future use of an asset. However, a leased asset is by definition controlled by the lessee. As such, it is the asset itself that generates income for the lessee and therefore the value of the asset itself may better reflect the earning power of a leased asset. Our study is motivated in part by proposals to eliminate the option to expense operating lease expenditures (FASB 2010; IASB 2010). Accordingly, "a lessee would recognize an asset representing its right to use the leased ('underlying') asset for the lease term (the 'right-of-use' asset) and a liability to make lease payments" (FASB 2010; IASB 2010).<sup>1</sup> Academic researchers usually follow

the right-to-use approach when examining the pro-forma effects of operating lease capitalizations (i.e., Bennett & Bradbury, 2003; Durocher, 2008; Imhoff, Lipe, & Wright, 1991, 1997) and demonstrating how market participants can make pro-forma capitalizations of operating leases to assess firm value and risk (i.e., Bowman, 1980; Dhaliwal, 1986; Ely, 1995; Imhoff, Lipe, & Wright, 1993). Such examples provide an economic justification for capitalization, but do not address which capitalized value better reflects the relation between leased assets and profitability.

We compare the relevance of the right-to-use capitalization approach with capitalization approaches designed to reflect the "whole-asset" value of the leased assets (FASB 2010 pg 72; Monson, 2001 pg 277). By definition a right-to-use capitalization value reflects only the future payments currently required by contract. However, it is the leased asset itself that generates future earnings. Therefore, it may be that a whole asset value will be more strongly related to future earnings than a right-to-use asset value.<sup>2</sup> Consider a firm leasing an asset with a ten-year life. The firm initially signs a two-year lease without a formal option to renew. Every two years the firm enters a new lease for the asset or an equivalent asset (five times), after which the asset is discarded or returned to the lessor. In such a series

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<sup>1</sup> Preliminary discussion for a joint FASB and IASB project on leases was held in March of 2006. An exposure draft proposing capitalization of all non-cancellable leases was released on August 17, 2010. On July 21, 2011 the Boards agreed to revise and re-expose the lease project. The revised exposure draft is expected in the first half of 2013. The 2010 Exposure Draft defined leases in terms of the contract to use an asset. After reviewing input comments and outreach meetings during 2011 the Boards agreed to revise the exposure draft. Interestingly the concerns raised about the 2010 Exposure Draft relate in part to the nature of the leased asset. The revised exposure draft retains the 2010 Exposure Draft's lease definition while presenting a dual approach related to accounting for capitalized leases after the initial capitalization. The dual approach relates to the nature of the underlying leased asset with the idea that some assets are not used up by the lessee, i.e. retail and commercial space, and therefore the expensing of the leased asset should simply be the expensing of lease payments. For leased assets that are consumed by the lessee, i.e. aircraft and vehicles, amortization of the lease asset and recognition of interest expense on the liability are appropriate. For both lease types the initial recognition of a lease asset and lease liability will be the present value of lease payments.

<sup>2</sup> Dissatisfaction with the Board's 2010 Exposure Draft as well as the Board's dual model has brought proposals, similar to that of Monson, that focus on recording the leased asset at the asset's estimated purchase price. For example, Hepp and Scoles (2012) advocate for a control-based leasing model that would be consistent with the focus on control put forward in the FASB and IASB's joint project on revenue recognition. Leases that transfer control of the underlying asset would be considered sales and financing arrangements. Lessees would account for a lease of a controlled asset as "an acquisition of the entire underlying asset as a purchase at the normal selling price of the asset". Hepp and Scoles believe that such accounting "provides a better measure of obligations, *assets deployed* and financing costs than a model that is based on discounting minimum lease payments" (italics added). Leases that do not transfer control would be treated as operating leases.

of leases, a firm utilizes the asset over its entire useful life without ever holding title. In this case, contractual lease obligations are not likely to be a good measure of the earnings/revenue generating power of the asset (Monson, 2001).<sup>3</sup> Therefore, an operating lease asset value derived from contractual obligations will likely understate the contribution of a leased asset to a firm's earnings. Under the whole-asset approach, the leased asset is valued at approximately the asset's acquisition value. Under the right-to-use approach, the leased asset is valued at the present value of future lease payments. Under current FASB GAAP (ASC 840) the present value of operating lease payments is at most 89% of an asset's fair value; therefore, the difference in the assets recorded under the two methods could be substantial.<sup>4</sup>

This study provides evidence relevant to the decision-usefulness of whole-asset operating lease capitalizations. Specifically, our tests compare the predictive ability of estimates of operating lease right-to-use and two whole-asset values to current and future return on assets (ROA) and return on equity (ROE).<sup>5</sup> The present value of disclosed future minimum lease payments estimates the right-to-use asset value. Disclosed future minimum lease payments reflect only financial contractual obligations in place at the balance sheet date and therefore typically are declining across future years. Loan payments to acquire assets outright would be unlikely, on average, to decline over time.

Therefore we estimate two whole-asset values from annuities intended to reflect the principal payments on loans to acquire the leased assets outright. Our results confirm that lease asset values are strongly associated with current and future ROA and ROE. However, our results also indicate that estimates of whole-asset values are incrementally associated with the current and future return measures. The Financial Accounting Standards Board, FASB, (1980) Conceptual Framework identifies *predictive value* as a characteristic of *relevance* that, along with *reliability*, makes information useful for economic decisions. Our results suggest that operating lease whole-asset values provide incrementally better prediction of future profitability, and therefore incrementally useful information, than do operating lease right-to-use asset values.

Operating leases are only one of many potential unreported asset values. Some, such as research and development and advertising expenditures could be capitalized from current expenditures. Therefore, our study is also motivated to provide further evidence of the relation between unrecorded assets available to a firm and firm performance. The next section illustrates the capitalization issues addressed in the paper using information taken from Southwest Airlines 10-Ks. The third section develops our hypotheses and our research methods. Results are provided in Section 4 followed by concluding remarks in Section 5.

## 2. Southwest Airlines: an illustration of right-to-use and whole-asset values

Southwest Airlines Co. reported in its December 31, 2011, 10-K that its aircraft fleet consisted of 499 owned and 199 leased Boeing 737 aircraft. Seven of the 199 leased aircraft are accounted for as capital leases and 192 are accounted for as operating leases.<sup>6</sup>

### 2.1. Estimating a right-to-use asset value from operating lease disclosures

The right-to-use asset value of leased assets is the present value of the future operating lease obligations. Future minimum lease payments for aircraft and terminal operation space operating leases are provided in footnote 8 of Southwest's 2011 10-K. Disclosed operating lease obligations equal \$640 million for 2012, \$717 million for 2013, \$642 million for 2014, \$579 million for 2015, \$489 million for 2016 and \$2516 million in total for years after 2016. We estimate the yearly obligations after 2016 using the average yearly percentage decline in the disclosed yearly obligations between 2013 and 2016.<sup>7</sup> Contractual operating lease obligations decline 10.46% from 2013 to 2014, 9.81% from 2014 to 2015 and 15.54% from 2015 to 2016 for an average yearly decline of 11.94%. Applying the 11.94% rate of decline results in estimates of contractual lease obligations of approximately \$431 million for 2017 declining to approximately \$156 million for 2025. The \$58 million for 2026 equals the remainder from the \$2516 million total operating lease obligation reported by Southwest.

The Exposure Draft indicates that firms should use their incremental interest rate to present value minimum lease payments. Footnote 7 in Southwest's 2011 annual report provides an appropriate discount rate, disclosing that on December 31, 2011 the "Floating-rate 737 Aircraft Notes payable through 2020" equaled 1.91%.<sup>8</sup> Assuming payments are due at the beginning of each year, a present value calculation results

<sup>3</sup> In arguing for whole asset values, Monson (2001) writes "Equity investors use return on assets and revenue per dollar of fixed assets to measure the efficiency with which a company employs its resources and to compare a company's current performance with that of prior periods or with other companies and industry" but that "These intangibles [*right-to-use asset values*] neither describe a reality that exists in the physical world nor provide a reliable means to compare the performance of entities that use different strategies to finance their physical plant. The extent to which such analyses lead to different conclusions about ... the performance of a lessee due to data bears directly on the relevance of the data being analyzed" (Monson, 2001).

<sup>4</sup> Studies of the effects of constructive capitalization are possible, in part, because firms must disclose their future non-cancelable lease obligations in footnotes to financial statements. For US firms, ASC 840 requires disclosure for "initial or remaining non-cancelable lease terms in excess of one year, for future minimum operating lease rental payments required as of the date of the latest balance sheet presented in the aggregate and for each of the five succeeding years." International accounting standards (i.e., IAS 17) require somewhat different disclosures of operating lease rental commitments. Future operating lease rentals are individually disclosed for the first year following the balance sheet date, combined for the second through fifth years, and combined for over five years past the balance sheet date.

<sup>5</sup> The (Financial Accounting Standards Board, FASB, (1980)) Conceptual Framework identifies predictive value as a characteristic of relevance that, along with reliability, makes information useful for economic decisions. Monson (2001) argues that representational faithfulness, a characteristic of reliability, is enhanced when financial statements reflect the physical reality of the assets and the firms' control. Further, other decision useful characteristics such as verifiability, consistency and comparability may be enhanced using the whole asset approach (Monson, 2001).

<sup>6</sup> Boeing acquired AirTran on May 2, 2011 which added significantly to Southwest's fleet of leased aircraft. To illustrate, on December 31, 2009 Boeing reported owning 440 aircraft and leasing 97 aircraft (9 capital and 88 operating) and on December 31, 2010 Boeing reported owning 451 aircraft and leasing 97 aircraft (5 capital and 92 operating). Footnote 7 states that Southwest assumed financing for 30 AirTran aircraft suggesting that without AirTran Southwest would have reported 469 owned aircraft and 97 leased aircraft. Thus the AirTran acquisition added approximately 102 leased aircraft all of which appears to be accounted for as operating leases.

<sup>7</sup> We ignore the increase from 2012 to 2013 as the increase is likely due to the AirTran merger. No other two year period from 2005 shows such an increase.

<sup>8</sup> Southwest reports six aircraft related liabilities ranging from 42 to 604 million at rates ranging from 1.91% to 10.38%. The weighted average rate equals 4.52%. Conclusions from our analysis do not change if the weighted average rate is used.

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