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Do operating leases expand credit capacity? Evidence from borrowing costs and credit ratings

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ABSTRACT

We document that borrowing costs and credit ratings are less sensitive to off-balance sheet lease financing than to on-balance sheet debt financing, particularly for firms that are financially constrained and firms that have limited ability to use tax shields. This evidence is consistent with theoretical predictions based on tax benefits as well as bankruptcy costs. Our evidence on borrowing costs and credit ratings suggests that credit markets treat operating leases differently from balance sheet debt. Consistent with this interpretation, we document that firms closer to ratings borderlines lease more, particularly around the investment grade borderline.

1. Introduction

Operating leases are the most common and important source of off-balance sheet financing. The Morning Ledger from CFO Journal estimates on August 11, 2014 that operating leases represent about $2 trillion in off-balance sheet financing. On February 25, 2016, the FASB issued a new standard, Leases (ASC 842) requiring companies to add long-term operating leases to the balance sheet. The new accounting standard will dramatically boost reported leverage for many firms.

Prior studies document that lessees incur significant transaction costs to obtain off-balance sheet treatment of lease contracts (Imhoff and Thomas, 1988; Zechman, 2010; Schallheim et al., 2013). We investigate potential benefits of leases in expanding or preserving credit capacity. If leases displace less than an equivalent amount of debt, then firms may be able to use leases to expand credit capacity.

Specifically, we document that borrowing costs and credit ratings are less sensitive to off-balance sheet lease obligations than to on-balance sheet debt indicating that leasing is advantageous in the sense of lowering borrowing costs. This effect is more pronounced for financially constrained firms and for firms with low marginal tax rates. Our findings support predictions of leasing models regarding the minimization of expected bankruptcy costs (Eisfeldt and Rampini, 2009) and the sharing of tax shields (Lewis and Schallheim, 1992).

Our evidence on the *differential* effect of leases compared to debt on cost of borrowing and credit ratings extends and complements studies documenting that lease obligations are incorporated in bond yields, bank loan rates and credit ratings (Lim et al.,

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2003, Bratten et al., 2013, Altamuro et al., 2014). Our evidence is also consistent with Schallheim et al. (2013) who provide evidence suggesting that operating leases expand credit capacity in sale-and-leaseback transactions.

Consistent with the idea that leases allow some firms to expand credit capacity, we provide evidence that firms use operating leases to manage credit ratings. Graham and Harvey (2001) provide survey evidence that "the two most important factors affecting debt policy are financial flexibility and a good credit rating" (p. 189). Alissa et al. (2013) and Jung et al. (2013) document that firms use accounting discretion to affect credit ratings. We document that even though credit agencies take leases explicitly into consideration, credit ratings are less sensitive to leasing than to debt.

If off-balance sheet lease financing affects credit risk less than on-balance sheet debt financing, we expect firms on ratings borderlines to lease more to preserve or enhance their credit ratings. We confirm this expectation, as we find that firms close to ratings borderlines are more likely to lease, particularly those firms near the investment grade borderline. The evidence on borrowing costs, credit ratings, and lease usage is robust to different methods of estimating the lease obligations, as well as an alternative methodology based on the "abnormal" component of leasing used by Cornaggia et al. (2013).

The remainder of the paper is structured as follows. Section 2 explains the linkage between borrowing costs, credit ratings, and debt capacity. Section 3 explains our methodology and data sources. Section 4 examines the impact of leasing on bank borrowing costs, and yields on bonds. Section 5 examines the relationship between leasing and credit ratings. Section 6 concludes the paper.

2. Borrowing costs, credit ratings, and debt capacity

Traditionally, finance theory assumes that lease obligations substitute for debt in the capital structure by using limited debt capacity. If leasing simply replaces debt in the capital structure, then why are firms willing to incur significant transactions costs required for leases to meet accounting requirements for operating lease treatment? In other words, what specific benefit does off-balance sheet lease financing create for the lessee?

We define credit capacity as the optimal amount of combined balance sheet debt and off-balance sheet lease obligations. If leases displace less than an equivalent amount of debt, then firms use leases to expand credit capacity. The literature has three alternative explanations for increased credit capacity associated with lease financing. They are the minimization of agency costs in Smith and Wakeman (1985), the minimization of bankruptcy costs in Eisfeldt and Rampini (2009), and the sharing of tax deduction benefits in Lewis and Schallheim (1992).

Empirical evidence indicates a positive correlation between debt and lease usage, e.g., Ang and Peterson (1984), Eisfeldt and Rampini (2009), Rauh and Sufi (2010), Cornaggia et al. (2013), and Schallheim et al. (2013). But as Lewis and Schallheim (1992) point out, the positive correlation may simply indicate that firms with greater credit capacity and requirements for debt financing use balance sheet debt and leases interchangeably. Other papers examine changes in reported capital over time and find that on average, leasing substitutes for debt, but not dollar for dollar, e.g., Marston and Harris (1988) and Yan (2006).

Borrowing costs and credit ratings reflect the size and utilization of a firm's debt capacity. Myers et al. (1976) model lease valuation and identify the fraction of a dollar of debt displaced by a dollar of present value of lease obligations (λ). In their framework, if leases and debt are perfect substitutes, λ equals 1, otherwise they are imperfect substitutes and $0<\lambda<1$ implies leases expand debt capacity. In what they describe as "the leasing puzzle", Ang and Peterson (1984) find that debt and leases appear to be complements instead of substitutes, as they observe $\lambda<0$. Myers et al. (1976) note that, from the lessee perspective, λ should be <1 due to sharing of tax benefits. When tax shields are transferred from a borrower/lessee with limited ability to use tax shields to the firm with greater ability to use the deductions (the lender/lessor), λ should be <1. But Myers et al. (1976) leave the question of the degree of substitutability as an open issue.

Subsequent work has proposed that leases do not fully substitute for debt, but displace less than a dollar of debt for a dollar of leasing. Lewis and Schallheim (1992) focus on sharing tax benefits and show that leasing does not necessarily displace debt dollar for dollar. They demonstrate a theoretical possibility that leases do not displace any debt at all such that credit capacity expands by more than the amount of leasing.

Eisfeldt and Rampini (2009) suggest that leasing minimizes bankruptcy costs because of the fully collateralized nature of leasing. Operating leases have relatively straightforward clauses for assignment of collateral and leased assets are more easily repossessed. Eisfeldt and Rampini (2009) formally model this concept, and show that, by having fewer creditors (and fewer assets) involved in bankruptcy claims, expected bankruptcy costs to creditors/lessors can be reduced. By reducing expected bankruptcy costs, leasing can increase expected recovery in the case of default. They show that the increased expected recovery upon default created by financing a portion of assets with fully collateralized operating lease should decrease the cost of debt financing compared to financing assets exclusively with balance sheet debt.

The theoretical explanations for increased credit capacity all predict that replacing debt with an equivalent amount of leasing should increase the total expected cash flow available to service and repay debt. Holding leverage constant, the increased available cash flows should lower the cost of borrowing. Alternatively, the increased expected cash flow associated with leasing could be used to support a higher level of leverage without increasing the cost of debt, so that increased credit capacity would be reflected in higher leverage. If operating lease financing increases credit capacity by lowering borrowing costs, then leases should have a lower impact on borrowing costs than an equivalent amount of on-balance sheet debt.

In the case of borrowing costs, Modigliani and Miller (1958) propose that lenders require higher yields as borrowers increase the proportion of fixed claims (debt plus leases) in the capital structure, since "the further a claimant stands from the head of the line at payoff time, the riskier the claim." (Miller, 1991, p. 482). In a perfect world, the overall cost of debt will be constant, as credit is safe. In a world with costly financial distress, the overall cost of borrowing will increase as a function of the amount