Firm Performance Under ASC 842

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Abstract

In this paper we examine the effects of the leasing standard, Accounting Standards Codification (ASC) 842, on firm performance. Although the new standard has not directly affected firm operations, we hypothesize that because it requires the recognition of all lease assets and liabilities on the balance sheet, regardless of whether the lease is deemed to be operating or financing (legacy capital), firm debt contracts will become more constrained. The resulting constraints will force firms to either make inefficient operating changes or face increased financing costs. While controlling for contract type (either floating or fixed GAAP), we find firms with higher operating lease asset use and subject to floating GAAP tend to have lower future performance (return on assets) and decreasing returns. In this paper we address FASB's call for a post-implementation analysis on new standards and specifically ASC 842.

Keywords: Accounting standards, leases, contracting, performance

1. Introduction

1.1 The Rule: ASC 842

In February 2016, FASB released Accounting Standards Update (ASU) 2016-2, a new standard (codified as Accounting Standards Codification [ASC] 842) to update ASC 840 for accounting for lease transactions. The new standard fundamentally changes FASB's approach to accounting for leases, requiring all companies with lease contracts that are greater than 1 year to recognize both an asset and a liability on their balance sheets regardless whether they are considered capital/financing or operating. We examine firm performance relative to prior to the adoption of ASC 842. Specifically, we investigate whether firm performance has decreased following the implementation due to the costs and complexity of the new standard.

Leasing is an important part of the capital markets, and firms are motivated to enter into lease agreements for several (nonexclusive) reasons. For example, leasing reduces an entity's exposure to the full risks accompanied with asset ownership, can be more tax efficient (Callahan, Smith & Spencer, 2013; Wolfson, 1985), and allows for easier capital investments for liquidity-constrained firms (Beatty, Liao & Weber, 2010). Another benefit to leasing under the prior standard was the fact that firms could avoid recognizing effects on the balance sheet, namely, recognizing the lease-based asset and additional debt from future payments when properly contracted as operating. However, this benefit to the lessee came with a cost to outside contractors through the form of reduced information on the financial statements. Namely, the future obligation was only disclosed in the notes and not recognized in the financial statements.

1.2 Costs/Benefits of the Rule

This topic of the real financial effects due to accounting changes is important to understand as FASB seeks to find a balance between the costs of the accounting changes and the benefits to outside users and the capital markets in general. An unanswered question is whether this new standard will improve the overall efficiency of the capital markets. The new standard will require that all leases be recognized on the financial statements, potentially improving the information environment. However, this information is already provided in the footnotes of the financial statements, shown as expected future cash flows. Thus, the new standard provides the same information but in a different format and potentially with some unintended consequences.

Assuming markets operate efficiently, the recognition versus disclosure decision should not make a substantive difference in terms of information provided. However, they could make a difference based on contracting. Lenders use ratios based on numbers from the financial statements as proxies for financial health. When the new standard was

implemented, key financial ratios changed because there would be an increase in both the assets (for the right-of-use of the asset) and the liabilities (for the lease obligation). The change in the ratios could potentially trigger covenant violations in the contracts, even though the economic substance of the firm remains unchanged.

1.3 Relevant Scholarship

A lease is a financial agreement between two parties that allows one party the right to use an asset that is owned by the counterparty. These types of transactions make up a substantial part of the capital markets, with a 2005 Securities and Exchange Commission report estimating that companies had approximately $1.25 trillion in operating lease agreements, which has been estimated to have increased to as much as $2 trillion by 2015 (Rapoport, 2015). Under ASC 840, lease agreements were classified as either capital, which required on-balance-sheet recognition of both a lease obligation and an asset, or operating, which did not have any balance sheet recognition. This discrepancy led to a strong preference for companies to arrange their lease agreements to qualify as operating since it is a form of off-balance-sheet financing (Mills & Newberry, 2005).

Motivated by concerns over transparency and consistency across companies, the FASB released ASU 2016-2, which proposed the recognition of the lease obligations regardless of whether they are financing (legacy capital) or operating. Despite this claim that ASU 2016-2 would increase transparency, research is divided on whether, or the degree to which, investors have been harmed by the lack of transparency. Although noncancellable leases were not represented on the balance sheet under ASC 840, firms were still required to disclose the expected future cash outflows from servicing the obligation and thus provided investors with the liability impact of the lease agreements, even though they were not reflected on the balance sheet. Bratten et al. (2013; see also Altamuro et al., 2014) found evidence consistent with capital market participants treating recognized and disclosed information in a similar manner when evaluating leases. However, Callahan et al. (2013) also found that market participants place greater weight on synthetic lease obligations (leases that qualify as operating for financial reporting purposes and capital for tax purposes) that are recognized on the balance sheet as opposed to those disclosed only in the footnotes.

1.4 Hypothesis

The new standard's effectiveness in relation to market participants and how they weigh the information contingent on whether it is recognized or disclosed in financial statements is not without question. If participants place more weight on the amounts from the face of the financial statements, then the new standard will improve the effectiveness of the information transfer to outside users. Alternatively, if they place equal weight on the footnote disclosures as on financial statement recognition, then the new lease standard would be irrelevant in terms of information transfer.

However, because ASC 842 requires recognizing the operating lease liability on the balance sheet, a company may have to perform costly renegotiations with lenders as covenants become tighter or engage in suboptimal operational restructuring, resulting in an economic cost to the lessee. In either case, the overall profitability of the firm would be reduced by the potential debt covenant violation (Beneish & Press, 1993). Thus, the question as to whether the benefits outweigh the costs of the new lease accounting standard becomes an empirical one: does the benefit of the increased transparency outweigh the costs to the lessee? Because the costs of the new standard will be borne solely by the lessee, we hypothesize that firm performance will decrease.

2. Method

To examine the effects of the new standard, we regress proxies for firm performance, return on assets (ROA), and market returns on the degree of exposure a firm has to the change in the standard. Specifically, we consider whether a firm's intensity of operating leases is correlated with a reduction in future performance. To better isolate the effects, we control for whether the lease contracts are written using fixed or floating GAAP. With fixed GAAP, the definitions of the variables used in covenant ratios are based on GAAP at the time of the inception of the contract, so they do not change with a change in GAAP. Conversely, floating GAAP is when the definitions of the variables used in covenant ratios can change (or "float") as GAAP changes. A firm with fixed GAAP would not be as adversely affected by the standard change (ACS 842) because the ratios are based on GAAP at the time the lease was contracted. Firms with floating GAAP would see the contract ratios change, notwithstanding the underlying economic fundamentals of the firm remain the same.

2.1 Research Design and Data

We test the degree to which the new lease standard affects firm performance by using the following model:

$$\text{Performance} = \alpha + \beta_1\,\text{OLR} + \beta_2\,\text{FloatingGAAPDEC} + \beta_3\,\text{POST} + \beta_4\,\text{OLR} \times \text{FloatingGAAPDEC} \times \text{POST} +$$

$$\beta_5\,\text{SIZE} + \beta_6\,\text{DebtEquity} + \beta_7\,\text{LagETR} + \beta_8\,\text{BTM} + \beta_9\,\text{F\_SCORE} + \epsilon \qquad (1)$$

We use two different measures of firm performance – accounting based and market based. Our accounting-based measure of performance is the return on assets (ROA), that is, net income divided by the average of lagged and current-year assets. Our market-based measure is 12-, 24-, and 36-month cumulative accumulated market-adjusted and market model returns.

To proxy for a firm's use of operating leases, we use Devos and Rahman's (2014) variation of Sharpe and Nguyen's (1995; also see also Robicheaux et al., 2008) approach to measure the operating lease ratio (OLR). Substantially, their measure is the ratio of the rental costs for assets to total assets. Specifically, they take the current period rent expense and the sum of the present value of future rental commitments for the next 5 years and thereafter divided by rent expense, the sum of the present value of rental commitments for the next 5 years and thereafter, and gross property plant and equipment (Devos & Rahman, 2014) as follows:

$$\frac{\text{rental expense} + \sum_{i=1}^{5} \text{PV(rental CF)}_i + \text{PV(rental CF 6 years and thereafter)}}{\text{rental expense} + \sum_{i=1}^{5} \text{PV(rental CF)}_i + \text{PV(rental CF 6 years and thereafter)} + \text{Gross PPE}} \qquad (2)$$

Similar to Devos and Rahman (2014), we use a 10% discount rate to present value the future lease payments.

When arranging debt contracts based on GAAP, companies will employ one of two common approaches to handle changes in GAAP: fixed or floating. Fixed GAAP contracts specify that the ratios and restrictions in the agreements are calculated using GAAP at the time the contract is entered into. Alternatively, floating GAAP contracts specify that the contract will use the most current GAAP over the life of the contract. Under floating GAAP, a new accounting standard could affect the ratios without any substantive change in performance. In the case of ASC 842, a floating GAAP contract is more likely to trigger a debt covenant violation because all operating leases would result in an increase in both debt and assets.

Because contracts can be written as either floating or fixed GAAP, we use the methodology from Ferreira et al. (2023) to identify and control for the types of contracts used by the firm. Ferreira et al. (2023) have estimated the probability that a firm's debt contracts are based on floating GAAP by following Christensen and Nikolaev's (2017) findings that a firm's size, debt maturity, equity volatility, research and development intensity, and Tobin's Q are associated with fixed GAAP. The first principal component is derived from these variables, which is then multiplied by –1. The decile rank of this factor is then defined as FloatingGAAP, where a higher number is more indicative of a firm using floating GAAP in their contracts.

Because we are interested in firm performance relative to the implementation of ASC 842, we use an indicator variable (POST) equal to 1 if the date of the observation is after January 1, 2019, the effective date of the new standard. We look at the coefficient (β_4) on the interaction between OLR, FloatingGAAP, and POST, with a negative coefficient indicating that firms increasing in the use of operating leases and with a higher probability of using floating GAAP after implementation of ASC 842 experience a decrease in performance relative to prior to the standard.

We also include several controls in addition to fixed industry and year effects. These include the log of total assets for size, the ratio of debt to equity to control for leverage, the lagged effective tax rate for a firm's sensitivity to taxes, the book to market ratio (BTM) for future growth and opportunities, and Piotroski's (2000) measure of financial strength (F_SCORE). The F_SCORE is the sum of nine binary fundamental measures of financial quality along three dimensions: profitability; leverage, liquidity and source of funds; and operating efficiency. For profitability, the factors are whether ROA is positive, operating cash flow is positive (scaled by average total assets), the change over the prior year in ROA is positive, the change in operating cash flows over the prior year is positive, and whether operating cash flow is larger than net income. Leverage, liquidity, and source of funds factors are whether the change over the prior year in the ratio of long-term debt to total assets is negative, whether the change in the current ratio over the prior year is negative, and whether the firm did not issue any common equity in the prior year. The last dimension, operating efficiency, includes whether the change over the prior year in gross margin (scaled by average total assets) is positive and the change over the prior year in asset turnover (sales over lagged total assets) is positive. The formal definitions of the variables used are provided in Appendix A.

2.2 Sampling Size, Method, and Procedures

We pull annual financial data from Compustat, monthly prices and returns from Center for Research in Security Prices from 2016 to 2022, removing observations that are missing any of the regression variables, leaving 12,080 observations. We further restrict our sample by requiring a minimum share price of at least $1, reducing the sample to 11,624 viable observations for the analysis.

Table 1 provides descriptive statistics on the sample. On average, our observations have $13.24 billion in total assets, over four times debt to equity, and positive earnings but slightly negative ROA. The negative ROA appears to be driven by smaller observations with very negative incomes. When placing observations into deciles by ROA, the lowest decile has an average ROA of –0.553 and net income of –181 (untabulated). Although a common practice has been to winsorize the outlier observations, we choose instead to use robust regressions as suggested by Leone et al. (2019), who find that winsorizing and truncating methods are ineffective controlling for influential observations and are outperformed by robust regressions (results are largely unchanged when winsorizing at 1 and 99%). The average operating lease obligation is $334 million, and operating lease intensity, our measure for the use of operating leases, has an average of 0.201, suggesting that, on average, about 20% of a firm's production-based resources are operating leases. The average use of capital leases is approximately six times smaller than operating possibly due to the pre-ASC 842 incentives to structure lease agreements to meet the operating criteria. The BTM ratio is 0.59, and the effective tax rate is 12%. The market returns for the 12-, 24-, and 36-month accumulation periods are all positive (only market adjusted returns are presented).

Table 1. Descriptive Statistics

	Mean	Q1	Median	Q3
Total assets	13 240	391	1491	5592
Debt-to-equity ratio	4.02	0.54	1.18	2.34
Net income (loss)	525	–15	31	241
ROA	–0.02	–0.04	0.03	0.07
FloatingGAAP	-0.46	–1.23	–0.58	0.23
Operating lease obligations	334	9.95	43.58	177.18
Operating lease intensity	0.20	0.06	0.14	0.30
Capitalized lease obligations	53.02	0.00	0.00	4.06
BTM	0.59	0.19	0.39	0.70
Effective tax rate	0.12	0.00	0.19	0.27
F_SCORE	5.34	4.00	5.00	7.00
12-month CAR	0.05	-0.21	0.04	0.28
24-month CAR	0.11	-0.24	0.09	0.42
36-month CAR	0.15	-0.24	0.14	0.49

Table 1 presents descriptive statistics for variables used in the analysis with 11,624 observations. ROA is the return on assets; FloatingGAAP is the measure of the likelihood of a firm using floating GAAP; BTM is the book-to-market ratio; F_SCORE is the measure of firm specific financial position from Piotroski (2000); 12-, 24-, and 36-month returns are cumulative abnormal market-adjusted returns. Total assets, net income, operating lease obligations, and capitalized lease obligations are in millions. All variables are defined in Appendix A.

Table 2 provides a breakdown of the sample based on Fama French 12 industry classifications. Unsurprisingly, the largest portion of the sample comes from the Business Equipment category. There are 149 and 927 observations from the Utilities and Finance industries, respectively. Because there could be different incentives for firms in these areas, we also run the main tests excluding those observations without any material change to the outcomes.

Table 2. Industry Classifications

	Frequency
Consumer Nondurables – Food, Tobacco, Textiles, Apparel, Leather, Toys	622
Consumer Durables – Cars, TVs, Furniture, Household Appliances	343
Manufacturing – Machinery, Trucks, Planes, Off Furn, Paper, Com Printing	1,413
Oil, Gas, and Coal Extraction and Products	520
Chemicals and Allied Products	378
Business Equipment – Computers, Software, Electronic Equipment	2,194
Telephone and Television Transmission	300
Utilities	149
Wholesale, Retail, and Some Services (Laundries, Repair Shops)	1,327
Health Care, Medical Equipment, Drugs	1,767
Finance	927
Other – Mines, Constr, BldMt, Trans, Hotels, Bus Serv, Entertainment	1,684
Total	11,624

Table 2 presents the sample partitioned on Fama French 12 industry classifications.

Table 3 provides a breakdown of the average capitalized lease obligations and expected rental payments (undiscounted) by firm-year. Not unexpectedly, the use of leases has steadily increased over the sample period from 2016 to 2022 for both financing (capital) and operating leases, with financing leases increasing 35.2% and operating leases increasing 17.3%, indicating a difference in growth rates of 2.03 times faster for capital than operating. The OLR decreased between 2016 and 2022, indicating that the overall use of operating leases, relative to the total capitalized resources a firm possesses, decreased by 5%.

Table 3. Lease amounts by year

Year	Financing lease obligations	5-year operating lease payments	OLR
2016	40.94	454.95	0.21
2017	53.14	455.97	0.21
2018	57.35	475.38	0.21
2019	51.81	460.97	0.19
2020	55.59	491.73	0.19
2021	55.14	487.45	0.20
2022	55.35	533.50	0.20

Table 3 shows the average leases by firm-year. OLR (operating lease ratio) is the ratio of the rental costs for assets to total assets, as defined in Appendix A.

Table 4 provides formal t-tests of the regression variables for observations before and after the adoption of ASC 842. We see that both ROA and returns change after the implementation of ASC 842, albeit in different directions, with ROA decreasing and returns increasing. This decrease in ROA is consistent with operating performance deteriorating slightly after the adoption of ASC 842. OLR sees a decrease in the mean from 0.21 to 0.20, suggesting firms are recognizing fewer leases as operating after the new standard. FloatingGAAP increases, suggesting more firms are using floating GAAP after the new standard change. All of the other variables are significantly different other than the ratio of debt to equity, BTM ratio, and the lagged effective tax rates (LagETR).

Table 4. Test of differences by post

	Pre	Post	Diff	P value
ROA	–0.00	–0.03	–0.03	0.000
12-month returns	0.03	0.06	0.02	0.036
24-month returns	0.07	0.13	0.05	0.001
36-month returns	0.09	0.18	0.09	0.000
OLR	0.21	0.20	–0.01	0.002
FloatingGAAP	–0.74	–0.30	0.44	0.000
SIZE	7.35	7.14	–0.22	0.000
DebtEquity	1.58	5.38	3.80	0.482
LagETR	0.12	0.14	0.02	0.689
BTM	0.59	0.59	–0.01	0.884
F_SCORE	5.60	5.20	–0.39	0.000

Table 4 provides t-tests between the selected variables before and after the implementation of ASC 842. ROA is the return on assets; 12-, 24-, and 36-month returns are cumulative abnormal market-adjusted returns; OLR is the operating lease ratio; FloatingGAAP is the measure of the likelihood of a firm using floating GAAP; SIZE is the natural log of lagged total assets; DebtEquity is the ratio of total debt to equity; LagETR is the lagged effective tax rate; BTM is the book-to-market ratio; and F_SCORE is the measure of firm-specific financial position from Piotroski (2000).

3. Results

Our results are consistent with firms that are more exposed to operating lease use reporting a decrease in ROA after the implementation of the ASC 842. This relationship holds even when controlling for the mechanical relationship between an increase in total assets in the denominator of the ratio. Similarly, we also see a decrease in accumulated returns after the implementation of ASC 842 for firms that have a higher usage of operating leases.

Table 5 and Table 6 provide the regression results using different measures of performance with Table 5 using an accounting-based performance measure, ROA, and Table 6 using returns-based measures, CAR, over a 1- to 3-year accumulation period. The first column on Tabel 5 provides the results using ROA as the dependent variable. We see generally lower performance by firms with a higher degree of operating lease use (–0.026, $p < 0.001$) and a greater use of floating GAAP (–0.018, $p < 0.001$). In terms of performance before and after the passage of ASC 842, there is not a significant difference. The coefficient of interest on the interaction between OLR, FloatingGAAPDEC, and POST, β_4 is negative and significant (–0.012; $p < 0.001$), consistent with observations that are more operating-lease intensive, and with a higher probability of using floating GAAP are more likely to see their performance deteriorate after the implementation of ASC 842.

Although the result shows a deterioration in performance, measured by ROA, there is also a mechanical relationship between average total assets and the new lease standard. Because the ASC 842 requires the capitalization of all leases, the denominator in ROA will naturally increase and result in an overall decrease in the ratio. We therefore run the same regression but replace the average total assets with the average total assets from 2019 (Column 2), thus avoiding the inflated denominator. Although the coefficient on β_4 attenuates slightly (going from –0.012 to –0.007), the results are largely consistent with the main regression.

In Table 6, we regress different accumulation periods of CARs using both market-adjusted and market model returns. Unlike using ROA, the returns specification does not induce a mechanical relationship. Again, the coefficient on the three-way interaction is reliably negative across all specifications of returns, consistent with a deterioration of performance for observations that have a high intensity for operating leases after the passage of ASC 842 and the use of floating GAAP.

The control variables are predominant as expected. We do not make a prediction for OLR, FloatingGAAPDEC, or Post. SIZE is negative when using ROA as the dependent variable, which is consistent with expectations because larger firms will also have a larger denominator in the ratio. When using returns, SIZE is significant and positive under years 2 and 3 specifications and insignificant otherwise, consistent with a size advantage. The coefficient on

DebtEquity is insignificant when using ROA and, although significant, is negligible in size (0.000) when using returns. LagETR is predominately insignificant across all specifications, the lone exceptions being 3-year CARS, when the coefficient is positive (0.004 and 0.006 for market adjusted and market model, respectively). BTM is negative (–0.002) when using ROA, and positive when using the market model returns. Lastly, the F_SCORE is positive across all specifications, consistent with firms with a stronger financial position increasing in returns.

Table 5. Performance Based on ROA Post ASC 842

$$\text{Performance} = \alpha + \beta_1 \, \text{OLR} + \beta_2 \, \text{FloatingGAAPDEC} + \beta_3 \, \text{Post} + \beta_4 \, \text{OLR} \times \text{FloatingGAAPDEC} \times \text{Post} +$$
$$\beta_5 \, \text{SIZE} + \beta_6 \, \text{DebtEquity} + \beta_7 \, \text{LagETR} + \beta_8 \, \text{BTM} + \beta_9 \, \text{F\_SCORE} + \epsilon \qquad (3)$$

Dependent Variables	ROA	ROA2019
OLR	–0.026***	– 0.023***
	(–5.124)	(–4.466)
FloatingGAAPDEC	–0.018***	–0.016***
	(–36.236)	(–33.116)
POST	0.009	0.001
	(1.342)	(0.177)
OLR × FloatingGAAPDEC × POST	–0.012***	–0.007***
	(–12.140)	(–7.254)
SIZE	–0.008***	–0.007***
	(-13.469)	(-12.266)
DebtEquity	0.000	0.000
	(1.213)	(0.883)
LagETR	0.000	–0.000
	(0.250)	(–0.070)
BTM	–0.002***	–0.001***
	(–4.721)	(–3.173)
F_SCORE	0.017***	0.016***
	(38.632)	(36.251)
Constant	0.015	0.004
	(1.038)	(0.282)
Observations	11 600	10 777
R-squared	0.494	0.412
Industry and Year FE	Yes	Yes

Table 6. Performance Based on CARs Post ASC 842

VARIABLES	car0112_mar	car0124_mar	car0136_mar	car0112_mm	car0124_mm	car0136_mm
OLR	0.031	0.072**	0.154***	0.004	0.014	0.049
	(1.228)	(2.074)	(3.980)	(0.135)	(0.321)	(0.985)
FloatingGAAPDEC	0.005*	0.027***	0.027***	0.015***	0.036***	0.039***
	(1.864)	(8.216)	(7.219)	(5.367)	(8.897)	(8.060)
POST	0.070**	0.003	0.127**	0.051	–0.023	0.123*
	(2.188)	(0.074)	(2.573)	(1.393)	(–0.421)	(1.920)
OLR × FloatingGAAPDEC × POST	–0.044***	–0.060***	–0.089***	–0.041***	–0.054***	–0.055***
	(–9.317)	(–9.183)	(–12.192)	(–7.546)	(–6.832)	(–5.807)
SIZE	0.003	0.019***	0.018***	0.002	0.011**	0.013**
	(0.963)	(4.633)	(3.908)	(0.647)	(2.194)	(2.143)
DebtEquity	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
	(4.282)	(4.437)	(4.555)	(4.993)	(5.571)	(6.725)
LagETR	0.001	0.002	0.004**	0.002	0.002	0.006**
	(0.602)	(1.120)	(2.047)	(1.047)	(1.056)	(2.392)
BTM	0.001	0.001	0.001	0.011***	0.020***	0.029***
	(0.534)	(0.403)	(0.420)	(4.943)	(5.933)	(7.115)
F_SCORE	0.067***	0.067***	0.067***	0.068***	0.066***	0.066***
	(30.942)	(22.132)	(19.783)	(27.148)	(17.951)	(15.257)
Constant	–0.532***	–0.791***	–0.796***	–0.555***	–0.758***	–0.807***
	(–7.479)	(–8.057)	(–7.239)	(–6.806)	(–6.324)	(–5.677)
Observations	11 601	11 601	11 601	11 601	11 601	11 601
R-squared	0.138	0.102	0.110	0.126	0.103	0.113
Industry and Year FE	Yes	Yes	Yes	Yes	Yes	Yes

t-statistics in parentheses

*** p<0.01, ** p<0.05, * p<0.1

All p-values are 2 tailed.

Because the F_SCORE includes indicators based on ROA (if it is positive and if it is increasing) and on the ratio of long-term debt to average assets, we also run the main regression on a modified version of the F_SCORE (named F_SCORE_ADJ) that excludes those three items from the F_SCORE. The results are included in Table 7. The tenor of the results is largely unchanged, with both coefficients on β_4 increasing slightly in absolute magnitude. Similarly, we also rerun the models but replace the 10% discount rate with 7% when calculating OLR, with no substantive change to the results (untabulated).

Table 7. Performance Based on ROA Post ASC 842 F_SCORE_ADJ

VARIABLES	(1) ROA	(2) ROA
OLR	–0.028***	–0.024***
	(–5.159)	(–4.373)
FloatingGAAPDEC	–0.021***	–0.019***
	(–40.306)	(–36.510)
POST	0.011	0.002
	(1.531)	(0.274)
OLR × FloatingGAAPDEC × POST	–0.014***	–0.009***
	(–13.725)	(–8.668)
SIZE	–0.010***	–0.008***
	(–14.945)	(–13.519)
DebtEquity	0.000	0.000
	(0.999)	(1.003)
LagETR	0.000	0.000
	(0.522)	(0.170)
BTM	–0.002***	–0.001***
	(–5.143)	(–3.137)
F_SCORE_ADJ	0.009***	0.007***
	(13.899)	(11.499)
Constant	0.091***	0.075***
	(5.920)	(5.139)
Observations	11 600	10 777
R-squared	0.457	0.351
Industry and Year FE	Yes	Yes

t-statistics in parentheses

*** p<0.01, ** p<0.05, * p<0.1

All p-values are 2 tailed

4. Discussion

ASC 842 changes the accounting for leases by requiring all contract leases greater than 1 year be recognized on the balance sheet regardless of whether the lease is deemed operating or financing (capital), a significant change from ASC 840, which requires only financing leases to be recognized on the balance sheet. In this study, we consider the effects of ASC 842 on firm performance. We expect that, even though ASC 842 did not directly change fundamental operations, a firm that is more heavily invested in operating leases will experience lower returns relative to those less invested. We control for whether the lease contract is based on floating or fixed GAAP by using the methodology proposed by Ferreira et al. (2023). Our results are largely consistent with our expectations that firms with a higher use of operating leases have lower returns on assets and market returns. We further find that the market returns result holds for 3 years after the implementation of ASC 842.

This paper provides evidence of the effects of new standards on firm performance. ASC 842 provides additional information regarding leasing activities on the financial statements, but much of that information is already available in the footnotes. However, the change can also lead to a deterioration in financial ratios, often used in debt covenants, forcing firms to make suboptimal operating decisions and costly contract renegotiations to avoid contract violations and defaults. We hope that this paper will be useful to standard setters as they consider their post-implementation

review of standards regarding the costs (decreased firm performance and value to current owners) and the benefits (greater outside user information) of ASC 842.

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Appendix A

Variable Definitions

BTM	Book-to-market ratio.
CAR	Cumulative abnormal returns. We measure CARs using both market-adjusted and market model returns over 12, 24, and 36 months. For the market model returns, we estimate the market beta parameter for 5 years 1 year prior to the observation.
DebtEquity	The ratio of debt to equity: total debt divided by total equity.
F_SCORE	Measure of firm-specific financial position from Piotroski (2000). The score is the sum of nine indicator items equal to one if the following hold true: ROA is positive, cash flow from operations is positive, change in ROA over prior year is positive, change in cash flow from operations over the prior year is positive, cash flows are greater than net income (scaled by average assets, i.e., ROA), the change in the ratio of long-term debt to total assets over the prior year is negative, the change in the current ratio over the prior year is negative, the firm did not issue any common equity in the prior year, the change in the gross margin (scaled by total assets) over the prior year is positive, and the ratio of sales to lagged total assets is positive.
FloatingGAAP	The negative first principal component of five determinates from Christensen and Nicolaev (2017). The five components are: size (the log of lagged total assets), debt maturity (the proportion of long-term debt that matures after 3 years), equity volatility (the ratio of the annual price spread over the average price), research and development intensity (the ratio of research and development expense to total sales), and Tobin's Q (the sum of market equity and the book value of debt over total assets).
FloatingGAAPDEC	The decile rank of FloatingGAAP.
LagETR	The lag of the effective tax rate.
OLR	Operating lease ratio. The ratio of rent expense and the sum of the present value of rental commitments for the next 5 years and thereafter to rent expense, the sum of the present value of rental commitments for the next 5 years and thereafter, and gross property plant and equipment (Devos & Rahman, 2014)
POST	Indicator variable equal to 1 if the observation is after January 1, 2019.
ROA	Return on assets. Net income divided by the average of current and lagged total assets.
SIZE	The log of lagged total assets.