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New Accounting Standards for Leases and Their Possible Impacts on Financial Analyses and Valuation

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Introduction

The implementation of a change in accounting standards can have far-reaching consequences across the entire financial spectrum as well as valuation. Consequently, government regulators and accounting boards must balance the needs and desires of all interested parties and effect this change in a deliberative fashion. The process of changing the accounting treatment of leases over the past twelve years has been one such effort to reduce the long-standing dissatisfaction with how they are accounted for in corporate financial documents. The new standards that have been established will improve transparency for the users of financial statements, but at a significant impact to many companies, and financial analysts must factor in these changes in order to effectively assess the valuation of the companies most affected by the change.

Background

There has been extensive academic research on the topic of lease accounting reform, dating back into the 1990s. Imhoff et al. (1991, 1993, and 1997), Beattie et al. (1998, 2004, and 2006), Kilpatrick and Wilburn (2006) and Duke et al. (2009) studied the impact of lease capitalization on financial statements and financial ratios. Alan Goodacre, with others, produced a series of articles outlining the issue and the impact of capitalizing operating leases on accounting ratios.

However, the triggering point for official action occurred when the U.S. Securities and Exchange Commission (SEC) estimated in 2005 that there were around $1.25 trillion in off-balance-sheet leases for U.S. public companies. This problem prompted a joint effort by the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB), initiated in July 2006, to improve the accounting for leases. In July 2008, the boards decided to defer any changes to lessor accounting but continued efforts for lessee accounting. There were a number of interim drafts produced but though the initial goal of the project was to align the standards of both boards, this alignment proved to be politically unfeasible and the final standards diverged to some extent. The IASB issued IFRS 16 Leases in January 2016 (IFRS Foundation) while the FASB issued Accounting Standards Update (ASU) 2016-02 Leases (ASC 842) in February 2016. By this point, estimates of off-balance-sheet leases had grown to three trillion dollars for U.S. public companies. IFRS 16 goes into effect as of January 2019 and ASC 842 for fiscal years beginning after December 15, 2018, and both allow early implementation.

Accounting

A short review of the current and proposed accounting treatment of leases from the perspective of the lessees is necessary to identify the key changes and implications of those changes. Currently, both IFRS (IAS 17 [Leases]) and U.S. GAAP (ASC topic 840 [Leases]) specify two types of leases: finance (capital) leases and operating leases. A finance lease is essentially the same as the purchase of an asset with direct lending from the seller (or lessor), while an operating lease is basically a rental of an asset for some period. The exact classification is slightly different between the two standards. IFRS states that if in substance all of the risks and rewards that are incidental to ownership are transferred to the lessee, then the lease is in the finance lease classification. Otherwise, the lease is an operating lease. GAAP uses a similar lease definition, though it is more prescriptive. If a lease meets any one of four specific requirements, it is classified as a finance lease: 1) ownership transfers to the lessee upon the end of the lease; 2) the lease contains a bargain purchase option; 3) the term of the lease is over seventy-five percent of the asset's useful life; 4) the present value of the lease payments is ninety percent or more of the fair value of the leased asset. If the lease does not meet one of the above four requirements, the instrument is

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classified as an operating lease. Because GAAP is very specific, companies are often able to structure their leases as either finance or operating, depending on their financial best interests.

A lessee records a finance lease as both an asset (lower of fair value of the leased asset or present value of future lease payments) and as a liability (lease payable) on its balance sheet. The lessee records interest expense and depreciation expense (as applicable) on the income statement. A lessee does not include an operating lease on the balance sheet, but they only record a lease expense for the period of use. In general, a finance lease results in higher assets and debt as well as higher expenses in the early years. On the cash flow statement, the full lease payment for an operating lease is shown as an operating cash outflow in GAAP (can be financing outflow in IFRS). For a finance lease, however, the portion of the lease payment that reduces the lease payable (liability) is considered a financing cash outflow and only the portion related to the interest expense is an operating cash outflow. The overall result is that a company structuring its leases to fit into the operating lease classification generally shows higher profits and return measures in the early years of the lease and have a stronger solvency position than it would have had if the leases were structured as finance leases. Operating cash flows are higher for companies using finance leases rather than operating leases. Structuring a lease as an off-balance-sheet operating lease provides a company with a source of financing that is not readily transparent to a user of financial statements.

The two boards could not come to an agreement on whether all leases should be accounted in the same fashion. The IASB decided that lessees should apply a single model to all leases (IFRS 16, Leases) and that all leases would be treated as finance leases. The FASB stayed with a dual model with finance lease and operating lease classifications (ASC 842). The major change in GAAP is that operating leases are now recognized on the balance sheet, except for short-term leases that are twelve months or less in duration. One of the major impacts of these changes is the estimated three trillion dollars' worth of operating leases hitting corporate balance sheets in 2019 (Bryant and Felsted, 2017). Under GAAP, there is no impact to the income statement or the statement of cash flows with the new operating lease standard and equity will be unchanged.

Lease accounting has been a favorite topic for researchers for decades. Even prior to the publication of ASC 842 and IFRS 16, several accounting studies (Graham and King, 2011; Kraft and Lopatta, 2013; Singh, 2011; Singh, 2012; Bennett and Bradbury, 2003; Barone et al., 2014; Branswijck et al., 2011; Durocher, 2008; Fulbier et al., 2008) focused on the impact of lease capitalization on financial ratios. However, since the publication of the new lease standard, only a few studies have focused on this issue.

In this section below, we provide further evidence on the influence of the new lease standard on the financial statements and ratios of companies in different industries. The magnitude of the impact of the capitalization of operating leases is dependent upon the extent of intensity with which the companies utilize these operating leases.

Using the 2015 financial data of a Turkish airline company, Peagasus, Ozturk, and Sercemeli (2016) examine the influence of the new lease standard on balance sheet of the company. Pegasus, headquartered in Istanbul, had sixty-seven planes in their fleet on 31 Dec 2015. Out of these planes, the company owned only three, and the remaining twenty-five and thirty-nine were accounted through finance leases and operating leases respectively. Utilizing the constructive lease capitalization method developed by Imhoff et al. (1991), the authors find that "the reflection of the operating leases on the balance sheet caused significant increases in the assets and liabilities and for this reason; there a significant increase in the ratio of liability/asset and a significant decrease return on asset" (p. 143). Specifically, the authors note that the capitalization of the operating leases resulted in about fifty-two percent increase in the Peagasus' liabilities, a 12.5% increase in the equity of the company, and an increase of about twenty-nine percent in the total assets of the company. Because of the significant changes in the balance sheet, the airliner's liabilities-to-equity and total liability-to-total asset ratios were expected to change in a significant way. In another study, You (2017), using the constructive capitalization method, examines the influence of the new standard on thirty-one global airline companies. The author finds that both leverage and profitability ratios increase after the capitalization.

Further, Morales-Diaz and Zamorea-Ramirez (2018) examine the influence of the new accounting standard by refining the Imhoff et al. (1991, 1997) methodology used in previous studies. Studying a sample of 646 European companies, the authors find the adoption of IFRS 16 will significantly impact balance sheet, leverage and solvency ratios of these companies. "The authors further find that the magnitude of impact depends on the sector in which the company operates" (p. 34). The authors conclude the impact of lease capitalization was highest in retail, transportation, hotels, and software and services sectors because these sectors had relatively higher levels of lease intensity (operating lease/total liabilities). Additionally, Pardo and Giner (2018) also examine the influence of IFRS 16 on a sample of IBEX 35 Spanish firms. The authors find that "the total

amount of unaccounted liabilities is around twenty billion euros, which will mean an increase of 4.81% with respect to the liabilities recognized on the balance sheet" (p.460).

In the area of teaching scholarship, Spiceland et al. (2018) wrote an instructional case on the new lease accounting standard (ASC 842) for use in undergraduate and graduate accounting programs. Set in a retail setting, the case serves the following purposes (p. 45):

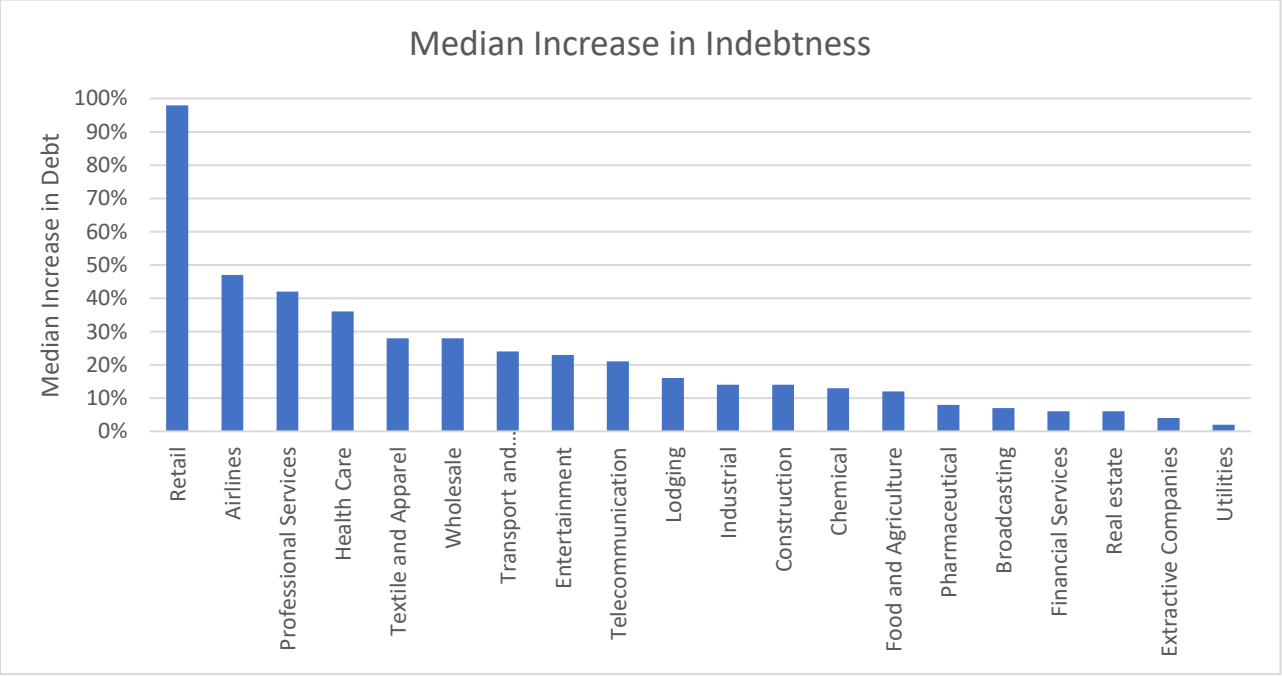
(a) to bolster and reinforce your understanding of the new lease guidance,
(b) to compare the old and new lease standards,
(c) to appreciate the role of debt covenants in financing agreements,
(d) to calculate covenant ratios, and
(e) to evaluate whether the retail operation can remain in compliance with its debt covenants during and after the transition to the new lease standard.

We invite the readers to read Spiceland et al. (2018), to understand the finer nuances of the new lease standard and its applicability in the retail sector.

Extent of Impact

The severity of the impact of the change in accounting treatment varies depending on the degree a company is dependent upon using operating leases as a source of financing. As shown by the chart below (Figure 1), some industries make heavy use of operating leases and see significant impacts. The retail sector takes the biggest hit with close to a 100% increase in debt on average, while other sectors such as the airlines, energy, and telecom also have major changes. Within industries, competitors may be affected quite differently, as Duke et al. (2012) noted in their comparison of FedEx and UPS where they determined that though both companies would have to add billions of dollars to their balance sheets, the overall capitalization impact would be much smaller for UPS than FedEx. Updating Duke's study, Fedex's total assets listed on its 2017 annual report were $48,552 million with $17,874 million in total operating leases ($1,565 million in aircraft and related leases and $16,309 in facilities and other leases). Adding that $17,874 million to the balance sheet would reduce its return on assets from 6.17% to 4.51% (26.9% decrease). UPS, on the other hand, reported $45,403 million in total assets on its 2017 annual report, but only listed $1,637 million in operating leases in the footnotes. Adding the operating leases to the balance sheet would only decrease ROA from 10.81% to 10.44% (3.42% decrease). Thus, FedEx will show a much greater impact from the change in lease accounting standards.

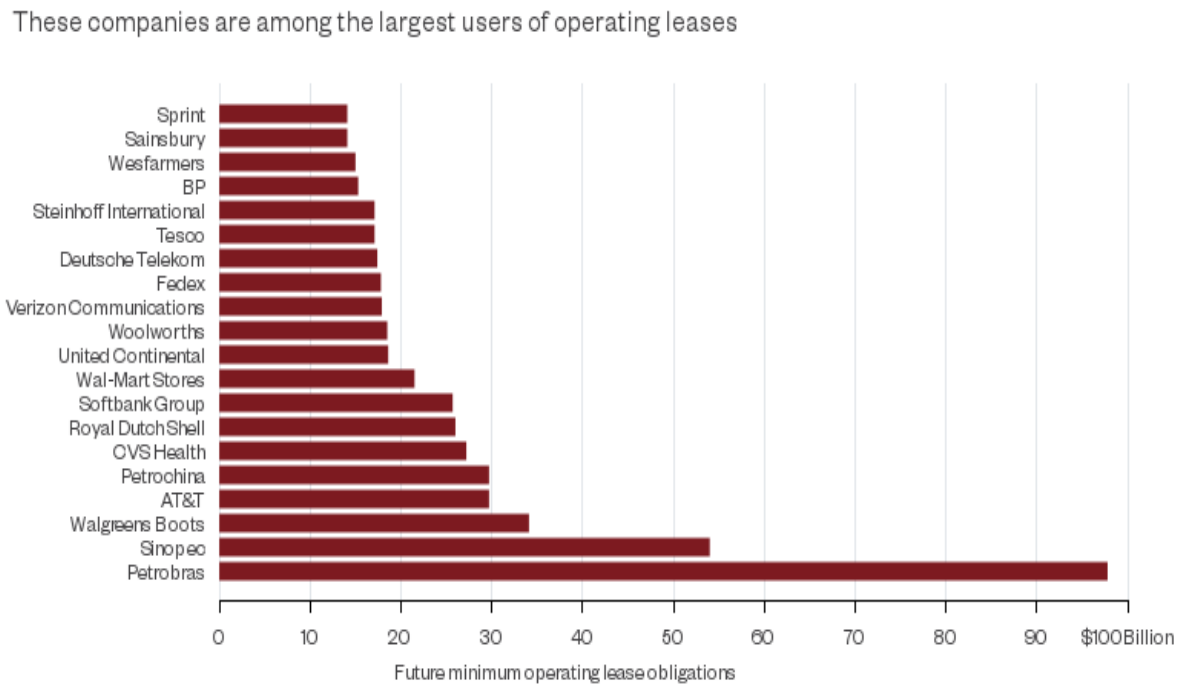
Figure 1: Median Increase in Indebtedness Due to the New Lease Standard



Source: PwC (Feb 2016), A study on the impact of lease capitalization. IFRS 16: The new leases standard.

Bloomberg also recently produced a chart (Figure 2) showing the largest users of operating leases. Petrobras, a semi-public Brazilian multi-national petroleum company, is the big winner (or loser) in the operating lease category with close to $100 billion dollars expected to be added to its balance sheet in 2019 (total asset value on its balance sheet as of its latest financial statement available (2016) was approximately $182 billion).

Figure 2: Largest Users of Operating Leases



Source: Bryant and Felsted (2017): Say Hello to $3 Trillion in Forgotten Debt.

Sears (Sears Holding Corporation, SHLD) is one company that could ill afford any further negative impact on its balance sheet. In its 2017 annual report, Sears stated that regarding ASC 842, "We are currently evaluating the effect the update will have on our consolidated financial statements and expect the update will have a material impact on our consolidated financial statements" (p. 77). Its financial notes indicate a total of $537 million in the fiscal year 2017 alone for operating leases and $2,747 million overall in net minimum lease payments. The addition of anything near this amount to assets and liabilities will further decimate an already negative financial position ($10,985 million in liabilities against a $3,723 million deficit in equity as of February 3, 2017 ($7,262 in total assets)).

As of March 31, 2017, Sprint had noted that the minimum estimated amounts due under operating leases were $12,173 million, with an additional $6,971 million in spectrum leases and service credits, and $10,051 million in purchase orders and other commitments. In its notes, the company indicated that its cell site leases were generally for an initial non-cancelable term of five to twelve years, with up to five renewal options for five years each. Its leased spectrum agreements are generally for terms up to thirty years with the expectation that all will be renewed when required. Though it is not possible from the annual report notes to determine the total amount of the operating leases that will be added to the balance sheet in 2019, it is certainly likely that this total will be somewhere around $15,000 million. This amount will represent an increase in debt on the balance sheet by 20-25% (debt is $66,315 million on the March 31, 2017, Balance Sheet).

As the above two examples indicate, financial ratios and other financial calculations for many companies will be greatly affected due to the accounting change. A sophisticated financial analyst is expected to have already adjusted his or her valuations based on the operating lease notes, but the resolution of the data provided in those notes with which the analyst can make those adjustments is certainly not to the same level of transparency and precision as that which will be found on the actual balance sheet once the new rules take effect. Less advanced investors or financial analysts taking a cursory review of ratios as when conducting a screening process to identify certain companies according to set criteria would be hindered in their analysis.

Complications of Implementation

As with any new accounting rule, there are unintended consequences and unforeseen implications. This rule is no different, and there is a transition period before all reporting companies are fully compliant. The FASB recently published guidance that retrospective treatment is optional, so some companies may restate their adjusted lease numbers for the past year or two and others may not restate them at all. Due to the feedback from the companies implementing the new rule, the FASB realized that the documentation and research into old records were far more extensive than initially expected. In some instances, the FASB has had to modify the requirements due to the lack of available records. For example, land easements which often dated back as far as a hundred years ago (or more) do not have to be capitalized retroactively. Instead, the FASB gave the guidance that new land easements would be treated according to the new rules, but the accounting for existing easements did not have to be modified.

Other practical impacts have been addressed. In some leases, there are two components to the lease: a lease portion and a non-lease add-on. A good example is where a lessor provides snowplow service for the leased property with the fee for that service included in the overall lease payment. As the separation of such leases into the two components can become exceptionally complicated and, in many cases, not material, the FASB authorized the practical expedient of using the total lease amount without requiring that separation. All of these transitional modifications to the original rule will add another layer of exceptions, variations, and complexity to those comparing financial statements of different companies in the same industry.

Finance

There are two primary models that a financial analyst can use to determine the valuation of a company's stock. The first is an absolute valuation model based on the fundamentals of the company and the second is a relative valuation model that uses comparisons with other companies or benchmarks. The new accounting standards affect both models to varying degrees. Absolute valuation models fall into three general categories: present value (dividend discount model), discounted cash flow model (free cash flow to equity, free cash flow to firm), and residual income. Relative valuation models include comparisons of price to earnings, price to book, price to cash flow, and price to shares, etc.

Proper and accurate valuation requires making the necessary adjustments to various accounting items such as depreciation, goodwill, amortization, debt, and leases. However, there is no set formula to make specific adjustments based on agreed-upon standards. Therefore, it is common to see different numbers for the same financial ratio for a company in various financial sources. More often, the unadjusted ratio is shown on the major financial reporting websites such as Morningstar, Bloomberg, and Yahoo Finance. The result is that a user of these numbers must be even more vigilant in incorporating the new reality of the inclusion of operating leases on the balance sheet when making any financial decisions. Unadjusted past financial data of five to ten years ago will not be directly comparable to data from 2019 financial reports. When companies do make past adjustments due to an accounting change, they generally only show adjusted financial results for the past one or two years before such an accounting change.

Dividend discount models, whether a simple Gordon Growth model or a complex multi-stage or H-model, will be relatively unaffected by the change as the primary driver in the model is the dividend amount. Some change may occur depending on the method of calculating growth or the rate of equity. Free cash flow to firm (FCFF) and free cash flow to equity (FCFE) models will show an increase in cash flows from operations due to the shift in classification of lease interest to the financing cash flow category under IFRS. Residual income valuation models under IFRS will be affected by the reduction in net income due to the treatment of all leases as finance leases (residual income will be decreased).

Any relative valuation model that uses balance sheet entries can be affected, depending on the extent the analyst has made the necessary adjustments. Total assets and debt will increase, making any ratio using either number different. For example, an unadjusted return on asset ratio of twelve percent on assets worth $1000 would change to only ten percent if $200 of operating leases were added to the balance sheet. Debt-to-equity ratios (unadjusted) would show greater leverage for the company. The chart below depicts the impact a change in total assets makes on the return on assets ratio. For relatively minor increases due to the addition of operating leases on the balance sheet, the change will be small but noticeable. For example, a five percent increase in assets with no corresponding increase in profit will decrease a return on assets from ten percent to 9.52% (a 4.76% relative change). However, a fifty percent increase in assets results in a drop from ten percent to only 6.67%, which is a 33.33% relative change and a significant adjustment to a corporation. Table 1 below shows the effect of operating lease balance sheet increase on the Return on Assets ratio.

Table 1: Return on Assets—Effect of Operating Lease Balance Sheet Increase

	Pct. Increase in Assets Due to Operating Lease Accounting Change									
Original	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%
ROA										
2.5%	2.38%	2.27%	2.17%	2.08%	2.00%	1.92%	1.85%	1.79%	1.72%	1.67%
5.0%	4.76%	4.55%	4.35%	4.17%	4.00%	3.85%	3.70%	3.57%	3.45%	3.33%
7.5%	7.14%	6.82%	6.52%	6.25%	6.00%	5.77%	5.56%	5.36%	5.17%	5.00%
10.0%	9.52%	9.09%	8.70%	8.33%	8.00%	7.69%	7.41%	7.14%	6.90%	6.67%
12.5%	11.90%	11.36%	10.87%	10.42%	10.00%	9.62%	9.26%	8.93%	8.62%	8.33%
15.0%	14.29%	13.64%	13.04%	12.50%	12.00%	11.54%	11.11%	10.71%	10.34%	10.00%
17.5%	16.67%	15.91%	15.22%	14.58%	14.00%	13.46%	12.96%	12.50%	12.07%	11.67%
20.0%	19.05%	18.18%	17.39%	16.67%	16.00%	15.38%	14.81%	14.29%	13.79%	13.33%
22.5%	21.43%	20.45%	19.57%	18.75%	18.00%	17.31%	16.67%	16.07%	15.52%	15.00%
25.0%	23.81%	22.73%	21.74%	20.83%	20.00%	19.23%	18.52%	17.86%	17.24%	16.67%
27.5%	26.19%	25.00%	23.91%	22.92%	22.00%	21.15%	20.37%	19.64%	18.97%	18.33%
30.0%	28.57%	27.27%	26.09%	25.00%	24.00%	23.08%	22.22%	21.43%	20.69%	20.00%
	Relative Percentage Change									
	-4.76%	-9.09%	-13.04%	-16.67%	-20.00%	-23.08%	-25.93%	-28.57%	-31.03%	-33.33%

The debt-to-equity ratio (total liabilities/shareholders equity) will correspondingly be affected (Table 2) by the increase in debt on the balance sheet. Obviously, the greater the percentage increase of debt is, the more leveraged the company will be. The accounting change has only a minor impact on companies with relatively low debt-to-equity ratios. For example, a company with only a ten percent ratio (1:10 debt-to-equity) that adds five pecent additional debt only increases its debt-to-equity ratio by five percent to 10.50%. However, a company that is already highly leveraged (500% or 5:1 debt-to-equity) that adds another fifty percent of additional debt could see its ratio reach a level where its solvency could be in question (750% or 7.5:1 debt-to-equity). According to the PwC chart shown in Figure 1 above, some sectors such as retail may experience as much as a 100% increase in debt due to the accounting change, which would be an even more extreme impact on financial solvency measures.

Table 2: Debt to Equity Ratio—Effect of Operating Lease Balance Sheet Increase

	Pct. Increase in Debt Due to Operating Lease Accounting Change									
Original D/E Ratio	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%
10.0%	10.50%	11.00%	11.50%	12.00%	12.50%	13.00%	13.50%	14.00%	14.50%	15.00%
25.0%	26.25%	27.50%	28.75%	30.00%	31.25%	32.50%	33.75%	35.00%	36.25%	37.50%
50.0%	52.50%	55.00%	57.50%	60.00%	62.50%	65.00%	67.50%	70.00%	72.50%	75.00%
75.0%	78.75%	82.50%	86.25%	90.00%	93.75%	97.50%	101.25%	105.00%	108.75%	112.50%
100.0%	105.00%	110.00%	115.00%	120.00%	125.00%	130.00%	135.00%	140.00%	145.00%	150.00%
150.0%	157.50%	165.00%	172.50%	180.00%	187.50%	195.00%	202.50%	210.00%	217.50%	225.00%
200.0%	210.00%	220.00%	230.00%	240.00%	250.00%	260.00%	270.00%	280.00%	290.00%	300.00%

250.0%	262.50%	275.00%	287.50%	300.00%	312.50%	325.00%	337.50%	350.00%	362.50%	375.00%
300.0%	315.00%	330.00%	345.00%	360.00%	375.00%	390.00%	405.00%	420.00%	435.00%	450.00%
350.0%	367.50%	385.00%	402.50%	420.00%	437.50%	455.00%	472.50%	490.00%	507.50%	525.00%
400.0%	420.00%	440.00%	460.00%	480.00%	500.00%	520.00%	540.00%	560.00%	580.00%	600.00%
500.0%	525.00%	550.00%	575.00%	600.00%	625.00%	650.00%	675.00%	700.00%	725.00%	750.00%

Relative Percentage Change

5.0%	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%	45.0%	50.0%

Because the effects of the new lease accounting standards vary between sectors, cross-comparison becomes much more difficult without the necessary adjustments. Standard ratios (norms) for an industry or sector in some cases may be materially different from the existing levels. Long-term comparisons (five-year, ten-year studies) will be difficult to execute without considering the significant effect these changes will have on some companies' financial reports.

Corporate Response

Because every action result in a corresponding reaction, some companies will not simply incorporate this accounting change without making any modifications in the way they do business. U.S. GAAP gives an exception to the new rule for operating leases where leases that are twelve months or shorter do not need to be capitalized. Probably corporate lawyers and accountants for companies reporting under GAAP are presently actively restructuring leases in such a fashion to take advantage of this exception. One potential method would be to modify longer-term leases into a series of short-term leases in order to avoid the intent of the accounting change. Though beyond the scope of this article, an interesting area of inquiry is to see what methods and practices are generated by corporations to avoid the impact of the operating lease capitalization that begins in 2019. A study of reported operating leases before the change compared to what is reported afterward might show interesting findings, and the growth in short-term leases might be significant.

Conclusions

An accounting change that results in the potential addition of three trillion dollars (Bryant and Felsted, 2017) to corporate balance sheets is an extremely significant change, one that is of a magnitude high enough to materially affect financial valuations and measurements for many companies. From a review of available literature, the financial world probably is not fully prepared for the impact of the new lease standards. Many valuation models must be reviewed, adjustment assumptions checked and verified, and "quick assessments" of corporate performance using unadjusted data must consider what will be a significant change in 2019 for many industries.

Prevalent financial theory states that the market has already considered the off-balance-sheet entries that a company shows in its annual report and that stock valuation includes this information. However, there is a higher degree of uncertainty regarding the numbers listed in footnotes compared to actual entries on the balance sheet, and analysts must make numerous assumptions when incorporating footnote information into valuation calculations. Whether all these assumptions were valid remains to be seen, and there is a great potential for surprises as companies begin to adopt the new leasing standards. Analysts who use unadjusted data for quick assessments will find themselves looking at far different numbers than before, which may result in changes in financial decisions.

Recommendations

The upcoming accounting changes offer a potential opportunity for profit as a major area of earnings management is eliminated. As one of the primary purposes of financial analysis is to identify mismatches in stock prices compared to intrinsic value, a valuable exercise would be to develop a model tracking those companies with the greatest exposure in operating leases, with the intent to sell short as the new standards take effect. Though the efficient market theory indicates that there will be no market reaction when changes are posted, there is always the possibility that there will be some oscillation in pricing as the stock settles into its new normal. The downward adjustments will likely occur before the actual effective date. Special attention should be paid to situations where competitors have large differences in impact as is the case between Fedex (with significant operating leases) and UPS (with fewer operating leases). All things being equal, the best bet is to buy UPS and sell short FedEx over the next few years. There may be numerous candidates for investment in the retail industry due to the high degree of operating leases found in most retail companies. As the retail sector has been

suffering lately, several companies such as Sears will be negatively impacted by the change to the point where their solvency maybe even more in question than it already is.

There are several avenues of further study on this topic. One interesting area, mentioned above, is the analysis of what ends up on the balance sheets in the operating lease category in 2019 onward compared to what was being reported in footnotes in the annual reports of previous years. It is difficult to estimate the extent companies will be able to adjust business practices, but it is certain that there will be some difference. Valuable research questions include determining how these differences will affect financial statements and to what degree. As the new standards take effect, it will be interesting to see whether there is a market correction for those companies most impacted or whether the theory of the efficient market holds throughout the transition.

Another area of further academic research is to investigate whether the relation of financial statement information to market capitalization is better aligned due to the changes in the lease standards. Research into the correlation between book value versus market cap would be an interesting topic, with a hypothesis that the correlations (R^2) of such book-to-market comparisons improve after the change.

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