The undersigned, approved by the Doctoral Faculty Council, have examined the dissertation entitled

THREE STUDIES ON LEASE ACCOUNTING: LINKING APPLIED AND PEDAGOGICAL ACCOUNTING RESEARCH

presented by David L. Gray

a candidate for the degree of Doctor of Business Administration

and hereby certify that in their opinion it is worthy of acceptance.

Abbie Daly, Ph.D.
Assistant Professor of Accounting
Committee Chair

SIGNATURE:_____

Jon Werner, Ph.D.
Professor of Management
Second Committee Member

SIGNATURE:_____

D'Arcy Becker, Ph.D.
Professor of Accounting
Reader

SIGNATURE:_____

THREE STUDIES ON LEASE ACCOUNTING: LINKING APPLIED AND PEDAGOGICAL ACCOUNTING RESEARCH

A Dissertation

Presented to

The Graduate Faculty of

The University of Wisconsin–Whitewater

In Partial Fulfillment

Of the Requirements for the Degree

Doctor of Business Administration

By
DAVID L. GRAY

Dr. Abbie Daly, Dissertation Chair

DECEMBER 2017

DEDICATION

To my family. Particularly to my children—Rachel, Lauren, and Ethan—who continually inspire me with their intellectual curiosity and love of learning. And especially to Amy, my wife and partner for nearly 25 years, for her unwavering and enduring love and support.

ACKNOWLEDGEMENTS

Thank you to the members of my dissertation committee, Dr. Abbie Daly (Chair), Dr. Jon Werner, and D'Arcy Becker (Reader) for your guidance and support throughout the dissertation journey. I am truly grateful for your willingness to work with me on this project and our shared passion for pedagogy. I can't imagine having a better team. I also want to give special thanks to Dr. Daly for her creativity, tenacity, compassion, and brilliance. She helped me in so many ways throughout this process and so much of this final product reflects her dedication and imagination.

I also would like to thank my colleagues and students at North Central College. I am grateful to "work" alongside such talented and passionate individuals at the "*school we love*." I am also thankful to the College's administration—who collectively, and individually, were so supportive.

Thank you to my family—my wife Amy and my children, Rachel, Lauren, and Ethan—for everything. Your sacrifices and support helped me persevere. It is difficult to fully convey how important your love and patience were throughout—but I don't think this would have been possible without them. Thank you to my loving parents, Detra and David Gray, who always encouraged us to keep learning and growing. Although my dad is no longer here, I know he'd be proud of this achievement. And to my in-laws, Susan and Thomas Kotur, who have been so generous in their love, time, and support.

Thank you all for helping me achieve this longtime personal and professional goal.

THREE STUDIES ON LEASE ACCOUNTING: LINKING APPLIED AND PEDAGOGICAL ACCOUNTING RESEARCH

DAVID L. GRAY

Dr. Abbie Daly, Dissertation Chair

ABSTRACT

Providing insights into managerial actions represents an ongoing objective and important contribution of business and accounting research. Leasing activities, given their magnitude and importance to operations and financing mix choices, provide a rich context for gaining insights into managerial decision-making and the related financial statement impacts. Further, given the significance of leased operations to retail firms, these chapters and their related hypotheses and activities emphasize the actions of retail firms' management. This dissertation outlines three separate, but related, papers (presented as Chapters 2, 3, and 4) exploring financing and operating managerial decision-making in the context of lessee retail firms.

Chapter 2 explores managerial actions and related financing decisions in anticipation of an impending change in accounting policy. This chapter employs an ex ante study approach to gauge the nature, timing, and extent of managerial actions before the mandated implementation date of a new leasing standard. Specifically, this study explores whether, and the degree to

which, retailers have reduced other debt obligations to accommodate the additional lease liabilities that will be reflected as a result of the new standard.

Chapter 3 studies managerial actions and related operating decisions by examining the degree to which operating lease expenses and the related lease commitments exhibit stickiness characteristics. This chapter presents an approach that uses, and builds on, the methodologies of the seminal work of Anderson, Banker, and Janakiraman (2003) where they found that a firm's selling, general, and administrative expenses increase more with a sales increase than those expenses decrease with an equivalent sales decline.

Finally, Chapter 4 presents an instructional case study and supporting materials that provide a link from the applied archival research studies to pedagogical approaches whereby managerial actions can be modeled by students. The case study asks students to make decisions about lease commitments and debt obligations in light of the impending leasing standard and its potential balance sheet impacts. The supporting materials provide a scaffolded design whereby students engage in classroom activities and are provided support to build the competencies necessary for analysis and presentation of the expected financial statement impacts. The case also requires students to make recommendations for managerial decisions. Together these chapters, which comprise the dissertation, seek to offer a unique approach whereby applied research is meaningfully and purposefully connected to pedagogical materials.

TABLE OF CONTENTS

TABLE OF CONTENTS (CONT.)

TABLE OF CONTENTS (CONT.)

TABLE OF CONTENTS (CONT.)

LIST OF TABLES

LIST OF TABLES (CONT.)

LIST OF FIGURES

Chapter 1 Linking Applied and Pedagogical Accounting Research

For many years financial statement stakeholders, including the Securities and Exchange Commission (SEC), have expressed concerns regarding lease accounting (U.S. Securities and Exchange Commission, 2005). Mainly, the concerns have centered around how lessee firms have been able to structure lease obligations in a manner to keep them from being reported as liabilities on their balance sheets. As a result, in early 2016, the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) promulgated new leasing standards that will substantially impact the manner in which lease obligations are reflected in the financial statements of lessee firms. Several estimates suggest that the impacts of this leasing standard will likely result in over one trillion dollars of additional lease obligations reported as liabilities on the balance sheets of U.S. firms (PricewaterhouseCoopers[PwC], 2009). Until the implementation of this new standard for publicly-held firms in 2019 (or 2020 for privately-held firms), these operating lease obligations will continue to be disclosed only in the notes to the financial statements. The significance associated with the new leasing standard and its potential impact on financial statements, make this an opportune time to explore how leases affect managerial decision-making.

The estimated magnitude of the impacts of the new leasing standard highlights the importance of leasing activities for many firms. Further, the nature, timing, and extent of leasing activities together provide an important avenue that can be used to gain insights into managerial actions. This chapter outlines a three-paper dissertation in which leases, and the related changes in financial statement composition, provide insights into managerial actions. Further, given the importance and magnitude of leased operations to retail firms, these related chapters each

explore how retail firms and their management teams have made financing and operating decisions within the leasing domain.

The issuance of the new leasing standard represented the culmination of a series of due process events and other related activities that have occurred in recent years. Together these activities provide evidence of the standard-setting bodies' resolve for change in lease reporting. This research outlines an approach for testing managerial actions in response to several of the standard setters' exposure documents and other communications and activities preceding the adoption date of the final standard in 2016.

"Have Retailers Reduced Debt in Anticipation of a New Leasing Standard?" (Chapter 2) presents an archival research study that offers insights into managerial decision-making by exploring the financing decisions associated with the relationship between lessee firms' operating lease obligations and their levels of total debt. This study operationalizes managerial action by studying firm-level changes in debt ratio in relation to changes in the operating lease ratio during a time period associated with significant activities by accounting standard-setting bodies. Further, this chapter outlines an ex ante study whereby certain managerial actions are hypothesized to occur prior to the formal adoption of the new leasing standard. In essence, this study suggests that retail firms, with the knowledge that a proposed standard would materially add to reported firm liabilities upon its ultimate implementation, have engaged actively to reduce other (non-lease) debt obligations.

The extant economic consequences literature provides an important framework for Chapter 2 and its hypothesis that managers, in response to this anticipated standards change, have begun a process of deleveraging firms' balance sheets to make room for the additional significant liabilities that will be reported as a result of the standard implementation. Further,

this chapter also incorporates the findings associated with the efficient market hypothesis and the debt covenant hypothesis in developing the underlying hypothesis for this chapter. Finally, the research stream which explores the nature of leases and debt as substitutes or compliments provides additional insights necessary for shaping the hypothesis outlined in this chapter.

The results strongly support the hypothesis that retail firms have reduced debt in relation to operating lease commitments in anticipation of the new leasing standard. Further, Chapter 2 provides additional analysis to explore the degree to which different retail industry groups and subindustry groups have reacted prior to the implementation of the new lease standard. Notably, these analyses revealed that the Specialty Retail and Food & Staples Retail industry groups have reduced debt relative to operating lease commitments. However, Multiline Retail firms have increased relative debt levels.

While Chapter 2 focuses on managerial financing decisions, "The Impact on Operating Lease Expense on Cost Stickiness" (Chapter 3) places emphasis on managerial decision-making with respect to retail leasing operations. In the leasing domain, financing and operating decisions are often inextricably linked. However, by considering operating lease expense characteristics, Chapter 3 focuses more squarely on the operational aspects of managerial decision-making. In their seminal paper Anderson, Banker, and Janakiraman (2003) coined the term *cost stickiness* to describe asymmetric cost behavior and provided evidence describing how such cost behavior is the result of managerial decision making. Through a battery of robustness tests, the authors repeatedly found that a firm's selling, general, and administrative (SG&A) expenses increase more with a sales increase than those expenses decrease with an equivalent sales decline (Anderson, Banker, & Janakiraman, 2003).

The findings of Anderson, Banker, and Janakiraman (2003) have provided important avenues for many studies in both financial and managerial accounting with many differing expenses as focal variables in the years following their work. However, the stickiness of operating lease expenses and their related commitments have not been addressed in the existing body of cost stickiness literature. Understanding lease expense stickiness offers insights into managerial actions associated with leasing activities in relation to changes in revenues. The current competitive landscape and threats encountered by many retail firms, add to the importance of better understanding how these firms react to revenue declines. This research study, recognizing the magnitude of operating lease expenses for retail firms and a gap in the existing research, provides insights into the stickiness of operating lease expenses and the related lease commitments.

This study provided support for the hypothesis that lease expenses are sticky for retail firms. Additionally, the results of this study provided evidence of the hypothesis that lease expenses are relatively stickier than operating lease commitments. Further, this chapter presents additional analyses in which lease cost stickiness characteristics were determined for subindustry Specialty Retail classifications.

Finally, "Preparing Students to Understand the New Leasing Standard" (Chapter 4) is offered as a response to the calls for change in accounting and business education expressed by the Pathways Commission and the Association to Advance Collegiate Schools of Business (AACSB). Specifically, these bodies have expressed concerns that business and accounting research has frequently not been meaningfully and purposefully linked to improved teaching and learning outcomes for students. The research models, methods, and findings associated with the empirical studies presented in Chapters 2 and 3 are not the manner in which

this linkage is made. Instead, to address these concerns, these research studies have informed several of the key case requirements. Accordingly, Chapter 4 presents a case study and related instructional materials and activities which seek to link empirical research on financing decisions (Chapter 2) and operating decisions (Chapter 3) to pedagogical materials.

Although the case-based instruction is often associated with improved student learning outcomes, case studies often present challenges for students (Healy & McCutcheon, 2010; Milne & McConnell, 2001; Yadav et al., 2007). Accordingly, this chapter presents a *scaffolding* approach in which students participate in several in-class activities that prepare them for the complexity and ambiguity associated with a detailed case study—*Home Technology Innovations, Inc*. Further, this scaffolding approach supports students' movement towards the higher-order critical thinking skills that are necessary for effective learning outcomes associated with the case study.

The case study asks students to consider both financing and operating decisions for a lessee firm in light of the impending implementation of a new leasing standard that will require lessees to capitalize substantially all lease obligations. This case contributes to the accounting pedagogy literature by attempting to break down some of the silos that exist within typical accounting curricula. Specifically, asking students to consider operating and financing decisions and make well-supported recommendations requires students to integrate fundamental concepts normally compartmentalized within separate accounting courses. Finally, Chapter 4 presents the results of student survey-based research that indicated the efficacy of the pedagogical materials in meeting the stated learning outcomes.

It should be noted that these three primary chapters described in this introduction were written and presented in a manner in which each could largely stand alone. As such, the

corresponding literature reviews, expected contributions, hypotheses development (for Chapters 2 and 3), and pedagogical activities (for Chapter 4) are each presented fully and separately. However, as described throughout this introduction, an important aspect of this dissertation is the manner in which these chapters are linked to one another and how, together, they provide an integrated view of the leasing domain in the context of managerial decision-making and contribute to the related pedagogy. The confluence of the impending implementation of a new leasing standard during a time period associated with an increasingly competitive retail environment further adds to the contribution of this dissertation as a whole.

The results of a search of the *ProQuest Dissertation Database* as of August 2017, provided evidence that this dissertation model makes a contribution by combining traditional, applied accounting research and pedagogical research. While this database search revealed numerous dissertations in recent years that have explored various aspects of accounting pedagogy (particularly, in Doctorate of Business Administration and Doctorate of Education programs), no published dissertations were noted as having a link between empirical accounting research and pedagogical accounting research.

As described throughout, this dissertation seeks to provide insights into managerial actions and (in Chapter 4) asks students to model managerial decision-making. This dissertation model recognizes the importance of our role as educators and attempts to provide an avenue by which important aspects of our research interests and findings can be made accessible and shared with our students. Specifically, the *Home Technology Innovations, Inc*. case study presents students with requirements that address key financing and operating decisions which are similar to the managerial decision-making issues explored in this dissertation's empirical research studies.

Chapter 2 Have Retailers Reduced Debt in Anticipation of a New Leasing Standard?

Abstract

In 2016, the Financial Accounting Standards Board (FASB) issued a new leasing standard that upon implementation, will substantially impact how lease obligations are reflected in the financial statements of lessee firms. The FASB was acting upon the Securities and Exchange Commission's—and their own—long-standing view that the accounting treatment for many leasing transactions represents a potential threat to the fair presentation of a firm's financial position. As a result, the new standard requires lessee firms to record operating lease obligations as liabilities on balance sheets beginning in 2019. Using the economic consequences literature as a primary framework, this research study hypothesizes that retail firms, in response to this anticipated standards change, began a process of deleveraging balance sheets prior to the standard's issuance to make room for the additional significant liabilities that will be reported. This study's findings supported the hypothesis that retail firms have lowered debt in relation to leases in anticipation of a new leasing standard.

Keywords: New Leasing Standard, Operating Leases, Lease Commitments, Economic Consequences of Accounting Standards

Have Retailers Reduced Debt in Anticipation of a New Leasing Standard?

In early 2016, the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) each issued new leasing standards that, upon implementation, will substantially impact how lease obligations are reflected in the financial statements of lessee firms. While there are many issues and complexities associated with lessor accounting, the nature by which lessees record transactions has been significantly more controversial and has raised more concerns in the financial reporting community (Biondi et al., 2011; Securities and Exchange Commission [SEC], 2005). As such, this chapter limits its discussion and analysis to the lessee's side of the transaction.

These standard-setting bodies have acted upon the SEC's—and their own—long-standing views that the accounting treatment for many leasing transactions represents a potential threat to the fair presentation of a firm's financial position (SEC, 2008). Specifically, well-established accounting practices, in the United States and internationally, have provided lessees with the opportunity to engage in off-balance-sheet financing by structuring lease contracts to avoid recording this obligation as a debt liability.

As a result, the new U.S. standard requires lessee firms to record substantially all operating lease obligations as liabilities on balance sheets beginning in years beginning after December 15, 2018 for publicly-held firms (and December 15, 2019 for privately-held firms). Until the implementation of this new standard, these operating lease obligations will continue to be disclosed only in the notes to the financial statements. The impacts of this leasing standard are expected to add over one trillion dollars of lease liabilities to the balance sheets of lessee firms in the United States (PricewaterhouseCoopers[PwC], 2009; SEC, 2005). Further, a study of over 3,000 companies conducted by PwC (2009) showed that the companies' 2008 debt levels

would increase by 58% if the operating lease commitments were to be capitalized. Given these potential impacts, the new leasing standard is likely to be one the most far-reaching and impactful developments in recent financial accounting and reporting history (Kostolansky & Stanko, 2011).

The promulgation of the new leasing standard in February 2016 represented the culmination of a long effort by the FASB to improve lease accounting treatment. This standard's issuance was preceded by two exposure drafts under the FASB's due process procedures. While many specific details of the drafts were altered through the due process procedures, the primary objective and desired change remained consistent—the new standard would result in substantially all lease obligations being reported on the balance sheets of lessee firms (Biondi et al., 2011; Kostolansky & Stanko, 2011).

This research seeks to provide insights into how retail firms react to the issuance of a new accounting standard and the exposure drafts which preceded it. As noted, the new standard will affect many firms' balance sheets by adding significant liabilities related to lease obligations. As a result, a corresponding impact on reported debt ratios is also likely. These debt ratios are important measures used by both debt providers and equity investors in assessing firms' financial condition and in the determination of borrowing capacity and costs. This chapter develops and presents a hypothesis that suggests that the prospect of increased levels of debt, stemming from recording lease obligations, results in retail firms taking actions to reduce other, non-lease debt.

Accordingly, this research seeks to provide an answer to the research question—Have retail firms reduced debt in anticipation of a new leasing standard? This study presents regression-based models to address this research question by measuring the effects occurring in proximity to the FASB's due process activities. Specifically, the effects on reported debt levels

following a series of these due process events were investigated using the debt-lease substitute literature as a basis for model development. The study used financial data for retail firms included in the Standard and Poors (S&P) 1500 for fiscal years from 1998 to 2016.

In addition to the debt-lease substitute theory, this chapter's hypothesis was also built on the economic consequences of accounting standards literature which has suggested that firm managers react to accounting standards changes. Further, review of comment letters written by retail managers (and retail trade associations) in response to the FASB's due process documents provided further motivation for this chapter's hypothesis. Through a series of analyses, this chapter's findings supported the hypothesis that retail firms have lowered debt levels in relation to operating lease commitments prior to the standard's implementation date.

This study offers contributions to four streams of literature. First, this study contributes to the literature that examines the consequences of recognition versus disclosure. Some studies have presented findings that echo the efficient market hypothesis whereby market participants treat disclosed items similarly to those reflected in the financial statements themselves (Aboody, 1996; Bratten, Choudhary, & Schipper, 2013). However, the preponderance of research in this area supports the assertion that financial statement users place differing informational value on recognized versus disclosed items (Biondi et al., 2011; Dietrich, Kachelmeier, Kleinmuntz, & Linsmeier, 2001; Schipper, 2007). This study contributes to this stream of literature by documenting that management of retail firms may believe that users assess recognized and disclosed lease commitments differently.

Second, this chapter stands to make a contribution to the literature that explores the economic consequences associated with changing accounting standards. Understanding whether (and how) firms attempt to adjust balance sheets and, more specifically, their debt levels in

anticipation of a newly-proposed standard, provides valuable insights into critical actions in response to accounting policy changes.

Third, this research differs from prior economic consequences studies that have focused on examining the impacts after an accounting standards change has been adopted or implemented. This study attempted to show that economic consequences associated with the new leasing standards are evident before the final standard is implemented. Specifically, this research brings a different dimension to this stream of literature by exploring the managerial debt financing decisions prior to the implementation of the new lease accounting standard.

Finally, the corporate finance literature has divergent views about whether the existence of leases and debt obligations are substitutes or complements for one another. The study builds on research that has suggested that the determination of whether leases and debt are substitutes or complements largely depends on the firm's industry and the related nature of its leasing obligations. Accordingly, by offering a hypothesis about the reaction that retail organizations have had to the proposed change to lease accounting, this research endeavored to provide insights into the firms that are, in the aggregate, expected to be most impacted by the ultimate implementation of a new leasing standard.

Background

The following discussion provides context for understanding the leasing environment and related financial reporting issues. The section offers a recent (since 1976) history of attempts to improve and rationale for improving lease accounting leading up to the adoption of the new leasing standards in 2016.

Statement of Financial Accounting Standards 13: Establishment of *Bright Line* Tests

In 1976 the FASB issued Statement of Financial Accounting Standards (SFAS) 13. Note that in 2009, the FASB's *Accounting Standards Codification* (henceforth, *Codification*) was introduced to become the sole source of authoritative generally accepted accounting principles (GAAP) recognized by the FASB. Accordingly, SFAS 13 was reclassified and organized in section 840 of the *Codification*. SFAS 13 materially changed the requirements for financial accounting and reporting for leases by both lessees and lessors. For lessees, this standard required capital lease treatment for leases that, in substance, represented a financing transaction. Further, the standard provided specified criteria for this capital lease determination (Financial Accounting Standards Board, 1976). Capital lease treatment involves recording the leased asset and the related lease obligation as a liability on the balance sheet. Leases not meeting these criteria are termed operating leases and payments under these leases are classified as current operating (rental) expenses. The obligations stemming from operating leases are not reflected as liabilities in the balance sheet, but instead they are disclosed in the notes to the financial statements. The criteria mandated under this standard still guide lease accounting today—until the implementation of the new lease standard in 2019 (Financial Accounting Standards Board, 2013b).

The essence of SFAS 13 was that leases should be subject to accounting treatment based on their economic substance rather than their strict legal form (Kostolansky & Stanko, 2011). In many instances leases were nearly identical to installment purchases in their substance; however, the transaction was contractually executed in the form of a lease agreement. SFAS 13 emphasized that when a lease transfers substantially all of the benefits and risks of ownership of

the lessee, the lessee must account for this event as if it purchased the asset and incurred the related liability (Financial Accounting Standards Board, 1976).

Structuring Leases to Avoid Capital Lease Treatment

Shortly following the implementation of SFAS 13, researchers noted that many U.S. companies reacted by modifying lease contracts to avoid capital lease accounting treatment (Abdel-Khalik, 1981; Imhoff & Thomas, 1988). Additionally, the same researchers found evidence suggesting that companies reduced their levels of all leasing (both operating and capital) and other debt financing in favor of equity financing to reduce debt and the corresponding leverage impact (Imhoff & Thomas, 1988). The SEC (2005) noted concerns that financial reporters may take advantage of the lease classification guidance by structuring lease arrangements to achieve the desired accounting treatment, which is generally operating lease classification since it does not result in additional reported debt.

Many attribute these outcomes to SFAS13's specific guidance, which gives companies a clear direction on how to structure contracts in a manner to avoid capital lease treatment (Frecka, 2008; Schipper, 2003). Specifically, the criteria included what has often been termed *bright-line* or *knife-edge* tests. For example, one of the criteria specified that if the lease term is equal to 75% or more of the estimated economic life of the leased property, capital lease treatment was required (Financial Accounting Standards Board, 1976). As a result, leases can be structured so that the lease term falls just below 75% of the asset's economic life to avoid capitalizing the lease obligations.

Furthermore, there is significant judgment that may go into determining the economic life of an asset (Abdel-Khalik, 1981). For example, assume that a company enters into an equipment lease for a seven-year term. If the economic life of the asset is estimated at nine years, the lease

would qualify for capital lease treatment by meeting the 75% criterion (because the lease terms of seven years is 77.8% of the asset's nine-year economic life). However, by simply changing the estimate of the asset's useful life to 10 years, the lease term would represent 70% of the economic life and would qualify for operating lease treatment under the same criterion. Accordingly, it is not hard to imagine scenarios whereby lessors may alter assumptions simply to keep debt off their balance sheets.

Further, lease renewal options present additional complexities in applying this seemingly straightforward test. For example, if management asserted at the inception of a lease agreement that it was unlikely that they would exercise renewal options, then such options were excluded from the calculation. However, in the event that management later went on to exercise these options, the company was often still able to use the original operating lease accounting rules despite holding the asset for a term well in excess of 75% of its economic life (Kostolansky & Stanko, 2011).

For the preceding reasons, many have been critical of what is often perceived as the FASB's rules-based approach to developing and implementing accounting standards. Notably, Shipper (2003) specifically described the FASB's standard-setting process as principles-based, not rules-based. In general, this characterization has been supported in that few instances of U.S GAAP use specified rules or bright-lines and instead rely on broad and fundamental accounting principles. However, in the context of current lease accounting, U.S. GAAP clearly has followed a rules-based approach. Therefore, this chapter characterizes U.S. GAAP for leases as rules-based.

As described, the existence of a bright-line test may allow management to circumvent the true economics of the transaction. Many accounting scholars have suggested that a principles-

based approach may better accomplish the ultimate goal of improving transparency in financial reporting (Beattie, Goodacre, & Thomson, 2000b; Bratten et al., 2013; Collins, Pasewark, & Riley, 2012; Schipper, 2003). FASB's international counterpart, the IASB, has generally adopted more of a principles-based approach to its standard-setting process. The IASB is responsible for the development of International Financial Reporting Standards (IFRS).

International Accounting Standard 17: A Principles-Based Approach

In recent years, many have espoused the benefits of a principles-based approach to accounting standards setting. This belief suggests that standards should be presented as broad principles, not specific rules or bright-line tests (Maines et al., 2003; Schipper, 2003; U.S. Securities and Exchange Commission, 2008). Implicit in this view is that clear, overly-defined rules create opportunities to structure agreements in a manner that follow the rules but perhaps fail to recognize the substance of the transaction (Frecka, 2008).

In general, observers suggest that the IASB has largely employed a principles-based approach in its development of IFRS. In fact, it is in lease accounting where differences between rules-based and principles-based approaches are most often cited (Agoglia, Doupnik, & Tsakumis, 2011; Maines et al., 2003; Schipper, 2003). To illustrate this difference, in 1982 the IASB issued International Accounting Standard (IAS) 17 in response to the capital versus operating lease dichotomy. While the criteria under IAS 17 are similar to those mandated under SFAS 13, bright-line percentages are not provided. As such, proponents of the principles-based approach suggest that this allow management and, perhaps more importantly, the company's auditors to more meaningfully evaluate and assess the economics of the lease rather than solely focusing on whether or not prescribed percentages of the asset life or the lease payments are met (Frecka, 2008).

Further, it has been argued that a principles-based approach requires the application of enhanced professional judgment rather than calculating adherence to given percentage thresholds (Collins et al., 2012; Maines et al., 2003). This position was empirically tested in recent research conducted by Collins, et al. (2012). In this research, the authors concluded that strong evidence exists that U.S. firms, reporting under the rules-based U.S. GAAP leasing standard (SFAS 13), are more likely to classify leases as operating (thus avoiding lease capitalization and the recording of a liability on the balance sheet) than firms reporting under the principles-based standard (IAS 17). Additionally, Agoglia et al. (2011) conducted experimental research that yielded similar results and conclusions.

Jointly Proposed Standard Exposure Drafts by the Financial Accounting Standards and International Accounting Standards Boards

In recent years, the FASB and IASB have issued joint revised standards or proposals for several important accounting standards. Most notably for this research, the Boards issued exposure drafts of a new leasing standard that would call for virtually all leases to be capitalized and eliminate the use of rules-based percentage thresholds in evaluating lease treatment that have been used under U.S. GAAP.

While SFAS 13 used bright-line distinctions in determining capital lease qualification, both SFAS 13 and IAS 17 adopted an ownership model in making the lease accounting assessment (Biondi et al., 2011). This viewpoint created the criteria that essentially required that a lessee must recognize an asset and liability in a leasing transaction if the lessee effectively enjoyed the benefits and assumed the risks of asset ownership (Financial Accounting Standards Board, 1976; International Accounting Standards Board, 1982).

After many years of deliberating and holding a view that the current leasing standards often created circumstances where accounting treatment did not necessarily reflect the economic realities of certain leasing transactions, the FASB and IASB joined to develop a standard that fundamentally changes the way in which obligations of the lessee are reported (Biondi et al., 2011; Kostolansky & Stanko, 2011). The FASB and IASB issued a joint exposure draft document in August 2010 that entailed significant changes to the manner in which leases are treated for accounting purposes. The exposure draft was subsequently revised and reissued in May 2013. The FASB's stated objective "is to increase transparency and comparability among organizations that lease assets by recognizing assets and liabilities that arise from lease transactions on a lessee's balance sheet" (FASB, n.d., para. 2).

Under the (then) proposed (and later, adopted) model, a lessee would essentially have to capitalize all lease obligations with terms greater than one year. In issuing this exposure draft, the standard-setting bodies have in effect adopted a materially changed view of what constitutes a leased asset (Biondi et al., 2011). To illustrate, consider an example of a lease obligation that would currently be considered clearly operating in nature. Assume that a retailer signs a standard five-year lease for a small retail shop in a mall. In virtually any circumstance like this, the retailer has no intent to own that retail space. Under the existing leasing rules, the likelihood is that none of the criteria for lease capitalization would be met. As a result, the future lease obligations would only be disclosed in the notes to the financial statements. However, under the new leasing standard, this retailer is required to capitalize the present value of the future lease obligations and report the liability on the balance sheet. Additionally, the retailer will record a right-of-use asset (Financial Accounting Standards Board, 2013a). Further, it should be noted that while the standard-setting bodies worked jointly on the revised leasing standard throughout,

the final standards diverged in their classification of lease expenses (even though both standards require full lease liability recognition). In February 2016 the FASB issued an Accounting Standards Update (ASU) for Leases (Topic 842). During the due process period for this standards update, preliminary proposals suggested that the term "operating" lease may be replaced. However, the final ASU retained the operating lease terminology and provides a discussion of characteristics that differentiate operating leases from finance (formerly capital) leases. However, under the newly adopted IFRS 16, no delineation is made for operating leases. Instead, lease expenses are classified as interest and related depreciation and amortization.

Exposure Draft Comment Letters

The issuance of the 2010 exposure draft and the 2013 revisions elicited numerous comments letters in due process deliberations. In fact, it has been one of the most-widely debated standards with 786 comment letters responding to the 2010 exposure draft and 641 to the 2013 revisions. Many of the respondents offered comments to both proposal versions (IFRS/ FASB, 2013). Notably, many of the comment letters were not objecting to the idea of capitalizing all lease obligations. Instead, respondents expressed a variety of concerns, with many focusing on implementation issues and whether the benefits from recognition and revised presentation outweighed additional costs of associated compliance.

Additionally, many respondents expressed concerns that the proposed standard's requirements for liability recognition would results in many firms falling out of compliance with established debt covenants. The following excerpt from the National Association of Retail Firms's (n.d.) comment letter seems to express the nature of these debt-covenant-related concerns:

> The significant increase in recorded liabilities will likely result in unexpected violations of financial debt covenants, or even debt defaults, and give lenders the opportunity to restrict credit availability. Similarly, lenders will likely require monetary penalties from companies that violate debt covenants directly as a result from the adoption of this proposed guidance. These monetary penalties may be deemed consideration for waivers of such violations, curing of defaults or re-negotiation of financial ratio covenants.(p. 2) Overall, we believe these costs will be significant. ("Leases-Joint Project of the IASB and FASB," n.d.)

It is the nature of this comment letter and many similar ones, which provide an important motivation for this chapter's research question.

Review of Literature

The following discussion provides a review of four research streams that provide the building blocks for the *Hypothesis Development* section that follows. Specifically, aspects of recognition versus disclosure from a user perspective provide insights into the FASB's move to a full recognition model for leases. Additionally, the review explores methods employed by analysts to estimate and assess the impacts of lease capitalization. Further, research studying the economic consequences associated accounting standards changes is explored. Finally, a discussion is offered for a stream of research that explores whether operating leases represent substitutes or complements for debt.

Recognition versus Disclosure of Lease Commitments

At the center of the new leasing standard is the notion of recognition versus disclosure – particularly of the lease obligation. Financial statement recognition refers to the process of incorporating an item into the financial statements—the balance sheet or income statement.

Disclosure provides information about the elements reported in the financial statements or, as is the case with operating leases, information about commitments that are not reflected in the financial statements.

The extant literature which has studied the informational content of recognized versus disclosed items appears to be divergent in its conclusions. One viewpoint has suggested that, for many financial statement users and analysts, whether information is disclosed in the footnotes or recognized in the financial statements is of little informational consequence. For example, Bratten et al. concluded (2013) that users of financial statements may treat disclosed items similarly to recognized items provided that users did not have reliability concerns with the reported financial information. Invoking Watts and Zimmerman's (1986) semi-strong form of the efficient market hypothesis, Schipper (2007) suggested that this no difference view hinges on the assumption that investors and other users of financial statements are rational, knowledgeable, and do not have other cognitive limitations that would limit their ability to interpret the impacts of disclosed items. Also, Aboody's (1996) empirical results reflected this position by concluding that the decision to recognize (versus disclose) items provides no new information in an efficient market.

Despite the preceding arguments, significant findings suggest that financial statement users have a tendency to undervalue disclosure in relation to recognition. Maines and McDaniel (2000) and Hirst and Hopkins (1998) conducted research experiments on the reporting of comprehensive income and concluded that financial statement users often failed to utilize such information when it was disclosed instead of included on the face of the income statement. Further, additional experimental research concluded that financial statement users have a tendancy not to put in the effort needed to analyze and make inferences about disclosed items

(Dietrich et al., 2001). Instead, there is an inclination to use primarily the information that is recorded in the finacial statements themselves (Dietrich et al., 2001). Finally, other research has suggested that the salience of items reported within the financial statements themselves provides enhanced visibility, and thus better information for decision-making purposes (Dietrich et al., 2001; Hirst, Hopkins, & Wahlen, 2004). In developing the new leasing standard, the FASB appears to be have taken a stand that a difference exists in how recognized versus disclosed items are interpreted by the financial statement users.

Constructive Capitalization Using Financial Statement Footnote Disclosure

In connection with guidance associated with SFAS 13 and IAS 17, companies are required to provide financial statement footnote disclosures that detail obligations for payments to be made under lease agreements. This disclosure requires the individual lease commitments for each of the five years following the balance sheet date and a combined total for any obligations beyond five years (Financial Accounting Standards Board, 1976). Using this available footnote disclosure data, academics and analysts have developed techniques to constructively capitalize all lease obligations.

Constructive capitalization involves estimating the assets and liabilities that would be reported on the balance sheet if operating leases had been treated as capital leases. Using this technique, the level of debt is estimated by discounting the disclosed future minimum lease payments using an estimated incremental borrowing rate (Imhoff, Lipe, & Wright, 1991).

An important consideration is that because companies are not required to disclose future lease commitments associated with renewal options, the present value of these future potential cash flows cannot be reliably estimated (Imhoff & Thomas, 1988; Lipe, 2001). This treatment mirrors both SFAS 13 and IAS 17, which also do not include renewal options in the assessment

of whether a lease obligation is afforded capital or operating lease treatment (Bennett & Bradbury, 2003).

With both the estimates of the leased assets value and lease liability, the analyst can determine the impact of lease capitalization. Studies have shown the effects based on individual companies, industry groups, and even large industrial sectors. These studies have demonstrated that constructive lease capitalization has a material impact on return on assets, debt-to-equity, and other key and commonly used financial ratios (Kostolansky & Stanko, 2011; Lipe, 2001). For example, Imhoff et al. (1991) studied several industries and several companies within those industries. Their study of McDonald's Corporation at that time indicated that capitalizing lease obligations would have resulted in a 9% decrease in reported return on assets and a 30% increase in the debt-to-equity ratio (Imhoff et al., 1991). Notably, their findings also concluded that the capitalization of operating leases for Delta Airlines would have reduced reported return on assets by 29% and increased the debt-to-equity ratio by 150% (Imhoff et al., 1991).

In the intervening years, the work of Imhoff et al. (1991) has been widely replicated with similar results. Numerous research studies applied to a variety of firms, industries, and geographies have concluded similarly significant impacts that would have been noted if operating leases had been capitalized (Kostolansky & Stanko, 2011). For example, similar conclusions have been found in German firms (Beattie et al., 2000b) and U.K. firms (Bennett & Bradbury, 2003).

Imhoff et al. (1997) conducted an additional and similar study in which they expanded their analyses to show other financial statement impacts associated with the constructive capitalization of operating leases. Most previous studies, including prior work by the same authors, had concluded that the income statement impacts associated with lease capitalization

were immaterial. In effect, the studies had suggested rental expenses associated with an operating lease would be replaced by the costs of asset ownership—specifically asset depreciation and interest on the debt obligation (Imhoff et al., 1991; Imhoff & Thomas, 1988). In their 1997 paper, Imhoff et al. focused on the income statement impacts associated with lease capitalization; this research conducted on the airline industry showed that while overall net income would remain largely unchanged, the subtotal classification of operating income would be significantly changed as rental expense was replaced by interest and depreciation expense. In their deliberations and the issuance of the new leasing standard, it appears that the FASB addressed this issue by delineating operating versus finance versus operating leases.

The constructive capitalization technique has come to the forefront of current discussions and analyses about the new leasing standard. Several studies have used this approach to estimate the financial statement consequences that will be associated with adoption of this new leasing standard (Kostolansky & Stanko, 2011; PricewaterhouseCoopers, 2009; U.S. Securities and Exchange Commission, 2005). Kostolansky and Stanko's (2011) study specifically analyzed the potential impacts of the then proposed leasing standard. In their research, they determined the impacts on the firms included in the S&P 100. Their findings concluded that the S&P 100 would show a 10.4% increase in average total liabilities and a 5.1% increase in average total assets (Kostolansky & Stanko, 2011). However, the financial statements of the retail industry group (comprised of 10 firms) within the S&P 100 were more dramatically impacted with the same measures increasing by 43.2% and 20.3%, respectively (Kostolansky & Stanko, 2011). Altmuro et al. (2014) conducted an analysis using data from over 5,000 loan deals to measure similar effects on reported debt ratios.

Given these significant implications and the effects on debt-to-asset and return on asset ratios, it is not surprising that, collectively, the retail industry has been the most ardent detractor of the newly-proposed standard (IFRS/FASB, 2013). Aside from the financial statement impacts, the respondents representing retailers most often suggest that capitalizing these operating lease obligations does not accurately represent the substance of the lease transactions (IFRS/FASB, 2013). For example, a large international clothing retailer like Gap Inc. would have to report huge increases in reported liabilities even though they never (or rarely) intend to own their retail space. In essence, the new rules will create balance sheet impacts that will look as if Gap Inc. had purchased their stores.

Economic Consequences of Accounting Standards

The notion of economic consequences of accounting standards can have multiple meanings or interpretations. For example, in this context of lease accounting, the fact that over one trillion dollars of additional corporate debt is anticipated to be added to corporate balance sheets would certainly fit under a broad definition of economic consequences.

Additionally, economic consequences have occasionally been used to describe the additional costs associated with the implementation of a new accounting standard. For example, the costs associated with implementation of the provisions of the Sarbanes-Oxley Act of 2002 were widely reported (and fluctuated wildly). Furthermore, as noted previously, comment letters written in response to exposure drafts of proposed accounting standards often describe the additional implementation costs (and how the costs seemingly always outweigh the benefits) associated with the new standard.

While a broad definition of economic consequences is reasonable and helpful in understanding the far-reaching impacts of accounting standards adoption and implementation, for

the purposes of this study the meaning suggested by Zeff (1978) and operationalized by Imhoff and Thomas (1988) and Mittelstaedt et al. (1995) seems to best capture the economic consequences argument posited by this research study. In these examples, the phrase economic consequences suggests that managers make operational decisions and take action on the basis of the related financial statement and disclosure impacts. The following discussion provides several illustrations of this concept.

Perhaps one of the most significant economic consequence examples accompanied the FASB's introduction of SFAS 106. This standard requires companies to record a liability for future obligations relating to post-retirement healthcare obligations (Warshawsky, Mittelstaedt, & Cristea, 1993). Mittelstaedt et al. (1995) employing contracting cost theory, found evidence to support their hypothesis that the requirement to recognize this liability would lead to employers ultimately offering reduced postretirement health care coverage. Additionally, citing the work of Beneish and Press (1995), Mittelstaedt et al. (1995) were able to provide a critical linkage between accounting standards-based managerial actions and the impact on debt-financing and related debt-financing costs.

In the wake of the dot-com bubble collapse, another instance of accounting economic consequences came into play. Throughout this era an increase in the use of stock-based compensation was witnessed as these dot-coms sought ways to compensate employees despite not having sufficient earnings and cash flows (Guay, Kothari, & Sloan, 2003). The accounting rules existing at that time allowed companies to avoid recognizing compensation expense associated with the granting of stock options. Soon after the collapse, after intense political pressure, the FASB required companies to record such executive compensation programs as expenses. Several studies have shown the economic consequences of this revised accounting

standard by chronicling the significant reduction in stock option grants in the years following the standard's implementation (Carter & Lynch, 2003; Dechow, Hutton, & Sloan, 1996; Lo, 2003).

Recently, Chuk's (2013) research studied the impacts associated with the increased pension disclosure requirements associated with SFAS 132R. Again, this research concluded that firms' management teams alter operational actions (in this case adjusted pension asset portfolios and related risk profiles) as a result of changed pension plan disclosure requirements (Chuk, 2013).

This chapter suggests that we may be poised for, or in the midst of, another significant economic consequence associated with the changing standards for lease accounting. As discussed, the new leasing standard will require companies to record significant liabilities on the balance sheet that, to this point, have only been part of the footnote disclosures. Like the post-retirement benefits, pension, and stock options examples, the new leasing standard will likely have significant economic consequences. However, unlike these areas, the nature and importance of leases to operations may not simply allow companies to make a direct operating decision—such as reducing assets under lease. While reducing stock-based compensation plans, pension benefits, or post-retirement benefits may indirectly impact a firm as a result of a reduced ability to attract, motivate, and retain employees, these economic consequences seem to be largely apart from the day-to-day operations of the firms. Conversely, leasing activities for most firms, particularly large retailers, represent a critical aspect of the firms' operations. As a result, it seems less likely that the direct economic consequence of the new leasing standard would be a material reduction in leased assets—especially for retail firms.

Leasing and Debt: Complements or Substitutes?

Traditional finance theory, bolstered by a significant body of literature developed throughout the 1980s and 1990s, generally supports the notion that leases represent a substitute for debt. For example, survey research conducted by Bayless and Diltz (1986) concluded that leases represent substitutes; in this research, the authors surveyed bank loan officers who were willing to make larger loans to companies with off-balance sheet leases than firms with the equivalent reported debt levels. Additionally, in conducting a survey of large firm CFOs, O'Brien and Nunnally (1983) noted that nearly 70% of the respondents viewed leasing as a debt substitute rather than a complement. Mukherjee (1991) revisited this research question with a similar approach and results. Marston and Harris (1988) also concluded that leasing has a substitution effect with debt. Marston and Harris' (1998) conclusion was reached through an empirical study of annual changes in operating lease and debt levels. While Marston and Harris (1988) used operating leases as the dependent variable for their study (and this study uses debt), their model provides key insights into many of the control variables proposed in this study.

Despite the preponderance of studies showing the substitutive nature of leasing and debt, Ang and Peterson's (1984) research, titled *The Leasing Puzzle*, presented findings that leases and debt are complementary (rather than the more intuitive substitutes) in nature; in essence, this study and its findings suggested that the existence of off-balance-sheet lease obligations created additional capacity for firm borrowing. Ang and Peterson (1984) used company data from 1976 through 1981—a period with notably high interest rates. A later study conducted by Branson (1995) largely replicated Ang and Peterson's (1984) study, but under the significantly different lending and economic conditions of the 1980 through 1988 time period. Despite the lower interest rates and increased corporate borrowing during the time period under investigation,

Branson's (1995) study was able to offer the same conclusion as Ang and Peterson (1984)—that debt and leases are complementary in nature.

Studies exploring the debt-lease substitutability seem to have been largely dormant until a recent study published by Lim et al. (2017); in using the debt-lease substantiality framework to explore borrowing costs, the authors cited the FASB's impending leasing standard as a primary motivation for renewed interest in this arena. The authors concluded that borrowing costs and credit ratings are less sensitive to off-balance sheet lease financing than to on-balance sheet debt financing (Lim et al., 2017). While the debt-lease substitutability framework was useful in formulating their hypothesis and models, the authors' research questions did not offer conclusions about whether leases and debt complement or substitute for one another.

While the research in this arena has offered mixed results, Beattie et al. (2000a) provided evidence that leases and debt in the retail sector are complementary, whereas they represent substitutes in other major industries. Beattie et al. (2000a) and Goodacre (2003) both discussed that the nature of retail operations and the typical non-specific nature of assets under operating lease agreements, are primary factors contributing to the assessment of leases and debt as complements within the retail setting. The findings that have suggested that operating leases have differing characteristics which may elicit differing managerial action for retail firms provide an additional and important component in the hypothesis development section which follows.

Hypothesis Development

Following the patterns associated with the accounting economic consequences literature, the simplest assumption might be that, in response to the impending lease accounting standard change, retailers have reduced lease obligations to mitigate the impacts associated with the

increased reported debt levels. In fact, an analysis of the descriptive statistics presented in Table 2-3 indicated that retail firms have reduced operating lease commitments and increased debt relative to total assets over the 1998 to 2016-time period. However, as described previously, the nature of leasing operations provide a more complex setting in some ways. Because leased assets represent critical components to the core operations of many businesses (particularly for retailers and especially compared with stock options and post-retirement benefits), this research suggested that retailers, in reaction to the new leasing standard, will not necessarily materially alter the level of lease obligations directly. Further, this study suggested that this may be especially true for retail firms that typically rely more heavily on leased facilities in support of ongoing operations. Additionally, the contractual nature of leases may make it more difficult or expensive to directly reduce lease-related obligations in the short-term—without encountering early termination or other similar contractual penalties (Frecka, 2008; Mittelstaedt et al., 1995). In contrast, certain other debt obligations can be more easily paid down without incurring early retirement costs (Ang & Peterson, 1984; Beattie et al., 2000a).

As opposed to the previously discussed studies—which illustrated more direct economic consequences—this research suggested that the economic consequence that may be associated with the new leasing standard is not necessarily limited to the reaction of leasing activities for retail firms. Instead, this research proposed that the leasing standard will lead to increased debt-contracting costs stemming from increased reported debt levels and the corresponding increase in debt ratios (unless managers take actions to reduce other debt). Mittelstaedt et al. (1995) provided support for this relationship between accounting standards-based managerial action and debt-financing and related debt-financing costs in applying debt-contracting theory. While Mittelstaedt et al. (1995) suggested that managers would reduce debt levels as a result of firms

having to record liabilities related to other post-employment benefits, it seems that this finding could be applied within the context of the new leasing standard.

Additionally, the debt covenant hypothesis provides further support for the notion that firms may reduce debt levels in anticipation of the new leasing standard. The debt covenant hypothesis suggests that managers have incentives to make financial reporting decisions that reduce the likelihood of covenant violations (Dichev & Skinner, 2002; Watts & Zimmerman, 1986). While the debt covenant hypothesis is helpful in this chapter's hypothesis development, it should be noted that it refers to financial reporting decisions—not operating or financing decisions. Accordingly, this research adapted the debt covenant hypothesis by suggesting that managers will also make certain operating and financing decisions in attempts to reduce the likelihood of debt covenant violation. Further, the magnitude of the firm's operating lease commitments will amplify these efforts since more lease commitments would necessarily increase reported debt levels under the new leasing standard.

Further, the FASB's final adoption of the new leasing standard on February 25, 2016 was preceded by several key activities occurring during the 2010 to 2016 (or post-2009) timeframe. The following represent key activities associated with and preceding the adoption of the new standard:

- August 17, 2010: FASB's issuance of Exposure Draft for Lease Accounting Standards Update
- May 16, 2013: FASB's issuance of Revised Exposure Draft for Lease Accounting Standards Update
- November 11, 2015: FASB's announcement of the intention to issue a final Lease Accounting Standards Update in early 2016

This research submitted that together these activities provided management with evidence of the FASB's resolve to issue a new standard for improving the financial reporting transparency for leases. A significant consequence of this standard will be a substantial increase in reported debt levels. Accordingly, this chapter suggests that during the time period spanning these activities, management may have become more likely to engage in debt-reduction efforts so that balance sheets could accommodate the soon-to-be recorded lease liabilities.

Additionally, the degree to which a firm's reported debt and debt ratios are likely to be impacted by the impending standard suggest differing reactions. Specifically, the greater the existing operating lease obligations, the more likely a firm's management will engage in debt-reducing activities. Given the relative magnitude and significance of operating lease commitments for retailers, this research further suggested that retail firms will engage in debt-reducing activities during the time period associated with the FASB's due process activities.

Finally, as noted previously, the nature of (and rationale for) leasing activities for retail firms is likely to differ materially from other industrial firms. Operating lease commitments for retailers are primarily for facilities whereby the lessee has little or no intention of ultimately owning the asset (Beattie et al., 2000a; Goodacre, 2003). Conversely, non-retail firms are more likely to use leases as a substitute for installment purchases (Beattie, Goodacre, & Thomson, 2006). Given these varying rationales for leasing, this research suggests that retailers, as a group, are likely to react differently to a proposed standard than other firms.

This chapter's research question was motivated by and largely based on review of comment letters written in response to the 2010 and 2013 exposure drafts and their corresponding summaries. Notably, financial executives commenting on behalf of retailers seemed particularly concerned that the proposed leasing standard created significantly more

effort while not materially improving the information content of the financial statements and related notes. The following excerpt of one such letter from the director of financial reporting at Express (n.d.) echoed the concerns that many retailers seemed to share:

> In the process we would urge the board and the staff to pay special consideration to retail companies given the reliance of leasing in our business model and the significant complexities this new standard would create both for the reporting companies and investors that are trying to make sense of the changes in reported liabilities and earnings ("Leases-Joint Project of the IASB and FASB," n.d., para 4).

Accordingly, the following hypothesis is offered:

H_1: Retail firms, in anticipation of a new lease standard, have reduced total debt relative to total operating lease commitments.

Sample Development, Research Design, and Methodology

Sample Development

To test this study's hypothesis, the sample consists of financial data from fiscal years ending in 1998 through 2016. The 1998 starting point was selected because it preceded any of the standard-setters' recent lease accounting reform activities and it was the earliest year in which data for all control variables was available. Financial data was obtained for the variables of primary interest in this study—debt and operating lease commitments. Additionally, data was gathered for a series of control variables consistent with the extant debt-and-leases-as-substitutes literature. Lease accounting is certainly an issue that affects companies under both U.S. GAAP and IRFS reporting regimes; however, the data collected and analyzed for this research came from form 10-Ks submitted to the SEC available through Compustat.

The initial sample was selected for retail firms included in the S&P 1500 which is comprised of the constituents of three separate S&P indices—S&P 500 (large-cap), S&P 400 (mid-cap), and S&P 600 (small-cap). In recent years, numerous studies have used S&P 1500 firms to get a broad cross-section of firm sizes (e.g. Ho & Kang, 2013; Riedl & Srinivasan, 2010). Using the S&P 1500, the initial sample included 1,799 firm-years for 104 retail firms.

The retail industry classifications were based on the Global Industrial Classification Standard (GICS). For this study, retail firms were determined by adding Industry Groups 2550 (Retailing) and 3510 (Food & Staples Retailing) and subtracting Subindustry Group 255020 (Internet and Direct Marketing Retail). The Internet and Direct Marketing Retail subindustry group, given the nature of their operations, had operating lease ratios that were more similar to non-retail firms. As a result, 10 firms (and 154 firm-years) were excluded in arriving at the retail firm base sample. Table 2-12 presents the results of a robustness test where the Internet and Direct Marketing Retail subindustry group was included in the definition of retail firms. After adjusting for missing data, this resulted in adding eight firms and 68 firm-years to the analysis sample.

Additionally, firm-years missing data for any of the variables were excluded from the final analysis sample. This resulted in eliminating nine firms and 464 firm-years from the sample. Panel A of Table 2-1 provides an analysis of how the final sample of 85 firms (and 1,181 firm-years) was developed.

Table 2-1

Sample Development and Composition

Panel A: Sample Development[a]	Firms	Firm-Years
Retail firms included in S&P 1500	104	1,799
Less: Internet & Direct Marketing Retail Firms (255020)	(10)	(154)
Firms and firm-years with missing data	(9)	(464)
Final sample	85	1,181

Panel B: Sample Composition by Retail Industry Groups[b]	Firms	Firm-Years
Retailing (2550)		
Distributors (255010)	4	56
Multiline Retail (255030)	11	186
Specialty Retail (255040)	57	720
	72	962
Food & Staples Retail (3010)	13	219
	85	1,181

Panel C: Sample Composition by Specialty Retail Industry Groups[c]	Firms	Firm-Years
Apparel (25504010)	19	224
Automotive (25504020)	11	172
Home Improvements (25504030) & Home Furnishing (25504060)	9	101
All Other Specialty	18	223
	57	720

Note. Sample firms provided for retail firms included in S&P Capital IQ for S&P 1500 (comprised of S&P 400, 500, and 600 firms). S&P Capital IQ uses Global Industrial Classification Standard (GICS) categories for presentation and analysis. Retail industry classifications are based on the GICS. The GICS codes are presented parenthetically for each industry group. Retail firms and firm-years are defined by adding Industry Groups for Retailing and Food & Staples Retailing and subtracting the Subindustry Group for Internet and Direct Marketing Retail. [a]Panel A also excludes firms with missing information, which is generally debt or operating lease commitments. [b]Panel B provides a breakdown of the sample firms and firm-years by retail industry groups. [c]Panel C provides the number of the Specialty Retail sample firms and firm-years by subindustry groups.

In addition to dropping firm-years with missing data, normal attrition (due to mergers and acquisitions and other corporate restructurings or events) resulted in some firms not having a full

complement of years in the study. Similarly, firms beginning operations during the study's research focus period did not have a full set of firm-years available. The result of this is that the statistical results were performed on an unbalanced data panel with an average of 13.9 years per firm. A review of the panel did not reveal any systematic trends creating the slightly unbalanced dataset.

The following section describes the empirical model that was developed to test this chapter's hypothesis.

Empirical Model

The hypothesis suggests that retail firms have taken actions in in anticipation of the new leasing standard to reduce total debt levels. By using debt and operating lease commitment data and creating categorical variables for periods prior to and following the FASB exposure drafts and announcement of intent to issue a standard, the hypothesized model provided an analysis of how retail firms have reacted to the proposed standard and the related activities which preceded its issuance. As such, the general model is as follows:

$$DR = \beta_0 + \beta_1 LR_{i,t} + \beta_2 Post\ 2009_{i,t} + \beta_3 \left[LR_{i,t} \times Post\ 2009_{i,t}\right] + \sum_{k=4}^{11} \beta_k\ CONTROLS_{i,t} + \varepsilon_{i,t} \quad (1)$$

where:

- *DR* equals the ratio of total debt, including capital (finance) lease liabilities, to total assets;
- *LR* equals the ratio of total operating lease commitments, as disclosed in the notes of the financial statements, to total assets; and
- *Post 2009* represents a dummy variable equaling one for fiscal years from 2010 to 2016 and zero for fiscal years from the 1998–2009 base period.

The coefficient on the interaction of the *LR* and the *Post 2009* (β_3) variables provided the

basis for the hypothesis testing and corresponding model interpretations. Further, while Beattie et al. (2000a) adjusted *DR* and *LR* for estimated assets associated with the capitalization of operating lease commitments, this study used total assets as reported, without making such an adjustment. Because total additional capitalized assets would be added to the denominators of both *DR* and *LR*, this adjustment created a strictly mathematical negative correlation, resulting ina bias towards the hypothesized relationships. As a result, no adjustment was made for these key variables or any of the control variables.

Additionally, the control variables presented in this model were largely defined by the finance literature stream that considers whether debt and operating leases are complements or substitutes (Beattie et al., 2000a). Although Beattie et al. (2000a) developed their model as a lease-to-debt displacement ratio—meaning that the lease ratio was the dependent variable—the authors indicated that the model's control variables were also suitable for a debt-to lease model where debt was the dependent variable. Further, Beattie et al. (2000a) cited the work of Adedeji and Stapleton (1996), where the authors offered a proof showing the equivalence of interchanging *LR* and *DR* as the dependent and independent variables in a debt-lease substitutability model.

Additionally, a recent study by Lim et al. (2017) used many of the same control variables as Beattie et al. (2000a) in exploring borrowing costs in relation to the debt and operating lease structure. However, Lim et al. (2017) did not include liquidity (*LQ*) or total asset growth (*TAGROW*) as control variables in any of the model iterations. Nonetheless, to guard against potential variable omitted bias, this research included both of these controls.

The final control variable, *INTRATE*, represents an addition to the Beattie et al. model, and provides firm-specific interest rates. The inclusion of a firm-specific control variable for

borrowing costs is consistent with Lim et al.'s (2017) study. The model's control variables are defined as follows:

- *PE* equals the end of period share price divided by earnings per share;
- *LQ* equals current assets divided by current liabilities;
- *lnSZ* equals the natural log of total assets;
- *TR* equals the firm-specific effective tax rate. Computed by dividing reported tax expense (benefit) by pretax income;
- *PROF* equals earnings before interest and taxes divided by capital employed (determined by subtracting current liabilities from total assets);
- *TAGROW* equals the geometric mean growth in total reported assets over three years;
- *FAPROP* equals the proportion of fixed assets (net property, plant, and equipment) divided by total assets;
- *INTRATE* equals firm-specific interest rate computed by dividing total interest expense by total debt.

Using Equation 1, a fixed-effects regression analysis was performed to test the stated hypothesis. The coefficient of primary interest was the interaction term (β_3). In support of H_1, the interaction term for the fixed-effects regression, *LR*x*Post 2009* (β_3), was predicted to have a negative coefficient. A significant negative coefficient provides evidence of managerial actions taken to reduce debt relative to operating lease commitments after the FASB's activities related the new leasing standard. The following section provides the results and interpretations of the regression analyses developed using the model described previously.

Results and Analysis

Descriptive Statistics

Table 2-2 provides mean, standard deviation, and quartile data for each of the variables in the study for 1998 to 2016.

Table 2-2

Descriptive Statistics

Variable	Mean	Standard Deviation	Median	Lower Quartile	Upper Quartile
DR	0.238	0.191	0.200	0.327	0.101
LR	0.489	0.418	0.365	0.749	0.165
PE	16.094	149.583	17.051	22.558	12.765
LQ	1.837	0.771	1.650	2.190	1.294
lnSZ	7.999	1.448	7.954	8.969	6.932
TR	0.352	0.488	0.373	0.386	0.351
PROF	0.188	0.134	0.170	0.236	0.125
TAGROW	0.112	0.304	0.085	0.157	0.026
FAPROP	0.326	0.161	0.303	0.430	0.207
INTRATE	0.068	0.472	0.061	0.081	0.045

Note. Variables are all provided directly or computed from the Compustat data set for 1998 to 2016. *DR* is the total debt ratio and *LR* is the operating lease ratio. Both ratios use total assets, as reported, as the denominator. *PE* is the price-earnings ratio, *LQ* is the current ratio, lnSZ is the natural log of total assets, *TR* is the computed effective tax rate, *PROF* is the return on capital employed, *TAGROW* is the geometric mean growth in total reported assets over three years, and *FAPROP* is the proportion of fixed assets to total reported assets, and *INTRATE* is the firm-specific interest rate computed by dividing interest expense by total reported debt.

Panel A of Table 2-3 presents summary mean, standard deviation, and median data for the key variables (DR and LR) for the base period (1998 to 2009) and the post-2009 period. Panel B of Table 2-3 provides the same statistics for each fiscal year included in the study. Further, Panel B of Table 2-3 (and the graph presented in Figure 2-1) illustrates the general trends where *DR* has increased and *LR* has decreased over the sample period.

Table 2-3

Summary Descriptive Statistics for DR and LR

Panel A: *DR* and *LR* for Fiscal Year Periods

		DR			*LR*		
Period	Firm-Years	Mean	Standard Deviation	Median	Mean	Standard Deviation	Median
Base period	703	0.226	0.163	0.195	0.527	0.447	0.404
Post 2009	478	0.255	0.224	0.211	0.434	0.365	0.32
	1,181	0.238	0.191	0.200	0.489	0.418	0.365

Panel B: *DR* and *LR* by Fiscal Year

		DR			*LR*		
Period	Firm-Years	Mean	Standard Deviation	Median	Mean	Standard Deviation	Median
Base period							
1998	57	0.239	0.126	0.246	0.505	0.411	0.433
1999	56	0.235	0.143	0.210	0.574	0.492	0.473
2000	59	0.253	0.149	0.258	0.578	0.491	0.413
2001	58	0.239	0.141	0.240	0.557	0.417	0.426
2002	59	0.220	0.145	0.197	0.529	0.399	0.405
2003	63	0.209	0.151	0.169	0.557	0.506	0.380
2004	65	0.201	0.144	0.168	0.555	0.480	0.486
2005	61	0.196	0.138	0.160	0.512	0.478	0.366
2006	60	0.204	0.146	0.180	0.497	0.460	0.360
2007	64	0.244	0.200	0.194	0.494	0.426	0.360
2008	67	0.253	0.214	0.193	0.519	0.431	0.388
2009	64	0.222	0.202	0.163	0.453	0.370	0.319
Post 2009							
2010	64	0.222	0.202	0.173	0.414	0.319	0.313
2011	63	0.228	0.197	0.173	0.430	0.353	0.336
2012	65	0.225	0.202	0.190	0.423	0.336	0.336
2013	70	0.235	0.208	0.189	0.465	0.406	0.341
2014	71	0.279	0.255	0.216	0.427	0.380	0.309
2015	72	0.290	0.247	0.232	0.431	0.371	0.308
2016	73	0.298	0.239	0.231	0.444	0.386	0.312

Note. Variables were computed from data available in the Compustat data set for 1998 to 2016. Fiscal years from 1998 to 2009 comprised the base period. *DR* is the total debt ratio and *LR* is the operating lease ratio. Both ratios use total assets, as reported, as the denominator. See Figure 2-1 for a graphical depiction of the means for *DR* and *LR*.

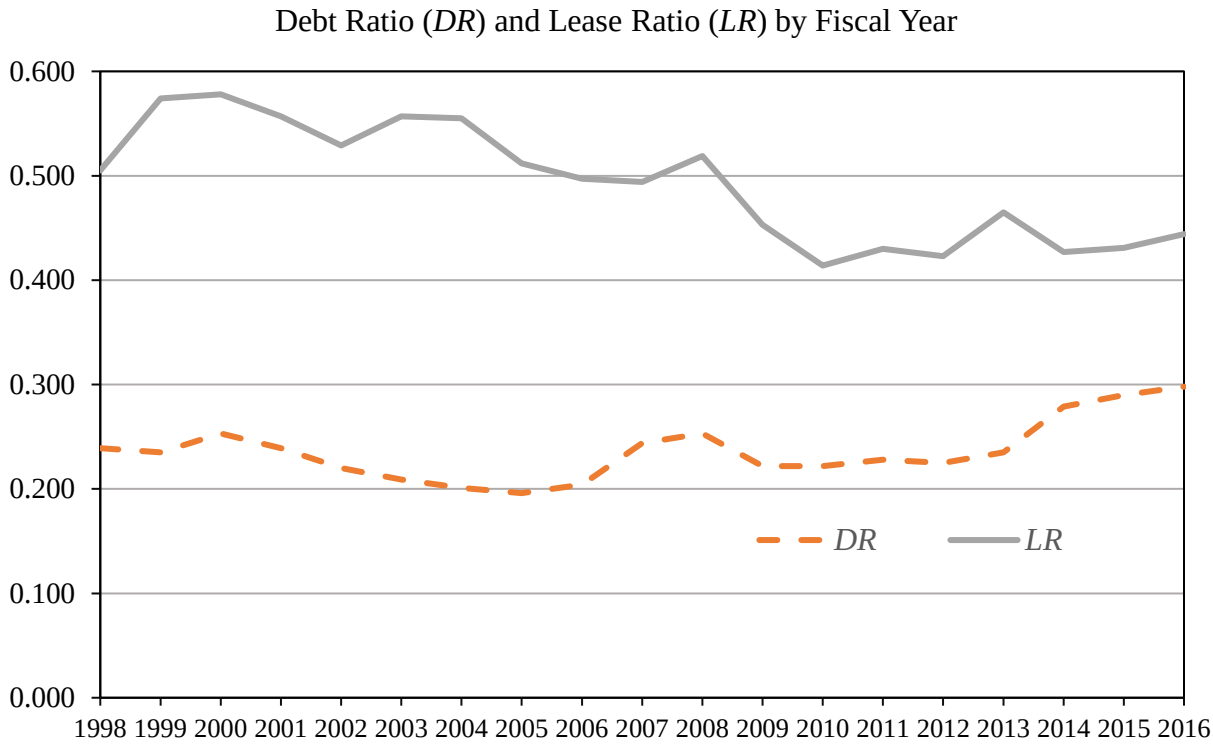

Figure 2-1. *DR* and *LR* by fiscal year 1998–2016. This chart is a graphical depiction of the means of *DR* and *LR* for the sample for 1998–2016 presented in Table 2-3. *DR*, the debt ratio, is computed by dividing total debt by total assets. *LR*, the operating lease ratio, is total operating lease commitments divided by total assets.

While these changes in *DR* and *LR* over the sample period would appear to refute the stated hypotheses of reduced debt, it is important to reiterate that the hypothesis suggested that total debt is lowered in relation to total operating lease commitments.

Lastly, Table 2-4 presents a pairwise correlation table for each of the variables identified in the empirical model.

Table 2-4

Pairwise Correlation Table

Variable	*DR*	*LR*	*PE*	*LQ*	*lnSZ*
DR	1				
LR	-0.280***	1			
PE	-0.047	0.018	1		
LQ	-0.130***	0.127***	-0.018	1	
lnSZ	0.239***	-0.323***	-0.016	-0.258***	1
TR	0.001	0.001	-0.018	0.006	0.061*
PROF	0.041	0.116***	0.020	-0.109***	0.064*
TAGROW	-0.012	0.023	-0.029	0.009	-0.047
FAPROP	0.080***	-0.031	0.026	-0.335***	0.267***
INTRATE	-0.127***	0.139***	0.000	0.012	-0.128***

Variable	*TR*	*PROF*	*TAGROW*	*FAPROP*	*INTRATE*
TR	1				
PROF	0.033	1			
TAGROW	0.023	0.037	1		
FAPROP	-0.009	0.005	-0.089***	1	
INTRATE	-0.055*	0.034	-0.021	-0.018	1

Note. Variables were all provided directly or computed from the Compustat data set for 1998 to 2016. *DR* is the total debt ratio and *LR* is the operating lease ratio. Both of these ratios use total assets, as reported, as the denominator. *PE* is the price-earnings ratio, *LQ* is the current ratio, *lnSZ* is the natural log of total assets, *TR* is the computed effective tax rate, *PROF* is the return on capital employed, *TAGROW* is the geometric mean growth in total reported assets over three years, *FAPROP* is the proportion of fixed assets to total reported assets, and *INTRATE* is the firm-specific interest rate computed by dividing interest expense by total reported debt. *$p < 0.10$. **$p < 0.05$. ***$p < 0.01$.

Main Test of Hypothesis

This chapter's hypothesis, H_1, suggests that retail firms have reduced debt levels in relation to operating lease commitments in anticipation of the new leasing standard. To test this hypothesis, a fixed-effects (or within estimator) regression analysis was performed using Equation 1. The firm-level, fixed-effects model allowed for the effects of the debt levels, in relation to operating lease intensity, for individual firms to be accounted for and quantified. For

the main tests, as described in the sample development section, the sample included the GICS Industry Groups 2550 (Retailing) and 3510 (Food & Staples Retailing) and excluded the Subindustry Group 255020 (Internet and Direct Marketing Retail).

The results of this analysis are presented in Table 2-5. The coefficient on the *LRxPost2009* interaction term, was negative (-0.076) and significant at the $p < 0.01$ level. This finding provided evidence that retail firms have reduced the debt ratio (*DR*) relative to the operating lease ratio (*LR*) during the post-2009 timeframe compared to base period. As such, this main test offered support for H_1.

Table 2-5

Results of Fixed-Effects Regression Analysis

Variable	
LR	-0.031
	(-1.47)
Post 2009	0.046*
	(4.01)
LR x *Post 2009*	-0.076***
	(-3.65)
PE	-0.000*
	(-1.92)
LQ	-0.042***
	(-5.03)
lnSZ	0.020**
	(2.40)
TR	0.000
	(0.03)
PROF	0.116***
	(3.49)
TAGROW	0.017*
	(1.52)
FAPROP	-0.108*
	(-1.75)
INTRATE	-0.029***
	(-3.98)
Constant	0.182**
	(2.31)

(continued)

(continued)

Observations	1,181
Firms	85
R^2 (within)	0.103

Note. Results based on firm-level fixed-effects for the 1998–2016 period. The dependent variable, *DR*, is the total debt ratio. *LR* is the operating lease ratio. The 1998–2009 period is the base model. *PE* is the price-earnings ratio, *LQ* is the current ratio, *lnSZ* is the natural log of total assets, *TR* is the computed effective tax rate, *PROF* is the return on capital employed, *TAGROW* is the geometric mean growth in total reported assets over three years, *FAPROP* is the proportion of fixed assets to total reported assets, and *INTRATE* is the firm-specific interest rate. The t-statistics are in parentheses. $^{*}p < 0.10$. $^{**}p < 0.05$. $^{***}p < 0.01$.

Additionally, it should be noted that the findings of this study appear to contradict Beattie et al (2001a), who concluded that debt and leases were complementary in nature for retailers. Although the coefficient of -0.031 on *LR* (β_2) was not significant, the linear combination of *LR* and *LR*x*Post 2009* (β_3) of -0.107 indicates a substitute relationship and significant at the 0.01-level.

Model Validation and Tests

As noted, the main test of H_1 was based on the results of a firm-level, fixed-effects model. In selecting a fixed-effects model, several tests were performed to assess its suitability. The Breusch-Pagan Test was performed to determine whether the OLS model was superior to fixed effects model. The results of this test were highly significant ($p < 0.01$), suggesting that the fixed-effects model was preferred over the OLS model. Additionally, rho was computed for the fixed-effects model. The results indicated that 68.5% of the variance was explained by individual firm-specific effects—rather than idiosyncratic error.

A test of the model's variables for panel data serial correlation indicated evidence to reject the null hypotheses of no autocorrelation (Wooldridge, 2013). While the existence of autocorrelation did not alter the coefficient results presented in Table 2-5, it had the potential to bias the reported standard errors and related significance interpretations. Wooldridge (2013)

suggested an available remedy for serial correlation was to fit a cross-sectional time-series regression model where the disturbance term was first-order autoregressive—AR(1) The results of a the fixed-effects linear model with AR(1) disturbances is presented in Table 2-6.

Table 2-6

Results of Fixed-Effects Regression Analyses with AR(1) Disturbances

Variable	
LR	-0.023
	(-1.07)
Post 2009	0.028**
	(2.16)
LR x *Post 2009*	-0.059**
	(-2.54)
PE	-0.000
	(0.27)
LQ	-0.017**
	(-2.49)
lnSZ	0.104***
	(11.78)
TR	0.001
	(0.29)
PROF	0.061*
	(1.94)
TAGROW	0.004*
	(0.48)
FAPROP	0.150**
	(2.41)
INTRATE	-0.019***
	(-5.30)
Constant	-0.666**
	(48.32)
Observations	1,096
Firms	80
R^2 (within)	0.180

Note. Results based on an AR(1) firm-level fixed-effects for the 1998–2016 period. The model fits the cross-sectional time-series regression model when the disturbance term is first-order autoregressive. The dependent variable, *DR*, is the total debt ratio. *LR* is the operating lease ratio. The 1998–2009 period is the base model. *PE* is the price-earnings ratio, *LQ* is the current ratio, *lnSZ* is the natural log of total assets, *TR* is the computed effective tax rate, *PROF* is the return on capital employed, *TAGROW* is the geometric mean growth in total reported assets over three years, *FAPROP* is the proportion of fixed assets to total reported assets, and *INTRATE* is the firm-specific interest rate. The t-statistics in parentheses. $^{*}p < 0.10$. $^{**}p < 0.05$. $^{***}p < 0.01$.

This analysis also yielded the hypothesized negative coefficient on the *LR*x*Post 2009* interaction term (-0.059) and was significant at the $p < 0.05$ level. Given this result, and despite the potential for autocorrelation of key variables, H_1 again appeared to be supported. Throughout the remainder of this chapter, the results of sensitivity and additional analyses are presented using fixed-effects models. However, each analysis was also performed using fixed-effects AR(1) disturbance specifications. In each case, the fixed-effects AR(1) findings for the primary coefficients of interest were qualitatively similar to the fixed effects results—both in sign and significance.

Sensitivity Tests and Analyses

Establishing the base (1998–2009) and post-2009 periods. This chapter (in the hypothesis development section) identifies the issuance of the FASB's August 17, 2010 *Exposure Draft for Lease Accounting Standards Update* as the first of three post-2009 activities associated with the new leasing standard. However, the headline-grabbing accounting failures of the early 2000s (e.g., Enron and Worldcom), prior to the issuance of the exposure draft, elicited much discussion about off-balance sheet items. As a result, there were earlier indications that operating lease commitments were going to be brought on balance sheet. Specifically, the Sarbanes-Oxley Act in 2002, the SEC staff report in 2005, and the issuance of the joint IASB/FASB *Lease Discussion Paper* in 2009 each occurred before the post-2009 period. The SEC staff report highlighted several instances of off-balance-sheet financing and how these items create a lack of transparency in financial reporting. This report described the nature and magnitude of off-balance sheet lease obligations for U.S. SEC filing firms. Further, the report recognized the inadequacies of lease reporting and recommended that the FASB undertake a project to reconsider the leasing standards, preferably as a joint project with the IASB (SEC, 2005). These recommendations ultimately led to the issuance of the IASB/FASB *Lease Discussion Paper* in 2009 which represented the boards' preliminary views on a new approach to lease accounting.

Therefore, it is difficult to specify when firms would have reacted during this time period. Further, the results of firms' reactions may not manifest until later time periods (i.e., there is a lagged effect). To test the robustness of the hypothesized findings, and the appropriateness of using the post-2009 period, two sensitivity tests were performed.

Table 2-7 presents summary results for 18 iterations of Equation 1 where the post-fiscal-year period ranges from 1998 to 2015. This table shows that the coefficients of the interaction term and the linear combination (*LR* + *LR*x*PostFY*) became negative and significant in the post-2005 model iteration and continued through post-2011. Therefore, the base period for the post-2009 model included four prior periods where this interaction coefficient was negative and still yielded a negative and highly significant coefficient on the interaction term and the linear combination. Further, Table 2-7 shows that the linear combination (*LR* + *LR*x*PostFY*) was decreasing until it became most negative for post-2009. This trend is also presented graphically in Figure 2-2. These results indicated that the strongest result comes when the base period is 2009 and 2010 is the first post year. This analysis provided evidence that the post-2009 period was appropriate despite the earlier activities preceding the lease accounting standards updates.

Table 2-7

Base Period Fiscal Year Sensitivity Analyses

$$DR = \beta_0 + \beta_1 LR_{i,t} + \beta_2 Post\ \text{FY}_{i,t} + \beta_3 [LR_{i,t} \times Post\ \text{FY}_{i,t}] + \sum_{k=4}^{11} \beta_k\ CONTROLS_{i,t} + \varepsilon_{i,t}$$

Post Fiscal Year	*LR*	*LR* x Post FY	*LR* + *LR* x *Post FY*
Post 1998	0.037	0.006	-0.031
Post 1999	0.035	0.004	-0.031
Post 2000	0.034	0.006	-0.028
Post 2001	0.022	-0.011	-0.033
Post 2002	0.026	-0.006	-0.032
Post 2003	0.026	-0.011	-0.037 *
Post 2004	0.022	-0.032	-0.054 **
Post 2005	0.022	-0.049 ***	-0.071 ***
Post 2006	0.024	-0.054 ***	-0.078 ***
Post 2007	0.026	-0.059 ***	-0.085 ***
Post 2008	0.031	-0.073 ***	-0.104 ***
Post 2009	0.031	-0.076 ***	-0.107 ***
Post 2010	0.029	-0.063 ***	-0.092 ***
Post 2011	0.027	-0.048 **	-0.075 **
Post 2012	0.025	-0.031	-0.056 *
Post 2013	0.025	-0.010	-0.035
Post 2014	0.028	-0.026	-0.054
Post 2015	0.030	-0.048	-0.078 *

Note. Results based on firm-level fixed-effects for the 1998–2016 period. The dependent variable, *DR*, is the total debt ratio. *LR* is the operating lease ratio. The table presents regression coefficients for Equation 1 altered and iterated for 18 post-date time periods. For example, *Post 1998* presents the regression analysis where 1998 is the base period and all subsequent years are included in as the post period. Similarly, *Post 2009* includes 1998 to 2009 in the base period and all subsequent periods. *Post 2009* represents the model iteration used for the main tests of hypotheses. *$p < 0.10$. **$p < 0.05$. ***$p < 0.01$.

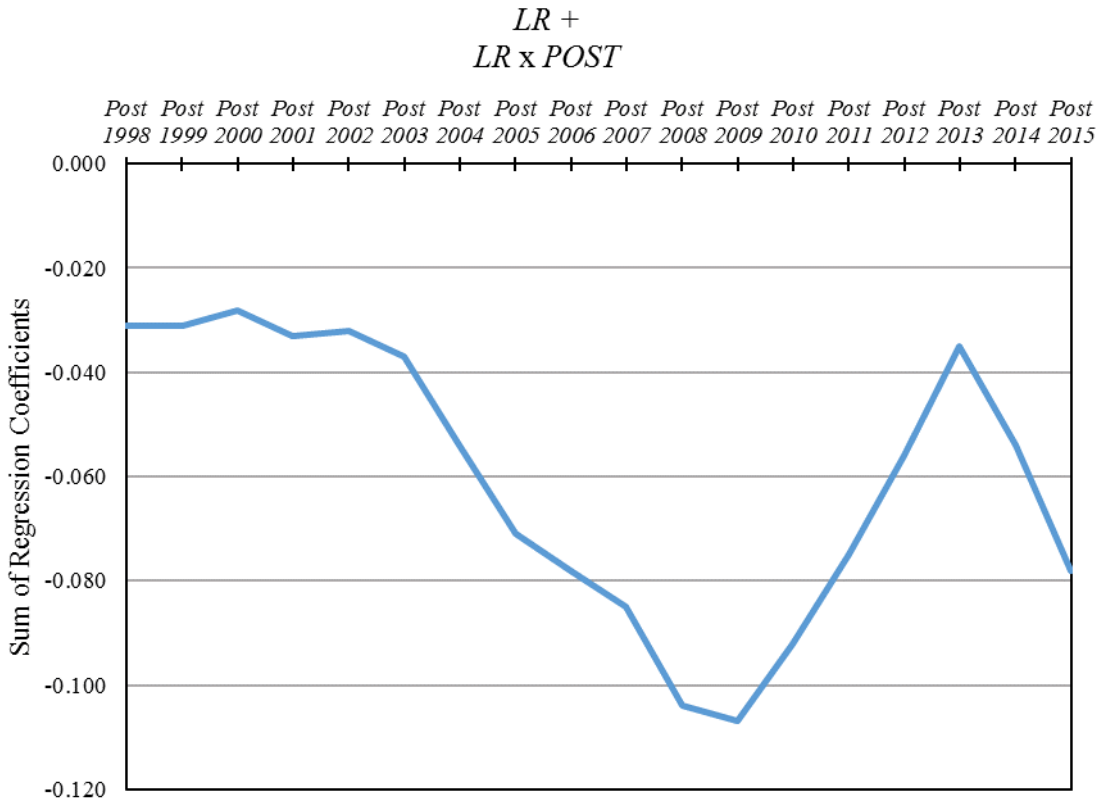

Figure 2-2. Base period fiscal year sensitivity analyses. This chart is a graphical depiction of the results based on firm-level fixed-effects regressions analyses for the 1998–2016 period. The dependent variable, *DR*, is the total debt ratio. *LR* is the operating lease ratio.

Table 2-8 presents summary results for *LR* and *LR*x*PostFY* for seven alternative *PostFY* periods, displaying which individual post-2009 years had more impact on the findings. For each *PostFY* period, the table presents regression coefficients using the same 1998 to 2009 base period, but removes periods coming after the base. For example, *Post 2011* uses the 1998 to 2009 base, but uses fiscal years 2012 to 2016 (removing 2010 and 2011) for the analysis. This table illustrates that there was a significant negative coefficient on the interaction term and the total *LR* linear combination for not only the post-2009 period, but for the three post periods which follow (*Post 2010*, *Post 2011*, and *Post 2012*). This analysis provided evidence that the findings were robust even with the removal of the effects of several post-2009 fiscal years.

Table 2-8

Base Period Fiscal Year Sensitivity Analyses

$$DR = \beta_0 + \beta_1 LR_{i,t} + \beta_2 Post\ FY_{i,t} + \beta_3 [LR_{i,t} \times Post\ FY_{i,t}] + \sum_{k=4}^{11} \beta_k\ CONTROLS_{i,t} + \varepsilon_{i,t}$$

Post FY	(β_1) *LR*	(β_3) *LR* x *Post FY*	(β_1+β_3) *LR*+ *LR* x *Post FY*
Post 2009	-0.031	-0.076***	-0.107***
Post 2010	-0.035	-0.071***	-0.106***
Post 2011	-0.034	-0.064***	-0.098***
Post 2012	-0.035	-0.052**	-0.087**
Post 2013	-0.032	-0.017	-0.049
Post 2014	-0.032	0.003	-0.029
Post 2015	-0.043*	- 0.012	-0.055

Note. Results based on firm-level fixed-effects regression analyses. The dependent variable, *DR*, is the total debt ratio. *LR* is the operating lease ratio. The 1998–2009 period is the base for each iteration presented. *Post 2009* represents the model iteration used for the main test of hypothesis. For each *Post FY* period, the table presents regression coefficients using the same 1998–2009 base period, but removes periods coming after the base. For example, *Post 2011* used the 1998–2009 base, but only uses fiscal years 2012-2016 (removing 2010 and 2011) for the analysis. *$p < 0.10$. **$p < 0.05$. ***$p < 0.01$.

Regression using individual post-2009 fiscal years. The main test of H_1 aggregated fiscal years after 2009 into one post-2009 category. As a sensitivity test, Equation 1 was respecified where individual post-2009 years represented dummy variables and *LR* interacted with each fiscal year (*FY*) dummy (*LR*x*FY*). Thus, the following represents the respecified model:

$$DR = \beta_0 + \beta_1 LR_{i,t} + \sum_{t=2}^{8} \beta_{2,t}\ FY_{i,t} + \sum_{t=2}^{8} \beta_{3,t}\ [LR_{i,t} \times FY_{i,t}] + \sum_{k=4}^{11} \beta_k\ CONTROLS_{i,t} + \varepsilon_{i,t} \quad (2)$$

Table 2-9 summarizes the coefficients on β_1 and β_3 for each of the post 2009 fiscal years. Like Equation 1, the coefficient on β_3 was the primary means by which the hypothesized

relationship was tested. As noted, in Table 2-9, the coefficient was negative and significant at the $p < 0.05$ level for five of the seven post-2009 fiscal years. Additionally, the linear combination of β_1 and β_3 provided the total impact that the *LR* has on the *DR*. For the same five years, these untabulated linear combinations were significantly greater than both zero and the 1998 to 2009 base period.

Table 2-9

Results of Fixed-Effects Regression Analysis for Individual Post 2009 Fiscal Years

$$DR = \beta_0 + \beta_1 LR_{i,t} + \sum_{t=2}^{8} \beta_{2,t}\ FY_{i,t} + \sum_{t=2}^{8} \beta_{3,t}\ [LR_{i,t} \times FY_{i,t}] + \sum_{k=4}^{11} \beta_k\ CONTROLS_{i,t} + \varepsilon_{i,t} \qquad (2)$$

Variable	
LR (β_1)	-0.030
	(-1.45)
LR x *FY2010* ($\beta_{3,2}$)	-0.098**
	(-2.20)
LR x *FY2011* ($\beta_{3,3}$)	-0.087**
	(-2.61)
LR x *FY2012* ($\beta_{3,4}$)	-0.094**
	(-2.12)
LR x *FY2013* ($\beta_{3,5}$)	-0.098**
	(-2.38)
LR x *FY2014* ($\beta_{3,6}$)	-0.022
	(-0.58)
LR x *FY2015* ($\beta_{3,7}$)	-0.034
	(-0.87)
LR x *FY2016* ($\beta_{3,8}$)	-0.073**
	(-1.97)
Constant (β_0)	0.243***
	(3.08)

(continued)

(continued)

Observations	1,181
Firms	85
Controls	Yes
R^2 (within)	0.134

Note. Results based on firm-level fixed effects regression analysis for the 1998–2016 period. The dependent variable, *DR*, is the total debt ratio. *LR* is the operating lease ratio. The 1998–2009 period is the base model with the following periods representing indicator variables. *FY* is an indicator variable for each year after 2009. The t-statistics are in parentheses. $^{*}p < 0.10$. $^{**}p < 0.05$. $^{***}p < 0.01$.

Fiscal-year-level fixed-effects. The fixed-effects model allowed for the effects of the different levels of seven post-2009 fiscal years to be accounted for and quantified. The regression analysis for the fiscal-year fixed-effects regressions is presented in Panel B of Table 2-10. This fixed-effects analysis also yielded results that were qualitatively similar to the firm-level fixed-effects regressions. The results of this analysis offered additional support of H_1.

Table 2-10

Fiscal-Year-Level Fixed-Effects

Variable	
LR	-0.130***
	(-8.71)
LR x *Post 2009*	-0.068***
	(-2.61)
PE	-0.000
	(-1.37)
LQ	-0.058***
	(-8.18)
lnSZ	-0.001
	(-0.24)
TR	-0.008
	(-0.82)
PROF	0.066*
	(1.73)
TAGROW	0.030*
	(1.78)

(continued)

(continued)

Variable	
FAPROP	-0.164***
	(-4.82)
INTRATE	-0.039***
	(-3.61)
Constant	0.472***
	(12.20)
Observations	1,181
Fiscal Years	19
R^2 (within)	0.207
R^2 (between)	0.117
R^2 (overall)	0.194

Note. Results based on fiscal-year fixed-effects for the 1998–2016 period. The dependent variable, *DR*, is the total debt ratio. *LR* is the operating lease ratio. The 1998–2009 period is the base model. *PE* is the price-earnings ratio, *LQ* is the current ratio, *lnSZ* is the natural log of total assets, *TR* is the computed effective tax rate, *PROF* is the return on capital employed, *TAGROW* is the geometric mean growth in total reported assets over three years, *FAPROP* is the proportion of fixed assets to total reported assets, and *INTRATE* is the firm-specific interest rate. The t-statistics are in parentheses. $^{*}p < 0.10$. $^{**}p < 0.05$. $^{***}p < 0.01$.

Interest rate versus debt ratings. As described in the empirical model section, the results presented in Table 2-5 were based on using a continuous control variable, *INTRATE*, to capture an aspect of firm-specific characteristics that may impact the manner in which a firm's management utilizes debt. As a robustness check, S&P senior debt ratings were obtained for firms in the sample. These ratings were then categorized as high (S&P senior debt ratings from AAA to A-), medium (BBB+ to B-), and low (CCC+ and lower). The fixed-effects analysis was run again, substituting these categorical debt rating variables for *INTRATE* in the model. The results (untabulated) of this analysis were all qualitatively similar in both sign and significance of key variables. However, unlike the *INTRATE* variable which was significant in each model iteration, the bond ratings failed to show significance in each instance. As a result, the regression output using *INTRATE* is presented and was used in conducting the main test of this chapter's hypothesis.

Alternate specifications for the lease ratio. This chapter's primary independent variable is a firm's lease ratio (*LR*). For the analyses presented, this ratio used the total undiscounted operating lease commitments (OLC) as presented in the notes to a firm's financial statements. However, upon the adoption of the new leasing standards, firms will be determining the present value of the OLC to estimate the lease liability that will be reported on balance sheets. As noted in the review of literature section, a constructive capitalization technique can be used to estimate the potential liability associated with OLC. Several studies (e.g. Beattie et al., 2000a; Imhoff et al., 1991, 1997; Imhoff, Lipe, & Wright, 1995; Kostolansky & Stanko, 2013) have used constructive capitalization techniques to estimate the impacts associated with a standard that requires recording a liability for OLC. The summary results of these studies indicated that the capitalized liability values typically range anywhere from 60% to 80% of the total OLC. Given the sample size associated with this chapter and the assumptions required to constructively capitalize OLC, it was impractical to individually estimate the potential present value of OLC. Instead, the main test used 100% of OLC.

Additionally, analysts have long used several heuristics to estimate the potential liability associated with OLC (Imhoff et al., 1997). The most commonly used "rule-of-thumb" measure is the multiplication of current rent expense by eight to estimate the operating lease liability (Kostolansky & Stanko, 2013). Anecdotally, many analysts also capitalize operating leases at 67% or 75% of the total disclosed OLC to estimate the discounted lease liability. As a result, Table 2-11 presents three model iterations using 75% of OLC, 67% of OLC, and rent times eight as estimated lease liabilities. In each model iteration, the results for all key focal variables were qualitatively similar in size and significance to the main tests using 100% of OLC as presented in Table 2-5.

Table 2-11

Results of Fixed-Effects for Retail Firms with Alternate Specifications for Lease Ratio

Variable	*LR75*[a]	*LR67*[b]	*LR8*[c]
LR	-0.041	-0.046	0.003
	(-1.47)	(-1.47)	(0.13)
Post 2009	0.046***	0.046***	0.056***
	(4.01)	(4.01)	(4.82)
LR x *Post 2009*	-0.101***	-0.114***	-0.064***
	(-3.65)	(-3.65)	(-4.34)
PE	-0.000*	-0.000*	-0.000
	(-1.92)	(-1.92)	(-2.00)
LQ	-0.042***	-0.042***	-0.041***
	(-5.03)	(-5.03)	(-4.99)
lnSZ	0.020**	0.020**	0.015
	(2.40)	(2.40)	(1.84)
TR	0.000	0.000	0.002
	(0.03)	(0.03)	(0.26)
PROF	0.116***	0.116***	0.113***
	(3.49)	(3.49)	(3.53)
TAGROW	0.017	0.017	0.017
	(1.52)	(1.52)	(1.49)
FAPROP	-0.108*	-0.108*	-0.142***
	(-1.75)	(-1.75)	(-2.38)
INTRATE	-0.029***	-0.029***	-0.031***
	(-3.98)	(-3.98)	(-4.28)
Constant	0.182**	0.182**	0.217***
	(2.31)	(2.31)	(2.75)
Observations	1,181	1,181	1,209
Firms	85	85	85
R^2 (within)	0.103	0.103	0.101

Note. Results based on firm-level fixed-effects for 1998-2016 for three alternative measures of *LR*. The dependent variable, *DR*, is the total debt ratio. *LR* is the operating lease ratio. Table 2-5 presents the main tests where *LR* was computed using 100% of the total operating lease commitments (OLC) as the numerator. The 1998–2009 period is the base model. *PE* is the price-earnings ratio, *LQ* is the current ratio, *lnSZ* is the natural log of total assets, *TR* is the computed effective tax rate, *PROF* is the return on capital employed, *TAGROW* is the geometric mean growth in total reported assets over three years, *FAPROP* is the proportion of fixed assets to total reported assets, and *INTRATE* is the firm-specific interest rate: [a]The *LR* is 75% of OLC. [b]The *LR* is 67% of OLC. [c]The *LR* is rent expense times 8. The t-statistics are in parentheses. $^{*}p < 0.10$. $^{**}p < 0.05$. $^{***}p < 0.01$.

Alternate definitions of retail. As discussed previously, the retail firm subgroup used for the main hypothesis test included GICS Industry Groups for Retailing and Food & Staples

Retailing and subtracted the Internet & Direct Marketing Retail industry (which is included in the Retailing industry group). The second column of Table 2-12 provides descriptive statistics for *DR* and *LR* and summaries of the primary regression coefficients for all retail firms including Internet & Direct Marketing Retail firms. The inclusion of these firms in the definition of retail resulted in the primary coefficients having similar signs and significance to the main test presented in Table 2-5.

Further, an analysis of restaurants included in the S&P 1500 as well as extant research (e.g. Imhoff et al., 1997; Kostolansky & Stanko, 2013) suggested that restaurants may share similar characteristics with retail firms in terms of their relative operating lease intensity. In fact, because restaurants typically carry far less inventory than their retail counterparts, their *LR* is often higher than retail firms overall. Untabulated descriptive statistics indicated that the mean *LR* for restaurants was 0.552 for the base period and 0.533 for the post-2009 period. In comparison, Panel A of Table 2-3 presents the mean *LR* of 0.527 and 0.434 for the retail firm sample for the same respective time periods.

As a result, several research studies have included restaurants in their analyses of the degree to which retail firms may be impacted by operating lease capitalization (e.g. Beattie et al., 2000a; Kostolansky & Stanko, 2013). Column three of Table 2-12 presents descriptive statistics for *DR* and *LR* and summaries of the primary regression coefficients for all retail firms with the inclusion of restaurants. Panel B of Table 2-12 indicates that the addition of restaurants to the retail category results in the primary coefficients having similar signs and significance to the main test presented in Table 2-5.

Table 2-12

Analyses for Alternate Definitions of Retail Firms

Panel A: Descriptive Statistics for Internet Retail and Restaurants[a]

DR	Retail (as defined)	Retail (w/ Internet)	Retail (w/ Restaurant)
Base period			
Mean	0.226	0.230	0.257
Standard Deviation	0.163	0.176	0.267
Post 2009 period			
Mean	0.255	0.252	0.306
Standard Deviation	0.094	0.217	0.367
LR			
Base period			
Mean	0.527	0.510	0.532
Standard Deviation	0.447	0.447	0.444
Post 2009 period			
Mean	0.434	0.406	0.458
Standard Deviation	0.365	0.363	0.364

Panel B: Firm-Level Fixed Effects for Internet Retail and Restaurants[b]

Variable	Retail (as defined)	Retail (w/ Internet)	Retail (w/ Restaurant)
LR	-0.031	-0.038*	-0.053**
	(-1.47)	(-1.69)	(-2.56)
Post 2009	0.046*	0.048***	0.059***
	(4.01)	(3.88)	(4.70)
LR x *Post 2009*	-0.076***	-0.050**	-0.085***
	(-3.65)	(-2.23)	(-3.87)
Constant	0.182**	0.495***	0.282***
	(2.31)	(6.47)	(3.48)
Observations	1,181	1,249	1,516
Firms	85	93	114
Controls	Yes	Yes	Yes
R^2 (within)	0.103	0.064	0.076

Note. Retail (as defined) represents the definition of retail firms for the primary tests presented throughout. Summary descriptive statistics and regression results from Table 2-3 for Retail (as defined) are presented again to aid comparison. Retail (w/ Internet) includes Internet & Direct Marketing Retail firms and Retail (w/ Restaurants) includes restaurants. The dependent variable, *DR*, is the total debt ratio. *LR* is the operating lease ratio. The 1998–2009 period is the base model. Control variables are fully described in Table 2-5. [a]Panel A presents descriptive statistics for the alternative combined retail categories assuming each was independently included in the definition of retail firms. [b]Panel B results are based on firm-level fixed-effects regressions by these classifications. The t-statistics are in parentheses. $^{*}p < 0.10$. $^{**}p < 0.05$ $^{***}p < 0.01$.

Additional Analyses

Finally, two additional analyses were performed to gain further insights into specific retail industry groups.

Retail Industry Group

This chapter has focused on the broadly-defined and combined Retailing Industry Group. However, analysis of the individual component industries of Distributors, Multiline Retail, Specialty Retail, and Food & Staples Retail yielded some noteworthy results. Panel A of Table 2-13 provides summary statistics for each industry for *DR* and *LR*—both for the base and the post-2009 periods. This table shows that within this industry there is a wide variation in the LR. For example, in the post-2009 period the mean *LR* was 0.165 for Distributors, but 0.520 for Specialty Retailers. Additionally, in the post-2009 period the mean *DR* was 0.189 for Distributors while the other three retail industries ranged from 0.247 to 0.264. Certainly, these differences—with accompanying varying operating characteristics—lead to a question about why Distributors are classified as Retailing firms in the GICS framework.

Panel B of Table 2-13 presents fixed-effects regression results for each of these industries. The Distributor industry group results indicated a coefficient on the *LR* x *Post 2009* interaction term of -0.166, but failed to yield significance. The results for Specialty Retail indicated a coefficient on the *LR* x *Post 2009* interaction term of -0.149, with significance at the $p < 0.01$ level. Similarly, Food & Staples Retailing showed a -0.053 coefficient, significant at the $p < 0.05$ level. Conversely, the Multiline Retail industry regression yielded a coefficient on the interaction term of 0.168, with significance at the $p < 0.01$ level.

Table 2-13

Retail Sample by Retail Industry Groups

Panel A: Summary Statistics for *DR* and *LR* for Retail Industry Group[a]

DR	Distributors	Multiline Retail	Specialty Retail	Food & Staples Retail
Base period				
Mean	0.210	0.224	0.221	0.245
Standard Deviation	0.107	0.128	0.185	0.120
Post 2009 period				
Mean	0.189	0.256	0.264	0.247
Standard Deviation	0.121	0.134	0.265	0.129
LR				
Base period				
Mean	0.151	0.324	0.648	0.405
Standard Deviation	0.063	0.256	0.431	0.526
Post 2009 period				
Mean	0.165	0.327	0.520	0.306
Standard Deviation	0.059	0.220	0.366	0.407

Panel B: Firm-Level Fixed Effects for Retail Industry Group[b]

Variable	Distributors	Multiline Retail	Specialty Retail	Food & Staples Retailing
LR	-0.022	-0.179***	0.014	-0.073**
	(-0.06)	(-3.86)	(0.47)	(-2.31)
Post 2009	-0.020	-0.016	0.108***	0.050***
	(-0.34)	(-0.94)	(5.41)	(3.00)
LR x *Post 2009*	-0.166	0.168***	-0.149***	-0.053**
	(-0.54)	(3.66)	(-4.56)	(-2.05)
Constant	-1.24***	-0.131	0.229**	0.825***
	(-4.81)	(-0.90)	(1.91)	(6.09)
Observations	56	186	720	219
Firms	4	11	57	13
Controls	Yes	Yes	Yes	Yes
R^2 (within)	0.730	0.501	0.150	0.265

Note. The dependent variable, *DR*, is the total debt ratio. *LR* is the operating lease ratio. The 1998–2009 period is the base model. [a]Panel A presents descriptive statistics for retail industry classifications. All reported ratios were computed from Compustat data for 1998-2016. [b]Panel B results are based on firm-level fixed-effects regression by retail industry classifications. The t-statistics are in parentheses. $^{*}p < 0.10$. $^{**}p < 0.05$. $^{***}p < 0.01$.

Specialty Retail Industry

Specialty Retail is a separate industry based on the GICS structure and includes the following subindustries: Apparel, Automotive, Computer & Electronics, Home Furnishing, Home Improvements, and all other specialty. As noted in Panel B of Table 2-13, Specialty Retailers account for 57 of the 85 firms (and 720 of the 1,181 firm-years) included in the sample used for the analyses presented in Table 2-14, Home Improvements and Home Furnishing were combined due to small sample sizes. Similarly, "All Other Specialty" include the Computer & Electronics and all other specialty retailers not otherwise classified.

Summary statistics for *DR* and *LR* are presented in Panel A of Table 2-14. For each subindustry group the mean *DR* increased from the base period to the post-2009 period. In contrast, the mean *LR* decreased for each subindustry group. The Apparel group had a DR lower than the other groups, while its *LR* indicated a higher leasing intensity.

Despite differing mean levels of *LR* and *DR* across the group categories, the regression results reported in Panel B of Table 2-14 indicated significant negative coefficients on the *LR* x *Post 2009* interaction term for the Apparel, Automotive, and Home Improvement & Furnishing Groups. The regression analysis for the All Other Specialty group resulted in a positive coefficient on the interaction term, but failed to show significance.

Table 2-14

Retail Sample by Specialty Retail Subindustry Groups

Panel A: Summary Statistics for *DR* and *LR* for Specialty Retail Subindustry Group[a]

DR	Apparel	Automotive	Home Improvements & Furnishing	All Other Specialty
Base period				
Mean	0.154	0.387	0.149	0.189
Standard Deviation	0.099	0.191	0.128	0.193
Post-2009 period				
Mean	0.167	0.475	0.209	0.228
Standard Deviation	0.197	0.216	0.161	0.303
LR				
Base period				
Mean	0.867	0.326	0.634	0.684
Standard Deviation	0.336	0.214	0.423	0.503
Post-2009 period				
Mean	0.764	0.197	0.526	0.523
Standard Deviation	0.204	0.142	0.500	0.356

Panel B: Firm-Level Fixed Effects for Specialty Retail Subindustry Group[b]

Variable	Apparel	Automotive	Home Improvements & Furnishing	All Other Specialty
LR	0.015	-0.082	0.053	0.125**
	(0.34)	(-0.95)	(0.49)	(2.30)
Post 2009	0.445***	0.182***	0.249***	0.002
	(6.13)	(5.35)	(5.41)	(-0.05)
LR x *Post 2009*	-0.488***	-0.615***	-0.657***	0.072
	(-5.12)	(-5.43)	(-4.95)	(1.10)
Constant	-0.638***	0.236	0.164	-0.034
	(3.48)	(0.88)	(0.48)	(-0.16)
Observations	224	172	101	223
Firms	19	11	9	18
Controls	Yes	Yes	Yes	Yes
R^2 (within)	0.312	0.450	0.466	0.321

Note. The dependent variable, *DR*, is the total debt ratio. *LR* is the operating lease ratio. The 1998–2009 period is the base model. Home Improvements and Home Furnishing have been combined. All Other Specialty includes the Computer & Electronics and all other specialty retailers not otherwise classified. Control variables are fully described in Table 2-5. [a]Panel A presents descriptive statistics for Specialty Retail subindustries. Ratios were computed from Compustat data for 1998-2016. [b]Panel B results were based on firm-level fixed-effects regressions. The t-statistics are in parentheses. $^{*}p < 0.10$. $^{**}p < 0.05$. $^{***}p < 0.01$.

Discussion

This research explored whether and the degree to which managers take action in advance of the implementation of a new financial accounting standard. By presenting an *ex ante* approach, this study offers a somewhat unique perspective to the economic consequences literature. Further, the magnitude and timing of the new leasing standard and its impending implementation should make this research interesting to a wide range of stakeholders in the financial reporting arena. Also, this chapter seeks to provide additional insights into retail firms, and related managerial actions, given the relative importance of leases to their operations.

The results suggested that retail firms' managers have reduced debt relative to OLC during the 2010 to 2016-time period. These results appeared to be robust to varying definition of retail firms and values ascribed to OLC. By focusing on leases for retail firms, this chapter contributes to the existing literature by establishing a basis for continued study for an industry group that is preparing for the impacts of a significant accounting standards change and undergoing dramatic changes in the competitive landscape.

The operating environment has grown increasingly competitive for retailers with the emergence and dominance of online retail firms. The manner in which firm managers react to these challenges, both in terms of financing and operating decisions, will likely play a role in firms' ability to survive. Given that decisions surrounding operating leases involve aspects of both financing and operating choices, effectively managing these lease obligations is likely to play a role in firms' performance.

This chapter has a number of limitations that provide opportunities for further study. First, this research study used a sample exclusively comprised of U.S. publicly-held firms. Important insights could be gained by extending the boundaries to include international and

privately-held firms. Additionally, the size of the firms included in this sample may have had significant impacts on the results of this study. Gathering data for smaller, privately-held firms would yield additional and important insights into how firms which generally have less access to capital have reacted to the impending lease standard.

The manner in which industry classifications are made is based on primary business operations. However, there were a number of firms included in the sample that are not classified as retail, yet have a significant retail presence. For example, firms like Apple, Nike, Coach, and Under Armour all have many retail stores; however, none are classified as retailers based on their primary industry classification. As a result, a limitation of the data used for this study is that it fails to provide granularity for retail operations embedded in larger firms.

Finally, this study presents an approach that is quantitative in nature and, as such, it provides an association for lease and debt over several time periods. However, this approach cannot provide insights about why retail managers may have reduced debt relative to OLC. Nonetheless, this research and its findings may provide important insights for qualitative researchers seeking to better understand the rationale behind managerial decision-making regarding debt financing and leasing activities.

Despite these limitations, this research and its findings offer important contributions. By focusing on retail firm's debt management in relation to lease obligations, this chapter contributes to the existing literature by laying the groundwork for continued study within the retail leasing domain. The magnitude of leasing transactions and the expected impacts associated with recent accounting standards pronouncements suggest that ongoing research providing insights into managerial leasing financing and operating decisions will make important contributions to both academic literature and practice.

Appendix

Variable Data Definitions

The following table provided detail on the computation and Compustat data items used for each of the primary model's variables.

Variable		Formula	Formula Using Compustat Data Codes
DR	Debt ratio	Total debt / Total assets	[dlct (Current Portion of Long-Term Debt – Total)+dltt (Long-Term Debt –Total)] / at (Assets – Total)
LR	Operating lease ratio	Total operating lease commitments / Total assets	mrct (Rental Commitments – Minimum 5 Year Total) +mrcta (Thereafter Portion of Leases)/at (Assets – Total)
PE	Price-earnings ratio	Fiscal year-end stock price / EPS	prcc_f (price Close – Annual – Fiscal) /epspx (EPS Basic Excluding Extraordinary Items)
LQ	Liquidity	Current assets / Current liabilities	act (Current Assets – Total) /lct (Current Liabilities – Total)
SZ	Total assets	NA	at (Assets – Total)
TR	Tax rate	Tax expense / Pretax income	txt (Income Taxes – Total) / pi (Pretax income)
PROF	Profitability	Earnings before interest and taxes (EBIT) divided by capital employed	ebit (Earnings Before Interest and Taxes) /[at (Assets – Total)-lct (Current Liabilities – Total)]
TAGROW	Total asset growth	$[(\text{Total assets}_{t} / \text{Total assets}_{t-3})^{1/3}-1]$	at (Assets – Total)
FAPROP	Fixed asset proportion	Net property and equipment / Total assets	ppent (Property, Plant and Equipment – Total Net)/ Assets - Total
INTRATE	Interest rate	Interest expense / Total debt	xint (Interest Expense) / [dlct (Current Portion of Long-Term Debt – Total)+dltt (Long-Term Debt – Total)]

Chapter 3 Are Operating Lease Costs Sticky for Retail Firms?

Abstract

In their seminal paper Anderson, Banker, and Janakiraman (2003) laid important groundwork for the study of asymmetric cost behavior or as they termed it *cost stickiness*; the authors found that a firm's selling, general, and administrative costs increase more with a sales increase than those expenses decrease with an equivalent sales decline. These findings have provided important avenues for many studies in both financial and managerial accounting with many differing focal variables over the past fifteen years. However, research has not been published addressing the degree of cost stickiness associated with operating lease expenses. This chapter, recognizing the nature and magnitude of operating lease expenses and the changing operating environment for retailing firms, seeks to provide insights into the stickiness of operating leases Further, an assessment is made for the relative stickiness associated with retail firms' operating lease commitments (future lease obligations)—especially given recent trends impacting the retail operating environment. The results of this study supported the hypotheses that operating lease expenses exhibit stickiness and that future lease commitments are relatively stickier than lease expenses for retail firms. Finally, additional analysis is provided to illustrate the degree of retailer lease costs stickiness compared with other selling, general, and administrative expenses and cost of goods sold.

Keywords: Cost Stickiness, Asymmetric Cost Behavior, Operating Lease Cost Stickiness

Are Operating Lease Costs Sticky for Retail Firms?

The nature and magnitude of operating lease commitments have garnered significant attention in recent years as both the Financial Accounting Standards Board (FASB) and International Accounting Standards Board (IASB) have expressed the intention for, and have now promulgated, new financial accounting standards that will significantly change financial statement reporting and disclosure requirements for operating lease obligations. These standard-setting bodies, along with the Securities and Exchange Commission, have long contended that the nature in which leasing transactions are treated for financial presentation are a potential threat to the fair presentation of a company's financial position (SEC, 2008). The recently issued accounting standards will require lessee firms to record lease obligations as liabilities on balance sheets beginning in years after December 15, 2018 for publicly-held firms (and for years beginning after December 15, 2019 for privately-held firms). These previously off-balance-sheet leasing agreements are estimated to result in approximately $1.25 trillion of additional liabilities and the corresponding leased assets being placed onto U.S. firms' balance sheets (PricewaterhouseCoopers[PwC], 2009). Further, given their reliance on leasing facilities, retail firms are generally expected to be most impacted by the new standard (Kostolansky & Stanko, 2011; PricewaterhouseCoopers, 2009).

The financial reporting and disclosure aspects of leasing arrangements have been the subject of a significant research stream in accounting and finance. The issuance of the last major change in U.S. leasing standards (SFAS 13, issued in 1976**)** provided financial accounting researchers with fertile ground for the study of various aspects of financial reporting and disclosure issues associated with leases throughout the 1980s and 1990s (see Chapter 2 for more discussion). Note that in 2009, the FASB *Accounting Standards Codification* (hereafter,

Codification) was introduced to become the sole source of authoritative generally accepted accounting principles (GAAP) recognized by the FASB. Accordingly, SFAS 13 and its contents were reclassified and organized under Topic 840 of the *Codification*.

The recently issued lease accounting standard, and the exposure drafts preceding it, has again provided numerous financial accounting and reporting research opportunities. While studies exploring financial reporting, disclosure, and related financing decisions have represented the vast majority of accounting research related to leasing arrangements, accounting research studying leases from an operational decision-making perspective has been less prevalent in recent years (Barone, Birt, & Moya, 2014; Spencer & Webb, 2015). This chapter, recognizing the heightened interest in the impacts of leasing transactions, seeks to provide insights into the operational decision-making aspects of leases—particularly for lessee firms and their management. Additionally, by exploring leasing activities from an operating perspective, this paper provides a fuller view of managerial actions beyond the financing aspects of leases presented in Chapter 2. Cost behavior analysis represents an important manner in which these managerial actions can be explored in this context.

The contractual nature and terms associated with the preponderance of leasing arrangements suggest that a fixed cost assumption describes leases' primarily cost behavior pattern (Calleja, Steliaros, & Thomas, 2006). The traditional cost behavior model categorizes costs as variable, fixed (over a relevant range and in relation to activity levels), or mixed in nature—combining both fixed and variable elements (Noreen & Soderstrom, 1994). However, these traditional models suggest that all costs are expected to react similarly (or symmetrically) to increases or decreases in activity (Banker, Byzalov, & Plehn-Dujowich, 2011). Despite this commonly presented model, intuition and anecdotal evidence suggest that costs may move in

varying patterns, or asymmetrically, depending on whether the activity level is increasing or decreasing (Calleja et al., 2006; Subramaniam & Weidenmier, 2003).

The seminal work of Anderson, Banker, and Janakiraman (2003; referred to as ABJ throughout), titled "Are Selling, General, and Administrative Costs 'Sticky'?," represented an important documentation of this hypothesized asymmetric cost behavior. ABJ's (2003) work provided an empirical analysis of the *stickiness* of selling, general, and administrative costs (SG&A). In essence, costs are deemed to be sticky if they increase at a greater rate for an increase in activity than they decrease for a decrease in activity.

The identification of the cost stickiness phenomenon presented by ABJ (2003) has served as a foundation for numerous accounting research studies in the years since the article's publication. Within the boundary of managerial behavior, many researchers have used ABJ's base model and related findings to extend the costs stickiness research to a variety of different focal variables and contexts. However, despite the significant body of research exploring the cost stickiness concept, no published works measure the degree to which operating lease commitments, and the related lease expenses, exhibit cost stickiness characteristics. In February 2016 the FASB issued an Accounting Standards Update (ASU) for Leases (Topic 842). During the due process period for this standards updates, preliminary proposals suggested that the term operating lease may be replaced. However, the final ASU retained the operating lease terminology. For purposes of this study, the terms lease expense or cost and rent expense were associated with operating leases and were the expenses or costs under investigation. The costs for interest and related depreciation and amortization which accompany capital or finance leases were not considered in this study. Additionally, for the selected sample, capital lease obligations

had a mean level of $40.3 million, whereas operating lease commitments had a mean level of $1,563.0 million.

Given the magnitude of leasing activities worldwide, and for the purposes of this study—which focuses on retail firms in the United States—extending the body of research to examine the impact that leases have on cost stickiness contributes to the domains of both lease accounting and cost stickiness literature streams.

Given the nature of retail operations and the relative importance of—and reliance on—leased facilities to generate sales revenues, this chapter posits that retail firms may experience differing levels of cost stickiness for lease expenses compared to other SG&A expenses. By adopting a research methodology (which largely builds on the well-established model developed by ABJ (2003) and tested by many others), this chapter seeks to provide evidence of operating lease cost stickiness.

Additionally, by exploring cost stickiness in the context of retail operations, this research provides important insights into how retail firms and their managers react to sales changes in terms of the investment in leased facilities associated with operations. Competitive threats from online retailers in recent years have forced management of many retail firms to curtail retail store growth and instead pursue online revenue growth strategies (CFRA, 2017). As a result, this research study focuses on recent retail activity in assessing whether lease costs exhibit stickiness characteristics, as many management teams have focused on developing an online presence while closing many brick-and-mortar stores.

This study contributes to the cost stickiness and lease literature in several ways. First, the results of this research may be of interest to academic researchers and managers as each group continues the quest to better understand managerial implications and actions associated with

leases and varying cost behavior patterns. Second, given the current competitive trends facing retail firms, this research offers a contribution by exploring how these firms react to decreasing sales.

The following background and review of the key studies exploring cost stickiness provides a setting for this study by describing the work of ABJ (2003) and the related streams of research that were largely borne from that study and its findings. Following the background and review of literature sections, this chapter develops hypotheses, describes the methodology, and presents findings. Finally, the chapter concludes by describing potential limitations and areas for future investigation.

Background

The Cost Stickiness Concept

As described previously, the work of ABJ (2003) largely opened the door to the study of the cost stickiness (or cost asymmetry) concept. However, as both Malik (2012) and Baumgartner (2012) noted, ABJ's work was preceded by several other studies that identified the nature of this cost asymmetry concept. Both authors cited the works of Noreen and Soderstrom as providing early evidence of cost asymmetry. In two studies of hospitals in the State of Washington, Noreen and Soderstrom (1994, 1997) found that overhead costs do not necessarily change in direct relation to activity levels. Despite these findings, Noreen and Soderstrom (1994, 1997) did not offer conclusions about the causes of the observed asymmetric cost behavior or attempt to generalize these findings across a broader range of organizations or industries.

ABJ's (2003) study, using panel data for 7,629 firms (comprised of 63,958 firm-years) over a 20-year period from 1979 through 1998, empirically tested their hypothesized asymmetric

cost behavior pattern with respect to SG&A expenses. Using a series of statistical procedures, ABJ repeatedly demonstrated the existence of cost asymmetry and coined the term sticky cost behavior or cost stickiness.

Anderson, Banker, and Janakiraman 's Contribution

A significant contribution of the ABJ (2003) study was the researchers' attempt to offer explanations of the managerial behavior causing this asymmetric cost behavior pattern (Balakrishnan & Gruca, 2008). One suggestion is that costs are sticky because managers are reluctant to make resource cost reductions during periods of decreasing sales because the costs necessary to replace those resources would be greater in the future (M. C. Anderson et al., 2003). For example, laying off employees during decreasing sales would necessitate having to replace those resources (employees) when sales increased in future periods.

ABJ (2003) posited that managers consider this adjustment cost, along with other explicit costs (e.g., severance payments) and implicit costs (e.g., the time and effort required to search for and train new employees), in assessing whether or not to reduce costs. As a result, managers who weigh these costs may be willing to retain these excess employees during slow times (i.e., reduced sales or activity)—assuming there is an expectation of improved sales activity ahead. Accordingly, several research studies have linked the source of cost stickiness to managerial optimism about future firm performance that would result from increased sales levels (Banker, Ciftci, & Mashruwala, 2008; Baumgarten, 2010; Lu & Homburg, 2013). Thus, ABJ (2003) indicated that the stickiness is caused by managerial concerns about the future adjustment costs associated with replacing resources that could have been reduced during periods of sales declines. Further, ABJ (2003) briefly described managerial concerns about loss of managerial power and legitimacy that can result from cost cutting efforts.

Anderson, Banker, and Janakiraman 's Cost Stickiness Model

Although ABJ (2003) employed a series of statistical models to ensure the robustness of their cost stickiness conclusions, their initial findings were based on the results of an ordinary least squares (OLS) model. It is this simple OLS specification that has become the baseline model for virtually all cost stickiness research studies that have followed. The baseline OLS model is presented and described as follows:

$$\log\left[\frac{SG\&A_{i,t}}{SG\&A_{i,t-1}}\right] = \beta_1 \log\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right] + \beta_2 Decrease\ Dummy * \log\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right] + \varepsilon_{i,t} \quad (1)$$

where:

- $\log\left[\frac{SG\&A_{i,t}}{SG\&A_{i,t-1}}\right]$ equals the natural log of the year-to-year change in SG&A expenses. This change is expressed as the SG&A expenses divided by the lagged prior year SG&A expenses.
- $\log\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]$ equals the natural log of the year-to-year change in total net revenues. This change is expressed as revenue divided by the lagged prior year revenue.
- $Decrease\ Dummy$ equals dummy variable coded as "1" for years in which revenues decrease from prior year and "0" otherwise.
- $Decrease\ Dummy * \log\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right]$ equals an interaction term allowing for a determination of relative cost stickiness. A negative coefficient indicates cost stickiness because the percentage decrease in SG&A expenses for a given decrease in revenues is less than the percentage increase in SG&A expenses for a similar percentage increase in revenues.

Equation 1 serves as a basis for the other model described in the sample development, research design, and methodology section and was used to test the hypotheses as stated in this research study.

ABJ (2003) noted that they used a log linear model to aid in the model's economic interpretation of the resulting coefficients and to reduce potential heteroscedasticity. The β_1 coefficient provides the percentage change in SG&A expenses for a 1% change in sales revenues. The *Decrease Dummy* variable takes a value of one when firm revenues decrease from the prior year and zero otherwise. It is the model's dummy variable specification that allowed ABJ (2003) to offer their conclusions. The coefficient on β_2 provides the impact that a 1% decrease in revenues has on SG&A expenses and the revenue relationship. Thus, together the sum of the β_1 and β_2 coefficients can be interpreted as the percent decrease in SG&A expenses for a 1% decrease in revenues.

ABJ's (2003) OLS regression yielded coefficients of 0.55 for β_1 and -0.19 for β_2; therefore the authors concluded that SG&A expenses increase by 0.55% for a 1% increase in revenues. However, SG&A expenses decrease by only 0.35 (0.55 minus 0.19, as rounded) for a 1% decrease in sales revenues (ABJ, 2003). In essence, this is the illustration of asymmetric cost behavior or cost "stickiness." Figure 3-1 depicts the nature of these "sticky" costs using the ABJ findings to determine data points.

Note that Figure 3-1 shows a kinked line whereby costs decrease at a lower rate for a decrease in sales revenues than the rate those costs increase for an increase in sales revenues. If cost stickiness was not evident, the line would change symmetrically on both sides of the origin. These findings were found to be robust to a series of model specifications and related analyses. For example, ABJ (2003) used panel data analysis, varying time periods, and other control variables to provide further evidence in support their OLS sticky SG&A cost findings.

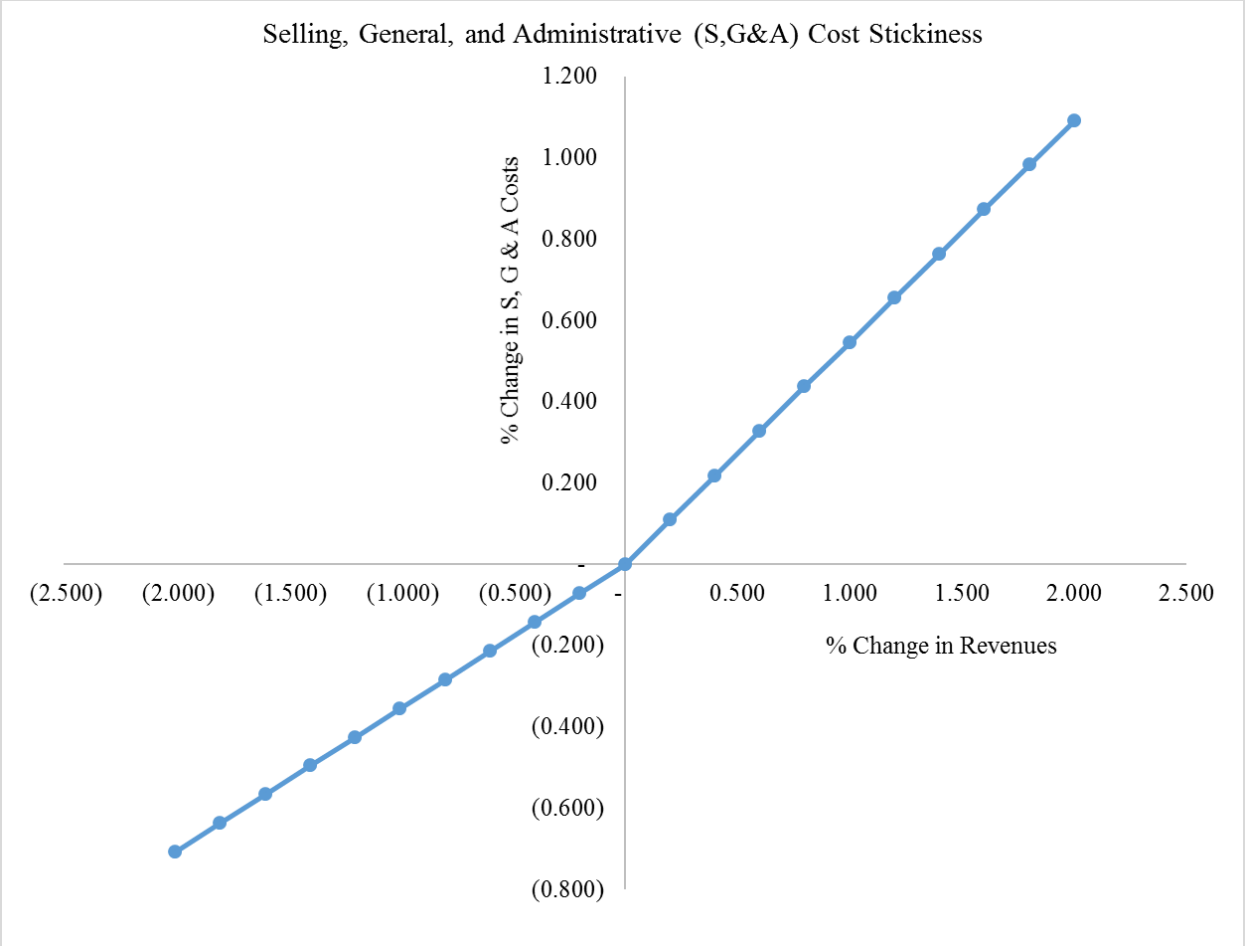

Figure 3-1. Selling, general, and administrative cost stickiness illustration. The kinked line illustrates that costs decrease at a lower rate for a decrease in sales revenues than the rate those costs increase for an increase in sales revenues. If cost stickiness was not evident, the line would change symmetrically on both sides of the origin. This illustration uses Anderson, Banker, and Janakiraman 's (2003) OLS coefficients in arriving at the depicted data points.

Cost Stickiness and Fixed Costs

Several studies have suggested there is a widespread belief that cost stickiness is synonymous with fixed costs behavior (Anderson & Lanen, 2007; Banker, Byzalov, & Plehn-Dujowich, 2011; Banker, Byzalov, Ciftci, & Mashruwala, 2014). However, these studies all supported ABJ's (2003) notion that, while fixed expenses play a role in cost stickiness, this concept is capturing the asymmetry that exists in managerial actions (or inaction) taken to reduce costs as revenues decline. Despite this, there has been little attention in the existing literature

about how this stickiness concept can be clearly differentiated from the existence of fixed expenses in a company's cost structure. Accordingly, Appendix 3A provides a discussion and related charts to illustrate the cost stickiness concept and its relation to fixed costs behavior patterns. This exhibit demonstrates that fixed costs are a necessary, but not a sufficient, component in the determination of cost stickiness.

Review of Literature

A review of the significant body of cost stickiness literature revealed several themes associated with this concept. The following discussion presents a robust literature review, within the managerial-decision making boundary, that considers cost type, temporal nature, and demographic determinants of cost stickiness.

In recent years, a significant stream of research in financial accounting has been informed by the cost stickiness concept. The most notable examples include the study of costs stickiness in relation to market performance or analysts' performance expectations. Anderson and Banker (2007), Kama and Weiss (2010), and Homburg and Nasev (2008) are just a few examples of this growing research stream. Given the focus of this chapter, this research stream has not been included.

The hypothesis development section presents additional studies that focus on the nature of lease expenses and retail firms. These studies have helped to build the foundation for the hypotheses presented in this chapter.

Stickiness of SG&A Expense Components and Other Costs

ABJ (2003) themselves extended their initial model to explore advertising expense. Using a seemingly unrelated regression model, necessitated by the interrelated and recursive

relationship between sales and advertising expenses, ABJ (2003) found that both advertising and non-advertising costs exhibit sticky cost behaviors.

Other researchers have followed suit by studying specific cost elements within SG&A or other expenses. For example, several studies have explored the stickiness concept in relation to costs of goods sold. Studies by Yasukata (2011) and Subramaniam and Weidenmier (2003) found evidence of cost stickiness in both cost of goods sold and SG&A. The study by Calleja et al. (2006) of international firms concluded with evidence of cost stickiness for total operating costs—comprised of both cost of goods sold and SG&A.

In two separate studies, Banker et al. (2014; 2006b) reported sticky cost behavior for a variety of costs including: SG&A, research and development, advertising, and cost of goods sold. Anderson and Lanen (2007) also explored cost stickiness for the same categories as Banker et al. (2014; 2006b), however, they further extended the analysis to include labor costs and property and equipment costs. Dierynck and Renders (2009) also examined labor costs in Danish financial firms to illustrate asymmetric cost behavior.

Together these studies seem to provide ample evidence of the existence of the cost stickiness concept, not just for SG&A, but for other costs or components as well.

The Temporal Nature of Cost Stickiness

ABJ (2003) offered two additional hypotheses that explored the role that time and economic conditions play in the evidence of sticky cost behavior; specifically, they suggested that SG&A costs showed greater stickiness during economic growth and lower stickiness of SG&A costs in successive years of revenue declines. In both instances, ABJ (2003) were able to provide evidence supporting the stated hypotheses. Calleja et al. (2006) arrived at similar conclusions based on a study of firms from several countries. Notably, Banker et al. (2011;

2006) in two separate studies suggested that these hypothesized temporal impacts largely provide a measure of managerial optimism. For example, cost stickiness can result from a manger's belief that operations will turn around in future periods. However, adverse macroeconomic conditions or continued poor performance resulting from repeated sales declines will likely result in a reduced level of optimism and, as a result, reduced cost stickiness.

Demographics Studies of Cost Stickiness

Like most seminal works, ABJ's (2003) findings have provided the basis for numerous extension studies. Most commonly, researchers have used ABJ's (2003) model as a basis to explore the stickiness concept in differing geographic locations and industries. Firm size, while a control variable in many studies, has been used less frequently as a focal variable.

Baumgarten (2012) described that the nature and extent of cost stickiness behavior can differ significantly by country for several reasons including varying macroeconomic conditions, resources adjustment costs, and collective levels of managerial optimism. Calleja et al. (2006) explored such differences by studying cost stickiness for firms in France, the United States, the United Kingdom, and Germany. Their findings showed a higher level of stickiness for German and French firms and mainly attributed these to the differing governance mechanisms associated with each country and how such governance can impact management's ability to adjust costs (Calleja et al., 2006).

In research conducted across 19 different countries, Banker and Chen (2006) concluded that labor cost stickiness varied across firms in different countries, attributing these findings to country-level labor market and other macroeconomic conditions. Additionally, the nature of employer-employee relations, including the predominance of unionization, played a significant role in the determination of labor costs stickiness in each country.

Further, numerous studies have explored cost stickiness in terms of an individual country context outside of the United States. For example, studies have measured various aspects of cost stickiness in Turkey (Yukcu & Özkaya, 2011), Brazil (de Medeiros & Costa, 2004), Spain (Argilés Bosch & Garcia Blandón, 2007), Denmark (Dierynck & Renders, 2009) and Japan (He, Teruya, & Shimizu, 2010; Yasukata, 2011).

Similarly, cost stickiness has been studied in a vast array of industry contexts. Subramaniam and Weidenmier (2003) studied cost stickiness in a variety of industries and concluded that manufacturers exhibited higher levels of stickiness of SG&A costs than service, retailing, or wholesaling firms. Like many country studies, several industry studies have been situated in the context of a particular industry rather than performing cross-industry comparisons. Examples include, healthcare (Balakrishnan & Gruca, 2008; Noreen & Soderstrom, 1997), airlines (Cannon, 2014), and banking (Porporato & Werbin, 2012).

A significant body of research has used firm size, as proxied by asset size or number of employees, as a control variable in the determination of costs stickiness. In fact, ABJ (2003) included total assets and employees, both in relation to total revenues, in one of their model specifications. However, few studies have made firm size a key focal variable for their research. One study that did investigate firm size was Dalla Via and Perego (2014) who explored cost stickiness of SG&A, cost of goods sold, and operating costs for both listed and non-listed Italian firms. The researchers concluded that they saw little evidence of sticky cost behavior despite significant difference in firm sizes resulting from ownership structure. Their findings represent somewhat of an anomaly in that they showed minimal evidence supporting the cost stickiness phenomenon.

The preceding discussion represents a summary of cost stickiness research from a managerial decision-making viewpoint. Given the nature of this research, an exploration of the growing body of literature using the cost stickiness concept in exploring financial and market performance is not presented. The following section provides the theoretical development and related hypotheses that were tested in this study.

Hypothesis Development

As described in the *Introduction*, this chapter suggests that the nature, magnitude, and significance of lease expenses play a significant role in the degree to which a retail firm's cost structure exhibits stickiness or asymmetrical behavior. Further, the importance that leasing operations have for retailing firms is posited to affect the degree of lease expense stickiness. Additionally, recent competitive trends stemming from the growth in online retailing may have altered the relative stickiness associated with leases and their related commitments. The following discussion presents each of these facets and contributes to the development of the stated hypotheses.

Characteristics of Lease Expenses

As a contractual agreement, a lease grants the lessee a right to use specific property owned by the lessor for a specified period of time in return for payments made by the lessee over the term of the agreement (Frecka, 2008). Leasing has long been used as a means to obtain the rights for the use of assets. One major attraction of lease transactions is that they provide a means of acquiring the use of assets without having to make an initial outright purchase (Prykull, 1998). As a result of this contractual relationship, lease expenses generally represent commitments or committed expenses (Frecka, 2008; Raouf et al., 2006).

Counterbalancing the financing benefit of a lease is a resulting decline in management discretion (or ability) to exert control over these costs (Lease, McConnell, & Schallheim, 1990; Raouf et al., 2006). While most lease agreements provide clauses for early termination, the execution of such an opt out clause typically carries significant financial penalties or disincentives to the lessee (Brodley & Ma, 1993). To this point, Calleja et al. (2006) noted "the basic premise of cost stickiness arises because managers enter into contracts for resources that are costly to break or renegotiate" (p. 128). While ABJ (2003) did not specifically address lease costs, they noted that stickiness is evident "if managers decide to retain underutilized resources rather than incur adjustment costs if volume declines" (pp. 48-49). Therefore, if future demand declines, managers may retain underutilized resources to avoid the costs associated with a broken contract (Calleja et al., 2006). Given the potential for significant adjustment costs associated with lease termination clauses, lease costs would appear to have the potential to exhibit sticky behavior.

Further, while sticky costs often result from management decisions, the committed nature of certain fixed costs represents another important aspect of sticky cost behavior (Balakrishnan, Labro, & Soderstrom, 2014). For example, in the short term, management may react to decreasing revenues by cutting certain administrative costs in an attempt to improve reported firm financial performance. However, the greater the degree to which these costs are committed, the greater the effort and resources required to execute such cost-cutting measures (Anderson, Asdemir, & Tripathy, 2013). While many leasing arrangements include defined rent escalation or other contingent rental expenses, lease expenses generally exhibit a fixed cost behavior pattern associated with a contractual commitment (Brodley & Ma, 1993; Prykull, 1998; Wheaton, 2000). Along with the potential adjustment costs described previously, the fixed and committed

characteristics associated with most lease agreements may further contribute to the existence of stickiness.

The Significance of Leases to Retailers

Retail firms have historically attempted to increase revenues by opening more locations, many of which were leased. Therefore, the impacts of leases on financial reporting may be stronger among retail firms than it is among other firms (Goodacre, 2003; Wheaton, 2000). Further analysis is required to explore the role that online sales have in the lease expense and revenue relationship. The growth of online sales for retailers that have primarily relied on growth in *bricks and mortar* stores for revenue growth will likely impact cost stickiness determination. Accordingly, an analysis that accounts for the growth in online revenues compared to in-store revenues would add important insights into this study. However, the unavailability of this data at present places this research beyond the scope of this dissertation.

As noted, existing research has not studied cost stickiness resulting from retailers' dependence on leased facilities. However, several studies have illustrated that the more an expense is central to a firm's mission, the greater the degree of stickiness (Baumgarten, 2012). For example, Balakrishnan and Gruca (2008) tested and supported the following hypothesis within a hospital setting: "Costs are stickier in services deemed more central to the hospital's mission" (p. 997). The authors deemed patient-related functions and services as more mission critical compared to other administrative functions. Their findings support the notion that cost stickiness is stronger when such costs are linked closely to the firm's central operating characteristics (Balakrishnan & Gruca, 2008). Therefore, the nature of retailing operations may contribute to lease cost stickiness. Combined with the fixed and committed cost characteristics described previously, the significance of leases to retailer operations may contribute to a high

degree of lease cost stickiness. As a result, the following hypothesis is offered (stated in the alternate form):

H_1: For retail firms, operating lease (rent) expenses exhibit cost stickiness characteristics.

The Current Retail Environment and Lease Commitments

The 2017 *CFRA Specialty Retail Industry Survey* noted that economic conditions and competition from online retailers has forced many retailers to close unprofitable or underperforming locations (CFRA, 2017). While this statement would seem to provide a counter argument to the lease cost stickiness hypothesis, it does not address the duration (or number of years) a store would have to underperform before it was closed. As noted previously, one contributing factor to cost stickiness is managerial optimism for future sales improvement. While individual specialty retailers may be optimistic, most indications are that—as a whole—specialty retailers are concerned about future revenues—especially in light of online competition (CFRA, 2017). As such, a larger contributing factor leading to lease cost stickiness in this research's context may be the contractual and committed nature of the expense.

In general, the pessimism surrounding the future growth potential of in-stores sales revenues may result in diminished cost stickiness characteristics over time. However, the committed nature of many lease agreements often prevents managers from reducing retail locations quickly without incurring contract-related adjustment costs. This pessimism about future in-store revenue growth may result in managers being less likely to sign future lease-commitments as existing leases expire. Given the longer-term adjustment horizon for lease commitments (compared to current period rent expenses), managers are able to adjust future total lease commitments more easily than current period lease expenses. Therefore, a final hypothesis is offered (again, in the alternate form):

H_2**:** For retail firms operating lease (rent) expenses will exhibit a higher degree of cost stickiness compared to operating lease commitments.

Sample Development, Research Design, and Methodology

Sample Development

The primary sample developed for this research consisted of financial data for U.S. specialty retail firms over seven fiscal years from 2010 through 2016. The term specialty retail is from the Global Industrial Classification Standard (GICS) and carries the industry code number 255040. The sample was selected to match the firms reported in the 2017 *CFRA Industry Survey: Specialty Retail* report, based on data licensed from S&P Global Inc. Selecting this large and diverse industry group allowed for combined analysis and for additional analyses based on subindustry classifications. The time period of 2010 through 2016 was used to reflect the recent state of retailing for firms. Further, by using 2010 as a starting point, the intent was to exclude the effects of the recession of 2008 and residual impacts that may have carried into 2009. To prevent potential survivorship bias, reports for prior periods were analyzed to identify firms that no longer were reported or no longer existed. Based on this analysis it was necessary to add two firms to the analysis sample. The *CFRA Industry Survey* classifies specialty retailers into the following subindustries: apparel, automotive, home furnishing, home improvement, and specialty. Appendix B provides a listing of all sample firms by these subindustry classifications.

For the firms identified in the sample, all of the data was gathered from the U.S. Compustat Annual database. Consistent with sample development described by ABJ (2003), all reporting firms and firm-years were included in the initial sample. As noted in Panel A of Table 3-1, the total number of firm-year observations was 465 for 67 firms, representing an average of

about 6.94 observations per firm. Panels B and C of Table 3-1 provide breakdowns of the sample firms by subindustry and fiscal year, respectively.

Additionally, like ABJ (2003) extreme values for each of the focal variables were excluded from the analysis data. As such, using ABJ's (2003) methodology, any focal variables in the top or bottom 0.5% were removed from the final samples. Panel D of Table 3-1 provides a reconciliation of the total 465 firm-years to the final sample sizes used for each of the main hypothesis tests.

Table 3-1

Sample Composition and Development

Panel A: Base Sample	Firms	Firm-Years
Firms included in *CFRA Industry Survey: Specialty Retail*	67	465

Panel B: Base Sample by Subindustry	Firms	Firm-Years
Apparel	24	168
Automotive	12	82
Computer & Electronics	3	21
Home Furnishing	7	49
Home Improvement	4	28
Specialty	17	117
	67	465

Panel C: Base Sample by Fiscal Year	Firm-Years
2010	65
2011	67
2012	67
2013	67
2014	67
2015	67
2016	65
	465

(continued)

(continued)

Panel D: Analysis Sample Development	Dependent Variable		
	ln Rent Change	*ln OLC Change*	*ln OLCT Change*
Firms-years for 67 firms included in *CFRA Industry Survey: Specialty Retail*	465	465	465
Top and bottom 0.5% of *ln Revenue Change* excluded	(6)	(6)	(6)
Firms-years missing data for dependent variable	-	(17)	(14)
Top and bottom 0.5% of dependent variable excluded (if not excluded above)	(3)	(1)	(1)
Final sample	456	441	444

Note. The Specialty Retail sample was based on the Global Industrial Classification Standard (GICS). The *CFA Industry Survey* uses GICS categories for presentation and analysis. Further, the subindustry categories were based on GICS categories. Panel D provides a reconciliation from the base sample to the final samples used for each regression analysis used for the main tests of hypotheses. The dependent variables are the natural logs of the changes in rent expense (*ln Rent Change*), operating lease commitments (*ln OLC Change*), and the thereafter portion of OLC (*ln OLCT Change*).

The following section describes the empirical models that have been adapted and developed in testing this chapter's hypotheses.

Empirical Models

As noted previously, the ABJ (2003) model, Equation 1, provides the baseline for almost every paper exploring cost stickiness characteristics. As such, the following represents the modification to ABJ's (2003) base model and provides a framework for the extensions addressed in this chapter:

Equation 2 alters the dependent variable associated with the ABJ (2003) model and provides the basis for this study's main hypothesis. Rather than considering SG&A expenses in total, this model predicts the stickiness associated with lease (or rent) expenses—a component of SG&A for retail firms—and the related commitments associated with future rent expense

obligations. For Equation 2 ,the dependent variable is noted as X, where X is defined by several variables to test this chapter's hypotheses.

$$\log\left[\frac{X_{i,t}}{X_{i,t-1}}\right] = \beta_1 \log\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right] + \beta_2 Decrease\ Dummy * \log\left[\frac{Revenue_{i,t}}{Revenue_{i,t-1}}\right] + \varepsilon_{i,t} \quad (2)$$

To test H_2 it was necessary to define X as operating lease commitments (OLC). OLC are provided in the Compustat database and represent the total minimum future rental expenses for leases currently in effect. The coefficient from this model yielded the cost stickiness characteristics for OLC. The results for the stickiness coefficient for this model were compared with the Equation 1 results. This comparison is how H_2 was tested. H_2 posits that rent expenses are relatively stickier than OLC. As an alternative model specification, this model was also run using a subset of OLC—the thereafter portion of OLC (OLCT). Firms are required to disclose separately OLC for each of the first five years following the balance sheet date. However, OLC for years after are disclosed in a lump sum and generally called OLCT. As a result, OLCT is a subset of the total OLC.

The following section provides the results and interpretations of the regression analyses developed using each of the above model iterations.

Results and Analysis

Descriptive Statistics

Table 3-2 provides descriptive statistics for the primary variables for this study. Panel A of Table 3-2 provides means, standard deviations, and quartile data for the study's key variables. Panel B indicates the frequency in which year-to-year firm revenues decreased. Revenues decreased in 75 of the 465 (or 16.1%) firm-years from 2010 to 2016 and the mean decrease was 5.62%.

Panel C presents descriptive statistics associated with the firm-years in which revenues decreased. Rent expense increased by an average of 0.78% for the 75 firm-years in which revenue decreases were noted. The descriptive statistics for OLC reflect an extreme value reported for one firm. As described later in the *Results and Analysis* section, this chapter uses ABJ's (2003) methodology of excluding the top or bottom 0.5% of values for each of the focal variables. As such, this outlier was not included in the accompanying hypothesis testing.

Panel D indicates the frequency of decreases in other focal variables accompanying the 75 revenue decreases. For example, in the 75 firm-years where revenues decreased, rent expenses decreased in only 36 of those years (or 7.7% of the total sample firm-years).

Lastly, Panel E of Table 3-2 reports the pairwise correlation table for each of the variables, transformed as the natural log of the year-to-year changes, identified in this chapter. Because each of the independent variables specified in the models (as described fully in the *Empirical Models* section which follows) is separately regressed on the natural log of revenue change, the highly correlated (0.860) relationship between OLC and OLCT does not present multicollinearity concerns.

Table 3-2

Descriptive Statistics

Panel A: Summary of Revenues, SG&A Expenses, Rent Expenses, Operating Lease Commitments, and Thereafter Portion of Operating Lease Commitments[a]

	Mean	Standard Deviation	Median	Lower Quartile	Upper Quartile
Revenues	$ 7,681.61	$ 13,032.92	$ 3,353.30	$ 1,234.67	$ 8,678.16
Selling, general administrative (SG&A) expenses	$ 1,694.89	$ 2,731.26	$ 912.70	$ 345.79	$ 1,738.76
Rent expenses	$ 260.28	$ 282.68	$ 175.22	$ 53.97	$ 363.59
Operating lease commitments (OLC)	$ 1,563.99	$ 1,790.18	$ 905.63	$ 369.01	$ 2,001.50

(continued)

(continued)

	Mean	Standard Deviation	Median	Lower Quartile	Upper Quartile
Thereafter portion of OLC (OLCT)	$ 552.60	$ 782.62	$ 269.62	$ 105.20	$ 682.83
SG&A as a percentage of revenues	22.06%	20.96%	27.22%	28.01%	20.04%
Rent expenses as a percentage of revenues	3.39%	2.17%	5.23%	4.37%	4.19%

Panel B: Frequency and Descriptive Statistics for Firms-Years by Revenue Increases or Decreases

	Firm-Years	Mean	Standard Deviation	Median	Lower Quartile	Upper Quartile
Revenue increases	390	10.05%	9.60%	7.62%	3.99%	12.11%
Revenue decreases	75	-5.62%	6.12%	-3.88%	-6.71%	-1.79%
Total firm-years	465	7.48%	10.81%	6.11%	1.87%	11.36%

Panel C: Fluctuations in Revenues, SG&A Expenses, Rent Expenses, Operating Lease Commitments and Thereafter Portion of Operating Lease Commitments for Firm-Years with Revenue Decreases[a]

	Firm-Years	Mean	Standard Deviation	Median	Lower Quartile	Upper Quartile
SG&A expenses	75	-2.88%	8.34%	-2.15%	-5.69%	1.11%
Rent expenses	75	0.78%	15.18%	0.48%	-4.12%	3.69%
Operating lease commitments (OLC)	75	2.96%	46.70%	-3.69%	-10.38%	4.57%
Thereafter portion of OLC (OLCT)	75	204.99%	1826.02%	-9.57%	-26.26%	1.43%

Panel D: Frequency of Decreases in SG&A Expenses, Rent Expenses, Operating Lease Commitments and Thereafter Portion of Operating Lease Commitments Corresponding to Firm-Years with Revenue Decreases[a,b]

		Percent of Firm-Years	
	Firm-Years	Total	with Revenue Decreases
Revenues	75	16.13%	100.00%
SG&A expenses	47	10.11%	62.67%
Rent expenses	36	7.74%	48.00%
Operating lease commitments (OLC)	47	10.11%	62.67%
Thereafter portion of OLC (OLCT)	53	11.40%	70.67%

(continued)

(continued)

Panel E: Pairwise Correlation Table[a]

	ln Revenue Change	*ln SGA Change*	*ln Rent Change*	*ln OLC Change*	*ln OLCT Change*
ln Revenue Change	1				
ln SGA Change	0.511***	1			
ln Rent Change	0.509***	0.366***	1		
ln OLC Change	0.285***	0.204***	0.452***	1	
ln OLCT Change	0.169***	0.086*	0.231***	0.860***	1

Note. All the reported numbers are in millions of dollars. Variables were all provided from the Compustat data set for 2010 to 2016. [a]OLC represents total future operating lease commitments. OLCT is a subset of OLC and represents operating lease commitments after five years (in notes to the financial statements, operating lease commitments for the first five years are presented individually and the OLCT are presented as a lump sum). [b]Panel D reports frequencies of decreases in each variable corresponding to years in which revenues also decreased. *$p < 0.10$. **$p < 0.05$. ***$p < 0.01$.

Main Tests of Hypotheses

Lease expense stickiness. This chapter's first hypothesis (H_1) suggests that lease expenses exhibit sticky cost behavior. The results for test of lease expense stickiness are presented in Table 3-3. As hypothesized, lease expenses exhibit stickiness for the analysis period. The OLS regression yielded coefficients of 0.736 for β_1 and -0.940 for β_2. This indicates that rent expenses increase by 0.736% for a 1% increase in revenues. However, rent expenses increase by 0.204% (0.736 minus 0.940) for a 1% decrease in sales revenues.

Table 3-3

Results of OLS Stickiness Models

	ln Rent Change	*ln OLC Change*	*ln OLCT Change*
ln Revenue Change (β_2)	0.736***	0.601***	0.754**
	(13.18)	(4.89)	(2.42)
Decrease Dummy x *ln Revenue Chg.* (β_1)	-0.940***	-0.219	0.225
	(-5.71)	(-0.65)	(0.26)
Constant (β_0)	-0.004	0.001	-0.017
	(-0.57)	(0.05)	(-0.48)
Observations	456	441	444
R^2	0.283	0.069	0.023
Adjusted R^2	0.280	0.064	0.018

Note. Results based on pooled OLS regression for the period 2010 to 2016. The dependent variables are the natural logs of the changes in rent expense (*ln Rent Change*), operating lease commitments (*ln OLC Change*), and the thereafter portion of OLC (*ln OLCT Change*). *Decrease Dummy* equals one if revenues decrease from prior year. Values for any variable in the top or bottom 0.5% were excluded. The t-statistics are in parentheses. $^{*}p < 0.10$. $^{**}p < 0.05$. $^{***}p < 0.01$.

It is important to note that throughout this chapter, and in a manner consistent with ABJ (2003), stickiness is defined by the coefficient on the β_2 interaction term alone and not the combination of the coefficients on the revenue change and the interaction term. However, the combination of the coefficients is helpful in illustrating the percentage decrease in expenses for a revenue decline.

The fact that the coefficient on β_2 was greater (in absolute value) than the coefficient on β_1 is partial evidence of a high-level of stickiness. However, the fact that the coefficient on β_2 was negative and statistically significant is the primary indicator of the presence of cost stickiness in this sample. As such, this result is indicative of asymmetric cost behavior or lease cost stickiness with the stickiness coefficient significant at the $p < 0.01$ level. This finding strongly supports H_1.

Lease expense stickiness compared to operating lease commitments stickiness. This chapter's second hypothesis, H_2, posits that the nature of lease expenses and the make them stickier than the related OLC (for future lease expenses). This hypothesis was informed largely by the cost adjustment time horizon differences associated with each measure. Additionally, the analysis supporting this hypothesis was run using an alternate specification of the dependent variable—OLCT. As noted previously, OLCT is a subset of OLC which represents all future lease commitment beyond five years. The results presented in Table 3-3 illustrate the degree of stickiness for both OLC and OLCT.

Table 3-3 presents the stickiness coefficients (β_2) of -0.940 for lease expenses and -0.219 for OLC for the 2010 through 2016.. Given the difference in these coefficients, there appears to be a practical difference in the stickiness behavior for these two focal variables. This was further supported in that the lease coefficient was highly significant and the OLC coefficient was not. As such, these comparisons appear to offer some support for H_2.

As noted previously, OCLT is a subset of OLC representing the total lease commitments greater than five years after the firm's balance sheet date. As discussed in the hypothesis development section, the potential for costly adjustments contribute to stickiness. Thus, while it may be difficult to reduce rent expenses in the short-term (because of costs associated with lease termination clauses), it may be easier for managers to react to declining sales by not renewing expiring lease agreements. Because OLC includes lease commitments for the near-term, it may not fully reflect the different stickiness characteristics (or lease expenses vs. OLC). Additionally, given the possibility for pessimism in the current retail environment, managers may be less likely to lock in to long-term leases—especially in response to decreased revenues. As a result, the

OLCT subset represents an alternate specification used to assess relative stickiness characteristics.

The coefficient on the interaction term (β_2) for OLCT was 0.225 and was not significant. Again, in comparison, the lease stickiness coefficient was both negative and significant. As a result, it appears that lease expenses are relatively stickier than OLCT. The seemingly unrelated regression t-test was performed to assess whether the stickiness was statistically different for lease expenses compared to OLCT. In this instance, the difference was significant at the $p < 0.05$ level, based on a two-tailed t-test. Accordingly, H_2 appears to be better supported based on this variable specification.

Sensitivity Tests

Firm-level fixed effects. Fixed-effects (or within estimator) regression analyses were also performed for the tests of the hypotheses presented in this chapter. These models allow the effects of the different levels of each dependent variable for individual firms to be accounted for and quantified. The model iteration summaries for these fixed-effects regressions are presented in Panel A of Table 3-4. Perhaps not surprisingly given the relative homogeneity of this specialty retail sample, the firm-level fixed-effects models yielded results that were qualitatively similar to the OLS regressions. Given this outcome, conclusions about the support for this chapter's hypotheses were based on the results of the OLS regressions. Nonetheless, the results of these fixed-effects models offered further support of both H_1 and H_2.

Fiscal-year-level fixed-effects. These models allow the effects of the different levels of each dependent variable for each of the seven fiscal years to be accounted for and quantified. The regression analyses for these fiscal-year fixed-effects regressions are presented in Panel B of

Table 3-4. This fixed-effects analysis also yielded results that were quantitatively similar to the OLS regressions. The results from this analysis offer additional support of both H_1 and H_2.

Table 3-4

Results of the Fixed-Effects Regression Cost Stickiness Models

Panel A: Firm-Level Fixed-Effects[a]

Variable	*ln Rent Change*	*ln OLC Change*	*ln OLCT Change*
ln Revenue Change (β_1)	0.761***	0.467**	0.695*
	(10.84)	(3.01)	(1.62)
Decrease Dummy x *ln Revenue Chg.* (β_2)	-0.897***	0.682	0.517
	(-4.87)	(1.69)	(0.44)
Constant (β_0)	-0.005	0.018	-0.010
	(-0.71)	(1.18)	(-0.24)
Observations	456	441	444
Firms	67	66	67
R^2 (within)	0.236	0.068	0.014
R^2 (between)	0.371	0.022	0.052
R^2 (overall)	0.283	0.057	0.023

Panel B: Fiscal-Year-Level Fixed-Effects[b]

Variable	*ln Rent Change*	*ln OLC Change*	*ln OLCT Change*
ln Revenue Change (β_1)	0.775***	0.632***	0.758*
	(13.84)	(5.05)	(2.40)
Decrease Dummy x *ln Revenue Chg.* (β_2)	-0.943***	-0.206	0.290
	(-5.82)	(-0.62)	(0.33)
Constant (β_0)	-0.006	-0.001	-0.016
	(-1.00)	(-0.08)	(-0.47)
Observations	456	441	444
Fiscal Years	7	7	7
R^2 (within)	0.305	0.073	0.023
R^2 (between)	0.005	0.012	0.041
R^2 (overall)	0.280	0.069	0.022

(continued)

(continued)

Note. The dependent variables are the natural logs of the changes in rent expense (*ln Rent Change*), operating lease commitments (*ln OLC Change*), and the thereafter portion of OLC (*ln OLCT Change*). *Decrease Dummy* equals one if revenues decrease from prior year. Values for any variable in the top or bottom 0.5% were excluded. Results based fixed-effects models for the period 2010 to 2016. [a]Panel A reports firm-level fixed-effects. [b]Panel B reports fiscal-year fixed-effects. The t-statistics are in parentheses. $^{*}p < 0.10$. $^{**}p < 0.05$. $^{***}p < 0.01$.

Data Validation and Tests

The Breusch-Pagan and White tests were performed to determine if heteroscedasticity was present in the sample data set (Wooldridge, 2013). The results for each of these tests failed to reject the null hypothesis of homoscedasticity. Given the transformation of the focal variable to the log linear form and the results of these tests, heteroscedasticity did not appear to be a concern in the data.

The data was also evaluated for the possibility of serial correlation on a firm-by-firm basis. Like ABJ (2003), individual, firm-specific regressions were run for each of the model specifications and evaluated using the Durbin-Watson test statistic (Wooldridge, 2013). For the 67 firms in the sample, the test statistic for two firms revealed potential serial correlation at the $p<0.05$-level of significance for the primary focal variables associated with this study—the natural logs of the changes in lease expenses and OLC (both in total and the thereafter portion). While this is not indicative of widespread serial correlation in the analysis sample, the OLS model was rerun by dropping the firms with data exhibiting possible serial correlation. In each of the reduced sample model iterations (in each of the specified time periods) the lease stickiness coefficient held at the same significance level as the full sample regression. As a result, the following discussion is based on the results from the full sample regression analyses.

Finally, SG&A expenses were evaluated for sticky cost characteristics. An analysis of the cost stickiness concept related to overall SG&A expenses was not necessary to support the

hypotheses as stated in this chapter. However, given this chapter's reliance on ABJ's (2003) model and methodologies, it was deemed important to apply their approach within the specialty retail context. A 20-year period from 1997 to 2017 was used as a means to evaluate and assess the applicability of ABJ's (2003) model for retail firms in a more recent timeframe. In their seminal study, ABJ (2003) used a broad cross-section of industrial firms for the period 1979 to 1998. The results of the SG&A cost stickiness models applied to specialty retailers for the sample period from 2010 to 2016 and the 20-year period from 1997 to 2016 are reported in Table 3-5. Interestingly, for the sample period from 2010 to 2016, SG&A cost stickiness did not prove to be significant Table 3-5 shows that the SG&A stickiness coefficient was negative; however, the result was not statistically significant.

Table 3-5

Results of OLS SG&A Stickiness Models

	ln SGA Change	
Variable	2010-2016	1997-2016
ln Revenue Change (β_1)	0.836***	0.915***
	(10.53)	(30.86)
Decrease Dummy x *ln Revenue Chg.* (β_2)	-0.161	-0.301**
	(-0.69)	(-3.11)
Constant (β_0)	0.012	0.012**
	(1.27)	(2.50)
Observations	456	1,154
R^2	0.252	0.511
Adjusted R^2	0.249	0.510

Note. Results based on pooled OLS regression for the period 2010 to 2016 and 1997 to 2016, respectively. The dependent variable is the natural log of the changes in SG&A expenses (*ln SGA Change*). *Decrease Dummy* equals one if revenues decrease from prior year. Values for any variable in the top or bottom 0.5% were excluded. The t-statistics are in parentheses. $^{*}p < 0.10$. $^{**}p < 0.05$. $^{***}p < 0.01$.

This research investigated whether cost stickiness behavior is present in lease expenses. While the cost stickiness domain is well-established and has provided a basis for numerous extension studies beyond ABJ (2003), the existing literature has not researched operating lease (rent) expenses specifically. Further, this chapter seeks to provide additional insights into retail firms given the relative importance of leases to their operations.

Because ABJ (2003) used a 20-year period in their seminal work, this model was run again using the time period from 1997 to 2016. Table 3-5 details similar results to ABJ (2003) exhibiting the existence and significance of sticky SG&A expenses over the 20-year period from 1997 through 2016. Specifically, the results suggested that total SG&A costs increase 0.915% for a 1% increase in revenues. However, a 1% decrease in revenues results in a 0.614% (0.915 minus 0.301) decrease in SG&A expenses. This stickiness result was significant at the $p < 0.01$ level. Note that this SG&A stickiness result, although similar to ABJ's (2003) findings, differed from the findings for the 2010 to 2016 time period where stickiness was not observed.

The results reported in Table 3-5, where SG&A expenses failed to show significant stickiness during the 2010 to 2016 time period, may provide important insights into specialty retail managers' responses to a changing retailer landscape. The following *Additional Analysis* section explores this further by evaluating stickiness for a series of other SG&A cost components and cost of goods sold.

Additional Analysis

Finally, additional analyses were performed to provide further insights into the specialty retail domain and managerial actions during the 2010 to 2016 timeframe. Specifically, lease expense stickiness was compared with other costs to evaluate their relative stickiness

characteristics. Further, analyses were performed to determine the possibility of differing lease stickiness characteristics for specialty retailers by subindustry classifications.

Lease Cost Stickiness Compared with Other Cost Stickiness

Financial presentation under U.S. GAAP allows firms to report SG&A expenses without showing full detailed composition by expense category. As a result, it is difficult to disaggregate fully SG&A expenses into component expenses. However, through disclosures available in notes to the financial statements, some level of disaggregation is possible.

These disclosures allow for separate analysis of the cost stickiness characteristics associated with certain individual costs. This disaggregation approach was performed by both Banker et al. (2008) and Anderson and Lanen (2007) in evaluating cost stickiness for individual SG&A components. Further, Banker et al. (2006) subtracted research and development and advertising costs in arriving at "other" SG&A expenses. For the analyses presented in this chapter, advertising and depreciation and amortization expenses (along with lease expenses) have been separately evaluated for stickiness characteristics and were subtracted from SG&A in arriving at other SG&A expenses. Unlike Banker et al. (2006), it was not necessary to subtract research and development expenditures in arriving at other SG&A expenses. No retail firms included in the sample reported research and development expenses for the years included in this study.

This method allowed for the assessment of the stickiness of other SG&A expenses. An analysis of the most recent financial statements for a subset of 15 (of the 67) firms revealed that other SG&A expenses for specialty retailers typically include non-service employee payroll and related benefit costs, other occupancy costs (excluding rent and depreciation expenses), charitable contributions, outside service provider and profession fees, and other expenses (e.g.,

supplies, travel and lodging, etc.). In addition, this review of the sample of financial statements indicated that rent expenses were all included as a subset of the Compustat reported SG&A expenses.

Equation 2 was again used and recasts the dependent variable for this series of other—non-rent costs. This model, through its different cost specifications, provided insights on the degree of cost stickiness for rent expense compared with other components of SG&A and cost of goods sold. Although the stickiness of rent expense compared with these other costs was not presented as a formal hypothesis, the results of these analyses provided insights into the relative lease cost stickiness.

Table 3-6 presents OLS regression results for the natural logs of the changes in each of the available SG&A components—rent expense, depreciation and amortization, advertising, and other SG&A. Not surprisingly, the general fixed and committed nature of depreciation and amortization expense resulted in demonstrated costs stickiness behavior. Further, depreciation expenses have been shown as sticky in several studies (e.g., Banker et al., 2008; Anderson & Lanen, 2007). Despite a negative stickiness coefficient, advertising expenses failed to show statistically significance stickiness. Additionally, the remaining subset of other SG&A expenses failed to exhibit stickiness characteristics.

Table 3-6

Results of the OLS Cost Stickiness Models for Other Expenses

Variable		SGA Components				
	ln SGA Change	*ln Rent Change*	*ln Deprec. Change*	*ln Advert. Change*	*ln OtherSGA Change*	*ln CGS Change*
ln Revenue Change (β_1)	0.836*** (10.53)	0.736*** (13.18)	0.819*** (13.67)	0.901*** (8.26)	0.953*** (7.66)	0.982*** (15.62)
Decrease Dummy x *ln Revenue Chg.* (β_2)	-0.161 (-0.69)	-0.940*** (-5.71)	-0.323* (-1.83)	-0.411 (-1.18)	0.231 (0.58)	0.006 (0.03)
Constant (β_0)	0.012 (1.27)	-0.004 (-0.57)	0.009 (1.36)	0.017 (1.45)	0.011 (0.82)	-0.003 (-0.45)
Observations	456	456	456	398	396	456
R^2	0.252	0.283	0.346	0.177	0.190	0.445
Adjusted R^2	0.249	0.280	0.343	0.173	0.186	0.442

Note. Results for pooled OLS regressions for 2010 to 2016. The dependent variables are the natural logs of the changes in SG&A expenses (*ln SGA Change*), rent expense (*ln Rent Change*), depreciation expense (*ln Deprec. Change*), advertising expense (*ln Advert. Change*), other SG&A (*ln OtherSGA Change*), and cost of goods sold (*ln CGS Change*). Other SGA is a calculated variable obtained by subtracting rent, depreciation, and advertising expenses from SG&A. *Decrease Dummy* equals one if revenues decrease from prior year. To aid comparison, the model iteration for *ln SGA Change* (from Table 3-5) and *ln Rent Change* (from Table 3-3) are repeated in this table. Values for any variable in the top or bottom 0.5% were excluded. The t-statistics are in parentheses. $^{*}p < 0.10$. $^{**}p < 0.05$. $^{***}p < 0.01$.

While the other SG&A expenses represent a wide range of expense types and potential cost behavior patterns, it seems that, in general they (along with advertising) are relatively more discretionary in nature than lease expenses. As a result, management may be more easily able to reduce these SG&A expense components because they may not carry related adjustment (i.e. contract-breakage) costs or have the committed cost characteristics associated with leases (Anderson et al., 2003; Calleja et al., 2006).

Finally, an additional iteration of Equation 2 used cost of goods sold (which is not a component of SG&A) as the dependent variable. Table 3-6 also presents the results of the cost stickiness model for cost of goods sold. An analysis of a subsample of 15 of the firms' financial

statements indicated that cost of goods sold for specialty retail firms is primarily comprised of the net purchase cost of merchandise and retail store employees' wages and benefits. Both of these costs elements would be relatively easier for managers to reduce in response to revenue declines compared to lease expenses. Given this, it could be expected that cost of goods sold would fail to exhibit stickiness for retail firms. This finding mirrors those reported by Subramaniam and Watson (2003) where the authors were unable to show stickiness of cost of goods sold for retail firms.

Lease Cost Stickiness for Specialty Retail Subindustry Classifications

Table 3-7 (Panels A and B) provides descriptive statistics for this chapter's sample by specialty retail subindustry classifications. Additionally, a list of all sample firms by subindustry classifications is provided in Appendix B. Apparel retailers represent the largest single group with 168 of the total 465 firm-years in the 2010 to 2016 sample period. Panel A of Table 3-7 reveals that the mean revenues for the Computer & Electronics and Home Improvement groups were substantially larger than the mean levels for each of the other subindustry groups. An analysis of Panel B of Table 3-7 reveals that the mean rent expense for all sample firms was 3.39% ($260.28 divided by $7,681.61) of revenues. However, for the firms included in the Apparel group this percentage was 6.91% ($319.54 divided by $4,625.94). Together, these panels provide information on the relative rent expense intensity associated with each subindustry classification. Separate regression analyses were conducted to determine if the rental intensity differences translated to differences in lease stickiness.

Panel C of Table 3-7 presents OLS regression results for the subindustry classifications. Because the Computer & Electronics group included only four firms (and 21 firm-years), it was categorized as all other for this analysis. Similarly, Home Improvement and Home Furnishing

were combined since Home Improvement was comprised of only four firms (and 28 firm-years). The results suggested that both the Apparel and Automotive subindustries exhibit lease cost stickiness at the $p < 0.05$ and $p < 0.01$ levels, respectively. The OLS regressions were also performed for Home Furnishing and Specialty without adding Home Improvement and Computer & Electronics firms. The results were qualitatively similar in both sign and significance to the grouped regressions described and presented in Panel C of Table 3-7.

Table 3-7

Descriptive Statistics and Results of OLS Stickiness Models for Subindustry Specialty Retail

Panel A: Summary of Revenues by Subindustry Classification[a]

	Firm-Years	Mean	Standard Deviation	Median	Lower Quartile	Upper Quartile
Apparel	168	$ 4,625.94	$ 6,064.11	$ 2,492.19	$ 1,367.38	$ 3,930.46
Automotive	82	8,831.08	4,742.34	8,760.66	5,925.20	10,750.00
Computer & Electronics	21	18,721.91	18,661.95	9,296.00	3,157.80	39,528.00
Home Furnishing	49	3,076.56	3,540.83	1,550.96	746.41	3,720.90
Home Improvement	28	33,899.99	35,536.15	24,931.21	472.22	66,507.00
Specialty	117	4,888.41	5,483.27	3,753.50	1,000.41	5,736.30
Total	465	$ 7,681.61	$ 13,032.92	$ 3,353.30	$ 1,234.67	$ 8,678.16

Panel B: Summary of Rent Expense by Subindustry Classification[b]

	Firm-Years	Mean	Standard Deviation	Median	Lower Quartile	Upper Quartile
Apparel	168	$ 319.54	$ 330.56	$ 208.37	$ 86.05	$ 408.13
Automotive	82	113.19	127.08	50.75	33.37	195.60
Computer & Electronics	21	538.12	339.96	399.20	240.90	798.00
Home Furnishing	49	151.70	169.52	72.89	44.80	193.19
Home Improvement	28	343.78	367.54	216.17	20.69	685.00
Specialty	117	253.78	214.81	216.80	61.56	388.10
Total	465	$ 260.28	$ 282.68	$ 175.22	$ 53.97	$ 363.59

(continued)

(continued)

Panel C: Results of the OLS Rent Expense Stickiness Models for Subindustry Specialty Retail Classifications 2010 to 2016

	ln Rent Change			
Variable	Apparel	Automotive	Home Improvements & Furnishing	All Other Specialty
ln Revenue Change (β_1)	0.748***	0.515***	0.675***	0.865***
	(13.01)	(2.97)	(5.70)	(10.03)
Decrease Dummy x *ln Revenue Chg.* (β_2)	-0.547**	-2.564***	-1.120	0.067
	(-2.11)	(-6.53)	(-1.13)	(0.31)
Constant (β_0)	0.011	-0.040*	0.009	0.005
	(1.57)	(-1.86)	(0.67)	(0.53)
Observations	168	80	75	133
R^2	0.542	0.373	0.313	0.584
Adjusted R^2	0.536	0.357	0.294	0.578

Note. All the reported numbers are in millions of dollars and are all provided from the Compustat data set for 2010 to 2016. Panel C presents results based on pooled OLS regression by subindustry classifications for the periods 2010 to 2016. The subindustry classifications for Home Improvement and Home Furnishing have been combined for this analysis. Additionally, "All Other Specialty" includes the Computer & Electronics subindustry and all other specialty retailers not otherwise classified. The dependent variable is the natural log of the change in rent expense (*ln Rent Change*). *Decrease Dummy* equals one if revenues decrease from prior year. Values for any variable in the top or bottom 0.5% were excluded. [a]Panel A presents descriptive statistics for revenues for subindustry classifications. [b]Panel B presents descriptive statistics rent expenses for subindustry classifications. The t-statistics are in parentheses. $^{*}p < 0.10$. $^{**}p < 0.05$. $^{***}p < 0.01$.

Discussion

The results revealed the cost stickiness concept applies to lease expenses for the time periods used for this analysis. Further, current year operating lease expenses were stickier than future lease commitments. Finally, additional analysis suggested that lease expenses may also exhibit greater stickiness than other SG&A expense components.

This chapter has a number of limitations that provide opportunities for refinements to this research or for further study. First, this research study used a sample exclusively comprised of U.S. publicly-held specialty retail firms. Important insights could be gained by extending the

boundaries to include international, privately-held firms, and a broader definition of retailers (including food and staples retailers, multiline retailers, and even restaurants).

As noted in the hypothesis development section, exploring the role that online sales have in the lease expense and revenue relationship may assist in better understanding the current retail operating environment. The growth of online sales likely affects the cost stickiness determination with respect to lease expenses. Unfortunately, there is no widely-available data which categorizes firm revenues by in-store versus online sources. As a result, some key findings regarding retail lease cost stickiness were difficult to access and outside of the scope of this research.

Finally, by design, this analysis is quantitative in nature. As a result, it fails to offer much in the way of insights as to why the costs stickiness phenomenon exists for retail firms and their leased operations. However, this research and its findings may assist qualitative researchers seeking to understand better the rationale behind managerial decision-making—especially within the specialty retail leasing domain.

Despite these limitations, this research and its findings offer important contributions. By focusing on the retail firms and related lease expenses, this chapter contributes to the existing literature by laying the groundwork for continued study within the domain. The increasingly competitive operating environment for specialty retailers created by online retail firm dominance suggests that this research will contribute to an understanding of how specialty retail firms' managers react to reduced revenues. Further, given the significance of leasing transactions and recent accounting pronouncements affecting accounting for leases, ongoing research providing insights into cost behavior and managerial actions stands to make an important contribution to literature and practice.

Appendix 3A

Example of How Fixed Costs are Not Necessarily Sticky Costs

As indicated in the review of literature section, several studies have suggested (anecdotally) that cost stickiness is seen often as synonymous with fixed costs or mixed costs behavior patterns. The following simplified illustration is presented to provide insights into this misunderstanding.

This example presented in Table 3-8 uses the OLS regression results from ABJ's (2003) seminal work. The authors findings suggested that firms' SG&A expenses increase by 0.546% for a 1% revenue increase (ABJ, 2003). Conversely, a revenue decrease leads to 0.355% decrease in SG&A expenses (ABJ, 2003). (These assumptions are highlighted in Table 3-8 with the darker green and red shading for 1% changes. These serve as the base for all other percentage change assumptions. For example, a 5% revenue increase times 0.546% equals a 2.7% cost increase.) In addition to these assumptions, Table 3-8 shows a base level of revenues of $1,000,000 with $354,000 of fixed costs and variable costs equaling 42.5% of revenues. The model illustrates the change in costs associated with revenue increases and decreases of 1%, 5%, 10%, 15%, and 20%.

Table 3-8 shows that the symmetrical column costs change by equal percentages whether revenues increase or decrease. However, applying the costs stickiness assumptions results in smaller cost reductions stemming from revenue decreases compared to revenue increases. Figure 3-2 illustrates a graph plotting these total cost calculations and illustrates the resulting sticky costs region.

Table 3A-1

Symmetrical versus Sticky Cost Behavior

					Symmetrical		Cost Stickiness	
	Revenues	% Change in Revenues	Fixed Cost	Variable Cost	Total Costs	% Change in Total Costs	% Change in Total Costs	Total Costs
Increase	1,200,000	20.0%	354,000	510,000	864,000	10.9%	10.9%	864,000
	1,150,000	15.0%	354,000	488,750	842,750	8.2%	8.2%	842,750
	1,100,000	10.0%	354,000	467,500	821,500	5.5%	5.5%	821,500
	1,050,000	5.0%	354,000	446,250	800,250	2.7%	2.7%	800,250
	1,010,000	1.0%	354,000	429,250	783,250	0.546%	0.546%	783,250
Base	1,000,000	0.0%	354,000	425,000	779,000	0.000%	0.000%	779,000
Decrease	990,000	-1.0%	354,000	420,750	774,750	-0.546%	-0.355%	776,238
	950,000	-5.0%	354,000	403,750	757,750	-2.7%	-1.8%	765,192
	900,000	-10.0%	354,000	382,500	736,500	-5.5%	-3.5%	751,384
	850,000	-15.0%	354,000	361,250	715,250	-8.2%	-5.3%	737,577
	800,000	-20.0%	354,000	340,000	694,000	-10.9%	-7.1%	723,769

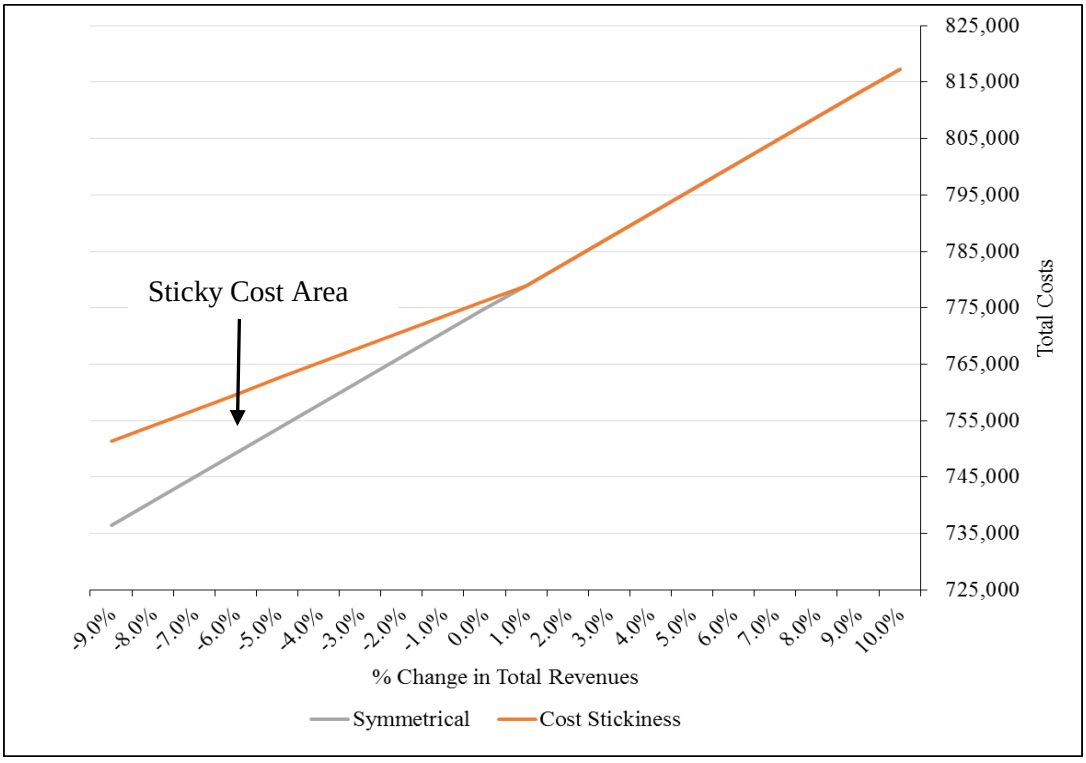

Figure 3A-1. Cost stickiness illustration (based on total costs)

Appendix 3B

Specialty Retail Sample Firms by Subindustry

Subcategory	Firm Name
Apparel (n = 24)	ABERCROMBIE & FITCH
	AMERN EAGLE OUTFITTERS INC
	ASCENA RETAIL GROUP INC
	BUCKLE INC
	CALERES INC
	CATO CORP
	CHICOS FAS INC
	CHILDRENS PLACE INC
	DSW INC
	EXPRESS INC
	FINISH LINE INC
	FOOT LOCKER INC
	FRANCESCAS HOLDINGS CORP
	GAP INC
	GENESCO INC
	GUESS INC
	L BRANDS INC
	ROSS STORES INC
	SHOE CARNIVAL INC
	STEIN MART INC
	TAILORED BRANDS INC
	TJX COMPANIES INC
	URBAN OUTFITTERS INC
	ZUMIEZ INC
Automotive (n = 12)	ADVANCE AUTO PARTS INC
	ASBURY AUTOMOTIVE GROUP INC
	AUTONATION INC
	AUTOZONE INC
	CARMAX INC
	CST BRANDS INC
	GROUP 1 AUTOMOTIVE INC
	LITHIA MOTORS INC
	MONRO MUFFLER BRAKE INC
	MURPHY USA INC
	O'REILLY AUTOMOTIVE INC
	SONIC AUTOMOTIVE INC

Subcategory	Firm Name
Computer & Electronics (n = 3)	BEST BUY CO INC
	GAMESTOP CORP
	RENT-A-CENTER INC
Home Furnishing (n = 7)	AARON'S INC
	BED BATH & BEYOND INC
	HAVERTY FURNITURE
	KIRKLAND'S INC
	RH
	SELECT COMFORT CORP
	WILLIAMS-SONOMA INC
Home Improvement (n = 4)	HOME DEPOT INC
	LOWE'S COMPANIES INC
	LUMBER LIQUIDATORS HLDGS INC
	TILE SHOP HOLDINGS INC
Specialty Stores (n = 17)	BARNES & NOBLE EDUCATION INC
	BARNES & NOBLE INC
	BIG 5 SPORTING GOODS CORP
	CABELAS INC
	DICKS SPORTING GOODS INC
	FIVE BELOW INC
	HIBBETT SPORTS INC
	MARINEMAX INC
	MICHAELS COS INC
	OFFICE DEPOT INC
	SALLY BEAUTY HOLDINGS INC
	SIGNET JEWELERS LTD
	STAPLES INC
	TIFFANY & CO
	TRACTOR SUPPLY CO
	ULTA BEAUTY INC
	VITAMIN SHOPPE INC

Chapter 4 Preparing Students to Understand the New Lease Standard and Its Implications: A Scaffolding Approach

Abstract

This chapter is offered as a response to the calls for change in accounting and business education expressed by the Pathways Commission and the Association to Advance Collegiate Schools of Business (AACSB). Specifically, these bodies have expressed continued concerns that business and accounting research has frequently not been meaningfully and purposefully linked to improved teaching and learning outcomes for students.

This chapter presents instructional materials and activities linking financial accounting and reporting and managerial accounting empirical research studies to pedagogy. This chapter presents a scaffolding approach in which students participate in several activities that prepare them for the complexity and ambiguity associated with a case study. The scaffolding approach supports students' movement towards the higher-order critical thinking skills that are necessary to achieve the learning outcomes associated with the case study.

Additionally, the case study asks students to consider both financing and operating decisions for a lessee firm in light of the impending implementation of a new leasing standard that will require lessees to capitalize substantially all lease obligations. This case contributes to the accounting pedagogy literature by attempting to break down some of the silos that exist within typical accounting curricula. Specifically, asking students to consider operating and financing decisions and make well-supported recommendations requires them to integrate meaningfully fundamental concepts normally compartmentalized within separate accounting courses.

Keywords: accounting pedagogy, scaffolding instructional design

Preparing Students to Understand the New Lease Standard and Its Implications: A Scaffolding Approach

This chapter is offered as a response to the calls for change expressed by the Pathways Commission and the Association to Advance Collegiate Schools of Business (AACSB). Specifically, these bodies have expressed continued concerns that business and accounting academic research has not been meaningfully and purposefully linked to improved learning outcomes. Stated another way, there has been widespread concern that much of the body of academic research (and the related findings) within accounting and business has done little to improve the teaching of accounting. These bodies assert that adding a degree of intentionality to making the research-pedagogy link will add improved relevance and enhanced student learning outcomes to the efforts of accounting and business educators.

This chapter presents instructional materials linking financial accounting and reporting (Chapter 2) and managerial accounting (Chapter 3) empirical research studies to pedagogical activities and approaches. To create these links, this chapter presents a scaffolding approach in which students participate in a series of activities that prepare them for a detailed case study. As part of the case study requirements, students are expected to consider alternative courses of action, weigh evidence, and make appropriate, well-supported recommendations to management.

The scaffolding approach has been presented in several accounting and business pedagogical papers as a means of providing students with the support necessary to move towards higher-order critical thinking skills. The course activities presented in this chapter are intended to provide students with enhanced conceptual understanding of lease obligations and the related impending accounting changes. Higher-order skills like evaluation and synthesis, as outlined in

Bloom's Taxonomy, are necessary for achieving the learning outcomes associated with the requirements of a case study in which students must apply the new leasing standard guidance.

Additionally, the criticisms outlined by the Pathways Commission and AACSB suggest that traditional academic research is largely inaccessible to a majority of undergraduate and master's students. This chapter and its related pedagogical activities attempt to integrate academic research and findings into coursework. While the case and its related activities do not require that students necessarily access or understand the results of the empirical research studies presented in Chapters 2 and 3, the case requirements have been informed by the research questions posed by the studies presented in those chapters. In this sense, the model of linking the empirical research to aspects of the case requirements is consistent with the Pathways Commission's (2012) Recommendation 1.4 to "integrate accounting research into accounting courses and programs embed research into learning experiences for all accounting students" (p. 57).

Further, the case contributes to the accounting pedagogy literature by attempting to break down or span silos that exist within accounting curricula. Specifically, asking students to consider operating and financing decisions and make well-supported recommendations requires students to meaningfully integrate fundamental concepts normally compartmentalized within separate accounting courses. Specifically, the case study requires students to consider both financing and operating decisions for a lessee firm in light of the impending implementation of a new leasing standard that will require capitalization of substantially all lease obligations. For this case and activities students must consider and incorporate content and concepts from both financial and managerial accounting.

Further, the case study developed in conjunction with this study—Home Technology Innovations, Inc. (HTI, Inc.)—offers an additional contribution in that it appears to be the only U.S. GAAP-based financial reporting case study focused on lease accounting in recent years. A review of the literature reveals only one case in which the financial reporting aspect of leases was the focal issue (Apostolou, Dorminey, Hassell, & Rebele, 2015, 2016; Apostolou, Hassell, Rebele, & Watson, 2010; Apostolou, Dorminey, Hassell, & Watson, 2013). The one lease case noted was based on how a New Zealand-based firm would be impacted by a potential lease accounting change based on International Financial Reporting Standards—not U.S.-based standards (Bradbury, 2015).

While there are similarities to the case developed for this chapter, the case developed by Bradbury (2015) does not explore individual facility lease agreements. Perhaps more importantly, Bradbury's (2015) case does not ask the students to consider the potential impacts of lease renewals and other lease complexities or how management could mitigate the impacts that the standard might have on debt covenant ratios. Further, the published case study provided minimal narrative and instead focused almost exclusively on calculations without exploring the substantive and qualitative managerial decision-making aspects associated with the leases. Accordingly, the HTI, Inc. case stands to provide a more comprehensive contribution.

This chapter is organized as follows. First, the calls for pedagogical change as outlined by the Pathways Commission and AACSB are presented. Next, the chapter briefly explores the pedagogical theory for case-based instruction supported by scaffolding techniques and Bloom's Taxonomy (Bloom, 1956; Krathwohl, 2002). Finally, the case study and related teaching note are presented. The teaching note details recommended case solutions and provides several other pedagogical activities that may be used in conjunction with the case study. These other activities

help to form an instructional scaffold which instructors can implement to better prepare students to answer the case requirements.

The Calls for Change in Accounting Education

Early (Pre-1990) Calls for Change in Accounting Education

The need for change in accounting education has been expressed repeatedly over the past fifty years. The works of Littleton and Zimmerman (1962), Amernic and Beechy (1984), and Balwin and Reckers (1984) all provide examples of the numerous, but isolated, calls for change in accounting education. While each of these authors may have held differing views on the flaws and the related remedies, each was expressing a recognition that as the nature of the accounting profession has changed, accounting curricula and related instructional techniques, as a whole, has not necessarily kept pace.

Additionally, the American Accounting Association (AAA), the largest and most influential organization of accountants in academia, through various committees, has continually revisited the state of accounting education and its need to evolve. The AAA's report titled *Reorienting Accounting Education* presents omnibus committee reports and provides examples of the ongoing discussion of the need for change in accounting education (Schultz, Massoud, & Smith, 1989). While these AAA committees generally consisted of at least one member from a large public accounting firm, their primary focus appears to have been largely on academic interests without explicitly focusing on what the profession demanded from their newly-trained accountants (AAA, 1990).

The Accounting Education Change Commission

While the need for change had been previously identified and communicated within the academic community, the formation of the Accounting Education Change Commission (AECC)

in 1989 represented the first cohesive attempt to consider the challenges of the accounting profession and educational institutions that train new entrants into the profession (Sundem, 1999). The AECC was appointed by the AAA and supported by the Sponsors' Education Task Force, representing the largest public accounting firms in the United States. The AECC stated objective was "to be a catalyst for improving the academic preparation of accountants so that entrants to the accounting profession possess the skills, knowledge, and attitudes required for success in accounting career paths" (AAA, 1990, para. 1).

While the AECC's report and recommendations were wide-ranging, its recommendations for improved instructional methods are most relevant for this chapter. Of particular note, the following were among the recommended changes in instructional methods:

- students should be taught the skills and effective learning strategies to continue to learn throughout their lifetimes;
- students must be active, not passive, participants in the learning process;
- students should develop skills to identify and solve unstructured problems; and
- learning by doing and working in groups should be encouraged (AAA, 1990).

In addition, the AECC noted that faculty training, resources, and rewards would have to be modified if the recommended changes were to be achieved. Specifically, the report recommended that:

- faculty must be trained to apply appropriate instructional methods,
- doctoral programs should give more attention to instructional methods, and
- faculty who develop innovative approaches to teaching should be recognized and rewarded (American Accounting Association, 1990). (This recommendation largely mirrors that expressed by Boyer [1991] in his book titled *Scholarship Reconsidered: Priorities of the*

Professorate. Further, Boyer argued for an expansion of the term scholar to include the *scholarship of teaching*.)

These recommendations, both in terms of instructional methods and faculty recognition and development, still resonate today and seem to have largely influenced more recent efforts to improve accounting and business education.

The Pathways Commission on Accounting Higher Education

The Pathways Commission on Accounting Higher Education (henceforth, Pathways Commission or Commission) was created by the AAA and the American Institute of Certified Public Accountants with the stated purpose to "study the future structure of higher education for the accounting profession and develop recommendations for educational pathways to engage and retain the strongest possible community of students, academics, practitioners, and other knowledgeable leaders in the practice and study of accounting" (AAA, 2012, p. 9).

Although the Pathways Commission's stated purpose was defined more broadly than the AECC's, several of their recommendations from the 2012 report, *Charting a National Strategy for the Next Generation of Accountants*, landed squarely on the need to further improve accounting educational and research practices. Importantly, the Commission's first recommendation noted the need to better integrate accounting research and education. The recommendation called for a "purposeful integration of accounting research, education, and practice for students, accounting practitioners, and educators" (AAA, 2012, p. 11). Much of the explanatory discussion supporting the Commission's recommendation called for the need to focus research on practical issues and develop practitioner and educator relationships that could enhance that focus. While aspects of this practitioner-educator exchange represent three important objectives (Objectives 1.1, 1.2, and 1.3) of the report's Recommendation 1, the

Commission offered a separate objective specifically calling for the need identified and addressed in this chapter. As such, Objective 1.4 of Recommendation 1 is to "integrate accounting research into accounting courses and programs" (AAA, 2012, p. 11). To address this recommendation, the HTI, Inc. case and its related requirements were informed by the nature and results of the research questions addressed in Chapters 2 and 3. This approach allows students to benefit from aspects of and key findings associated with empirical research efforts.

Finally, Recommendation 3 of the Commission's report echoes the sentiments expressed by Boyer (1991) and the AECC that teaching and support for the development of innovative and effective pedagogical tools is a necessary part of improving accounting education. The recommendation states that reform is necessary so that "teaching is respected and rewarded as a critical component in achieving each institution's mission" (AAA, 2012, p. 12).

AACSB International's 2013 Business Accreditation Standards

AACSB International is generally regarded as the premier accrediting body of business programs worldwide. In 2013, the AACSB issued a revised set of business accreditation standards. These standards were framed around the manner in which business schools and administrations, faculty, and staff deliver outcomes for students (and other stakeholders) that exhibit the hallmarks of engagement, innovation, and impact. The 15 business accreditation standards fall into the following categories: strategic management and innovation, participants, learning and teaching, and academic and professional development.

While each of the categories addresses teaching and learning outcomes to some degree, Standard 2 (within the strategic management and innovation category) specifically addresses the intellectual contributions offered by the faculty. The standard requires a school to produce "high-quality intellectual contributions that are consistent with its mission, expected outcomes,

and strategies and that impact the theory, practice, and teaching of business and management" (AACSB International, 2013, p. 18). Again, it is noteworthy that scholarship of teaching is addressed specifically in this standard. Scholarship activities that develop and advance new understandings, insights, and teaching methods would seem to have a heightened importance under the 2013 standards (compared with the previous iterations of the Business Accreditation Standards from 2003).

Pedagogical Materials Addressing the Need for Change

As one means of contributing to the stated goals of the AECC, the Pathways Commission, and AACSB, this chapter seeks to develop pedagogical materials that integrate the more traditional empirical research studies proposed in Chapters 2 and 3. The purposeful and intentional integration of accounting research into pedagogical materials and methods is consistent with the Pathways Commission's objective to integrate accounting research into accounting courses and programs and the spirit of the AECC's and AACSB's calls for change. Accordingly, the development of a case study exploring managerial actions in light of an impending standards change represents the avenue by which I attempt to make this important connection between my research and teaching.

Specifically, the case explores how managers might make alternative financing decisions as they anticipate the significant balance sheet impacts that will accompany the implementation of the new leasing standard beginning in 2019. Concurrently, the case asks students to explore the operating decisions that may accompany sales changes and management's operating decisions in light of those changes.

The benefits of case-based learning are far reaching and well established in academic literature (E. Anderson, Schiano, & Schiano, 2014; Georgiou, Zahn, & Meira, 2008; Powley &

Taylor, 2014). These same merits of case-based learning have been applied and noted within the accounting pedagogical literature (Bonner, 1999; Hassall & Milne, 2004; Healy & McCutcheon, 2010; Milne & McConnell, 2001). Accordingly, this research study presumes that the use of cases and related instructional materials—if well designed and executed—can be effective means of meeting learning outcomes.

However, the complex nature of the case and its requirements necessitate a significant degree of support to achieve the desired student learning outcomes (Hassall & Milne, 2004; Healy & McCutcheon, 2010). Accordingly, this chapter describes and presents activities that should occur prior to assignment of the case study. Some of these activities are supported in prerequisite courses and further expanded in the course where the case would be assigned. Other activities are completed within the same course, but prior to the case assignment. This scaffolding arrangement of activities is intended to build a support structure that provides students with the requisite skills and formative assessment feedback that will result in the enhanced student learning outcomes.

The scaffolding techniques, when considered together with Bloom's Taxonomy, provide a useful mechanism to help students achieve the higher-order skills that are typically associated with case-based learning approaches. The sections that follow provide a review of Bloom's Taxonomy, scaffolding approach, and how these concepts have been applied in a case-based accounting pedagogy context. Following from the general discussion of scaffolding, the case's teaching note lays out an approach and presents related materials that prepare students to apply the higher-order skills necessary to achieve the desired learning outcomes associated with the case study.

Pedagogical Approaches and Outcomes Assessment

As noted previously, the primary pedagogical approach used to link basic research and pedagogy is offered in the form of a case study. Case studies have been widely used in virtually every area of accounting and have become a popular means by which students better understand and develop competencies in dealing with the ambiguities and complexities associated with real-world accounting and managerial issues and related decision making. The Pathways Commission views the ongoing development of case studies and similar pedagogical materials as important tools to bridge the divide between research, practice, and education (Behn et al., 2012). In addition, this chapter uses Bloom's Taxonomy and instructional scaffolding as key elements in developing activities supporting effective case-based instruction.

Finally, a critical component of pedagogical design is the assessment of learning outcomes. Assessment activities provide a critical feedback loop that assists instructors in better understanding the effectiveness of pedagogical approaches in meeting the expected learning outcomes (Adler & Milne, 1997; Keller, 1979; Reeves, 2006). The scaffolding activities associated with this chapter are designed to include a variety of student assessments to measure the efficacy of the activities in meeting the defined learning outcomes.

Bloom's Taxonomy

The multifaceted and uncertain nature of cases make them a valuable learning tool for accounting students (Bonner, 1999; Hassall & Milne, 2004). Specifically, a well-designed case study generally requires students to develop higher-order cognitive skills. A significant body of accounting and case-based pedagogy research have used Bloom's Taxonomy as a vehicle to illustrate how pedagogical materials and methods can be instrumental in moving to accounting

students these higher-order thinking skills (e.g. Brazelton, 2000; Gray, Bebbington, & McPhail, 1994; Kimmel, 1995).

A review of literature suggested that Bloom's Taxonomy has provided a useful framework for considering the cognitive development of accounting students (e.g. Brazelton, 2000; Duron, Limbach, & Waugh, 2006; Leauby & Brazina, 1999). Bloom's Taxonomy, originally developed in 1954 and subsequently revised in 2001, considers six levels of cognitive development (from lowest to highest): remembering, understanding, applying, analyzing, evaluating, and creating (Bloom, 1956; Krathwohl, 2002). The taxonomy is generally considered hierarchical with higher-level skills building on lower-level ones. The nature of the case presented in this chapter, along with the other supporting activities, was designed to move students past application and into the analysis and evaluation aspects of the taxonomy.

Scaffolding

Despite the well-established learning and development outcomes associated with case-based instruction, the ambiguous nature of case studies also presents challenges for students (Healy & McCutcheon, 2010; Milne & McConnell, 2001; Yadav et al., 2007). Accordingly, to achieve successful learning outcomes, best practices suggest that it may be necessary to build support structures which prepare students for the considerable challenge that case-based instruction often presents (Abraham & Jones, 2016; Azevedo, Cromley, & Seibert, 2004; Healy & McCutcheon, 2010). Scaffolding moves students toward stronger understanding and greater independence in the learning process. Throughout this process teachers provide levels of temporary support that help students reach higher levels of comprehension and skill. Like physical scaffolding, the supportive strategies are removed, and the teacher shifts more responsibility to the student (Fisher & Frey, 2013). As described previously, this technique is

helpful in moving students to the higher-order cognitive levels described by Bloom's Taxonomy (Bliss, Askew, & Macrae, 1996; Greening, 1998; Johnston & Cooper, 1999). Figure 4-1 provides a visual illustrating that as students' responsibilities increase, the support structures (or teacher's responsibilities) diminish based on students' abilities to handle more complex, independent tasks.

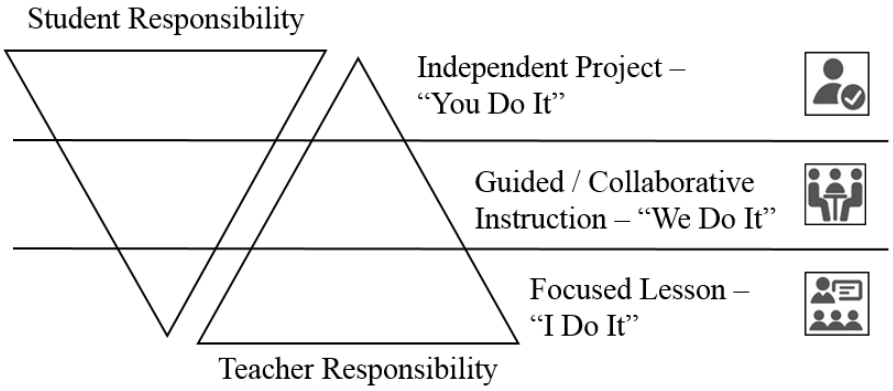

Figure 4-1. Instructional scaffolding conceptual diagram

Figure 4-1 was adapted from a model initially developed and later modified by Fisher and Frey (2013). In addition to using the term scaffolding, Fisher and Frey (2013) referred to this approach as the *gradual release of responsibility*, noting how the responsibility for learning in this structure shifts from the teacher to the student (Fisher & Frey, 2013; Kidwell, Fisher, Braun, & Swanson, 2013). It should be noted that instructional scaffolding does not necessarily have to fully follow the gradual release of responsibility model depicted in Figure 4-1 (Cowen, Blair, & Taylor, 2011). For example, effective instructional scaffolds may begin with individual assignments which help support more complex collaborative efforts. Nonetheless, this model provides a common manner in which scaffolds may be implemented. Finally, the icons illustrated in Figure 4-1 are used as a reference in this chapter (and the teaching note) to indicate the manner in which materials might be delivered in implementing the case study and related scaffolding activities and instruction (i.e., "I Do It," "We Do It," and "You Do It").

In recent years, scaffolding has been increasingly used in collegiate business and accounting courses to help students reach higher levels of critical-thinking development in complex tasks and activities (Abraham & Jones, 2016; Cowen, Blair, & Taylor, 2011; Cull & Davis, 2013; Kidwell, Fisher, Braun, & Swanson, 2013). Given the complexity associated with the lease case study, helping students achieve the desired learning outcomes appears to require additional support and development. Consequently, the scaffolding approach, addressing how to arrive at higher-order critical thinking skills, is relevant in this context.

Figure 4-2, using an illustration adapted from Fisher and Frey, depicts the primary pedagogical activities and scaffolding supports used to provide students with the proper support to achieve the learning outcomes associated with the HTI, Inc. case study. The focus is on how the instructor can help students develop the content knowledge and higher-order thinking skills necessary for addressing the issues embodied in the case study. Further, to enhance learning outcomes, the activities represent a continuum of increasingly independent student learning responsibilities (Fisher & Frey, 2013; Kidwell et al., 2013).

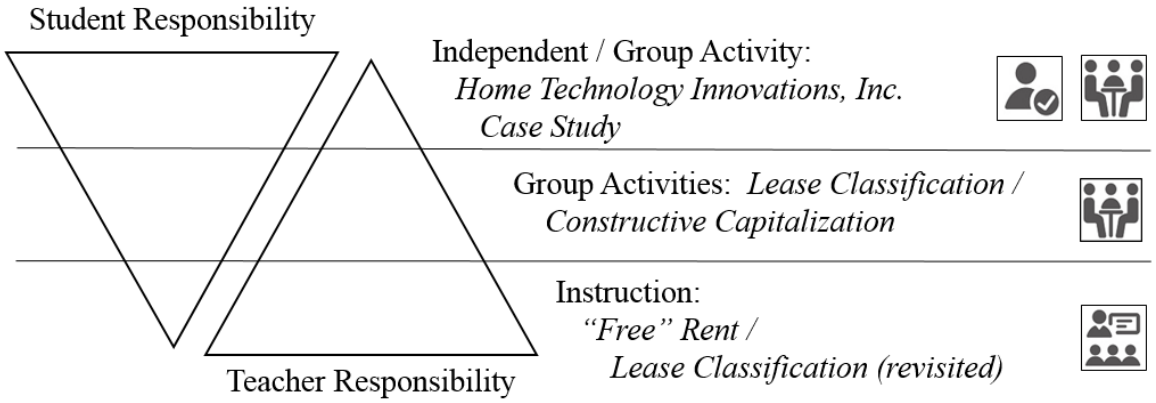

Figure 4-2. Instructional scaffolding applied to the new leasing standard

The HTI, Inc. teaching note section of this chapter fully describes each of these instructional scaffold activities, provides related pedagogical materials, and details how they support the learning outcomes expected from the case study. Additionally, the teaching note

provides a detailed outline and analysis of how the case and related scaffolding materials have been implemented in a classroom setting. Further, the teaching note provides some guidance on how instructors could modify the case requirements or implement alternative scaffolded support structures.

Outcomes Assessment

It is necessary to assess student learning outcomes to ensure that students achieve the higher-order critical thinking skills that are often associated with case-based instruction (E. Anderson et al., 2014; Angelo & Cross, 1993; McKeachie & Svinicki, 2013). It is considered best practice to directly assess student learning (Apostolou, Dorminey, Hassell, & Rebele, 2015). Therefore, a series of three survey instruments have been developed and implemented throughout the instructional activities to directly assess students' achievement of the stated learning objectives.

Further, students' responses to the questions posed by the case and preceding scaffolding activities may provide valuable insights into managerial decision making. Student responses and decisions have long been used in accounting literature as a form of experimental design (Hales, Venkataraman, & Wilks, 2012; Liyanarachchi, 2007; Smith, 2014). In the context of the case study presented in this chapter, students' answers may provide valuable insights into managerial actions that may be taken as a result of the impending impacts of a new accounting standard. Although, the master's-level students engaging in the case and related scaffolding activities had an average of approximately two years of work experience, a concern can be raised about their suitability to provide insights into managerial actions. As such, some caution was exercised in generalizing the students' actions. Nonetheless, these student responses may provide additional insights that can enhance the research questions posed by traditional accounting archival

research. This feedback loop represents another link that will connect archival with pedagogical research.

Case Study Linking Empirical Research and Pedagogy

The case developed and presented in this chapter represents the purposeful integration of empirical research studies and teaching as recommended by the Pathways Commission. The case requirements were informed by the research questions (expressed in the chapters' titles) posed in Chapters 2 and 3. Students do not need to directly access the research findings presented in Chapters 2 and 3, but instead, are given an opportunity to better understand important financing and operating decisions that must be made by managers of retail firms. Further, the case requires students to critically evaluate complex and detailed financial information, conduct accounting standards research, make recommendations, and choose an appropriate course of action supported by their analyses.

This case presents students with the task of determining the expected financial statement impacts associated with the newly-promulgated leasing standard. The dataset includes financial statements, financial disclosures, and related supporting data for HTI, Inc. (a fictional, privately-held firm required to provide its primary lenders with U.S. GAAP-based audited financial statements). In addition, students must consider the related impact that the new standard will have on HTI, Inc.'s debt covenants as the standard will likely result in adding significant liabilities as many existing lease obligations are capitalized. This case is set as of the end of 2018 and asks students to consider the pro forma impacts that will likely result from the standard when it becomes required for the year ending December 31, 2020.

Conclusion

For the individual pedagogical activities and materials presented in this chapter, the primary contribution comes from the stated learning objectives. These learning objectives are described fully for each activity in this case's teaching note. Beyond the learning objectives associated with each activity, this chapter offers the following contributions.

As noted previously, an important aspect of this paper is the intentional and purposeful link that is created between empirical accounting research and the means by which this research is connected to instructional design. Additionally, by developing a case study that simultaneously considers financial reporting decisions, financing decisions, and other managerial actions, this chapter not only links empirical research questions to pedagogy through several case requirements, but also asks students to explore leasing issues more broadly. For example, students must explore the impacts that lease capitalization will have on reported debt ratios and the means by which the potential loan defaults could be remedied. In doing this, this chapter provides a model whereby the results of research become more accessible to students at the undergraduate and master's-levels.

Further, by employing a scaffolding approach and developing related activities, this chapter illustrates how students can achieve the higher-order thinking skills required for strong performance on detailed case study assignments. While scaffolding is a natural part of most educational design, the degree of intentionality described in this chapter emphasizes its importance in moving students toward more complex concepts and the related thought processes that are necessary. The following sections present the HTI, Inc. case study, the related teaching note, and other supporting schedules and analyses.

Home Technology Innovations, Inc. Case

Abstract

This case presents students with the task of determining the expected financial statement impacts and related accounting requirements associated with the newly-promulgated leasing standard. The dataset includes financial statements, financial disclosures, and related supporting data for Home Technology Innovations, Inc. (a fictional, privately-held firm required to provide its primary lender with U.S. GAAP-based audited financial statements). Students must consider the effects that the new standard's provisions will have on the company's balance sheet and related debt ratios as many of the existing lease obligations are capitalized. Further, students also must consider the likelihood of exercise of renewal options and the impacts on the lease capitalization calculations. Additionally, the case asks students to prepare the journal entries necessary to transition existing operating lease commitments to the new leasing standard. This case is set as of the end of 2018 and asks students to consider the pro forma impacts that will likely result from the standard when it becomes required for the year ending December 31, 2020.

Keywords: New leasing standard, lease case study, economic consequences of accounting standards

Learning Outcomes and Objectives

The purpose of this case is to enhance students' analytical and research abilities through the study of the newly-promulgated lease accounting standard and its implementation. This standard will have material and far-reaching impacts on substantially all firms and users of financial statements. The specific learning outcomes are described as follows:

- Develop a thorough understanding of the new lease accounting standards under U.S. GAAP.
- Understand the nature, significance, and impacts of lease complexities – primarily lease renewals, rent holidays, and short-term leases. (Future iterations of the case may include the option to employ additional complexities such as escalation clauses, sale-leaseback transactions, and build-to-suit provisions. These additional or alternate fact patterns could be implemented depending on instructor preferences or desired learning outcomes.)
- Enhance ability to conduct research for accounting treatment using the FASB *Accounting Standards Codification* (*ASC*) database and make appropriate recommendations.
- Apply the transition guidance and reporting requirements associated with the standard's implementation.
- Compute an estimated liability stemming from the lease portfolio and the related impacts on financial ratios in advance of the standard implementation date.
- Communicate research findings and recommendations to management.

Cast of People and Entities

- Home Technology Innovations, Inc. (HTI, Inc.): A privately-held home entertainment sales and service retailer who has recently significantly expanded operations. The firm was founded in 2004.
- John Schmidt: Founder, CEO, and majority owner of HTI, Inc.

- Jim Williams: Chief Financial Officer (CFO) and minority owner of HTI, Inc. who joined HTI, Inc. in 2009 after working with the company as its tax services partner with Benson & Associates.
- 1st Chicago Bank & Trust: Primary lender requiring HTI, Inc. to submit annual U.S. GAAP audited financial statements.
- Benson & Associates: HTI, Inc.'s accounting firm responsible for performing the audit of the company's financial statements for the past five years.
- Cynthia Jones: Audit partner from Benson & Associates in charge of the HTI, Inc. account.
- Sunrise Capital: Private equity firm seeking an equity interest in HTI, Inc.

Introduction and Company Background

Home Technology Innovations, Inc. (HTI, Inc. or the Company) was founded in 2004 by John Schmidt. Schmidt, who had enjoyed a long career as a sales executive at a high-end consumer electronics manufacturing firm, believed that a variety of demographic and societal changes occurring in the United States made moving into the home technology space an entrepreneurial opportunity. Schmidt had always had an entrepreneurial spirit, even while working at the large electronics firm. His success in the consumer electronics field had given him a great deal of confidence in his abilities and his understanding of market trends in the industry. Further, Schmidt enjoyed tinkering with hi-fidelity home electronics and often helped family and friends in setting up state-of-the art home audio-visual systems.

In the fifteen years since the Company's inception, Schmidt has built a company with over $10 million of annual sales revenues and 75 employees operating out of seven retail locations throughout the Midwest. Schmidt believes that his Company's success is largely driven by a passion for providing outstanding customer support and service. Accordingly, he

hires sales employees and installers who are equally passionate about creating an immersive, high-end home entertainment experience. To ensure the latest and best solutions for his customers, Schmidt and his employees actively participate in industry conferences and training and information sessions. Additionally, he and his management team have focused on minimizing overhead so they are able to effectively compete on price with many larger, big box and specialty retailers.

In 2009, five years after starting HTI, Inc., Schmidt believed that the company was growing at a pace that warranted some additional professional management. Since the Company's inception, Schmidt had been working with Jim Williams, who was a tax partner with a large local accounting firm specializing in entrepreneurial family firms. Schmidt enjoyed working with Williams and believed that Williams's skills and experience would be helpful in taking the firm to the next level. Accordingly, Williams joined HTI, Inc. as the Chief Financial Officer and a deal was structured where he would receive 15% of the Company's equity for a relatively small capital infusion. Over the next few years, Williams was instrumental in setting up new accounting, point-of-sale, and inventory management systems. Additionally, Williams managed the Company's banking, legal, and accounting relationships. Together over the next several years, Schmidt and Williams built a highly effective team of key employees who all helped develop efficient and effective processes for the Company.

For the Company's first ten years, HTI, Inc. operated solely out of a shared retail and warehouse space in Mokena, Illinois, a far southwestern suburb of Chicago. As sales grew, the Company invested in the continual redesign of its retail space to best showcase HTI's products and the Company's audio and visual system design capabilities. However, despite the rapid growth, Schmidt resisted expanding operations into a larger facility or additional retail locations.

Finally, in 2014 Williams—along with suppliers and other contacts in the industry—convinced Schmidt that there was a market opportunity for HTI, Inc. to expand its scope of operations to a broader range within the Chicago market and beyond. Therefore, after much deliberation and a full recovery from the shocks of the recession, HTI, Inc. began an expansion strategy that involved adding two other Chicago-area retail showrooms and similar stores near Indianapolis, Milwaukee, and St. Louis. Schmidt was intent on keeping the geographic footprint somewhat concentrated so he and his management team could drive to any of the stores within four hours to provide support, training, and supervisory assistance.

While Schmidt was convinced this growth strategy was achievable, he expressed concerns about level of investment that would be necessary to fund this growth. Schmidt was proud that the firm had been able to avoid any significant level of borrowing through its first 10 years of operations; however, he knew that this growth strategy would probably entail taking on some debt.

Most notably, an important part of the Company's sales process is the immersive showrooms that allow the customer to see and hear all of the equipment in use. The showrooms are arranged to display varying technology applications and help customers see that HTI, Inc. is delivering an experience that is often more than just a home theater setup. Customers are able to use the equipment and get a real feeling for how it may work for their entertainment demands. A recent development has been an expansion beyond home theater systems to fully-wired homes and outdoor audio and visual systems. These carefully curated and meticulously decorated showrooms help customers imagine what is possible and have been highly successful in driving increased sales levels. However, the high-end design of the showrooms requires HTI, Inc. to invest significantly in leasehold improvements at the inception of each lease. Each of the retail

stores required specialized flooring, lighting, sound-proofing and other investments to achieve the envisioned design elements. As a result, HTI, Inc. incurs significant upfront costs at the start of any new retail store lease.

Current Situation and Related Financing

By almost any measure, the decision to expand the scale and scope of operations had been the right decision for Schmidt and HTI, Inc. The Company was able to increase sales revenues nearly tenfold during this expansion period. Despite the significant increased occupancy costs associated with the addition of six retail stores, Schmidt and his management team's well-established systems and processes proved to be scalable in a way that resulted in significant economies of scale. Most notably, the Company's increased size and related purchasing power proved to be extremely beneficial in negotiating pricing with the Company's suppliers—which helped HTI, Inc.'s ability to remain price competitive.

However, as expected, the Company's expansion strategy necessitated increased debt levels to fund the acquisition of additional inventory and the leasehold improvements associated with the recently leased retail stores. Given the relatively low interest rate environment and bankers' newly-found desire to lend to small businesses following the recession, raising the funds necessary for expansion through bank borrowing represented a favorable option for the Company. This was further magnified by both Schmidt's and William's reluctance to raise any funds by selling any additional equity interests in the Company.

Jim Williams was able to work with a large area bank, 1st Chicago Bank & Trust, to secure long-term notes associated with each of the retail stores. These notes require the payment of principal and interest on a monthly basis and each carries a prime plus 3% interest rate (7.25% for two loans initiated during 2015 and 7.50% for all other subsequent loans). Because the value

of any leasehold improvements would not fully collateralize these notes, it was necessary for Schmidt and Williams to guarantee personally the under-collateralized portion of the debt. Given the firm's current debt level, the loan officers at 1st Chicago Bank & Trust, had indicated that any additional borrowing would carry a rate of interest slightly above 8%.

In addition to the notes associated with the leased stores buildout and improvements, HTI, Inc. had secured a $750,000 revolving line of credit that was used mainly to fund inventory purchases. This loan was collateralized fully by the value of the Company's inventory and carried interest at prime plus one-half percent. Interest is paid on a monthly basis based on average outstanding borrowing and repayments are taken directly from the lockbox account that was established with the bank. For the entire debt package, 1st Chicago Bank & Trust requires adherence to a number of restrictive covenants. These covenants cover a wide range of activities. For example, executive compensation and dividend payments were limited in a manner to ensure that the Company was able to service its debt. Also, the bank required audited financial statements to be prepared in accordance with U.S. GAAP. Further, HTI, Inc. was required to maintain a current ratio of at least 1.5-to-1 and was to maintain a debt-to-equity ratio not to exceed 2.0-to-1 (the loan covenant defines this ratio as total liabilities to total shareholders' equity).

Given Schmidt's general aversion to debt, he preferred to acquire the use of equipment through leasing arrangements. Also, Schmidt believed that leasing was a way to minimize the possibility of obsolescence because the duration of the leases was often substantially less than the equipment's expected useful lives. Further, Williams worked with several leasing companies to structure a variety of lease agreements for delivery vehicles, office equipment, and point-of-sale systems so they would be considered operating leases under U.S. GAAP. As such, HTI, Inc.

was able to effectively keep the lease obligation (and the related assets) off of the Company's balance sheet. The leasing companies had indicated that the implicit rate of interest for each of their leases approximates 8%.

While the bank's lending officers certainly were aware of the lease commitments, they did not factor them into the calculation of the Company's adherence to the debt-to-equity loan covenants. As a result, HTI, Inc. was able to stay within the 2.0-to-1 debt to equity covenant—even during the Company's rapid expansion over the past several years.

Both Schmidt and Williams were both in their late fifties, and neither seemed focused on a transition plan or a liquidity event. Nonetheless, in recent years, Schmidt had received numerous offers to sell his majority stake in the firm. Just after the 2018 year-end, Schmidt received an interesting offer from a private equity firm, Sunrise Capital (henceforth, Sunrise). The offer was intriguing because Sunrise was proposing an equity deal that placed HTI's valuation at eight times 2018's earnings before interest taxes depreciation, and amortization (EBITDA). This EBITDA multiple of eight represented a significant increase over previous offers. Further, Sunrise was not necessarily interested in a majority ownership stake. Sunrise's leadership had offered $1.7 million for a 34% share of the firm's equity. Sunrise indicated that the stake could come from Schmidt personally (leaving him with a 51% equity share) or from HTI's issuance of additional shares (which would proportionately dilute Schmidt's and Williams' ownership interests).

In addition to financing activities, Williams found himself having to consider several critical short-term operating decisions. First, the lease on the Palatine retail store was set to end on March 31, 2019. After years of strong sales growth, this location has suffered a 10% sales decline over the past two years. As a result, both Williams and Schmidt had expressed concerns

to their landlord about renewing the lease for another five-year term. HTI, Inc. had invested significantly in leasehold improvements recently to provide an enhanced customer experience. Understanding HTI's concerns, the landlord offered an inducement for a five-year lease renewal in which the first six months would be rent free. However, the rent payments would increase by 8% over the current amount.

Finally, management of a local Chicago-area supplier had reached out to Williams indicating that they were likely to be liquidating operations during the early fourth quarter of 2019. The supplier's management team noted that there would be an opportunity to purchase significant levels of inventory at deeply discounted prices as a result. Unfortunately, the timing of that bulk inventory purchase would probably mean that HTI, Inc. would need to rent additional warehouse space temporarily. As a result, Williams had been exploring options for additional warehouse space in the Mokena area. Further, Williams expected that HTI, Inc. would need this space from approximately August 2019 through March 2020.

The Results from 2018's Audit and the Impacts of the New Leasing Standard

HTI, Inc.'s accounting firm, Benson & Associates, has just wrapped up the December 31, 2018 financial statement audit. This most recent audit marked the Company's fifth. The start of the audits coincided with the Company's expansion plan and the need for debt financing. As noted in the loan covenants, the bank required audited financial statements prepared using U.S. GAAP. Benson & Associates had performed these audits and issued unqualified opinions in each case. Further, the firm had relatively few audit adjustments in any of the years largely due to Williams' diligence in creating robust accounting and operating systems and policies. Williams had been a senior manager with Benson & Associates prior to joining HTI, Inc. and had been the lead in the firm's relationship with HTI, Inc. Cynthia Jones was the audit partner-in-charge of

the HTI, Inc. account and had worked closely with Williams as his direct report when she was a tax staff accountant in her early years with the firm.

During the audit wrap up meeting, Jones and her staff discussed some small issues and potential adjustments for future audits with Williams and his staff. Further, she noted that as part of the audit, she and her staff carefully reviewed the loan agreements to ensure compliance with the related covenants. She indicated that as of December 31, 2018 the firm was well within the established financial limits for each of the required ratios.

Finally, Jones noted that the new leasing standard, which had been finally promulgated in early 2016, would be required for privately-held companies like HTI, Inc. effective for the December 31, 2020 financial statements. However, because the bank required two-year comparative financial statements it would be important to pay close attention to the impacts as the firm conducted the 2019 audit next year. Jones went on to note:

> …as you know, this new standard will require HTI, Inc. to record all leases on the Company's books—even those that have always been considered operating leases. The FASB wants to make sure that all of these lease commitments show up as debt on the financial statements. You'll no longer be able to keep this debt off of the balance sheet by carefully structuring the lease terms. I'd recommend that you prepare an analysis of the expected impacts of this new standard. I'm pretty sure that you're going to see a big increase in the level of the Company's debt that gets reported on the balance sheet. Unfortunately, this also means that the Company is likely to blow right through the debt-to-equity ratio that the bank requires. Once you have some idea where this ratio is headed, I'd recommend that you start working with the bank to restate the loan covenants. Another complication of the standard is that you'll also have to look at the

likelihood of exercising some of the lease renewal options. If it's *reasonably certain* that you'll renew the lease, the rent for renewal periods will also have to be capitalized.

While Williams was pleased with yet another clean opinion, he could not help but focus on the lease issue that Jones brought up. Of course, he recalled the FASB's new lease standard and all the controversy it caused when it was initially proposed. However, he had not really given it much thought in recent years as he was so wrapped up in the Company's operations along with the growth strategy and its execution. Immediately after his short drive back to the office following the meeting, Williams pulled up the Excel summary lease analysis that he had prepared for the Company's audit.

Case Requirements

1. Using the *Operating Lease Analysis* in Exhibit B (Appendix 4B), perform a constructive capitalization analysis and calculate the revised debt-to-equity ratio assuming that the new leasing standard under *ASC 842* was in effect and compare with the ratio based on the audited 2018 balance sheet. For purposes of this analysis assume that it is **not** reasonably certain that any of the renewal options associated with the retail stores and warehouse will be executed.
2. Using the *Operating Lease Analysis* in Exhibit C (Appendix 4C), perform a constructive capitalization analysis and revise the analysis from Requirement 1 above assuming that it is reasonably certain that all of the renewal options will be exercised. Recalculate the debt-to-equity ratio and compare it with the results from Requirement 1.
3. Using the guidance under *ASC 842* describe the process that Williams and HTI, Inc. management should undertake in assessing and documenting whether the lease renewal options should be included in the determination of the lease liability. Discuss the potential

bias that HTI, Inc.'s management would likely hold in this assessment and how the audit team will have to address this.

4. What are potential options for managerial action to avoid violation of the Company's debt covenants upon the implementation of the new leasing standard? Describe several possible alternatives and propose a recommended solution for the management of HTI, Inc.
5. Considering the analyses prepared for the preceding requirements, how do you think Williams and HTI, Inc. should proceed with discussing the loan covenants with the bank lending officers? Prepare a series of talking points that Williams may want to use as he makes his pitch for potentially revising the loan covenants.
6. Assume that the landlord of the Palatine retail location has offered six months of free rent as an inducement for HTI, Inc. to renew the lease for another five-year term upon its expiration on March 31, 2019. The new monthly rental payment is due at the beginning of each month and will be paid from October 1, 2019 through the end of the lease term.
    a. Prepare a summary journal entry to reflect the expected 2019 activity assuming HTI, Inc. executes the lease renewal based on the terms noted above. (Assume that this lease qualifies for operating lease treatment and HTI, Inc. does not elect early adoption of *ASC 842*.)
    b. Prepare an expected summary journal entry as of January 1, 2020 (for the Palatine lease only) to reflect how HTI, Inc. would transition to the requirements under *ASC 842*.
    c. Prepare the expected summary journal entries for the year ending 2020 (for the Palatine lease only) to reflect the lease accounting requirements under *ASC 842*.
7. HTI, Inc. is considering the rental of temporary additional warehouse space to accommodate a bulk inventory purchase from a supplier that expects to liquidate operations in the fourth

quarter of 2019. Using the guidance under *ASC 842*, determine how this type of lease commitment should be treated for financial statement purpose.

Home Technology Innovations, Inc. Teaching Note

Abstract

This case presents students with the task of determining the expected financial statement impacts and related accounting requirements associated with the newly-promulgated leasing standard. The dataset includes financial statements, financial disclosures, and related supporting data for Home Technology Innovations, Inc. (a fictional, privately-held firm required to provide its primary lender with U.S. GAAP-based audited financial statements). Students must consider the effects that the new standard provisions will have on the company's balance sheet and related debt ratios as many of the existing lease obligations are capitalized. Further, students also must consider the likelihood of exercise of renewal options and the impacts on the lease capitalization calculations. Additionally, the case asks students to prepare the journal entries necessary to transition existing operating lease commitments to the new leasing standard. This case is set as of the end of 2018 and asks students to consider the pro forma impacts that will likely result from the standard when it becomes required for the year ending December 31, 2020.

Keywords: New leasing standard, lease case study, constructive lease capitalization, accounting standard transition.

Educational Objectives

The purpose of this case is to enhance students' accounting, analytical, and research abilities through the study of the newly-promulgated lease accounting standard and its implementation. This standard will have material and far-reaching impacts on substantially all firms and users of financial statements. The specific educational objectives are described as follows:

- Compute an estimated liability stemming from the lease portfolio and the related impacts on financial ratios in advance of the standard implementation date.
- Develop a thorough understanding of the new lease accounting standards under U.S. GAAP.
- Understand the nature, significance, and impacts of lease complexities for lease renewals, and rent holidays, and the exceptions granted for short-term leases.
- Enhance ability to conduct research for accounting treatment using the FASB *Accounting Standards Codification* (*ASC*) database and make appropriate recommendations.
- Apply the *ASC* transition guidance and reporting requirements associated with the standard's implementation.
- Communicate research findings and recommendations to management.

Implementation Guidance

As presented, this case is designed for a graduate-level financial accounting research course. Additionally, the case can be used in a capstone financial accounting undergraduate course which focuses on using the FASB's *Accounting Standards Codification* (*ASC*) to analyze financial accounting issues. To be prepared for this case and its requirements, students should have completed the intermediate accounting course sequence and be familiar with the basics of lessee accounting under the old lease standard. Throughout this teaching note reference is made to the FASB's new and old lease standards. The new standard refers to the pending standard that

will become effective for years ending after December 15, 2018 (or 2019 for privately-held firms) for which authoritative guidance is provided by *ASC 842*. The old standard refers to FASB's currently effective lease standard under *ASC 840*. Further, students should have experience with conducting research using the FASB's *ASC*. Alternately, the case with modified requirements and some of the scaffolding materials may be appropriate for instructors in intermediate accounting. In addition to supplementing existing coverage of leases, this case could be introduced toward the end of the course sequence where accounting for changes in principles are studied in depth.

This case has been implemented in two different college class settings. Initially, the case was piloted in a capstone undergraduate financial accounting seminar course at a small, private, comprehensive college in the Midwestern United States. This pilot implementation provided important feedback and guided many of the revisions reflected in the current version of the case. Additionally, this pilot study informed the development of the survey instruments used to assess the case's efficacy. However, given the small class size of 12 students, quantitative results from the pilot implementation are not provided in this teaching note.

After considering outcomes and feedback from the pilot implementation, the case was refined and surveys were modified to measure the overall student experience and the case's efficacy in meeting the defined learning objectives. The revised case was implemented in two sections of a master's-level applied accounting research course enrolling a combined total of 80 students. The two sections of this course were instructed by the same professor, in the same semester, at a mid-size, public university in the Midwest. The remainder of this teaching note refers to the implementation based on the results from these course sections.

The case and related instruction occurred during three 75-minute class sessions. The first class session was devoted to reviewing the old lease standard and introducing basic aspects of

the new lease standard. Additionally, this session provided instruction on constructive capitalization and rent inducement accounting concepts. Each of these topics represented important building blocks for addressing key aspects of the case requirements. Students completed the case requirements in small teams during the two following class sessions. Students were expected to prepare by reading the case, conducting the necessary *ASC* research, and drafting solutions to the case requirements. The class time was used for groups to discuss alternatives, refine research findings, develop a consensus, and prepare the case requirements for team submission. Additionally, the instructor provided coaching during the class sessions to ensure that the groups were moving toward reasonable approaches in addressing the case requirements. Additional details about the implementation and assessment of the case activities are provided in the administration and implementation lesson plan section.

This case and its requirements are presented in a manner where instructors could make modifications or selectively assign requirements depending on specific course objectives. For example, if the primary learning objective was to determine the potential impacts of the new lease standard, case Requirements 1 through 3 would largely accomplish this goal. Requirements 4 and 5 require students to suggest potential means by which debt-covenant violations could be avoided under the new leasing standard. Finally, Requirements 6 and 7 necessitate *ASC* research and interpretation to effectively address the issues. Depending on course objectives, instructors may wish to omit or emphasize these research requirements.

Given the potential complexity associated with this case study and its requirements, it was helpful to devise a structured approach to help students prepare for key aspects of the case. As such, the following instructional scaffolding approach proved beneficial in helping students meet the case's learning objectives.

Scaffolded Implementation Design

Given the complex nature of the case and its objectives, it was determined that a scaffolded learning approach was well-suited to prepare students for successful learning outcomes. Despite the well-established learning and development outcomes associated with case-based instruction, the ambiguous nature of case studies also present challenges for students (Healy & McCutcheon, 2010; Milne & McConnell, 2001; Yadav et al., 2007). For that reason, to achieve successful learning outcomes, best practices suggest that it may be necessary to build support structures which prepare students for the considerable challenge that case-based instruction often presents (Abraham & Jones, 2016; Azevedo et al., 2004; Healy & McCutcheon, 2010).

In recent years, scaffolding has been increasingly used in collegiate business and accounting courses to help students reach higher levels of critical-thinking development in complex tasks and activities (Abraham & Jones, 2016; Cowen et al., 2011; Kidwell et al., 2013). Given the complexity associated with the lease case study, helping students achieve the desired learning outcomes required additional support and development. As a result, a scaffolding approach, focusing on developing the skills needed to cultivate well-supported analyses and recommendations for the case study, was designed. The following discussion provides a summary of the activities developed to provide instructional support and provides the scaffolding icons indicating the manner in which each might be best implemented Additional detail about the use of these scaffolding activities is provided in the administration and implementation lesson plan section.

Lease classification activity. This exercise illustrates how managers can structure leases (or make assumptions) that result in off-balance sheet financing under the old standard. Further, it illustrates the standard-setting bodies' (FASB and IASB) motivation and rationale for

developing a new standard requiring substantially all leases to be recorded on the books. Finally, this activity provides a brief review of the lease capitalization criteria under the old standard.

By reviewing existing lease classification accounting and the potential magnitude of alternate assumptions, this activity helps prepare students to understand better the motivations and rationale for the standard setters change in lease accounting. Understanding the rationale for change represents an important piece in enhancing students' readiness to tackle more complex and subjective leasing issues associated with the case study. This activity and related solution is presented in Teaching Note (TN) Exhibits 1 and 2 (Appendices 4F and 4G).

Constructive capitalization activity. The case setting positions the subject firm's CFO in the year prior to the implementation of the new lease standard. An important aspect of the case is for the firm's management to gain a better understanding of the potential financial statement impacts associated with the new lease standard. To do this, the case requirements ask students to prepare a constructive capitalization analyses of the firm's existing lease portfolio.

Many students may have done this type of analysis in prior course work. However, a review of this technique is useful in helping students meet the defined learning objectives of the case study. TN Exhibit 3 (Appendix 4H) provides an example of this activity and the related solutions for capitalizing operating lease commitments for Gap, Inc. as of January 30, 2016.

Free rent example. An important case requirement focuses on how a firm will transition existing operating lease commitments from the old to the new standard. Specifically, for Requirement 6, students are asked to prepare the necessary journal entry to record the lease liability and related right-of-use asset as of January 1, 2020 (the FASB's implementation date under *ASC 842* for privately-held firms).

However, an important complexity of the case is that the lease liability and related right-of-use asset would not necessarily be recorded in the same amount at the lease's inception.

Accordingly, the case requirement asks for the transition journal entry for a lease that has a remaining deferred rent liability as of the transition date stemming from a previous free rent inducement.

To prepare students for this case requirement, it was helpful to review how a free rent inducement would be treated under the old standard. To record properly the transition entry, students must understand the remaining deferred liability that will be netted against the right-of-use asset at the implementation date. The free rent example and solution are presented in TN Exhibit 4 (Appendix 4I).

Lease classification (revisited). To provide students with some guidance on lessee accounting for operating leases under the new standard, the lease classification activity was presented again. However, this revisited example focused on both the initial recording of the lease liability and the related right-of-use asset as well as the subsequent journal entries to reflect annual lease expenses. Emphasis was placed on the fact that, in this case, both the lease liability and right-of-use asset were initially recorded for the same amount. However, it was further noted that lease complexities, such as non-level rents, will often result in differing initial valuation amounts. Finally, additional emphasis was placed on the determination of the means by which the right-of use asset is amortized. The new standard's requirement to recognize lease expense on a straight-line basis results in the right-of-use amortization increasing as the interest element associated with the lease expense decreases. This analysis was presented with a narrated screencast video which was made available on the course's learning management site. TN Exhibit 5 (Appendix 4J) presents the Excel schedule used in the screencast and illustrates the accounting required under the new lease standard.

Other Materials. In addition to the scaffolding materials that have been created to support students' preparation for the HTI, Inc. case study, two other resources were assigned for

students to review. First, students were asked to prepare by reviewing portions of the leases chapter from an intermediate accounting textbook to refresh their understanding of the old lease standard. Specifically, students were instructed to focus on lessees and the four-part test for lease classification.

Additionally, students were provided with a white paper by Deloitte, titled *Bring It On!: FASB's New Standard Brings Most Leases Onto the Balance Sheet* (2016). This white paper provided a comprehensive discussion and analysis of the new lease standard and numerous examples of related implementation and transition issues and guidance. Students were asked to focus on "A Snapshot of the New Guidance" from pages 1 through 4 and the "Lessee Accounting" section on pages 14 through 16. This white paper also provided a useful comparison of the differences in U.S. GAAP and International Financial Reporting Standards under the new standards. While this was not a point of emphasis for the HTI, Inc. case, it provides important information about the distinctive elements of each body's final standard.

Administration and Lesson Plan

The following discussion provides detailed guidance about how the HTI, Inc. case and related scaffolding materials were administered. As noted previously, individual instructors may choose to adapt this approach based on personal teaching styles and course objectives.

Administration

As noted previously, the HTI, Inc. case and related scaffolding materials were implemented over three 75-minute class sessions. The first session was devoted to presenting the scaffolding materials to support students' efforts in responding to the requirements for the case study. The remaining two class sessions were reserved for students to work together to conduct the necessary research and analyses to prepare responses to the case requirements.

The case represented an "Unwritten Case Study Assignment" worth 10 points out of 300 points for the course. For these assignments, groups were not required to submit documentation for the assigned case study questions before the beginning of class. Instead, students were expected to come prepared to work as a group to complete an in-class group submission at the conclusion of the day(s) devoted to the case. To aid and guide individual preparation for the first case day, students were provided with a handout focusing on documenting aspects of Requirements 1, 2, and 3 (part 1). This handout is presented in TN Exhibit 20 (Appendix 4V). Additionally, at the conclusion of the first case day, the assigned groups submitted solutions to an identical handout after discussing and arriving at a group consensus. The group handout is illustrated in TN Exhibit 21 (Appendix 4W).

Furthermore, on the first day dedicated to the case, the groups used poster-sized Post-it notes to document their brainstorming efforts in arriving at suggestions for Requirements 3 (part 2), 4, and 5.

Finally, on the second day devoted to the case (or the third day overall), student groups completed the remaining case requirements—items 6 and 7. At the conclusion of the class session, the groups submitted their responses to the handout. This group submission handout is shown in TN Exhibit 22 (Appendix 4X).

The groups' handout submissions were evaluated out of a total of 10 points. Individual students then received a percentage of the 10 points earned by the group based on the reasonableness of their responses provided on the individual handout.

Lesson Plan

The preparation materials for each day were made available after students completed the relevant survey (i.e., the reading assignment for Day 1 was provided after the deadline for completing the pre-survey and the case and screencast were provided after the deadline for

completing the mid-survey). The following summarizes each day's activity and the related assignments.

Assignments to have been completed before Day 1 (Other Materials) included:

- Complete the pre-survey.
- Read Deloitte's *Heads Up* article, pages 1-4 (introduction and "A Snapshot of the New Guidance," focusing on U.S. GAAP, *ASU 2016-02*, and lessee accounting) and pages 14-16 ("Lessee Accounting").
- Review the "Accounting by the Lessee" section of Kieso, Weygandt, and Warfield Chapter 23 (i.e., the leases chapter from the *Intermediate Accounting* textbook).

Day 1 activities completed in class (Scaffolding Materials) included:

- The instructor leads and presents the lease classification activity.
- The instructor leads and presents the constructive capitalization activity.
- The instructor presents the free rent example.

Assignments to have been completed before Day 2 (Case Day 1) included:

- Complete the mid-survey.
- Prepare responses for the HTI, Inc. case study Requirements 1 through 5.

Day 2 (Case Day 1) activities completed in class included:

- Submit the individual handout (TN Exhibit 20 / Appendix 4V) for case Requirements 1, 2, and 3 (part 1).
- Discuss, prepare and submit the group handout (TN Exhibit 21 / Appendix 4W) for case Requirements 1, 2, and 3 (part 1).
- Discuss, prepare and submit the poster-sized Post-it for case Requirements 3 (part 2), 4, and 5.

Assignments to have been completed before Day 3 (Case Day 2) included:

- Watch the video for *Lease Classification (Revisited).*
- Conduct research and draft responses to case Requirements 6 and 7.

Day 3 (Case Day 2) activities completed in class included:

- Discuss, prepare and submit the group handout (TN Exhibit 22 / Appendix 4X) for case Requirements 6 and 7.
- Complete the post-survey after the class session.

Recommended Solutions to Case Requirements

The following discussion provides recommended solutions and related authoritative guidance for the case requirements. Further, based on the case's implementation, other suggestions are offered throughout that may be useful for effective classroom implementation by other instructors.

Case Requirement 1

Using the Operating Lease Analysis in Case Exhibit B (Appendix 4B), perform a constructive capitalization analysis and calculate the revised debt-to-equity ratio assuming that the new leasing standard under *ASC 842* was in effect and compare it with the ratio based on the audited 2018 balance sheet. For purposes of this analysis assume that it is not reasonably certain that any of the renewal options associated with the retail stores and warehouse will be executed.

Recommended Solution and Discussion for Case Requirement 1

The constructive capitalization technique is widely used by financial statements analysts to assess the impacts associated with capitalization of operating leases for lessees. While there are several varied techniques, this teaching note presents a discounted cash flow analysis using the operating lease schedule presented in Case Exhibit B (Appendix 4B).

In the *Current Situation and Related Financing* section of the case, it was stated that "[t]he leasing companies have indicated that the implicit rate of interest for each of their leases

approximates 8%." *ASC 840-10-25-31* indicates that the present value of the lease obligations should be based on the firm's incremental borrowing rate unless the implicit lease rate is known and that rate is less than the incremental borrowing rate. In this case, the implicit rate is both known and appears to be less than the incremental borrowing rate. The case indicates that the bankers have indicated that future borrowings would have a slightly higher than 8% interest rate. Accordingly, the minimum operating lease commitments presented in Case Exhibit B have been discounted to the present value at an 8% rate.

It should be noted that each of the leases requires monthly payments, and accordingly, a slightly more accurate (and higher) estimate of the lease liability could be calculated based on discounting each monthly commitment. Despite this, and especially given the nature and use of the estimates in this case, students should understand the cost-benefit relationship and compute the constructive capitalization based on the annual commitments. Further, the constructive capitalization technique was presented (as described in the implementation guidance section) prior to the case assignment, assuming end-of-year cash flows associated with each lease. A modified, and perhaps theoretically superior, approach would involve using a mid-year convention for each of the annual lease commitments presented.

As noted in TN Exhibit 7 (Appendix 4L), capitalizing the operating lease commitments assuming end-of-year payments and an 8% annual discount rate would result in $346,696 of additional reported debt and a right-of-use asset. Further, as shown in TN Exhibit 7 (Appendix 4L), this additional debt would increase the debt-to-equity ratio from 1.79-to-1 to 2.31-to-1. It is important to note that this pro forma analysis indicates that HTI, Inc. would be in violation of the loan covenant requiring the debt-to-equity ratio not to exceed 2.00-to-1. If students perform the constructive capitalization analysis similar to the scaffolding activity they may make assumptions about the timing of cash flows after the fifth year, rather than use the actual timing

of the commitments as provided. The debt-to-equity ratio calculation using that approach would not be materially different from the amounts shown in TN Exhibit 6 (Appendix 4K).

During the case's implementation, it was noted that several student groups were conducting the capitalization analysis on a lease-by-lease and monthly basis, rather than using the totals provided in Exhibit A. Given the nature of William's objective associated with this requirement, that level of detailed analysis is unnecessarily time-consuming and does not yield a result that is marginally useful in assessing the overall impact of lease capitalization. In this and similar cases, it has been noted that students tend to think it is necessary to use all of the data if it is provided. Perhaps an important teaching point, especially given the ever-increasing availability of data, is to help students realize that often they do not need to analyze all the data to make a reasonable conclusion—depending on what information is needed for the decision being reached. Students may need to be "coached" into not doing unnecessary work in satisfying this requirement.

Case Requirement 2

Using the Operating Lease Analysis in Case Exhibit C (Appendix 4C), perform a constructive capitalization analysis and revise the analysis from Requirement 1 assuming that it is reasonably certain that all of the renewal options will be exercised. Recalculate the debt-to-equity ratio and compare it with the results from Requirement 1.

Recommended Solution and Discussion for Case Requirement 2

This requirement asks students to perform essentially the same procedures as in Requirement 1. However, students are asked to assume that it is reasonably certain that the renewal options will be exercised. It is generally clear to students that this requirement involves recomputing the constructive capitalization in a similar manner to Requirement 1, but including lease payments for the renewal periods. Additional complexity could be introduced for this

requirement by having students compute the analysis which is provided for them in Case Exhibit C (Appendix 4C).

To address this requirement students do not need to explore the *ASC*. Note that Case Requirement 3 specifically asks students to cite the *ASC* to support their determination of whether renewal options should be included in HTI, Inc.'s computation of the lease liability.

To a degree, this analysis presents management with an estimate of the "worst-case" scenario in terms of the largest potential lease liability which could be recorded with the new standard's implementation. Using the same procedures as described for the solution to Case Requirement 1, the analyses presented in TN Exhibit 9 (Appendix 4N) results in $664,705 of additional reported debt and right-of-use assets. Further, as noted in TN Exhibit 8 (Appendix 4M), this additional debt would increase the debt-to-equity ratio from 1.79-to-1 to 2.79-to-1. Again, this pro forma analysis indicates that HTI, Inc. would be in violation of the loan covenant requiring that debt-to-equity shall not exceed 2.0-to-1.

Case Requirement 3

Using the guidance under *ASC 842* describe the process that Williams and HTI, Inc. management should undertake in assessing and documenting whether the lease renewal options should be included in the determination of the lease liability. Discuss the potential bias that HTI, Inc.'s management would likely hold in this assessment and how the audit team will have to address this.

Recommended Solution and Discussion for Case Requirement 3

Based on the pro forma analyses and solutions presented for Case Requirements 1 and 2, HTI, Inc. would be in violation of the loan covenant (which requires a debt-to-equity ratio of less than 2:0-to-1) if the new lease standard had been in effect (or adopted early).

It seems clear that management will likely show a bias towards assessing the exercise of the renewal options as something less than *reasonably certain*. By making the assertion that lease renewals are not reasonably certain, HTI, Inc.'s management would be more easily able to make financing adjustments to avoid debt covenant violations or work with their bankers to waive the violation of the debt-to-equity restrictive covenant.

Ultimately, to implement the new lease standard, HTI, Inc.'s management will have to make an assessment of the likelihood that lease renewal options will be exercised to determine the proper lease term and the related balance sheet valuations. Specifically, management will have to assess whether the available options are *reasonably certain* to be renewed. *ASC 842* and the FASB's related *Background Information and Basis for Conclusion* document do not define the term reasonably certain (Financial Accounting Standards Board, 2013b; "Leases-Joint Project of the IASB and FASB," n.d.). However, the *Background Information and Basis for Conclusion* concluded that the reasonably certain standard generally represents a higher threshold for recognition than more-likely-than-not—which is generally assumed to be greater than a 50% likelihood ("Leases-Joint Project of the IASB and FASB," n.d.). Further, both documents asserted that the assessment of whether lease renewal is reasonably certain will typically stem from a variety of economic factors associated with the lease renewal and its terms.

Accordingly, the following language from *ASC 842-10-55-26* provides authoritative support, "[a]t the commencement date, an entity assesses whether the lessee is reasonably certain to exercise or not to exercise an option by considering all economic factors relevant to that assessment." Additionally, this guidance provides examples of the factors which management should consider in assessing if a renewal is reasonably certain. Specifically, *ASC 842-10-55-26(b)* notes that "[s]ignificant leasehold improvements that are expected to have significant economic value for the lessee when the option to extend … becomes exercisable" may provide

evidence that the lease renewal is reasonably certain. The fact pattern presented in the case describes that the leased retail properties required significant leasehold improvements to provide customers with the shopping experience desired by HTI, Inc.'s management team. As such, this paragraph seems to provide support for the capitalization of lease payments associated with the renewal period.

It should be noted that the guidance under *ASC 842-10-55-26* states that the entity should assess the likelihood of renewal "at the commencement date." However, the operating leases presented in the case have all been executed prior to the transition date. As a result, it becomes necessary to refer to the transition guidance offered in *ASC 842-10-65-1(g)*. This paragraph notes that, as a practical expedient, firms may apply hindsight in determining the lease term when considering options to renew. Given this guidance, management would be expected to make a judgment about the lease likelihood based on the facts and circumstances of the current time period presented in the case study. (Accordingly, for this instance management does not have to reconstruct their assessment as of the commencement of the initial Palatine lease on July 1, 2014.)

Further, the assessment regarding the likelihood of lease renewals should be made on a case-by-case basis depending on the economics associated with each retail location and the corresponding lease terms. The Palatine lease, which is up for renewal on March 31, 2019 (essentially just after the timeframe suggested by the case), illustrates just some of the complexity that accompanies the renewal assessment decision. The case indicates that, "[a]fter years of strong sales growth, this location has suffered a 10% sales decline over the past two years." Alone, this factor might lead one to suggest that renewal is something less than certain. However, it is later noted that the landlord had offered six-months free rent as an inducement to

renew the lease for another 60 months. These are just two examples of the complexities that management must consider in making their assessments about renewals.

The auditors would be required to discuss, document, and test management's assertions about the likelihood of exercising the lease renewal options. The auditors would also have to consider management's potential bias for the exclusion of renewal options in management's determination of the lease liability under *ASC 842*. Audit procedures should be devised and conducted in a manner which provides enough evidence to conclude that the lease liability and related right-of-use asset are properly stated. Further, the auditors would weigh other economic and industry-related evidence to determine if management has addressed all relevant factors in arriving at their assessment about the likelihood of exercising the renewal options.

Case Requirement 4

What are potential options for managerial action to avoid violation of the Company's debt covenants upon the implementation of the new leasing standard? Describe several possible alternatives and propose a recommended solution for the management of HTI, Inc.

Recommended Solution and Discussion for Case Requirement 4

Note that based on the pro forma analyses presented in TN Exhibit 11 (Appendix 4O), HTI, Inc. would be in violation of the debt-to-equity covenant if the new lease standard was in effect as of the year ended December 31, 2018. Given the computation of the debt-to-equity ratio, it is clear that HTI, Inc. must reduce debt (defined as total liabilities), increase equity, or some combination of both to avoid a covenant violation.

However, the available case information does not suggest that debt could easily be retired —mainly due to lack of available cash. Further, the newly-capitalized operating lease liabilities would be unlikely targets for potential debt reduction given their necessity to HTI, Inc.'s operations. Given this, the potential for an equity sale of $1.7 million to Sunrise Capital appears

to represent a means to avoid covenant violation. Even under the "worst-case" scenario whereby all retail stores leases were assumed to be renewed, the sale of stock to Sunrise Capital would significantly reduce the debt-to-equity ratio well below the 2.0-to-1 requirement.

If, for analysis purposes, it was assumed that all contributed capital from the Sunrise Capital equity sale was retained as available cash the debt-to-equity ratio (assuming lease renewals) would be decreased to 0.79-to-1. This analysis is presented in TN Exhibit 11 (Appendix 4O).

While the sale of equity would appear to alleviate concerns about the loan covenant violations, the dilution of ownership may not be desired by the current owners—Schmidt and Williams. The equity sale by the company would not provide personal liquidity to either of the company's owners. If the 34% ownership interest to Sunrise came from the sale of additional stock from HTI, Inc., Schmidt's and Williams' ownership of the firm would be diluted to 56.1% and 9.9%, respectively. While Schmidt would retain majority ownership, it seems that this approach would likely not be particularly beneficial to either Schmidt or Williams. Further, the case notes that Schmidt and William were both reluctant to sell any additional equity interests in the Company.

Alternately, the case indicates that Sunrise could purchase its equity stake directly from Schmidt. While would reduce Schmidt's ownership, he would still retain 51% of the firm and would personally receive $1.7 million of cash proceeds. It should be noted, however, that if the equity sale to Sunrise came from Schmidt, HTI, Inc. would not be changing its debt-to-equity ratio. Accordingly, this option should be evaluated based on Schmidt's desire for a personal liquidity event rather than seen as a means to meet the debt-to-equity covenant. The equity sale scenarios are summarized in Table 4-1 (TN Exhibit 10).

Table 4-1

TN Exhibit 10 - Actual and Pro Forma Equity Ownership Structure

	Equity Ownership Percentage		
		Pro Forma	
	As of December 31, 2018	HTI, Inc. Issues Additional Equity	Schmidt Sells Equity
Schmidt	85.0%	56.1%	51.0%
Williams	15.0%	9.9%	15.0%
Sunrise Capital	0.0%	34.0%	34.0%
	100.0%	100.0%	100.0%

Despite the potential equity sale by HTI, Inc. representing a means to avoid a debt covenant violation, it is important to note that the pro forma has been prepared as of December 31, 2018. However, the new lease standard will not go into effect for privately-held firms, like HTI, Inc., until years beginning after December 15, 2019. The year ended December 31, 2020 will be the Company's first year reporting under the new standard. Given this, it appears that HTI, Inc. may be able to earn their way out of a potential covenant violation by reporting enough net income during 2019 and 2020. Assuming the mix of assets and liabilities remain constant, HTI, Inc. would need to generate approximately $263,170 of net income over the next two years to avoid a covenant violation (even if all renewals were deemed reasonably certain). This analysis is described in the note for TN Exhibit 11 (Appendix 4O). In reality, this net income threshold will likely be even lower because HTI, Inc. will reduce debt levels with scheduled loan and lease (both operating and capital) payments.

Case Requirement 5

Considering the analyses prepared for the preceding requirements, how do you think Williams and HTI, Inc. should proceed with discussing the loan covenants with the bank lending officers? Prepare a series of talking points that Williams may want to use as he makes his pitch for potentially revising the loan covenants.

Recommended Solution and Discussion for Case Requirement 5

It is important for HTI, Inc.'s management to be in ongoing discussions with their bankers about the nature of operations and key events affecting the firm. Perhaps what is most important at this juncture is for Williams to begin a dialogue with the bank lending officers about the about the nature of the new lease standard and its related likely impacts on HTI, Inc.'s financial statements (and related loan covenants).

The following are some key points that Williams may want to discuss with the lending officers:

- The new lease standard, while not effective until the December 31, 2020 financial statements, will likely impact HTI, Inc.'s reported lease liabilities significantly upon implementation. Current estimates, based on 2018 financial statements, indicate that reported debt would increase by an estimate ranging from approximately $350,000 to $665,000—depending on judgments and treatment of lease renewal options (see recommended solutions and discussion for Case Requirements 1 and 2). Based on the additional reported debt, management is concerned about the possibility of debt-covenant violations.
- The accounting and reporting requirements associated with the new lease standard do not change the nature and extent of HTI, Inc.'s operations. Instead, the new standard requires placing the operating lease commitments on the balance sheet instead of simply disclosing them. When HTI, Inc. started taking on bank debt, it was primarily related to the financing of leasehold improvements for the retail store expansion. As a result, the bank was keenly aware of the operating lease commitments when the debt agreements were executed.
- Some lenders use *frozen GAAP* covenants that note that measurement of restrictive covenants be based on the GAAP at the time of the debt agreement. Is it possible to amend the existing debt agreements with 1st Chicago Bank & Trust to use frozen GAAP? Alternately, could the

definition of total liabilities in computing the debt-to-equity ratio be revised to exclude operating lease liabilities?

- It seems likely that HTI, Inc. will be able to generate enough net income over the next two years to avoid a debt-covenant violation (particularly, if an assessment can be made that lease renewals are not reasonably certain). However, if it was likely to be close, management would not necessarily want to make certain expense reductions just to avoid debt covenant violations. For example, reducing training programs or laying off employees may be a means to achieve short-term net income targets; however, these would be damaging to the long-term growth prospects for the firm.

Case Requirement 6

Assume that the landlord of the Palatine retail location has offered six months of free rent as an inducement for HTI, Inc. to renew the lease for another five-year term upon its expiration on March 31, 2019. The new monthly rental payment is due at the beginning of each month and will be paid from October 1, 2019 through the end of the lease term.

a. Prepare a summary journal entry to reflect the expected 2019 activity assuming HTI, Inc. executes the lease renewal based on the terms noted above. (Assume that this lease qualifies for operating lease treatment and HTI, Inc. does not elect early adoption of *ASC 842*.)
b. Prepare an expected summary journal entry as of January 1, 2020 (for the Palatine lease only) to reflect how HTI, Inc. would transition to the requirements under *ASC 842*.
c. Prepare the expected summary journal entries for the year ending 2020 (for the Palatine lease only) to reflect the lease accounting requirements under *ASC 842*.

Recommended Solution and Discussion for Case Requirement 6

Note that this requirement is to prepare journal entries for the implementation of the new lease standard for only one operating lease—the Palatine retail store location. The requirements

could be altered by asking that all leases be transitioned to the new standard. However, the complexities associated with the transition of an in-process lease agreement with a free rent provision help meet educational objectives without creating a substantial computational burden for the students.

Note that the Palatine lease was classified as an operating lease by management at its inception. It appears reasonable to assume that the nature of this lease would make operating lease treatment appropriate. Further, the transition guidance in *ASC 842-10-65-1(f)(2)* offers the following practical expedient, "[a]n entity need not reassess the lease classification for any expired or existing leases (that is, all existing leases that were classified as operating leases in accordance with Topic 840 will be classified as operating leases, and all existing leases that were classified as capital leases in accordance with Topic 840 will be classified as finance leases)."

a. *ASC 842-10-65-1*(l) states that a lessee shall measure the lease liability at the present value of the sum of the remaining minimum rental payments using a discount rate implicit in the lease whenever that rate is readily determinable. This case suggests that 8% is the implicit rate for each of HTI, Inc.'s leases. Given the timing on the renewal of the Palatine lease, along with management's decision to not elect early adoption of *ASC 842*, HTI, Inc. will account for this lease in 2019 under the guidance of *ASC 840*.

The rent expense of $2,907 for the first three months of 2019 is straightforward (3 months times $969 per month). The lease calling for monthly payments of $969 expires on March 31, 2019.

Assuming a renewal of the lease, the monthly rate would be computed at $1,047 ($969 per month increased by 8%). However, the lessor has offered an inducement whereby HTI, Inc. will not have to pay rent for the first six months of the 60-month lease term.

ASC 840-20-25-2 provides guidance about how non-level rents should be treated for operating leases. Specifically, "[c]ertain operating lease agreements specify scheduled rent increases over the lease term that may, for example, be designed to provide an inducement or rent holiday for the lessee." Further, the paragraph notes that scheduled rent increases that are not dependent on future events "shall be recognized by lessees and lessors on a straight-line basis over the lease term." Consequently, the total minimum lease payments for the Palatine lease renewal of $56,512 ($1,047 per month times 54 months) should be recognized equally over the entire 60-month term. Applying this guidance, the monthly rent expense would be $942 ($56,512 divided by 60 months) per month for the remainder of the year. Table 4-2 (TN Exhibit 12) and Table 4-3 (TN Exhibit 13) provide support for this calculation and free rent accounting under *ASC 840*.

Table 4-2

TN Exhibit 12 - Support for Case Requirement 6

Rent Expense for Palatine Lease Renewal		
Base rent, lease ending March 31, 2019	$	969
x Rent increase for renewal		108%
New base rent payment		1,047
x No. of payments		54
Total rent payments		56,512
/ Lease term		60
Monthly rent expense for renewal	$	942

Table 4-3

TN Exhibit 13 – Support for Case Requirement 6a

Initial Term (Mos.)	Month	Dr. Expense	(Cr.) Cash	Cr. (Dr.) Deferred Rent	Cr. Cumulative Deferred Rent
1	Apr 2019	942	-	942	942
2	May 2019	942	-	942	1,884
3	Jun 2019	942	-	942	2,826
4	Jul 2019	942	-	942	3,767
5	Aug 2019	942	-	942	4,709
6	Sep 2019	942	-	942	5,651
7	Oct 2019	942	1,047	(105)	5,547
8	Nov 2019	942	1,047	(105)	5,442
9	Dec 2019	942	1,047	(105)	5,337

Given the information in Table 4-2 and Table 4-3, Figure 4-3 provides the journal entries that would be recorded to reflect 2019's Palatine retail store leases.

For the period from January 1, 2019 through March 31, 2019:

Rent expense	2,907	
Cash		2,907

(To record rent expense of $969 per month for three months.)

For the period from April 1, 2019 through September 30, 2019 (the "free" rent period):

Rent expense	5,651	
Deferred rent		5,651

(To record rent expense of $942 per month for six months and the related liability stemming from the free rent inducement.)

For the period from October 1, 2019 through December 31, 2019:

Rent expense	2,826	
Deferred rent	314	
Cash		3,140

(To record rent expense of $942 per month and cash payments of $1,047 per month for three months and the corresponding reduction of the liability stemming from the free rent inducement.)

Summary of the entries for 2019:

Rent expense	11,384	
Deferred rent		5,337
Cash		6,047

Figure 4-3. Journal entries for HTI, Inc. case Requirement 6a

b. Transitioning to the new lease standard for this operating lease will require recording the lease liability and the related right-of-use asset as of January 1, 2020. *ASC 842-10-65-1(l)* states that a lessee shall measure the lease liability at the present value of the sum of the remaining minimum rental payments using a discount rate implicit in the lease whenever that rate is readily determinable. The case suggests that 8% is the implicit rate for each of HTI, Inc.'s leases.

Further, *ASC 842-20-30-2* notes that a privately-held firm may use a risk-free discount rate for the lease. However, the lower risk-free rate would result in a larger reported lease liability, so it is unlikely that HTI, Inc. would elect to use the risk-free rate when information was available to determine the implicit rate.

The lease liability as of January 1, 2020 would be computed as the present value of the remaining lease payments. The resulting liability would be $45,420 (an annuity of $1,047 due at the beginning of each month discounted at a rate of 0.667% or 8% divided by 12 months.)

ASC 842-10-65-1(m) notes that the right-of-use asset should be measured at the initial lease liability adjusted for certain items. In this case, because no impairment has been noted, *ASC 842-20-35-3* indicates that the right-of-use asset is recorded at the amount of the lease liability, adjusted for several items as noted in *ASC 842-20-35-3(b)*. In this instance, the only adjustment should be for the "remaining balance of any lease incentives received." See TN Exhibit14 (Appendix 4P) for detailed calculations supporting the lease liability and right-of-use initial valuation and subsequent expense recognition and determination.

As a result, the adjustment necessary to transition the Palatine lease as of January 1, 2020 is presented in Figure 4-4.

<u>January 1, 2020 entry to reflect the transition to the new standard:</u>

Right-of-use asset	40,083	
Deferred rent	5,337	
Lease liability		45,420

Figure 4-4. Journal entry for HTI, Inc. case Requirement 6b

c. The entries for 2020 should include recognition of lease expense, reduction of the lease liability and amortization of the right-of-use asset. *ASC 842-10-65-1* provides transition guidance for accounting for this operating lease by noting that a single lease cost should be recognized in the determination of a firm's profit or loss. Further, this cost should be recognized

on a straight-line basis (assuming that another systematic and rationale method is not appropriate) based on guidance suggested by *ASC 842-20-25-6(a).*

ASC 842-10-65-1(n) notes that subsequent measurement on the right-of-use asset and lease liability should be subject to the guidance provided in *ASC 842-20-35-3. ASC 842-20-35-3* provides guidance for the subsequent measurement of both the right-of-use asset and the lease liability. Specifically, this paragraph notes that lease liability shall be measured at the present value of the remaining lease payments. Additionally, this paragraph indicates that the right-of-use asset is measured as the lease liability adjusted for, among other items, the remaining balance of any lease incentives (the free rent) in this case. Finally, *ASC 842-20-25-6(a)* notes that a single lease cost should be recognized on the income statement on a straight-line basis for the remaining lease costs.

Accordingly, HTI, Inc. would recognize lease expense of $11,302 ($942 per month) for 2020. Further, HTI, Inc. must record the reduction of the lease liability. Based on the amortization schedule using an 8% implicit annual discount rate, the lease liability is reduced by $9,585. Because HTI, Inc. will have made $12,558 of lease payment, the difference of $2,973 represents interest on the liability. Additionally, interest for one month of $239 will accrue related to the lease payment due on January 1, 2021. However, the single lease cost presentation for operating leases means that interest is included as part of the lease expense. The remaining lease expense of $8,090 ($11,302 minus $2,973 interest paid minus $239 interest accrued) is the means by which the right-of-use asset is amortized. Note that because lease expense is recognized on a straight-line basis and the interest portion of that expense will decline as the related lease liability is reduced, the amortization will generally increase over the lease term.

TN Exhibit 14 (Appendix 4P) provides a detailed amortization schedule for both of the right-of-use asset and the lease liability. The proposed lease is an annuity due and therefore, the

summary journal entry should include an accrual for the interest payable portion of the January 1, 2021 lease payment. Figure 4-5 illustrates the journal entry required to reflect 2020's leasing activity for the Palatine store.

For the period January 1, 2020 through December 31, 2020:

Lease expense	11,302	
Lease liability	9,585	
Right-of-use asset		8,090
Interest payable		239
Cash		12,558

Figure 4-5. Journal entry for HTI, Inc. case Requirement 6c

Case Requirement 7

HTI, Inc. is considering the rental of temporary additional warehouse space to accommodate a bulk inventory purchase from a supplier that expects to liquidate operations in the fourth quarter of 2019. Using the guidance under *ASC 842*, determine how this type of lease commitment should be treated for financial statement purposes.

Recommended Solution and Discussion for Case Requirement 7

ASC 842-10-65-1 provides straight-forward guidance on this topic. This paragraph notes that a lessee may elect to not apply the lease recognition requirements for short-term leases. Instead, the lessee firm may recognize the lease payments on a straight-line basis over the lease term. For purposes of classification, the *ASC* glossary defines a short-term lease as "[a] lease that, at the commencement date, has a lease term of 12 months or less and does not include an option to purchase the underlying asset that the lessee is reasonably certain to exercise." Based on the fact pattern presented in the case, HTI, Inc. could properly exclude the additional warehouse space rental in its computation of lease liabilities and related right-of-use assets.

Optional Additional Case Requirement

As noted, an important goal and contribution of this chapter is the intentional link between traditional academic research and pedagogical materials. The case requirements as presented focus heavily on the financial reporting and related financing decisions affecting HTI, Inc. As such, the case requirements were aligned closely with the research domain studied in Chapter 2. Further, the requirements presented were designed to meet the primary instructional goals of the course in which the case implemented. However, to better connect the operational decision-making aspects associated with leasing—as studied in Chapter 3—an additional case requirement may be considered. Further, the following requirement would offer an additional feedback loop in which students' analyses would provide proxies for managerial action.

Case Requirement 8

HTI, Inc.'s Palatine store has seen decreased sales levels in each of the last two years. The store's lease is ending soon and management must consider whether the lease should be renewed for another five-year term. Describe the factors (both quantitative and qualitative) that the HTI, Inc.'s management team should consider in evaluating whether the lease should be renewed.

Discussion for Case Requirement 8

Of course, there are numerous factors which should be considered in making such a decision. Rather than expecting specific solutions, the goal of this requirement is to ask students to place themselves in the role of management and discuss and articulate the myriad of factors which should be considered. This requirement asks students to consider broader business decisions rather than being confined to solely financial reporting decisions.

Evidence Regarding Case Efficacy

As noted previously, this case was fully implemented in two sections of a master's-level accounting theory and applied research course at the same university (with the same instructor in the same semester). As such, students had prior exposure to the old lease accounting standard through completion of an intermediate accounting course or its equivalent. Further, given the magnitude of the expected financial statement impacts of the new lease standard, the course's instructor included some introductory discussion about the nature of the new lease standard and its impact on reported assets and liabilities for lessees at the beginning of the semester. Accordingly, students had some basic knowledge of the new standard prior to the implementation of the case and the related scaffolding materials.

To gauge the efficacy of the case and related materials in meeting the defined learning objectives, three surveys were developed and administered. The pre-survey was completed prior to any instruction or the assignment of any case materials or other preparation materials. This survey instrument included 15 multiple-choice questions and six Likert-scale questions to provide a baseline of the students' collective understanding of certain key issues surrounding lease accounting.

After the class session devoted to presenting the scaffolding case preparation materials (as previously described), a mid-survey was administered. The mid-survey was comprised of 10 of the same multiple-choice questions posed in the pre-survey. Additionally, nine Likert-scale questions were posed. Six of the questions were identical to the pre-survey questions and the remaining three asked students to assess the degree to which they believed the scaffolding materials would be useful in completing the case requirements.

Finally, upon completing the two class sessions devoted to finishing the case in teams, a third, post-survey, was distributed. This survey repeated each of the 15 multiple-choice

questions asked in the pre-survey. Again, the survey also posed the same Likert-scale questions from the pre- survey. Finally, a series of Likert-scale questions were included to gain students opinions about the nature of the case and the effectiveness of the case and preparation materials in meeting the defined learning objectives.

While there were many ways the data provided from these surveys could have been analyzed, the following discussion summarizes several of the key observations. Student participation was excellent with 80, 75, and 79 individual responses on the pre, mid, and post-surveys, respectively. It should be noted that student completing all three of the surveys within the established timeframes were given three extra credit points towards their course grade (the total available for course assessments was 300 points).

Perhaps the most objective measure of the effectiveness of the case and the related scaffolding materials was an analysis of the results of the multiple-choice and true or false questions posed on each survey. The analyses presented in TN Exhibits 15 and 16 (Appendices 4Q and 4R) indicated students' proportion of correct responses increased from the pre-survey to the mid-survey to the post-survey in nine of the 10 questions posed in all three surveys. The one question where no improvement was shown appears to represent one of the most challenging concepts that the case presented. This question dealt with the requirement that straight-line lease expense recognition leads to increasing amortization of the right-of use asset over the lease term. Specifically, the amortization of the right-of-use asset will increase and the interest portion of the lease expense is reduced with the amortization of the lease liability. One further driver for the poor performance on this question may have been created because the correct answer was "none of the above." Anecdotal information suggests that students are often afraid to select such an option. The instructor also noted students' confusion with this issue during the case's classroom implementation and the survey data confirmed this. Accordingly, the instructor was able to

provide a wrap up discussion in the following class session to address this issue to improve students' understanding. Further, the results for the five multiple-choice questions included in only the pre and post-surveys all showed significant improvement in the frequency of correct responses.

The results of the Likert-scale questions are presented in TN Exhibit 15 (Appendix 4Q). Three (of the six questions) asked in each of the three surveys showed a significant shift in the response mean from the pre to the post-surveys. Specifically, the students' increased agreement with the usefulness of constructive capitalization, the importance of management's judgment surrounding renewal options, and an assessment of their understanding of the new leasing standard.

The remaining Likert-scale questions solicited students' opinions about the benefits of the case, the usefulness of the related preparation activities, and the manner in which the case was implemented. For each of these questions, the mean response was compared with the neutral response (*Neither Agree or Disagree*). In 18 of the 19 questions, the mean of students' responses indicated a more favorable opinion than the neutral response (based on a two-tailed t-test). This analysis is presented in TN Exhibit 17 (Appendix 4S).

One potential limitation of this chapter's materials is the manner in which the pre, mid, and post-surveys were conducted. For any of the questions which were repeated measures, the exact same question was posed to the student surveys participants. Thus, it cannot be known for sure whether the increased success rate over time was due to the exercise, versus simply learning how to answer these particular questions. As a result, the survey responses may lack a degree of validity. In future efforts to measure the success of this case, it would be ideal to create parallel forms of these tests, where similar but not identical questions are asked at different times.

As noted previously, the HTI, Inc. case study and related scaffolded materials were used in two sections of the same course— instructed by the same professor in the same semester. However, the instructor slightly modified the manner in which two of the scaffolding activities were administered. In the first section, the activities related to lease classification and constructive capitalization were conducted in small groups. In the second section these activities were performed in an instructor-led manner. A detailed analysis of each of the survey questions revealed that in only two of the possible 71 questions was there any group difference significant at the $p < 0.05$ level. These group difference analyses are summarized in TN Exhibits 18 and 19 (Appendices 4T and 4U).

Appendix 4A

Case Exhibit A – Summary Lease Analysis

Home Technology Innovations, Inc.
Summary Lease Analysis

Category	Location	Lease Inception Date	Lease Termination Date	Lease Term at Inception (Months)	Remaining Lease Term December 31, 2018 (Months)	Bargain Purchase Option	Transfer at Lease Termination	Renewal Option[a]	Capital or Operating	Monthly Rental	Minimum Lease Commitments 2019	2020	2021	2022	2023	After
Retail store	Mokena, IL	2/1/2016	1/31/2023	84	50	No	No	Yes	Operating	974	11,688	11,688	11,688	11,688	974	-
Retail store	Palatine, IL	7/1/2014	3/30/2019	60	3	No	No	Yes	Operating	969	2,907	-	-	-	-	-
Retail store	Glenview, IL	5/1/2015	4/30/2020	60	17	No	No	Yes	Operating	1,480	17,760	5,920	-	-	-	-
Retail store	Wauesha, WI	10/1/2016	9/30/2021	60	34	No	No	Yes	Operating	935	11,220	11,220	8,415	-	-	-
Retail store	O'Fallon, MO	3/1/2017	2/28/2022	60	39	No	No	Yes	Operating	702	8,424	8,424	8,424	1,404	-	-
Retail store	Florence, KY	8/1/2017	7/31/2022	60	44	No	No	Yes	Operating	872	10,464	10,464	10,464	6,104	-	-
Retail store	Avon, IN	7/1/2018	6/30/2023	60	55	No	No	Yes	Operating	998	11,976	11,976	11,976	11,976	5,988	-
Warehouse	Mokena, IL	2/1/2016	1/31/2023	84	50	No	No	Yes	Operating	1,003	12,036	12,036	12,036	12,036	1,003	-
Point-of-sale system	Mokena, IL	6/1/2016	5/31/2020	48	18	Yes	Yes	No	Capital	500	1,000	-	-	-	-	-
Point-of-sale system	Palatine, IL	1/1/2015	12/31/2018	48	0	Yes	Yes	No	Capital	450	-	-	-	-	-	-
Point-of-sale system	Glenview, IL	7/1/2015	6/30/2019	48	6	Yes	Yes	No	Capital	450	2,700	-	-	-	-	-
Point-of-sale system	Wauesha, WI	11/1/2016	10/31/2020	48	23	Yes	Yes	No	Capital	500	6,000	5,000	-	-	-	-
Point-of-sale system	O'Fallon, MO	5/1/2017	4/30/2021	48	29	Yes	Yes	No	Capital	500	6,000	6,000	2,000	-	-	-
Point-of-sale system	Florence, KY	10/1/2017	9/30/2021	48	34	Yes	Yes	No	Capital	500	6,000	6,000	5,000	-	-	-
Point-of-sale system	Avon, IN	10/1/2018	9/30/2021	48	34	Yes	Yes	No	Capital	525	6,300	6,300	6,300	5,250	-	-
Delivery/service vehicle	Mokena, IL	6/1/2016	5/31/2019	36	6	No	No	No	Operating	400	2,400	-	-	-	-	-
Delivery/service vehicle	Mokena, IL	1/1/2017	12/31/2019	36	13	No	No	No	Operating	400	4,800	400	-	-	-	-
Delivery/service vehicle	Glenview, IL	7/1/2017	6/30/2020	36	19	No	No	No	Operating	420	5,040	2,940	-	-	-	-
Delivery/service vehicle	Wauesha, WI	11/1/2016	10/31/2019	36	11	No	No	No	Operating	400	4,400	-	-	-	-	-
Delivery/service vehicle	O'Fallon, MO	5/1/2017	4/30/2020	36	17	No	No	No	Operating	350	4,200	1,400	-	-	-	-
Delivery/service vehicle	Florence, KY	10/1/2017	9/30/2020	36	22	No	No	No	Operating	375	4,500	3,375	-	-	-	-
Delivery/service vehicle	Avon, IN	10/1/2018	9/30/2021	36	34	No	No	No	Operating	425	5,100	5,100	3,825	-	-	-
Printer/copier/scanner system	Each location	7/1/2015	6/30/2018	36		No	No	No	Operating	1,000	-					
Printer/copier/scanner system	Each location	8/1/2018	7/30/2021	36	32	No	No	No	Operating	1,250	15,000	15,000	8,750	-	-	-
Laptop/tablets	Each location	9/1/2016	8/31/2019	36	9	Yes	Yes	No	Capital	350	3,150	-	-	-	-	-
Telephone systems	Each location	12/1/2015	11/30/2020	60	24	No	No	No	Operating	300	3,600	3,600	-	-	-	-
Inventory management/delivery scanner system	Each location	12/1/2015	11/30/2020	60	24	No	No	No	Operating	1,650	19,800	19,800	-	-	-	-
										Total	186,465	146,643	88,878	48,458	7,965	-
										Capital	31,150	23,300	13,300	5,250	-	-
										Operating	155,315	123,343	75,578	43,208	7,965	-

Note:

[a]Lease renewal option terms for each retail/warehouse location are as follows:

		Renewal Period	Terms
Retail store	Mokena, IL	5 years	4% over current lease payment
Retail store	Palatine, IL	5 years	8% over current lease payment
Retail store	Glenview, IL	5 years	10% over current lease payment
Retail store	Wauesha, WI	5 years	5% over current lease payment
Retail store	O'Fallon, MO	5 years	2% over current lease payment
Retail store	Florence, KY	5 years	3% over current lease payment
Retail store	Avon, IN	5 years	5% over current lease payment
Warehouse	Mokena, IL	5 years	5% over current lease payment

Appendix 4B

Case Exhibit B – Operating Lease Analysis

Home Technology Innovations, Inc.
Operating Lease Analysis

Category	Location	Lease Inception Date	Lease Termination Date	Lease Term at Inception (Months)	Remaining Lease Term December 31, 2018 (Months)	Renewal Assumptions	Minimum Lease Commitments 2019	2020	2021	2022	2023	After
Retail store	Mokena, IL	2/1/2016	1/31/2023	84	50	Renewal option not exercised	11,684	11,684	11,684	11,684	974	-
Retail store	Palatine, IL	7/1/2014	3/30/2019	60	3	Renewal option not exercised	2,906	-	-	-	-	-
Retail store	Glenview, IL	5/1/2015	4/30/2020	60	17	Renewal option not exercised	17,759	5,920	-	-	-	-
Retail store	Wauesha, WI	10/1/2016	9/30/2021	60	34	Renewal option not exercised	11,215	11,215	8,411	-	-	-
Retail store	O'Fallon, MO	3/1/2017	2/28/2022	60	39	Renewal option not exercised	8,420	8,420	8,420	1,403	-	-
Retail store	Florence, KY	8/1/2017	7/31/2022	60	44	Renewal option not exercised	10,467	10,467	10,467	6,106	-	-
Retail store	Avon, IN	7/1/2018	6/30/2023	60	55	Renewal option not exercised	11,975	11,975	11,975	11,975	5,988	-
Warehouse	Mokena, IL	2/1/2016	1/31/2023	84	50	Renewal option not exercised	12,034	12,034	12,034	12,034	1,003	-
Delivery/service vehicle	Mokena, IL	6/1/2016	5/31/2019	36	6	No renewal option	2,400	-	-	-	-	-
Delivery/service vehicle	Mokena, IL	1/1/2017	12/31/2019	36	13	No renewal option	4,800	400	-	-	-	-
Delivery/service vehicle	Glenview, IL	7/1/2017	6/30/2020	36	19	No renewal option	5,040	2,940	-	-	-	-
Delivery/service vehicle	Wauesha, WI	11/1/2016	10/31/2019	36	11	No renewal option	4,400	-	-	-	-	-
Delivery/service vehicle	O'Fallon, MO	5/1/2017	4/30/2020	36	17	No renewal option	4,200	1,400	-	-	-	-
Delivery/service vehicle	Florence, KY	10/1/2017	9/30/2020	36	22	No renewal option	4,500	3,375	-	-	-	-
Delivery/service vehicle	Avon, IN	10/1/2018	9/30/2021	36	34	No renewal option	5,100	5,100	3,825	-	-	-
Printer/copier/scanner system	Each location	7/1/2015	6/30/2018	36			-					
Printer/copier/scanner system	Each location	8/1/2018	7/30/2021	36	32	No renewal option	15,000	15,000	8,750	-	-	-
Telephone systems	Each location	12/1/2015	11/30/2020	60	24	No renewal option	3,600	3,600	-	-	-	-
Inventory management/delivery scanner system	Each location	12/1/2015	11/30/2020	60	24	No renewal option	19,800	19,800	-	-	-	-
							155,301	123,330	75,567	43,203	7,964	-

Appendix 4C

Case Exhibit C – Operating Lease Analysis (with Renewals)

Home Technology Innovations, Inc.
Operating Lease Analysis (with Renewals Options Assumed)

Category	Location	Lease Inception Date	Lease Termination Date	Lease Term at Inception (Months)	Remaining Lease Term December 31, 2018 (Months)	Renewal Assumptions	Minimum Lease Commitments (with Renewal Options Assumed to be Exercised) 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Retail store	Mokena, IL	2/1/2016	1/31/2023	84	50	Renewal option exercised	11,684	11,684	11,684	11,684	12,113	12,152	12,152	12,152	12,152	1,013
Retail store	Palatine, IL	7/1/2014	3/31/2019	60	3	Renewal option exercised	12,323	12,555	12,555	12,555	12,555	3,139				
Retail store	Glenview, IL	5/1/2015	4/30/2020	60	17	Renewal option exercised	17,759	18,943	19,535	19,535	19,535	19,535	6,512			
Retail store	Wauesha, WI	10/1/2016	9/30/2021	60	34	Renewal option exercised	11,215	11,215	8,411	11,776	11,776	11,776	11,776			
Retail store	O'Fallon, MO	3/1/2017	2/28/2022	60	39	Renewal option exercised	8,420	8,420	8,420	8,560	8,588	8,588	8,588	8,588	1,431	
Retail store	Florence, KY	8/1/2017	7/31/2022	60	44	Renewal option exercised	10,467	10,467	10,467	10,598	10,781	10,781	10,781	10,781	6,289	
Retail store	Avon, IN	7/1/2018	6/30/2023	60	55	Renewal option exercised	11,975	11,975	11,975	11,975	12,275	12,574	12,574	12,574	12,574	6,287
Warehouse	Mokena, IL	2/1/2016	1/31/2023	84	50	Renewal option exercised	12,034	12,034	12,034	12,034	12,586	12,636	12,636	12,636	12,636	1,053
Delivery/service vehicle	Mokena, IL	6/1/2016	5/31/2019	36	6	No renewal option	2,400	-	-	-	-	-				
Delivery/service vehicle	Mokena, IL	1/1/2017	12/31/2019	36	13	No renewal option	4,800	400	-	-	-	-				
Delivery/service vehicle	Glenview, IL	7/1/2017	6/30/2020	36	19	No renewal option	5,040	2,940	-	-	-	-				
Delivery/service vehicle	Wauesha, WI	11/1/2016	10/31/2019	36	11	No renewal option	4,400	-	-	-	-	-				
Delivery/service vehicle	O'Fallon, MO	5/1/2017	4/30/2020	36	17	No renewal option	4,200	1,400	-	-	-	-				
Delivery/service vehicle	Florence, KY	10/1/2017	9/30/2020	36	22	No renewal option	4,500	3,375	-	-	-	-				
Delivery/service vehicle	Avon, IN	10/1/2018	9/30/2021	36	34	No renewal option	5,100	5,100	3,825	-	-	-				
Printer/copier/scanner system	Each location	7/1/2015	6/30/2018	36			-									
Printer/copier/scanner system	Each location	8/1/2018	7/30/2021	36	32	No renewal option	15,000	15,000	8,750	-	-	-				
Telephone systems	Each location	12/1/2015	11/30/2020	60	24	No renewal option	3,600	3,600	-	-	-	-				
Inventory management/delivery scanner system	Each location	12/1/2015	11/30/2020	60	24	No renewal option	19,800	19,800	-	-	-	-				
							164,717	148,909	107,657	98,718	100,208	91,180	75,018	56,731	45,082	8,353

Appendix 4D

Case Exhibit D – Balance Sheets

Home Technology Innovations, Inc.
Balance Sheets (audited)
As of December 31,

	2018	2017
Assets		
Current Assets		
Cash and cash equivalents	$ 55,125	$ 36,984
Accounts receivable	84,695	45,694
Inventories	1,125,648	859,685
Prepaid expenses	35,496	26,457
Other current assets	14,968	25,864
	1,315,932	994,684
Property, Plant, and Equipment		
Land	45,000	45,000
Leasehold improvements	726,500	638,264
Equipment under capital leases	146,235	123,856
Other equipment	34,698	29,874
Accumulated depreciation	(398,659)	(300,857)
	553,774	536,137
	$ 1,869,706	$ 1,530,821
Liabilities and Shareholders' Equity		
Liabilities		
Line of credit	$ 120,994	$ 7,708
Current maturities of long-term debt	24,556	8,698
Accounts payable	324,963	285,963
Accrued expenses	96,451	87,611
Deferred revenues	69,875	45,875
	636,839	435,855
Capital lease obligations	38,510	63,066
Long-term debt	525,000	425,000
	563,510	488,066
	1,200,349	923,921
Shareholders' Equity		
Common stock, no par	250,000	250,000
Retained earnings	419,357	356,900
	669,357	606,900
	$ 1,869,706	$ 1,530,821

Appendix 4E

Case Exhibit E – Income Statements

Home Technology Innovations, Inc.
Income Statements (audited)
For the Years Ended December 31,

	2018	2017
Revenues		
Sales revenue	$ 8,697,325	$ 7,968,985
Service revenue	1,967,524	1,687,525
	10,664,849	9,656,510
Cost of goods sold	6,525,758	5,819,632
Gross profit	4,139,091	3,836,878
Selling, general, and administrative expenses		
Executive compensation	584,630	559,365
Office and administrative salaries and wages	488,235	459,256
Store manager salaries	759,741	687,521
Sales salaries	525,456	529,841
Service wages	205,785	219,632
Sales commissions	475,968	469,326
Rent and occupancy costs	233,425	215,698
Repairs and maintenance	55,784	48,783
Professional fees	79,600	63,852
Depreciation expense	126,147	109,694
Office administration expenses	69,423	54,753
All other expenses	32,701	27,326
	3,636,895	3,445,047
Operating income	502,196	391,831
Interest expense	34,854	37,258
Income before taxes	467,342	354,573
Income tax expense	154,223	120,555
Net income	$ 313,119	$ 234,018

Note. All compensation expense items include employer portion of payroll taxes and other benefits.

Appendix 4F

Teaching Note (TN) Exhibit 1 – Lease Classification Activity

Objectives

The following are objectives associated with this in-class, small group activity:

- Review the 4-part classification criteria test for lease capitalization under the old leasing standard.
- Develop an appreciation for the impact that small assumption changes have on potential lease classification.
- Provide a basis for discussion and study of the FASB's new leasing standard and the rationale behind the change.

Classroom Implementation Guidance

For students who have learned the 4-part lease capitalization criteria, this exercise illustrates how managers can structure leases (or make assumptions) that result in off-balance sheet financing. This example helps to illustrate the standard-setting bodies' (FASB and IASB) rationale for developing a new standard requiring substantially all leases to be recorded "on the books."

Half of the class receives the Handout A while the other half receives the Handout B. Students are then asked to apply the 4-part criteria based on the assumptions provided. Applying the rules, students with the A assumptions properly determine the lease should be capitalized. Those with B determine that none of the four tests are met so operating lease treatment is appropriate. As an additional requirement, students could be asked to complete the journal entries associated with each scenario.

Handout A			Handout B		
Machine FMV	$	1,300,000	Machine FMV	$	1,350,000
PV of Min. Lease Payments	$	1,200,000	PV of Min. Lease Payments	$	1,200,000
Lease Term (years)		5	Lease Term (years)		5
Lease Payments (end of year)	$	300,000	Lease Payments (end of year)	$	300,000
Asset Life (years)		6	Asset Life (years)		7
Transfer of Ownership		No	Transfer of Ownership		No
Bargain Purchase Option		No	Bargain Purchase Option		No

Appendix 4F (Continued)

Discussion / Solutions Guidance

This suggested solution illustrates that these simple (and seemingly minor) assumption differences (assuming a fair value of $1,350,000 versus $1,300,000 or an asset life of 7 versus 6 years) can materially impact financial reporting under ASC 840. In this exercise, the assumptions in Handout A would require a lessee to capitalize the lease obligation which results in an initial lease liability (and related leased asset) of $1,200,000. Conversely, the assumptions noted in Handout B result in a lease term less than 75% of the asset's economic life and the present value of the minimum lease payments are less than 90% of the asset's fair market value. As a result, since there is no transfer of ownership at the end of the lease term, nor a bargain purchase option, none of the four lease capitalization criteria are met and the lessee would not be required to record the lease obligation as a liability on the balance sheet. Instead, rent expense would be recorded in each time period of the lease term.

This activity was implemented without presenting or requiring the annual journal entries that accompany each lease classification. However, depending on individual instructors' preferences and course objectives, adding these journal entries may prove beneficial in meeting learning goals.

A schedule showing the lessee accounting treatment and the related journal entries for Handout A and Handout B is presented in Appendix 4G (TN Exhibit 2)..

Appendix 4G

TN Exhibit 2 – Lease Classification Activity Solution (Under ASC 840)

	A		B
Machine FMV	1,300,000		1,350,000
PV of Min. Lease Pymts	1,200,000		1,200,000
Lease Term (years)	5	Years	5
Lease Payments (end of year)	300,000	Per Year	300,000
Asset Life (years)	6	Years	7
Depreciation Expense	240,000 [a]		
Inputed Interest Rate	7.931% [b]		
Lease Tests			
=>75% of economic life	83.3%		71.4%
=>90% of fair market value	92.3%		88.9%

Year	Payment	Interest	Principal	Leasehold Liability
				1,200,000
1	300,000	95,170	204,830	995,170
2	300,000	78,925	221,075	774,095
3	300,000	61,392	238,608	535,487
4	300,000	42,469	257,531	277,956
5	300,000	22,044	277,956	0
	1,500,000	300,000	1,200,000	

	Year 1		Year 2		Year 3		Year 4		Year 5		
	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr	Total Expense
Operating Lease [B]											
Rent Expense	300,000		300,000		300,000		300,000		300,000		1,500,000
Cash		300,000		300,000		300,000		300,000		300,000	
Capital Lease [A]											
Machine	1,200,000		-		-		-		-		
Lease Obligation		1,200,000		-		-		-		-	
Depreciation Exp	240,000		240,000		240,000		240,000		240,000		1,200,000
Accum Deprec		240,000		240,000		240,000		240,000		240,000	
Lease Obligation	204,830		221,075		238,608		257,531		277,956		
Interest Expense	95,170		78,925		61,392		42,469		22,044		300,000
Cash		300,000		300,000		300,000		300,000		300,000	
Total Expense	335,170		318,925		301,392		282,469		262,044		1,500,000

[a] Depreciation computed over lease term because there is no BPO or transfer.

[b] Computed implied interest rate based of PV of $1,200,000 and end-of-year lease payments of $300,000.

Appendix 4H

TN Exhibit 3 – Constructive Capitalization Activity and Solution

from Gap, Inc. 2016 Notes to the Financial Statements

The following is an excerpt from Gap, Inc. Notes to Consolidated Financial Statements (Note 11. Leases).

The aggregate minimum non-cancelable annual lease payments under leases in effect on January 30, 2016 are as follows:

($ in millions) Fiscal Year		
2016	$	1,135
2017		1,098
2018		946
2019		821
2020		682
Thereafter		2,118
Total minimum lease commitments	$	6,800

Required:

Perform a constructive capitalization calculation based on Gap, Inc. operating lease note disclosure.

(Possible) Solution:

Step 1 - Schedule out the lease commitments and make an assumption about timing of cash flows.
The first 5 years of commitments are required to be separately disclosed. However, note that commitments after 5 years are only disclosed in a lump-sum. Accordingly, an assumption must be made. For this illustration, it has been assumed that the $2,118 after 5 years will occur evenly over the 6th through 9th years ($530 per year).

Step 2 - Make an assumption about timing of cash flows.
This illustration assumes that cash flows happen at the end of the year. An alternative could be to assume a mid-year convention.

Step 3 - Make an assumption about the interest rate for discounting future cash flows.
This illustration uses 8.0%

Step 4 - Given the above, an estimate of the capitalized lease liability is made.

		Minimum Lease Commitments	PV of $1 at 8%	Present Value of OLC
1	2016	$ 1,135	0.9259	$ 1,051
2	2017	1,098	0.8573	941
3	2018	946	0.7938	751
4	2019	821	0.7350	603
5	2020	682	0.6806	464
6	2021	530	0.6302	334
7	2022	530	0.5835	309
8	2023	530	0.5403	286
9	2024	530	0.5002	265
		$ 6,800		$ 5,004

Appendix 4I

TN Exhibit 4 – Free Rent Example for Lessee (Under Old Lease Standard)

Fact Pattern

XYZ Company signed a 6-year lease for the use of office space commencing on 1/1/Y1. As an incentive to sign a long-term lease, the landlord offered free rent for the first year.
The following are important characteristics of the lease transaction:

- 6-year lease, commencing 1/1/Y1.
- Rent of $12,000 due in years 2-6.
- Annual rents due at end of each year.
- Assume the accounting will be done entirely using the old lease standard and it qualifies as an operating lease.

Instructions

Prepare journal entries for XYZ for the entirety of the lease term.

Solution

Despite the free rent provision, *ASC 840-20-25-1* suggests that rent expense should be recognized on a straight-line basis in this case over the lease:

> *Rent shall be charged to expense by lessees (reported as income by lessors) over the lease term as it becomes payable (receivable). If rental payments are not made on a straight-line basis, rental expense nevertheless shall be recognized on a straight-line basis unless another systematic and rational basis is more representative of the time pattern in which use benefit is derived from the leased property, in which case that basis shall be used.*

Accordingly, the following journal entries would be made:

December 31, Y1		
Rent expense	10,000	
Deferred Rent		10,000
December 31, Y2 through Y6		
Rent expense	10,000	
Deferred rent	2,000	
Cash		12,000

Note. The deferred rent (some firms term it *rent payable*) is a liability.

Appendix 4J

TN Exhibit 5 – Lease Classification (Revisited, Under ASC 842)

	A		B
Machine FMV	1,300,000		1,350,000
PV of Min. Lease Pymts	1,200,000		1,200,000
Lease Term (years)	5	Years	5
Lease Payments (end of year)	300,000	Per Year	300,000
Asset Life (years)	6	Years	7
Depreciation Expense	240,000 [a]		
Inputed Interest Rate	7.931% [b]		
Lease Tests[c]			
=>75% of economic life	83.3%		71.4%
=>90% of fair market value	92.3%		88.9%

Year	Payment	Interest	Principal	Lease Liability
				1,200,000
1	300,000	95,170	204,830	995,170
2	300,000	78,925	221,075	774,095
3	300,000	61,392	238,608	535,487
4	300,000	42,469	257,531	277,956
5	300,000	22,044	277,956	0
	1,500,000	300,000	1,200,000	

Year	Lease Expense[d]	Interest Expense	Amortiz. Expense
1	300,000	95,170	204,830
2	300,000	78,925	221,075
3	300,000	61,392	238,608
4	300,000	42,469	257,531
5	300,000	22,044	277,956
	1,500,000	300,000	1,200,000

	Year 1		Year 2		Year 3		Year 4		Year 5		
	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr	Total Expense
Operating Lease [B]											
ROU Asset	1,200,000										
Lease Liability		1,200,000									
Lease Liability	204,830		221,075		238,608		257,531		277,956		
Lease Expense	300,000		300,000		300,000		300,000		300,000		1,500,000
Cash		300,000		300,000		300,000		300,000		300,000	
ROU Asset		204,830		221,075		238,608		257,531		277,956	
Capital Lease [A]											
ROU Asset	1,200,000		-		-		-		-		
Lease Liability		1,200,000		-		-		-		-	
Amortization Exp	240,000		240,000		240,000		240,000		240,000		1,200,000
ROU Asset		240,000		240,000		240,000		240,000		240,000	
Lease Obligation	204,830		221,075		238,608		257,531		277,956		
Interest Expense	95,170		78,925		61,392		42,469		22,044		300,000
Cash		300,000		300,000		300,000		300,000		300,000	
Total Expense	335,170		318,925		301,392		282,469		262,044		1,500,000

[a] Depreciation computed over lease term because there is no BPO or transfer.

[b] Computed implied interest rate based of PV of $1,200,000 and end-of-year lease payments of $300,000.

[c] While the bright-line lease tests are no longer required. *ASC 842-10-55-2* indicates that they may represent a reasonable approach in classifying leases.

[d] Lease expense for operating leases will be reported as a single expense. However, it is comprised of the interest on the lease liability and the amortization of the right-of-use asset. Annual amortization is computed by subtracting interest expense from the total lease expense.

Appendix 4K

TN Exhibit 6 – Suggested Solution for Case Requirement 1

Home Technology Innovations, Inc.
Balance Sheets
As of December 31, 2018

	As Presented	Pro Forma
Assets		
Current Assets		
Cash and cash equivalents	$ 55,125	$ 55,125
Accounts receivable	84,695	84,695
Inventories	1,125,648	1,125,648
Prepaid expenses	35,496	35,496
Other current assets	14,968	14,968
	1,315,932	1,315,932
Property, Plant, and Equipment		
Land	45,000	45,000
Right-of-use leased assets	-	346,696
Leasehold improvements	726,500	726,500
Equipment under capital leases	146,235	146,235
Other equipment	34,698	34,698
Accumulated depreciation	(398,659)	(398,659)
	553,774	900,470
	$ 1,869,706	$ 2,216,402
Liabilities and Shareholders' Equity		
Liabilities		
Line of credit	$ 120,994	$ 120,994
Current maturities of long-term debt	24,556	24,556
Accounts payable	324,963	324,963
Accrued expenses	96,451	96,451
Deferred revenues	69,875	69,875
	636,839	636,839
Capital lease obligations	38,510	38,510
Operating lease obligations	-	202,899
Long-term debt	525,000	525,000
	563,510	766,409
	1,200,349	1,547,045
Shareholders' Equity		
Common stock, no par	250,000	250,000
Retained earnings	419,357	419,357
	669,357	669,357
	$ 1,869,706	$ 2,216,402
Debt-to-Equity[a]	1.79	2.31

[a] The debt-to equity ratio is defined as total debt to total shareholders' equity in the loan covenant.

Appendix 4L

TN Exhibit 7 – Calculation Supporting Case Requirement 1

Home Technology Innovations, Inc.
Operating Lease Analysis

Category	Location	Lease Inception Date	Lease Termination Date	Lease Term at Inception (Months)	Remaining Lease Term December 31, 2018 (Months)	Renewal Assumptions	Minimum Lease Commitments 2019	2020	2021	2022	2023	After
Retail store	Mokena, IL	2/1/2016	1/31/2023	84	50	Renewal option not exercised	11,684	11,684	11,684	11,684	974	-
Retail store	Palatine, IL	7/1/2014	3/30/2019	60	3	Renewal option not exercised	2,906	-	-	-	-	-
Retail store	Glenview, IL	5/1/2015	4/30/2020	60	17	Renewal option not exercised	17,759	5,920	-	-	-	-
Retail store	Wauesha, WI	10/1/2016	9/30/2021	60	34	Renewal option not exercised	11,215	11,215	8,411	-	-	-
Retail store	O'Fallon, MO	3/1/2017	2/28/2022	60	39	Renewal option not exercised	8,420	8,420	8,420	1,403	-	-
Retail store	Florence, KY	8/1/2017	7/31/2022	60	44	Renewal option not exercised	10,467	10,467	10,467	6,106	-	-
Retail store	Avon, IN	7/1/2018	6/30/2023	60	55	Renewal option not exercised	11,975	11,975	11,975	11,975	5,988	-
Warehouse	Mokena, IL	2/1/2016	1/31/2023	84	50	Renewal option not exercised	12,034	12,034	12,034	12,034	1,003	-
Delivery/service vehicle	Mokena, IL	6/1/2016	5/31/2019	36	6	No renewal option	2,400	-	-	-	-	-
Delivery/service vehicle	Mokena, IL	1/1/2017	12/31/2019	36	13	No renewal option	4,800	400	-	-	-	-
Delivery/service vehicle	Glenview, IL	7/1/2017	6/30/2020	36	19	No renewal option	5,040	2,940	-	-	-	-
Delivery/service vehicle	Wauesha, WI	11/1/2016	10/31/2019	36	11	No renewal option	4,400	-	-	-	-	-
Delivery/service vehicle	O'Fallon, MO	5/1/2017	4/30/2020	36	17	No renewal option	4,200	1,400	-	-	-	-
Delivery/service vehicle	Florence, KY	10/1/2017	9/30/2020	36	22	No renewal option	4,500	3,375	-	-	-	-
Delivery/service vehicle	Avon, IN	10/1/2018	9/30/2021	36	34	No renewal option	5,100	5,100	3,825	-	-	-
Printer/copier/scanner system	Each location	7/1/2015	6/30/2018	36			-					
Printer/copier/scanner system	Each location	8/1/2018	7/30/2021	36	32	No renewal option	15,000	15,000	8,750	-	-	-
Telephone systems	Each location	12/1/2015	11/30/2020	60	24	No renewal option	3,600	3,600	-	-	-	-
Inventory management/delivery scanner system	Each location	12/1/2015	11/30/2020	60	24	No renewal option	19,800	19,800	-	-	-	-
							155,301	123,330	75,567	43,203	7,964	-
						Lease Capitalization Calculation						
						PV Factor @ 8%	0.9259	0.8573	0.7938	0.7350	0.6806	0.6806
						PV of lease obligations	143,797	105,736	59,987	31,755	5,420	-
						Sum of PV of lease obligations	346,696					

Note. Given the short-term (less than 12 months) remaining on the Palatine retail store and the Mokena and Waukesha delivery vehicles, those leases could be reasonably removed from the constructive capitalization calculation. However, the impacts would not materially impact the estimated liability and accompanying right-of-use asset.

Appendix 4M

TN Exhibit 8 – Suggested Solution for Case Requirement 2

Home Technology Innovations, Inc.
Balance Sheet
As of December 31, 2018

	As Presented	Pro Forma
Assets		
Current Assets		
Cash and cash equivalents	$ 55,125	$ 55,125
Accounts receivable	84,695	84,695
Inventories	1,125,648	1,125,648
Prepaid expenses	35,496	35,496
Other current assets	14,968	14,968
	1,315,932	1,315,932
Property, Plant, and Equipment		
Land	45,000	45,000
Right-of-use leased assets	-	664,705
Leasehold improvements	726,500	726,500
Equipment under capital leases	146,235	146,235
Other equipment	34,698	34,698
Accumulated depreciation	(398,659)	(398,659)
	553,774	1,218,479
	$ 1,869,706	$ 2,534,411
Liabilities and Shareholders' Equity		
Liabilities		
Line of credit	$ 120,994	$ 120,994
Current maturities of long-term debt	24,556	24,556
Current portion of operating lease obligations	-	152,516
Accounts payable	324,963	324,963
Accrued expenses	96,451	96,451
Deferred revenues	69,875	69,875
	636,839	789,355
Capital lease obligations	38,510	38,510
Operating lease obligations	-	512,189
Long-term debt	525,000	525,000
	563,510	1,075,699
	1,200,349	1,865,054
Shareholders' Equity		
Common stock, no par	250,000	250,000
Retained earnings	419,357	419,357
	669,357	669,357
	$ 1,869,706	$ 2,534,411
Debt-to-Equity[a]	1.79	2.79

[a] The debt-to equity ratio is defined as total debt to total shareholders' equity in the loan covenant.

Appendix 4N

TN Exhibit 9 – Calculation Supporting Case Requirement 2

Home Technology Innovations, Inc.
Operating Lease Analysis (with Renewals Options Assumed)

Category	Location	Lease Inception Date	Lease Termination Date	Lease Term at Inception (Months)	Remaining Lease Term December 31, 2018 (Months)	Renewal Assumptions	Minimum Lease Commitments (with Renewal Options Assumed to be Exercised) 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Retail store	Mokena, IL	2/1/2016	1/31/2023	84	50	Renewal option exercised	11,684	11,684	11,684	11,684	12,113	12,152	12,152	12,152	12,152	1,013
Retail store	Palatine, IL	7/1/2014	3/31/2019	60	3	Renewal option exercised	12,323	12,555	12,555	12,555	12,555	3,139				
Retail store	Glenview, IL	5/1/2015	4/30/2020	60	17	Renewal option exercised	17,759	18,943	19,535	19,535	19,535	19,535	6,512			
Retail store	Wauesha, WI	10/1/2016	9/30/2021	60	34	Renewal option exercised	11,215	11,215	8,411	11,776	11,776	11,776	11,776			
Retail store	O'Fallon, MO	3/1/2017	2/28/2022	60	39	Renewal option exercised	8,420	8,420	8,420	8,560	8,588	8,588	8,588	8,588	1,431	
Retail store	Florence, KY	8/1/2017	7/31/2022	60	44	Renewal option exercised	10,467	10,467	10,467	10,598	10,781	10,781	10,781	10,781	6,289	
Retail store	Avon, IN	7/1/2018	6/30/2023	60	55	Renewal option exercised	11,975	11,975	11,975	11,975	12,275	12,574	12,574	12,574	12,574	6,287
Warehouse	Mokena, IL	2/1/2016	1/31/2023	84	50	Renewal option exercised	12,034	12,034	12,034	12,034	12,586	12,636	12,636	12,636	12,636	1,053
Delivery/service vehicle	Mokena, IL	6/1/2016	5/31/2019	36	6	No renewal option	2,400	-	-	-	-	-				
Delivery/service vehicle	Mokena, IL	1/1/2017	12/31/2019	36	13	No renewal option	4,800	400	-	-	-	-				
Delivery/service vehicle	Glenview, IL	7/1/2017	6/30/2020	36	19	No renewal option	5,040	2,940	-	-	-	-				
Delivery/service vehicle	Wauesha, WI	11/1/2016	10/31/2019	36	11	No renewal option	4,400	-	-	-	-	-				
Delivery/service vehicle	O'Fallon, MO	5/1/2017	4/30/2020	36	17	No renewal option	4,200	1,400	-	-	-	-				
Delivery/service vehicle	Florence, KY	10/1/2017	9/30/2020	36	22	No renewal option	4,500	3,375	-	-	-	-				
Delivery/service vehicle	Avon, IN	10/1/2018	9/30/2021	36	34	No renewal option	5,100	5,100	3,825	-	-	-				
Printer/copier/scanner system	Each location	7/1/2015	6/30/2018	36			-									
Printer/copier/scanner system	Each location	8/1/2018	7/30/2021	36	32	No renewal option	15,000	15,000	8,750	-	-	-				
Telephone systems	Each location	12/1/2015	11/30/2020	60	24	No renewal option	3,600	3,600	-	-	-	-				
Inventory management/delivery scanner system	Each location	12/1/2015	11/30/2020	60	24	No renewal option	19,800	19,800	-	-	-	-				
							164,717	148,909	107,657	98,718	100,208	91,180	75,018	56,731	45,082	8,353
						Lease Capitalization Calculation										
						PV Factor @ 8%	0.9259	0.8573	0.7938	0.7350	0.6806	0.6302	0.5835	0.5403	0.5002	0.4632
						PV of lease obligations	152,516	127,665	85,461	72,560	68,200	57,459	43,773	30,650	22,552	3,869
						Sum of PV of lease obligations	664,705									

Appendix 4O

TN Exhibit 11 – Suggested Solution for Case Requirement 4

Home Technology Innovations, Inc. Balance Sheet As of December 31, 2018	As Presented	(Pro Forma) Under New Standard	with Renewal Options	after Equity Sale[a]
Assets				
Current Assets				
Cash and cash equivalents	$ 55,125	$ 55,125	$ 55,125	$ 1,755,125
Accounts receivable	84,695	84,695	84,695	84,695
Inventories	1,125,648	1,125,648	1,125,648	1,125,648
Prepaid expenses	35,496	35,496	35,496	35,496
Other current assets	14,968	14,968	14,968	14,968
	1,315,932	1,315,932	1,315,932	3,015,932
Property, Plant, and Equipment			-	
Land	45,000	45,000	45,000	45,001
Right-of-use leased assets	-	346,696	664,705	664,705
Leasehold improvements	726,500	726,500	726,500	726,500
Equipment under capital leases	146,235	146,235	146,235	146,235
Other equipment	34,698	34,698	34,698	34,698
Accumulated depreciation	(398,659)	(398,659)	(398,659)	(398,659)
	553,774	900,470	1,218,479	1,218,480
	$ 1,869,706	$ 2,216,402	$ 2,534,411	$ 4,234,412
Liabilities and Shareholders' Equity				
Liabilities				
Line of credit	$ 120,994	$ 120,994	$ 120,994	$ 120,994
Current maturities of long-term debt	24,556	24,556	24,556	24,556
Current portion of operating lease obligations	-	143,797	152,516	152,516
Accounts payable	324,963	324,963	324,963	324,963
Accrued expenses	96,451	96,451	96,451	96,451
Deferred revenues	69,875	69,875	69,875	69,875
	636,839	780,636	789,355	789,355
Capital lease obligations	38,510	38,510	38,510	38,512
Operating lease obligations	-	202,899	512,189	512,189
Long-term debt	525,000	525,000	525,000	525,000
	563,510	766,409	1,075,699	1,075,701
	1,200,349	1,547,045	1,865,054	1,865,056
Shareholders' Equity				
Common stock, no par	250,000	250,000	250,000	1,950,000
Retained earnings	419,357	419,357	419,357	419,358
	669,357	669,357	669,357	2,369,358
	$ 1,869,706	$ 2,216,402	$ 2,534,411	$ 4,234,414
Debt-to-Equity[b]	1.79	2.31	2.79	0.79

Note.

If it is assumed that all lease renewals are *reasonably certain* and no debt paydowns are made, HTI, Inc. would seem likely to generate enough net income in 2019 and 2020 to avoid debt covenant violation.

Total equity needed at December 31, 2020 to avoid covenant violation:	932,527
Net income needed for 2019 and 2020 combined to reach equity threshold above:	263,170

[a] Pro forma assumes $1.7 million equity sale from to Sunrise Capital, with proceeds retained as available in cash.

[b] Loan covenant defines the ratio as total liabilities to total shareholders' equity.

Appendix 4P

TN Exhibit 14 – Support for Case Requirement 6c

			Lease Liability					ROU Amortization		
Initial Term (Mos.)	Remaining Term (Mos.)	Payment Date	Lease Payment	Interest Portion	Liability Reduction	Lease Liability	Month	S/L Expense	Interest Expense	ROU Amortization
		Dec 1, 2019				45,420				
10	1	Jan 1, 2020	1,047	-	1,047	44,374	Jan 2020	942	296	646
11	2	Feb 1, 2020	1,047	296	751	43,623	Feb 2020	942	291	651
12	3	Mar 1, 2020	1,047	291	756	42,867	Mar 2020	942	286	656
13	4	Apr 1, 2020	1,047	286	761	42,107	Apr 2020	942	281	661
14	5	May 1, 2020	1,047	281	766	41,341	May 2020	942	276	666
15	6	Jun 1, 2020	1,047	276	771	40,570	Jun 2020	942	270	671
16	7	Jul 1, 2020	1,047	270	776	39,794	Jul 2020	942	265	677
17	8	Aug 1, 2020	1,047	265	781	39,013	Aug 2020	942	260	682
18	9	Sep 1, 2020	1,047	260	786	38,226	Sep 2020	942	255	687
19	10	Oct 1, 2020	1,047	255	792	37,435	Oct 2020	942	250	692
20	11	Nov 1, 2020	1,047	250	797	36,638	Nov 2020	942	244	698
21	12	Dec 1, 2020	1,047	244	802	35,835	Dec 2020	942	239	703
22	13	Jan 1, 2021	1,047	239	808	35,028	Jan 2021	942	234	708
23	14	Feb 1, 2021	1,047	234	813	34,215	Feb 2021	942	228	714
24	15	Mar 1, 2021	1,047	228	818	33,396	Mar 2021	942	223	719
25	16	Apr 1, 2021	1,047	223	824	32,572	Apr 2021	942	217	725
26	17	May 1, 2021	1,047	217	829	31,743	May 2021	942	212	730
27	18	Jun 1, 2021	1,047	212	835	30,908	Jun 2021	942	206	736
28	19	Jul 1, 2021	1,047	206	840	30,068	Jul 2021	942	200	741
29	20	Aug 1, 2021	1,047	200	846	29,222	Aug 2021	942	195	747
30	21	Sep 1, 2021	1,047	195	852	28,370	Sep 2021	942	189	753
31	22	Oct 1, 2021	1,047	189	857	27,513	Oct 2021	942	183	758
32	23	Nov 1, 2021	1,047	183	863	26,649	Nov 2021	942	178	764
33	24	Dec 1, 2021	1,047	178	869	25,781	Dec 2021	942	172	770
34	25	Jan 1, 2022	1,047	172	875	24,906	Jan 2022	942	166	776
35	26	Feb 1, 2022	1,047	166	880	24,025	Feb 2022	942	160	782
36	27	Mar 1, 2022	1,047	160	886	23,139	Mar 2022	942	154	788
37	28	Apr 1, 2022	1,047	154	892	22,247	Apr 2022	942	148	794
38	29	May 1, 2022	1,047	148	898	21,349	May 2022	942	142	800
39	30	Jun 1, 2022	1,047	142	904	20,444	Jun 2022	942	136	806
40	31	Jul 1, 2022	1,047	136	910	19,534	Jul 2022	942	130	812
41	32	Aug 1, 2022	1,047	130	916	18,618	Aug 2022	942	124	818
42	33	Sep 1, 2022	1,047	124	922	17,696	Sep 2022	942	118	824
43	34	Oct 1, 2022	1,047	118	929	16,767	Oct 2022	942	112	830
44	35	Nov 1, 2022	1,047	112	935	15,832	Nov 2022	942	106	836
45	36	Dec 1, 2022	1,047	106	941	14,891	Dec 2022	942	99	843
46	37	Jan 1, 2023	1,047	99	947	13,944	Jan 2023	942	93	849
47	38	Feb 1, 2023	1,047	93	954	12,990	Feb 2023	942	87	855
48	39	Mar 1, 2023	1,047	87	960	12,031	Mar 2023	942	80	862
49	40	Apr 1, 2023	1,047	80	966	11,064	Apr 2023	942	74	868
50	41	May 1, 2023	1,047	74	973	10,091	May 2023	942	67	875
51	42	Jun 1, 2023	1,047	67	979	9,112	Jun 2023	942	61	881
52	43	Jul 1, 2023	1,047	61	986	8,126	Jul 2023	942	54	888
53	44	Aug 1, 2023	1,047	54	992	7,134	Aug 2023	942	48	894
54	45	Sep 1, 2023	1,047	48	999	6,135	Sep 2023	942	41	901
55	46	Oct 1, 2023	1,047	41	1,006	5,130	Oct 2023	942	34	908
56	47	Nov 1, 2023	1,047	34	1,012	4,117	Nov 2023	942	27	914
57	48	Dec 1, 2023	1,047	27	1,019	3,098	Dec 2023	942	21	921
58	49	Jan 1, 2024	1,047	21	1,026	2,072	Jan 2024	942	14	928
59	50	Feb 1, 2024	1,047	14	1,033	1,040	Feb 2024	942	7	935
60	51	Mar 1, 2024	1,047	7	1,040	(0)	Mar 2024	942	-	942
			53,373	7,952	45,420			48,035	7,952	40,083
	2020 Totals		12,558	2,973	9,585			11,302	3,212	8,090

Note. Because the Palatine lease represents an annuity due. HTI, Inc. would incur and accrue interest expense prior to the month when it is paid. As a result, for the summary 2020 journal entry at December 31, 2020 it is necessary to accrue for interest costs of $239 incurred in December 2020, but paid on January 1, 2021. S/L is straight line and ROU is right-of-use.

Appendix 4Q

TN Exhibit 15 – Results (Multiple Choice / True-False Scoring)

PRE/MID/POST	Question Text [a]	N = 80 Frequency of Correct Answers PRE	N = 75 MID	N = 79 POST	t-test for Difference in Proportion p-value [b] PRE-MID	MID-POST	PRE-POST
Q9/Q9/Q9	The primary objective of the FASB's "new" lease standard is to	58	73	78	0.000***	0.265	0.000***
Q10/Q10/Q10	The FASB's "new" lease standard will likely have what effect on an operating lessee firm's balance sheet:	54	62	67	0.015**	0.359	0.005**
Q11/Q11/Q11	The FASB's "new" lease standard requires the use "bright line" tests (e.g. 75-percent of economic life and 90-percent of minimum lease payments) in classifying lease obligations.	33	42	51	0.033*	0.139	0.002**
Q12/Q12/Q12	The FASB's "new" lease standard will have the most impact on _____ lease accounting for _____. (fill in the blanks)	58	64	73	0.026*	0.081	0.001**
Q13/Q13/Q13	The FASB's "new" lease standard results in the recognition of a right-of-use asset on the lessee's balance sheet.	70	72	78	0.028*	0.143	0.003**
Q14/Q14/Q14	For lessee firms, the FASB's "new" lease standard	47	51	53	0.116	0.452	0.138
Q15/Q15/Q15	For an operating lease under the FASB's "new" lease standard, amortization of the right-of-use asset is computed	7	4	2	0.204	0.185	0.045*
Q18/Q18/Q18	The constructive capitalization technique allows financial statement users to estimate of the impacts of _____ capitalizing _____. (fill in the blanks)	51	54	67	0.136	0.026*	0.001**
Q19/Q19/Q19	Constructive capitalization of operating leases requires analysts to make important assumptions for: I - the timing of lease payments. II - the interest rate used. III - the amount of lease payments.	46	49	51	0.159	0.460	0.181
Q21/Q21/Q21	Under the FASB's "old" lease standard, "free" rent incentives for operating leases typically	20	37	46	0.001**	0.134	0.000***
Q22/NA/Q22	Under the FASB's "new" lease standard, "free" rent incentives for operating leases will likely	22	NA	38	NA	NA	0.004**
Q25/NA/Q25	The FASB's "new" lease standard requires including lease renewal options in the determination of the lease liability	20	NA	54	NA	NA	0.000***
Q26/NA/Q26	Under the FASB's "new" lease standard short-term (less than 12 months) leases.	25	NA	41	NA	NA	0.004**
Q27/NA/Q27	Under the FASB's "new" lease standard short-term (less than 12 months) leases.	38	NA	62	NA	NA	0.000***
Q28/NA/Q28	In transitioning to the "new" lease standard, any remaining deferred rent created from "free" or non-level rents will	32	NA	51	NA	NA	0.001**

[a] Answer choices and frequency of responses for each choice are presented in TN Exhibit 16.

[b] 1-tail p-value for test of difference in proportion of correct responses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Appendix 4R

TN Exhibit 16 – Results (Detailed Multiple Choice / True-False Scoring)

HTI, Inc. Case Study / Scaffold Survey Results
Detailed Multiple Choice / True-False Scoring

	Count of Correct Answers			Percentage of Correct Answers		
	PRE	MID	POST	PRE	MID	POST
Q9 The primary objective of the FASB's "new" lease standard is to						
a. fully converge lease reporting under both U.S. GAAP and IFRS.	11	0	0	13.8%	0.0%	0.0%
b. address the off-balance sheet financing concerns related to lessees' operating leases.	**58**	**73**	**78**	**72.5%**	**97.3%**	**98.7%**
c. promote symmetry of reporting for lessees and lessors.	10	2	1	12.5%	2.7%	1.3%
d. None of the above are correct.	1	0	0	1.3%	0.0%	0.0%
Q10 The FASB's "new" lease standard will likely have what effect on an operating lessee firm's balance sheet:						
a. increase total assets and increase total liabilities.	**54**	**62**	**67**	**67.5%**	**82.7%**	**84.8%**
b. decrease total assets and decrease total liabilities.	6	2	4	7.5%	2.7%	5.1%
c. increase retained earnings and increase total liabilities.	12	7	4	15.0%	9.3%	5.1%
d. decrease retained earnings and decrease total liabilities.	5	3	2	6.3%	4.0%	2.5%
e. None of the above. Firms will be unlikely to see material balance sheet effects.	3	1	2	3.8%	1.3%	2.5%
Q11 The FASB's "new" lease standard requires the use "bright line" tests (e.g. 75-percent of economic life and 90-percent of minimum lease payments) in classifying lease obligations.						
True	47	33	28	58.8%	44.0%	35.4%
False	**33**	**42**	**51**	**41.3%**	**56.0%**	**64.6%**
Q12 The FASB's "new" lease standard will have the most impact on _____ lease accounting for _____. (fill in the blanks)						
a. operating; lessors.	8	2	3	10.0%	2.7%	3.8%
b. operating; lessees.	**58**	**64**	**73**	**72.5%**	**85.3%**	**92.4%**
c. capital (finance); lessors.	5	5	3	6.3%	6.7%	3.8%
d. capital (finance); lessees.	9	4	0	11.3%	5.3%	0.0%
Q13 The FASB's "new" lease standard results in the recognition of a right-of-use asset on the lessee's balance sheet.						
True	**70**	**72**	**78**	**87.5%**	**96.0%**	**98.7%**
False	10	3	1	12.5%	4.0%	1.3%
Q14 For lessee firms, the FASB's "new" lease standard						
a. requires disclosing operating lease commitments in the notes to the financial statements, but not recognizing them as a liability.	7	4	3	8.8%	5.3%	3.8%
b. requires recognizing operating lease commitments as a liability, using a dual model approach whereby distinctions are made between operating and capital (finance) leases.	**47**	**51**	**53**	**58.8%**	**68.0%**	**67.1%**
c. provides a choice between disclosing operating lease commitments in the notes to the financial statements or recognizing them as a liability.	5	4	2	6.3%	5.3%	2.5%
d. requires recognizing operating lease commitments as a liability, using a single model approach whereby no distinction is made between operating and capital (finance) leases.	21	16	21	26.3%	21.3%	26.6%

Appendix 4R (Continued)

	Count of Correct Answers			Percentage of Correct Answers		
	PRE	MID	POST	PRE	MID	POST
Q15 For an operating lease under the FASB's "new" lease standard, amortization of the right-of-use asset is computed						
a. on a straight-line basis over the lease term.	15	24	26	18.8%	32.0%	32.9%
b. on a straight-line basis over the asset's useful life.	11	4	11	13.8%	5.3%	13.9%
c. on a straight-line basis over the lease term or the asset's useful life, whichever is less.	47	43	40	58.8%	57.3%	50.6%
d. None of the above.	**7**	**4**	**2**	**8.8%**	**5.3%**	**2.5%**
Q18 The constructive capitalization technique allows financial statement users to estimate of the impacts of _____ capitalizing _____. (fill in the blanks)						
a. lessees; capital (finance) leases	17	11	7	21.3%	14.7%	8.9%
b. lessees; operating leases	**51**	**54**	**67**	**63.8%**	**72.0%**	**84.8%**
c. lessors; capital (finance) leases	7	6	3	8.8%	8.0%	3.8%
d. lessors; operating leases	5	4	2	6.3%	5.3%	2.5%
Q19 Constructive capitalization of operating leases requires analysts to make important assumptions for: I - the timing of lease payments. II - the interest rate used. III - the amount of lease payments.						
a. I	2	2	5	2.5%	2.7%	6.3%
b. II	8	12	12	10.0%	16.0%	15.2%
c. III	4	3	1	5.0%	4.0%	1.3%
d. both I and III	14	5	7	17.5%	6.7%	8.9%
e. both II and III	6	4	3	7.5%	5.3%	3.8%
f. I , II, and III	**46**	**49**	**51**	**57.5%**	**65.3%**	**64.6%**
Q21 Under the FASB's "old" lease standard, "free" rent incentives for operating leases typically						
a. result in different rent expense recognized for the first year of the lease.	28	19	13	35.0%	25.3%	16.5%
b. result in the lessee recognizing a deferred liability during the "free" rent period.	**20**	**37**	**46**	**25.0%**	**49.3%**	**58.2%**
c. reduce the amount of the right-of-use asset recorded by the lessee.	12	13	11	15.0%	17.3%	13.9%
d. are only disclosed in the notes to the financial statements.	20	6	9	25.0%	8.0%	11.4%
Q22 Under the FASB's "new" lease standard, "free" rent incentives for operating leases will likely						
a. result in different rent expense recognized for the first year of the lease.	17	NA	8	21.3%	NA	10.1%
b. result in the lessee recognizing a deferred liability during the "free" rent period.	34	NA	31	42.5%	NA	39.2%
c. reduce the amount of the right-of-use asset recorded by the lessee.	**22**	**NA**	**38**	**27.5%**	**NA**	**48.1%**
d. are only disclosed in the notes to the financial statements.	7	NA	2	8.8%	NA	2.5%

Appendix 4R (Continued)

	Count of Correct Answers			Percentage of Correct Answers		
	PRE	MID	POST	PRE	MID	POST
Q25 The FASB's "new" lease standard requires including lease renewal options in the determination of the lease liability						
a. if management deems it is "reasonably certain" to renew the lease.	**20**	**NA**	**54**	**25.0%**	**NA**	**68.4%**
b. if management deems it is "more-likely-than-not" to renew the lease.	44	NA	20	55.0%	NA	25.3%
c. regardless of the likelihood that management will exercise the renewal option.	11	NA	3	13.8%	NA	3.8%
d. None of the above. Renewal options are not required to be included in the determination of the lease liability.	5	NA	2	6.3%	NA	2.5%
Q26 Under the FASB's "new" lease standard short-term (less than 12 months) leases.						
a. are granted an exception from capitalization.	**25**	**NA**	**41**	**31.3%**	**NA**	**51.9%**
b. are granted an exception from capitalization -- only if they are not material.	26	NA	23	32.5%	NA	29.1%
c. must be classified as capital (finance) leases.	16	NA	10	20.0%	NA	12.7%
d. are treated the same as long-term leases.	13	NA	5	16.3%	NA	6.3%
Q27 Operating leases commitments originating prior to the implementation date of the "new" standard						
a. are "grandfathered" and not required to be capitalized as a liability.	33	NA	11	41.3%	NA	13.9%
b. are recorded as a liability based on the present value of the remaining lease payments.	**38**	**NA**	**62**	**47.5%**	**NA**	**78.5%**
c. will not require recording an accompanying right-of use asset.	5	NA	3	6.3%	NA	3.8%
d. must be renegotiated with the lessor.	4	NA	3	5.0%	NA	3.8%
Q28 In transitioning to the "new" lease standard, any remaining deferred rent created from "free" or non-level rents will						
a. reduce the right-of use asset.	**32**	**NA**	**51**	**40.0%**	**NA**	**64.6%**
b. increase the reporting lease liability.	23	NA	20	28.8%	NA	25.3%
c. be written off to the current period income statement.	16	NA	5	20.0%	NA	6.3%
d. be written off against the beginning of the period balance in retained earnings.	9	NA	3	11.3%	NA	3.8%

Note. Correct answers indicated with bolded font.

Appendix 4S

TN Exhibit 17 – Survey Results (Likert Scoring)

HTI, Inc. Case Study / Scaffold Survey Results
Likert Scoring

1 – Strongly Agree, 2 – Agree, 3 – Neither Agree or Disagree, 4 – Disagree, and 5 – Strongly Disagree

PRE/MID/POST	Question Text	Mean (*SD*) PRE	Mean (*SD*) MID	Mean (*SD*) POST	t-test for Difference in Means p-value [a] PRE-MID	MID-POST	PRE-POST
Q16/Q16/Q16	The FASB's "new" lease standard is likely to result in material differences in reported rent expenses for lessees.	2.38 (1.04)	2.01 (1.10)	2.20 (1.13)	0.022*	0.284	0.320
Q17/Q17/Q17	By requiring lessees to record (substantially all) lease obligations as debt, the FASB's "new" lease standard reduces the need for management to apply judgment in financial reporting.	3.14 (1.18)	2.61 (1.30)	3.01 (1.27)	0.004**	0.036*	0.520
Q20/Q20/Q20	The constructive capitalization technique is helpful in estimating the financial statement impacts associated with the "new" lease accounting standard.	2.15 (0.63)	1.97 (0.85)	1.94 (0.82)	0.029*	0.735	0.041*
Q23/Q22/Q23	Scheduled (or contractual) annual rent increases over the term of an operating lease will typically result in a lessee firm recognizing different rent expense each year.	2.73 (1.10)	3.24 (1.28)	2.78 (1.25)	0.009**	0.065	0.716
Q24/Q23/Q24	Management's judgment about the likelihood of the exercise of a renewal option is critical in the determination of the liability related to operating leases under the "new" standard.	2.55 (0.99)	2.71 (1.07)	2.00 (0.87)	0.280	0.000***	0.000***
Q29/Q27/Q29	I understand the potential financial statement impacts for lessees under the FASB's "new" lease accounting standard.	3.13 (1.12)	2.15 (0.87)	2.09 (0.75)	0.000***	0.471	0.000***

PRE/MID/POST	Question Text	Mean (*SD*) PRE	Mean (*SD*) MID	Mean (*SD*) POST	t-test for Difference in Means p value [b] PRE-MID	MID-POST	PRE-POST
NA/Q24/NA	The activities from the Wednesday April 19 class session helped me recall lease classification criteria under the "old" lease accounting standard.	NA	1.64 (0.79)	NA	NA	0.000***	NA
NA/Q25/NA	The activities from the Wednesday April 19 class session were helpful in better understanding the standard-setters' motivations for a "new" lease accounting standard.	NA	1.71 (0.8)	NA	NA	0.000***	NA
NA/Q26/NA	The activities from the Wednesday April 19 class session will be useful in applying the "new" lease accounting standard to the HTI, Inc. case study.	NA	1.96 (0.79)	NA	NA	0.000***	NA
NA/NA/Q31	I found the case study and related activities interesting.	NA	NA	2.46 (1.11)	NA	NA	0.000***
NA/NA/Q32	The case study was challenging.	NA	NA	1.37 (0.66)	NA	NA	0.000***
NA/NA/Q33	The case and related activities were a good learning experience.	NA	NA	2.24 (1.08)	NA	NA	0.000***
NA/NA/Q34	Completing the case as a team was beneficial to my understanding of the issues.	NA	NA	2.06 (1.06)	NA	NA	0.000***
NA/NA/Q35	The case and related activities were a valuable use of class time.	NA	NA	2.29 (1.17)	NA	NA	0.000***
NA/NA/Q36	The activities and examples presented prior to the case study helped in completing the case requirements.	NA	NA	2.61 (1.08)	NA	NA	0.002**
NA/NA/Q37	Specifically, the following were good activities to prepare for the case study requirements.						
	a. Review of the *Intermediate Accounting* textbook.	NA	NA	2.96 (1.15)	NA	NA	0.772
	b. The Deloitte whitepaper "Bring It On!"	NA	NA	2.66 (1.16)	NA	NA	0.011**
	c. "Free" Rent Illustration	NA	NA	1.76 (1.03)	NA	NA	0.000***
	d. Lease Classification Review Activity / Example	NA	NA	1.86 (0.95)	NA	NA	0.000***
	e. Constructive Capitalization Activity/Example	NA	NA	2.04 (1.10)	NA	NA	0.000***
	f. "Screencast" video illustrating "new" lease accounting	NA	NA	2.53 (1.32)	NA	NA	0.002**
NA/NA/Q38	The case and related activities helped me get a better understanding of						
	a. the FASB's motivations behind the new lease standard	NA	NA	1.82 (0.91)	NA	NA	0.000***
	b. the potential balance sheet and related ratio impacts associated with the "new" standard.	NA	NA	1.80 (0.92)	NA	NA	0.000***
	c. the subjectivity associated with lease renewal options.	NA	NA	2.13 (1.01)	NA	NA	0.000***
	d. the process associated with transitioning to the "new" standard for existing leases.	NA	NA	2.10 (1.05)	NA	NA	0.000***

[a] 2-tail p-value for test of difference in means * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

[b] 2-tail p-value for test of difference in means compared to neutral response of "*3 - Neither Agree or Disagree* " * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Appendix 4T

TN Exhibit 18 – Survey Results (Multiple Choice and True-False Scoring - by Section)

HTI, Inc. Case Study / Scaffold Survey Results
Multiple Choice / True-False Scoring (by Section)

	Section 1			Section 2			t-test for Difference in Proportion
Variable [a]	Correct	N =	% Correct	Correct	N =	% Correct	p-value [b]
PRE Q9	34	45	75.6%	24	35	68.6%	0.488
PRE Q10	31	45	68.9%	23	35	65.7%	0.764
PRE Q11	18	45	40.0%	15	35	42.9%	0.797
PRE Q12	33	45	73.3%	25	35	71.4%	0.850
PRE Q13	40	45	88.9%	30	35	85.7%	0.670
PRE Q14	23	45	51.1%	24	35	68.6%	0.116
PRE Q15	4	45	8.9%	3	35	8.6%	0.960
PRE Q18	28	45	62.2%	23	35	65.7%	0.747
PRE Q19	22	45	48.9%	24	35	68.6%	0.077
PRE Q21	12	45	26.7%	8	35	22.9%	0.696
PRE Q22	11	45	24.4%	11	35	31.4%	0.488
PRE Q25	12	45	26.7%	8	35	22.9%	0.696
PRE Q26	14	45	31.1%	11	35	31.4%	0.976
PRE Q27	20	45	44.4%	18	35	51.4%	0.535
PRE Q28	15	45	33.3%	17	35	48.6%	0.168
MID Q9	40	42	95.2%	33	33	100.0%	0.204
MID Q10	34	42	81.0%	28	33	84.8%	0.658
MID Q11	24	42	57.1%	18	33	54.5%	0.822
MID Q12	37	42	88.1%	27	33	81.8%	0.446
MID Q13	39	42	92.9%	33	33	100.0%	0.117
MID Q14	26	42	61.9%	25	33	75.8%	0.202
MID Q15	3	42	7.1%	1	33	3.0%	0.431
MID Q18	31	42	73.8%	23	33	69.7%	0.694
MID Q19	29	42	69.0%	20	33	60.6%	0.446
MID Q21	21	42	50.0%	16	33	48.5%	0.896
POST Q9	44	44	100.0%	34	35	97.1%	0.259
POST Q10	37	44	84.1%	30	35	85.7%	0.842
POST Q11	33	44	75.0%	18	35	51.4%	0.030*
POST Q12	41	44	93.2%	32	35	91.4%	0.770
POST Q13	43	44	97.7%	35	35	100.0%	0.369
POST Q14	30	44	68.2%	23	35	65.7%	0.817
POST Q15	1	44	2.3%	1	35	2.9%	0.870
POST Q18	36	44	81.8%	31	35	88.6%	0.406
POST Q19	30	44	68.2%	21	35	60.0%	0.450
POST Q21	26	44	59.1%	20	35	57.1%	0.862
POST Q22	23	44	52.3%	15	35	42.9%	0.405
POST Q25	31	44	70.5%	23	35	65.7%	0.653
POST Q26	22	44	50.0%	19	35	54.3%	0.705
POST Q27	36	44	81.8%	26	35	74.3%	0.418
POST Q28	25	44	56.8%	26	35	74.3%	0.107

[a] Questions corresponding to each variable are fully detailed in TN Exhibit 16.

[b] 2-tail p-value for test of difference in proportion of correct responses * $p < 0.05$.

Appendix 4U

TN Exhibit 19 – Survey Results (Likert Scoring - by Section)

HTI, Inc. Case Study / Scaffold Survey Results
Likert Scoring (by Section)

	Section 1			Section 2			t-test
Variable [a]	N =	Mean	*SD*	N =	Mean	*SD*	p-value [b]
PRE Q16	45	2.267	1.031	35	2.514	1.067	0.297
PRE Q17	45	2.978	1.252	35	3.343	1.083	0.174
PRE Q20	45	2.133	0.548	35	2.171	0.747	0.793
PRE Q23	45	2.822	1.114	35	2.600	1.090	0.374
PRE Q24	45	2.689	1.062	35	2.371	0.877	0.157
PRE Q29	45	3.067	1.074	35	3.200	1.208	0.604
MID Q22	42	3.214	1.260	33	3.273	1.353	0.847
MID Q23	42	2.952	1.035	33	2.394	1.059	0.025*
MID Q24	42	1.619	0.731	33	1.667	0.890	0.800
MID Q25	42	1.690	0.749	33	1.727	0.876	0.577
MID Q26	42	1.905	0.726	33	2.030	0.883	0.502
MID Q27	42	2.071	0.778	33	2.242	1.001	0.408
POST Q23	44	2.773	1.255	35	2.800	1.279	0.924
POST Q24	44	2.136	0.979	35	1.829	0.707	0.122
POST Q29	44	2.136	0.878	35	2.029	0.568	0.532
POST Q31	44	2.523	1.067	35	2.371	1.190	0.554
POST Q32	44	1.409	0.542	35	1.314	0.796	0.532
POST Q33	44	2.250	1.037	35	2.229	1.165	0.931
POST Q34	44	2.068	1.043	35	2.057	1.110	0.964
POST Q35	44	2.364	1.102	35	2.200	1.279	0.543
POST Q36	44	2.636	1.059	35	2.571	1.145	0.795
POST Q37a	44	3.114	1.104	35	2.771	1.215	0.195
POST Q37b	44	2.682	1.116	35	2.629	1.239	0.842
POST Q37c	43	1.884	1.028	35	1.600	1.035	0.231
POST Q37d	44	1.818	0.815	35	1.914	1.121	0.661
POST Q37e	44	2.000	1.121	35	2.086	1.095	0.734
POST Q37f	44	2.477	1.210	35	2.600	1.479	0.686
POST Q38a	44	1.841	0.834	35	1.800	1.023	0.845
POST Q38b	44	1.727	0.788	35	1.886	1.078	0.453
POST Q38c	44	2.091	0.884	35	2.171	1.175	0.729
POST Q38d	44	2.091	1.007	35	2.114	1.132	0.923

[a] Questions corresponding to each variable are fully detailed in TN Exhibit 17.

[b] 2-tail p-value for test of difference in proportion of correct responses * $p < 0.05$.

Appendix 4V

TN Exhibit 20 – Handout for Case Day 1 Individual Submission

Leases Case Study

Name: _____

Questions 1 and 2

Debt-to-Equity, loan covenant _____

Debt-to-Equity, as presented _____ / _____= _____

Debt-to-Equity, pro forma (renewals not exercised) _____ / _____= _____

Debt-to-Equity, pro forma (renewals exercised) _____ / _____= _____

Question 3, part 1 (Using the guidance under *ASC 842* describe the process that Williams and HTI, Inc. management should undertake in assessing and documenting whether the lease renewal options should be included in the determination of the lease liability.)

What are the *ASC* reference(s) for the guidance that would support your response to this question?

_____

Appendix 4W

TN Exhibit 21 – Handout for Case Day 1 Group Submission

Leases Case Study Group Exercise

Section: _____ Group Number: _____

Group Member Names: _____

Questions 1 and 2

Debt-to-Equity, loan covenant _____

Debt-to-Equity, as presented _____ / _____= _____

Debt-to-Equity, pro forma (renewals not exercised) _____ / _____= _____

Debt-to-Equity, pro forma (renewals exercised) _____ / _____= _____

Supporting Calculations (alternatively, you may provide these in Excel via Dropbox):

Question 3, part 1 (Using the guidance under *ASC 842* describe the process that Williams and HTI, Inc. management should undertake in assessing and documenting whether the lease renewal options should be included in the determination of the lease liability.)

Support your response by providing the appropriate *ASC* reference(s):

_____

Appendix 4X

TN Exhibit 22 – Handout for Case Day 2 Group Submission

Leases Case Study Group Exercise

Section: _____ Group Number: _____

Group Member Names: _____

Question 6a Summary Journal Entry/Entries

Months	Account Titles	Debit	Credit

Support your response by providing appropriate ASC reference(s):

_____

Supporting Calculations (alternatively, you may provide these in Excel via Dropbox):

Question 6b Summary Journal Entry/Entries

Months	Account Titles	Debit	Credit

Support your response by providing appropriate *ASC* reference(s):

_____

Supporting Calculations (alternatively, you may provide these in Excel via Dropbox):

Appendix 4X (Continued)

Question 6c Summary Journal Entry/Entries

Months	Account Titles	Debit	Credit

Support your response by providing appropriate *ASC* reference(s):

Supporting Calculations (alternatively, you may provide these in Excel via the Dropbox):

Question 7

Support your response by providing appropriate *ASC* reference(s):

References

AACSB International. (2013). *Eligibility Procedures and Accreditation Standards for Business Accreditation*.

Abdel-Khalik, A. R. (1981). *The economic effects on lessees of FASB Statement No. 13, accounting for leases*. Financial Accounting Standards Board of the Financial Accounting Foundation.

Aboody, D. (1996). Recognition versus disclosure in the oil and gas industry. *Journal of Accounting Research*, *34*, 21–32. https://doi.org/DOI: 10.2307/2491423

Abraham, A., & Jones, H. (2016). Facilitating student learning in accounting through scaffolded assessment. *Issues in Accounting Education*, *31*(1), 29–49. https://doi.org/10.2308/iace-51320

Adedeji, A., & Stapleton, R. C. (1996). Leases, debt and taxable capacity. *Applied Financial Economics*, *6*(1), 71–83. https://doi.org/10.1080/096031096334484

Adler, R. W., & Milne, M. J. (1997). Improving the quality of accounting students' learning through action-oriented learning tasks. *Accounting Education*, *6*(3), 191–215. https://doi.org/10.1080/096392897331442

Agoglia, C. P., Doupnik, T. S., & Tsakumis, G. T. (2011). Principles-based versus rules-based accounting standards: The influence of standard precision and audit committee strength on financial reporting decisions. *The Accounting Review*, *86*(3), 747–767. https://doi.org/10.2308/accr.00000045

Altamuro, J., Johnston, R., Pandit, S. S., & Zhang, H. H. (2014). Operating leases and credit assessments. *Contemporary Accounting Research*, *31*(2), 551–580. https://doi.org/10.1111/1911-3846.12033

American Accounting Association. (1990). *Position and issues statements of the Accounting*

Education Change Commission. Retrieved from https://catalyst.library.jhu.edu/catalog/bib_2096071

Amernic, J. H., & Beechy, T. H. (1984). Accounting students' performance and cognitive complexity: Some empirical evidence. *Accounting Review*, *59*(2), 300–313. Retrieved from http://www.jstor.org/stable/247302

Anderson, E., Schiano, W. T., & Schiano, B. (2014). *Teaching with cases: A practical guide*. Brighton, MA: Harvard Business Press.

Anderson, M. C., Asdemir, O., & Tripathy, A. (2013). Use of precedent and antecedent information in strategic cost management. *Journal of Business Research*, *66*(5), 643–650. https://doi.org/10.1016/j.jbusres.2012.08.021

Anderson, M. C., Banker, R. D., Huang, R., & Janikiraman, S. (2007). Cost behavior and fundamental analysis of SG&A costs. *Journal of Accounting, Auditing & Finance*, *22*(1), 1–28. https://doi.org/10.1177/0148558X0702200103

Anderson, M. C., Banker, R. D., & Janakiraman, S. N. (2003). Are selling, general, and administrative costs "sticky"? *Journal of Accounting Research*, *41*(1), 47–63. https://doi.org/10.1111/1475-679X.00095

Anderson, S. W., & Lanen, W. N. (2007). Understanding cost management: What can we learn from the evidence on "sticky costs"? https://doi.org/10.2139/ssrn.975135

Ang, J., & Peterson, P. P. (1984). The leasing puzzle. *Journal of Finance*, *39*(4), 1055–1065. https://doi.org/10.1111/j.1540-6261.1984.tb03892.x

Angelo, T. A., & Cross, K. P. (1993). *Classroom assessment techniques: A handbook for college teachers*. San Francisco, CA: Jossey-Bass.

Apostolou, B., Dorminey, J. W., Hassell, J. M., & Rebele, J. E. (2015). Accounting education literature review (2013-2014). *Journal of Accounting Education*, *33*(2), 69–127.

https://doi.org/10.1016/j.jaccedu.2015.04.001

Argilés Bosch, J. M., & Garcia Blandón, J. (2007). Cost stickiness revisited: Empirical application for farms. *Documents de Treball (Facultat d'Economia I Empresa. Espai de Recerca En Economia), 2007, E07/187*. https://doi.org/10.1080/02102412.2009.10779675

Azevedo, R., Cromley, J. G., & Seibert, D. (2004). Does adaptive scaffolding facilitate students' ability to regulate their learning with hypermedia? *Contemporary Educational Psychology*, *29*(3), 344–370.

Balakrishnan, R., & Gruca, T. (2008). Cost stickiness and core competency: A note*. *Contemporary Accounting Research*, *25*(4), 993–1006. https://doi.org/10.1506/car.25.4.2

Balakrishnan, R., Labro, E., & Soderstrom, N. S. (2014). Cost structure and sticky costs. *Journal of Management Accounting Research*, *26*(1), 91–116. https://doi.org/10.2308/jmar-50831

Baldwin, B. A., & Reckers, P. M. J. (1984). Exploring the role of learning style research in accounting education policy. *Journal of Accounting Education*, *2*(2), 63–76. https://doi.org/10.1016/0748-5751(84)90006-X

Banker, R. D., Byzalov, D., Ciftci, M., & Mashruwala, R. (2014). The moderating effect of prior sales changes on asymmetric cost behavior. *Journal of Management Accounting Research*, *26*(2), 221–242.

Banker, R. D., Byzalov, D., & Plehn-Dujowich, J. (2011). Sticky cost behavior: Theory and evidence. https://doi.org/10.2308/jmar-50726

Banker, R. D., & Chen, L. (2006). Labor market characteristics and cross-country differences in cost stickiness [Working paper]. https://doi.org/10.2139/ssrn.921419

Banker, R. D., Ciftci, M., & Mashruwala, R. (2006). *The effect of prior-period sales changes on cost behavior*. https://doi.org/10.2139/ssrn.1599284

Banker, R. D., Ciftci, M., & Mashruwala, R. (2008). Managerial optimism, prior period sales

changes, and sticky cost behavior. https://doi.org/10.2139/ssrn.1599284

Barone, E., Birt, J., & Moya, S. (2014). Lease accounting: A review of recent literature. *Accounting in Europe*, *11*(1), 35–54. https://doi.org/10.1080/17449480.2014.903630

Baumgarten, D. (2010). The information content of the SG&A ratio. *Journal of Management Accounting Research*, *22*(1), 1–22. https://doi.org/10.2308/jmar.2010.22.11

Baumgarten, D. (2012). *The cost stickiness phenomenon: Causes, characteristics, and implications for fundamental analysis and financial analysts' forecasts*. Wiesbaden, Germany: Springer Gable.

Bayless, M. E., & Diltz, J. D. (1986). An empirical study of the debt displacement effects of leasing. *Financial Management*, *15*(4), 53–60.

Beattie, V., Goodacre, A., & Thomson, S. (2000a). Operating leases and the assessment of lease–debt substitutability. *Journal of Banking & Finance*, *24*(3), 427–470. https://doi.org/10.1016/S0378-4266(99)00045-X

Beattie, V., Goodacre, A., & Thomson, S. (2000b). Recognition versus disclosure: An investigation of the impact on equity risk using UK operating lease disclosures. *Journal of Business Finance & Accounting*, *27*(9/10), 1185–1224. https://doi.org/10.1111/1468-5957.00352

Beattie, V., Goodacre, A., & Thomson, S. J. (2006). International lease-accounting reform and economic consequences: The views of UK users and preparers. *The International Journal of Accounting*, *41*(1), 75–103. https://doi.org/10.1016/j.intacc.2005.12.003

Beneish, M. D., & Press, E. (1995). The resolution of technical default. *Accounting Review*, *70*(2), 337–353.

Bennett, B., & Bradbury, M. (2003). Capitalizing non-cancelable operating leases. *Journal of International Financial Managemnt and Accounting*, *14*, 101–113.

https://doi.org/10.1111/1467-646X.00091

Biondi, Y., Bloomfield, R. J., Glover, J. C., Jamal, K., Ohlson, J. A., Penman, S. H., … Jeffrey Wilks, T. (2011). A perspective on the joint IASB/FASB exposure draft on accounting for leases. *Accounting Horizons*, *25*(4), 861–871. https://doi.org/10.2308/acch-50048

Bliss, J., Askew, M., & Macrae, S. (1996). Effective teaching and learning: Scaffolding revisited. *Oxford Review of Education*, *22*(1), 37–61. https://doi.org/10.1080/0305498960220103

Bloom, B. S. (1956). *Taxonomy of educational objectives. (vol. 1)*. New York, NY: David McKay Publications.

Bonner, S. E. (1999). Choosing teaching methods based on learning objectives: An integrative framework. *Issues in Accounting Education*, *14*(1), 11–15. https://doi.org/10.2308/iace.1999.14.1.11

Branson, B. C. (1995). An empirical reexamination of the leasing puzzle. *Quarterly Journal of Business & Economics*, *34*(3), 3–18.

Bratten, B., Choudhary, P., & Schipper, K. (2013). Evidence that market participants assess recognized versus disclosed items similarly when reliability is not an issue. *The Accounting Review*, *88*(4), 1179–1210. https://doi.org/10.2308/accr-50421

Brazelton, J. K. (2000). Students may blossom using Bloom's Taxonomy in the accounting curriculum. In B.N. Schwartz & J.E. Ketz (Eds.). (Emerald Group Publishing Limited, Ed.), *Advances in Accounting Education*. Bingley, United Kingdom.

Brodley, J. F., & Ma, C. A. (1993). Contract penalties, monopolizing strategies, and antitrust policy. *Stanford Law Review*, *45*(5), 1161–1213. https://doi.org/10.2307/1229069

Calleja, K., Steliaros, M., & Thomas, D. (2006). A note on cost stickiness: Some international comparisons. *Management Accounting Research*, *17*(2), 127–140. https://doi.org/10.1016/j.mar.2006.02.001

Cannon, J. N. (2014). Determinants of "sticky costs": An analysis of cost behavior using United States air transportation industry data. *The Accounting Review*, *89*(5), 1645–1672. https://doi.org/10.2308/accr-50806

Carter, M. E., & Lynch, L. J. (2003). The consequences of the FASB's 1998 proposal on accounting for stock option repricing. *Journal of Accounting and Economics*, *35*(1), 51–72. https://doi.org/10.1016/S0165-4101(02)00097-6

CFRA. (2017). *Industry surveys: Specialty retail*.

Chuk, E. C. (2013). Economic consequences of mandated accounting disclosures: Evidence from pension accounting standards. *Accounting Review*, *88*(2), 395–427. https://doi.org/10.2308/accr-50320

Collins, D. L., Pasewark, W. R., & Riley, M. E. (2012). Financial reporting outcomes under rules-based and principles-based accounting standards. *Accounting Horizons*, *26*(4), 681–705. https://doi.org/10.2308/acch-50266

Cowen, J., Blair, W., & Taylor, S. (2011). The use of scaffolding in the financial planning classroom: An Australian case study. *Australasian Accounting, Business and Finance Journal*, *5*(3), 3–16.

Cull, M., & Davis, G. (2013). Students' perceptions of a scaffolded approach to learning financial planning: An empirical study. *Accounting Education*, *22*(2), 125–146.

Dalla Via, N., & Perego, P. (2014). Sticky cost behaviour: Evidence from small and medium sized companies. *Accounting & Finance*, *54*(3), 753–778. https://doi.org/10.1111/acfi.12020

de Medeiros, O., & Costa, P. (2004). Cost stickiness in Brazilian firms. https://doi.org/10.2139/ssrn.632365

Dechow, P. M., Hutton, A. P., & Sloan, R. G. (1996). Economic consequences of accounting for stock-based compensation. *Journal of Accounting Research*, *34*(3), 1–20.

https://doi.org/10.2307/2491422

Deloitte. (2016). Bring it on!: FASB's new standard brings most leases onto the balance sheet. *Heads Up*, *23*(5). Retrieved from https://www2.deloitte.com/content/dam/Deloitte/us/Documents/audit/ASC/HU/2016/us-aers-headsup-fasb-new-standard-brings-most-leases-onto-the-balance-sheet.pdf

Dichev, I. D., & Skinner, D. J. (2002). Large–sample evidence on the debt covenant hypothesis. *Journal of Accounting Research*, *40*(4), 1091–1123. https://doi.org/10.1111/1475-679X.00083

Dierynck, B., & Renders, A. (2009). Earnings management incentives and the asymmetric behavior of labor costs. https://doi.org/10.2139/ssrn.1441250

Dietrich, J. R., Kachelmeier, S. J., Kleinmuntz, D. N., & Linsmeier, T. J. (2001). Market efficiency, bounded rationality, and supplemental business reporting disclosures. *Journal of Accounting Research*, *39*(2), 243–268. https://doi.org/10.1111/1475-679X.00011

Duron, R., Limbach, B., & Waugh, W. (2006). Critical thinking framework for any discipline. *International Journal of Teaching and Learning in Higher Education*, *17*(2), 160–166.

Financial Accounting Standards Board. (n.d.). No Title. Retrieved from http://www.fasb.org/jsp/FASB/Page/SectionPage&cid=1176156245663

Financial Accounting Standards Board. (1976). Statement of Financial Accounting Standards No. 13: Accounting for leases. Norwalk, CT.

Financial Accounting Standards Board. (2013a). FASB in focus: Proposed accounting standards update on leases. Norwalk, CT.

Financial Accounting Standards Board. (2013b). Proposed accounting standards update (Revised): Lease (Topic 842). Norwalk, CT: Financial Accounting Foundation.

Fisher, D., & Frey, N. (2013). *Better learning through structured teaching: A framework for the*

gradual release of responsibility (2nd ed.). Alexandria, VA: ASCD.

Frecka, T. J. (2008). Ethical issues in financial reporting: Is intentional structuring of lease contracts to avoid capitalization unethical? *Journal of Business Ethics*, *80*(1), 45–59. https://doi.org/10.1007/s10551-007-

Goodacre, A. (2003). Operating lease finance in the UK retail sector. *The International Review of Retail, Distribution and Consumer Research*, *13*(1), 99–125. https://doi.org/10.1080/0959396032000065373

Gray, R., Bebbington, J., & McPhail, K. (1994). Teaching ethics in accounting and the ethics of accounting teaching: Educating for immorality and a possible case for social and environmental accounting education. *Accounting Education*, *3*(1), 51–75. https://doi.org/10.1080/09639289400000005

Greening, T. (1998). Scaffolding for success in problem-based learning. *Medical Education Online*, *3*(4), 1–15. https://doi.org/10.3402/meo.v3i.4297

Guay, W. R., Kothari, S. P., & Sloan, R. G. (2003). Accounting for employee stock options. *American Economic Review*, *93*(2), 405–409. Retrieved from https://www.aeaweb.org/journals/aer

Hales, J. W., Venkataraman, S., & Wilks, T. J. (2012). Accounting for lease renewal options: The informational effects of unit of account choices. *Accounting Review*, *87*(1), 173–197. https://doi.org/10.2308/accr-10165

Hassall, T., & Milne, M. J. (2004). Using case studies in accounting education. *Accounting Education*, *13*(2), 135–138. https://doi.org/10.1080/0963928041000167659 4

He, D., Teruya, J., & Shimizu, T. (2010). Sticky selling, general, and administrative cost behavior and its changes in Japan. *Global Journal of Business Research*, *4*(4), 1–10.

Healy, M., & McCutcheon, M. (2010). Teaching with case studies: An empirical investigation of

accounting lecturers' experiences. *Accounting Education: An International Journal*, *19*(6), 555–567. https://doi.org/10.1080/09639284.2010.501577

Hirst, D. E., & Hopkins, P. E. (1998). Comprehensive income reporting and analysts' valuation judgments. *Journal of Accounting Research*, *36*, 47–75. https://doi.org/10.2307/2491306

Hirst, D. E., Hopkins, P. E., & Wahlen, J. M. (2004). Fair values, income measurement, and bank analysts' risk and valuation judgments. *The Accounting Review*, *79*(2), 453–472. https://doi.org/10.2308/accr.2004.79.2.453

Ho, J. L., & Kang, F. (2013). Auditor choice and audit fees in family firms: Evidence from the S&P 1500. *Auditing: A Journal of Practice & Theory*, *32*(4), 71–93.

Homburg, C., & Nasev, J. (2008). How timely are earnings when costs are sticky? Implications for the link between conditional conservatism and cost stickiness. https://doi.org/10.2139/ssrn.1187082

IFRS/FASB. (2013). *Staff paper: summary of feedback on the 2013 exposure draft*.

Imhoff, Jr., E. A., & Thomas, J. K. (1988). Economic consequences of accounting standards. *Journal of Accounting and Economics*, *10*(4), 277–310. https://doi.org/10.1016/0165-4101(88)90006-7

Imhoff, E., Lipe, R., & Wright, D. (1991). Operating leases: Impact of constructive capitalization. *Accounting Horizons*, *5*(1), 51–63.

Imhoff, E., Lipe, R., & Wright, D. (1997). Operating leases: Income effects of constructive capitalization. *Accounting Horizons*, *11*(2), 12–32.

International Accounting Standards Board. (1982). IASB 17. (I. A. S. Board, Ed.). frs.org: http://www.ifrs.org/IFRSs/Pages/IAS.aspx.

Johnston, S., & Cooper, J. (1999). Supporting student success through scaffolding. *Cooperative Learning and College Teaching*, *9*(3), 3–6.

Kama, I., & Weiss, D. (2010). *Do managers' deliberate decisions induce sticky costs?* Retrieved from https://en-recanati.tau.ac.il/sites/nihul_en.tau.ac.il/files/WP_16-2011_Kama_Weiss.pdf

Keller, J. M. (1979). Motivation and instructional design: A theoretical perspective. *Journal of Instructional Development*, *2*(4), 26–34. https://doi.org/10.1007/BF02904345

Kidwell, L. A., Fisher, D. G., Braun, R. L., & Swanson, D. L. (2013). Developing learning objectives for accounting ethics using Bloom's taxonomy. *Accounting Education*, *22*(1), 44–65. https://doi.org/10.1080/09639284.2012.698478

Kimmel, P. (1995). A framework for incorporating critical thinking into accounting education. *Journal of Accounting Education*, *13*(3), 299–318. https://doi.org/10.1016/0748-5751(95)00012-B

Kostolansky, J., & Stanko, B. (2011). The joint FASB/IASB lease project: Discussion and industry implications. *Journal of Business & Economics Research*, *9*(9), 29–35. https://doi.org/10.19030/jber.v9i9.5633.

Kostolansky, J., & Stanko, B. (2013). Cross-sectional analysis of operating lease liabilities by industry and firm size. *Academy of Accounting & Financial Studies Journal*, *17*(4), 41–51.

Krathwohl, D. R. (2002). A revision of Bloom's Taxonomy: An overview. *Theory into Practice*, *41*(4), 212–218. https://doi.org/10.1207/s15430421tip4104_2

Lease, R. C., McConnell, J. J., & Schallheim, J. S. (1990). Realized returns and the default and prepayment experience of financial leasing contracts. *Financial Management*, *19*(2), 11–20. Retrieved from http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1755-053X

Leases-Joint Project of the IASB and FASB. (n.d.). Retrieved February 9, 2016, from http://www.fasb.org/jsp/FASB/FASBContent_C/ProjectUpdatePage&cid=900000011123#

Leauby, B. A., & Brazina, P. (1999). Concept mapping: Potential uses in accounting education. *Journal of Accounting Education*, *16*(1), 123–138. https://doi.org/10.1016/S0748-

5751(98)00006-2

Lim, S. C., Mann, S. C., & Mihov, V. T. (2017). Do operating leases expand credit capacity? Evidence from borrowing costs and credit ratings. *Journal of Corporate Finance*, *42*, 100–114. https://doi.org/10.1016/j.jcorpfin.2016.10.015

Lipe, R. (2001). Lease accounting research and the G4+1 proposal. *Accounting Horizons*, *15*(3), 299–310. https://doi.org/10.2308/acch.2001.15.3.299

Littleton, A. C., & Zimmerman, V. K. (1962). *Accounting theory, continuity and change*. Englewood Cliffs, N.J.: Prentice-Hall.

Liyanarachchi, G. A. (2007). Feasibility of using student subjects in accounting experiments: A review. *Pacific Accounting Review*, *19*(1), 47–67. https://doi.org/10.1108/01140580710754647

Lo, K. (2003). Economic consequences of regulated changes in disclosure: The case of executive compensation. *Journal of Accounting and Economics*, *35*(3), 285–314. https://doi.org/10.1016/S0165-4101(03)00035-1

Lu, H., & Homburg, C. (2013). Managerial overconfidence and cost stickiness.

Maines, L. A., Bartov, E., Fairfield, P., Hirst, D. E., Teresa, E., Mallett, R., … Vincent, L. (2003). Evaluating concepts-based vs . rules-based approaches to standard setting AAA Financial Accounting Standards Committee. *Accounting Horizons*, *17*(1), 73–89. https://doi.org/10.2308/acch.2003.17.1.73

Maines, L. A., & McDaniel, L. S. (2000). Effects of comprehensive-income characteristics on nonprofessional investors' judgments: The role of financial-statement presentation format. *The Accounting Review*, *75*(2), 179–207. https://doi.org/10.2308/accr.2000.75.2.179

Malik, M. (2012). A review and synthesis of cost stickiness literature. *Available at SSRN 2276760*. https://doi.org/10.2139/ssrn.2276760

Marston, F., & Harris, R. S. (1988). Substitutability of leases and debt in corporate capital structures. *Journal of Accounting, Auditing & Finance*, *3*(2), 147–164. https://doi.org/10.1177/0148558X8800300205

McKeachie, W., & Svinicki, M. (2013). *McKeachie's teaching tips (14th ed.)*. Boston, MA: Cengage Learning.

Milne, M. J., & McConnell, P. J. (2001). Problem-based learning : A pedagogy for using case material in accounting education. *Accounting Education: An International Journal*, *10*(1), 37–41. https://doi.org/10.1080/0963928011004465

Mittelstaedt, H. F., Nichols, W. D., & Regier, P. R. (1995). SFAS No. 106 and benefit reductions in employer-sponsored retiree health care plans. *Accounting Review*, *70*(4), 535–556.

Mukherjee, T. K. (1991). A survey of corporate leasing analysis. *Financial Management*, *20*(3), 96–107.

Noreen, E., & Soderstrom, N. (1994). Are overhead costs strictly proportional to activity?: Evidence from hospital departments. *Journal of Accounting and Economics*, *17*(1), 255–278. https://doi.org/10.1016/0165-4101(94)90012-4

Noreen, E., & Soderstrom, N. (1997). The accuracy of proportional cost models: evidence from hospital service departments. *Review of Accounting Studies*, *2*(1), 89–114. https://doi.org/10.1023/A:101832571

O'Brien, T. J., & Nunnally, B. H. (1983). A 1982 survey of corporate leasing analysis. *Financial Management*, *12*(2), 30–36.

Pathways Commission. (2012). The Pathways Commission on Higher Education: Charting a national strategy for the next generation of accountants. https://doi.org/10.2308/iace-10300

Porporato, M., & Werbin, E. (2012). Evidence of sticky costs in banks of Argentina, Brazil and Canada. *International Journal of Financial Services Management*, *5*(4), 303–320.

https://doi.org/10.1504/IJFSM.2012.048834

PricewaterhouseCoopers. (2009). *The future of leasing: Research of the impact on companies financial ratios. New York, NY.*

Prykull, K. P. (1998). Understanding equipment leasing. In R.C. Dorf (ed.). In *The Technology Management Handbook* (pp. 53–58). Boca Raton, FL: CRC Press.

Raouf, A., Duffuaa, S., Ben-Daya, M., Pongpech, J., Murthy, D. N. P., & Boondiskulchock, R. (2006). Maintenance strategies for used equipment under lease. *Journal of Quality in Maintenance Engineering*, *12*(1), 52–67. https://doi.org/10.1108/13552510610654538

Reeves, T. C. (2006). How do you know they are learning? The importance of alignment in higher education. *International Journal of Learning Technology*, *2*(4), 294–309. https://doi.org/10.1504/IJLT.2006.011336

Riedl, E. J., & Srinivasan, S. (2010). Signaling firm performance through financial statement presentation: An analysis using special items. *Contemporary Accounting Research*, *27*(1), 289–332. https://doi.org/10.1111/j.1911-3846.2010.01009.x

Schipper, K. (2003). Principles-based accounting standards. *Accounting Horizons*, *17*(1), 61–72. https://doi.org/10.2308/acch.2003.17.1.61

Schipper, K. (2007). Required disclosure in financial reports. *The Accounting Review*, *82*(2), 301–326. https://doi.org/10.2308/accr.2007.82.2.301

Schultz, J. J., Massoud, M. F., & Smith, J. M. (Eds. . (1989). *Reorienting accounting education: Reports on the environment, professoriate, and curriculum of accounting*. Lakewood Ranch, FL: American Accounting Association.

Smith, M. (2014). *Research methods in accounting*. Los Angeles, CA: Sage Publications, Ltd.

Spencer, A. W., & Webb, T. Z. (2015). Leases: A review of contemporary academic literature relating to lessees. *Accounting Horizons*, *29*(4), 997–1023. https://doi.org/10.2308/acch-

51239

Subramaniam, C., & Weidenmier, M. L. (2003). *Additional evidence on the sticky behavior of costs*. Retrieved from 10.1108/S1474-787120150000026006

Sundem, G. L. (1999). *The accounting education change commission: Its history and impact*. Accounting Education Change Commission and American Accounting Association.

U.S. Securities and Exchange Commission. (2005). *Report and recommendations pursuant to Section 401 (c) of the Sarbanes-Oxley Act of 2002 on arrangements with off-balance sheet implications, special purpose entities, and transparency of filings by issuers*. *Washington, DC: SEC*. Retrieved from https://www.sec.gov/news/studies/soxoffbalancerpt.pdf

U.S. Securities and Exchange Commission. (2008). *Final report of the Advisory Committee on Improvements to Financial Reporting*. Retrieved from https://www.sec.gov/about/offices/oca/acifr/acifr-finalreport.pdf

Warshawsky, M. J., Mittelstaedt, H. F., & Cristea, C. (1993). Recognizing retiree health benefits: The effect of SFAS 106. *Financial Management*, *22*(2), 188–199.

Watts, R. L., & Zimmerman, J. L. (1986). *Positive accounting theory*. Englewood Cliffs, N.J.: Prentice-Hall.

Wheaton, W. C. (2000). Percentage rent in retail leasing: The alignment of landlord-tenant interests. *Real Estate Economics*, *28*(2), 185–204. https://doi.org/10.1111/1540-6229.00798

Wooldridge, J. M. (2013). *Introductory econometrics: A modern approach* (5th ed.). Mason, OH: South-Western, Cengage Learning.

Yadav, A., Lundeberg, M., DeSchryver, M., Dirkin, K., Schiller, N. A., Maier, K., & Herreid, C. F. (2007). Teaching science with case studies: A national survey of faculty perceptions of the benefits and challenges of using cases. *Journal of College Science Teaching*, *37*(1), 34–38.

Yasukata, K. (2011). Are "sticky costs" the result of deliberate decision of managers? Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1444746

Yukcu, S., & Özkaya, H. (2011). Cost behavior in Turkish firms: Are selling, general and administrative costs and total operating costs "sticky"? *World of Accounting Science*, *13*(3), 1–27.

Zeff, S. A. (1978). The rise of "economic consequences." *The Journal of Accountancy*, (December), 56–63.

VITA

David Gray is an associate professor and chair of the Department of Accounting and Finance at North Central College in Naperville, Illinois. Gray is committed to improving accounting pedagogy and was recognized by the Illinois CPA Society with the 2015 Outstanding Educator Award for continuous and outstanding contributions to accounting education in the state.

Prior to joining North Central, Gray had over 15 years of public accounting and consulting experience. During Gray's early career he served on Grant Thornton's assurance staff. Gray also held several positions with McGladrey (now RSM) where he advanced to Director of Financial and Performance Improvement Consulting. Throughout his career Gray worked primarily with middle-market manufacturing companies and delivered cost accounting, financial modeling, and due diligence assistance. Gray continues to assist clients through his own consulting practice.

Gray holds a B.S. in accounting from Millikin University and a M.A.S. from Northern Illinois University. Gray is a Certified Management Accountant and a licensed CPA in Illinois.