UTS UNIVERSITY OF TECHNOLOGY SYDNEY

The Economic Consequences of IFRS 16: Evidence from Australia

by Sebastian Onie

Thesis submitted in fulfilment of the requirements for the degree of

Doctor of Philosophy (Accounting)

under the supervision of A/ Prof Helen Spiropoulos

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University of Technology Sydney

Faculty of Business (Accounting)

October 2025

CERTIFICATE OF ORIGINAL AUTHORSHIP

I, *Sebastian Onie,* declare that this thesis is submitted in fulfilment of the requirements for the award of *Doctor of Philosophy (Accounting),* in the *Accounting Faculty* at the University of Technology Sydney.

This thesis is wholly my own work unless otherwise referenced or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

This document has not been submitted for qualifications at any other academic institution.

This research was supported by an Australian Government Research Training Program (RTP) Scholarship doi.org/10.82133/C42F-K220.

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Date: 21 October 2025

ACKNOWLEDGEMENTS

I would like to thank everyone that supported me throughout my journey in completing this research, as I would not have been able to make it through what has been a truly memorable experience.

My gratitude goes to the Accounting Faculty at the University of Technology Sydney (UTS) for their support and encouragement during my time there. Thank you to the Head of the Accounting Discipline Group, Sue Wright, for your encouragement and valuable feedback during my Honours and PhD years. To the internal assessors, for the guidance and feedback throughout my time which proved to be insightful and valuable. I would also like to extend my gratitude to our Responsible Academic Officer, Bernhard Wieder, and our Accounting Higher Degree Research Coordinator, David Bedford, for the continuous support throughout my time at UTS as well. Thank you to all the PhD candidates whom I have had the pleasure to get to know and go through this journey together.

No words will be enough to express my gratitude to my two supervisors, Helen and Peter. There is too much to be said, but I could only see this come to fruition from the support and grace you two have showed me.

To Peter, to whom I had the pleasure of learning Accounting Standards from during my bachelor's degree. It is truly puzzling how I ended up doing my honours as well as my PhD with yourself, given that I remembered Accounting Standards as one of my least liked subjects. You have taught me what it means to question the norm and be thoughtful in everything I do. Time and time you have reminded me, that it is best to do it simple but right.

One thing for sure, is that I will never be able to view Accounting Standards the same way after what you've drilled into me for years. The care and support (and random phone calls from myself) will be something I won't forget, and I will miss your humour which has no rival. It has been truly anything but much ado about nothing

To Helen, thank you for believing in me despite everything that we've been through. Time and time again I have made mistakes and missteps, but you never gave up on me and always gave the strength and encouragement to believe in myself. I have learned so much throughout the years we had, and I attribute that growth primarily to your guidance and mentorship. I hope this won't be the last time we will cross paths, but regardless this a moment in my life that I will keep close to my heart, in that I had the best supervisor anyone could have ever asked for. I hope that one day, I can repay you for all you have done for me through your unconditional care and support. Thank you

To my friends and extended family who have supported me. Rather than questioning my decision, you all have stood behind me and gave me encouragements time and time again that I will be able to do this, even when I didn't believe it myself. Thank you for being patience and kind to me, whilst bringing me joy and laughter during difficult times. To those that I hold dear to my heart, I will always be grateful for your outpouring of care and love, now and forevermore.

To mum and dad, who have given me continuous love, care, and support in everything I do. Thank you for pushing me to always do better and be better as a person. I am grateful to both of you for your many things, and I truly love both you.

To my brother and sister. Thank you for being there for me for me for all my life. The fact that I am still alive and breathing today is because of you two, and I will always cherish you both, now and forevermore.

IMPACT OF COVID-19

Work on this thesis began prior to the impact of COVID-19. Apart from delaying the completion of this thesis due to the time required to resolve uncertainties regarding access to resources (statistical software licenses and hardware) and illness, the research method was also impacted. The method to evaluate the impact of IFRS 16 originally consisted of a sample period totalling six years prior (2014-2019) and two years post implementation (2020-2021). Chapters 2 and 3 were not impacted by COVID-19 as the sample periods of those papers preceded COVID-19. However, COVID-19 significantly affected firms' financial statements and the relevance of various line items in financial reports, thus affecting Chapter 4 which examines the value relevance of information provided under IFRS 16. Since the year 2022 also reflected the final year of COVID-19 within the Australian setting, the financial statements for the 2023 reporting year (of which the majority were released in September 2023 through to March 2024) were used as the post-IFRS 16 comparison year. Even though the years 2021 and 2022 reflected impacts on price from the economic effects and uncertainties of COVID-19, the data for these years was still collected. The COVID-19 period presents an opportunity to examine how the relevance of financial statement information changed during a period of economic uncertainty, therefore these years were included in analyses as additional tests.

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1. CHAPTER 1: INTRODUCTION[1]

One of the most problematic accounting issues for standard setters, preparers and users has been the determination of the appropriate accounting practices for lease transactions, particularly those adopted by lessees. Central to this debate is the question of whether the lease expense method or lease capitalisation offers a more accurate reflection of a lessee's financial obligations. The lease expense method, historically favoured by lessees, avoids recognising lease assets and liabilities on the balance sheet, thereby mitigating potential balance sheet implications. Proponents of this method argue that leases are mutually unperformed contracts, which justifies the limited recognition of liabilities that might arise from lease cancellations. Conversely, advocates for lease capitalisation assert that it is essential for ensuring that transactions with similar economic characteristics – such as leasing versus borrowing and buying – are accounted for in a consistent manner. However, this approach has faced criticism, particularly regarding the appropriateness of recognising assets when the lessee does not hold legal title to them.

This issue gained prominence in the United States during the 1970's, coinciding with an increase in leasing activity and the widespread adoption of the lease expense method by lessees. In response, the Financial Accounting Standards Board (FASB) issued *SFAS 13 Accounting for Leases* in the United States in 1976, mandating lease capitalisation for so-called capital or finance leases that met certain criteria. However, rather than solving the

[1] The literature considering accounting practices for leases is diverse and voluminous. In the interests of simplicity and brevity this will not be referenced in this chapter. Rather the literature is reviewed within chapters 2 through 4 where more focused attention can be given to the relevant literature. Doing so also limits the amount of repetition within the thesis.

issue, the new standard prompted a redesign of lease transactions to avoid capitalisation. Australia followed a similar path with the issuance of *ASRB1008 Accounting for Leases* in 1987. In 1997, the International Accounting Standards Committee (IASC) issued *IAS 17 Accounting for Leases*, which was later reissued by the International Accounting Standards Board (IASB) in 2001. These accounting standards were broadly consistent across jurisdictions, and predictably, they produced similar outcomes.

By the time most countries transitioned to International Financial Reporting Standards (IFRS) in 2005, the shortcoming of these historic accounting standards were well recognised. However, efforts to address these limitations were delayed by the complexities of transitioning to IFRS. Following the transition, the development of a new accounting standard to address the perceived deficiencies became a priority. This process was lengthy and subject to extensive lobbying, culminating in the issuance of *IFRS 16 Leases* in 2016, with its application delayed until 2019.

The most substantive change introduced by IFRS 16 was the prescription of a single accounting model for leases longer than one year by lessees, specifically mandating lease capitalisation. Under IFRS 16, lessees are required to recognise, at the inception of the lease, a ‘right-of-use’ asset that represents the underlying economic benefits obtained from the leased asset (para 23), alongside a corresponding lease liability that reflects the obligation to make future lease payments (para 26). The 'right-of-use’ asset is accounted for in a manner consistent with property, plant and equipment, and subject to depreciation and impairment (paras 30-33), while the lease liability is accounted for like a conventional financial liability

(paras 36-38). Even leases with durations less than twelve months are capitalised in this manner if the probability of renewal or extending the lease term is greater than 50%. This approach offers a conceptually straightforward solution to a complex issue, as it eliminates the need to assess whether the majority of the benefits embodied in a physical asset are transferred to the lessee. Instead, it acknowledges the complete package of benefits and obligations associated with the lease, closely aligning accounting practices with those applicable to borrowing and purchasing assets.

1.1. Objective

The aim of this thesis is to provide a systematic review of the accounting for leases in the period surrounding the adoption of *IFRS 16 Leases*. This investigation is undertaken within the context of Australia, where the requirements of *IFRS 16 Leases* are replicated by *AASB 16 Leases*.

Chapter 2 begins with an analysis of how firms transitioned to *IFRS 16 Leases*, with particular attention to whether they adopted the retrospective or cumulative approaches, each of which has distinct implications for the information provided to users in the transition period. Unlike the US, which prescribed the retrospective approach when transitioning to their latest leasing standard, *ASC 842: Leases*, Australian standard setters allowed entities to choose between the cumulative method or the retrospective method when transitioning to IFRS 16. The cumulative method does not require a reconciliation of opening balances under the new standard, unlike the retrospective method. Chapter 2 also explores the impact of this transition on financial statements, assessing whether users were able to estimate the impacts

of the new standard and whether these impacts were pervasive or concentrated within specific firms or sectors. These questions are important in determining whether the significant changes in IFRS 16 were necessary.

Chapter 3 focuses on preparers, and whether there are economic consequences of transitioning to the new accounting standard. Given the anticipated impacts of IFRS 16 on financial statements, Chapter 3 investigates whether firms reduced their use of operating leasing following the issuance of IFRS 16, or whether there is evidence of firms renegotiating financial contracts. The latter would suggest that the new accounting standard might have been unnecessary, at least for some types of leases such as land and buildings.

Finally, Chapter 4 investigates whether recognised operating leases under IFRS 16 provide more relevant information than what users could obtain from constructive capitalisation in the pre-period based on notes in disclosures. Given that significant disclosures regarding leases were already required prior to the adoption of IFRS 16, this Chapter provides evidence on whether the new standard provided information that was value relevant for users.

1.2. Motivation

Accounting standard setters, including the Australian Accounting Standards Board (AASB) and the International Accounting Standards Board (IASB), are required to undertake a post implementation review after a new accounting standard is issued. The first motivation for this thesis is to provide rigorous empirical evidence regarding accounting for leases during the period surrounding transition to *IFRS 16 Leases* that will be useful for standard setters in

their post implementation review. This evidence is vital for assessing whether IFRS 16 has achieved its intended objectives.

The second motivation for this thesis is to contribute to academic discourse on whether the shift from disclosure to recognition – a fundamental change in how financial information is conveyed to users – provides relevant information to users. A key theoretical question underpinning this research is whether the recognition of lease obligations offers superior informational value compared to the previous disclosure-based approach. Proponents of recognition argue that it provides a more accurate and complete representation of a firm's financial position, thereby improving decision-usefulness. Critics, however, suggest that well-designed disclosures could achieve similar outcomes without the costs and complexities associated with full recognition. This thesis seeks to empirically evaluate these competing perspectives by examining if IFRS 16 provided more relevant information than what users could obtain from constructive capitalisation in the pre-period based on notes in disclosures.

1.3. Organisation of Thesis and Key Findings

This thesis, comprising three interconnected yet distinct studies across chapters 2 through 4, offers a comprehensive examination of the evolution, implementation, and implications of IFRS 16, contributing significantly to the broader discourse on the impact of accounting standards on financial reporting and corporate behaviour. Collectively, these studies provide nuanced insights into the transition to IFRS 16 – a move from lease disclosure to lease recognition – the real economic consequences of this shift including whether firms tried to

substitute operating leases with capital expenditure, and the resultant value relevance of recognised lease information versus lease disclosures in the pre-IFRS 16 period.

Chapter 2 '*An evaluation of how lessees transitioned to IFRS 16 Leases and the impact on financial reports: Implications for standard setters*' provides a detailed analysis of how firms transitioned to IFRS 16, focusing on the choices made by firms and the subsequent impact on financial statements. By examining the pervasiveness and diversity of these impacts across different sectors, this chapter highlights the practical challenges faced by firms during the transition to IFRS 16 and the resulting implications for standard setters. The findings that many firms opted for the cumulative approach to transition, even when material impacts were evident, raise important questions about the adequacy of current transition options and the potential need for conditioning such choices on materiality. Second, the fact that users could, with a reasonable degree of accuracy, predict the impacts of the standard using relatively simple methods and information from lease disclosures, brings into question whether IFRS 16 was necessary. This paper contributes to the understanding of how accounting standards are implemented in practice and offers guidance for future standard-setting processes, emphasising the need for standards that balance comprehensive disclosure with practical feasibility.

Chapter 3 '*Economic Consequences of IFRS 16 – Preparer's Perspective*' shifts focus to the 'real' effects of IFRS 16 on corporate behaviour, particularly in the period leading up to its implementation. By examining if firms altered their leasing activities or financing decisions in anticipation of the new standard, this chapter provides empirical evidence on the

economic consequences of accounting regulation. The nuanced results, which show varying responses among firms depending on their reliance on leases, challenge simplistic assumptions about the uniform impact of accounting standards. This paper adds to the literature on the economic implications of accounting policy changes and underscores the importance of considering how firms may strategically respond to impending regulatory changes, a crucial consideration for both regulators and policymakers.

Chapter 4 '*The relevance of leases subsequent to IFRS 16 – User's Perspective*' addresses the fundamental question of whether recognised operating leases under IFRS 16 provide more relevant information than what users could obtain from constructive capitalisation in the pre-period based on notes in disclosures. Through a comprehensive ex-post analysis, this study examines the value relevance of lease-related information in the post-IFRS 16 period, particularly in comparison to pre-existing disclosure methods. The findings contribute directly to the ongoing debate between recognition and disclosure in financial reporting. The implications for standard setters are considerable, suggesting a need to reconsider when full recognition is necessary versus when enhanced disclosure may suffice, especially in a rapidly evolving regulatory environment.

Taken together, these three chapters form a cohesive portfolio of research that not only addresses the practical challenges and outcomes of IFRS 16 but also engages with key theoretical debates in accounting. The thesis contributes to the broader understanding of how accounting standards influence both financial reporting and corporate behaviour, offering valuable evidence for the post-implementation review of IFRS 16 and insights useful to

academics investigating the consequences of accounting regulation more generally. Moreover, this research provides timely and relevant insights for regulators, particularly in considering the trade-offs between recognition and disclosure and the potential for unintended consequences of broad-based accounting standards towards preparers and users altogether. Although the post-implementation of IFRS16 is still underway, early feedback to the IASB suggests that there are still significant costs borne by preparers due to ongoing costs that provides limited to no benefits in maintain the standard.[2] Further to this, users found financials to be incomparable due to the different transition methods alongside the choice given to preparers on how to recognise off-balance sheet leases. This would be in contrast as to the intended purpose of the standard, which was to reduce the effort in manual adjustments by users in terms of capitalising and the recognition of leases. Altogether, this thesis underscores the importance of nuanced, evidence-based approaches to standard setting, reinforcing the important role of accounting research in informing policy decisions and advancing the field.

[2] https://www.ifrs.org/content/dam/ifrs/project/pir-ifrs-16/rfi-iasb-2025-1-pir-ifrs-16.pdf

2. CHAPTER 2: AN EVALUATION OF HOW LESSEES TRANSITIONED TO IFRS 16 LEASES AND THE IMPACT ON FINANCIAL REPORTS: IMPLICATIONS FOR STANDARD SETTERS

This study investigates the adoption of IFRS 16 Leases by a broad sample of Australian listed firms and examines its impact on their financial statements. The majority of firms employed the cumulative approach to transition, including those where the transition materially affected the financial statements. Under this approach, adjustments are made to the opening balance of the transition period, and prior period information is not restated. This finding has significant implications for standard setters, questioning whether the flexibility in transitioning to new accounting standards should be conditioned on materiality. While most firms experienced minor impacts from the transition, certain firms, particularly those with substantial leases of land and buildings, faced significant effects. The necessity and impact of regulation on these leases warrants further investigation. Additionally, these impacts can be estimated from financial report disclosures. These findings challenge the standard-setting approach of implementing major changes and suggest that targeted revisions might be more effective in addressing issues with existing standards.

Keyword : IFRS 16, IFRS, Leases, Financial Reporting
JEL Classification : M41

2.1. Introduction

For many years, *IAS 17 Accounting for Leases* (IAS 17) prescribed how firms accounted for lease transactions. IAS 17 was first issued by the International Accounting Standards Committee (IASC) in 1997 and reissued by the International Accounting Standards Board (IASB) in 2001. It aligned with existing standards such as *SFAS 13 Accounting for Leases* (issued 1976) in the United States, and *ASRB 1008 Accounting for Leases* (issued in 1987) in Australia. Despite the limitations of these accounting standards being extensively documented (e.g., Beattie, Edwards, & Goodacre, 1998; El-Gazzar, Lilien, & Pastena, 1986; Godfrey & Warren, 1995; Imhoff & Thomas, 1988; Tweedie & Whittington, 1990) it would have taken several decades before *IFRS 16 Leases* (IFRS 16) was issued. Compared to prior standards for accounting for leases, the development of IFRS 16 was lengthy and involved extensive consultation and debate (e.g., Beattie, Goodacre, & Thomson, 2006; Rey, Maglio, & Rapone, 2020). This culminated in the issuance of IFRS 16 in 2016, with application delayed until financial years beginning on or after 1 January 2019. IFRS 16 is notable for providing a single basis of accounting for all material lease transactions by lessees, characterising the benefits from using a leased asset as a 'right-of-use' asset that is recognised alongside a corresponding lease liability. The delayed implementation likely acknowledged challenges in transitioning to this capitalisation approach. The objective of this chapter is to provide insights into how firms transitioned to IFRS 16, offering guidance for standard setters in future accounting standard development. This includes examining the approaches taken by firms to transition, the impact on financial statements, the pervasiveness of these impacts, and whether the standard addressed users' informational needs. This chapter also aims to

provide insights on lease capitalisation methods. Given that lease capitalisation was not a foreign concept to users prior to *IFRS 16*, an important question is whether the existing methods to capitalise unrecognised lease liabilities are reliable in estimating the impact of lease recognition under IFRS 16.

The primary motivation for exploring these questions is to provide empirical evidence of how firms transitioned to IFRS 16. Onie, Ma, Spiropoulos, and Wells (2023) reported that most firms transitioned to *IFRS 15 Revenue from Contracts with Customers* (IFRS 15) using the cumulative approach, even in cases of material impacts, resulting in minimal disclosures and a lack of comparative information. This study aims to determine whether similar patterns are observed in the transition to IFRS 16, despite its delayed implementation. Identifying similar results for IFRS 16 would imply that standard setters should consider conditioning the choice of alternative transition approaches based on materiality.

A second related motivation is to gain insights into the consequences for firms transitioning to new accounting standards. Transitioning often necessitates a re-evaluation of historical transactions and events to determine how to apply the new accounting standard. Evidence of this exists in relation to IFRS 15, where in some circumstances, firms were incentivised to modify the terms of revenue contracts. An interesting question that arises regarding the transition from an historic accounting standard, such as IAS 17, to a new accounting standard (IFRS 16) is whether it leads to any re-determination of lease obligations. This is particularly salient when accounting standards remain unchanged for extended periods.

The third motivation is to provide rigorous empirical evidence of the impact of IFRS 16 on financial statements, which is central to any post-implementation review. While anecdotal evidence exists regarding the impact of IFRS16, limited attention has been given to its broader effects. Additionally, the concentration of impacts on specific asset types or industry segments has generally been overlooked. This is pertinent to evaluating whether the major revision approach to the accounting standard was necessary or if the associated disruption and costs could have been better addressed through more frequent and targeted amendments.

A final motivation is to assess whether the changes mandated by IFRS 16 provided additional information that materially differed from expectations based on existing methods for capitalising off-balance sheet leases. Again, this question is central to any post implementation review. If the observable differences between pre- and post-IFRS 16 expectations are minimal, the benefits of the new standard are called into question. Given the significant transition costs, it is important to evaluate whether recognition is necessary or if disclosure alone would suffice. This concern is particularly relevant given the increasing use of digital financial reports, which allows users to recalculate and reformat financial report information.[3]

The chapter examines a sample of 193 large Australian listed firms from the ASX 500 with non-cancellable operating leases. Evidence is provided that 94% of these firms elected

[3] This was demonstrated by Calcbench (www.calcbench.com) who prepared reports on the expected impact of transition to a similar leasing standard in the United States that were used to highlight the potential of digital financial reporting and their software. This was not possible in Australia as digital financial reporting is not required.

to transition to *IFRS 16* using the cumulative approach rather than the retrospective approach, even in cases where transition had a material impact. Use of the cumulative method is problematic as it limits the amount of disclosure compared to the retrospective method (i.e., comparative information is not provided).

There were 37 observations where firms restated non-cancellable operating leases in the pre-transition period from 2013 to 2018. Among these, 21 were upwards restatements and 16 were downwards restatements. These restatements likely resulted from the re-evaluation of lease contracts in the period prior to transition, leading to a more accurate understanding of lease conditions.

The impacts of transitioning to IFRS 16 on financial statements were evaluated using the ratio of noncancellable operating leases to total liabilities. Considerable diversity was observed, as demonstrated in the descriptive statistics. In the Utilities sector, the impacts were immaterial for most firms. However, most sectors exhibited a wide range of impacts. In the Consumer Staples, Healthcare and Consumer Discretionary sectors, material impacts were pervasive. A common feature of these sectors, and firms with material impacts more generally, was the incidence of leases of land and buildings, particularly retail space. Due to the infinite life of land, these leases were always categorised as operating leases under the prior standard, IAS 17.[4]

To determine whether transitioning to IFRS 16 provided new information to users, a comparison was made between the actual impacts of transitioning and estimates of lease

[4] These leases typically involve high value assets and longer terms.

capitalisation determined using methods developed by both academics and practitioners.[5] Using disclosures about non-cancellable operating lease contracts and other key information, users can estimate the impact of lease capitalisation with varying degrees of accuracy. Importantly, these methods are relatively simple and impose few costs. Under some of these methods, the difference between actual and estimated impacts of IFRS 16 were under 5%, suggesting that users could reasonably estimate the impacts of non-cancellable operating leases from readily available information.

This chapter makes several important contributions. First, results show that most firms elected to use the cumulative method of transitioning to IFRS 16, regardless of whether there was a material impact on the general-purpose financial report. This approach limited the information provided about the impact of transition, as no comparative information is disclosed. This result is consistent with how firms transitioned to IFRS 15 (Onie et al., 2023) and is relevant to standard setters as it raises the question of whether the choice of transition method, particularly when it affects the level of disclosure, should be conditioned by materiality.

Second, an issue with historic accounting standards is whether interpretation and application by firms has changed over time. Evidence of this emerged during the preparation for the transition to IFRS 16, with a significant number of firms making restatements in the period prior to transition. This has implications for preparers and auditors, suggesting that even historic accounting standards should undergo periodic reviews to assess the

[5] These include those developed in Imhoff et al. (1991), Morales-Díaz and Zamora-Ramírez (2018) and heuristics or 'rule of thumb' methods, described in section 3 of this chapter.

appropriateness of current treatments. Additionally, it highlights the benefit of more frequent and relatively minor accounting standard changes, as this could prompt preparers to review and potentially improve accounting practices.

Third, this chapter provides evidence of the impact of transitioning to IFRS 16 across a broad cross-section of firms. The impacts were concentrated in certain sectors and were largest for firms with a high level of leases for land and buildings. An interesting question is whether these impacts were specifically targeted by standard setters or were an unintended consequence. This is not a trivial question. If leased assets are not specialised (as is often the case with land and buildings) and the lease liability could be limited by the ability to re-lease the asset to mitigate future obligations of the lessee, full capitalisation may not be appropriate. This has implications for standard setters, suggesting possible revisions to IFRS 16 and highlighting the challenge of unintended consequences from major accounting standard changes.

Finally, this chapter contributes to the debate on the relevance of disclosures in financial reports. Using information obtained from disclosures in financial reports, users are able to estimate the capitalised value of non-cancellable operating leases that were similar to the actual impact of *IFRS 16*. Furthermore, the precision to which the estimated lease capitalisation methods are able to estimate the actual impact of the standard, is greater when using moderately sophisticated methods using firm specific characteristics. This brings into question whether the costs associated with developing and applying the new standard were fully justified. This issue is particularly relevant with the emergence and use of digital

financial reporting, which enables users to recalculate and reformat the information provided in financial reports.

The remainder of the chapter is organised as follows. Section 2.2 considers the regulatory change and the relevant prior research, while section 2.3 details the research design and section 2.4 outlines the sample selection and data. The results are contained in section 2.5, and the conclusions are presented in section 2.6.

2.2. Regulatory change and literature review

The focus of this chapter is on the impact of the transition to *IFRS16*, which requires consideration of the substantive changes in accounting practices (section 2.2.1), the process by which firms transitioned (section 2.2.2), and the relevant literature (section 2.2.3).

2.2.1. Changes under IFRS 16 Leases

The accounting practices prescribed for leases have long been considered problematic due to concerns that transactions with similar economic characteristics could have divergent accounting treatments under the lease expense method. Against this background, *SFAS 13 Accounting for Leases* was issued in the United States in 1976, and *ASRB1008 Accounting for Leases* was issued in Australia in 1987. Subsequently, IAS 17 was issued by the International Accounting Standards Committee (IASC) in 1997 and reissued by the IASB in 2001. Critically, these accounting standards were generally aligned.

The development of IFRS 16 occurred in response to perceived shortcomings in the prior accounting standard, IAS 17. These concerns centred on the accounting practices for lessees, which distinguished between operating leases, accounted for using the lease expense

method, and finance leases, which required lease capitalisation. The most significant change in IFRS 16 was the prescription of a single model of accounting for leases longer than one year by lessees, namely lease capitalisation.[6] Under IFRS 16, a lessee must recognise at inception a 'right-of-use' asset representing the underlying benefits obtained under the lease (para 23) and a lease liability for the obligation to make future lease payments (para 26). The 'right-of-use' asset is accounted for in a manner consistent with property, plant and equipment, and subject to depreciation and impairment (paras 30-33), while the lease liability is accounted for like a conventional financial liability (paras 36-38). This approach is a conceptually simple solution to a complex problem, as it no longer requires consideration of whether the majority of the benefits embodied in a physical asset are conveyed. Instead, it recognises a package of benefits and obligations associated with the lease.

However, it is unlikely that the impacts of transitioning to IFRS 16 are consistent across firms. 'Right-of-use' assets and lease liabilities are initially based on future lease payments, making the determination of the lease term critical. This significance is recognised in IFRS 16 with detailed consideration given to the determination of the lease term (paras 18-21). Consequently, the impacts of transitioning to IFRS 16 will generally be greatest in firms with longer lease terms that were previously accounted for using the lease expense method. This scenario is most likely to arise with leases of land and buildings, since under IAS 17, the infinite life of land was instrumental in ensuring the use of the lease expense method, irrespective of the lease term. Additionally, the impacts of transitioning to IFRS 16 will be

[6] Leases of low value are exempt from capitalisation under IFRS 16, where low value is determined using the underlying asset's value when new, regardless of its current age. It is assessed on a lease-by-lease basis and must be immaterial to the firm.

greatest for firms reliant on high-value leased assets. The sector with the greatest reliance on these types of leases is perhaps the retail sector, where, in Australia, prime locations in shopping centres are typically held by property investors and must be leased rather than purchased. Therefore, to more critically evaluate the impacts of IFRS 16, consideration should not only be given to firms generally but also to those with a high proportion of leased land and buildings.

2.2.2. How firms transitioned to *IFRS16*

Recognising the challenges in applying a new accounting standard, standard setters generally provide alternative approaches to transition, and IFRS16 is no exception. This is addressed in Appendix C of IFRS 16, which offers firms the choice of transitioning using either the retrospective approach (para C5(a)) or the cumulative approach (para C5(b)). Under the retrospective approach, a full restatement of prior year information is required. Beyond the recognition of leases, there would be an adjustment to all of the financial statements that otherwise would have been impacted due to the standard. In practice, lease contracts would also have to be evaluated as far back as required to fully present financial that would otherwise have recognised leases onto the balance sheet since day 1. The cumulative approach adjusts only the opening balances in the current period, which might be considered a pragmatic solution to a potentially difficult accounting problem. However, this approach has the consequence of providing less comparable information to users. Recent evidence of firms transitioning to a new standard, IFRS 15, indicates that most adopted the cumulative approach, resulting in reduced disclosures (Onie et al., 2023), even in situations where the

impacts of transition were material. Currently, there is no evidence in the literature on how firms transitioned to IFRS 16, making it an important question to address.

A further issue arising during transition is that preparers needed to critically evaluate historic lease transactions to determine how they should be accounted for under IFRS 16. This additional scrutiny will undoubtedly lead to the identification of misstatements, an unexpected benefit also noted during the transition to IFRS 15 (Onie et al., 2023). Hence, in addition to considering how firms transitioned to IFRS16, a further question requiring address is whether there is any evidence of restatements relating to non-cancellable operating leases.

2.2.3. Literature review: a history of lease accounting

An evaluation of how firms transitioned to IFRS 16 and the impacts of transition on financial reports requires an appreciation of the issues with the prior accounting standard, IAS 17. While IAS 17 prescribed lease capitalisation for many leases, there were limits that could be exploited. Specifically, the impacts of the alternative accounting practices on financial statements created economic incentives for lessees to structure lease transactions to meet the criteria for classification as operating leases. The impacts of these accounting standards and the corresponding firm responses have been considered extensively in the literature (e.g., El-Gazzar, Lilien, & Pastena, 1986; Godfrey & Warren, 1995; Imhoff & Thomas, 1988). Furthermore, a feature of the lobbying activity related to the proposed changes in accounting practices – by both lessees and financiers – was aimed at ensuring the continued availability of the lease expense method (e.g., Beattie et al., 2006; Rey et al., 2020).

IFRS 16 was issued in 2016 and became effective in 2019. To date, there is mainly anecdotal evidence of the impacts of IFRS 16 on financial statements. Understanding these impacts will be central to any post-implementation review. Accordingly, an important question addressed in this paper is how the transition to IFRS 16 impacted the financial statements for a broad cross-section of firms. Furthermore, it examines whether there is there any evidence of the impacts being concentrated in particular firms or sectors.

While the deficiencies in the historic accounting standards were well recognised (e.g., Tweedie & Whittington, 1990), there was transparency with respect to these transactions through the disclosure of so-called 'non-cancellable operating lease' commitments. Hence, users were able to determine the impact of lease capitalisation, albeit with some error (e.g., Imhoff, Lipe, & Wright, 1993). The impacts of using the lease expense method for leases were well recognised by financial statement users (Spencer & Webb, 2015). For example, there is evidence that the cost of capital for firms is adjusted to reflect unrecognised leases (Dhaliwal, Lee, & Neamtiu, 2011). Similarly, there is evidence that credit assessments reflect information about unrecognised leases (Altamuro, Johnston, Pandit, & Zhang, 2014). However, a challenge with these studies is that they evaluate whether user decisions reflect the expected impact of lease capitalisation.

A number of strategies were developed by users to capture information about unrecognised leases in their analysis (i.e., constructive capitalisation). One of the first methods developed required assumptions regarding the asset's implicit interest rate, along with the average life of the asset, which was estimated by dividing future lease payments by

current lease payments and then rounding up (Imhoff, Lipe, & Wright, 1991; Imhoff, Lipe, & Wright, 1997). By making these assumptions, users were able to calculate the capitalised amount of lease commitments. Another much simpler method was the 'rule-of-thumb' method. This method simply takes the current rent expense, multiplies it by a pre-determined factor, and capitalises it onto the balance sheet, reallocating the rent expenses into interest and depreciation expenses. Although there are various other methods of capitalisation (e.g., the constructive or factor method), the intention of estimating the impact of lease capitalisation remains the same.

An interesting question is whether the existing strategies to capitalise unrecognised lease liabilities accurately estimated the impact of lease recognition under IFRS 16. This is a non-trivial question. If the strategies accurately identified the impact of lease capitalisation, then the potential benefit of IFRS 16 is significantly reduced. Furthermore, since Imhoff et al. (1993), there have been significant changes in the way in which financial information is accessed and used. Digital financial reporting removes many constraints on how financial information is used. This development likely means that historic differences observed for recognition and disclosure are less critical today (Barth, Clinch, & Shibano, 2003).

2.3. Research Design

There are always challenges in evaluating the impact of changes in accounting standards on the financial statements of firms, and IFRS 16 is no different. The available information is limited to financial report disclosures, which depend on the approach taken to transition. To address the initial questions about how firms transitioned to IFRS 16, attention is focused on

financial report disclosures which forms the basis for determining the transition approach. This is relatively straightforward, as the retrospective approach involves adjusting prior year information, while the cumulative approach involves an adjustment to the opening balances in the current period with no reconciliation. Furthermore, to gain insights into the transition process, financial reports prior to the transition were individually reviewed to determine whether there was a restatement of previously recognised non-cancellable operating lease commitments.

Evaluating the impact of transition to a new standard is particularly problematic for leases, as only aggregate information is available. Hence, caution is necessary in determining how to measure the impact of transition to IFRS 16. Transitioning to IFRS 16 generally involves the application of lease capitalisation, which has predictable balance sheet impacts. At the inception of a lease, there is an equivalent increase in assets and liabilities, resulting in increased leverage relative to the lease expense method. This effect progressively resolves over the term of the lease as the right-of-use asset is depreciated and the lease liability is paid, although the rate of decline of the asset is initially faster. An example is provided in Appendix A. Consequently, after inception, lease liabilities will exceed right-of-use assets, leading to higher leverage until the conclusion of the lease.

The impacts of transitioning to IFRS 16 on the statement of profit or loss are less straightforward. Initially, lease capitalisation results in greater expenses relative to lease expensing (i.e., interest and amortisation exceed lease payments). However, over time, these differences reverse, and over the term of the lease, expenses across the two accounting

practices balance. For individual assets, these differences are straightforward, as demonstrated in Appendix A of this chapter. However, for multiple assets, the results are more complex. When the number of assets being accounted for using lease capitalisation (rather than the lease expense method) is increasing, aggregate expenses will be greater and income will be lower. When the number of assets is stable, expenses will not be impacted as the effects of new and old leases offset each other. Finally, when the number of assets is declining, aggregate expenses will be lower and income will be higher. This is demonstrated in Appendix B of this chapter. These outcomes are consistent with the consideration of conservatism generally (Penman 2010), which dictates a focus on the balance sheet in evaluating the impacts of IFRS16. Accordingly, the evaluation of the impacts of transitioning to IFRS 16 will focus on the balance sheet and leverage.

Another important question is whether the standard was necessary given that methods were available to estimate the impact of lease capitalisation. To provide insights into this, differences between the estimated and actual impact of lease capitalisation are calculated. This requires determining the capitalised non-cancellable operating lease amount from the prior financial year (i.e., 30 June 2019) and comparing it to the right-of-use asset and lease liability recognised in the current financial year (i.e., 30 June 2020) as an opening balance.[7]

Guidance in the estimation of capitalised non-cancellable operating lease commitments is provided by the prior literature, and four methods are used. The first method (*ILW*) was developed by Imhoff et al. (1991). This method discounts non-cancellable

[7] With the retrospective approach this was provided in the financial report, with the cumulative approach the adjustment was added to the opening balance.

operating lease commitments (NCOL) to the present value by a set discount rate, which is then capitalised onto the balance sheet. Until the end of the lease term, the liability arising from the lease contract will always be greater than the book value of the leased asset.[8] To this end, a ratio is estimated for the asset balance to the liability balance. The specific assumptions for this method are as follows:

1. The average remaining life of the operating leased asset is 15 years.
2. The estimated unrecorded asset is equal to 75% of the unrecorded liability.
3. The effective tax rate for all firms in the sample is proxied as the corporate tax rate.
4. Assets are depreciated using the straight-line method and all cash flows are assumed to occur at year-end.

These assumptions are uniform across all firms; hence, the results may deviate from the actual impact of the standard. Furthermore, the assumptions used are for settings that do not necessarily reflect the leasing landscape of the sample used in this chapter. For example, the lease term assumption was based on a sample of United States firms, whereas a much shorter term was observed in New Zealand by Bennett and Bradbury (2003). There is also the issue of using an estimated discount rate of 10%, for all companies in the sample as a proxy for the incremental borrowing rate for the leased assets of each firm. Although this may have reflected the borrowing cost for the sample in Imhoff et al. (1991), this does not necessarily reflect the borrowing costs of Australian firms in sample period studied.

[8] Refer to Figure 1 of Imhoff et al., (1991) for more information.

Furthermore, the larger sample size and industry representation will introduce greater variance in borrowing costs that can't be captured through an average discount rate.

This chapter addresses some of these concerns by modifying the *ILW* method in the following ways (denoted here forth as *ILWModified*). First, the incremental borrowing rate of the firm in the current year is used, which is hand collected from annual reports. For firms where this number is not available, the average incremental borrowing rate of the firm's sector is used as a proxy. This is obtained by averaging the incremental borrowing rate of all other firms within the sample that belong to the same sector. An issue with the Australian sample is that leases are split into 3 buckets: obligations due within 1 year, between 1 to 5 years, and beyond 5 years. Estimating the life of leases beyond 5 years is a challenge given that lease terms vary greatly even for the same type of assets.[9] Hence, the second modification to the model is the use of an industry specific life term. This is taken from Morales-Díaz and Zamora-Ramírez (2018), which is based on a combination of public and restricted information to compute the average lease life used for their European sample.[10] Although this method does not fully address the issue of differentiating lease terms for each firm, it allows some variation of lease terms across sectors and should produce results closer to the actual impact of IFRS 16.

The third and fourth methods are known as the heuristic or 'rule-of-thumb' methods employed by Moody's. These methods multiply the current year rent expense by a factor (5x,

[9] Life of leases beyond 5 years is difficult to estimate due to how operating leases are disclosed altogether with no differentiation between the type of leased asset. Further to this, similar types of assets will have varying lengths in terms of their contract depending on the arrangements with the lessor.
[10] Refer to Table 3 of Morales-Diaz and Zamora-Ramirez (2018).

6x, 8x or 10x), compare it to the present value of non-cancellable operating lease commitments discounted by the firm's incremental borrowing rate, and take the higher of the two values. The implicit assumption is that the capitalised lease asset is proportionate to the lease payment, and no adjustments are made to deferred taxes or equity. The factors of 8x and 6x are chosen in this study because these multiples predate the others and have been used in prior studies (Bennett & Bradbury, 2003; Ely, 1995; Imhoff et al., 1993).[11] The value calculated by the *ILWModified* method of lease capitalisation is used to proxy for the discounted present value of non-cancellable operating lease commitments.

2.4. Sample

The sample for this chapter begins with firms listed in the ASX500that had operating leases commitments at the date of transition to IFRS 16 (financial years beginning on or after 1 January 2019). The sample was limited to the ASX500 for two reasons. First, ASX 500 firms represent roughly 84% of the market capitalisation of the entire ASX and it is within these large firms that the use of off-balance sheet leases are expected to be material (such as large listed retail and healthcare firms). Consequently, this sample provides the most likely setting to observe significant variation in the use of the retrospective method to transition to IFRS 16. Second, and of lesser importance, information regarding the transition method and restatement data from years prior to transition had to be hand collected and reviewed from individual annual reports. Limiting the sample to the ASX 500 reduced the risk of searching

[11] The factor of 6 assumes an interest rate of 10% and a lease term of 25 years.

for information that may not exist, as smaller firms were less likely to have significant leases or to provide the detailed disclosures required for this analysis.

Firms in several sectors were excluded. Firms in the financial services sector were excluded due to their unique financial structure and impacts, including those arising from the firm being a lessor. Firms in the real estate and agriculture sectors were excluded due to the use of fair value measurement for assets (i.e., *IAS 40 Investment Property* and *IAS 41 Agriculture*). In both cases, these standards lead to the recognition of right-of-use assets on a basis other than historic cost, making it problematic to determine the impacts of transition to IFRS 16.[12] Firms without a GICS Sector classification were excluded from the sample, as well as foreign firms due to potential differences in accounting requirements. Firms without any lease arrangements and those that have changed their reporting period between the sample years were also excluded. Finally, after excluding stapled or subsidiary firms, as well as those undergoing significant changes due to activities related to mergers and acquisitions or de-mergers, a final sample of 193 firms remains for the primary analysis. An overview of the sample selection process is provided in Table 2.1.

[Insert Table 2.1 about here]

[12] Many agricultural firms applying fair value measurement to agriculture extend this measurement model to property plant and equipment in order to ensure consistency in measurement models. If right of use assets are in the same class as assets subject to revaluation, then this must be extended to the right of use assets. This contrasts with ASC 905 in the U.S. which permits historical cost only.

2.5. Results

2.5.1. Main Results

Insights into how firms transitioned to IFRS 16 are provided in Table 2. Of the 193 sample firms, 182 (94%) transitioned using the cumulative approach and only 11 adopted the retrospective approach. With so few firms using the retrospective approach, this precluded any meaningful consideration of firm characteristics and other factors that might influence the choice of approach to transition.

[Insert Table 2.2 about here]

While Onie et al. (2023) found that a majority of firms transitioned to IFRS 15 using the cumulative approach, the result for IFRS 16 is much stronger. Furthermore, given the separate disclosure of non-cancellable operating lease commitments prior to transition and the right-of-use assets subsequent to transition, it is clear that materiality was not a determinative factor in the choice of transition approach. This result is problematic, as the cumulative approach limits the disclosures made about transition and the impact on financial statements.

Of the 193 firms in the sample, there are 37 instances of non-cancellable operating lease commitments being restated by 29 firms in the years 2013 and 2018. Of these restatements, 21 are upwards restatements and 16 are downwards restatements. Given that the transition to IFRS 16 would have required a detailed understanding of lease conditions, firms likely revised their lease contracts and identified clauses that were previously overlooked. Regardless of the reasons for misstatements, accurately estimating the

capitalised values of non-cancellable operating lease commitments before the implementation of IFRS 16 would undoubtedly be beneficial for users.[13]

An overview of the impacts of transitioning to IFRS 16 is presented in Table 2.3. This table identifies the increase in assets through the recognition of right-of-use assets (Panel A) and the increase in liabilities through the recognition of lease liabilities (Panel B), for each industry sector.

[Insert Table 2.3 about here]

Attention is first focused on the impact of the recognition of right-of-use assets (Panel A). It is notable that for the full sample, the mean (median) ratio of recognised right-of-use assets to total assets is 11.41% (4.11%). This suggests considerable skewness, as the ratio at the 75th percentile is still only 10.54%. Critically, this shows that for the majority of firms, the impacts of transitioning to IFRS 16 were not as significant as others. However, there are some firms and sectors where the impacts are pronounced. The sectors where the mean (median) ratio of right-of-use assets to total assets is greatest are Consumer Discretionary (27.09% mean, 15.78% median), Consumer Staples (25.01% mean, 8.93% median), Communication Services (10.54% mean, 5.25% median), and Healthcare (10.32% mean, 4.42% median). The means and medians for these sectors also indicate skewness, and there is evidence that for many of these firms, the impacts of transitioning to *IFRS 16* were material. In contrast, in other sectors, the means are less than 10%, as are the 75th percentile

[13]The focus of this thesis is to understand the firm's behaviour during the transition to *IFRS 16*. Although it would be interesting to investigate the frequency of restatements before and after the issuance of the standard, this would require hand-collecting additional data several years prior to the window of this thesis. Future research could consider exploring the pre and post adoption dynamics of restatements related to the standard.

values. This indicates that while the impacts of transitioning to IFRS 16 were material and pervasive in some sectors, for most firms in most sectors, the impacts were limited. When attention is focused on the ratio of lease liabilities to total liabilities (Panel B), the results are consistent, albeit more pronounced given the smaller denominator, especially in leverage ratios.

To provide additional insights into these results, attention is directed to a firm that was critical of IFRS 16 and in a sector identified as being significantly impacted, JB Hi-Fi Ltd. JB Hi-Fi Ltd is a retailer with 314 stores generally leased in large shopping centres, resulting in a high incidence of leased land and buildings. First, it is notable that JB Hi-Fi adopted the cumulative approach to transition, notwithstanding the materiality of the impacts. In the transition year, the opening balance of right-of-use assets were recognised at $764.9 million, representing 29.9% of total assets (excluding right-of-use assets). The lease liabilities recognised were $836 million, representing 64% of total liabilities (excluding lease liabilities). This is consistent with the expectation that the impacts of transition would be pronounced for firms with leases of land and buildings. The evidence in Table 2.3, as well as the example of JB Hi-Fi Ltd, suggests that the impacts of *IFRS 16* were not pervasive across all firms but were concentrated in specific sectors and firms.[14]

A further concern is the extent to which the impacts of IFRS 16 could have been pre-empted by users from existing financial report disclosures. This is examined by comparing the actual impacts of IFRS 16 with estimates of the impact of lease capitalisation using one

[14] Refer to note 16 of JB Hi-fi's FY2020 annual report for a detailed breakdown of how the firm transitioned into *IFRS 16*

of the four methods described in section 2.3. Table 2.4 displays the results of the difference between the right-of-use assets (lease liability) recognised under IFRS 16 and the amount predicted by the available capitalisation methods.

[Insert Table 2.4 about here]

First, attention is focused on the right-of-use assets recognised, displayed in Panel A. The total sample benchmark is 11.41%, indicating that, on average, recognised right-of-use assets were 11.41% of total assets. The difference from this benchmark and the estimates obtained by applying the alternative approaches to estimating the impact of lease capitalisation are presented in the subsequent columns, respectively.[15] Using the *ILW* method, the difference for the full sample is 4.51. When compared to the mean of the actual impact of lease capitalisation, this difference (4.51/11.41 = 39.53%) is material.[16] However, given the magnitude of the impact of the standard, whether this would have influenced user decision-making is doubtful. Looking at the sectors, it is notable that in only the Consumer Staples, Consumer Discretionary, Communication Services, and Healthcare sectors have differences greater than 5. However, these are also the sectors where IFRS 16 has the greatest impact. In the other sectors, the mean impact of IFRS 16 was less than 10% of total assets, and the mean forecast error was less than 5. The forecast errors between actual and estimated amounts using the *ILW* method are all positive, indicating that the *ILW* method underestimated off-balance sheet operating leases to varying degrees.

[15] Mean differences are considered rather than medians, therefore the result is sensitive to extreme differences.
[16] This difference is the absolute value of the percentage error between the actual right-of-use assets recognised as a percentage of total assets and the forecast amount.

When the impacts of lease capitalisation are estimated with using the *ILW Modified* approach, the mean forecast error for the full sample falls to 3.00. Furthermore, in only two sectors is the mean difference greater than 5 (i.e., Consumer Discretionary at 9.07 and Consumer Staples at 7.05). This suggests that users of financial reports are able to estimate the impacts of lease capitalisation reasonably accurately prior to transition to IFRS 16 when using methods that incorporate some firm or sector specific information. Again, the forecast errors are positive, however the magnitudes are all smaller than the *ILW* method.

For the two heuristic approaches (*Rent 8* and *Rent 6)* there is persistent evidence of material differences between the actual impacts of lease capitalisation and the estimates. For the full sample, the mean differences are -20.17 and -12.83, respectively, indicating that off-balance sheet leases were overestimated, on average. Using the *Rent 8* method, the differences are all negative indicating that, on average, this method overestimated off-balance sheet leases. The *Rent 6* method provided similar results but with smaller forecast errors compared to the *Rent 8* method.[17]

Panel B displays the comparison between actual capitalised operating lease liabilities under IFRS 16 and amounts estimated using the four different capitalisation methods. Similar patterns to those observed in Panel A are observed in Panel B. Of the four methods, the smallest mean forecast error arises from the *ILWModified* method (3.81 for the full sample), followed by the *ILW* method, *Rent 6* method and last the *Rent 8* method, which appears least

[17] Forecast errors for some industries may be extremely large, noting that the *Rent 8* and *Rent 6* method makes no distinction between types of leases and industry, hence these methods would overestimate the impact of lease capitalisation for industries with leases of low value.

accurate. Taken together, what is apparent from the results presented in Table 2.4 is that for most firms, users were able to estimate the impact of lease capitalisation if they employed a moderately sophisticated approach (*ILW* and *ILW Modified*). [18]

Subsequent to these results is an investigation into the impact of newly recognised leases towards a number of key accounting ratios commonly used by market participants. The impact of lease capitalisation on leverage is presented in Table 2.5 below.

[Insert Table 2.5 about here]

Panel A displays the mean debt to equity ratios by industry prior to firms transitioning to IFRS 16. Panel B displays the impacts of the standard on the date of transition, along with other capitalisation methods used to estimate the impact of the standard. For the full sample in Panels A and B, there is an increase in debt-to-equity ratios from 103.74% to 149.99% on the date of transition. It is important to note that this increase is mostly attributed to an increase in debt and not a decrease in equity. The increase in the ratio for the full sample when capitalised with the *ILWModified* method is closer to the actual mean (forecast error of 0.07%) than any other method, with *Rent6* (-5.63%) following at a close second. Furthermore, for the Consumer Staples sector, the *ILWModified* method produces a mean that is much greater than any other method. This result indicates that the impact towards equity based on the assumptions of this model are overstated, and the lease term for the Consumer Staples sector in the Australian setting is much greater than what was previously

[18]Given that the difference between right-of-use assets and lease liabilities on the transition date was much lesser than what is estimated, models using a more conservative approach to the asset's useful life (e.g. 90%) would have been much closer in terms of estimating the actual impact of lease capitalisation.

estimated in other studies. The *Rent8* method had a mean difference that was much closer to the actual number of 277.91% for Consumer Staples, which is a result of the *ILW* models overestimating the difference in recognised leased assets and liabilities as opposed to the actual impact of the standard. This difference would be smaller in cases where the impact towards equity is less prevalent.

Panels C and D examine the average debt to asset ratios. The average debt to assets ratio increased from 41.58% for the pre-capitalisation numbers to 46.98% after adjusting for the actual lease liability and right-of-use asset. Furthermore, the other 4 methods were very close in estimating the actual impact of lease capitalisation towards debt to assets, with differences ranging from 1.05% to -4.04% compared to the actual full sample mean. The *ILWModified* method on average was still closer to the actual debt to assets ratio compared to the *ILW* method although the difference is minimal.

The impact of lease capitalisation on profitability ratios (return on assets and return on equity) is presented in Table 2.6. It should be noted that due to the lack of comparatives provided by firms (as most transitioned to the new standard using the cumulative method), no impact towards income could be observed and thus is assumed to be nil for the reasons outlined in section 2.3 of this chapter.

[Insert Table 2.6 about here]

Panels A and B display the results for return on assets (ROA). Prior to the transition date, ROA for the full sample was, on average, 6.09%, which then reduced to 5.16% due to the increase in right of use assets after the transition date. This result is not consistent with

other studies that report an increase in the same ratio due to the fact that EBIT was not adjusted for the sample. All four methods estimated an amount that was close to the actual ROA for the full sample, ranging from a difference of 0.7% to -0.34%. This suggests that all the methods were quite reliable[19], to an extent, in estimating the impact of lease capitalisation towards ROA, on average, with the rule-of-thumb method of *Rent6* producing the closest mean to the full sample.

Panels C and D report results for the impact on return on equity (ROE). The changes between the ratios are slightly larger for the impact of lease capitalisation on ROE, where the full sample had a mean of 15.60% prior to transition and a mean of 17.49% after the transition date. As shown in Panel D, the standard's impact towards equity may have been small but not uniform, as for some industries such as Consumer Discretionary, ROE increased from 27.41% to 35.96%. The *ILW* and *ILWModified* methods presented in Panel D do show greater changes to the actual impact of the standard on ROE, which the magnitude of the impact is much greater for firms with larger amounts of off-balance sheet assets. The much larger mean error in Consumer Staples is due to an overestimation of the net impact of the standard with firms having very little net assets.[20] Overall, these results suggest that the impact of IFRS 16 towards profitability ratios are minimal given that no adjustments are made to EBIT post-capitalisation.

[19] T-tests show that most capitalisation method had means that differed significantly from the actual results. Therefore, t-tests or other non-parametric may not be appropriate for this chapter.
[20] The *Rent8* and *Rent6* methods do not have any impact towards equity as the amount capitalised towards assets and liabilities are the same.

2.5.2. Additional Analysis

From the above analysis, it is clear that the impacts of transitioning to IFRS 16 were pronounced in some sectors and for some firms. A major contributor to this was likely leases of land and buildings that, notwithstanding their often-long terms, were always classified as operating leases. Concerns about the capitalisation of these leases was expressed in comment letters to the IASB, one of which was from Woolworths Limited. They argued that real estate leases differed in their economic substance compared to other types of leases. While these arguments might not have been considered persuasive at the time, it should be recognised that on early termination of these leases, the lessee is unlikely to be liable for the full value of future lease commitments. Rather, the obligation will be limited to a negotiated amount, dictated by any deficiency for the lessor arising from re-leasing the asset. Interestingly, there is also some early evidence that this is recognised by sophisticated users of financial statements. Just as techniques were developed to capitalise non-cancellable operating lease commitments, techniques are now being developed to reverse the process.

To provide insights into whether these concerns might merit further consideration, eight firms were manually identified as having a disproportionate reliance upon leases of retail space, which attract the highest lease payments and are typically for longer periods.[21] Key accounting ratios were calculated for these firms prior to and post-IFRS 16. The results are presented in Table 2.7.

[21] The firms identified are those with the highest levels of committed non-cancellable operating lease expense within the consumer discretionary and consumer staple sectors. The ASX ticker of these firms are WOW, COL, JBH, PMV, SUL, VEA, WES, and BAP. These are firms that operate in the sector which *IFRS 16* is expected to have the greatest impact towards, hence further attention is given to them.

[Insert Table 2.7 about here]

For these firms, the mean (median) of right-of-use assets scaled by total assets is 39.77% (40.66%) and lease liability scaled by total liabilities is 89.40% (97.19%). Although these firms hypothetically would have some form of recognised leases on their balance sheet, the amounts were insignificant and therefore leased assets and lease liabilities are treated as nil. Furthermore, debt-to-equity increased from 108.81% (102.70%) to 238.59% (204.40%), and debt-to-assets increased from 49.57% (50.38%) to 65.99% (67.29%). Although return on equity increased slightly from 26.66% (26.25%) to 29.70% (28.65%) due to the greater impact of lease capitalisation on total liabilities than total assets, return on assets reduced from a mean (median) of 12.27% (11.98%) to 8.83% (9.00%). When these results are considered in the context of the results for the full sample, it is clear that firms with leases of land and buildings were most impacted by IFRS 16.

2.6. Conclusion

The objective of this chapter was to provide insights into how firms transitioned to IFRS 16, which may guide standard setters in the development of accounting standards. Particular attention was focused on the approaches taken to transition, the impacts of transition, and whether this provided new relevant information for users. Based on a sample of 193 large Australian listed firms with non-cancellable operating leases, there is overwhelming evidence of firms choosing the cumulative approach in transitioning to IFRS 16. This approach may be reasonable when the impacts are immaterial, however firms also took this approach when they experienced material impacts. This result is similar to that documented

in Onie et al. (2023), which examined the transition to IFRS 15, and is problematic given the limited disclosures provided under the cumulative approach. Therefore, standard setters should consider making flexibility in choosing an approach to transition (i.e., cumulative or retrospective) conditional on materiality.

There is also evidence that non-cancellable operating lease commitments were restated in the period prior to transition. In total, 29 firms made 37 restatements. The incidence of restatements is not surprising given that the application of IFRS 16 would have required careful re-evaluation of existing lease contracts. If anything, this result highlights that preparers and auditors should undertake periodic reviews of historic transactions to determine whether the historic evaluation of the transaction is still considered accurate.

The impacts of IFRS 16 on financial statements were evaluated by the magnitude of right-of-use assets recognised relative to total assets, and lease liabilities recognised relative to total liabilities. There was considerable diversity in the magnitude of the impacts, and for many firms, the impacts were immaterial. However, there were some sectors and some firms in which the impacts were pronounced. Specifically, those with high levels of leases of land and buildings. These findings raise some important questions for standard setters. First, if the impacts of IFRS 16 were concentrated in a limited subsample of firms, was it necessary to undertake such a major standard change, or could the issues have been better addressed by more targeted revisions (i.e., evolution or revolution)? This is an important question given the cost of developing and applying a new accounting standard. The impacts of IFRS 16 were greatest for leases of land and buildings. Were these leases the intended target of standard

setters? Furthermore, is full capitalisation necessarily appropriate for these leases, given that future obligations may be mitigated if the leased asset is able to be re-leased?

Finally, evidence is provided that the impacts of capitalising leased assets as required by IFRS 16 could be reasonably estimated from existing information in financial reports, using moderately sophisticated techniques. This brings into question whether the costs of developing and transitioning to the new accounting standard could be justified by the benefits (if any). This is particularly salient as digital financial reporting becomes increasing commonplace, allowing users to manipulate (i.e., recalculate and reformat) the information provided in financial reports easily and simply. It suggests that prior research which considered the distinction between recognition and disclosure (Barth et al., 2003) should probably be revisited.

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2.8. Tables

2.8.1. Table 2.1

Table 2.1 – Sample selection

	Firms
Top ASX 500 firms in year 2020	500
Exclusions:	
Industry Exclusions (Financials, Agriculture, Real Estate & No Classifications)	-184
Foreign Jurisdiction (US GAAP, IFRS)	-51
No Operating Lease Arrangements	-31
Changed Year End	-3
Early Adopters	-10
Missing Data	-20
Firms with Changes due to Mergers & Acquisition or De-merger	-4
Stapled or Subsidiary Companies	-4
Full Sample	**193**

2.8.2. Table 2.2

Table 2.2 – Approach to Transition

		Transition method	
GICS Sector	n	Cumulative	Retrospective
Communication Services	15	12	2
Consumer Discretionary	38	32	2
Consumer Staples	16	14	1
Energy	12	10	0
Health Care	21	19	0
Industrials	26	21	5
Information Technology	25	23	1
Materials	51	48	0
Utilities	3	3	0
Total	**193**	**182**	**11**

2.8.3. Table 2.3

Table 2.3 – Impact of Transition to IFRS 16

Panel A: % of right-of-use assets recognised to total assets

Industry Classifications	n	Mean	Std. Dev.	25th	Median	75th
Communication Services	14	10.54%	0.147	3.38%	5.25%	8.81%
Consumer Discretionary	34	27.09%	0.325	4.13%	15.78%	37.66%
Consumer Staples	15	25.01%	0.419	4.04%	8.93%	18.69%
Energy	10	6.07%	0.143	0.61%	1.64%	2.54%
Health Care	19	10.32%	0.119	1.55%	4.42%	14.07%
Industrials	26	5.92%	0.037	3.04%	5.79%	7.79%
Information Technology	24	6.57%	0.095	2.54%	3.77%	8.04%
Materials	48	3.92%	0.047	1.10%	2.47%	4.54%
Utilities	3	0.99%	0.007	0.44%	0.81%	1.73%
Full Sample	193	11.41%	0.212	1.63%	4.11%	10.54%

Panel B: % of non-cancellable operating lease recognised to total liabilities

Industry Classifications	n	Mean	Std. Dev.	25th	Median	75th
Communication Services	14	28.03%	0.374	9.85%	13.23%	19.67%
Consumer Discretionary	34	72.18%	0.761	11.62%	55.04%	96.58%
Consumer Staples	15	36.15%	0.404	8.19%	22.50%	39.17%
Energy	10	18.39%	0.317	2.00%	7.37%	9.29%
Health Care	19	40.42%	0.586	4.25%	12.41%	55.53%
Industrials	26	13.88%	0.091	6.61%	13.30%	18.86%
Information Technology	24	20.88%	0.301	6.04%	10.77%	22.25%
Materials	48	18.18%	0.221	4.72%	10.74%	24.69%
Utilities	3	1.87%	0.017	0.65%	1.09%	3.86%
Full Sample	193	32.46%	0.486	5.95%	13.33%	32.55%

This table displays the impacts of IFRS 16. Panel A displays the increase in right-of-use assets recognised under IFRS 16, as a percentage of total assets (prior to capitalisation). Panel B displays the increase in lease-liabilities recognised under IFRS 16 as a percentage of total liabilities (prior to capitalisation).

2.8.4. Table 2.4

Table 2.4 – Comparison of Actual versus Estimated Impacts of IFRS 16

Panel A: Capitalised right-of-use assets divided by total assets

Industry Classification	n	*Actual* Mean	*ILW* Difference	*ILWModified* Difference	*Rent8* Difference	*Rent6* Difference
Communication Services	14	10.54%	6.02%	4.95%	-18.09%	-11.04%
Consumer Discretionary	34	27.09%	12.36%	9.07%	-51.34%	-32.00%
Consumer Staples	15	25.01%	11.48%	7.05%	-10.23%	-4.18%
Energy	10	6.07%	3.05%	2.51%	-1.54%	0.03%
Health Care	19	10.32%	5.96%	4.76%	-12.68%	-7.22%
Industrials	26	5.92%	2.12%	1.21%	-22.9%	-15.72%
Information Technology	24	6.57%	2.48%	1.45%	-11.61%	-7.15%
Materials	48	3.92%	1.87%	1.46%	-9.44%	-6.21%
Utilities	3	0.99%	0.44%	0.23%	-0.40%	-0.13%
Full Sample	193	11.41%	4.51%	3.00%	-20.17%	-12.83%

Panel B: Capitalised lease liability divided by total liabilities

Industry Classification	n	*Actual* Mean	*ILW* Difference	*ILWModified* Difference	*Rent8* Difference	*Rent6* Difference
Communication Services	14	28.03%	13.39%	10.08%	-85.09%	-57.01%
Consumer Discretionary	34	72.18%	25.77%	15.55%	-114.62%	-68.58%
Consumer Staples	15	36.15%	4.33%	-5.40%	-26.49%	-15.45%
Energy	10	18.39%	5.76%	3.58%	-10.52%	-4.00%
Health Care	19	40.42%	19.48%	14.21%	-18.27%	-6.50%
Industrials	26	13.88%	3.37%	0.78%	-43.44%	-29.18%
Information Technology	24	20.88%	2.95%	-1.35%	-49.21%	-32.22%
Materials	48	18.18%	4.69%	2.38%	-37.99%	-24.39%

Utilities	3	1.87%	0.58%	0.10%	-0.58%	-0.07%
Full Sample	193	32.46%	5.31%	3.81%	-19.38%	-12.03%

Panel C: Capitalised Right-of-Use Asset and Lease Liabilities Impact on Equity

Industry Classification	n	*Actual* Mean	*ILW* Difference	*ILWModified* Difference	*Rent8* Difference	*Rent6* Difference
Communication Services	14	-1.63%	-1.34%	-2.06%	-	-
Consumer Discretionary	34	-8.39%	-1.13%	-3.32%	-	-
Consumer Staples	15	-9.68%	-5.03%	-10.59%	-	-
Energy	10	-0.18%	-1.65%	-1.98%	-	-
Health Care	19	-2.07%	-1.27%	-2.27%	-	-
Industrials	26	-1.78%	-1.18%	-1.85%	-	-
Information Technology	24	-1.03%	-1.58%	-2.21%	-	-
Materials	48	-0.73%	-0.53%	-0.79%	-	-
Utilities	3	-0.18%	-0.34%	-0.53%	-	-
Full Sample	193	-3.11%	-1.4%	-2.61%	-	-

This table compares the means of actual right-of-use assets, lease liability, and the net impact of those two recognised under IFRS 16, to amounts estimated by the four capitalisation methods described in section 2.3: *ILW*, *ILWModified*, and Moody's rent multipliers of 8 and 6. Column 1 displays the mean values recognised under IFRS 16, and columns 3 through 6 display the difference between the means derived from using one of the capitalisation methods and the actual mean. Positive differences indicate that the actual amount of capitalised leases on the transition date is greater than what was estimated, while negative differences indicate that the actual amount of capitalised leases on the transition date was less than estimated values (i.e., actual less estimated = difference).

2.8.5. Table 2.5

Table 2.5 - Impact of Lease Capitalisation on Leverage

Panel A- Debt to Equity Pre-IFRS 16

Industry Classification	n	*Actual* Mean	*ILW* Difference	*ILWModified* Difference	*Rent8* Difference	*Rent6* Difference
Communication Services	14	95.03%	-	-	-	-
Consumer Discretionary	34	106.04%	-	-	-	-
Consumer Staples	15	140.19%%	-	-	-	-
Energy	10	59.16%	-	-	-	-
Health Care	19	140.65%	-	-	-	-
Industrials	26	131.42%	-	-	-	-
Information Technology	24	123.49%	-	-	-	-
Materials	48	54.69%	-	-	-	-
Utilities	3	238.07%	-	-	-	-
Full Sample	193	103.74%	-	-	-	-

Panel B- Debt to Equity Post-IFRS 16

Industry Classification	n	*Actual* Mean	*ILW* Difference	*ILWModified* Difference	*Rent8* Difference	*Rent6* Difference
Communication Services	14	118.68%	8.62%	4.76%	-28.76%	-15.90%
Consumer Discretionary	34	237.42%	75.71%	58.5%	-21.37%	15.87%
Consumer Staples	15	277.91%	-62.88%	-17504.23%	29.12%	44.24%
Energy	10	70.51%	2.24%	0.42%	-2.05%	0.68%
Health Care	19	171.75%	11.73%	5.28%	-29.73%	-14.94%
Industrials	26	149.93%	2.44%	-1.3%	-50.14%	-33.02%
Information Technology	24	138.44%	0.68%	-2.78%	-19.97%	-11.35%
Materials	48	65.26%	3.62%	2.07%	-21.6%	-13.73%
Utilities	3	241.31%	0.34%	-0.72%	-0.67%	0.02%

Full Sample	193	149.99%	11.66%	0.07%	-21.24%	-5.63%

Panel C- Debt to Assets Pre-Capitalisation

		Actual Lease Liability	*ILW*	*ILWModified*	*Rent8*	*Rent6*
Industry Classification	n	Mean	Difference	Difference	Difference	Difference
Communication Services	14	43.27%	-	-	-	-
Consumer Discretionary	34	44.29%	-	-	-	-
Consumer Staples	15	50.33%	-	-	-	-
Energy	10	32.47%	-	-	-	-
Health Care	19	44.89%	-	-	-	-
Industrials	26	51.49%	-	-	-	-
Information Technology	24	42.29%	-	-	-	-
Materials	48	29.73%	-	-	-	-
Utilities	3	66.65%	-	-	-	-
Full Sample	193	41.58%	-	-	-	-

Panel D- Debt to Assets Post-Capitalisation

		Actual Lease Liability	*ILW*	*ILWModified*	*Rent8*	*Rent6*
Industry Classification	n	Mean	Difference	Difference	Difference	Difference
Communication Services	14	48.53%	1.75%	1.00%	-5.98%	-3.95%
Consumer Discretionary	34	56.27%	2.35%	0.78%	-6.38%	-3.86%
Consumer Staples	15	59.14%	1.11%	-0.57%	-0.45%	0.91%
Energy	10	35.13%	0.36%	0.01%	-0.90%	-0.24%
Health Care	19	50.13%	1.77%	0.92%	-2.60%	-1.21%
Industrials	26	54.82%	0.39%	-0.30%	-5.46%	-3.82%
Information Technology	24	46.09%	0.21%	-0.59%	-4.90%	-3.17%
Materials	48	32.32%	0.63%	0.26%	-3.20%	-2.07%
Utilities	3	67.10%	0.05%	-0.09%	-0.09%	0.02%
Full Sample	193	46.98%	1.05%	0.20%	-4.04%	-2.46%

This table compares leverage ratios impacted by the recognition of right-of-use assets and lease liabilities, to amounts estimated by the four capitalisation methods described in section 2.3: ILW, ILWModified, and Moody's rent multipliers of 8 and 6. Column 1 displays the mean values recognised under IFRS 16, and columns 3 through 6 display the difference between the means derived from using one of the capitalisation methods and the actual mean. Positive differences indicate that the actual impact of capitalised leases was greater than estimated, while negative differences indicate that the actual impact was less than what was estimated (i.e., actual less estimated = difference).

2.8.6. Table 2.6

Table 2.6 - Impact of Lease Capitalisation on Profitability Ratios

Panel A- Return on Assets Pre-IFRS 16

Industry Classification	n	*Actual* Mean	*ILW* Difference	*ILWModified* Difference	*Rent8* Difference	*Rent6* Difference
Communication Services	14	7.38%	-	-	-	-
Consumer Discretionary	34	13.64%	-	-	-	-
Consumer Staples	15	7.52%	-	-	-	-
Energy	10	6.21%	-	-	-	-
Health Care	19	1.24%	-	-	-	-
Industrials	26	10.12%	-	-	-	-
Information Technology	24	-3.05%	-	-	-	-
Materials	48	4.25%	-	-	-	-
Utilities	3	5.71%	-	-	-	-
Full Sample	193	6.09%	-	-	-	-

Panel B- Return on Assets Post-IFRS 16

Industry Classification	n	*Actual* Mean	*ILW* Difference	*ILWModified* Difference	*Rent8* Difference	*Rent6* Difference
Communication Services	14	6.64%	-0.41%	-0.33%	0.42%	0.22%
Consumer Discretionary	34	10.48%	-1.18%	-0.86%	2.30%	1.57%
Consumer Staples	15	5.59%	-0.67%	-0.38%	0.58%	0.30%
Energy	10	5.85%	-0.17%	-0.14%	0.12%	0.03%
Health Care	19	1.17%	0.02%	0.08%	0.94%	0.71%
Industrials	26	9.56%	-0.19%	-0.10%	1.43%	1.07%
Information Technology	24	-3.36%	-0.08%	0.01%	-0.67%	-0.59%
Materials	48	4.09%	-0.06%	-0.03%	0.02%	0.00%
Utilities	3	5.65%	-0.03%	-0.02%	0.02%	0.00%

Full Sample	193	5.16%	-0.34%	-0.22%	0.70%	0.47%

Panel C- Return on Equity Pre-IFRS 16

Industry Classification	n	*Actual* Mean	*ILW* Difference	*ILWModified* Difference	*Rent8* Difference	*Rent6* Difference
Communication Services	14	17.71%	-	-	-	-
Consumer Discretionary	34	27.41%	-	-	-	-
Consumer Staples	15	23.93%	-	-	-	-
Energy	10	11.58%	-	-	-	-
Health Care	19	12.11%	-	-	-	-
Industrials	26	22.86%	-	-	-	-
Information Technology	24	2.43%	-	-	-	-
Materials	48	8.68%	-	-	-	-
Utilities	3	19.27%	-	-	-	-
Full Sample	193	15.60%	-	-	-	-

Panel D- Return on Equity Post-IFRS 16

Industry Classification	n	*Actual* Mean	*ILW* Difference	*ILWModified* Difference	*Rent8* Difference	*Rent6* Difference
Communication Services	14	17.96%	-0.18%	-0.30%	-	-
Consumer Discretionary	34	35.96%	5.28%	4.09%	-	-
Consumer Staples	15	26.37%	-16.34%	-1956.24%	-	-
Energy	10	11.59%	-0.17%	-0.20%	-	-
Health Care	19	12.63%	-0.08%	-0.32%	-	-
Industrials	26	23.25%	-0.20%	-0.33%	-	-
Information Technology	24	2.64%	-0.20%	-0.32%	-	-
Materials	48	8.85%	-0.01%	-0.04%	-	-
Utilities	3	19.29%	-0.05%	-0.07%	-	-
Full Sample	193	17.49%	-0.43%	-151.48%	-	-

This table compares the various profitability ratios that would be impacted by lease capitalisation and the recognition of right-of-use assets and lease liabilities, to amounts estimated by the four capitalisation methods described in section 2.3: ILW, ILWModified, and Moody's rent multipliers of 8 and 6. Column 1 displays the mean values recognised under IFRS 16, and columns 3 through 6

display the difference between the means derived from using one of the capitalisation methods and the actual mean. Positive differences indicate that the actual impact towards the ratios was greater than estimated, while negative differences indicate that the actual impact was less than estimated (i.e., actual less estimated = difference).

2.8.7. Table 2.7

Table 2.7: Impact of Lease Capitalisation for Firms that lease Retail Space

Panel A: Pre-IFRS 16 Ratios

Ratios	n	Mean	Std Deviation	25th	Median	75th
ROUbyTA	8	0.00%	0.000	0.00%	0.00%	0.00%
LLbyTL	8	0.00%	0.000	0.00%	0.00%	0.00%
Debt to Equity	8	108.81%	0.500	84.75%	102.70%	132.15%
Debt to Assets	8	49.57%	0.127	45.87%	50.38%	56.81%
Return on Equity	8	26.66%	0.128	16.50%	26.25%	32.67%
Return on Assets	8	12.27%	0.035	0.10	11.98%	15.37%

Panel B: Post-IFRS 16 Ratios

Ratios	n	Mean	Std Deviation	25th	Median	75th
ROUbyTA	8	39.77%	0.205	25.06%	40.66%	49.75%
LLbyTL	8	89.40%	0.345	71.31%	97.19%	10.85%
Debt to Equity	8	238.59%	1.765	133.86%	204.40%	268.47%
Debt to Assets	8	65.99%	0.153	58.06%	67.29%	74.62%
Return on Equity	8	29.70%	0.180	16.63%	28.65%	33.57%
Return on Assets	8	8.83%	0.024	7.47%	9.00%	10.56%

This table highlights key account ratios that were impacted by the capitalisation of non-cancellable operating leases. The 8 observations are those that were identified as leasing large amounts of retail space, which would have been greatly impacted by IFRS 16. The ASX ticker of these firms are WOW, COL, JBH, PMV, SUL, VEA, WES, and BAP. Although finance leases are recognised on the balance sheet prior to the standard, these amounts were immaterial and therefore are written as 0.00%

2.9. Appendices

2.9.1. Appendix A

Comparison of Lease Capitalisation and Lease Expense Practices: Single Lease
For the purposes of this example a 10-year lease of an asset with an implicit interest rate of 10% and annual lease payments of $16,274.54 annually in arrears is assumed.

Table A1 identifies the value of the lease liability throughout the lease term.

Table A1 – value of lease liability

Year	Opening Balance	Payment	Interest 10%	Principal	Closing Balance
1	100,000.00	16,274.54	10,000.00	6,274.54	93,725.46
2	93,725.46	16,274.54	9,372.55	6,901.99	86,823.47
3	86,823.47	16,274.54	8,682.35	7,592.19	79,231.27
4	79,231.27	16,274.54	7,923.13	8,351.41	70,879.86
5	70,879.86	16,274.54	7,087.99	9,186.55	61,693.31
6	61,693.31	16,274.54	6,169.33	10,105.21	51,588.10
7	51,588.10	16,274.54	5,158.81	11,115.73	40,472.37
8	40,472.37	16,274.54	4,047.24	12,227.30	28,245.07
9	28,245.07	16,274.54	2,824.51	13,450.03	14,795.04
10	14,795.04	16,274.54	1,479.50	14,795.04	-

Table A2 identifies the value of the right-of-use asset throughout the lease term

Table A2 – value of right-of-use asset				
Year	Opening Balance	Depreciation	Acc. Dep.	Closing Balance
1	100,000.00	10,000.00	10,000.00	90,000.00
2	90,000.00	10,000.00	20,000.00	80,000.00
3	80,000.00	10,000.00	30,000.00	70,000.00
4	70,000.00	10,000.00	40,000.00	60,000.00
5	60,000.00	10,000.00	50,000.00	50,000.00
6	50,000.00	10,000.00	60,000.00	40,000.00
7	40,000.00	10,000.00	70,000.00	30,000.00
8	30,000.00	10,000.00	80,000.00	20,000.00
9	20,000.00	10,000.00	90,000.00	10,000.00
10	10,000.00	10,000.00	100,000.00	0.00

Table A3 compares the lease liability and the right-of-use over the lease term. It can be seen that the liability is persistently greater than the right-of-use asset. A comparison is also provided of the expense associated with lease capitalisation (depreciation plus interest) and with lease expensing. This comparison shows that lease capitalisation results in higher expenses initially but then reverses. By the end of the lease term, expenses are the same under both methods.

Table A3 – comparison of lease liability and right-of-use assets, as well as expenses under lease capitalisation and expense methods

Year	Balance Sheet		Lease Expenses	
	Lease Liability	ROU Asset	Capitalisation	Expense
0	100,000.00	100,000.00		
1	93,725.46	90,000.00	20,000.00	16,274.54
2	86,823.47	80,000.00	19,372.55	16,274.54
3	79,231.27	70,000.00	18,682.35	16,274.54
4	70,879.86	60,000.00	17,923.13	16,274.54
5	61,693.31	50,000.00	17,087.99	16,274.54
6	51,588.10	40,000.00	16,169.33	16,274.54
7	40,472.37	30,000.00	15,158.81	16,274.54
8	28,245.07	20,000.00	14,047.24	16,274.54
9	14,795.04	10,000.00	12,824.51	16,274.54
10	0.00	0.00	11,479.50	16,274.54
			162,745.39	162,745.39

2.9.2. Appendix B

Comparison of Lease Capitalisation and Lease Expense Practices: Multiple Leases

While the impacts of lease capitalisation on the lease expense are predictable for single leases, this does not extend to situations where there are multiple leases.

Again, for the purposes of this example a 10-year lease of an asset with an implicit interest rate of 10% and annual lease payments of $16,274.54 annually in arrears is assumed. Additionally, it is assumed that one asset is leased every year for the first eleven years and none thereafter.

The table below identifies the difference between the lease expense for a single leased asset over the term of the lease. This shows that lease capitalisation leads to higher expenses initially, but that this reverses.

Year	Lease Expense Capitalisation	Expense	Difference
1	20,000.00	16,274.54	3,725.46
2	19,372.55	16,274.54	3,098.01
3	18,682.35	16,274.54	2,407.81
4	17,923.13	16,274.54	1,648.59
5	17,087.99	16,274.54	813.45
6	16,169.33	16,274.54	-105.21
7	15,158.81	16,274.54	-1,115.73
8	14,047.24	16,274.54	-2,227.30
9	12,824.51	16,274.54	-3,450.03
10	11,479.50	16,274.54	-4,795.04

While the impacts for a single leased asset are straightforward, this is not the case when there are multiple leased assets. In such cases, the impact will be conditioned by whether the number (or value) of leased assets is increasing, stable or decreasing. This is highlighted in the table below. It can be seen that lease expenses are higher when the number of leased assets is increasing, not impacted when stable, and lower when the number of leased assets is decreasing.

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total
Asset																						
1	3725.46	3098.01	2407.81	1648.59	813.45	-105.21	-1115.73	-2227.30	-3450.03	-4795.04												0.00
2		3725.46	3098.01	2407.81	1648.59	813.45	-105.21	-1115.73	-2227.30	-3450.03	-4795.04											0.00
3			3725.46	3098.01	2407.81	1648.59	813.45	-105.21	-1115.73	-2227.30	-3450.03	-4795.04										0.00
4				3725.46	3098.01	2407.81	1648.59	813.45	-105.21	-1115.73	-2227.30	-3450.03	-4795.04									0.00
5					3725.46	3098.01	2407.81	1648.59	813.45	-105.21	-1115.73	-2227.30	-3450.03	-4795.04								0.00
6						3725.46	3098.01	2407.81	1648.59	813.45	-105.21	-1115.73	-2227.30	-3450.03	-4795.04							0.00
7							3725.46	3098.01	2407.81	1648.59	813.45	-105.21	-1115.73	-2227.30	-3450.03	-4795.04						0.00
8								3725.46	3098.01	2407.81	1648.59	813.45	-105.21	-1115.73	-2227.30	-3450.03	-4795.04					0.00
9									3725.46	3098.01	2407.81	1648.59	813.45	-105.21	-1115.73	-2227.30	-3450.03	-4795.04				0.00
10										3725.46	3098.01	2407.81	1648.59	813.45	-105.21	-1115.73	-2227.30	-3450.03	-4795.04			0.00
11											3725.46	3098.01	2407.81	1648.59	813.45	-105.21	-1115.73	-2227.30	-3450.03	-4795.04		0.00
												3725.46	3098.01	2407.81	1648.59	813.45	-105.21	-1115.73	-2227.30	-3450.03	-4795.04	0.00
Impact	3725.46	6823.47	9231.27	10879.86	11693.31	11588.10	10472.37	8245.07	4795.04	0.00	0.00	0.00	-3725.46	-6823.47	-9231.27	-10879.86	-11693.31	-11588.10	-10472.37	-8245.07	-4795.04	0.00

2.9.3. Appendix C

Ratios	Calculations
Balance Sheet Ratios	
Impact on Assets	*Capitalised Assets/Total Assets*
Impact on Liabilities	*Capitalised Liabilities/Total Liabilties*
Impact of Equity	*Impact on Equity/Equity*
Leverage Ratios	
Debt-to-Equity	*Total Liabilities/Equity*
Debt-to-Assets	*Total Liabilities/Total Assets*
Profitability Ratios	
Return on Equity	*EBIT/Equity*
Return on Assets	*EBIT/Total Assets*

3. CHAPTER 3: ECONOMIC CONSEQUENCES OF IFRS 16 – PREPARER'S PERSPECTIVE

The objective of this chapter is to explore the economic consequences for preparers of *IFRS 16 Leases,* focusing on how Australian listed firms 'prepared' to transition. The challenge for firms transitioning to *IFRS 16* was that for lessees using the lease expense method, changing to lease capitalisation could have a major impact on the financial statements. These impacts would be more pronounced for leases with longer durations and for high-value assets. For firms expected to experience the largest impacts, no evidence is provided of a decline in non-cancellable operating lease commitments prior to and following the issuance of *IFRS 16 Leases* to its effective date. Instead, the findings suggest that high-lease firms maintained their leasing practices. This result could indicate firms' confidence in being able to renegotiate debt contracts and/or an inability to change business models and avoid these types of leases (such as firms leasing retail space). An increase in capital expenditures was observed for high lease firms following the issuance of IFRS 16, providing some evidence of a substitution effect.

Keyword : IFRS 16; Leases; Right-of-use; Financial Reporting
JEL Classification : M41

3.1. Introduction

The evolution of accounting standards that prescribe accounting practices for leases, particularly for lessees, has been marked by complexity and challenges. This complexity is evidenced by the historical issuance of standards such as *IAS 17 Accounting for Leases* (*IAS 17*) by the International Accounting Standards Committee (IASC) in 1997, later reissued by the International Accounting Standards Board (IASB) in 2001.[22] The limitations and challenges associated with these standards have been extensively documented in the literature (e.g., Imhoff and Thomas 1988; Godfrey and Warren 1995; El-Gazzar et al. 1986; Beattie et al. 1998; Tweedie and Whittington 1990), and no doubt regulators are concerned regarding the potential for these issues to resurface with the implementation of *IFRS 16 Leases (IFRS 16)*. Not surprisingly, a pivotal advancement in IFRS 16 was the introduction of a general mandate for lease capitalisation by lessees, which could present a number of challenges. The anticipation of these challenges likely contributed to the postponement of IFRS 16's application until financial years commencing on or after 1 January 2019, offering a window to adjust to the new standard's requirements. A critical question thus arises: were there 'real' economic repercussions of the new standard? Specifically, this chapter aims to provide insights into whether the anticipation of *IFRS 16* affected the firm's use of operating leases, and subsequently if there was a substitution of such use with capital expenditure.

The primary motivation for this chapter is to empirically investigate the effects of accounting standards on corporate behaviour, with a focus on transition to IFRS 16. The

[22] It was not groundbreaking and consistent with existing standards including *SFAS 13 Accounting for Leases* (issued 1976) in the United States and *ASRB 1008 Accounting for Leases* (issued in 1987) in Australia.

transition to IFRS 16 provides an optimal setting where the impacts of mandated lease capitalisation for lessees are potentially pronounced and reasonably determinable. This chapter seeks to understand how firms responded to the likelihood of their leverage approaching debt contract constraints due to the capitalisation of leases. In particular, did firms shift to more traditional forms of asset financing, such as debt and equity (i.e., substitution), maintain their leasing activities suggesting contract renegotiation, or was there a decline in leasing, necessitating further exploration.

This analysis is conducted on a sample of Australian listed firms from the ASX 500 that disclosed non-cancellable operating leases prior to transitioning to IFRS 16. Of particular interest is whether there was a decline in leases for which lease capitalisation would be required post-issuance of the standard, particularly among firms heavily reliant on such leases. Consequently, this chapter examines whether there was an increase in capital expenditures and non-lease financing over the years 2012 to 2018, which capture four years pre- and two years post-issuance of IFRS 16 in 2016.[23] The key findings of this chapter present a 'nuanced' perspective, with limited evidence for a reduction in leasing activity but some evidence of increased capital expenditures post-issuance.

The combined sample tests reveal significant changes in firm behaviour in response to the issuance of the new standard. Over the entire period, high lease intensity firms exhibit reductions in new operating leases, but their adjustments are less severe during the post-issuance period, as indicated by positive and significant interaction terms in difference-in-

[23] Please refer to Appendix B Figure 1 which depicts a timeline of this period.

difference analyses. This suggests limited flexibility for such firms to mitigate the effects of IFRS 16, likely due to the long-term and essential nature of their leasing arrangements (such as leasing retail space). For capital expenditures, the results highlight a substitution effect between leasing and ownership, with high lease intensity firms investing more in capital assets in the post-issuance period, compared to other firms. Collectively, these findings emphasise the heterogeneous effects of the standard, with firms in lease-dependent industries facing unique challenges and making strategic adjustments to balance leasing and ownership under the new regulatory framework.

In year-to-year analyses, high lease intensity firms show significant reductions in leasing activity in the years leading up to and following the issuance of IFRS 16, with the most pronounced effects observed in 2017 (the year immediately following issuance). This suggests anticipatory behaviour, as firms with significant leasing commitments prepared for the recognition of lease liabilities on the balance sheet. Similarly, the year-to-year tests for capital expenditures reveal lower investment by high lease intensity firms in earlier years, consistent with a substitution effect between leasing and ownership. However, this pattern diminishes in later years, possibly reflecting stabilisation efforts as firms adapted to the new standard.

This chapter makes a number of important contributions to the literature and professional practice. First, this chapter builds on evidence provided by Ma and Thomas (2023) which examines the economic consequences of operating lease recognition for listed firms in the US under *ASC 842 Leases*. ASC 842 differs from IFRS 16 in that it maintains

two separate classifications of leases for lessees – operating and finance leases, which are reported as separate line-items on the balance sheet. Furthermore, the classification of a lease as an operating lease by lessees is subject to five criteria not unlike the prior international reporting standard for leases, IAS 17. In contrast, under IFRS 16, all leases longer than 12 months are capitalised on the balance sheet as a finance lease and are reported as one line-item. This fundamental difference leads to varied implications for financial reporting, firm behaviour, and market perceptions. For example, unlike Ma and Thomas (2023), this chapter finds that while high lease firms reduce new operating lease commitments over the sample period in general, they do so to a lesser extent post-issuance compared to other firms. This result differs to Ma and Thomas (2023) due to the prescriptive nature of IFRS 16 (all leases greater than 12 months are capitalised) and the impossibility of getting around recognition by using rolling leases with durations less than 12 months.[24] Furthermore, the retail leasing landscape in Australia is distinct due to the dominance of large shopping complexes owned by major property groups, such as Westfield and Vicinity Centres. These landlords often enforce standardised lease terms with little to no security or flexibility for tenants in terms of negotiating their lease terms compared to the U.S., where retail spaces can range from standalone stores to large malls with diverse ownership structures (Productivity Commission, 2008; 2011). Further to this issue is the contraction of new retail supply from increased building costs that has not kept up with the growth in population, further putting the negotiation powers in the hands of major landlords (Harley, 2024; Lenaghan, 2025). This

[24] Since any lease term that is likely to be renewed or extended in a similar manner beyond 12 months falls within the classification of a finance lease.

difference in institutional setting can influence firms' leasing decisions and the economic impact of standards like IFRS 16, as Australian firms have less room to restructure leases or switch to alternative financing arrangements. By capturing the global applicability and broader scope of IFRS 16, this chapter sheds light on the heterogeneous impacts of the standard across firms and industries, emphasising the challenges faced by lease-intensive sectors in Australia.

Second, this chapter contributes to the results presented in Lau et al. (2023) which examines the effect of debt-to-assets on new operating leases during the pre-implementation period of IFRS 16 for firms listed on the London Stock Exchange. Similar to Lau (2023), this chapter finds that, on average, leverage is negatively related to new operating leases but only in the early years (2012 and 2013) preceding the issuance of IFRS 16. This chapter extends Lau (2023) by focusing on the behaviours of high-leasing firms, which are more likely to experience significant economic consequences from the transition to IFRS 16. By conducting a multi-year analysis, this chapter captures temporal variations in firm behaviour and identifies patterns that might be overlooked in broader, single-period studies. Furthermore, this chapter answers Lau's (2023) call to examine the effects of IFRS 16 on capital expenditures, an area largely unexplored in prior research. Since there are no longer any off-balance sheet advantages under IFRS 16, there is little difference between lease and debt financing. Therefore, this chapter provides new evidence on how the shift to a prescriptive capitalisation accounting method (IFRS 16) affects firms' investment strategies.

Third, this chapter contributes to practice by providing further insights into the varying impacts of lease capitalisation in anticipation of IFRS 16. Chapter 2 demonstrated that the impacts of IFRS 16 were pronounced for a relatively small group of firms, particularly those in sectors with a high reliance on leases of land and buildings. This chapter shows that these firms are unable to reduce reliance on leasing, which is likely attributable to these firms having limited flexibility to avoid leasing arrangements particularly given Australia's retail leasing landscape. However, it may also suggest the ability of some firms to re-negotiate debt contracts to shield their financial statements from the impact of IFRS 16. This was likely the case given that the implications of IFRS 16 were well discussed in the media and users expected the retail industry to be hit with significant increases in debt (Mitchell, 2017).[25] Anecdotal evidence supports the theory that financial statement users discount (some) lease liabilities and assets, therefore standard setters might need to reconsider the leases for which lease capitalisation is required and whether full recognition is necessary.

The chapter is structured as follows. Section 3.2 discusses the changes in accounting practices prescribed by IFRS 16, reviews the relevant literature, and develops the hypotheses. Section 3.3 outlines the research design, while section 3.4 describes the sample data. The results are presented in section 3.5, and section 3.6 concludes the chapter.

[25] For example, in 2017, the public expected prominent retailer Myer's liabilities to increase from $760 million AUD to $2.6 billion once the standard was implemented (Mitchell, 2017).

3.2. The Regulatory Change, Relevant Prior Literature and Hypotheses Development

The inception of IFRS 16 occurred in response to the identified inadequacies within its predecessor, *IAS 17*. Criticisms were primarily directed at the accounting practices prescribed for lessees, particularly the dichotomy between operating leases, accounted for using the lease expense method, and finance leases which necessitated lease capitalisation. The most significant change introduced by IFRS 16 is the uniform accounting model for lessees, mandating lease capitalisation for leases exceeding one year.[26] Under IFRS 16, at the commencement of the lease, lessees are required to recognise a 'right of use' asset representing the underlying benefits conferred by the lease (para 23), and a lease liability reflecting the obligation to make future lease payments (para 26). The 'right of use' asset is accounted for in a manner consistent with property plant and equipment, subject to depreciation and impairment (para 30-33), while the lease liability is accounted for as a standard financial liability (para 36-38). This simplification addresses a challenging issue, the deliberation as whether the majority of benefits embodied in a physical asset is transferred and recognises a package of benefits / obligations associated with the lease.

Supporting this change is a substantial body of literature examining whether lease liabilities are relevant to users of financial statements. Ely (1995) found that equity risk incorporates the implications of capitalising operating leases on the balance sheet. Similar

[26] Leases of low value are exempt from capitalisation under IFRS 16, where low value is determined using the underlying asset's value when new, regardless of its current age. It is assessed on a lease-by-lease basis and must be immaterial to the firm (there is a general view the immateriality threshold for a low value asset is around $5,000 AUD).

results are reported by Dhaliwal et al. (2011) and Bratten et al. (2013), although Dhaliwal et al. (2011) indicates a potential undervaluation of capitalised operating leases compared to finance leases. Altamuro et al. (2014) explored the ramifications on the cost of debt, identifying a correlation between operating leases and loan spreads, suggesting that debt market participants are cognisant of off-balance sheet leases and factor them in their decision-making process. A review of this literature is provided by Spencer and Webb (2015). However, some caution is suggested when interpreting these findings and their implications for standard-setting. There is evidence of financial statement users developing methodologies to calculate and incorporate the capitalised value of operating leases into balance sheets (e.g., Imhoff et al. 1991; Bennett and Bradbury 2003; and evaluated in chapter 2 of this thesis). Hence, whether the appropriate response was capitalising nearly all leases previously accounted for using the lease expense method remains a topic of debate.

The treatment of leases for lessees under IFRS 16 differs significantly from the US version of the standard, *ASC 842 Leases*, in the following ways: First and most importantly, ASC 842 retains two classifications of leases on the balance sheet for lessees – operating and finance leases. IFRS 16 accounts for one type of lease on the balance sheet for lessees: finance leases. The distinction between the type of leases in the US allowed users to reverse the impact of lease capitalization if they choose to do so, especially in cases where the contract itself is purely rental in nature rather than a substitution for an asset purchase. Further to this, the discount rate for operating and finance leases would differ substantially due to the risks borne by the lessor. The lack of the user's choice to do so in jurisdictions that apply IFRS 16 is a direct consequence of a number of firms structuring their leases to purposely

avoid the recognition of those in the balance sheet, hence why the IASB removed any distinction between the two types of leases. Despite this, the underlying economic characteristics of operating and finance lease and its distinction are not respected under IFRS 16. Second, the determination of lease classification under ASC 842 and its prior standard (ASC 840) is similar. That is, if a lease meets any of the five criteria, it is classified as a finance lease. No specific finance lease classification rules exist for lessees under IFRS 16 – all leases longer than 12 months must be recognised as finance leases on the balance sheet (even leases with contractually shorter lease periods are classified as finance leases if there is a probability of extending the lease term). Third, ASC 842 originally outlined one transition approach for firms – the modified retrospective approach, meaning the new standard would need to be applied to the earliest period presented in the financial statements and opening balances would need to be reconciled with adequate disclosures provided. However, IFRS 16 allows for the cumulative or retrospective methods and most firms used the cumulative approach to transition resulting in little to no disclosures or reconciliations (see chapter 2 of this thesis).[27]

3.2.1. Prior Literature and Hypotheses

There is an extensive literature considering the role of accounting information in financial contracts to mitigate agency costs (Jensen and Meckling 1976; Watts and Zimmerman 1986), including the significance of such information in contracts with debt holders (e.g., Press and Weintrop 1990; Ramsay and Sidhu 1998) and its influence on the

[27] This is akin to how firms transitioned to IFRS 15 Revenue from Contracts with Customers (see Onie et al. 2023).

adoption of specific accounting practices (e.g., DeFond and Jiambalvo 1994). This use of accounting information and the influence it has on accounting practices is particularly salient to accounting for leases. Historically, the lease expense method prevailed as the predominant accounting practice for leases, driven by incentives to exclude liabilities from the balance sheet, thereby reducing leverage. This practice was seen as problematic by standard setters concerned by the disparate accounting treatments and outcomes for transactions with similar economic characteristics.

It was against this background that the accounting standards for lease transactions were developed. Early examples include *SFAS 13 Accounting for Leases* (issued in 1976) in the United States and *ASRB 1008 Accounting for Leases* (issued in 1987) in Australia, followed by *IAS 17 Accounting for Leases* (*IAS 17*) by the IASC and IASB in 1997 and 2001, respectively. The limitations of these standards have been extensively documented (e.g., Imhoff and Thomas 1988; Godfrey and Warren 1995; El-Gazzar et al. 1986; Beattie et al. 1998; Tweedie and Whittington 1990), underscoring firms' strategies to structure lease transactions to circumvent the lease capitalisation requirement – a clear economic consequence of accounting standards.

A new accounting standard (IFRS 16) was intended to address these concerns. However, the protracted development and contentious points (e.g., Rey et al. 2020; Beattie et al. 2006) resulted in the issuance of IFRS 16 in 2016, with its application postponed until financial years beginning on or after 1 January 2019. The delayed application was interesting from a number of perspectives, offering a lens through which to view the standard's

implications. For example, a delayed application facilitates preparers' compliance with the new standard without imposing prohibitive costs. It also provides time for firms to renegotiate debt contracts or restructure financing in anticipation of increased recognised liabilities and leverage.[28]

Historically, there is evidence of economic consequences associated with accounting standards for leases such as *SFAS 13 Accounting for Leases* (issued in 1976) in the United States and *ASRB 1008 Accounting for Leases* (issued in 1987) in Australia, which still allowed lessees to use the lease expense method for leases meeting certain criteria. Firms' reactions to these standards included altering lease terms to ensure the criteria for using the lease expense method were meet, and substitution of leases with non-lease sources of finance (Imhoff and Thomas 1988; Godfrey and Warren 1995). The results of these studies suggest that IFRS 16 is likely to elicit similar responses by firms, albeit with reduced flexibility to avoid lease capitalisation, potentially leading to a decline in leasing alongside an increase in asset acquisition and non-lease financing sources. The incentives to avoid capitalisation would be greater for firms with high levels of leases accounted for using the lease expense method.

However, *IFRS 16*'s stringent criteria for applying the lease expense method, relative to prior accounting standards, may particularly disadvantage firms for whom leasing is economically preferable.[29] In these circumstances firms may have little scope to mitigate the

[28] Doubtless there were other reasons, but the concern of this study is with identifying the economic consequences of a new accounting standard.

[29] This would include the ability to access non-lease sources of finance, possibly due to creditworthiness, and the advantage of leases providing security to the lessor. It would also include situations where the lessee does not have sufficient tax shelter for the available tax deductions.

impacts of lease capitalisation, and the relative costs (and benefits) of non-lease finance would dictate still leasing despite the altered financial reporting requirements. This adjustment raises important questions regarding the necessity of full lease capitalisation across all lease types from the perspective of financial statement users. If full capitalisation is not deemed essential for every lease category, one might expect the renegotiation of debt contracts to potentially exclude specific types of lease assets and liabilities. This scenario is suggested in prior literature, which indicates a tendency among financial statement users to discount lease obligations (Dhaliwal et al. 2011).

Recent studies looking at the economic consequences of mandated operating lease recognition do find some evidence consistent with what was discovered in the past when the preceding standards were issued (i.e., SFAS 13 and IAS 17). For example, Ma and Thomas (2023), observe a change in the leasing activity of lessees following the issuance of *ASU 2016-02* (*ASC 842: Leases*) for high lease intensity firms.[30] Furthermore, high lease firms were found to decrease their lease terms to reduce the impact of capitalisation, along with a subsequent increase capital expenditure following the issuance of the new standard. ASC 842 differs from IFRS 16 in several aspects, but most important is that it maintains two separate classifications of leases for lessees – operating and finance leases, which are reported as separate line-items on the balance sheet. In contrast, under IFRS 16, all leases longer than 12 months are capitalised on the balance sheet as a finance lease and are reported as one line-item. Another important difference is that under ASC 842, the classification of a lease as an

[30] *ASC 842: Leases*, is the latest Generally Accepted Accounting Principal (GAAP) issued by the Financial Accounting Standards Board (FASB) in the US. The US does not prescribe international financial reporting standards (IFRS).

operating lease by lessees is subject to five criteria not unlike the prior international reporting standard for leases, IAS 17. Similar criteria were removed under IFRS 16, resulting in the capitalisation of virtually all leases. Therefore, a key question is whether a similar reduction is operating leases is observed for firms under a more prescriptive standard such as IFRS 16.

Providing some evidence on this within the UK setting, Lau (2023) examines the economic consequences surrounding the issuance of IFRS 16, focusing on whether a firms leverage impacted its response to the standard. The study found that firms reduced levels of operating leases when the first exposure draft was published in 2011, relative to 2018, but the effect was more prominent for firms with higher gearing ratios. No study to date has examined the responses to IFRS 16 by preparers in Australia, where there is a high concentration of land and building leases (as shown in chapter 2) and lessors often hold significant bargaining power in determining contract terms. This creates a wider disparity in operating lease intensity between firms that rely heavily on land and building leases to operate and those with minimal spatial requirements. An important question, therefore, is whether firms were able to effectively reduce their reliance on operating leases in the period leading up to IFRS 16, or if only a subset of firms – those leasing specific types of assets – were able to achieve a meaningful reduction in capitalisation.

Considering the above discussion, the following hypotheses are tested to provide evidence on the economic consequences (firm responses) to the issuance of *IFRS 16*. Consistent to studies in other jurisdictions, the overall response to the mandated lease recognition is a general reduction in the use of leases accounted for using the lease expense

method. If leases are discretionary in nature, a similar response would be expected, which leads to the following hypothesis

H_1: Firms with higher levels of operating leases reduce the use of operating leases after the issuance of IFRS 16 and before the effective date.

Recognising that a reduction in the use of leases accounted for using the lease expense method may have a negative impact on the firm's operational needs, the following hypothesis examines whether there was an increase in alternative forms of asset financing.

H_2: Firms with higher levels of operating leases increase capital expenditure after the issuance of IFRS 16 and before the effective date.

3.3. Research Design

The research design adopted in this chapter follows the approach of Ma and Thomas (2023), which considered the same basic issues but in relation to Accounting Standards Update No. 2016-02, Leases (ASC 842: Leases) issued by the Financial Accounting Standards Board (FASB) in the US. This involves performing difference-in-difference analyses to identify the impact of the standard conditional upon firms' lease intensity. This strategy is necessary because, although IFRS 16 mandates lease capitalisation for all leases, its impact and resultant economic consequences are expected to be particularly pronounced for firms heavily reliant on leased assets.

To evaluate whether there was a change in the use of leases eligible for accounting under the operating lease method before the transition to IFRS 16, particularly among firms with a significant reliance on such leases (H_1), the following model is estimated:

$$NewOL_{it} = \beta_0 + \beta_1 High_{it} + \beta_2 Post_i + \beta_3 High_i * Post_i + \beta_4 OLI_i + \beta_5 Lev_{it} + \beta_6 Size_{it} + \beta_7 ROA_{it} + \beta_8 SalesGrowth_{it} + \varepsilon_{it} \quad (1)$$

The dependant variable, *NewOL*, is the change in total operating lease commitments for firm *i* between years *t-1* and year *t*, scaled by lagged total assets.[31] Given that the standard's primary impact is on the recognition of off-balance sheet leases, there are greater incentives for firms to make adjustments, if any, to operating leases if there were any attempts to reduce the impact of capitalisation. Therefore, a measure that looks at overall lease levels would include existing finance leases which the standard did not affect. *High* is an indicator variable equal to 1 if operating lease intensity (OLI) of firm *i* in year 2012 is greater than the mean operating lease intensity of the entire sample in year 2012, and 0 otherwise. Where operating lease intensity (*OLI*) is calculated as total operating lease commitments (TOLC) divided by total assets for firm *i* in year *t*. A critical design issue is identifying firms where the impacts of transitioning to IFRS 16 are expected to be material. Given many firms place little reliance on leases, the impacts are expected to be concentrated among a few firms. For this reason, operating lease intensity is expected to be significantly skewed. Therefore, rather than identifying firms on the basis of being above or below the median, firms are

[31] Ma and Thomas (2023) do not include operating lease commitments due within 12 months. Additional tests show that the inclusion or exclusion of lease commitments due within 12 months does not affect the results. For completeness, refer to Figure 2 for a trend of NewOL over the sample period.

distinguished on the basis of the mean. Nevertheless, additional tests estimate model (1) after defining *High* based on the median rather than the mean. *Post* is an indicator variable equal to 1 if the year is after the issuance of IFRS 16 and 0 otherwise. The key variable of interest is the interaction term between high and post (*High*Post*), which captures those firms heavily reliant on operating leases in the post insurance period of IFRS 16. If H_1 were supported, β_2 is expected to be negative and significant. However, if firms are unable to obtain non-lease financing, or non-lease financing is prohibitively expensive, or they successfully renegotiate terms within their existing debt contracts, this might not occur (Lim et al. 2017).

A number of control variables are included that likely impact a firm's decision to lease. These include leverage (*Lev*), size measured using the market value of equity (*Size*), and return on assets (*ROA*). Literature suggests that firms facing financial constraints are more inclined to lease rather than incur debt (Sharpe and Nguyen 1995; Eisfeldt and Rampini 2009; Beatty et al. 2010). Furthermore, firms that are larger, have lower levels of leverage, and demonstrate superior performance, tend to be less financially constrained. This rationale underpins the inclusion of size, leverage, and ROA as controls (Ma and Thomas 2023).[32] Last, operating lease intensity (*OLI*) is included in the model since firms more reliant on operating leases have greater incentives to minimise the impacts of lease capitalisation.[33] To

[32] While it would be interesting to examine closeness to debt covenants, this information is not publicly available for Australian listed firms. Therefore, leverage is included in all models as a control for the potential impact.

[33]Ma and Thomas (2023) do not include operating lease intensity as a control, whereas this chapter includes as such to capture firm-specific heterogeneity in lease behaviour that is not captured in other variables. The exclusion of such results in a negative R^2 for the main tests, therefore it is included in this thesis.

account for other firm-specific factors (which would subsume industry factors) firm fixed effects are also included. All variable definitions are provided in Appendix A.

To examine the substitution effect, whether firms increase asset acquisitions or capital expenditure in response to the issuance of IFRS 16 (H_2), the following model is estimated:

$$Capex_{it} = \beta_0 + \beta_1 High_{it} + \beta_2 Post_i + \beta_3 High_i * Post_i + \beta_4 OLI_i + \beta_5 Lev_{it} + \beta_6 Size_{it} + \beta_7 ROA_{it} + \beta_8 SalesGrowth_{it} + \varepsilon_{it} \quad (2)$$

The dependent variable, *Capex*, is calculated as capital expenditure scaled by lagged total assets for firm *i* in year *t*. All other variables are as previously defined. One way firms can mitigate the impact of lease capitalisation under IFRS 16 is to substitute leases with conventional asset acquisitions and non-lease sources of finance. If this is the case, a positive and significant coefficient is expected on the interaction term between firms heavily reliant on leases and the post-issuance period of IFRS 16 (*High*Post*). It is possible that firms may renegotiate shorter lease terms as a strategy to mitigate the impacts of IFRS 16, in which case no change in capital expenditure may be observed. All control variables are consistent with those included in model (1) inclusive of firm fixed effects.

3.4. Sample Selection and Descriptive Statistics

3.4.1. Sample selection

The preliminary sample for this chapter begins by selecting all firms from the ASX 500 in the year 2012. Table 3.1 provides a detailed overview of the sampling process.

[Insert Table 3.1 about here]

Firms without any lease arrangements (124), and entities that changed their reporting periods (11) are excluded. Financial services sector firms are excluded due to their unique financial structures and complexities arising when the firm is a lessor (86). Firms in the real estate (40) and agriculture sectors (3) present unique challenges due to the adoption of fair value measurement for certain assets, specifically under *IAS 40 Investment Property* and *IAS 41 Agriculture*, which complicates the assessment of IFRS 16's impact.[34] Also excluded are firms without a GICS Sector classification (66).[35] The exclusion of firms reporting in other jurisdictions or early adopters (22) results in a final sample of 148 firms and 1,036 firm-years, spanning 2012 to 2018. The year of issuance (i.e., 2016) is excluded from the difference-in-difference tests to avoid the ambiguity regarding firms' capacity to undertake and execute substantial lease-related decisions or capital expenditure initiatives within such a constrained timeframe. Consequently, the analysis concentrates on 2017 and 2018 as the primary test period, with 2012 to 2015 as the control years. Data for off-balance sheet leases (non-cancellable operating leases) were hand-collected from firms' annual reports and financial statement data, where available, were sourced from the Morningstar DatAnalysis database.

3.4.2. Descriptive Statistics

Table 3.2 presents descriptive statistics for the variables used in the regression analyses.

[34] It is notable that many agricultural firms applying fair value measurement to agriculture extend this measurement model and undertake asset revaluations for property plant and equipment, ensuring consistency in measurement models. This contrasts with ASC 905 in the U.S. which permits historical cost only.
[35] Representing four years before and two years after IFRS 16 was issued in 2016.

[Insert Table 3.2 about here]

From the sample, 24.3% of firms are classified as *High*. Among these *High* firms, the average lease commitment in the year 2012 amounts to approximately $1.29 billion in leases accounted for using the lease expense method, markedly higher than the $191 million average of their counterparts (not tabulated).[36] Operating lease intensity (*OLI*) is, on average, 14.7% and significantly skewed since the median is only 5.%. This finding is consistent with the results in chapter 2, supporting the choice of using the mean rather than median when delineating firms highly reliant on operating leases.

Regarding changes in operating leases (*NewOL*), the mean (median) is 0.013 (0.000), suggesting minimal changes in the use of leases accounted for using the lease expense method during the sample period, although it is notable that there are some extreme observations in both tails of the distribution. In contrast, there is evidence of capital expenditures (*Capex*) during the sample period with a mean (median) of 0.086 (0.049), suggesting a trend towards increased reliance on non-lease financing options for capital investments. Firms were generally profitable with a mean (median) *ROA* of 0.038 (0.069).

Pearson correlations are provided in Table 3.3.

[Insert Table 3.3 about here]

[36]This is calculated as the total amount of non-cancellable operating leases a firm has disclosed in the year 2012.

Notably, a significant positive correlation exists between *Capex* and *NewOL* and *OLI* and *NewOL*. These correlations suggest that firms with high levels of lease commitments accounted for using the lease expense method are both taking on new leases and also investing in capital expenditures.

3.5. Results

3.6. Main Results

Results of testing the hypotheses are presented in Table 3.4.[37] The analysis begins by examining the impact of transitioning to *IFRS 16* on the level of operating lease activity (columns 1 and 2). Column 1 reports the results of estimating model (1) for the full sample, where *High* is defined on the basis of firms above or below the mean operating lease intensity, and Column 2 employs the alternative definition of *High* on the basis of firms above or below the median operating lease intensity.[38]

[Insert Table 3.4 about here]

Looking at column 1, the adjusted R^2 is 0.744. The co-efficient on *High* is negative and significant (β=-0.746, t-stat=-7.097), alongside *Post* (β=-0.0178, t-stat=-4.285). This indicates that firms with high levels of lease commitments are less inclined to take on more lease commitments compared to low lease firms, whereas post issuance of *IFRS 16*, there was a general reduction in new operating leases for all firms. However, the co-efficient on

[37] The sign and significance of the coefficients do not change after clustering standard errors by industry and year.
[38] Although Ma and Thomas notes that the treatment variable is not included as a main effect due to controlling for fixed effects, the results do not differ with the inclusion or exclusion of the treatment variable *High*. This is due to how the treatment variable is absorbed by the inclusion of firm fixed effect and does not affect the results.

the interaction term, *Post*High*, is positive and significant (β=0.0661, t-stat=3.178) indicating that high lease firms in the post-issuance period are unable to reduce new operating lease commitments, compared to low lease firms. This result likely reflects the limited scope for mitigating the impact of IFRS 16, possibly due to the specific nature and duration of the leases (such as leasing retail space in Australia), or an attempt to reduce risk through leasing rather than through substitution with non-lease financing. Since some leased assets may be sublet, the actual economic liability ('real' liability) for firms may be lower than the lease liability recorded on the balance sheet under IFRS 16. The co-efficient on *OLI* is positive and significant (β=0.866, t-stat=8.256) reinforcing this notion.

Of the control variables, *Size* and *Sales Growth* are positive and significantly related to new operating leases, however the coefficient on sales growth approximates zero (i.e., 0.00000503).[39] Overall, the results suggest IFRS 16's impact on lease activity varies systematically with firms' lease dependency – while there was a general reduction in new operating leases for most firms, this reduction was less pronounced for firms highly reliant on operating leases. Therefore, Hypothesis 1 is not supported.[40]

Model (1) is estimated again in column 2, with *High* being measured based on the median *OLI* in the year 2012, rather than the mean. Although the data suggests that large amounts of leases are concentrated in a small number of firms, there is also a respectable amount of large lease contracts that are still being captured when dividing the sample based

[39] Variance inflation factors were used to identify potential multicollinearity issues. The mean VIF ranges from 2.44 to 2.74 for the models used in this study, indicating that the results are not impacted by multicollinearity.
[40] The results are consistent to when *High* is defined as the top 4 industries with the highest amount of leasing activities, being consumer staples, consumer discretionary, health care, and communication services.

on the median, with the average lease commitment sitting around $773 million for high lease firms. For low lease firms, this number drops to approximately $145 million (not tabulated). The adjusted R^2 is 0.739 and the results are broadly consistent with column 1. The co-efficient on *High* and *Post* are both negative and significant while the co-efficient on the interaction term (*High*Post*) is positive and significant (β=0.0433, t-stat=3.739).

The results of estimating model (2), which examines changes in capital expenditures subsequent to the issuance of IFRS 16, are presented in columns 3 and 4. Looking at column 3, the adjusted R-squared is 0.287 and the co-efficient on *High* is negative and significant (β=-0.160, t-stat=-3.471), whereas *Post* is also negative and significant (β=-0.0357, t-stat=-3.473). The negative and significant coefficient on *High* implies that firms with above mean operating lease intensity tend to have lower capital expenditures. Subsequently, the issuance of *IFRS 16* saw a broader trend of reduced capital expenditures across all firms. Due to the uncertainty surrounding the implementation of IFRS 16 and the anticipated recognition of substantial lease liabilities on the balance sheet, firms may have curtailed investments as they assessed the implications of the new standard on their financial position and leverage ratios.

The coefficient on the interaction term is positive and significant (β=0.0471, t-stat=2.452) suggesting that for firms with high operating lease intensity, the decline in Capex during the post-IFRS 16 period was less pronounced compared to firms with lower lease intensity and the pre-issuance period. This result implies that while high lease intensity firms generally reduced Capex prior to IFRS 16, they shifted their strategies post-IFRS 16 by increasing Capex relative to their earlier behaviour. This suggests a possible substitution

effect, where these firms begin to rely more on asset ownership rather than leases to meet operational needs. This behaviour may also reflect strategic adjustments aimed at reducing the visibility of lease liabilities on financial statements under the new standard. The positive coefficient on *OLI* mirrors this notion. Of the control variables, *Size*, ROA, and Sales Growth are all positive and significantly related to capital expenditures.

Column 4 reports the results when the alternative measure of *High,* based on the median is included in model (2). There is no change in the explanatory power of the model (adjusted R-squared of 0.287) and the results are not materially different from column 3. In summary, the empirical evidence provided in columns 3 and 4 provides support for H_2 and highlight that the standard disproportionately affected firms that rely heavily on leasing as a fundamental aspect of their operations. This raises questions about whether the standard setters adequately considered the varied capacities of firms to adapt to the new requirements.

3.7. Additional Analyses

3.7.1. Annual analysis of changes

Recognising the potential influence of annual variations on the main results, models (1) and (2) were estimated on annual data, including the issuance year of 2016 – which was previously excluded from the main analyses. The descriptive statistics and the regressions from this additional analysis are presented in Tables 3.5, 3.6, and 3.7 respectively. Looking at the descriptive statistics in Table 3.5, no discernible pattern is observable in terms of *NewOL* or *OLI* from year to year.

[Insert Table 3.5 about here]

[Insert Table 3.6 about here]

[Insert Table 3.7 about here]

Table 3.6 presents the results of examining annual changes in new operating leases. The coefficient on *High* shows significant variability across years. *High* is positive and significant in 2012 (β=0.0597, t=2.016) but becomes negative in subsequent years, with significance in 2014 (β=-0.0560, t=-2.627) and 2017 (β=-0.157, t=-3.754). This pattern suggests a shift in leasing behaviour among high-intensity lease firms, particularly as IFRS 16 approaches, potentially reflecting efforts to adjust leasing strategies in anticipation of its implementation. Of the control variables, the coefficient on *OLI* is insignificant in most years but becomes significant and positive in 2014 and 2017. Leverage is negative and significant in the years 2012 and 2013 suggesting that firms with higher leverage were initially more cautious about taking on new leases, but this relationship weakens in later years. Finally, sales growth is positive and significant in the years 2013 and 2017 but the coefficient is generally small and also insignificant across most years, indicating no clear relationship between firm size and new operating leases.

Table 3.7 reports the results of estimating model (2) on an annual basis. The Adjusted R-squared is moderate in Column 1 (0.309) but drops significantly in other years with values below 0.01 in some cases. While *High* is negative and significant in the years immediately preceding the issuance of IFRS 16 (Columns 2, 3 and 4, respectively), the adjusted R-squared are low indicating that the independent variables do not explain much of the variability in *Capex* in those years. Nevertheless, the results are consistent with those reported in Table 3.4

and there appears to be a tendency for high lease firms to reduce capital expenditures in the years preceding the issuance of IFRS 16. One potential explanation for this result is that firms are uncertain about the impact the standard will have on leverage ratios and therefore, are limiting any borrowings to fund investment. Once IFRS 16 was formally issued and the accounting treatment made visible, this uncertainty appears to have been resolved.

Tables 3.8 and 3.9 report the results using the median to categorise firms as *High* lease firms, rather than the mean.

[Insert Table 3.8 about here]

[Insert Table 3.9 about here]

Looking at Table 3.8, the results remain consistent with those reported in Table 6. *High* is positive and significant in the year 2012 but turns negative and significant in the years 2014, 2015 and 2017. This pattern suggests a shift in leasing behaviour among high-intensity lease firms prior to and just following the issuance of IFRS 16. In Table 3.9, the adjusted R-squared are better than those reported in Table 7 suggesting better explanatory power of the model. Unlike Table 7, there is no significant association between *High* and *Capex* apart from the year 2013.

3.7.2. Additional clustering in annual tests

The main analyses on the pooled sample included firm fixed effects, however the annual estimations of models (1) and (2) preclude the inclusion of firm fixed effects. Therefore, the

annual analyses are repeated after clustering standard errors by industry. The results of estimating annual changes in operating leases (*NewOL*) are presented in Table 3.10 below.

[Insert Table 3.10 about here]

The coefficient on *High* is significant and positive in the first year of observation, 2012, then turns negative and significant in the two years preceding and following IFRS 16's issuance in 2016. The negative coefficients suggest a change in the behaviour of lessees in attempts to soften the impact of lease capitalisation, prior to the formal issuance and thereafter up to the year of implementation of the standard. *OLI* is positive and significant across the years 2014, 2015 and 2017 and *Leverage* is significant and negative in 2012. The coefficients on *SalesGrowth,* albeit significant, are too small to have any meaningful impact.

Table 3.11 reports the results of annual estimations of model (2) after clustering standard errors by industry.

[Insert Table 3.11 about here]

Similar to earlier results when examining the yearly responses surrounding changes to *Capex*, the adjusted R-squared is moderate only in the first year (0.309 in 2012) and drops to a negative R-squared in column 3. *High* is negative and significant in the year in which standard setters released the exposure draft (2013 in column 2) and the year of and preceding the issuance of IFRS 16 (columns 4 and 5). However, the low adjusted R-squared from these models do not present a strong argument that these independent variables explain variability in *Capex*, at least at the annual level. Taken together, these results suggest that there were

some attempts at reducing new operating leases as the implementation of IFRS 16 drew closer.

3.8. Conclusion

The objective of this chapter was to examine the economic implications of *IFRS 16 Leases* for preparers, with a focus on the preparatory actions undertaken by Australian listed firms in anticipation of the transition. IFRS 16, formally issued in January 2016, mandates the capitalisation of virtually all leases for reporting periods commencing on or subsequent to 1 January 2019. The financial statement impacts, and potentially significant economic consequences were expected to be significant. Therefore, the critical question addressed in this chapter is how firms responded in anticipation of these requirements.

The analysis draws on a sample of firms listed on the Australian Securities Exchange included in the ASX500 that disclose non-cancellable operating leases prior to the transition to IFRS 16. Overall, the findings highlight the nuanced and heterogeneous impacts of IFRS 16 on firm behaviour, particularly in relation to leasing and capital expenditure decisions. Firms with high operating lease intensity appear constrained by the fundamental nature of their reliance on leases, with evidence suggesting limited scope for mitigating the accounting and economic impacts of the new standard. The results also reveal a differential impact across the post-issuance period, with high-intensity lease firms demonstrating less flexibility in reducing leasing commitments, potentially reflecting the long-term nature of their lease agreements or a strategic preference to manage risk through leasing rather than alternative financing. Furthermore, the analysis underscores the interaction between regulatory change

and firm-specific characteristics, with significant implications for firms in lease-dependent industries such as retail. These findings raise important questions for standard setters, suggesting that greater consideration of industry-specific effects may be necessary to ensure balanced and equitable regulatory outcomes. By offering a detailed examination of firm responses, this chapter contributes to the growing literature on the real effects of financial reporting standards and provides a foundation for future research on regulatory design and its implications for corporate behaviour.

A significant challenge and limitation inherent in research on responses to new accounting standards is the protracted and consultative nature of their development. Consequently, a new standard is unlikely to introduce completely unexpected provisions. However, uncertainties regarding the precise implementation date and technical details remain, potentially influencing the standard's overall impact. For this reason, exploring the responses to new accounting standards is still considered a valuable undertaking however research in this area remains scarce. Future research could examine the impact of IFRS 16 in institutional settings that differ with regards to the leasing landscape and in which firms have more flexibility in their leasing decisions.

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3.10. Tables

3.10.1. Table 3.1

Table 3.1 – Sample selection

	Firms	
Top ASX 500 firms in year 2012		500
Exclusions:		
Industry Exclusions (Financials, Agriculture, Real Estate & No Classifications)	-195	
No Lease Arrangements	-124	
Changed Year End	-11	
Report under other jurisdictions or early adopters	-22	
Total Firms		**148**
Total Firm Years		**1,036**

3.10.2. Table 3.2

Table 3.2: Descriptive Statistics

Variable	N	Mean	5%	Median	95%	SD
HIGH(Mean)	1036	0.243	0.000	0.000	1.000	0.429
HIGH(Median)	1036	0.500	0.000	0.000	1.000	0.500
POST	1036	0.428	0.000	0.000	1.000	0.499
NewOL	1036	0.013	-0.048	0.000	0.105	0.140
Capex	1036	0.086	0.006	0.049	0.249	0.165
OLI	1036	0.147	0.002	0.059	0.607	0.281
Lev	1036	0.435	0.122	0.434	0.759	0.204
Size	1036	20.666	17.341	20.895	23.571	1.950
ROA	1036	0.038	-0.227	0.069	0.203	0.229
SalesGrowth	1036	13.958	-0.324	0.068	0.946	308.79

This table presents descriptive statistics for 148 firms over the sample period from 2012-2018. *High* is an indicator variable equal to 1 if operating lease intensity (*OLI*) of firm *i* in the year 2012 is greater than the mean or median operating lease intensity of the entire sample in the year 2012, and 0 otherwise. *Post* is an indicator variable equal to 1 if the year is after the issuance of IFRS 16 (i.e., 2017 and 2018) and 0 otherwise. *NewOL*, is the change in total operating commitments for firm *i* between years *t-1* and year *t*, scaled by lagged total assets. *Capex* is capital expenditure scaled by lagged total assets for firm *i* in year *t*. Operating lease intensity (OLI) is total operating lease commitments (TOLC) divided by total assets for firm *i* in year *t*. Leverage (*Lev*) is total liabilities divided by total assets for firm *i* in year *t*. *Size* is the natural logarithm of the market value of equity for firm *i* in year *t*. *ROA* is net profit after tax divided by total assets for firm *i* in year *t*. *SalesGrowth* is calculated as the percentage change from last year's sales for firm *i* in year *t*.

3.10.3. Table 3.3

Table 3.3: Correlation Matrix

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
NewOL (1)	1.000						
Capex (2)	**0.087**	1.000					
OLI (3)	**0.511**	0.023	1.000				
Lev (4)	0.004	-0.047	**0.117**	1.000			
Size (5)	-0.012	**-0.055**	0.000	**0.231**	1.000		
ROA (6)	0.023	-0.022	**-0.020**	-0.003	**0.321**	1.000	
SalesGrowth (7)	0.008	0.017	-0.020	**0.064**	**-0.063**	-0.030	1.000

This table presents Pearson correlation coefficients. Coefficients in bold are significant at the 5% level. *NewOL*, is the change in total operating commitments for firm *i* between years *t-1* and year *t*, scaled by lagged total assets. *Capex* is capital expenditure scaled by lagged total assets for firm *i* in year *t*. Operating lease intensity (*OLI*) is total operating lease commitments (*TOLC*) divided by total assets for firm *i* in year *t*. Leverage (*Lev*) is total liabilities divided by total assets for firm *i* in year *t*. *Size* is the natural logarithm of the market value of equity for firm *i* in year *t*. *ROA* is net profit after tax divided by total assets for firm *i* in year *t*. *SalesGrowth* is calculated as the percentage change from last year's sales for firm *i* in year *t.*

3.10.4. Table 3.4

Table 3.4: Responses to IFRS 16

	(1) Mean	(2) Median	(3) Mean	(4) Median
Dependent Variable	NewOL	NewOL	Capex	Capex
High	-0.846***	-0.833***	-0.160***	-0.156***
	(-7.097)	(-6.958)	(-3.471)	(-3.515)
Post	-0.0178***	-0.0241***	-0.0357***	-0.0461***
	(-4.285)	(-5.320)	(-3.473)	(-3.489)
*Post*High*	0.0661***	0.0433***	0.0572**	0.0471**
	(3.178)	(3.739)	(2.005)	(2.452)
OLI	0.866***	0.857***	0.0705**	0.0642**
	(8.256)	(7.795)	(2.392)	(2.575)
Leverage	0.0237	0.0272	0.0159	0.0208
	(1.248)	(1.413)	(0.176)	(0.228)
Size	0.0144***	0.0152***	0.0228**	0.0238**
	(3.448)	(3.526)	(1.978)	(2.071)
ROA	0.0102	0.0167*	0.285*	0.291*
	(1.224)	(1.955)	(1.721)	(1.731)
SalesGrowth	0.000***	0.000***	-0.000	-0.000
	(2.784)	(2.975)	(-0.369)	(-0.333)
Constant	-0.303***	-0.316***	-0.421*	-0.438*
	(-3.466)	(-3.527)	(-1.690)	(-1.763)
Firm FE	YES	YES	YES	YES
Observations	1,036	1,036	1,036	1,036
R-squared	0.782	0.778	0.393	0.393
Adj R2	0.744	0.739	0.287	0.287
F	3.283	3.591	12	14.59

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Firm fixed effects are included. *NewOL*, is the change in total operating commitments for firm *i* between years *t-1* and year *t*, scaled by lagged total assets. *Capex* is capital expenditure scaled by lagged total assets for firm *i* in year *t*. *High* is an indicator variable equal to 1 if operating lease intensity (*OLI*) of firm *i* in year 2012 is greater than the mean/median operating lease intensity of the entire sample in the year 2012, and 0 otherwise. *Post* is an indicator variable equal to 1 if the year is after the issuance of IFRS 16 and 0 otherwise. Operating lease intensity (OLI) is total operating lease commitments (TOLC) divided by total assets for firm *i* in year *t*. Leverage (*Lev*) is total liabilities divided by total assets for firm *i* in year *t*. *Size* is the natural logarithm of the market value of equity for firm *i* in year *t*. *ROA* is net profit after tax divided by total assets for firm *i* in year *t*. *SalesGrowth* is calculated as the percentage change from last year's sales for firm *i* in year *t.*

3.10.5. Table 3.5

Table 3.5: Descriptive Statistics for Annual Test of Responses to IFRS 16

		2012		2013		2014		2015		2016		2017		2018	
Variable	N	Mean	*Sd*	Mean	*Sd*	Mean	*Sd*	Mean	*Sd*	Mean	*Sd*	Mean	*Sd*	Mean	*Sd*
NewOL	148	0.021	0.082	0.003	0.102	0.019	0.106	0.015	0.106	0.005	0.065	0.027	0.295	0.004	0.078
Capex	148	0.121	0.197	0.088	0.096	0.072	0.091	0.071	0.082	0.065	0.068	0.101	0.325	0.086	0.121
HIGH(Mean)	148	0.243	0.430	0.243	0.430	0.243	0.430	0.243	0.430	0.243	0.430	0.243	0.430	0.243	0.430
OLI	148	0.159	0.282	0.145	0.253	0.149	0.276	0.152	0.267	0.139	0.232	0.156	0.413	0.126	0.193
Lev	148	0.404	0.188	0.420	0.179	0.422	0.179	0.449	0.218	0.463	0.218	0.450	0.237	0.439	0.199
Size	148	20.314	1.969	20.388	2.029	20.485	2.028	20.558	1.995	20.718	1.969	20.972	1.828	21.228	1.676
ROA	148	0.058	0.168	0.049	0.177	0.013	0.337	-0.004	0.286	0.033	0.215	0.051	0.181	0.065	0.175
SalesGrowth	148	1.741	12.962	37.755	443.715	0.232	1.528	0.175	1.159	57.379	685.940	0.181	0.627	0.241	0.568

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. *NewOL*, is the change in total operating commitments for firm *i* between years *t-1* and year *t*, scaled by lagged total assets. *Capex* is capital expenditure scaled by lagged total assets for firm *i* in year *t*. *High* is an indicator variable equal to 1 if operating lease intensity (*OLI*) of firm *i* in year 2012 is greater than the mean operating lease intensity of the entire sample in the year 2012, and 0 otherwise. Operating lease intensity (OLI) is total operating lease commitments (TOLC) divided by total assets for firm *i* in year *t*. Leverage (*Lev*) is total liabilities divided by total assets for firm *i* in year *t*. *Size* is the natural logarithm of the market value of equity for firm *i* in year *t*. *ROA* is net profit after tax divided by total assets for firm *i* in year *t*. *SalesGrowth* is calculated as the percentage change from last year's sales for firm *i* in year *t.*

3.10.6. Table 3.6

Table 3.6: Yearly Responses to IFRS 16 *(NewOL)*

	(1) 2012	(2) 2013	(3) 2014	(4) 2015	(5) 2016	(6) 2017	(7) 2018
	Dependent Variable = *NewOL*						
High(Mean)	0.0597**	-0.0492	-0.0560***	-0.0540	-0.0417	-0.157***	-0.0208
	(2.016)	(-1.085)	(-2.627)	(-1.631)	(-1.649)	(-3.754)	(-0.740)
OLI	0.0277	0.126	0.272***	0.218	0.0697	0.676***	0.0490
	(0.384)	(0.978)	(3.611)	(1.394)	(0.906)	(5.092)	(0.675)
Leverage	-0.0709**	-0.122*	0.00310	-0.0342	-0.0248	-0.0159	-0.0697
	(-2.057)	(-1.668)	(0.0911)	(-1.114)	(-1.291)	(-0.503)	(-1.122)
Size	0.00288	0.00616	0.00345	0.00528	0.00322	-0.000129	0.00592
	(0.979)	(1.354)	(0.677)	(1.599)	(1.361)	(-0.0186)	(0.826)
ROA	0.0100	-0.0568	-0.00260	-0.0116	0.0183	-0.0209	-0.0159
	(0.251)	(-1.438)	(-0.315)	(-0.917)	(0.920)	(-0.492)	(-0.680)
SalesGrowth	0.0006	0.000***	0.0043	0.0041	0.000	0.0335*	0.0225
	(1.410)	(6.251)	(1.520)	(1.624)	(1.120)	(1.774)	(1.150)
Constant	-0.0299	-0.0755	-0.0808	-0.0984*	-0.0506	-0.0354	-0.0966
	(-0.539)	(-0.991)	(-0.818)	(-1.678)	(-1.048)	(-0.248)	(-0.715)
Observations	148	148	148	148	148	148	148
R-squared	0.160	0.092	0.355	0.201	0.084	0.799	0.068
Adj R2	0.124	0.0538	0.327	0.167	0.0449	0.790	0.0287
F	2.242	32.58	4.985	1.863	5.355	4.944	0.364

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. *High* is an indicator variable equal to 1 if operating lease intensity (*OLI*) of firm *i* in year 2012 is greater than the mean operating lease intensity of the entire sample in the year 2012, and 0 otherwise. *NewOL*, is the change in total operating commitments for firm *i* between years *t-1* and year *t*, scaled by lagged total assets. Operating lease intensity (OLI) is total operating lease commitments (TOLC) divided by total assets for firm *i* in year *t*. Leverage (*Lev*) is total liabilities divided by total assets for firm *i* in year *t*. *Size* is the natural logarithm of the market value of equity for firm *i* in year *t*. *ROA* is net profit after tax divided by total assets for firm *i* in year *t*. *SalesGrowth* is calculated as the percentage change from last year's sales for firm *i* in year *t.*

3.10.7. Table 3.7

Table 3.7: Yearly Responses to IFRS 16 *(Capex)*

VARIABLES	(1) 2012	(2) 2013	(3) 2014	(4) 2015	(5) 2016	(6) 2017	(7) 2018
	Dependent Variable = *Capex*						
High(Mean)	-0.0444	-0.0337**	-0.0301**	-0.0268**	-0.0202	0.103	0.0236
	(-1.191)	(-2.488)	(-2.234)	(-2.140)	(-1.641)	(0.823)	(0.491)
OLI	0.000433	0.0191	0.0495	0.0119	0.0622*	-0.0110	-0.0455
	(0.0128)	(0.564)	(1.304)	(0.673)	(1.767)	(-0.176)	(-0.515)
Leverage	-0.155	0.0249	0.0637	0.0302	-0.0230	-0.0977	0.0146
	(-1.534)	(0.447)	(1.033)	(0.779)	(-0.975)	(-1.429)	(0.200)
Size	0.00407	-0.00417	-0.00491	0.00209	-0.00178	-0.00698	-0.0124
	(0.699)	(-1.052)	(-0.978)	(0.585)	(-0.682)	(-0.811)	(-1.464)
ROA	0.282**	0.0521	-0.00530	0.0194	0.0463*	-0.354	0.0369
	(2.300)	(1.147)	(-0.473)	(1.244)	(1.913)	(-0.828)	(0.707)
SalesGrowth	0.0093***	0.000***	-5.10e-05	-0.00677	-2.26e-06	0.0892	0.0392
	(3.921)	(10.68)	(-0.00749)	(-1.570)	(-0.964)	(1.016)	(0.975)
Constant	0.0797	0.164**	0.146	0.0200	0.108*	0.270	0.330**
	(0.752)	(2.132)	(1.583)	(0.251)	(1.904)	(1.542)	(1.996)
Observations	148	148	148	148	148	148	148
R-squared	0.337	0.043	0.039	0.043	0.065	0.095	0.073
Adj R2	0.309	0.00259	-0.00209	0.00276	0.0253	0.0564	0.0339
F	4.995	68.51	1.494	9.495	8.189	3.586	1.385

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. *High* is an indicator variable equal to 1 if operating lease intensity (*OLI*) of firm *i* in year 2012 is greater than the mean operating lease intensity of the entire sample in the year 2012, and 0 otherwise. *Capex* is capital expenditure scaled by lagged total assets for firm *i* in year *t*. Operating lease intensity (OLI) is total operating lease commitments (TOLC) divided by total assets for firm *i* in year *t*. Leverage (*Lev*) is total liabilities divided by total assets for firm *i* in year *t*. *Size* is the natural logarithm of the market value of equity for firm *i* in year *t*. *ROA* is net profit after tax divided by total assets for firm *i* in year *t*. *SalesGrowth* is calculated as the percentage change from last year's sales for firm *i* in year *t.*

3.10.8. Table 3.8

Table 3.8: Yearly Responses to IFRS 16 (*NewOL)* – High based on Median

	(1) 2012	(2) 2013	(3) 2014	(4) 2015	(5) 2016	(6) 2017	(7) 2018
	Dependent Variable = *NewOL*						
High(Median)	0.0307**	-0.0197	-0.0313***	-0.0331*	-0.00294	-0.0897***	0.00676
	(2.118)	(-1.130)	(-2.883)	(-1.927)	(-0.330)	(-3.665)	(0.704)
OLI	0.0657	0.0877	0.240***	0.188	0.0275	0.640***	0.0178
	(1.016)	(0.841)	(3.283)	(1.369)	(0.505)	(4.477)	(0.342)
Leverage	-0.0854**	-0.116	0.0127	-0.0289	-0.0270	-0.00192	-0.0726
	(-2.311)	(-1.579)	(0.365)	(-0.935)	(-1.335)	(-0.0610)	(-1.155)
Size	0.00353	0.00604	0.00327	0.00507	0.00313	0.000139	0.00645
	(1.168)	(1.308)	(0.633)	(1.529)	(1.262)	(0.0191)	(0.850)
ROA	-0.0140	-0.0418	0.00715	0.000128	0.0253*	0.00475	-0.0207
	(-0.374)	(-1.137)	(0.975)	(0.0124)	(1.782)	(0.144)	(-0.826)
SalesGrowth	0.000695	1.54e-05***	0.00402	0.00398	3.01e-06	0.0305	0.0254
	(1.584)	(6.890)	(1.426)	(1.535)	(1.438)	(1.577)	(1.163)
Constant	-0.0428	-0.0726	-0.0745	-0.0885	-0.0507	-0.0359	-0.111
	(-0.753)	(-0.924)	(-0.745)	(-1.504)	(-1.017)	(-0.243)	(-0.766)
Observations	148	148	148	148	148	148	148
R-squared	0.135	0.075	0.342	0.191	0.035	0.775	0.061
Adj R2	0.0984	0.0361	0.314	0.157	-0.00614	0.766	0.0210
F	2.781	31.14	3.846	2.320	6.013	3.893	0.499

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. *High* is an indicator variable equal to 1 if operating lease intensity (*OLI*) of firm *i* in year 2012 is greater than the median operating lease intensity of the entire sample in the year 2012, and 0 otherwise. *NewOL*, is the change in total operating commitments for firm *i* between years *t-1* and year *t*, scaled by lagged total assets. Operating lease intensity (OLI) is total operating lease commitments (TOLC) divided by total assets for firm *i* in year *t*. Leverage (*Lev*) is total liabilities divided by total assets for firm *i* in year *t*. *Size* is the natural logarithm of the market value of equity for firm *i* in year *t*. *ROA* is net profit after tax divided by total assets for firm *i* in year *t*. *SalesGrowth* is calculated as the percentage change from last year's sales for firm *i* in year *t.*

3.10.9. Table 3.9

Table 3.9: Yearly Responses to IFRS 16 *(Capex)* – High based on Median

VARIABLES	(1) 2012	(2) 2013	(3) 2014	(4) 2015	(5) 2016	(6) 2017	(7) 2018
	Dependent Variable = *Capex*						
High(Median)	-0.0462	-0.0396**	-0.0268	-0.0240	-0.0135	0.0670	0.00377
	(-1.310)	(-2.095)	(-1.591)	(-1.487)	(-1.193)	(0.780)	(0.170)
OLI	-0.00898	0.0154	0.0398	0.00262	0.0524	0.00964	-0.0213
	(-0.367)	(0.479)	(1.111)	(0.170)	(1.576)	(0.240)	(-0.395)
Leverage	-0.135	0.0410	0.0708	0.0352	-0.0219	-0.108	0.0135
	(-1.225)	(0.705)	(1.117)	(0.859)	(-0.951)	(-1.439)	(0.192)
Size	0.00342	-0.00431	-0.00485	0.00203	-0.00173	-0.00711	-0.0126
	(0.580)	(-1.121)	(-0.994)	(0.562)	(-0.656)	(-0.825)	(-1.445)
ROA	0.304**	0.0697	-0.000254	0.0272*	0.0513**	-0.374	0.0381
	(2.446)	(1.403)	(-0.0260)	(1.813)	(2.136)	(-0.819)	(0.709)
SalesGrowth	0.00930***	2.56e-05***	-0.000516	-0.00688	-2.58e-06	0.0923	0.0379
	(4.056)	(9.299)	(-0.0735)	(-1.621)	(-1.063)	(1.004)	(0.942)
Constant	0.0975	0.172**	0.149	0.0261	0.109*	0.266	0.337*
	(0.919)	(2.301)	(1.616)	(0.334)	(1.883)	(1.556)	(1.961)
Observations	148	148	148	148	148	148	148
R-squared	0.343	0.063	0.044	0.048	0.062	0.089	0.069
Adj R2	0.315	0.0227	0.00364	0.00793	0.0224	0.0500	0.0291
F	5.565	59.57	1.075	9.299	7.937	6.311	1.483

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. *High* is an indicator variable equal to 1 if operating lease intensity (*OLI*) of firm *i* in year 2012 is greater than the median operating lease intensity of the entire sample in the year 2012, and 0 otherwise. *Capex* is capital expenditure scaled by lagged total assets for firm *i* in year *t*. Operating lease intensity (OLI) is total operating lease commitments (TOLC) divided by total assets for firm *i* in year *t*. Leverage (*Lev*) is total liabilities divided by total assets for firm *i* in year *t*. *Size* is the natural logarithm of the market value of equity for firm *i* in year *t*. *ROA* is net profit after tax divided by total assets for firm *i* in year *t*. *SalesGrowth* is calculated as the percentage change from last year's sales for firm *i* in year *t.*

3.10.10. Table 3.10

Table 3.10: Yearly Responses to IFRS 16 *(NewOL),* Clustered by Industry

	(1) 2012	(2) 2013	(3) 2014	(4) 2015	(5) 2016	(6) 2017	(7) 2018
	Dependent Variable = *NewOL*						
High(Mean)	0.0597***	-0.0492	-0.0560***	-0.0540***	-0.0417	-0.157**	-0.0208*
	(3.658)	(-0.977)	(-5.043)	(-4.691)	(-1.375)	(-2.477)	(-2.250)
OLI	0.0277	0.126	0.272***	0.218***	0.0697	0.676***	0.0490
	(1.232)	(0.788)	(7.884)	(8.227)	(0.676)	(9.825)	(1.579)
Leverage	-0.0709*	-0.122	0.00310	-0.0342	-0.0248	-0.0159	-0.0697
	(-2.127)	(-1.710)	(0.113)	(-0.820)	(-0.960)	(-0.662)	(-0.935)
Size	0.00288	0.00616	0.00345	0.00528	0.00322	-0.000129	0.00592
	(0.922)	(0.968)	(0.797)	(1.182)	(0.963)	(-0.0138)	(0.726)
ROA	0.0100	-0.0568	-0.00260	-0.0116	0.0183	-0.0209	-0.0159
	(0.204)	(-1.482)	(-0.691)	(-0.859)	(1.001)	(-0.504)	(-0.652)
SalesGrowth	0.0006*	0.000***	0.00437	0.00415	2.35e-06	0.0335	0.0225
	(1.956)	(5.481)	(1.244)	(1.471)	(0.942)	(1.070)	(1.092)
Constant	-0.0299	-0.0755	-0.0808	-0.0984	-0.0506	-0.0354	-0.0966
	(-0.548)	(-0.705)	(-0.950)	(-1.315)	(-0.841)	(-0.178)	(-0.648)
Cluster	Industry	Industry	Industry	Industry	Industry	Industry	Industry
Observations	148	148	148	148	148	148	148
R-squared	0.160	0.092	0.355	0.201	0.084	0.799	0.068
Adj R2	0.124	0.0538	0.327	0.167	0.0449	0.790	0.0287
F	227.4	403.5	644.4	633.6	31.57	166.8	3.755

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. *High* is an indicator variable equal to 1 if operating lease intensity (*OLI*) of firm *i* in year 2012 is greater than the mean operating lease intensity of the entire sample in the year 2012, and 0 otherwise. *NewOL*, is the change in total operating commitments for firm *i* between years *t-1* and year *t*, scaled by lagged total assets. Operating lease intensity (OLI) is total operating lease commitments (TOLC) divided by total assets for firm *i* in year *t*. Leverage (*Lev*) is total liabilities divided by total assets for firm *i* in year *t*. *Size* is the natural logarithm of the market value of equity for firm *i* in year *t*. *ROA* is net profit after tax divided by total assets for firm *i* in year *t*. *SalesGrowth* is calculated as the percentage change from last year's sales for firm *i* in year *t.*

3.10.11. Table 3.11

Table 3.11: Yearly Responses to IFRS 16 *(Capex)*, Clustered by Industry

VARIABLES	(1) 2012	(2) 2013	(3) 2014	(4) 2015	(5) 2016	(6) 2017	(7) 2018
	Dependent Variable = *Capex*						
High(Mean)	-0.0444	-0.0337**	-0.0301	-0.0268*	-0.0202*	0.103	0.0236
	(-1.019)	(-2.362)	(-1.515)	(-2.198)	(-2.035)	(0.842)	(0.583)
OLI	0.000433	0.0191	0.0495	0.0119	0.0622*	-0.0110	-0.0455
	(0.0222)	(0.409)	(0.993)	(1.079)	(2.137)	(-0.169)	(-0.502)
Leverage	-0.155**	0.0249	0.0637	0.0302	-0.0230	-0.0977	0.0146
	(-2.909)	(0.357)	(1.065)	(0.895)	(-0.547)	(-1.275)	(0.300)
Size	0.00407	-0.00417	-0.00491	0.00209	-0.00178	-0.00698	-0.0124
	(0.871)	(-0.841)	(-0.971)	(0.439)	(-0.487)	(-1.009)	(-1.790)
ROA	0.282	0.0521	-0.00530	0.0194	0.0463	-0.354	0.0369
	(1.694)	(1.035)	(-0.405)	(1.190)	(1.605)	(-0.765)	(0.631)
SalesGrowth	0.0093***	0.000***	-5.10e-05	-0.00677	-2.26e-06	0.0892	0.0392
	(18.96)	(6.083)	(-0.00751)	(-1.339)	(-0.769)	(1.011)	(1.110)
Constant	0.0797	0.164	0.146	0.0200	0.108	0.270	0.330*
	(0.875)	(1.827)	(1.453)	(0.186)	(1.274)	(1.701)	(2.065)
Cluster	Industry	Industry	Industry	Industry	Industry	Industry	Industry
Observations	148	148	148	148	148	148	148
R-squared	0.337	0.043	0.039	0.043	0.065	0.095	0.073
Adj R2	0.309	0.00259	-0.00209	0.00276	0.0253	0.0564	0.0339
F	20608	16967	1.496	90.78	40.06	43.83	52.22

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. *High* is an indicator variable equal to 1 if operating lease intensity (*OLI*) of firm *i* in year 2012 is greater than the mean operating lease intensity of the entire sample in the year 2012, and 0 otherwise. *Capex* is capital expenditure scaled by lagged total assets for firm *i* in year *t*. Operating lease intensity (OLI) is total operating lease commitments (TOLC) divided by total assets for firm *i* in year *t*. Leverage (*Lev*) is total liabilities divided by total assets for firm *i* in year *t*. *Size* is the natural logarithm of the market value of equity for firm *i* in year *t*. *ROA* is net profit after tax divided by total assets for firm *i* in year *t*. *SalesGrowth* is calculated as the percentage change from last year's sales for firm *i* in year *t.*

3.11. Appendix A: Variable definitions

Appendix A: Variable definitions

NewOL	Change in total operating commitments measured as total operating lease commitments (TOLC) for firm *i* in year *t* less total operating lease commitments for firm *i* in year *t-1,* scaled by lagged total assets.
High	An indicator variable equal to 1 if operating lease intensity (OLI) of firm *i* in the year 2012 is greater than the mean *OLI* for the entire sample in year 2012, and 0 otherwise.
Post	An indicator variable equal to 1 if the year is after the issuance of *IFRS 16* and 0 otherwise.
Leverage	Financial leverage calculated as total liabilities divided by total assets for firm *i* in year *t*.
Size	The natural log of the market value of equity for firm *i* in year *t*.
ROA	Return on assets calculated as net profit after tax divided by total assets for firm *i* in year *t*.
OLI	Operating lease intensity calculated as total operating lease commitments (TOLC) divided by total assets for firm *i* in year *t*.
Capex	Capital expenditure calculated as capital expenditure scaled by lagged total assets for firm *i* in year *t.*
SalesGrowth	Calculated as the percentage change from last year's sales for firm i in year t.

3.11.1. Appendix B: Figures

Figure 1 – Timeline relevant to this chapter

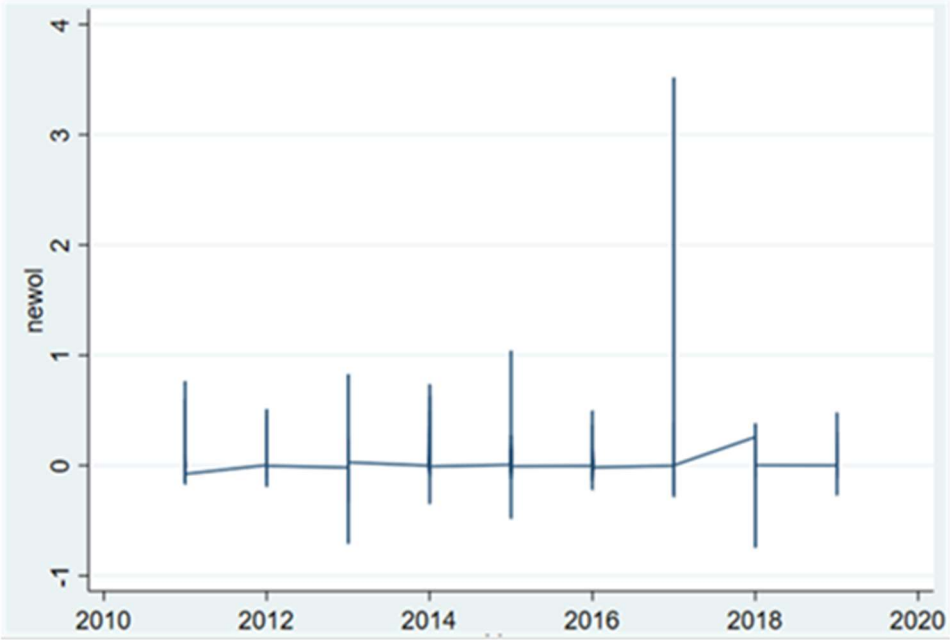

Figure 2 – Trend of NewOL aligned to the timeline in Figure 1.

4. CHAPTER 4: THE RELEVANCE OF LEASE DISCLOSURES SUBSEQUENT TO IFRS 16 – USER'S PERSPECTIVE

This chapter investigates whether mandated capitalisation of leases under *IFRS 16 Leases* provided value relevant information to users. Results indicate that, prior to the implementation of IFRS 16, off-balance sheet leases provided relevant information but only for firms not heavily reliant on such leases. However, following transition to IFRS 16, users found newly recognised capital leases to contain relevant information for all firms. Specifically, the value relevance of book value increased following IFRS 16 and the disparity in how earnings and book value are valued across firms with differing lease intensities reduced. Additional tests show that the net effect of lease capitalisation is value relevant for users, particularly for firms not heavily reliant on leases. Results are robust to different pre- and post-IFRS 16 periods and to alternative variable and model specifications.

Keyword : IFRS 16; Leases; Right-of-use; Financial Reporting
JEL Classification : M41

4.1. Introduction

The diversity in accounting practices for leases, specifically the lease expense method versus lease capitalisation, has been an issue for users, preparers and regulators since the issuance of the initial standards addressing the accounting practices for leases (e.g., *IAS 17 Leases*). Evidence suggests that many firms exploited the opportunity provided in these standards to adopt the lease expense method, thereby avoiding balance sheet recognition (El-Gazzar et al. 1986; Godfrey and Warren 1995; Imhoff and Thomas 1988). In response to these issues, *IFRS 16 Leases* (IFRS 16) was issued in 2016, introducing a significant change by requiring lessees to recognise all leases with a duration greater than 12 months on the balance sheet.[41] Following this regulatory shift, a critical question remains: has IFRS 16 resulted in information that is relevant to users? Hence, the objective of this chapter is to provide an ex-post analysis of the relevance of the new information provided in the financial statements following the implementation of IFRS 16.

There are precedents in the literature of this type of analysis, including evaluations of the impact of individual standards such as *IFRS 15 Revenue from Contracts with Customers* (Onie et al., 2023), as well as multiple standards such as the adoption of IFRS (e.g., Chalmers et al., 2011; Clarkson et al., 2010). These studies suggest that the impact of new accounting standards is determined by the magnitude of their effect on financial statements and whether these impacts could be anticipated. Regarding leases, the impact is potentially substantial as

[41] Leases of low value are exempt from capitalisation under IFRS 16, where low value is determined using the underlying asset's value when new, regardless of its current age. It is assessed on a lease-by-lease basis and must be immaterial to the firm.

shown in chapter 2 of this thesis. However, prior to IFRS 16 there were already significant disclosures of operating lease commitments, and methods to capitalise leases were developed to address this perceived shortcoming (Imhoff et al. 1997; Bennett and Bradbury 2003). Therefore, while there may be theoretical arguments supporting the position adopted in IFRS 16, it remains an open question as to whether capitalisation of leases under IFRS 16 resulted in value relevant information.

The motivation for this chapter is twofold. First, the International Accounting Standards board (IASB) is required to undertake a post implementation review following the issuance of a new standard. This chapter is motivated to provide evidence to standard setters that is relevant for the review of IFRS 16 and may contribute to the improvement of financial reporting regulation, and therefore capital markets. The most significant innovation in IFRS 16 was the requirement for lessees to capitalise leases with durations over 12 months, which is the primary focus of this thesis.[42] However, a critical concern is whether this requirement provided new information. While IFRS 16 was developed as a response to firms not recognising leases on their balance sheets, methods to constructively capitalise off-balance sheet leases were available long before the IFRS 16's introduction. Consequently, it is essential to determine whether users were able to identify and rectify these issues prior to transitioning to IFRS 16, and if they were, whether a new standard was necessary in the first place.

[42] Even leases of duration less than 12 months are capitalised if the probability of renewing or extending the term is greater than 50%.

The second motivation for this study extends from the findings of Chapter 2, which revealed that large amounts of off-balance sheet leases were concentrated in a small number of firms in the retail industry. Given that the financial impact of lease capitalisation under IFRS 16 is disproportionately larger for these firms compared to those in other sectors, such as service firms with lower lease reliance, this raises important questions about the broader cost-benefit trade-offs associated with the transition to IFRS 16. Specifically, the standard was designed to address the accounting practices of a small subset of firms with significant off-balance sheet leases, yet its implementation imposed compliance costs on all firms, regardless of lease intensity. This raises the critical question of whether the relevance of off-balance sheet lease disclosures varies significantly between firms with high and low lease reliance, or if the standard had a uniform impact on the value relevance of impacted financial statement items (such as book value) across firms. By investigating this variation, this chapter aims to provide empirical evidence on whether the full capitalisation of leases for all firms, as mandated by IFRS 16, was justified, or whether a more targeted approach could have achieved similar objectives with lower costs.[43]

The results of this chapter are based on a sample of 155 Australian listed firms (1,085 firm years) from the ASX 500 with non-cancellable operating leases. Similar to prior studies that have identified the informativeness of lease disclosures in other settings (e.g., Altamuro et al. 2014; Ely 1995), this chapter finds that prior to IFRS 16, users found lease disclosures to contain relevant information, but only for firms with small amounts of disclosed operating

[43] This is unlikely if the consequences of early lease termination can be mitigated (such as subletting in retail lease agreements).

leases relative to their size.[44] When examining the value relevance of recognised leases under IFRS 16, compared to what users could obtain from constructive capitalisation in the pre-period, this chapter provides evidence that capitalised leases under IFRS 16 provide value relevant information for users, regardless of lease intensity. Specifically, an increase in the relevance of book value and a reduction in the relevance of earnings is observed (though still remaining positive overall). Not only did IFRS 16 increase the value relevance of book value, which was greatly impacted for some firms, but it also contributed to reducing disparities in how earnings and book value are valued across firms with differing lease intensities. In additional tests, book value was adjusted to account for the net effect of lease capitalisation under IFRS 16. The net effect of lease capitalisation was then separately tested for value relevance and found to be value-relevant, with a greater effect observed for firms with low lease intensity.[45] These results are consistent across different pre- and post-IFRS 16 periods and robust to alternative variable measurements and model specifications.

This chapter makes two important contributions to the accounting literature and professional practice, particularly in the context of the ongoing debate between the effectiveness of recognition versus disclosure in financial reporting. First, this study contributes to the broader literature on how new accounting standards impact market perceptions and firm valuation. While prior studies have examined firm responses to IFRS

[44] Off-balance sheet operating leases were capitalised using the method initially developed by Imhoff et al., (1991) and further modified and evaluated in chapter 2 of this thesis (referred to as the *ILWModifed* method).

[45] Significant correlation between lease liabilities, right-of-use assets, and book value in the post IFRS 16 years prevents their inclusion in the same model. Doing so resulted in VIFS over 100. Therefore, adjusting book value for the net effect of lease capitalisation and including this in the model reduces VIFs to between 12 and 15, which is still problematic, but results are consistent with the main conclusions of this chapter.

16 or other leasing standards (e.g., chapter 3 of this thesis; Ma and Thomas 2023; Lau 2023), this chapter provides empirical evidence on the impact of mandated lease recognition for users by examining changes in the value relevance of book value and earnings. Unlike Callahan et al. (2013) who examines the impact of FIN 46 – a US consolidation standard adopted in 2003 which brought synthetic leases on-balance sheet from a small number of special purpose entities – this chapter examines the value relevance of leases under IFRS 16, an international standard that affected all listed firms in Australia, regardless of lease intensity, and introduced fundamental changes to lessee accounting. Therefore, this Chapter answers calls for further studies to provide evidence on the consequences of significant accounting standard changes that have widespread impact across firms and industries (e.g., Lau 2022).

Second, this study provides practical insights for regulators into the implementation of IFRS 16, highlighting the challenges and implications for firms. Evidence is presented that market participants were capable of processing and capitalising off-balance sheet leases independently from disclosures in financial reports, but that this information was only relevant for firms less reliant on leases. Therefore, there are implications for the types of leases that users considered relevant by users. For example, leases for land and buildings in the retail sector, which are often associated with higher sublet potential or flexible use cases, may be considered less important to investors' assessments of firm value. However, this chapter also provides evidence that the relevance of book value increased following the implementation of IFRS 16, narrowing the gap in value relevance between firms with high and low lease reliance. These findings suggest that IFRS 16 successfully addressed disparities

in how lease information was reflected in financial statements, thereby enhancing comparability and transparency across firms. Therefore, this Chapter contributes important evidence to standard setters supporting the view that recognition, rather than disclosure alone, enhances the decision-usefulness of financial information, particularly in the context of leasing arrangements.

This chapter is structured as follows. Section 4.2 discusses the regulatory background and literature considering the relevance of lease information for users. The research design and sample selection are discussed in sections 4.3 and 4.4. The main results are discussed in section 4.5, additional analyses in section 4.6, and the concluding remarks are given in section 4.7, respectively.

4.2. Regulatory Background and Literature Review

4.2.1. Regulatory background

For over fifty years, the accounting practices adopted for leases, particularly by lessees, have posed significant concerns for all parties involved in financial reporting. A key issue has been the potential for differing accounting treatments for transactions with identical economic characteristics (e.g., leases accounted for using the lease expense method versus borrow and buy). To address this concern, the Financial Accounting Standards Board (FASB) issued *SFAS 13 Accounting for Leases* in the United States in 1976, and the Australian Accounting Standards Board issued *ASRB 1008 Accounting for Leases* in 1987. Subsequently, the International Accounting Standards Board Committee (IASC) issued *IAS 17 Accounting for Leases* in 1997, which was reissued by the International Accounting Standards Board (IASB)

in 2001. These standards generally mandated that lessees use the lease capitalisation method. However, they provided an exemption based on the economic characteristics of the transaction, allowing the lease expense method if the transaction did not convey the majority of the benefits of asset ownership. Unfortunately, what was likely intended as a limited exception and practical accommodation became a substantial loophole, extensively exploited, as noted by (Imhoff and Thomas 1988; Godfrey and Warren 1995).

IFRS 16 was developed in response to these issues, significantly curtailing lessees' ability to use the lease expense method. The new standard prescribes a single accounting practice for lessees for leases with a duration exceeding 12 months. At lease inception, lessees are required to recognise a 'right of use' asset representing the benefits conveyed under the lease (para 23) and a lease liability for the present value of the lease payment obligation (para 26). Importantly, this approach eliminates the link between the benefits embodied in the asset and those conveyed by the lease. The right of use asset is accounted for in the same manner as property plant and equipment (para 30-33) while the lease liability is treated as a financial liability.

The impacts of this change are unlikely to be uniform across firms and will primarily affect those with a significant portion of leases previously accounted for using the lease expense method, particularly those with longer durations and high-value assets. This is especially true for leases of land and buildings, which, due to the indefinite life of land, were typically classified as operating lease under the previous regulation. Consequently, the retail

sector in Australia is expected to be particularly impacted, as prime locations, often held by property investment firms, have high values and substantial lease payments.[46]

4.2.2. Literature review and Hypotheses Development

Underpinning the changes in accounting practices prescribed by IFRS 16 is the belief that transactions with similar economic characteristics should be accounted for in a consistent manner. This principle suggests that leased assets (liabilities) are as relevant as other assets (liabilities). The lease expense method allowed under the previous standard often resulted in the omission of assets and liabilities from the balance sheet, creating a presumption that relevant information was being excluded from the financial statements. IFRS 16 was expected to rectify this issue by ensuring that all significant lease-related assets and liabilities are recognised on the balance sheet.

However, while leased assets and liabilities were omitted from the balance under the prior standard, there were significant disclosures of future lease obligations accounted for using the lease expense method. Techniques for lease capitalisation were developed to address this perceived shortcoming (e.g., Imhoff et al. 1997; Bennett and Bradbury 2003). Consequently, it is not surprising that there was at least some recognition of off-balance sheet leases. For example, Imhoff et al. (1993) found that in the US, equity risk is correlated with debt-equity ratios that include operating leases in the airline and grocery industries. Consistent with this, Ely (1995) found that investors view leases from a property rights

[46] See for example, Figures 2 through 4 in this chapter, which illustrate the effects of lease capitalisation under IFRS 16 for some of Australia's largest and well known retailers.

perspective rather than ownership when assessing equity risk, thus including off-balance sheet leases in their evaluations.

Later studies reaffirm the findings above, where operating leases are relevant from an equity and/or debt standpoint. The findings of Bratten et al. (2013) show that users impound 'as-if recognised' operating leases and recognised capital leases similarly into costs of capital, conditioned on the reliability of the disclosures. Other research has found that not all leases carry the same relevance when assessing credit risk, specifically those that operate in the retail industry (Altamuro et al. 2014). Although researchers and analysts do recognise the significance of off-balance sheet leases and adjust for this when assessing firms from an equity and/or debt standpoint (Altamuro et al. 2014; Ely 1995; Imhoff et al. 1993; Giner and Pardo 2018), the implications for standard setters are potentially conflicting since the effects seem to differ dependent on the type of asset leased.

A study by Callahan et al., (2013) assesses the value relevance of synthetic lease structures under FIN 46 introduced in the US in 2003, which primarily affected specific hybrid financing structures. These arrangements were more specialised, involving Special Purpose Entities (SPEs), and were largely limited to certain firms, such as those in retail and technology sectors. The authors examine whether recognised synthetic leases are valued more heavily by the market than disclosed leases, emphasising differences in perceived measurement reliability. Although the nominal value of synthetic leases and the number of firms utilising them is far lower than those utilising off-balance sheet operating leases, the increase in the measurement reliability of these synthetic leases does suggest that there may

be some merit to mandating the recognition of off-balance sheet items if they are deemed to be value relevant.

There is scant empirical research examining the impacts IFRS 16, however recent research focuses on firm behaviours in response to forthcoming changes under the standard (e.g., Lau 2023; chapter 3 of this thesis). For example, Lau (2023) investigates whether firms with high gearing reduced their reliance on operating leases following the IFRS 16 exposure draft (2011) and in the lead-up to its implementation (2019) in the UK. The study is motivated by the debt covenant hypothesis, which posits that firms aim to avoid technical defaults by managing balance sheet items that could increase leverage ratios and threaten compliance with debt covenants. Lau (2023) found that firms with higher gearing significantly reduced their operating lease intensity after the IFRS 16 exposure draft, suggesting that the attractiveness of lease financing may have diminished potentially impacting lessors' business models and profitability.

Chapter 3 of this thesis examined the response of Australian-listed firms to IFRS 16 and whether responses differed based on lease intensity of the firm after controlling for leverage. While there was a general reduction in new operating leases following the issuance of IFRS 16, firms with high operating lease intensity appeared constrained by the fundamental nature of their reliance on leases, with evidence suggesting limited scope for mitigating the accounting and economic impacts of the new standard. However, there was evidence of increased capital expenditures for these firms, compared to firms with low lease intensities, indicating a possible shift toward ownership of assets rather than leasing. These

results highlight the effects of different institutional and economic settings on the impact of accounting standards, as well as the varying degrees of flexibility firms have in responding to such changes. Overall, while these studies provide evidence of firm responses to changes in accounting standards, few studies examine the impact on users from changes to accounting standards.

Prior research could be interpreted to support the requirement in IFRS 16 to recognise lease assets and liabilities on the balance sheet, as this aligns with how users are interpreting financial statement information. This is also presented in recent studies, where the actual impact of capitalisation is nothing short of material to various balance sheet and income statement metrics (Fahad and Scott, 2022; see also chapter 2 of this thesis). Conversely, it could be argued that since the information was already available through note disclosures, mandating recognition is unnecessary, as users were already able to access and utilise this information. The option of being able to include operating leases using one of the numerous capitalisation methods available, also meant that users could make their own judgement on whether these leases had the same relevance as recognised items, or if they were economically similar to a rental (Altamuro et al. 2014). Further to this, the increased information content of disclosures, following the adoption of the US GAAP standard for leases, *Accounting Standards Codification 842* (ASC 842), could be seen as evidence to suggest that what may have been more useful, is greater disclosures, rather than mandated recognition (Enache et al., 2023). This underscores the necessity of carefully considering the benefits of IFRS 16, particularly whether these benefits were widespread. Accordingly, this suggests the need to evaluate the following empirical questions.

i. Prior to IFRS-16 did constructive capitalisation, based on note disclosures, provide relevant information to financial statement users?

ii. Following the transition to IFRS 16, is there a change in the relevance of book value of equity for firms?

The introduction of IFRS 16 (AASB 16 in Australia) represents a significant accounting change in the recognition of lease-related assets and liabilities, but it does not alter the underlying economics of lease transactions. The standard's primary effect is to shift operating leases from off-balance-sheet disclosures to on-balance-sheet recognition, thereby increasing both total assets and liabilities and altering reported earnings and book value of equity. Whether these revised accounting measures provide more decision-useful information to investors remains an empirical question.

If IFRS 16 merely changes the presentation of leases without improving investors' understanding of firm fundamentals, the relationship between accounting numbers and market valuation should remain relatively stable across periods. Conversely, if the capitalisation of leases enhances the relevance and reliability of reported financial information, the association between market value and accounting measures (earnings and book value) may strengthen. Alternatively, transitional measurement effects could introduce temporary noise, reducing value relevance.

Accordingly, the following hypothesis is developed:

H1: The value relevance of earnings and book value of equity differs between the pre- and post-IFRS 16 periods.

This hypothesis reflects the expectation that IFRS 16 affects the measurement of key accounting variables but that the extent to which these changes are incorporated into share prices depends on whether investors perceive the revised accounting information as more informative. While H1 examines the overall change in the value relevance of book value and earnings following IFRS 16 adoption, the magnitude of this change is unlikely to be uniform across all firms. The impact of lease capitalisation depends on firms' underlying exposure to operating leases and the extent to which lease-related assets and liabilities were previously omitted from the balance sheet. Firms with higher lease intensity such as retailers, experienced a more pronounced balance sheet expansion and greater shifts in reported earnings after IFRS 16 adoption. Consequently, any improvement or deterioration in the value relevance of accounting measures should be most observable among these firms.

In addition, prior to IFRS 16, firms disclosed detailed operating lease commitments in the notes to the financial statements. These disclosures allowed investors and analysts to estimate the capitalised value of lease obligations, albeit imperfectly. Comparing the value relevance of these pre-adoption lease capitalisation estimates with that of the recognised amounts under IFRS 16 provides direct evidence on whether the prior disclosure regime conveyed sufficiently informative lease information. Together, these extensions motivate H2 and H3, which test for cross-sectional heterogeneity by lease intensity and the adequacy of pre-adoption lease disclosures.

H2: Any post-IFRS-16 change in value relevance is greater for firms with higher lease intensity.

H3: Pre-adoption lease disclosures (operating lease commitments) provide information comparable to recognised lease amounts under IFRS 16, such that capitalisation-based pre-lease estimates yield associations with market value similar to post-adoption recognised amounts.

4.3. Research Design

There is an extensive literature examining the relevance of financial statement information, typically relying on models that evaluate the association between stock prices and accounting information. This can involve either summary-level accounting information or disaggregated accounting information (Lennox et al. 2023; Giner and Pardo 2018; Clarkson et al. 2015; Chalmers et al. 2011; Barth and Clinch 1998; Collins et al. 1997). The simplicity and interpretability of the standard value relevance model allow for clear benchmarking of results against prior studies and across different regulatory regimes, which is why papers still use it today (e.g., Lennox et al. 2023).[47] This chapter examines the effect of IFRS 16, an accounting standard which only affects book value via lease liabilities and right-of-use assets (with negligible effects on earnings as shown in chapter 2 of this thesis). Book value and earnings are key components of equity valuation, and both right-of-use assets and lease liabilities are correlated with book value (as one would expect), which precludes

[47] Barth et al. (2023) do highlight the increase in value relevance of other times such as intangible assets, however since IFRS 16 does not affect these items, this chapter focuses on book value of equity to evaluate its impact.

their addition to the standard model.[48] Therefore, the standard value relevance model is appropriate for this research question.[49] Accordingly, the approach followed in this chapter is based upon the following basic model which has persisted due to its grounding in theory where prices reflect discounted cash flows which are captured through earnings and book value:

$$P_{it} = \beta_0 + \beta_1 EARN_{it} + \beta_2 BV_{it} + \varepsilon_{it} \quad (1)$$

Where:

P_{it}	:	Share price of firm *i* three months after the end of financial year *t*
$Earn_{it}$	:	Earnings per share for firm *i* at the end of year *t.*
BV_{it}	:	Book value of equity per share for firm *i* at the end of year *t*

4.3.1. Value relevance of off-balance sheet leases prior to IFRS 16

In order to evaluate the relevance of off-balance sheet leases prior to IFRS 16, it is necessary to incorporate or impound these leases into model (1) above. To capitalise operating leases onto the balance sheet prior to mandated capitalisation, this chapter builds of the method originally used in Imhoff et al. (1991).[50] The Imhoff et al. (1991) capitalisation method (hereafter referred to as *ILW*) discounts non-cancellable operating lease commitments to the present value by a pre-determined discount rate (10%), which provides

[48] Adjusting book value of equity and including lease liabilities and right-of-use assets in the model results in VIFs above 100, confirming severe collinearity between these variables (i.e., LL, ROU, BV).

[49] In the additional tests section (4.6.2), two-stage residual inclusion (2SRI) methods are used to provide additional evidence of the relevance of off-balance sheet leases in the pre-IFRS 16 period. In the post-IFRS 16, lease liabilities and right-of-use assets are highly correlated with both one another and with book value since they are now recognised under the new standard, which precludes this test. In further analyses, the net effect of IFRS 16 is added to the standard value relevance model after adjusting BV (see Tables 13 and 14).

[50] Other methods include the heuristic, or 'rule-of-thumb' methods employed by Moody's. These methods multiply the current year rent expense by a factor (5x, 6x, 8x or 10x), then compare it to the present value of non-cancellable operating lease commitments discounted by the firm's incremental borrowing rate and take the higher of the two values.

the capitalised operating lease liabilities. The *ILW* method also uses the following assumptions:

1. The average remaining life of the operating leased asset is 15 years.
2. The estimated unrecorded asset is equal to 75% of the unrecorded liability
3. The effective tax rate for all firms in the sample is proxied as the corporate tax rate.
4. Assets are depreciated using the straight-line method and all cash flows are assumed to occur at year-end.

The issue with the *ILW* method is that it does not take firm or industry specific assumptions into account when estimating the firm's unrecorded leased asset and liabilities. To address this, two modifications are made to the above. First, firms' incremental borrowing rates are hand collected from annual reports and used as the discount rate to present value operating lease commitments when transitioning to IFRS16. If the incremental borrowing rate is not available for a firm, the average incremental borrowing rate of sampled firms within the same industry is used as a proxy. Second, the assumed average lease term for each industry is obtained from Morales-Díaz and Zamora-Ramírez (2018). Morales-Díaz and Zamora-Ramírez (2018) use a combination of public and private information to compute the average lease life of European firms. Estimating useful lives of leased assets from disclosures of Australian companies proved to be difficult, as the useful lives were provided in ranges of 5-20 years. This range was not broken down by type of lease, hence, there would be considerable noise in picking a number within this range. The use of Morales-Díaz and

Zamora-Ramírez (2018)'s lease terms allow some variability between industries, rather than applying a uniform lease term across the entire sample.

The method described above is referred to as the *ILWModified* method and was evaluated in chapter 2 of this thesis. Chapter 2 of this thesis provided evidence that the *ILWModified* method produced the most accurate forecasts of off-balance sheet right-of-use assets and lease liabilities. Therefore, the concern that European asset useful lives may not reflect Australian asset useful lives is less of an issue.

Using the above method yields the capitalised operating lease liability *(COLL)* for the pre-IFRS 16 period. To account for the depreciation of the leased asset, capitalised operating leased asset *(COLA)* is estimated as 75% of *COLL*. *COLA* is obtained this way because the assets that arise from lease contracts will always be less than the liability counterparts.[51] The impacts of lease capitalisation on income are difficult to determine and inconsistent across firms, therefore they are excluded from this analysis.[52] The difference between *COLL* and *COLA* is then applied to the book value of the firm in the pre-period rather than as separate variables. This is due to *COLA* being derived from *COLL,* hence they are perfectly correlated and therefore, would cause one variable to drop off the regression over the other. The net of *COLL* and *COLA (NetOL)* are added to model 1, resulting in model 2 below:

[51] Figure 1 in Imhoff et al., (1991) shows that the curve in which leased assets depreciate is a straight diagonal line until the end of the lease term. Lease liabilities will instead adopt a quadrant shape, where a large proportion of lease payments will go towards interest. As the lease reaches the end of the term, the proportion of payments will start to shift towards reducing the principal of the lease.

[52] Lease capitalisation is initially income decreasing but this reverses over the term of the lease (illustrated in the appendices of chapter 2 of this thesis). Therefore, the impact of lease capitalisation varies depending upon whether the level of leasing is increasing (income decreasing), steady (no impact) or declining (income increasing). A more detailed explanation for leases is provided in the appendix of chapter 2 of this thesis, and conservatism generally in Penman (2010).

$$P_{it} = \beta_0 + \beta_1 EARN_{it} + \beta_2 BV_{it} + \beta_3 NetOL_{it} + \varepsilon_{it} \quad (2)$$

If users found lease disclosures to be value relevant, a positive and significant coefficient is expected on β_3. Standard errors are clustered by industry and year.[53] [54]

4.3.2. Value relevance of leases following IFRS 16

To test H1 (and examine if users found capitalised lease information under IFRS 16 more useful than what could be capitalised based on disclosures prior to the standard's implementation), model (1) is modified by including an indicator variable, *Post,* to capture the post-IFRS 16 period. This results in model (3) below:

$$P_{it} = \beta_0 + \beta_1 Post_{it} + \beta_2 Earn_{it} + \beta_3 BV_{it} + \beta_4 Post * Earn_{it} + \beta_5 Post * BV_{it} + \varepsilon_{it} \quad (3)$$

Where *Post* is an indicator variable equal to 1 for periods following transition to IFRS 16, and 0 otherwise. Earnings per share and book value per share are each interacted with *Post*, allowing the slopes to vary before and after IFRS 16 implementation. The statistical significance and direction of these interaction terms indicate whether the value relevance of earnings and book value has changed following the adoption of IFRS 16. This approach directly links the hypothesised effect of the accounting change to observable differences in valuation coefficients. In the years prior to IFRS 16, *BV* is equal to book value plus *NetOL* estimated using the *ILWModified* method. In the years following transition to IFRS 16, *BV*

[53] Results are robust to the inclusion of year and industry fixed effects (please refer to tables 19 to 21 of this chapter).
[54] In the additional tests section (4.6.2), two-stage residual inclusion (2SRI) methods are used to provide additional evidence of the relevance of off-balance sheet leases in the pre-IFRS 16 period.

includes all lease liabilities and right-of-use assets, as per mandated recognition under IFRS 16. Therefore, the interaction term between BV and $Post$ (β_5), indicates if recognised leases under IFRS 16 provide more relevant information than what users could obtain from constructive capitalisation in the pre-period using disclosures. While it is acknowledged that some effect may be present in earnings, the effect is less obvious since it is subject to the lease cycle of the firm. For instance, a growing firm would see a bigger impact towards earnings from the increased leasing due to additional depreciation and interest expense, whereas firms that are scaling down would lease less and hence, see the opposite occur. (please refer to the appendices of chapter 2 of this thesis for an illustrative example).

4.4. Sample selection

The initial sample for this study begins with Australian listed companies in the ASX 500 across the years 2017 to 2023 with operating lease commitments at the date of transition to IFRS 16. The required data on existing lease arrangements and incremental borrowing rates were hand-collected from disclosures within the notes of firms' financial statements. Firm financial data is sourced from Morningstar Datanalysis, share prices from SIRCA and missing information were hand collected from publicly available annual reports. Firms that are classified in the Financials (120), Agriculture (5) and Real Estate (48) industries, along with those that lack classification (13) according to the GICS Sector were removed from the sample.[55] Early adopters of IFRS 16 (8), those that changed year end (11) along with overseas

[55] Financial services sector firms are excluded due to complexities arising when the firm is a lessor. Firms in the real estate and agriculture sectors present unique challenges due to the adoption of fair value measurement for leased assets, specifically under IAS 40 Investment Property and IAS 41 Agriculture, which complicates the assessment of IFRS 16's impact. This differs from ASC 905 in the U.S. which permits historical cost only.

firms and incomplete time series data (130) are also removed.[56] This results in a final sample of 155 firms and 1,085 firm-years.[57] The sample selection process is outlined in Table 4.1 Panel A.

[Insert Table 4.1 about here]

Panel B displays the sample breakdown by industry. The most highly represented industries in the sample are the Materials (24.5%) and Consumer Discretionary (22.5%), which is typical of the Australian setting. Firms are classified as *high* or *low* lease firms, based on operating lease scaled by total assets (*OPL by Total Assets*) in the first year of the sample (i.e., financial years beginning on or after 1 January 2016). If *OPL by Total Assets* for firm *i* in the first year is greater than the sample mean *OPL by Total Assets* in the same year, the firm is classified as a high lease firm.[58] Using this method, 121 firms are classified as having low leases and 34 firms are classified as having high leases.[59]

The transition to IFRS 16 was mandated for financial years commencing on or after 1 January 2019. This gives a sample of seven financial years over which the effects of IFRS 16 can be tested: three years pre-transition (2017 to 2019), the year of transition (2020), and three years post-transition (2021 to 2023). Figure 1 below illustrates the timeline:

[56] Firms from different jurisdictions are removed due to differences in their version of IFRS 16 or being under another reporting regime (e.g. US GAAP).

[58] Results remain robust to using the sample median rather than the mean.

[59] In the pre-IFRS 16 period, operating lease liabilities and assets are estimated using the ILWModified method used in Chapter 2 Paper 1 and described in section 3.1.

Figure 1: sample period timeline

The year 2019 is chosen as the benchmark for the pre-IFRS 16 period as it reflects a financial reporting environment that has already incorporated the changes to earnings and book value brought about by *IFRS 9 Financial Instruments* and *IFRS 15 Revenue from Contracts with Customers*, both of which came into effect for financial reporting periods beginning on or after 1 January 2018. With the adoption of IFRS 9, firms had adjusted their accounting for financial instruments, including the classification, measurement, and impairment of financial assets, thereby providing a more accurate depiction of credit risk and financial stability. Concurrently, the implementation of IFRS 15 redefined revenue recognition practices, ensuring that revenue figures were more closely aligned with the actual transfer of goods and services.[60] By the year 2019, these standards had been fully integrated into financial statements, offering a comparable basis for assessing the impact of IFRS 16 in subsequent years. Nevertheless, additional tests are run where the entire three-years is used as the pre-IFRS 16 period (i.e., financial reports from 2017 through to 2019).

Next, the year immediately preceding implementation is compared to the year of implementation (i.e., 2019 and 2020). Last, the pre- and post-IFRS16 periods are compared.

[60] For evidence on the impacts of IFRS 15, refer to Onie et al. (2023).

Initially, the post period excludes the first two years after the transition period (i.e., 2021 and 2022) due to the impact of COVID-19. During those years, price reflected uncertainties and circumstances brought about by COVID-19 which increased volatility in equity markets. Market volatility during the pandemic may amplify noise in price movements, but it does not necessarily invalidate the fundamental association being tested. In fact, the pandemic can serve as a real-world stress test for the persistence of value relevance under extreme conditions. Therefore, additional tests are performed where these years are included in the post-IFRS 16 period (i.e., years 2021 through to 2023).

4.5. Results

4.5.1. Descriptive statistics

The descriptive statistics for the full sample are displayed in Table 4.2 Panel A. In the pre-IFRS 16 period, *COLL* and *COLA* are estimated using the *ILWModified* method (Imhoff et al. 1991) used in Chapter 2 and as discussed in section 4.2.1. In the post period the actual right-of-use assets and lease liabilities are taken from firms' financial statements. A significant difference is noted between *COLA* in the pre-period and ROU in the transition period. This difference is largely due to the sizable leases that were capitalised in the transition periods for firms with significant amounts of land and building lease contracts. For example, Figures 2, 3 and 4 illustrate the impacts of IFRS 16 on debt-to-assets, total liabilities, and total assets for some of Australia's largest and well-known retailers who have little choice but to lease retail space from large shopping complex owners.

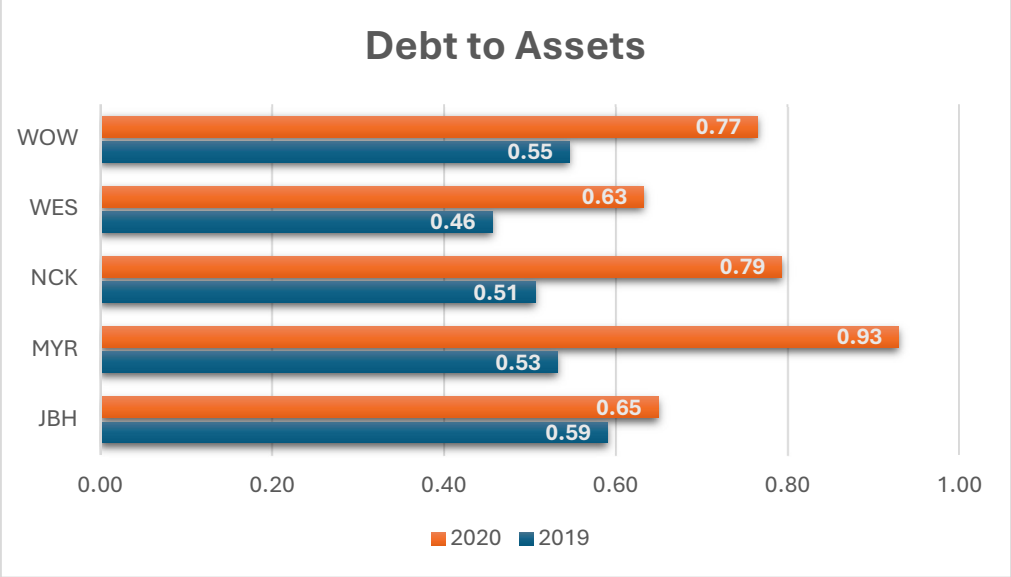

Figure 2: debt-to-asset ratios immediately before and after implementation of IFRS 16 for Woolworths (WOW), Wesfarmers (WES), Nick Scali (NCK), Myer (MYR) and JB Hi-Fi (JBH).

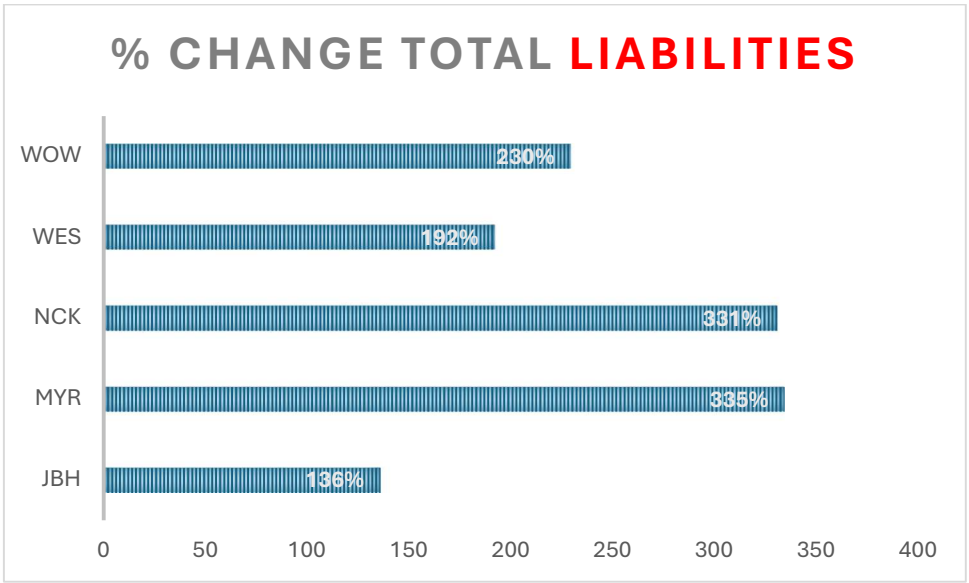

Figure 3: change in total liabilities from 2019 to 2020 for Woolworths (WOW), Wesfarmers (WES), Nick Scali (NCK), Myer (MYR) and JB Hi-Fi (JBH).

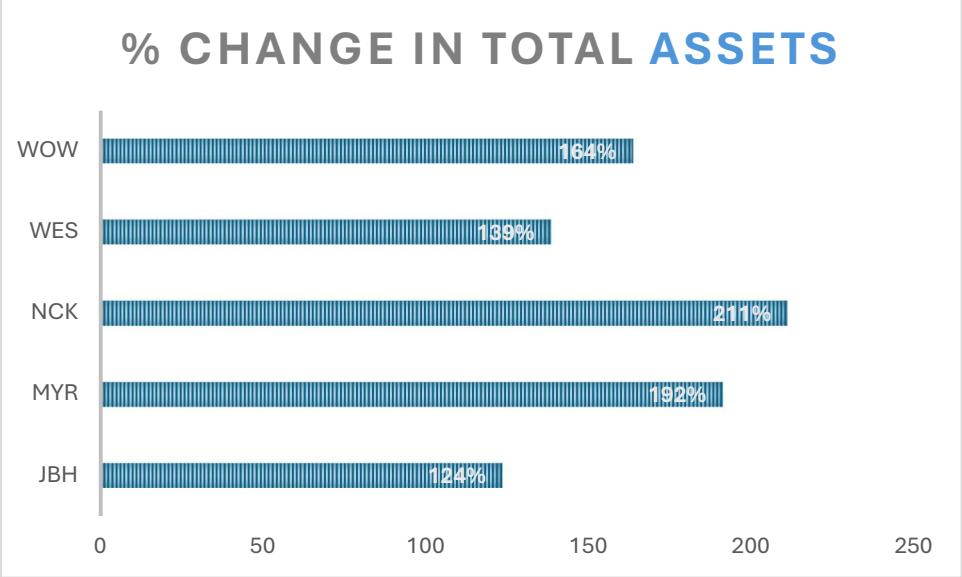

Figure 4: changes in total assets from 2019 to 2020 for Woolworths (WOW), Wesfarmers (WES), Nick Scali (NCK), Myer (MYR) and JB Hi-Fi (JBH).

The slight reduction in the present value of leased assets from the transition to the post period is likely due to some firms impairing (or accelerating depreciation of) their leased assets during COVID-19, since the lease liability is higher in the post-period.

[Insert Table 4.2 about here]

Panels B and C splits the sample based on firms with high and low leases, determined using the mean value of *OPL by Total Assets* displayed in Panel A. The mean is used due to the skewness of the data, noting that the average *OPL by Total Assets* is 13.9% whereas the median is only 5% (similar to prior studies e.g., Ma and Thomas (2023)).[61] Panel D reports descriptive statistics of unrecognised operating lease activity (*OPL by Total Assets*) by

[61] Robustness tests are performed where the median is used instead of the mean. Results are tabulated and remain consistent across both methods.

industry for low and high lease firms in the first year of the sample (i.e., prior to IFRS 16), respectively. It is quite clear that large differences exist in unrecognised operating lease activity between low and high lease firms. Consumer Staples, Communication Services, and Consumer Discretionary have the largest amounts of off-balance sheet operating leases, followed by Health Care. This largely reflects the Australian institutional setting and the nature of the retail market in which most retail space is owned by large property developers and leased to businesses.

The correlation matrix is presented in Table 4.3. Book value of equity (*BV*) is correlated with earnings throughout the sample period, and as expected *COLL* and *COLA* are perfectly correlated with each other (100%) due to how *COLA* is estimated (i.e., as 75% of *COLL*), as are *LL* and *ROU* (~98.8%) following the transition to IFRS 16.

[Insert Table 4.3 about here]

4.5.2. Value relevance of off-balance sheet leases prior to *IFRS 16*

The results from estimating model (2) over the pre-IFRS16 period of 2017 to 2019 are presented in table 4.4. Column (1) displays results for the pooled sample, column (2) for low intensity lease firms, and column (3) for high intensity lease firms.

[Insert Table 4.4 about here]

The adjusted r-squared ranges from 0.741 to 0.920, respectively. Across all columns, *BV* is negative and significant, only for the full sample (β=-2.371, t-stat=-2.962) and low lease subsamples (β=-3.040, t-stat=-3.901). On the other hand, the coefficients on *Earn* are

positive and significant across all firms, regardless operating lease intensity. The variable of interest, *NetOL,* looks at whether users take off-balance sheet leases into account, on top of what is recognised in book value and earnings. The negative and significant coefficient of *NetOL* (β=-60.83, t-stat=-3.444) for low lease firms, implies that only certain types of leased assets were relevant for users, as opposed to all types of leases.[62]

Table 4.5 reports the results of estimating model (2) again, this time using the year 2019 only. Doing so avoids the changes brought about by IFRS 15 *Revenue from Contracts with Customers*, and IFRS 9 *Financial Instruments.*

[Insert Table 4.5 about here]

The adjusted r-squared ranges from 0.702 to 0.928, and similar to the results from Table 4, *BV* is negative and significant only for the full sample and low lease subsample, whereas *Earn* is significant and positive across all subsamples. Likewise, *NetOL* is significant and negative for low lease firms (β=-75.66, t-stat=-2.904). These results taken together provides support in that off-balance sheet lease disclosures were value relevant dependent on the type of leased asset, such as vehicles and equipment (which are low in value compared to leases of land and buildings) that were perceived as financed purchases. On the other hand, high value leases (such as retail spaces) are relevant due to users perceiving them as true rentals rather than a substitute for an asset purchase. Taken together, these results suggest that users incorporated the effect of off-balance sheet operating leases into their

[62] An additional test was run where earnings is adjusted by removing operating lease in the pre-IFRS specification for all tests. The results differed primarily in that *NetOL* is now significant and negative across all tests. This is offset by the increase in the variable for earnings. It is important to note that the most predictable impact of the standard would be towards book value, and that the impact towards earnings is less certain.

valuation assessments for firms with lower lease reliance, reflecting a nuanced view of the relevance of lease-related information. This finding likely stems from differences in the types of leases and operating models employed by firms, which influence how users perceive the relevance of lease disclosures. For example, retail leases, which can be repurposed through subleasing or other uses, could be perceived as less burdensome and more adaptable by users, reducing the weight they place on these liabilities in valuation decisions. Conversely, other types of leases, such as those for equipment or vehicles, often lack such flexibility, making them more significant in users' assessments. These results emphasise that in the pre-IFRS 16 period, both the nature of the leased asset and the operating model of the firm seems to have factored into users' determination of whether lease-related information is relevant for valuation purposes.

4.5.3. Value relevance of *BV* following *IFRS 16*

The results from estimating Model (3) on the *pre-IFRS 16* and *transition* periods are presented in Table 4.6. Column 1 displays the results for the full sample, Column 2 displays the results for low lease firms, and Column 3 for high lease firms. The adjusted R-squared ranges from 0.549 for low lease firms to 0.778 for high lease firms.

[Insert Table 4.6 about here]

Looking across all columns, *BV* is negative and insignificant whereas the interaction term, *Post*BV*, is positive and significant. This result suggests that the value relevance of BV increased in the transition period to the point where it became positive (for example, the sum

of the two coefficients for the full sample is 2.043).[63] Looking at earnings, *Earn* is positive and significant across all columns, while the interaction term, *Post*Earn,* is negative and significant. This result indicates that while the relevance of earnings decreased in the year of transition to IFRS 16, the sum of the coefficients on *Earn* and *Post*Earn* is still positive (e.g., 24.47 - 17.16 = 7.31 for the full sample in Column 1). Therefore, following IFRS 16, investors still considered earnings to contribute to equity valuations, but to a lesser extent.

Looking at the coefficients on *BV* for low lease (β=-3.201, t-stat=-2.773) and high lease firms (β=-0.179, t-stat=-0.490), while insignificant, they differ in size. However, following IFRS 16, the sum of the coefficients on *BV* and *Post*BV* equals 1.821 (low lease) and 2.887 (high lease), respectively. A similar effect takes place with earnings where the sum of the coefficients on *Earn* and *Post*Earn* for the low and high lease subsamples, are 7.74 and 7.297, respectively. Taken together, these findings suggest that IFRS 16 not only increased the value relevance of book value, but also contributed to reducing disparities in how earnings and book value are valued across firms with differing lease intensities.

Table 4.7 displays the results of estimating model (2) when all three years are used as the pre-IFRS 16 period (i.e., 2017 through to 2019). Column 1 reports the results for the full sample and Columns 2 and 3 for the low and high lease firms, respectively.

[Insert Table 4.7 about here]

[63] The coefficient on *BV* plus *Post*BV* for the full sample (-2.597 + 4.640 = 2.043).

The adjusted R^2 ranges from of 0.631 to 0.845. The coefficient for *BV* is now negative and significant for the full sample (Column 1) and low lease sample (Column 2) but remains insignificant for the high lease sample (Column 3). Earnings remains positive and significant across all three columns. The results on the interaction terms *Post*BV* and *Post*Earn* are consistent with those reported in Table 4.6. The net effect of IFRS 16 on the relevance of *BV* and *Earn* is also consistent with Table 4.6.[64] Overall, despite including years prior to 2019, which had yet to incorporate changes from *IFRS 9* and *IFRS 15,* the overall conclusion that IFRS 16 increased the value relevance of book value and contributed to reducing disparities in how earnings and book value are valued across firms with differing lease intensities remains.

The results of estimating Model (2) using the *transition* year (year 2020) and *post-IFRS 16* period are displayed in Table 4.8. Where the post period excludes the years 2021 and 2022 due to the effects of COVID-19 on share prices (the dependent variable). Column 1 presents the results for the full sample, while Columns 2 and 3 split the sample between low and high lease firms, respectively.

[Insert Table 4.8 about here]

The adjusted R-squared ranges from 0.508 in Column 2 to 0.678 in Column 3. The only significant variable for the full sample (column 1) and low lease sample (column 2) is *BV* where it is positive and significant (β=2.043, t-stat=3.486, β=1.821, t-stat=3.005, respectively). For high lease firms (column 3), BV is also positive and significant. This result

[64] For example, the coefficient on *BV* plus *Post*BV* for the full sample equals 2.043 (-2.306 + 4.349 = 2.043).

differs from those reported in the pre- and transition year tests, where *BV* was negative and suggests that following IFRS 16, BV has increased in value relevance for all firms. The interaction between *Post* and *BV* is no longer significant, further confirming the inference that the market had already incorporated the expected effects of IFRS 16 into valuations during the year of implementation (as shown in Table 4.6). Therefore, there is no incremental effect in years following implementation (i.e., insignificant coefficient on the interaction term *Post*BV*). For high lease firms (Column 3), Earn is positive and significant and the interaction term, Post*Earn, is negative and significant, consistent with Tables 4 and 5. Since the post period includes only the year 2023, which could be impacting results, the years 2021 and 2022 are added back to the post-period and the analyses is repeated.

Table 4.9 displays the results from estimating model (2) on the *transition* year (i.e., 2020) and *post-IFRS 16* period adding back the COVID-19 years (i.e., 2021 and 2022). Column 1 presents results for the full sample, Column 2 the low lease sample, and Column 3 the high lease sample, respectively.

[Insert Table 4.9 about here]

The adjusted R^2 ranges from 0.480 for the high lease sample (Column 3) to 0.510 for the low lease sample (Column 2). Worth noting is that these adjusted R^2 are lower than those reported in table 6 for the full and high lease samples and is likely the first indicator of the noise introduced into prices from COVID-19. Across all columns, *BV* is positive but only significant for the full and high lease samples. The results are largely consistent with Table 4.8 apart from the interaction terms, *Post*BV* and *Post*Earn*, which are now significant for

the full sample in Column 1, but driven by low lease firms in Column 2. The positive coefficient on *Post*BV* and negative coefficient on *Post*Earn* likely reflects an increased reliance on *BV* during COVID-19 years since earnings for many firms were affected by lockdown laws in Australia. However, these interaction terms are insignificant for high lease firms (Column 3). Overall, it is evident that the economic impacts of COVID-19 introduced uncertainty into markets and noise into prices during the financial years 2021 and 2022.

Table 4.10 displays the results of estimating Model (2) on the *pre-* and the *post-IFRS 16* periods, where the first two years of the post period are excluded due to COVID-19. This analysis uses one year immediately pre-IFRS 16 (i.e., 2019) and one post (i.e., 2023). Results for the full sample are displayed in Column 1, the low lease sample in Column 2, and the high lease sample in Column 3.

[Insert Table 4.10 about here]

The adjusted R^2 ranges from 0.625 for low lease firms to 0.784 for high lease firms. *BV* is negative and only marginally significant for low lease firms (β=-3.201, t-stat=-2.715) whereas *Earn* is positive and significant across all columns. The interaction term between *BV* and *Post* is positive and significant across all columns, while the interaction term between *Earn* and *Post* is negative and significant across all columns. These results are consistent with those reported in Table 4.4 which examines the pre-IFRS 16 period (i.e., 2019) to the year of transition (i.e., 2020). When looking at the effect of IFRS 16 on the relevance of *BV*, the sum of the coefficients on *BV* and *Post*BV* equals 2.983 and 2.635, for low and high lease firms respectively. Similarly, the sum of the coefficients on *Earn* and *Post*Earn* for

low and high lease firms is 3.01 and 3.15, respectively. These results show that IFRS 16 reduced substantial differences in the relevance of *BV* and *Earn* between low and high lease firms. These results are consistent with those reported in Table 6 when considering the year of transition only.

Table 4.11 presents the results from estimating Model (2) for the pre- and post-IFRS 16 periods, including the years 2021 and 2022 which were subject to the economic impacts of COVID-19, as well as the years prior to the implementation of *IFRS9* and *IFRS15.* The adjusted R^2 for the Full Sample in Column (1) is 0.594 and increases to a maximum of 0.606 for low lease firms in Column 2.

[Insert Table 4.11 about here]

The results are quantitatively and qualitatively similar to those reported in Table 4.10. *BV* is negative and significant for the full sample which is driven by low lease firms (Column 2) and the interaction between *BV* and *Post* is positive and significant across all columns. Similarly, *Earn* is positive and significant across all columns and the interaction term between *Earn* and *Post* is negative and significant across all columns. As with the results reported in Tables 6 and 10, these results indicate that IFRS 16 not only shifted the value relevance of book value and earnings, but also contributed to reducing disparities in how earnings and book value are valued across firms with differing lease intensities.

Table 4.12 reports the results of estimating model (2) using the entire pre-IFRS 16 period (i.e., years 2017 to 2019) and one year post (i.e., 2023). Columns 1 through 3 report the results for the full sample, low lease sample, and high lease sample, respectively.

[Insert Table 4.12 about here]

The adjusted R^2 ranges from 0.850 for high lease firms to 0.676 for low lease firms. Similar to the results in Tables 6, 10 and 11, *BV* is negative and significant in columns 1 and 2 while *Earn* is positive and significant across all columns. The interaction term *BV*Post* is positive and significant indicating that after the implementation of IFRS 16, the relevance of BV increased and became positive.[65] The interaction term *Post*Earn* is negative and significant indicating that the relevance of earnings decreased but remained positive overall following IFRS 16.[66] Overall, despite using a longer pre-period that incorporates changes due to *IFRS 9* and *IFRS 15*, the results remain consistent with those previously reported.

The overall results are consistent with *H1*, in that the implementation of IFRS 16 had a differential impact on the value relevance of financial statement components by increasing the importance of book value, while reducing the emphasis on earnings. This shift suggests that investors placed greater reliance on balance sheet information post-IFRS 16. The results also show support for *H2,* in that these changes are more prominent for high lease firms as the capitalisation of lease obligations enhanced the transparency and comparability of reported financial positions. On the other end, the coefficient for book value differing from the pre and post periods suggest there is no evidence that pre-adoption lease disclosures provided comparable information to recognised leases under *IFRS 16*, therefore *H3* is not supported. The continued positive value relevance of earnings indicates that income

[65] Full sample: -2.306 + 5.143 = 2.837; low lease sample: -2.744 + 5.637 = 2.893; high lease sample: -0.613 + 3.249 = 2.636.
[66] Full sample: 24.00 - 20.87 = 3.13; low lease sample: 26.36 - 23.35 = 3.01; high lease sample: 15.72 – 12.57 = 3.15.

statement information remains an important factor in equity valuation, even as its relative importance decreased. Lastly, tests between the pre- and implementation year, and pre- and post-IFRS 16 years, supports the notion that users were able to impound the new information conveyed by IFRS 16 into their valuations immediately in the year of transition, with no additional effects observed between the transition year and subsequent years (excluding COVID-19 years).

4.5.4. Value relevance of Leases following IFRS 16

The prior results primarily focused on the change in the relevance of *BV*. This is because lease liabilities and right-of-use assets are highly correlated with each other and, in the post-IFRS 16 period, with book value of equity. Adjusting book value and adding these lease line items to model (2), similar to Callahan et al. (2013), results in severe collinearity issues as revealed by variance inflation factors (VIFs) of over 100. This result is not unexpected. As an additional attempt to include lease line-items in model (2) but reduce their collinearity, the net effect of lease liabilities and right-of-use assets (*Net Lease*) in the implementation and post-period is calculated and adjusted away from book value. In the pre-period, this is calculated by taking all existing leases, both capitalised operating lease and finance lease (which the latter is recognised in *BV* prior to IFRS16) and combining them together. *Net Lease* is then added to model (3) alongside *Earn* and *BV*. Using this method, VIFs were reduced to between 12 and 15, which are still highly problematic. Therefore, results should be interpreted with caution.

The results of including *Net Lease* in model (2) for the pre- and transition year (i.e., years 2019 and 2020) are reported in Table 4.13. Column 1 reports the results for the full sample, Column 2 the low lease sample and Column 3 the high lease sample.

[Insert Table 4.13 about here]

The Adjusted R^2 range from 0.584 to 0.771. The coefficient on *Net Lease* is negative and significant for low lease firms. While the interaction *Post*Net Lease* is positive and significant for low and high lease firms. This result suggests that off-balance sheet leases conveyed relevant information once they were capitalised under IFRS 16. Similar to Table 4.7, the coefficients on *BV* are negative and significant apart from high lease firms. While the coefficients on *Post*BV* are positive and significant for both low and high lease firms. *Earn* is positive and significant across all columns, while the interaction term *Post*Earn* is negative and significant. Overall, despite the extreme collinearity issues, the results are consistent with *H1* and *H2*, whereas there is no evidence to support *H3.*

Table 4.14 reports the results for including *Net Lease* in Model (2) for the *pre-* and *post-IFRS 16* period (i.e., years 2019 and 2023). Column 1 reports the results for the full sample, Column 2 the low lease sample and Column 3 the high lease sample.

[Insert Table 4.14 about here]

The Adjusted R^2 range from 0.628 for the full sample to 0.802 for high lease firms. The coefficient on *Net Lease* is negative and significant for low lease firms only. While the interaction *Post*Net Lease* is positive and significant for low lease firms. This result suggests that between the pre- and post-IFRS 16 periods, off-balance sheet leases conveyed relevant

information once they were capitalised under IFRS 16 but for low lease firms only. The coefficients on *BV* are negative and significant for low lease firms while the coefficients on *Post*BV* are positive and significant for both low and high lease firms. *Earn* is positive and significant across all columns, while the interaction term *Post*Earn* is negative and significant. Overall, despite the extreme collinearity issues, the results are consistent with the results of Table 4.13 and the main findings of this Chapter.

4.6. Additional Analyses[67]

4.6.1. Test of Coefficient Equality

To further investigate the relevance of capitalised leases versus a period when lease capitalisation was not mandated but only disclosed, a Chow test of difference in coefficients on *BV* is performed after estimating Model (1) for different sample periods. These years represent the year immediately preceding IFRS 16 (i.e., 2019) which already incorporates changes from IFRS 9 and IFRS 15, the year of transition (i.e., 2020), and a year post-transition (i.e., 2023) in which prices had largely recovered from the impact of COVID-19.

Table 4.15 reports the results from comparing the *pre-* and *transition* periods. Columns 1, 3 and 5 report results of estimating Model (1) on the pre-IFRS 16 year, while Columns 2, 4 and 6 report results for the year of transition.

[Insert Table 4.15 about here]

[67] Although returns-based specifications are often done as a robustness test, the small sample size of this thesis would result in a model that would have limited statistical power. Further to that, the focus of this chapter is on price-level models that directly link financial statement variables to market valuation, aligning with the Ohlson (1995) framework.

The tests of difference in coefficients are all significant, indicating that the coefficients on *BV* differ between the year immediately before and following IFRS 16. The coefficients on *BV* are all greater in the transition period (Columns 2, 4 and 6, respectively) compared to the pre-IFRS 16 period. Taken together, these results alongside the main analyses are consistent, indicating that the information conveyed into book value from the capitalisation of leases under IFRS 16 provided relevant information to users. Given the small sample size for high lease firms (Columns 5 and 6), results should be interpreted with caution, therefore an additional test is run comparing three years pre-and post-IFRS 16, reported later in Table 4.17 of this chapter.

Table 4.16 reports the results from comparing the pre-IFRS 16 period (2019) to the post-IFRS 16 period (2023). Columns 1, 3 and 5 report the results of estimating model (1) on the pre-IFRS 16 year, while columns 2, 4 and 6 report results for the year following transition (but excluding COVID-19 years which greatly impacted price).

[Insert Table 4.16 about here]

Similar to the results reported in Table 4.15, the tests of difference in coefficients indicate that the coefficient for *BV* differs across the pre- and post-IFRS 16 periods, significant at the 1% and 10% levels. Across all subsamples, the coefficient on *BV* increased following IFRS 16. Due to the small sample size for high lease firms, Table 4.17 reports the results from repeating this analysis on an extended sample window which includes three years pre-transition and three years' post-transition.

[Insert Table 4.17 about here]

Using an extended sample window which includes potential noise from IFRS 9 and IFRS 15 in the pre-IFRS 16 period, and from COVID-19 in the post-IFRS 16 period, the results remain consistent. The relevance of *BV* is higher following IFRS 16, significant at the 1% level for both low and high lease firms.

4.6.2. The relevance of leases prior to IFRS 16 via orthogonalisation

Prior tests excluded the use of COLA and COLL as separate variables in model (1) due to their collinearity. Despite this, they may convey information that is unique to one another. For example, the present value of future obligations of lease payments is captured in lease liabilities, multiplied by an appropriate discount rate based on the asset and lease term. While the right-of-use asset adds lease incentives and initial direct costs to the initial measurement of the lease liability, later to be amortised irrespective of the discount rate used in calculating lease liabilities. In order to include both variables in model (1), *COLA* can be orthogonalised with respect to *COLL* to capture the unique information relating to off-balance sheet leased assets that is not contained in lease liabilities. This method is based on established econometric practices for dealing with multicollinearity from the health and engineering sciences (e.g., Terza et al. 2008) and removes the shared variance between two variables for clearer interpretation.[68] However, due to *COLA* being directly derived from *COLL* (i.e., *COLA* is measured as 75% of *COLL*) there is no residual produced from the orthogonalisation process.

[68] Please refer to Cross and Buccola (2024) for the theoretical foundation of orthogonalisation and its advantages in reducing multicollinearity's impact on statistical stability.

To address this, right-of-use assets (*ROU*) is orthogonalised with respect to lease liabilities (*LL*) from the IFRS 16 transition year. Despite using a variable from the transition year, there are highly unlikely to be significant changes to characteristics of leased assets for firms between the pre- and post-IFRS 16 periods. The unique component of lease liabilities may differ from time to time, but this would only be the case if a firm made significant changes to its leasing activity and type of leased asset, which chapter 3 of this thesis shows is not the case. This results in the following two models:

$$ROU_{it} = \alpha_0 + \beta_1 LL_{it} + \varepsilon_{it} \qquad (4)$$

$$P_{it} = \alpha_0 + \beta_1 EARN_{it} + \beta_2 BV_{it} + \beta_3 COLL_{it} + \beta_4 ROUResi_{it} + \varepsilon_{it} \qquad (5)$$

Where model (4) orthogonalizes *ROU* with respect to *LL* and the predicted residuals from model (2) (*ROUResi*) are entered into model (5). Using this method allows for capitalised lease liabilities (*COLL*) to be included directly in the value relevance model, model (5), which is the main concern of standard setters, rather than capitalised lease assets. *ROUResi* then captures the unique impact of right-of-use assets that is not explained by *LL* (i.e., how the asset-side of off-balance sheet leases affects valuation). The results of this analysis are displayed in Table 4.18.

[Insert Table 4.18 about here]

Panel A displays the results of orthogonalising *ROU* with respect to *LL*. Column (1) reports the results of estimating the base model and column (2) reports the results of estimating model (5), which includes information on leases. The Adjusted R^2 of column (2) increases slightly from 0.741 in column (1) to 0.781. Of the lease variables, *COLL* is

insignificant and *ROUResi* is significant at the 1% level. Columns (3) to (6) report results after estimating models (1), (4) and (5) for low versus high lease firms. For low lease firms, *ROUResi* and *COLL* are significant at the 10% and 5% levels respectively. This result suggests that both off-balance sheet lease liabilities and leased assets (in excess of what can be explained by lease liabilities) is informative for users. Worth noting is that the large coefficients (e.g., β=24.09) are due to the low variation present in the residuals by nature of the way they are derived. Looking at high lease firms in column (6), *COLL* and *ROUResi* are not significant. Together, these results suggest that unrecognised operating leases contain useful information but primarily for firms that don't rely heavily on such leases. For high lease firms, such as those in the retail sector, off-balance sheet leases are not relevant.

Panel B displays the results of orthogonalising *LL* with respect to *ROU* and including *COLA* directly in model (5) (rather than *COLL*). *LLResi* is negative and significant in column (2) but is driven by firms with low operating leases in column (4). This result suggests that investors negatively price recognised lease liabilities above what can be explained by leased assets but only for low lease firms. *COLA* is insignificant apart from column (4) for low lease firms where it is positive and significant. Taken together, these additional tests suggest that in the pre-IFRS 16 period, there is useful information contained within unrecognised operating lease numbers but only for firms that do not heavily rely on such leases.

4.6.3. Adding Fixed Effects to the Pre and Post tests

As an additional test, industry and year fixed effects were added to model (3) to control for time invariant omitted variables that would not be controlled for otherwise.[69] Table 4.19 reports the results for the pre and transition period test, where all three years of the pre-IFRS 16 period are included.

[Insert Table 4.19 about here]

These results are unchanged from the main analyses which clusters standard errors by industry and year. The relevance of *BV* increased subsequent to firms transitioning to IFRS 16, along with a reduction in the coefficient on *Earn*. Tables 4.20 and 4.21 report results for the pre- and post-IFRS 16 tests.

[Insert Table 4.20 about here]

[Insert Table 4.21 about here]

Table 4.20 compares the relevance of *BV* and *Earn* over the three-year period prior to the transition to IFRS 16, and one-year post, excluding COVID-19 years. Table 4.21 compares three years prior to IFRS 16 and three-years post including COVID-19 years (i.e., years 2019-2019 and 2021-2023). Overall, the results are consistent with the main findings

[69] The use of industry fixed effects as opposed to firm fixed effects was due to the latter causing some results to have negative r-squared due to overfitting. Lennox et al. (2023) also include year and industry fixed effects in their value relevance test.

of this chapter, that is, there is a consistent increase in the relevance of *BV* and decrease in the relevance of *Earn* after firms transitioned to IFRS16.[70]

4.7. Conclusion

The objective of this chapter is to provide an ex-post analysis of the relevance of capitalised leases under *IFRS 16 Leases*. Effective from 1 January 2019, IFRS 16 mandates the capitalisation of virtually all leases. Given the significant economic consequence of the standard and the impact on financial ratios derived from financial statements, an important question is whether the standard provided new relevant information for users. The findings of this Chapter indicate that prior to IFRS 16, unrecognised operating leases – approximated through capitalised operating lease assets (*COLA*) and capitalised operating lease liabilities (*COLL*) – contained value-relevant information, particularly for firms with low lease intensities. This suggests that even before IFRS 16 mandated the capitalisation of leases, investors were aware of the potential impact of these unrecognised liabilities on firm valuation, but not so much for firms heavily reliant on these leases such as large retail firms leasing property space. This result is consistent with specific asset types, including vehicles and equipment, that were highlighted as problematic by standard setters, and with prior research that notes that aircraft leases attract more attention than land and building leases (Altamuro et al., 2014).

[70] Results using the median rather than the mean (not tabulated) for the pre and post-IFRS16 periods produce consistent results, even though the median would create more noise given that there are only a handful of firms that lease large amounts of land and building leases.

Following the mandated capitalisation of leases under *IFRS 16,* the evidence in this chapter suggests that the newly recognised lease information is value relevant for users irrespective of whether the firm was a high or low lease intensity firm. Specifically, the relevance of book value increased in the year of implementation and the disparities in how earnings and book value are valued across firms with differing lease intensities reduced. This result is consistent even when comparing differing pre- and post-IFRS 16 periods.

The findings in this chapter are subject to some limitations. First, the method chosen to capitalise leases involves assumptions due to: (i) lack of disclosure regarding the breakdown of the dollar amounts of assets that are leased based on asset type (an issue given that the lease term for a vehicle differs significantly from property leases), and (ii) each lease contract is unique in that the borrowing cost, or the discount rate differs depending on the economic circumstances of the asset, which affects present value calculations. Nevertheless, all users of financial statement information have access to this same information and must make assumptions with respect to these same factors. This is precisely the point of this chapter – this chapter examines the difference in relevance of the numbers users could derive from disclosures of off-balance sheet leases, versus the recognised numbers following mandated capitalisation of leases under IFRS 16. Furthermore, chapter 2 of this thesis shows that when firm specific assumptions are used in estimating 'what-if' dollar amounts of capitalised leases, the gap between what is estimated and recognised when firms transitioned to IFRS 16 reduces significantly.

Second, a key difference between ASC 842 (US GAAP for leasing) and IFRS 16 is that the former requires separate recognition of capital and operating leases on the balance sheet (i.e., two separate line items). The FASB made this decision to reflect the varied economic impact of leases. However, IFRS 16 does not make this distinction. Erickson et al. (2024) found that while both capital and operating leases offer valuable information, they do so with differing coefficients. Therefore, the economic implications of different types of leases now capitalised as one line-item could be valuable for users who evaluate asset types differently. Consequently, this study can't offer insight into whether such leases had varied economic impacts within the Australian context but raises two important questions regarding IFRS 16. First, was a comprehensive overhaul of the lease standard necessary, or would a revision of lease disclosures have better met users' needs? Second, would mandated recognition that differentiates between operating and capital leases provide more useful information compared to the current presentation? Future research may wish to explore changes in lease disclosures and their relevance before and after *IFRS 16*.

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4.9. Tables

4.9.1. Table 4.1

Table 4.1 – Sample Selection

Panel A: Sample Selection		
ASX 500 with Annual Periods Starting on or after 1 January 2016		500
Exclusions:		
	Industry Exclusions (Financials, Agriculture, Real Estate & No Classifications)	-186
	No Lease Arrangements	-10
	Changed Year End	-11
	Early Adopters	-8
	Missing Data and Foreign Jurisdiction Firms (US GAAP, IFRS)	-130
Total firms		**155**
Total firm-years		**1,085**

Panel B: Sample by Industry			
GICS Sector	N	Low Lease	High Lease
Communication Services	10	9	1
Consumer Discretionary	35	16	19
Consumer Staples	5	2	3
Energy	6	6	0
Health Care	21	19	2
Industrials	25	22	3
Information Technology	13	10	3
Materials	38	35	3
Utilities	2	2	0
Total	**155**	**121**	**34**

This panel presents the industry breakdown of the sample in the annual period starting on or after 1 January 2016, split into *Low Lease* and *High Lease* firms. The categorisation of firms as *Low Lease* or *High Lease* is based on the mean of their operating lease scaled by total assets in the first year of observations.

4.9.2. Table 4.2

Table 4.2 Descriptive Statistics

Panel A: Full Sample

Variables	Mean	Median	*Sd*	5%	95%	Obs
Price	13.57	4.40	30.08	0.28	49.85	1,085
Earn	0.776	0.284	1.753	-0.149	3.349	1,085
BV	3.699	1.797	5.661	0.085	14.215	1,085
OPL by Total Assets	0.139	0.050	0.244	0.003	0.688	155
Pre-Period						
Variables	Mean	Median	*Sd*	5%	95%	Obs
Price	11.64	4.53	24.66	0.38	41.33	465
Earn	0.669	0.295	1.201	-0.094	2.918	465
BV	3.270	1.643	4.639	0.124	12.577	465
COLA	0.557	0.102	1.518	0.002	1.944	465
COLL	0.742	0.136	2.024	0.003	2.592	465
Transition Period						
Variables	Mean	Median	*Sd*	5%	95%	Obs
Price	13.34	4.16	31.29	0.15	47.06	155
Earn	0.658	0.242	1.618	-0.158	2.961	155
BV	3.451	1.797	5.125	0.083	15.051	155
ROU	0.834	0.186	2.066	0.004	3.845	155
LL	0.945	0.195	2.398	0.004	4.275	155
Post-Period						
Variables	Mean	Median	*Sd*	5%	95%	Obs
Price	15.58	4.45	34.24	0.23	54.61	465
Earn	0.924	0.291	2.198	-0.177	4.034	465
BV	4.211	1.969	6.646	0.082	16.826	465
ROU	0.811	0.199	2.000	0.004	3.960	465
LL	0.995	0.229	2.448	0.005	4.583	465

This table presents descriptive statistics for 155 firms over the financials years beginning on or after 1 January 2016 to 2022 (i.e., three pre-transition years, one transition year, and three post-transition years). *Price* is the share price of firm *i* three months after the end of financial year *t*. *Earn* is earnings per share for firm *i* at the end of year *t. BV* is book value of equity per share for firm *i* at the end of year *t. OPL by Total Assets* is operating lease scaled by total assets for firm *i* in financial years beginning on or after 1 January 2016, as a measure for the firm's operating lease level. *COLL* is capitalised operating lease liabilities per share for firm *i* at the end of year *t. COLA* is capitalised operating leased assets per share for firm *i* at the end of year *t. ROU* is the right-of-use leased asset per share for firm *i* at the end of year *t. LL* is lease liabilities per share for firm *i* at the end of year *t.*

Panel B: Low Lease Subsample

Pre-Period						
Variables	Mean	Median	*Sd*	5%	95%	Obs
Price	11.48	4.53	26.55	0.31	30.53	363
Earn	0.617	0.266	1.219	-0.133	2.167	363
BV	3.231	1.704	4.698	0.069	12.202	363
COLA	0.207	0.072	0.354	0.001	0.865	363
COLL	0.276	0.096	0.472	0.002	1.153	363
Transition Period						
Variables	Mean	Median	*Sd*	5%	95%	Obs
Price	13.15	4.08	33.83	0.15	35.60	121
Earn	0.681	0.221	1.732	-0.158	2.960	121
BV	3.536	1.837	5.442	0.066	15.051	121
ROU	0.385	0.129	0.708	0.003	1.607	121
LL	0.417	0.144	0.761	0.004	1.506	121
Post-Period						
Variables	Mean	Median	*Sd*	5%	95%	Obs
Price	15.48	4.47	36.70	0.21	52.00	363
Earn	0.946	0.281	2.368	-0.207	4.170	363
BV	4.466	2.101	7.157	0.059	17.289	363
ROU	0.415	0.117	0.782	0.003	2.126	363
LL	0.487	0.127	0.932	0.003	1.918	363

Price is the share price of firm *i* three months after the end of financial year *t*. *Earn* is earnings per share for firm *i* at the end of year *t. BV* is book value of equity per share for firm *i* at the end of year *t. COLL* is capitalised operating lease liabilities per share for firm *i* at the end of year *t. COLA* is capitalised operating leased assets per share for firm *i* at the end of year *t. ROU* is the right-of-use leased asset per share for firm *i* at the end of year *t. LL* is lease liabilities per share for firm *i* at the end of year *t.* The sample drops by one observation in the post-period due to the delisting of one firm in the year 2023.

Panel C: High Lease Subsample

Pre-Period						
Variables	Mean	Median	*Sd*	5%	95%	Obs
Price	12.21	4.30	16.35	0.90	49.85	102
Earn	0.854	0.348	1.125	0.057	2.709	102
BV	3.409	1.557	4.441	0.276	14.139	102
COLA	1.802	0.706	2.853	0.075	9.916	102
COLL	2.402	0.941	3.804	0.101	13.221	102
Transition Period						
Variables	Mean	Median	*Sd*	5%	95%	Obs
Price	13.99	4.52	20.22	0.42	66.08	34
Earn	0.577	0.253	1.143	-0.017	2.647	34
BV	3.147	1.395	3.842	0.240	9.625	34
ROU	2.434	1.111	3.836	0.066	9.549	34
LL	2.825	1.215	4.480	0.066	11.660	34
Post-Period						
Variables	Mean	Median	*Sd*	5%	95%	Obs
Price	15.96	4.27	23.64	0.64	57.28	102
Earn	0.844	0.315	1.439	-0.052	3.105	102
BV	3.303	1.367	4.277	0.335	11.709	102
ROU	2.219	0.987	3.701	0.071	7.536	102
LL	2.761	1.185	4.509	0.084	9.479	102

Price is the share price of firm *i* three months after the end of financial year *t*. *Earn* is earnings per share for firm *i* at the end of year *t. BV* is book value of equity per share for firm *i* at the end of year *t. COLL* is capitalised operating lease liabilities per share for firm *i* at the end of year *t. COLA* is capitalised operating leased assets per share for firm *i* at the end of year *t. ROU* is the right-of-use leased asset per share for firm *i* at the end of year *t. LL* is lease liabilities per share for firm *i* at the end of year *t.*

Panel D: % of Operating Lease to Total Assets by Industry prior to IFRS 16

Low Lease

GICS Sector	Variables					
	Mean	Median	*Sd*	5%	95%	n
Communication Services	0.059	0.059	0.041	0.017	0.128	9
Consumer Discretionary	0.054	0.047	0.039	0.007	0.135	16
Consumer Staples	0.040	0.040	0.056	0.001	0.079	2
Energy	0.014	0.011	0.010	0.004	0.031	6
Health Care	0.049	0.030	0.047	0.003	0.134	19
Industrials	0.070	0.061	0.041	0.011	0.132	22
Information Technology	0.056	0.055	0.031	0.002	0.098	10
Materials	0.023	0.014	0.029	0.002	0.115	35
Utilities	0.011	0.011	0.007	0.005	0.016	2
Total	0.045	0.031	0.040	0.003	0.129	121

High Lease

GICS Sector	Variables					
	Mean	Median	*Sd*	5%	95%	n
Communication Services	0.576	0.576	-	0.576	0.576	1
Consumer Discretionary	0.498	0.420	0.359	0.143	1.463	19
Consumer Staples	0.836	1.036	0.373	0.405	1.066	3
Energy	-	-	-	-	-	0
Health Care	0.777	0.777	0.386	0.504	1.049	2
Industrials	0.199	0.187	0.057	0.149	0.261	3
Information Technology	0.306	0.200	0.231	0.148	0.571	3
Materials	0.207	0.237	0.058	0.140	0.245	3
Utilities	-	-	-	-	-	0
Total	0.478	0.406	0.348	0.143	1.175	34

This panel presents the industry breakdown for 155 firms split into *Low Lease* and *High Lease* firms. The categorisation of firms as *Low Lease* or *High Lease* is based on their mean operating lease commitments scaled by total assets in the first year of the sample period.

4.9.3. Table 4.3

Table 4.3 – Correlation Matrix

Full Sample

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Price (1)	1.000						
Earnings (2)	**0.667**	1.000					
BV (3)	**0.664**	**0.819**	1.000				
COLA (4)	**0.335**	**0.455**	**0.423**	1.000			
COLL (5)	**0.335**	**0.455**	**0.423**	**1.000**	1.000		
ROU (6)	**0.336**	**0.249**	**0.369**	.	.	1.000	
LL (7)	**0.317**	**0.235**	**0.350**	.	.	**0.988**	1.000

Pre-Period

Variable	(1)	(2)	(3)	(4)	(5)
Price (1)	1.000				
Earnings (2)	**0.826**	1.000			
BV (3)	**0.563**	**0.841**	1.000		
COLA (4)	**0.335**	**0.455**	**0.423**	1.000	
COLL (5)	**0.335**	**0.455**	**0.423**	**1.000**	1.000

Transition Period

Variable	(1)	(2)	(3)	(4)	(5)
Price (1)	1.000				
Earnings (2)	**0.646**	1.000			
BV (3)	**0.637**	**0.799**	1.000		
ROU (4)	**0.357**	**0.262**	**0.379**	1.000	
LL (5)	**0.274**	**0.211**	**0.351**	**0.992**	1.000

Post-Period

Variable	(1)	(2)	(3)	(4)	(5)
Price (1)	1.000				
Earnings (2)	**0.615**	1.000			
BV (3)	**0.720**	**0.819**	1.000		
ROU (4)	**0.330**	**0.249**	**0.371**	1.000	
LL (5)	**0.329**	**0.243**	**0.352**	**0.987**	1.000

This table presents Pearson correlation coefficients. Coefficients in bold type are significant at 5%. Price is the share price of firm *i* three months after the end of financial year *t*. Earn is earnings per share for firm *i* at the end of year *t*. *BV* is book value of equity per share for firm *i* at the end of year *t*. *COLL* is capitalised operating lease liabilities per share for firm *i* at the end of year *t*. *COLA* is capitalised operating leased assets per share for firm *i* at the end of year *t*. *ROU* is the right-of-use

leased asset per share for firm *i* at the end of year *t*. *LL* is lease liabilities per share for firm *i* at the end of year *t*.

4.9.4. Table 4.4

Table 4.4: Pre-IFRS 16 Relevance of Operating Leases (years 2017 to 2019)

VARIABLES	(1) Full Sample	(2) Low Lease	(3) High Lease
BV	-2.371*	-3.040**	-0.621
	(-2.962)	(-3.901)	(-1.074)
Earn	24.91**	23.93***	15.92**
	(5.357)	(6.509)	(4.943)
NetOL	1.366	-60.83**	-0.355
	(0.456)	(-3.444)	(-0.336)
Constant	2.972*	2.335*	0.519
	(2.779)	(2.644)	(1.037)
Cluster	Firm/Year	Firm/Year	Firm/Year
Observations	465	363	102
R-squared	0.742	0.783	0.922
Adj R2	0.741	0.781	0.920
F	442.6	431	388.5

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Price is the share price of firm i three months after the end of financial year t. Earn is earnings per share for firm i at the end of year t. *BV* is book value of equity per share for firm i at the end of year t. NetOL is the net effect of capitalised operating leased assets and capitalised operating lease liabilities firm i at the end of year t.

4.9.5. Table 4.5

Table 4.5: Pre-IFRS 16 Relevance of Operating Leases (year 2019)

VARIABLES	(1) Full Sample	(2) Low Lease	(3) High Lease
BV	-2.705**	-3.686***	-0.121
	(-2.000)	(-2.966)	(-0.139)
Earn	25.35***	24.93***	13.49***
	(3.741)	(4.793)	(3.288)
NetOL	0.901	-75.66***	-1.147
	(0.196)	(-2.904)	(-0.500)
Constant	4.026**	2.877*	1.023
	(2.133)	(1.791)	(1.183)
Observations	155	121	34
R-squared	0.702	0.765	0.928
Adj R2	0.696	0.759	0.921
F	18.97	14.73	117

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Price is the share price of firm i three months after the end of financial year t. Earn is earnings per share for firm i at the end of year t. *BV* is book value of equity per share for firm i at the end of year t. NetOL is the net effect of capitalised operating leased assets and capitalised operating lease liabilities firm i at the end of year t.

4.9.6. Table 4.6

Table 4.6: Pre- (2019) and transition (2020) Test with Capitalised Leases for the Pre-Period

VARIABLES	(1) Full Sample	(2) Low Lease	(3) High Lease
BV	-2.597	-3.201	-0.179
	(-2.347)	(-2.773)	(-0.490)
Post	-2.163	-3.692	-0.369
	(-0.450)	(-0.687)	(-0.646)
*Post *BV*	4.640*	5.022*	3.066**
	(2.950)	(3.041)	(7.890)
Earn	24.47***	27.19**	14.32***
	(10.52)	(9.798)	(10.58)
*Post * Earn*	-17.16**	-19.45**	-7.023***
	(-7.788)	(-6.445)	(-12.25)
Constant	3.638	5.134	1.071
	(1.122)	(1.428)	(1.844)
Cluster	Firm/Year	Firm/Year	Firm/Year
Observations	310	242	68
R-squared	0.566	0.559	0.795
Adj R2	0.559	0.549	0.778
F	79.39	59.73	48.07

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Price is the share price of firm i three months after the end of financial year t. Earn is earnings per share for firm i at the end of year t. *BV* is book value of equity per share adjusted for capitalised non-cancellable operating leases for firm i at the end of year t. Post is an indicator variable that is 1 if it is the transition period and 0 otherwise.

4.9.7. Table 4.7

TABLE 4.7 Pre- (2017-2019) and Transition (2020) Test with Capitalised Leases for the Pre-Period

VARIABLES	(1) Full Sample	(2) Low Lease	(3) High Lease
BV	-2.306**	-2.744**	-0.613
	(-2.801)	(-3.092)	(-1.103)
Post	-1.216	-2.441	0.190
	(-0.473)	(-0.831)	(0.180)
*Post *BV*	4.349**	4.565**	3.500***
	(3.235)	(3.092)	(8.439)
Earn	24.00***	26.36***	15.72***
	(5.637)	(5.627)	(7.081)
*Post * Earn*	-16.69***	-18.62**	-8.423***
	(-4.664)	(-4.377)	(-25.85)
Constant	2.690*	3.883**	0.511
	(2.449)	(2.789)	(0.973)
Cluster	Firm/Year	Firm/Year	Firm/Year
Observations	620	484	136
R-squared	0.640	0.635	0.850
Adj R2	0.637	0.631	0.845
F	218.4	166.3	147.8

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Price is the share price of firm i three months after the end of financial year t. Earn is earnings per share for firm i at the end of year t. *BV* is book value of equity per share adjusted for capitalised non-cancellable operating leases for firm i at the end of year t. Post is an indicator variable equal to 1 if it is the transition period and 0 otherwise.

4.9.8. Table 4.8

Table 4.8: Transition (2020) and Post (2023) Test

VARIABLES	(1) Full Sample	(2) Low Lease	(3) High Lease
BV	2.043**	1.821*	2.887***
	(3.486)	(3.005)	(9.206)
Post	-1.847	-2.515	1.548***
	(-1.361)	(-1.540)	(6.579)
*Post *BV*	0.794	1.072	-0.252
	(1.230)	(1.195)	(-2.302)
Earn	7.312	7.740	7.297**
	(1.884)	(1.758)	(5.516)
*Post * Earn*	-4.179	-4.731	-4.145***
	(-0.718)	(-0.659)	(-7.829)
Constant	1.475	1.442	0.702
	(0.490)	(0.434)	(0.707)
Cluster	Firm/Year	Firm/Year	Firm/Year
Observations	310	242	68
R-squared	0.530	0.518	0.702
Adj R2	0.522	0.508	0.678
F	68.49	50.77	29.23

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Price is the share price of firm i three months after the end of financial year t. Earn is earnings per share for firm i at the end of year t. *BV* is book value of equity per share for firm i at the end of year t, where leases are already capitalised under *IFRS16*. Post is an indicator variable that is 1 if it is the post period after the transition period of *IFRS 16* and 0 otherwise.

4.9.9. Table 4.9

Table 4.9: Transition (2020) and Post (2021-2023) Test

VARIABLES	(1) Full Sample	(2) Low Lease	(3) High Lease
BV	2.043*	1.821	2.887***
	(2.645)	(2.126)	(7.529)
Post	-1.261	-2.644	3.148**
	(-0.575)	(-1.017)	(4.154)
*Post*BV*	1.353**	1.852**	-0.433
	(3.359)	(4.437)	(-1.252)
Earn	7.312	7.740	7.297**
	(1.946)	(1.822)	(3.092)
Post Earn*	-6.152*	-7.441*	-2.554
	(-2.327)	(-2.413)	(-1.838)
Constant	1.475	1.442	0.702
	(0.483)	(0.429)	(0.641)
Cluster	Firm/Year	Firm/Year	Firm/Year
Observations	620	484	136
R-squared	0.507	0.515	0.499
Adj R2	0.503	0.510	0.480
F	126.3	101.4	25.88

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Price is the share price of firm i three months after the end of financial year t. Earn is earnings per share for firm i at the end of year t. *BV* is book value of equity per share for firm i at the end of year t, where leases are already capitalised under *IFRS16*. Post is an indicator variable that is 1 if it is the post period after the transition period of *IFRS 16* and 0 otherwise.

4.9.10. Table 4.10

Table 4.10: Pre- (2019) and Post (2023) Test with Capitalised Leases for the Pre-Period

VARIABLES	(1) Full Sample	(2) Low Lease	(3) High Lease
BV	-2.597	-3.201*	-0.179
	(-2.318)	(-2.715)	(-0.674)
Post	-4.010	-6.207	1.179**
	(-1.421)	(-1.979)	(3.352)
*Post *BV*	5.434*	6.094*	2.814***
	(3.157)	(3.121)	(10.04)
Earn	24.47***	27.19***	14.32***
	(12.04)	(10.83)	(14.48)
*Post * Earn*	-21.34**	-24.18**	-11.17***
	(-4.021)	(-3.674)	(-26.53)
Constant	3.638	5.134	1.071
	(1.152)	(1.461)	(1.857)
Cluster	Firm/Year	Firm/Year	Firm/Year
Observations	310	242	68
R-squared	0.634	0.632	0.800
Adj R2	0.628	0.625	0.784
F	105.5	81.22	49.54

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Price is the share price of firm i three months after the end of financial year t. Earn is earnings per share for firm i at the end of year t. *BV* is book value of equity per share adjusted for capitalised non-cancellable operating leases for firm i at the end of year t. Post is an indicator variable that is 1 if it is the post after the transition period of *IFRS16* and 0 otherwise.

4.9.11. Table 4.11

Table 4.11: Pre- (2017-2019) and Post (2021-2023) Test with Capitalised Leases for the Pre-Period

VARIABLES	(1) Full Sample	(2) Low Lease	(3) High Lease
BV	-2.306**	-2.744**	-0.613
	(-2.752)	(-3.052)	(-1.070)
Post	-2.477	-5.086*	3.339*
	(-1.169)	(-2.046)	(2.316)
*Post *BV*	5.702**	6.416**	3.068***
	(3.098)	(3.231)	(7.088)
Earn	24.00***	26.36***	15.72***
	(5.650)	(5.660)	(6.653)
*Post * Earn*	-22.84***	-26.06***	-10.98***
	(-4.530)	(-4.739)	(-9.424)
Constant	2.690**	3.883**	0.511
	(2.388)	(2.802)	(1.009)
Cluster	Firm/Year	Firm/Year	Firm/Year
Observations	930	726	204
R-squared	0.596	0.608	0.605
Adj R2	0.594	0.606	0.595
F	273.1	223.6	60.71

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Price is the share price of firm i three months after the end of financial year t. Earn is earnings per share for firm i at the end of year t. *BV* is book value of equity per share adjusted for capitalised non-cancellable operating leases for firm i at the end of year t. Post is an indicator variable that is 1 if it is the post after the transition period of *IFRS16* and 0 otherwise.

4.9.12. Table 4.12

Table 4.12: Pre- (2017-2019) and post (2023) Test with Capitalised Leases for the Pre-Period

VARIABLES	(1) Full Sample	(2) Low Lease	(3) High Lease
BV	-2.306**	-2.744**	-0.613
	(-2.816)	(-3.104)	(-1.080)
Post	-3.063*	-4.956**	1.738***
	(-2.055)	(-2.865)	(5.950)
*Post*BV*	5.143**	5.637**	3.249***
	(3.335)	(3.289)	(7.158)
Earn	24.00***	26.36***	15.72***
	(5.569)	(5.588)	(7.217)
Post Earn*	-20.87**	-23.35**	-12.57***
	(-3.354)	(-3.264)	(-76.57)
Constant	2.690*	3.883**	0.511
	(2.479)	(2.774)	(0.986)
Cluster	Firm/Year	Firm/Year	Firm/Year
Observations	620	484	136
R-squared	0.681	0.679	0.856
Adj R2	0.678	0.676	0.850
F	261.9	202.5	154.5

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Price is the share price of firm i three months after the end of financial year t. Earn is earnings per share for firm i at the end of year t. *BV* is book value of equity per share adjusted for capitalised non-cancellable operating leases for firm i at the end of year t. Post is an indicator variable that is 1 if it is the post after the transition period of *IFRS16* and 0 otherwise.

4.9.13. Table 4.13

Table 4.13: Pre- (2019) and Transition (2020) Test using Net Lease

VARIABLES	(1) Full Sample	(2) Low Lease	(3) High Lease
BV	-2.705	-3.686*	-0.121
	(-1.674)	(-4.138)	(-0.314)
Post	-1.880	0.159	-0.360
	(-0.385)	(0.0346)	(-0.624)
*Post *BV*	5.532	7.110*	3.076**
	(2.679)	(3.285)	(5.236)
Earn	25.35**	24.93**	13.49**
	(4.890)	(7.406)	(6.853)
*Post * Earn*	-20.38*	-24.83**	-6.194**
	(-3.133)	(-5.603)	(-5.768)
NetLease	0.901	-75.66**	-1.147
	(0.153)	(-5.495)	(-1.191)
Post NetLease*	18.53	144.0**	4.549*
	(2.717)	(7.430)	(3.093)
Constant	4.026	2.877	1.023
	(1.256)	(1.246)	(1.713)
Cluster	Firm/Year	Firm/Year	Firm/Year
Observations	310	242	68
R-squared	0.593	0.715	0.795
Adj R2	0.584	0.706	0.771
F	62.86	83.78	33.31

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Price is the share price of firm i three months after the end of financial year t. Earn is earnings per share for firm i at the end of year t. *BV* is book value of equity without any recognition of capital or operating leases per share for firm i at the end of year t. *Post* is an indicator variable that is 1 if the period is after the implementation of *IFRS16* and 0 otherwise. NetLease is the net effect of capitalised leased assets and capitalised lease liabilities firm i at the end of year t.

4.9.14. Table 4.14

Table 4.14: Pre- (2019) and Post (2023) Test using Net Lease

VARIABLES	(1) Full Sample	(2) Low Lease	(3) High Lease
BV	-2.705	-3.686**	-0.121
	(-2.349)	(-4.761)	(-0.273)
Post	-4.607	-3.946	0.897*
	(-1.668)	(-0.972)	(2.867)
*Post *BV*	5.488**	6.583*	2.160***
	(3.248)	(3.092)	(8.479)
Earn	25.35***	24.93***	13.49***
	(8.828)	(8.909)	(7.583)
*Post * Earn*	-22.16**	-21.93**	-10.31***
	(-4.174)	(-3.447)	(-18.16)
NetLease	0.901	-75.66***	-1.147
	(0.164)	(-6.134)	(-1.373)
Post NetLease*	-0.468	78.83***	-1.248
	(-0.115)	(7.728)	(-0.523)
Constant	4.026	2.877	1.023
	(1.312)	(1.255)	(1.729)
Cluster	Firm/Year	Firm/Year	Firm/Year
Observations	310	242	68
R-squared	0.637	0.657	0.823
Adj R2	0.628	0.647	0.802
F	75.57	63.99	39.82

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Price is the share price of firm i three months after the end of financial year t. Earn is earnings per share for firm i at the end of year t. *BV* is book value of equity without any recognition of capital or operating leases per share for firm i at the end of year t. *Post* is an indicator variable that is 1 if the period is after the implementation of *IFRS16* and 0 otherwise. NetLease is the net effect of capitalised leased assets and capitalised lease liabilities firm i at the end of year t.

4.9.15. Table 4.15

Table 4.11: Pre- (2019) and Transition (2020) Test of Coefficient Equality

VARIABLES	(1) Full Sample (pre)	(2) Full Sample (transition)	(3) Low Lease (pre)	(4) Low Lease (transition)	(5) High Lease (pre)	(6) High Lease (transition)
Earn	25.21***	7.312	26.90***	7.740	14.10***	7.297*
	(3.935)	(1.269)	(3.879)	(1.072)	(4.462)	(2.036)
BV	-2.706**	2.043*	-3.057**	1.821	-0.0723	2.887***
	(-2.008)	(1.758)	(-2.090)	(1.161)	(-0.084)	(4.784)
Constant	3.959*	1.475	5.075**	1.442	1.012	0.702
	(1.962)	(0.554)	(2.034)	(0.485)	(1.212)	(0.537)
Observations	155	155	121	121	34	34
R-squared	0.702	0.457	0.699	0.437	0.927	0.706
Adj R2	0.698	0.450	0.694	0.427	0.922	0.687
F	11.42	4.584	9.415	3.495	148.6	62.38
Test of *BV* coefficient equality (pre=transition)						
F-stat		6.74		6.04		2.94
P value		0.010		0.015		0.09

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Price is the share price of firm i three months after the end of financial year t. Earn is earnings per share for firm i at the end of year t. *BV* is book value of equity per share for firm i at the end of year t.

4.9.16. Table 4.16

Table 4.16: Pre- (2019) and Post (2023) Test of Coefficient Equality

VARIABLES	(1) Full Sample (pre)	(2) Full Sample (post)	(3) Low Lease (pre)	(4) Low Lease (post)	(5) High Lease (pre)	(6) High Lease (post)
Earn	25.21***	3.133	26.90***	3.009	14.10***	3.151
	(3.935)	(0.984)	(3.879)	(0.760)	(4.462)	(1.323)
BV	-2.706**	2.837***	-3.057**	2.893***	-0.0723	2.635***
	(-2.008)	(3.277)	(-2.090)	(2.860)	(-0.0840)	(3.580)
Constant	3.959*	-0.372	5.075**	-1.073	1.012	2.249
	(1.962)	(-0.166)	(2.034)	(-0.425)	(1.212)	(1.531)
Observations	155	155	121	121	34	34
R-squared	0.702	0.589	0.699	0.583	0.927	0.698
Adj R2	0.698	0.584	0.694	0.576	0.922	0.679
F	11.42	12.11	9.415	10.60	148.6	19.82
Test of *BV* coefficient equality (Pre=Post, excluding COVID Years)						
F-stat		8.09		7.90		3.09
P value		0.005		0.005		0.083

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Price is the share price of firm i three months after the end of financial year t. Earn is earnings per share for firm i at the end of year t. *BV* is book value of equity per share for firm i at the end of year t.

4.9.17. Table 4.17

Table 4.17: Pre (years 2017-2019) and Post (2021-2023) Test of Coefficient Equality

VARIABLES	(1) Full Sample (pre)	(2) Full Sample (post)	(3) Low Lease (pre)	(4) Low Lease (post)	(5) High Lease (pre)	(6) High Lease (post)
Earn	24.72***	1.160	26.24***	0.299	16.07***	4.742
	(7.362)	(0.572)	(7.299)	(0.137)	(7.865)	(1.594)
BV	-2.391***	3.396***	-2.655***	3.672***	-0.596	2.454***
	(-3.807)	(4.883)	(-3.937)	(4.708)	(-1.299)	(3.923)
Constant	2.916***	0.214	3.861***	-1.202	0.517	3.850***
	(2.911)	(0.141)	(2.980)	(-0.724)	(1.513)	(2.976)
Observations	465	465	363	363	102	102
R-squared	0.742	0.520	0.737	0.536	0.922	0.449
Adj R2	0.741	0.518	0.736	0.534	0.921	0.437
F	36.35	27.43	29.10	25.03	430.1	53.66
Test of *BV* coefficient equality (Pre=Post)						
F-stat		43.10		34.36		14.66
P value		0.000		0.000		0.000

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Price is the share price of firm i three months after the end of financial year t. Earn is earnings per share for firm i at the end of year t. *BV* is book value of equity per share for firm i at the end of year t.

4.9.18. Table 4.18

Table 4.18: Pre-IFRS 16 (2017-2019) Tests – Removing Collinearity

Panel A

VARIABLES	(1) All Firms	(2) All Firms	(3) Low Lease	(4) Low Lease	(5) High Lease	(6) High Lease
Earn	24.72**	20.44***	26.24**	19.49**	16.07**	15.14**
	(5.565)	(3.201)	(5.529)	(4.484)	(5.667)	(5.232)
BV	-2.391*	-1.635	-2.655*	-2.234	-0.596	-0.435
	(-2.951)	(-1.568)	(-3.120)	(-2.143)	(-0.963)	(-0.812)
COLL		0.232		13.40*		0.162
		(0.289)		(2.458)		(0.581)
ROUResi		22.66***		24.09**		4.484
		(2.649)		(3.636)		(1.523)
Constant	2.916*	3.135***	3.861*	2.921**	0.517	0.414
	(2.640)	(3.021)	(2.667)	(3.765)	(1.049)	(0.877)
Cluster	Firm/Year	Firm/Year	Firm/Year	Firm/Year	Firm/Year	Firm/Year
Observations	465	465	363	363	102	102
R-squared	0.742	0.783	0.737	0.821	0.922	0.926
Adj R2	0.741	0.781	0.736	0.819	0.921	0.923
F	663.1	69.89	505.5	409.4	587.6	303.9

Panel B

VARIABLES	(1) All Firms	(2) All Firms	(3) Low Lease	(4) Low Lease	(5) High Lease	(6) High Lease
Earn	24.72**	20.47**	26.24**	19.47**	16.07**	15.39**
	(5.565)	(3.980)	(5.529)	(4.478)	(5.667)	(5.179)
BV	-2.391*	-1.650	-2.655*	-2.231	-0.596	-0.503
	(-2.951)	(-1.894)	(-3.120)	(-2.161)	(-0.963)	(-0.910)
COLA		0.751		18.42*		0.280
		(0.834)		(2.571)		(0.780)
LLResi		-19.89**		-20.86**		-3.374
		(-3.554)		(-3.636)		(-1.296)
Constant	2.916*	2.921**	3.861*	2.644**	0.517	0.405
	(2.640)	(3.410)	(2.667)	(3.501)	(1.049)	(0.883)
Cluster	Firm/Year	Firm/Year	Firm/Year	Firm/Year	Firm/Year	Firm/Year
Observations	465	465	363	363	102	102
R-squared	0.742	0.784	0.737	0.821	0.922	0.925
Adj R2	0.741	0.782	0.736	0.819	0.921	0.922
F	663.1	417.1	505.5	410.8	587.6	299.5

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Price is the share price of firm i three months after the end of financial year t. Earn is earnings per share for firm i at the end of year t. *BV* is book value of equity per share for firm i at the end of year t. COLL is capitalised operating lease liabilities per share for firm i at the end of year t. COLA is capitalised operating leased assets per share for firm i at the end of year t. *ROUResi* is right-of-use leased asset orthogonalised with respect to lease liabilities for firm *i* at the end of year *t. LLResi* is lease Liabilities orthogonalised with respect to right-of-use assets for firm *i* at the end of year *t.*

4.9.19. Table 4.19

TABLE 4.19: Pre- (2017-2019) and Transition (2020) Test with Capitalised Leases for the Pre-Period, with Industry and Year FE

VARIABLES	(1) Full Sample	(2) Low Lease	(3) High Lease
BV	-1.972***	-2.395***	-0.613
	(-3.354)	(-3.717)	(-1.207)
Post	-7.878*	-8.465	-8.262***
	(-1.648)	(-1.519)	(-4.698)
*Post*BV*	3.873***	4.104**	3.490***
	(3.148)	(2.560)	(4.268)
Earn	22.83***	25.24***	15.75***
	(7.565)	(7.763)	(7.939)
Post Earn*	-14.99**	-16.92**	-8.601**
	(-2.383)	(-2.210)	(-2.115)
Constant	10.55***	11.72***	1.040
	(3.051)	(2.772)	(1.517)
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	620	484	136
R-squared	0.676	0.676	0.858
Adj R2	0.667	0.664	0.840
F	9.543	6.917	78.76

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Price is the share price of firm i three months after the end of financial year t. Earn is earnings per share for firm i at the end of year t. *BV* is book value of equity per share adjusted for capitalised operating leases for firm i at the end of year t. Post is an indicator variable that is 1 if it is the transition period and 0 otherwise.

4.9.20. Table 4.20

TABLE 4.20: Pre- (2017-2019) and Post- (2023) Test with Capitalised Leases for the Pre-Period, with Industry and Year FE

VARIABLES	(1) Full Sample	(2) Low Lease	(3) High Lease
BV	-1.988***	-2.380***	-0.660
	(-3.360)	(-3.658)	(-1.294)
Post	-6.677*	-8.978**	2.126
	(-1.867)	(-2.117)	(1.243)
*Post*BV*	4.582***	5.038***	3.274***
	(4.677)	(4.519)	(3.743)
Earn	22.95***	25.25***	15.97***
	(7.550)	(7.664)	(7.988)
Post Earn*	-18.81***	-21.16***	-12.85***
	(-4.401)	(-4.183)	(-4.111)
Constant	10.93***	11.94**	1.284**
	(2.752)	(2.493)	(2.415)
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	620	484	136
R-squared	0.709	0.713	0.861
Adj R2	0.701	0.702	0.844
F	10.20	7.333	66.78

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Price is the share price of firm i three months after the end of financial year t. Earn is earnings per share for firm i at the end of year t. *BV* is book value of equity per share adjusted for capitalised operating leases for firm i at the end of year t. Post is an indicator variable that is 1 if it is the post after the transition period of *IFRS16* and 0 otherwise.

4.9.21. Table 4.21

TABLE 4.21: Pre- (2017-2019) and Post (2021-2023) Test with Capitalised Leases for the Pre-Period, with Industry and Year FE

VARIABLES	(1) Full Sample	(2) Low Lease	(3) High Lease
BV	-1.797***	-2.170***	-0.599
	(-3.039)	(-3.369)	(-1.233)
Post	-7.903**	-11.07**	-0.216
	(-2.150)	(-2.513)	(-0.0817)
*Post*BV*	5.043***	5.710***	3.109***
	(5.922)	(6.103)	(3.931)
Earn	22.29***	24.55***	15.79***
	(7.319)	(7.511)	(8.305)
Post Earn*	-20.56***	-23.65***	-11.18***
	(-5.645)	(-6.038)	(-3.170)
Constant	12.87***	15.31***	-0.324
	(3.102)	(3.090)	(-0.176)
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	930	726	204
R-squared	0.634	0.652	0.629
Adj R2	0.627	0.643	0.595
F	12.04	9.114	61.40

Robust t-statistics in parentheses. ***, **, * represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively. Price is the share price of firm i three months after the end of financial year t. Earn is earnings per share for firm i at the end of year t. *BV* is book value of equity per share adjusted for capitalised operating leases for firm i at the end of year t. Post is an indicator variable that is 1 if it is the post after the transition period of *IFRS16* and 0 otherwise.

4.10. Appendix A: Variable definitions

Price	Share price of firm *i* three months after the end of financial year *t*
Earn	Earnings per share for firm *i* at the end of year *t.*
BV	Defined as book value of equity per share for firm *i* at the end of year *t.* Several tests incorporate off-balance sheet leases into *BV* by capitalising it. Other tests remove all components of
COLL	Capitalised operating lease liabilities per share for firm *i* at the end of year *t.*
COLA	Capitalised operating leased assets per share for firm *i* at the end of year *t.*
ROU	Right-of-use leased asset per share for firm *i* at the end of year *t*
LL	Lease Liabilities per share for firm *i* at the end of year *t*
ROUResi	Right-of-use leased asset orthogonalized with respect to *BV* for firm *i* at the end of year *t*
LLResi	Lease Liabilities orthogonalized with respect to *BV* for firm *i* at the end of year *t*
OPL by Total Assets	Operating lease scaled by total assets for firm *i* in year *t* as a measure for the firm's operating lease level.
Post	Post is an indicator variable to identify the treatment sample, which can either be firms in the year of transition or firms after the year of transition, subject to the test
NetLease	The net effect of capitalised leased assets and capitalised lease liabilities firm i at the end of year t.
NetOL	The net effect of capitalised operating leased assets and capitalised operating lease liabilities firm i at the end of year t.

5. CHAPTER 5: CONCLUSION

Across three distinct but interrelated chapters, this thesis provides a comprehensive examination of the implications of the transition to IFRS 16, the economic consequences for firms, and the informativeness of recognised lease information post-transition. This research focuses on a sample of firms drawn from the ASX 500, which accounts for approximately 92% of the market capitalisation of the Australian Securities Exchange.[71] The key findings, summarised below, offer significant insights into both the practical implementation of IFRS 16 and the broader theoretical debates in accounting.

5.1. Summary of Key Findings

Chapter 2 '*An evaluation of how lessees transitioned to IFRS 16 Leases and the impact on financial reports: Implications for standard setters*' provides overwhelming evidence of firms choosing the cumulative approach to transition to IFRS 16. This approach would be reasonable if the impacts of the new standard were immaterial, however, this was not always the case. Unlike the retrospective approach to transition, the cumulative approach only provides an adjustment in the transition year and does not restate prior year information or provide comparable information. In the period prior to transition to IFRS 16, there is persistent evidence of firms making restatements. This is perhaps not surprising as leases are often complex, and in the lead up to IFRS 16, lessees would have had to re-evaluate the terms and conditions of leases. In terms of impact on the financial statements, there was considerable diversity across firms, and for most, the impacts were immaterial. However,

[71] This was undertaken in Australia where the requirements of IFRS 16 Leases are replicated by AASB 16 Leases.

there were some sectors and some firms where the impacts were pronounced. One feature of the firms most severely impacted, was the high number of leases for land and buildings. Finally, and perhaps most critically, the impacts of capitalising leased assets as required by IFRS 16 could be reasonably estimated by users prior to the standard using existing information in financial reports and moderately sophisticated techniques. This result is not surprising as lease capitalisation is typically addressed in most finance courses.

Chapter 3 '*Economic Consequences of IFRS 16 – Preparer's Perspective*' provides evidence that IFRS 16 had significant, albeit varied, economic impacts on firms, challenging the assumption that accounting standards merely affect financial reporting without influencing real corporate decisions. Chapter 3 provides evidence that post issuance of IFRS 16, there was a general reduction in the use of off-balance sheet leases but only for firms with low reliance on these types of leases. For high intensity lease firms, there appeared to be few alternatives to avoid these types of leases, particularly for retail firms leasing retail space. While the use of operating leases persisted for firms heavily reliance on such leases, there was a general increase in capital expenditures following the issuance of IFRS 16, which could suggest attempts to substitute these leases where possible. These results differ to Lau (2023) which examines UK listed-firms and whether high leverage ratios affected operating lease intensity following the issuance of IFRS 16. They found that firms generally reduced the use of operating leases and that this was more prevalent for firms that were highly levered. This thesis finds that leverage was largely unrelated to the use of off-balance sheet operating leases, which could reflect the fact that firms had already entered into renegotiations of debt contracts with lenders.

Chapter 4 '*The relevance of leases subsequent to IFRS 16 – User's Perspective*' provides evidence that prior to IFRS 16, the information contained in the disclosures of unrecognised operating lease commitments was value relevant for users, but only for firms with low reliance on these types of leases. Following the mandated capitalisation of off-balance sheet leases under IFRS 16, an increase in the relevance of book value and a reduction in the relevance of earnings is observed for all firms. Not only did IFRS 16 increase the value relevance of book value, which was greatly impacted for some firms, but it also contributed to reducing disparities in how earnings and book value are valued across firms with differing lease intensities. Therefore, IFRS 16 appears to have enhanced the compatibility and transparency of financial statements across firms with differing operating lease intensities.

5.2. Contribution

This thesis makes a number of important contributions to the literature and professional practice. First, this thesis contributes evidence on how firms transition to new accounting standards, particularly large and complex accounting standards such as IFRS 16. There is generally discretion in how firms transition to new accounting standards, which allows firms to mitigate transition costs for firms in situations where the impacts are immaterial. However, evidence is provided in this thesis that nearly all firms transitioned using the cumulative approach, even when the impacts were material. This result builds on and is consistent with Onie et al. (2023), which examines the transition to *IFRS 15 Revenue from Contracts with Customers.* Standard setters should consider imposing a constraint (i.e., materiality threshold) on the exercise of discretion in how firms transition to new accounting

standards. For firms in which there are material impacts, the retrospective approach should be prescribed which provides significant disclosures and reconciles balances between the year prior to and year of transition.

Second, this thesis contributes to the limited body of research that examines the effects of accounting standard changes on corporate behaviour (i.e., the 'real' effects of accounting standard changes). Chapter 3 provides evidence that, following the issuance of IFRS 16, there was a general reduction in the use of off-balance-sheet leases, but this reduction was observed only among firms with low reliance on these types of leases. Chapter 4 complements this finding by showing that off-balance-sheet leases were value relevant to users prior to IFRS 16, but only for low lease intensity firms. The alignment between these findings underscores the logic of the behavioural response observed in low lease intensity firms. Given that users negatively valued off-balance-sheet leases for these firms prior to IFRS 16, their decision to reduce reliance on such leases before the mandated capitalisation under IFRS 16 reflects a rational effort to mitigate the anticipated negative valuation impacts of the standard. Therefore, these results contribute important insights into how the interaction between disclosure-based valuation and standard-driven recognition influences corporate behaviour.

Third, this thesis contributes to the ongoing academic and professional debate regarding recognition versus disclosure in financial reporting. Chapter 2 provides evidence showing that the impacts of lease capitalisation could be reasonably estimated by users prior to IFRS 16 using disclosures and only moderately sophisticated techniques. Chapter 4

demonstrates that applying these techniques to capitalise off-balance-sheet leases was value relevant to users, but only for firms with low reliance on these types of leases. This raises the question of whether mandated capitalisation of off-balance-sheet operating leases was necessary for all firms and all types of leases. Chapter 4 investigates this question and provides evidence that IFRS 16 improved the value relevance of book value across all firms, irrespective of their operating lease intensity prior to the standard's implementation. This suggests that mandated capitalisation enhanced the comparability and decision-usefulness of financial statements, particularly for firms with high lease reliance, whose financial positions were not fully reflected under the prior disclosure-based regime. These findings highlight the nuanced trade-offs between recognition and disclosure, suggesting that while users can process disclosed information under specific conditions, the broader application of mandatory recognition under IFRS 16 appears to have delivered tangible benefits for financial reporting quality and user decision-making. Therefore, this thesis contributes to the discussion of when and how recognition should be prioritised over disclosure and is useful for standard setters in the post-implementation review of IFRS 16 and the development and improvement of subsequent standards.

5.3. Final Remarks

The impacts of *IFRS 16* were greatest for leases of land and buildings, therefore one may wonder if these types of leases were the intended target of standard setters? If these leases were the target, was full capitalisation necessarily appropriate, given that future obligations may be mitigated if the leased asset is able to be re-leased? Details of these leases, which were originally disclosed in the notes and not recognised prior to IFRS 16, were not value

relevant in the period prior to IFRS 16. However, post-IFRS 16 users appear to value the recognised information on the balance sheet. Therefore, while there might be arguments for full capitalisation of leases, there probably needs to be a more robust consideration of the alternatives, and this is perhaps most obvious in extreme situations. For leases, the issue of leases being mutually unperformed seems to have received too little attention, and this is most obvious with leases of land and buildings which are often longer in duration. Critically, there are strategies to mitigate the consequences of non-performance which may include requiring bank guarantees to support lessee obligations. However, these are not for all payments required under the lease and are more likely to represent one year of lease payments only. Hence, it is unclear whether the arguments for and against a particular accounting practice were fully considered.

For academics, this thesis challenges the simplicity with which the economic consequences of accounting policy choices and standards are often portrayed. The somewhat nuanced results across the three papers in this thesis suggest that material impacts could lead to contract renegotiations, a concept already recognised in relation to management compensation contracts, where this can occur ex poste (e.g., Dechow et al. 1994).

The findings in this thesis are limited to those firms considered within the ASX500 which covers roughly 92% of the market capitalisation of the ASX. Future research may wish to examine whether IFRS 16 had similar effects in other institutional settings that adopt International Financial Reporting Standards. Furthermore, did firms in other settings also choose to transition using a cumulative approach or equivalent? If so or not, what were the

implications of doing so in the year of transition? There is also scope for qualitative research and discussions with financial institutions on how they perceived the changes imposed by IFRS 16 and the significant impacts it had on firms that lease land and buildings? Do these institutions find the information useful or are there now methods to remove these capitalised assets and liabilities from the balance sheet?

Finally, this thesis acknowledges the challenges posed by the predictable impacts of capitalising operating leases on the balance sheet – where recognised assets and liabilities are highly correlated with each other and with book value of equity, resulting in multicollinearity issues. Additionally, the net-zero impact on the income statement further complicates the analysis of the standard's effects. These complexities were carefully addressed within this thesis to ensure a robust evaluation of IFRS 16's impact on the relevance of financial reporting, particularly in capturing the nuanced trade-offs between recognition and disclosure.

5.4. References

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