The Impact of Lease Capitalisation on Financial Statements and Key Ratios: Evidence from Australia

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Abstract

The IASB/FASB exposure draft ED 2013 on lease accounting, if introduced as a standard, will fundamentally change the way that leases are accounted for and reported in financial statements. This paper seeks to provide information on the proposed new lease accounting rules and to illustrate their impact on financial statements and financial ratios of leading Australian companies. The study follows the method of constructive capitalisation developed by Imhoff et al. (1991) to demonstrate the potential impact of the new rules on financial ratios and financial statements. The results show that financial statements will change significantly when all lease assets and liabilities are capitalised. The study finds that lease capitalisation will have a material impact on the reported numbers in the balance sheet and income statement and result in significant changes to return and leverage ratios. A comparison between positive and negative income subgroups also shows significant changes in the financial ratios of both these sub-groups. This is the first Australian study that serves to provide computations of the effects on financial reporting changes in lease accounting standard. The results have practical implications for corporate managers and accounting practitioners in planning and formulating strategies to lessen the impact of this important change in lease accounting.

JEL Classification: M40, M48.

Keywords: accounting for leases, economic consequences, ED2010/9 and ED 2013/6, Financial statement analysis, lease capitalisation.

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1. Introduction

The recommendation of the 'right of use' concept in the proposed new lease standard, set out in exposure draft (ED) 2010/9 and later revised ED 2013 will act to eliminate operating leases and adopt one single lease accounting rule: lease capitalization. Proposed changes to lease accounting would require a lessee to recognise assets and liabilities for most leases over 12 months and may improve the quality and comparability of financial reporting of the entity. The proposed changes to lease accounting, expected to apply from 2016, will affect the financial position and financial performance of companies that acquired operating lease and could also affect the decision making of financial statement users. Prior studies such as Imhoff et al. (1991, 1993 and 1997), Beattie et al. (1998, 2004, and 2006), Kilpatrick and Wilburn (2006) and Duke et al. (2009) have evidenced the impact of lease capitalization on financial statements and financial ratios especially the gearing ratios (Nelson, 1963, Imhoff et al., 1991 and Beattie et al., 1998). However, a detailed analysis of the existing studies on impact of the changes in the lease accounting standard reveals that none of the studies in this context was conducted on Australian companies. Therefore, the primary objective of this study is to analyze the impact of the most recent exposure draft on lease accounting on leasing companies from a large and developed economy (Australia) where the leasing industry is considered a significant contributor to asset financing in most of the major industry groups (AELA, 2013). This paper takes into account large companies listed on the Australian Stock Exchange (ASX).

Lease finance in Australia is a mature financial product, having been offered as part of a portfolio of financing techniques for over five decades. In Australia, a majority of listed companies have operating leases. Kerin (2007) reported that "about 90 percent of Australian leases are off balance sheet and most companies have some". The predominant lessor groups are finance companies and banks operating in Australia. Lessees include all private and public industry sectors with around 20% of the economy's capital equipment being leased. Leasing and other equipment finance together account for around 40% of the total equipment capital expenditure in Australia (AELA, 2013). The wider use of leasing in Australia was pioneered by finance companies in the late 1950s and early 1960s. Most financial institutions and banking corporations have moved to include leasing in their product range during the last 30 years. The Australian Equipment Lessors Association (AELA) was formed in 1986 to represent the interests of all Banks and Financiers participating within the equipment finance industry in Australia as principal lenders. AELA now has approximately 100 members and they encompass over 95% of all asset finance activity undertaken within Australia estimated at approximately AUD $35 - $40 Billion annually post GFC (2008-09) with total receivables now estimated to exceed A$120 Billion. Accordingly, in total the equipment finance industry, in Australia, in 2013 had new business of $40.9 billion, and receivables of $93.1 billion (AELA, 2013).

The impacts of lease accounting changes have been considered challenging by the leasing companies in Australia and they have recorded their concerns as a part of the consultation process of the International Accounting Standards Board (IASB). AELA representatives met with the accounting boards and have raised their concerns in relation to new exposure draft on lease accounting to be introduced by the IASB. AELA's submission on the ED was forwarded to IASB/FASB in December 2010 and subsequently in 2013 for the revised ED. It concluded that the ED in its present form was not an effective improvement on the existing lease standard, and that additional time was required to address the fundamental concerns identified. Similar view

points were raised by the accounting professional bodies in Australia as CPA and ICAA Australia also submitted the concerns of their members to the IASB in relation to the implementation of lease accounting standard. This structure of lease finance industry in Australia and active participation of Australian accounting bodies and AELA in the lease accounting standard setting process is the primary motivation of this study in addition to the lack of this type of research in the Australian context. Therefore, it is timely for accounting practitioners and management in relevant industries to understand the likely consequences of the possible changes to lease accounting requirements. The aim of this study is to examine the prospective effects of the provision of lease capitalization introduced in the ED 'Accounting for Leases' on financial statements and financial ratios of top listed companies in Australia. This paper is an extension of prior research in two ways. First, this paper contributes to an existing debate on proposed lease accounting standard changes introduced by the IASB. Secondly, this paper will add value to the existing literature on lease accounting standard as no previous study has tested the impact of the capitalization of leases on financial statements and financial ratios in the Australian setting. The importance of this study lies in the fact that we extend the finding of previous studies by considering new jurisdiction of Australia which has a substantial and growing leasing industry.

The remainder of the paper is organized as follows: Section 1 provides a brief overview of lease background and regulatory changes. Section 2 provides an overview of the lease accounting changes and section 3 provides a review of focal literature and develops research questions and hypotheses. Section 4 describes the research design and method. Empirical analyses and discussions of results are given in Section 5. Conclusions are drawn and limitations considered in Section 6.

2. Background and regulatory change

The US Financial Accounting Standard Board (FASB) and International Accounting Standard Board (IASB) jointly issued the exposure draft, *ED 2010/9 Leases* in 2010. It recommends the capitalization of all leases. ED 2010/9 was scheduled to become an effective standard in the year of 2012 but developments at the international level and practitioner responses have postponed its application until 2015-2016. The existing lease accounting standard, IFRS 17, is based on the 'risk and rewards concept', requiring the classification of finance or operating leases according to the specified criteria. For lessees, finance leases are recognized in the balance sheet as assets or liabilities, whereas operating leases are fully expensed through the income statement, and any remaining amount of operating lease payable is stated in the notes to financial statements. As for lessors, both the finance lease and operating lease are categorizations recognized in the balance sheet, while the income earned from all leases is recorded in the income statement.

The criteria in the existing lease accounting standard have provided the opportunity for companies to enter into operating lease contract and the benefit to avoid potential lease assets and liabilities to be recorded in the balance sheet (Imhoff et al., 1991, Duke et al. 2009. Companies that arrange lease agreements to meet IFRS17's criteria for operating lease classification are able to report better financial performance of their companies. However, financial statement users, particularly shareholders, potential investors and creditors are exposed to higher risk in their investment. They might overlook the important information that lease assets and liabilities are excluded from the balance sheet and find it difficult to compare between

the financial positions of companies financed with operating leases and companies that purchases assets (PricewaterhouseCoopers, 2009). Furthermore, the current lease accounting standard has also been criticised as inconsistent, lacking of comparability and exposed to excessive complexity (IFRS 2010; Beattie et al. 2006).

Historically, leasing was first found used in the 1700s in United States to finance horses and wagons. In mid-1800s, lease financing option was popularly used to finance locomotives, cars and other railroad equipment (Taylor, 2011). Short-term leases were more preferable and widely utilized in mid-1900s due to specific circumstances such as World War II and high demand of goods from customers (Taylor, 2011).However, the earliest lease accounting occurred in 1949. In October 1949, the American Institute of Certified Public Accountants (AICPA) issued ARB 38, *Disclosure of Long-Term Leases in Financial Statements of Lessees*. ARB 38 was only applicable for long-term leases. In 1962, AICPA published Accounting Research Study (ARS) No. 4, *Reporting of Leases in Financial Statements* which considered leases that contained the right to use property as an asset, instead of considering whether the lease contained ownership and mortgage-borrowing arrangement.

The lease accounting method has been constantly under examinations through Accounting Principle Board (APB), a former authoritative body of AICPA, which issued Opinion 5 (*Reporting of Leases in Financial Statements of Lessee*) in September 1964, Opinion 7 (*Accounting for Leases in Financial Statements of Lessors*) in May 1966, Opinion 27 (*Accounting for Lease Transactions by Manufacturer or Dealer Lessors*) in November 1972 and Opinion 31 (*Disclosure of Lease Commitments by Lessees*) in June 1973. The Securities and Exchange Commission (SEC) also issued ASR 132 (*Reporting of Leases in Financial Statements of Lessees*) in November 1972, ASR 141 (*Interpretations and Minor Amendments Applicable to Certain Revisions of Regulation S-X*) in February 1973 and ASR 147 (*Notice of Adoption of Amendments to Regulation S-X Requiring Improved Disclosure of Leases*) in October 1973.

FASB decided to regulate lease accounting practice by issuing Statement 13 in November 1976 after releasing the Discussion Memorandum in July 1974, Exposure Draft in August 1975 and revised Exposure Draft in July 1976. In the United Kingdom, the International Accounting Standard Committee (IASC) issued IAS 17, *Accounting for Leases,* in 1982. This was later replaced by the IASB after the issuance of Exposure Draft (E19) in October 1980. IAS 17 was adopted in Australia by Australian Accounting Standard Board (AASB) as AASB 117 in 2005 (AASB, 2004).

These existing lease standards required classification of operating leases or finance leases. Operating leases are permitted to be off balance sheet. However, operating leases are controlled by entities due to past transaction in order to produce future economic benefit or future obligation. These criteria meet the definition of assets and liabilities. By ignoring the operating lease in the balance sheet, the rights and obligations in operating leases that meet the definition of assets and liabilities are omitted (IFRS, 2010). The existing standard also creates inconsistency in financial statements, allowing companies to produce an unfaithful presentation of financial statement (IFRS, 2010) because the unrecorded lease assets and liabilities are material as shown through the findings of prior literature (e.g. Imhoff et al., 1991, 1993, and 1997, Beattie et al., 1998, 2004 and 2006, Duke et al., 2009). If unrecorded lease assets and liabilities are capitalized, the financial statements will be significantly influenced. The total

assets and total liabilities will increase, total equity will decrease resulting from decreasing net income, and the financial ratios such as debt to equity (D/E) ratio, debt to assets (D/A) ratio, return on asset (ROA), and return on equity (ROE) ratios will change.

The FASB/IASB project continued through the release of discussion paper *Leases: Preliminary Views* in March 2009 and exposure draft *Leases* in August 2010. Last year, IASB decided to release a new exposure draft of the leasing standard after an outcry over the original proposal released in August 2010 when it received over 700 submissions. In May 2013, the IASB and FASB issued ED 2013/6 Leases which closed for comment in September 2013. There were 640 comment letters submitted by companies, accounting standards boards, government regulators, professional accounting bodies, accounting firms and academics and individual accounting practitioners. Barone et al (2014) found that initial analysis of the comment letters reveals that most respondents were not in favour of the changes to lease reporting (Barone et al., 2014).

3. Literature Review, Hypotheses Development and Research Questions

3.1 Impact on financial statements

Prior studies by Imhoff et al. (1991, 1993 and 1997), Beattie et al. (1998 and 2004), Bennett and Bradbury (2003), Goodacre (2003), Kilpatrick and Wilburn (2006), Duke et al. (2009), Singh (2010 and 2011) and Branswijck et al. (2011) have documented the significance of lease capitalisation effect on financial statements.

From the study in Beattie et al. (1998), 232 industrial and commercial companies listed in U.K. were selected to examine the impact of lease capitalisation on their financial statements. Their study adopted the constructive lease capitalisation method suggested in Imhoff et al. (1991) and recorded an increase in both unrecorded lease assets and unrecorded lease liabilities of approximately 6% and 39% to the total assets and long-term liabilities respectively. The result is supported by Bennett and Bradbury (2003) who examined 38 companies listed on the New Zealand Stock Exchange in the year of 1995. They found an average increase in total liabilities of 22.9% (median: 11.7%) and 8.8% for total assets (median: 5.2%). The study also recorded a decrease in the mean of equity of 3% (median: 1.6%). Kilpatrick and Wilburn (2006) who replicated the study of Imhoff et al. (1991) using the nine companies from the study in 2004 to re-examine the lease capitalisation effect on the financial statements, found similar results to the literature mentioned above and Imhoff et al. (1991). From Kilpatrick and Wilburn's (2006) result, the percentage increase of unrecorded lease liabilities to total liabilities is 72.8% for the selected companies in the year of 1987 (the financial year used by Imhoff et al., 1991) and 87.7% in the year of 2004. The percentage increase of unrecorded lease assets to total assets is 32.4% for the companies in the year of 1987 and 36.7% in the year of 2004. The study also reported a decrease in total equity of 21.4% in 1987 and 30% in 2004. From the findings in these studies it is evidenced that the increase in total liabilities is higher compared to total assets. This is attributed to greater depreciated on lease assets compared to lease payments in the earlier stage of the lease term.

Therefore, extending on prior empirical evidence, hypotheses concerning the effects of ED on lease accounting on reported numbers in the Balance Sheet are stated as follows:

H1.1: Lease capitalization, as proposed in the ED on lease accounting, has a significant impact on total assets, total liabilities and total equity recorded in the Balance Sheet

H1.2: Lease capitalization, as proposed in the ED on lease accounting, has a greater impact on total liabilities than total assets recorded in the Balance Sheet.

3.2 Impact on financial ratios

The financial ratios are central data for investors, analysts and loan officers in analysing and evaluating the financial statements of companies (Branswijck et al., 2011). ED on lease accounting will have an impact on financial ratios through changes in 'bottom-line'financial statement numbers. However, the likely extent of the changes in financial ratios needs to be gauged through empirical investigation. Prior studies by Nelson (1963), Ashton (1985), Imhoff et al. (1991, 1993, and 1997), Beattie et al. (1998) and Fülbier et al. (2008) have examined the impact of lease capitalisation on financial ratios.

3.2.1 Leverage (Gearing) ratios

Leverage ratios such as D/E, D/A ratios are the common measurements used to evaluate the liquidity of the companies and to understand the financing method of the companies (Investopedia, 2011). Most of the prior studies have focused on the lease capitalisation effect on leverage ratios and have documented the significance of the changes in the selected ratios.

Imhoff et al. (1991) is one of the earliest studies that examined on the impact of lease capitalisation on the financial ratios. They have developed a constructive lease capitalisation method that is highly accepted by other similar studies such as Beattie at el. (1998), Bennett and Bradbury (2003), Duke et al. (2009), Singh (2010 and 2011) and Branswijck et al. (2011). The study selected 7 pairs of U.S. companies varied from different industries (such as home furnishings, food stores, fast food, semi-fast food, clothing, drug/food stores, and airlines) which are relatively similar in size, with each pair consisted of high and low operating lessees. They have also analysed and evaluated the differences in the financial ratios. The result from the study has found that the D/E ratio increased significantly for both high (191%) and low operating lessees (47%). Kilpatrick and Wilburn (2006) as mentioned before have selected nine existing companies in Imhoff et al. (1991) to examine the impact of lease capitalisation. The study has also found similar result for the D/E ratio as in Imhoff et al. (1991). The study investigated on the changes in D/E ratio in 1987 (the financial year selected in Imhoff et al. (1991) and 2004, and evidenced the higher increase in D/E ratio in the year of 2004 (171.6%) compared to the increase in D/E ratio in the year of 1987 (137.2%). Beattie et al. (1998) have further extended the study in Imhoff et al. (1991) to examine the impact of lease capitalisation on financial ratios in U.K. companies. The study selected nine financial ratios including 3 gearing ratios. All of the selected gearing ratios have shown significant increase, particularly net debt to total equity (260%) compared to long-term debt to capital employed (92.8%) and debt to equity ratio (48.7%). The significant increase in gearing ratios is also supported by other earlier studies such as Nelson (1963) and Ashton (1985).

When evaluating the relationship between operating lease disclosure and the decision outcomes of investors, Imhoff et al. (1993) have examined the impact of lease capitalisation on the debt to assets (D/A) ratio for companies in airlines and groceries industries. Both selected industries are high in operating lease usage as mentioned in Imhoff et al. (1991). The study has found that the lease capitalisation will increase the D/A ratio for both groups of companies. Bennett and Bradbury (2003) and Duke et al. (2009) who examined impact of lease capitalisation on this ratio have also recorded an increase in the selected ratio.

3.2.2 Profitability ratios

Profitability ratios such as return on assets (ROA) and return on equity (ROE) are two important performance measurement tools used to assess the companies' ability to generate income when compared to the expenses or other financing instruments, such as assets and equities . The capitalisation of operating lease will have an impact on the profitability ratios as evidenced in the studies conducted by different researchers (Imhoff et al. 1997, Beattie et al., 1998 and Branswijck et al., 2011).

The income effect (include interest and depreciation expenses) of lease capitalisation should not be ignored as mentioned in Imhoff et al. (1997) because the changes in profitability ratios such as the ROA and ROE will be affected by the income effect. The study reveals that the fully-adjusted ROA (include both balance sheet and income effect) is higher than the partly-adjusted ROA while both figures remain below unadjusted ROA. However, the changes in ROE vary amongst the selected sample companies.

Beattie et al. (1998) applied the income effect on the 232 sample companies and have evidenced the decrease of 10.8% in ROA which is similar to the finding in Imhoff et al. (1997). The decrease in ROA after lease capitalisation is also evidenced in other studies such as Bennett and Bradbury (2003), Kilpatrick and Wilburn (2006), Duke et al. (2009) and Branswijck et al. (2011). An average increase in the percentage of 4.8% in ROE was reported in Beattie et al. (1998), which is supported by the study in Fülbier et al. (2008) who examined the impact of lease capitalization on 90 listed companies from Germany in the year of 2005.

The hypotheses developed for the impact of lease capitalisation on the selected financial ratios are as follows:

H2.1: The capitalisation of leases, through ED on lease accounting, leads to a significant increase in the D/E ratio, D/A ratio and ROE

H2.2: The capitalisation of leases, through ED on lease accounting, leads to a decrease in ROA

Furthermore, Duke et al. (2009) divided their sample of companies into positive and negative income groups to examine the impact of lease capitalisation on net income and financial ratios. While reporting a similar increase in the D/E and D/A ratios for both income sub-groups, the study found significant differences in the changes of ROA between the positive and negative income subgroups. The ROA decreased by 0.47 for the negative income sub-group, but increased by 0.11 for the positive income sub-group after capitalising the operating leases.

The results of Kraft and Lopatta (2012) suggest that the measurement of equity risk is based on variability in ROA. For firms that already have higher operating risk, investors include operating leases in the measurement of equity risk, in addition to operating risk and reported financial risk. For firms with lower variability in ROA, the assessment of risk relates only to reported financial risk and operating risk. In addition, Kraft and Lopatta (2012) found that off–balance sheet debt is not significant in explaining variations in stock returns.
To further test the above findings, the following hypotheses are formulated:

H3.1: The D/E ratio and D/A ratio will increase for both positive and negative income sub-groups
H3.2: The ROA will decrease for companies with negative income earning, and increase for companies with positive income earning

In summary, previous studies have evidenced a significant impact of lease capitalisation on financial statements and their ratios. However, these studies have based their research in other jurisdictions, particularly U.S. and U.K. The lease capitalisation effect on financial statements and ratios might vary for different countries due to the dissimilarity of economic, political and regulatory contexts in different regions. Branswijck et al. (2011) who selected and examined the impact of lease capitalisation on companies from two countries, Netherlands and Belgium, found that lease capitalisation will have a greater impact in the Dutch companies as compared to Belgium companies. Furthermore, the impact of lease capitalisation on financial ratios of different income (positive and negative) sub-groups was only examined by Duke et al. (2009).

Therefore, in this study, the impact of lease capitalisation on financial statements and financial ratios will be investigated for the top companies listed on the Australian Stock Exchange (ASX) and also for different income sub-groups.

4. Methods

4.1 Sample selection

The study examines the lease capitalisation effect on financial statements and financial ratios of Australian companies listed on the Australian Stock Exchange (ASX) in the year of 2010. The top 170 companies are chosen because they represent different sectors such as energy and utilities, health care and biotechnology, IT and telecommunications, consumers, financial, industrial and materials, metal and mining, and clean technology, and they have a market capitalisation value greater than $1000. In terms of exclusions from the sample, one industry, clean technology is removed due to an insufficient number of companies (one company). Further, a total of 62 companies lacked operating lease information, and have also been excluded from the sample. These excluded companies are mainly from the financial sector (22) and energy and utilities sector (11). The final sample totaled 107 companies, with the largest industry sectors being industrial and material sector (23), metal & mining sector (20), energy and utilities sector (17) and the financial sector (14). Health care and biotechnology (7) and IT and telecommunications (6) have the least number of companies that qualified for the sample based on market capitalisation equal to or more than $1000 million.

4.2 Measurement method

4.2.1 Lease Capitalisation Method

The research in this study applies the constructive lease capitalisation method developed by Imhoff et al. (1991). This method is widely accepted and used in prior literature that has examined the impact of lease capitalisation on financial statements and financial ratios such as Beattie et al (1998), Bennett and Bradbury (2003), Duke et al. (2009), Singh (2010 and 2011) and Branswijck et al. (2011). Imhoff et al. (1993) have compared the two methods developed for lease capitalisation, which are their constructive lease capitalisation method and a heuristic method used by analysts. The amount of the unrecorded lease liabilities calculated using analysts' heuristic method is significantly higher compared to the amount calculated using the lease capitalisation method (Imhoff et al. 1993). The selection of Imhoff et al.'s (1991) lease capitalisation method is also supported by Bennett and Bradbury (2003) who evidenced that the heuristic method will overstate the unrecorded lease assets or liabilities.

4.2.2 Estimation of unrecorded lease assets/liabilities

The capitalization of operating leases requires the estimation of the present value of the operating lease (or unrecorded lease assets/liabilities). In order to estimate the capitalized lease amount, the operating lease expenses are extracted from the notes to financial statements in the annual reports of each of the sampled 107 Australian companies. The study uses following assumptions that are consistent with the Imhoff et al. (1991) and these assumptions have also been consistently used by prior-researchers working on estimating the impact of lease capitalization on balance sheets and financial ratios of the selected companies from different parts of the world. In addition to the confirmation of these assumptions by the researchers until 2013, we have used these assumptions for two other reasons; First, due to lack of availability of the firm-specific data for the remaining lease lives and the implicit interest rates for the Australian firms; and the second, the general conclusion of prior studies performing sensitivity analyses on these assumptions is that both uniform and firm-specific assumptions result in similar estimates of the unrecorded lease liabilities and assets (Imhoff et al. 1997; Beattie et al., 1998; Bennett & Bradbury, 2003; Duke et al, 2009; Branswijck et al, 2011; Fabia et al, 2013). Fabia et al (2013) argues that the assumptions used by Imhoff are had been still considered applicable by researchers working on assessing the value of lease capitalisation.

1. An interest rate of 10 % is used to proxy for the average incremental borrowing rate for the portfolio of operating leases for each firm. Prior studies have used similar rates of 10% (Beattie et al., 1998; Imhoff et al., 1991; Duke et al, 2009). Furthermore, there were many firms in the sample with no reported long-term debt on the balance sheet. For these firms, one has to assume an interest rate in order to perform the necessary computations to estimate the present value of the operating leases.

2. It is assumed that all cash flows occurred at year-end and assets are depreciated using the straight-line method of depreciation, whereas the interest payments

are computed using the effective interest method consistent with the proposed new rules.

3. The study uses the uniform assumption of a 15-year remaining lease life used in prior studies (Imhoff et al., 1991; Marler, 1993, Duke et al, 2009).

4. Consistent with Imhoff et al. (1991), a standard 75% asset to liability ratio is used for all firms in the sample. Underlying this assumption, the PV of the asset will be equal to the PV of the lease liability at the inception of the lease but equal to zero at the end of the lease. Imhoff et al. (1991) showed that the book value of the leased asset is lesser than the book value of the liability because the early payments on the lease consisted largely of interest payments with little principal reduction, whereas the depreciation deduction reduced the value of the asset at a much higher rate than the principal reduction of the lease liability. Therefore, throughout the life of the lease, the lease liability would be greater than the carrying value of the asset.

5. For simplicity, the effective tax rate for all sample firms is assumed to be the Australian corporate tax rate of 30%. Based on the above assumptions, the DCF technique using the constructive lease capitalization methodology in this study is demonstrated.

4.2.3 Estimation of income effect

The effect of lease capitalization on income is crucial, as evidenced in Imhoff et al. (1997). Therefore, in this study, the operating lease expenses are removed from the income statement, and replaced by depreciation (estimated 15 years of useful life as mentioned above) and interest expenses (10% discount to the present value of operating lease) in order to adjust for the lease capitalization effect on net income after tax. Australian corporate income tax rate of 30% is also applied in the calculation to achieve the adjusted net income after tax, which is then used to calculate the adjusted total equity.

4.2.4 Choice of Ratios

The financial analysts usually should cover the three key aspects of an entity's activities, namely financial strength, management performance, and investment return (Durocher, 2008). For measuring the impacts of lease capitalization on financial strength of the companies, the debt-to-assets ratio (D/A - total liabilities/total assets) and the debt-to-equity (D/E- total debt/total equity) ratio have been used. For measuring the management performance and the investment returns, the lease capitalisation impact on return on equity (ROE: net income/average shareholders' equity) and return on assets (ROA: operating income before interest expense but after taxes/average total assets) have been calculated. In short, this study documents the impact of the capitalization of operating leases on companies' financial strength and operating performance through D/A, D/E , ROE, ROA and the impact on balance sheet of the companies.

4.3 Data Collection and Analysis

The financial data for this study has been collected from the annual reports of the sample companies. The data was hand-collected by one of the authors from the financial statements of the sample companies. For verification purposes, one of the authors performed a random audit of the data collected before financial ratios were calculated. The annual reports of these companies were downloaded from their corporate websites. In order to achieve the research objectives, the collected or calculated data such as present value of operating lease, financial figures (e.g. total asset, total liabilities and total equity) and financial ratios (such as D/E ratio, D/A ratio, ROA and ROE) are analyzed using SPSS software, which provided the descriptive statistics and to determine the significance of changes before and after lease capitalization.

To examine the lease capitalization effect, the present value of operating leases is analyzed using a one-sample T test. Paired-samples T-test is also used to analyse the financial statements and financial ratios in terms of comparisons of the differences in the figures before and after lease capitalization. Independent samples T-test is used to analyse the changes of the financial figures and ratios for companies in positive and negative income sub-groups.

5. Results and Discussion

The results of the study are categorized into three parts: impact of lease capitalization on unrecorded lease assets/liabilities, impact of lease capitalization on financial statements, and impact of lease capitalization on financial ratios. The results also show the changes in financial ratios between positive and negative income sub-groups.

5.1 Impact of lease capitalization on unrecorded lease assets/liabilities

Table 1: Result of Average Unrecorded Lease Liabilities for 107 sample companies

	Mean $m	% of Total Assets	% of Total Liabilities
Unrecorded Lease Liabilities	-679.67477	3.63%	4.48%

The results in Table 1 show the amount of the unrecorded lease liabilities for the selected 107 companies is $679.67 million. The figure is equal to 3.63% of the total assets, and 4.48% of the total liabilities. This change in accounting method will create a substantial inflation to the bottom line recorded in the Balance Sheet of companies. It is indicative of the extent of off-balance sheet financing that currently exists by way of operating leases.

5.2 Impact of Lease Capitalization on Financial Statements

Table 2: Comparison of Balance Sheets under the existing and new lease accounting standard

	Existing AASB117 $m	New ED 2013 $m	Differences $m	% of the Changes	Significance (2-tailed)
Total Assets	18702.57	19351.28	648.715	3.47%	0.00
Total Liabilities	15171.98	15830.27	658.283	4.34%	0.00
Total Equity	3530.58	3521.02	-9.568	-0.27%	0.00

The findings in Table 2 show that lease capitalisation will have a significant impact on total assets, total liabilities and total equity. Mean total assets will increase by $648.7 million (3.47%) and the mean total liabilities will increase by $658.3 million (4.34%) after lease capitalisation. Moreover, a significant decrease in the mean total equity amounted to $9.568 million (-0.27%) has occurred as a result of capitalizing the operating lease.

The direction of changes in the financial statements (increase in total assets, liabilities and decrease in total equity) are similar to the findings in prior studies such as Beattie et al. (1998) and Bennett and Bradbury (2003). However, the increases in the percentage of total assets, total liabilities and the percentage decrease in total equity are lower compared to the findings in prior studies. For instances, the unrecorded lease liabilities is approximately 6% to total assets and 39% to total liabilities in Beattie et al. (1998). In Bennett and Bradbury (2003), the overall results are 22.9% for the increase in total liabilities, 8.8% increase in total assets and 3.0% decrease in total equity. The comparison of the results between total assets and total liabilities has shown the increase in total liabilities is higher compared to total assets, resulted from the depreciation expense that is larger than the lease liabilities payment at the earlier stage in the lease term (Imhoff et al., 1991, Duke et al., 2009).

5.3 Impact of Lease Capitalisation on Financial Ratios

Table 3: Impact of lease capitalisation on Financial Ratios for all companies and different industries

	Existing AASB117 $m	New ED 2013 $m	Differences $m	% of the Changes	Significance (2-tailed)
D/E ratio	.81435	1.07239	**.258038**	**31.69%**	0.00
D/A ratio	.45705	.50328	**.046226**	**10.11%**	0.00
ROA	.05669	.04799	**-.008702**	**-15.35%**	0.00
ROE	.27111	.26777	**-.003342**	**-1.23%**	0.00

The results in Table 3 show a significant increase in the leverage ratios, particularly the D/E ratio. The mean D/E ratio will increase by 0.258 or 31.69% in percentage and the mean D/A ratio will increase by 0.046 or 10.11% after capitalising the operating leases. As for the profitability ratio, the ROA will decrease drastically, at the percentage of 15.35%. The decrease in mean ROE of 0.0033 or 1.23%, while small, is also statistically significant.

While the increase in the leverage ratios and the decrease in ROA are similar to earlier studies (Libe and Wright, 1991), the decrease in the ROE is unexpected as the studies in Beattie et al. (1998) and Fülbier et al. (2008) have reported increase in ROE for the total sample companies

5.4 Impact of Lease Capitalisation on Financial Ratios in Positive and Negative Income Sub-groups

The study has also divided the companies into positive and negative income sub-groups to compare the differences of the changes in financial ratios affected by the capitalisation of operating lease. From the results in Table 4, the D/E ratio has increased for both income sub-

groups. The positive income sub-group recorded significant increase in D/E ratio of 16.46%, while slight increase of 1.03% in the ratio was found in the negative income sub-group. Both income sub-groups have reported significant increase in D/A ratio (10.3% in the positive income sub-group and 8.67% in the negative income sub-group). The division of income sub-groups into positive and negative has also shown the significant differences of the changes in ROA when operating lease is capitalized. The ROA for the negative income sub-group has increased (3.07%), while the positive income sub-group has decreased (-12.59%) in ROA. As for the impact on ROE, the results show a decrease of 0.48% and 1.94% in the ratio for negative and positive income sub-groups respectively.

Table 4: Results of the comparison of changes in financial ratios after lease capitalisation between positive and negative income subgroups

	Positive Income Sub-group				Negative Income Sub-group			
	Existing AASB 117 $m	New ED2013 $m	Differences	% of the Changes	Existing AASB 117 $m	New ED2013 $m	Differences	% of the Changes
D/E ratio	1.79076	2.08555	.29479	16.46%	-4.73898	-4.68996	.04902	1.03%
D/A ratio	.47613	.52516	.04904	10.3%	.34855	.37880	.03025	8.67%
ROA	.08599	.07516	-.01083	-12.59%	-.10990	-.10653	.00337	3.07%
ROE	.16416	.16097	-.00319	-1.94%	.87941	.87520	-.00421	-0.48%

From the results in Table 4, the increase in D/E ratio and D/A ratio for positive and negative income sub-groups are similar to the findings in Duke et al. (2009). The positive income sub-group has higher increase in D/E ratio compared to negative income sub-group, and the result is different to the research in Duke et al. (2009) who found similar increase in D/E ratio in both income sub-groups. The significant changes might be affected by the large differences in the numbers of companies in positive and negative income sub-groups. However, the changes of ROA for the positive and negative income sub-groups are different from the study. Duke et al. (2009) recorded a decrease in ROA for negative income sub-group and increase in ROA for positive income sub-group, which is in contrast with the result in this study. The selection of net income before tax for the calculation of ROA in Duke et al. (2009), which has ignored the tax saving resulting from capitalized operating lease (Imhoff et al., 1997, Duke et al., 2009), could explain the differences in the findings.

6. Conclusion and Limitations

In August 2010, FASB and IASB released ED 2010/9 to propose changes to the lease accounting standard. Under the new standard, the classification of operating and finance leases is eliminated and all leases will be capitalised. This study has focused on the impact of lease capitalisation on the financial statements and financial ratios of the top Australian companies listed on ASX. In May 2013, a new exposure draft has been issued and under this ED's proposals, lessees would be

required to account for some leases using an approach similar to the one in the original 2010 ED on lease accounting. That is, amortized cost for the lease liability, and amortization of the right-of-use asset; and for other leases, using Single Lease Expense approach that results in recognition of a straight-line lease expense over the lease term. Additionally, significant changes to the accounting for options and for variable lease payments have been proposed as compared to the previous exposure draft (EFRAG, 2013). However, we argue that these minor changes in the ED will not have any impact on the findings of the current study.

Lease capitalisation will have an impact on the financial statements and financial ratios as evidenced from prior researches based on their studies in different nations. In this study, the results have shown a significant effect of lease capitalisation on financial statements for the selected Australian companies. However, the changes in the financial statements (total assets, total liabilities, and total equity) are not as significant as the changes found in prior studies such as Beattie et al. (1998) and Bennett and Bradbury (2003). The financial ratios such as D/E ratio, D/A ratio and ROA will change significantly under lease capitalisation. However, the change in ROE is insignificant. The results of the study also match the viewpoints of Graham and King (2011), who found that the right-to-use leased asset value is strongly associated with current and future return on assets. Duke et al (2012) also suggested that the firms would experience a decline in retained earnings and key financial ratios, such as the debt-to-equity, return-on-assets, and interest coverage ratios, by reporting operating leases as capital leases under the new proposed standard.

The comparison between positive and negative income sub-groups has also shown different changes in the financial ratios particularly the D/E ratio and ROA. The companies in positive income sub-group have higher increase in D/E ratio compared to the negative income sub-group. As for the impact on ROA, the changes are different for the positive (decrease in ROA) and negative (increase in ROA) income sub-groups.

The results shown in this study document the significant effect of lease capitalisation on financial statements and financial ratios. Furthermore, the study has extended the research in prior studies to compare the changes in financial statements and financial ratios for positive and negative income sub-groups. Therefore, the findings of the study are useful and valuable for the relevant Australian industries, policy makers and the financial statement users who invest in Australian companies as the research is conducted in Australian context.

Similar to other research studies, the study has also encountered a few limitations that may have affected the result. The study may face a strong criticism for using assumptions used by Imhoff et al. (1991, 1997) and it may be argued that these assumptions may not be valid today. However, Duke et al (2009) argues that many studies subsequent to Imhoff et al. (1991) used firm specific assumptions in addition to the uniform assumptions in applying the Imhoff et al. (1991) procedures to estimate the unrecorded lease liabilities and assets (i.e., Imhoff et al., 1993, 1997; Ely, 1995; Beattie et al., 1998; Bennett & Bradbury, 2003).

The proposed ED on lease accounting which promotes the ‘right of use’ model and capitalisation of operating leases might face some technical changes before the effective date of adoption. Top companies listed on ASX with market capitalisation above $1000 million in the year of 2010 are selected for the research. Variables such as companies’ size based on total

assets or liabilities or equity might affect the results (changes in financial ratios). The examination of the lease capitalisation effect on the changes in the financial statements and ratios is only conducted for one year i.e. 2013, while the changes in the future years have not been considered. However, this limitation is common to other studies conducted on analysing impacts of lease capitalisation. Furthermore, the data collected does not include qualitative or managerial aspects of lease capitalisation decision-making by companies as this data is not publicly available. In addition, the number of companies in the negative (16 companies) and positive (91 companies) income sub-groups are not balanced, which affects between-group comparisons.

Given these limitations, the study still provides an insight on the prospective impact of ED on lease accounting adoption on financial statements and financial ratios of top Australian companies. It points to the likely economic consequences for companies as lessees, including possible changes to existing debt agreements, changes to earnings ratio targets, and a possible share price impact. Companies as lessees may subsequently re-calibrate their lease-versus-buy decision models. These consequences are not only important to management, but also shareholders and debt holders. Therefore, the paper pretends, on the one hand, to contribute to the literature on the impact of the implementation of new lease accounting standard in Australia and also to provide insights to the users of financial statements in other similar economies of the possible change in the predictions of companies' performance.

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