Australian Government

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Understanding the Impact of Accounting Standards on the Cost of Capital

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Contents

Executive Summary

An objective of Australia's financial reporting system, as stated in Part 12 of the *Australian Securities and Investments Commission Act 2001*, is to facilitate the Australian economy by reducing the cost of capital. As the Australian Accounting Standards Board (AASB) is a government agency within Australia's financial reporting system, it follows that a statutory function of the AASB is to make or formulate accounting standards that reduce the cost of capital. This report examines the various ways cost of capital is estimated in both real-world practice and academic literature and applies a subset of these estimates to investigate the association between the cost of capital and accounting standard-setting in Australia.

First, this paper provides a literature review of the cost of capital and, following our recommendation that for Australian Securities Exchange (ASX)-listed companies the implied cost of equity capital is the most appropriate measure, focuses on the construction and application of the implied cost of equity capital in an Australian setting.[1]

Then, we construct the implied cost of equity capital for firms listed on the Australian Securities Exchange (ASX) over the period 1995-2021. Next, we investigate the change, if any, in the cost of equity capital following the implementation of AASB 15 *Revenue from Contracts with Customers* and AASB 16 *Leases*. Focusing on a sample period from 2015-2020, we find an average reduction in the cost of equity capital of 103 to 190 basis points for our sample companies, depending on model specification, following AASB 15 and AASB 16 implementation. We also discuss the use of industry classifications and textual analysis to identify firms more likely to be impacted by the introduction of AASB 15 and AASB 16, and find some evidence of stronger cost of capital effects for these firms. Caveats related to our findings are discussed.

Finally, we discuss various alternative methods to estimate the cost of capital for firms in Australia. These include bond yield, bank loan spread, interest paid on borrowings, seasoned equity offering discount, share liquidity, analyst forecast accuracy and disagreement.

As part of the project, we also developed a Google Collaboratory Notebook that allows AASB staff to retrieve the most current implied cost of equity capital for ASX-listed firms. This notebook retrieves the latest financial information and trading share price from Yahoo Finance for the calibration of the implied cost of equity capital.

1 The construct of the implied cost of equity capital is centred around determining the anticipated rate of return inferred from market prices, condensed accounting figures, and projections of earnings and dividends. The expected rate of return is commonly used as a substitute for the cost of equity capital and is determined by inverting valuation models that rely on accounting data.

1. Introduction

Part 12 of the *Australian Securities and Investments Commission Act 2001* (the ASIC Act) governs Australia's financial reporting system. One objective of Part 12, as stated in Section 224(b)(i) of the ASIC Act, is for the Australian financial reporting system to facilitate the Australian economy by reducing the cost of capital. The Australian Accounting Standards Board (AASB) is established under Part 12 of the ASIC Act as a government agency within Australia's financial reporting system. Section 227 of the ASIC Act outlines the statutory functions of the AASB, one of which is to advance and promote the main objects of Part 12.[2] It is evident, therefore, that a function of the AASB is to make or formulate accounting standards which facilitate the Australian economy by reducing the cost of capital.[3]

In light of the above, the purpose of this report is twofold. First, this report provides an overview of the literature on, and models used to estimate, the cost of capital, as well as recommendations on those models most suitable for the AASB to assess its satisfaction of the abovementioned statutory function. Second, informed by these recommendations, we investigate the association between the cost of capital and accounting standard-setting in Australia by examining the change in the cost of equity capital for a sample of Australian Securities Exchange (ASX)-listed companies following the introduction of AASB 15 *Revenue from Contracts with Customers* and AASB 16 *Leases*. We find an average reduction in the cost of equity capital of 103 to 190 basis points for our sample companies, depending on model specification. We, however, acknowledge and outline several caveats when interpreting these findings.

The report is structured as follows. **Section 2** provides background information on the cost of capital. In particular, it defines the cost of capital, discusses the traditional models used to estimate the cost of capital, including strengths and limitations, and the models we decide upon to estimate the cost of capital in our setting. Section 2 then reviews literature demonstrating the theoretical and empirical association between accounting standards and the cost of capital. **Section 3** discusses our sample selection process and the descriptive statistics of our sample firms. **Section 4** discusses the findings of our regression analyses on the association between the introduction of AASB 15 *Revenue from Contracts with Customers* and AASB 16 *Leases* and the cost of equity capital for our sample firms. Caveats related to our findings are outlined in Section 4. **Section 5** provides a discussion of a range of alternative proxies of the cost of capital, including the cost of equity and cost of debt, that may also be used to estimate the association between accounting standards and the cost of capital subject to data availability. Conclusions and recommendations are provided **in Section 6**.

2 ASIC Act, Part 12, Section 227(1)(e).

3 As further support, Section 228 of the ASIC Act states that in interpreting an accounting standard formulated by the AASB, a construction that would promote the objectives of Part 12 is preferred over one that would not.

2. A primer on the cost of capital

The cost of capital is a fundamental concept in accounting and finance that refers to the minimum rate of return that investors require to invest in a company or project (Ross et al., 2019). It represents the opportunity cost of investing in one project over another and is an important consideration in financial decision-making. The cost of capital is comprised of two components: the cost of debt capital and the cost of equity capital. The cost of debt capital is the interest rate that an entity pays on its outstanding debt, while the cost of equity capital represents the return required by investors in exchange for the risk of investing in the company (Ross et al., 2019).

Several models have been developed to determine the cost of capital, each with its strengths and weaknesses. For example, the capital asset pricing model (CAPM) and the Fama-French five-factor model are two common methods for estimating the cost of equity capital. The CAPM assumes that investors require a risk premium above the risk-free rate to compensate for the systematic risk[4] associated with investing in a particular security or portfolio. The risk premium is calculated by multiplying the market risk premium by the security's beta, which measures the systematic risk of the security relative to the market. The market risk premium is the excess return investors require for holding a risky asset over the risk-free rate of return. However, the CAPM has been criticised for its simplicity and for the fact that it assumes a linear relationship between returns and risk (Pástor et al., 2008) and its reliance on historical data as inputs to estimate a forward-looking measure (Jackson and Plumlee, 2025).

The Fama-French five-factor model (Fama and French, 2015) is a more complex model which builds on the CAPM by including additional factors that affect the expected share market returns. These factors include size, value, profitability, investment and momentum.[5] The Fama- French five-factor model has been found to explain more of the cross-sectional variation in expected returns than the CAPM, but it is also criticised for its complexity and the difficulty of estimating some of the risk factors accurately (Jackson and Plumlee, 2025; Chattopadhyay et al., 2016).

Both the CAPM and the Fama-French five-factor model are widely used in practice to estimate the cost of equity. However, there is ongoing debate about which model is more appropriate and whether either model provides an accurate estimate of the cost of equity in all circumstances (Pástor et al., 2008). Some researchers have proposed alternative models that incorporate additional factors or use different methods to estimate the cost of equity, but there is no consensus on the best approach (see, for example, Damodaran, 2016).[6]

4 Systematic risk, also known as undiversifiable risk, refers to the risk inherent to the market as a whole, reflecting the impact of economic, geopolitical, and financial factors.

5 The size factor reflects the observation that smaller firms tend to have higher returns than larger firms, while the value factor reflects the observation that value shares (i.e., shares with low price-to-book ratios) tend to have higher returns than growth shares (i.e., shares with high price-to-book ratios). The profitability factor reflects the observation that more profitable firms tend to have higher returns, while the investment factor reflects the observation that firms that invest more tend to have lower returns. The momentum factor reflects the observation that shares with positive returns in the recent past tend to have higher returns in the future.

6 Other commonly used models include the Dividend Discount Model (DDM) and the Weighted Average Cost of Capital (WACC) model. The DDM is a model that calculates the value of a company's equity by discounting the expected future dividends, including a terminal value, at a rate that reflects the risk of investing in the company. The WACC model considers the cost of both debt and equity and calculates a weighted average cost of capital that reflects the overall risk of investing in the company whether via debt or equity. For a more detailed discussion of these and other related models see Jackson and Plumlee (2025) and Ross et al. (2019).

2.1 The implied cost of equity capital

The re-emergence of the residual income valuation model by Ohlson (1995), along with the abnormal growth in earnings model developed by Ohlson and Juettner-Nauroth (2005), has been the driving force behind a growth in empirical literature that utilises these models in reverse to deduce the market's expectations of equity capital's rate of return. This approach has the significant advantage of utilising forecasts, as opposed to solely extrapolating from historical data, and has replaced the reliance on historical data-based estimates, as estimated through methods like the CAPM.

The implied cost of equity is a measure of the cost of equity capital that is based on market prices. Specifically, it is the rate of return that investors expect to earn on a share,[7] as implied by the share's current market price and analysts' earnings forecasts. To estimate the implied cost of equity, researchers typically use a variation of the Gordon and Shapiro (1956) growth model, which relates the expected dividend yield and the expected long-term growth rate of a company's earnings per share to its share price. By solving for the implied cost of equity, researchers can determine the rate of return that the market expects to earn on a particular firm.

This report mostly focuses on the implied cost of equity as a measure of the cost of capital because of its widespread use and acceptance in estimating the cost of equity.[8] The implied cost of equity is derived from market data and reflects the expectations of market participants regarding the future performance of the company. It assumes that investors require a return that compensates them for the risk they are taking by investing in the company's equity.[9] Additionally, the implied cost of equity is a forward-looking measure, as it reflects the market's expectation of future returns. This makes it a useful tool for companies that are planning to raise equity capital in the near future, as it provides an estimate of the return investors will require (Easton, 2004). Finally, the implied cost of equity is relatively easy to calculate and interpret, making it a convenient measure for both practitioners and researchers (Easton, 2007).

2.1.1 Model estimation

We estimate the implied cost of equity capital for a firm in a particular month by calculating the discount rate or internal rate of return that makes the market value of its assets equal to the present value of expected future cash flows. We use four models, developed by Gode and Mohanram (2003), Claus and Thomas (2001), Gebhardt et al. (2001) and Easton (2004), to estimate the implied cost of equity capital. We also use a composite measure of the implied cost of equity capital, which is the average of the four estimates, to ensure that our results are not influenced by any particular model's assumptions.

All four models rely on analysts' earnings forecasts to estimate cash flow expectations, but to overcome the limitations associated with reliance on analysts' earnings forecasts, we use a pooled cross-sectional model

7 This report uses the words "share" and "stock" interchangeably.

8 The implied cost of equity can be a useful measure of a company's cost of equity capital because it is based on actual market data and reflects the expectations of investors. Other models, such as the CAPM, rely on historical data as inputs, which is a limitation of these models given the cost of equity capital is a forward-looking measure. Relying on historical data to estimate a forward-looking measure assumes that past patterns will continue into the future, which is unlikely. There are also, however, limitations associated with measures of the implied cost of equity. For example, it assumes that the current market price of a share is an accurate reflection of its intrinsic value, which may not always be the case. Additionally, the implied cost of equity can be sensitive to short-term fluctuations in a company's share price, which may not necessarily reflect its long-term risk profile. Overall, the implied cost of equity can be a useful complement to other methods for estimating the cost of equity, such as the CAPM or the Fama-French five-factor model but should not be relied upon as the sole measure of a company's cost of equity capital.

9 Pástor et al. (2008) advocate the use of the implied cost of equity capital as a superior proxy for expected returns by offering theoretical underpinnings for the value of the implied cost of equity capital in uncovering the intertemporal risk–return relation.

developed by Hou et al. (2012) to forecast earnings for individual firms. This model captures a significant amount of the variation in earnings performance across firms and produces accurate earnings forecasts similar to consensus analyst forecasts. For more information on our estimation procedure, including the five models we use to estimate the implied cost of equity capital, please refer to Appendix A.

2.2 Theoretical motivation on the impact of accounting standards on the cost of capital

Theoretical predictions suggest that accounting information quality can impact both liquidity and the cost of capital through two mechanisms: estimation risk and information asymmetry. Estimation risk refers to the uncertainty associated with investors' assessments of an asset's return, while information asymmetry relates to the risk that liquidity traders face from potentially trading with better-informed investors (Barry and Brown, 1985; Easley and O'Hara, 2004). Increasing the quality of accounting information can lower estimation risk and result in convergent opinions among investors, which improves risk sharing and decreases the cost of capital.

Studies show that investors prefer securities with more information available, and firms with better information have a lower cost of capital.[10] Information asymmetry can introduce adverse selection into share markets and decrease liquidity, leading to increased costs of capital. However, firms can decrease this cost by improving the level and/or quality of accounting information provided, which lowers the degree of information asymmetry between investors and eventually the cost of capital (Lambert et al., 2007). Better quality accounting information can also mitigate investor concerns about taking large stakes in a firm, increasing demand for securities, and decreasing the cost of capital (Lambert et al., 2007).[11]

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10 According to Barry and Brown's (1985) Bayesian model, investors who are risk-averse tend to favour securities that have greater availability of information. This is because these securities are associated with lower estimation risk, making them a more desirable option for investors. Easley and O'Hara (2004) propose a model wherein companies that possess more private information and less public information are at a greater risk of information uncertainty, leading to higher expected returns. Lambert et al. (2007) develop a model in which the quality of accounting information can affect the cost of equity capital.

11 Congruent with these theoretical predictions, accounting standards practically affect an entity's cost of capital *via* their effect on the entity's financial reporting practices. Here are some ways in which accounting standards can affect the cost of capital in a practical sense. *Transparency and comparability*: Accounting standards help ensure that financial statements are transparent and comparable across companies, which makes it easier for investors to assess a company's financial health and make informed investment decisions. Greater transparency and comparability reduce information asymmetry and, ultimately, lower the cost of capital. *Financial metrics*: Accounting standards can affect financial metrics such as earnings, net income, and cash flow. Changes in these metrics can affect the valuation of a company and, thus, the cost of capital. *Investor perceptions*: Accounting standards can also affect investor perceptions of a company's financial health and prospects. For example, changes in accounting standards may lead to changes in reported earnings or cash flows, which could be perceived as positive or negative by investors depending on the circumstances. These perceptions can impact the cost of capital. *Compliance costs*: Complying with accounting standards can be costly for companies, particularly if the accounting standards necessitate changes to accounting systems and processes. These compliance costs can increase a company's reported expenses, which may, in turn, increase the cost of capital. *Regulatory compliance*: Failure to comply with accounting standards can result in penalties and other regulatory actions, which can increase the perceived risk of investing in a company and, consequently, raise the cost of capital. Overall, the impact of accounting standards on the cost of capital will depend on a variety of factors, including the nature of the standards, the size and complexity of the company, and the perceptions of investors and regulators.

2.3 Empirical evidence on the impact of accounting standards on the cost of capital

Daske (2006) provides some of the earliest evidence of the link between accounting standards and the cost of capital estimates. Using analyst consensus forecasts from the Institutional Brokers' Estimate System (IBES) database, Daske (2006) estimates the implied cost of equity capital for a sample of German firms between 1993 and 2002 and finds no evidence to suggest that it is lower for firms reporting under International Accounting Standards (IAS) or US GAAP than for firms reporting under German GAAP. In fact, he finds that the cost of equity increases when firms switch from local GAAP to IAS or US GAAP, which he suggests may reflect the effects of the decreased comparability of these firms' financial reports relative to those of other German firms.[12]

Recognising that firms have discretion in how they implement new accounting standards, Daske et al. (2013) re-examine the observed liquidity and cost of capital effects around voluntary (and mandatory) adoption. Their analysis incorporates changes in firm-level reporting incentives and behaviour around the time of adoption to classify firms as either "serious" or "label" adopters. The authors study voluntary adopters of IAS between 1990 and 2005, spanning 30 countries. They find that there were no significant effects on liquidity or cost of capital estimates for voluntary adopters when compared to local-GAAP firms (i.e., firms yet to adopt IAS and, thus, are still reporting under local GAAP). However, when they factor in concurrent changes in reporting incentives, they discover that "serious" adopters experienced improvements in liquidity and reductions in the cost of capital relative to "label" adopters.[13]

Daske et al. (2008) conduct a study using panel data on mandatory International Financial Reporting Standards (IFRS) adopters from 26 countries to examine the impact of mandatory IFRS adoption on stock liquidity, cost of capital, and Tobin's Q. They find that mandatory IFRS adopters experienced an improvement in liquidity, an increase in the cost of capital, and a decrease in Tobin's Q. However, when examining the effects in the year before IFRS adoption, they find that the cost of capital decreased and Tobin's Q increased, suggesting that the benefits of IFRS may be reflected in stock prices before adoption. The study also finds that the observed benefits occurred only in countries with strict enforcement regimes and where firms have incentives to be transparent. Li (2010) investigates the effect of mandatory

12 Leuz and Verrecchia (2000) compare proxies for stock liquidity, namely bid-ask spread, trading volume, and return volatility, between German firms that voluntarily report under either IAS or US GAAP and German firms reporting under local German GAAP. They find that firms with financial reports prepared in accordance with IAS or US GAAP have lower bid-ask spreads and higher share turnovers but not different share price volatilities than firms reporting under local GAAP. Leuz (2003) finds insignificant differences in the bid-ask spread and share turnover between Germans firms adopting IAS and those adopting US GAAP, indicating that neither IAS nor US GAAP leads to superior reporting quality over the other. In a closely related study, Bartov et al. (2005) study how the value relevance of accounting numbers varies across German firms reporting under IAS, US GAAP, or local GAAP and find that accounting numbers reported in accordance with IAS or US GAAP have superior value relevance than accounting numbers reported in accordance with German GAAP. However, they do not find any significant difference between the value relevance of accounting numbers reported in accordance with US GAAP and IAS. Their findings, along with those of Leuz (2003), indicate negligible, if any, stock market benefits from adopting IAS/IFRS relative to US GAAP.

13 There is a mixed body of evidence regarding voluntary adoption. While some studies have found that voluntary IFRS adoption can lead to a decrease in information asymmetry and share liquidity, other studies have not found support for the idea that voluntary adoption alone improves liquidity or reduces the cost of capital. This evidence suggests that the impact of voluntary IFRS adoption may be more nuanced than previously thought.

adoption of IFRS on the cost of equity capital and document that mandatory adopters enjoy a significant reduction in their cost of equity.[14,15]

Kim et al. (2011) propose that if we assume financial reports under IFRS are of better quality compared to those prepared under local GAAP from a debt holder's viewpoint, then the adoption of IFRS can lead to a decrease in the ex-ante information risk faced by lenders and also lower ex-post monitoring and recontracting costs. They also highlight that the adoption of IFRS can enhance coordination between borrowers and lenders with respect to capital investment decisions. Based on these potential advantages, Kim et al. (2011) argue that companies voluntarily adopting IFRS should have lower debt costs. To test this prediction, they examine a sample of syndicated loans issued between 1997 and 2005 in 40 countries. They discover that IFRS adopters pay lower interest rates, receive loans with longer maturities, obtain larger loan amounts, are less likely to have restrictive covenants, and attract more foreign lenders compared to non-IFRS adopters.

Chen et al. (2015) investigate the impact of mandatory IFRS adoption on syndicated loans and provide a different perspective from the previous research on voluntary adopters. They suggest that mandating IFRS can either increase or decrease the information asymmetry between lenders and borrowers, depending on whether debtholders perceive IFRS to be of better quality than local GAAP. To test their hypothesis, they examine syndicated bank loans issued between 2000 and 2011 to borrowers from 31 countries that were required to adopt IFRS. They discover that compared to non-adopters, borrowers that were IFRS adopters experienced a 24-basis point increase in interest rates and a one-month decrease in loan maturities.

To summarise, research shows that both voluntary and mandatory adoption of IFRS in the share market has led to increased liquidity and decreased cost of equity capital. However, these benefits have not been universal and have only been observed in companies and countries with specific changes in reporting incentives and enforcement. There are concerns about the cause of these effects, particularly for studies on mandatory IFRS adoption.

2.4 Empirical evidence on the impact of accounting standards on the cost of capital in Australia and New Zealand

Saha and Bose (2021) investigate how the disclosure requirements of IFRS impact the cost of capital for a group of Australian companies. Their results indicate a negative relationship between these disclosure

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14 Platikanova and Perramon (2012) study how new information revealed through IFRS adoption relates to stock liquidity and document that net income differences capture greater uncertainty about IFRS adjustments during the transition year that, in turn, lowers stock liquidity. Christensen et al. (2013) re-examine, for a subset of EU countries, the evidence provided by Daske et al. (2008) after accounting for enforcement and regulatory changes that occurred concurrently with mandatory IFRS adoption and find that the effects of IFRS introduction on stock liquidity are limited to five EU countries that also made concurrent changes in enforcement.

15 Persakis and Iatridis (2017) study the adoption of IFRS among firms from European and Asian countries and document that after the adoption of IFRS, the cost of capital decreases for firms in both regions. However, this only occurred for companies located in countries with stronger investor protection and for firms with higher quality earnings. Hong et al. (2014) investigate how the adoption of IFRS impacts the cost of equity in the context of initial public offerings (IPOs). The authors propose that the enhanced disclosures and financial statement comparability resulting from IFRS adoption reduces the need to under-price IPOs due to a decrease in information asymmetry and uncertainties associated with equity issues. The decrease in IPO under-pricing indicates a reduction in the cost of raising equity capital.

requirements and the cost of capital, suggesting that companies with higher levels of IFRS disclosure tend to have lower costs of both debt and equity capital.[16]

Hoque et al. (2016) examine how the adoption of IFRS by New Zealand-listed companies affects the cost of equity capital. They document a significant negative correlation between the adoption of IFRS and the cost of equity capital, suggesting that IFRS is a higher quality set of accounting standards than pre-IFRS New Zealand GAAP. The study supports previous research on European companies and highlights the potential benefits of IFRS adoption for companies in countries such as the United States and Japan that have yet to adopt IFRS.

While the above studies focus on IFRS adoption holistically, whether voluntary or mandatory, our focus is on the introduction of specific IFRS in Australia for several reasons. First, mandatory IFRS adoption in Australia was in 2005, meaning any empirical evidence of the association between accounting standards and the cost of capital would be dated. Instead, we focus on two recently introduced IFRS in Australia, namely AASB/IFRS 15 *Revenue from Contracts with Customers*[17] and AASB/IFRS 16 *Leases*[18]. Second, we focus on these two accounting standards given the anticipated real effects of these two standards on entities and investors. The effects of IFRS 15 are far reaching, as acknowledged by the International Accounting Standards Board (IASB) in IFRS 15 Basis for Conclusions, given its application to a wide range of transactions and industries (para. BC3). In providing a robust, comprehensive revenue recognition model, the IASB foresaw IFRS 15 would eliminate the previous diversity in practice and create greater comparability across entities, industries and reporting periods, resulting in a significant benefit to users (para. BC438) by enabling them to make more informed economic decisions (para. BC439). These benefits extend to informed investment decisions by investors. In its effects analysis of IFRS 16, the IASB anticipated that IFRS 16 would affect the amounts reported by almost half of listed companies globally, have a significant effect on key financial metrics, and due to improved quality of financial reporting and improved comparability of financial information facilitate better decision-making by investors (IASB, 2016a).

16 Saha and Bose (2021) use 157 Australian firms to examine how a specific set of IFRS disclosure requirements is associated with the overall cost of capital. These authors create an IFRS disclosure index that includes 24 items from eight standards to measure the level of IFRS disclosure required. They then chose to focus on the year 2012 to gain insight into the reporting practices of firms prior to changes resulting from the IASB's Disclosure Initiative Project and the release of the “Losing the excess baggage” report in 2011. The cost of equity measures are estimated using two different models: the abnormal growth in earnings valuation model of Easton (2004) and the unrestricted abnormal earnings growth model of Ohlson and Juettner-Nauroth (2005). The cost of debt capital is the interest rate paid by the firm on total debts. They find that IFRS disclosure requirements have a negative association with the overall cost of capital.

17 AASB 15 incorporates the requirements of IFRS 15 issued by the IASB.

18 AASB 16 incorporates the requirements of IFRS 16 issued by the IASB.

3. Empirical estimation of the implied cost of equity capital in Australia

3.1 Data

Our sample includes all listed securities on the ASX that are at the intersection of the Global Compustat Security Daily file and Global Compustat Financial file over the period 1995-2021. We match ASX-listed companies with Global Compustat financial statement data and lag annual accounting information by six months to ensure that the information is publicly available to market participants (Ball et al., 2016). For example, if a firm's fiscal year ends in June, accounting information is assumed to be public by the end of December that same calendar year. The intersection of the Global Compustat Security Daily and Global Compustat Financial results in a sample of 6,791 firm-year observations between 1995 and 2021.[19] Consistent with Jackson and Plumlee (2025), we acknowledge that our final sample represents only a subset of all ASX-listed companies.

3.2 Descriptive statistics

Table 1 presents summary statistics for the variables in our study. In Panel A of Table 1, we report the summary statistics for five different implied cost of equity measures including r_{GM} (based on the Gode and Mohanram (2003) method), r_{CT} (based on the Claus and Thomas (2001) method), r_{GLS} (based on the Gebhardt et al. (2001) method), r_{EAST} (based on the Easton (2004) method) and r_{AVE} (the average estimate of the aforementioned four measures). The average of r_{AVE} is 8.86% and the median is 6.62%. We also notice that the Easton (2004) method generates the highest average estimated cost of equity with a mean of 15.31%, and the Gode and Mohanram (2003) method produces the lowest average estimated cost of equity with a mean of 6.13%. In general, estimates of the cost of equity capital are lower in our sample than those reported for larger U.S. samples in other studies (see, for example, Hou et al., 2012; Cao et al., 2015; Dhaliwal et al., 2016).

Table 1: Estimates of the Cost of Equity Capital for ASX-listed firms: 1995-2021
Panel A: Summary Statistics for Implied Cost of Equity Measures

	N	Mean	Median	Q_1	Q_3	Std.Dev.
r_{GM}	6,791	0.0613	0.0367	0.017	0.0733	0.0745
r_{CT}	6,791	0.0808	0.0340	0.0034	0.1022	0.1121
r_{GLS}	6,791	0.0766	0.0509	0.0252	0.0931	0.0839
r_{EAST}	6,791	0.1531	0.1151	0.0591	0.2255	0.1197
r_{AVE}	6,791	0.0886	0.0662	0.0374	0.1107	0.0771

19 We control for a number of known determinants of the cost of equity capital (Dhaliwal et al., 2016). Specifically, we control firm size (*SIZE*), measured as the natural logarithm of a firm's market capitalisation. We also use market-to-book ratio (*MB*) to control for undervalued stocks given Gebhardt et al. (2001) argue that, until mispricing is corrected, undervalued stocks (low *MB*) should earn an abnormally high implied risk premium. We control for a firm's leverage (*LEV*), measured as the ratio of long-term debt over equity, as well as return on assets (*ROA*), stock price run-up over a 12-month period (*MOM*), and stock price volatility (*VOL*). To mitigate for the impact of outliers, we winsorize all variables at their 1st and 99th percentiles.

Panel B: Correlation Matrix for Implied Cost of Equity Estimates

	r_{CT}	r_{GLS}	r_{EAST}	r_{AVE}
r_{GM}	0.6951	0.6698	0.3793	0.7963
	(0.000)	(0.000)	(0.000)	(0.000)
r_{CT}		0.6605	0.3461	0.8029
		(0.000)	(0.000)	(0.000)
r_{GLS}			0.3952	0.8625
			(0.000)	(0.000)
r_{EAST}				0.6481
				(0.000)

This table presents summary statistics for estimates of the implied cost of equity capital and control variables in the sample period 1995-2021. The sample comprises of 6,791 firm-year observations with data to estimate the implied cost of capital. Panels A and B present summary statistics and the correlation matrix for the implied cost of equity estimates, respectively. Panel B presents the correlations between estimates of the implied cost of equity, and *p*-values are reported in parentheses. *rGM* is the implied cost of equity capital estimate based on the Gode and Mohanram (2003) method; *rCT* is the implied cost of equity capital estimate based on the Claus and Thomas (2001) method; *rGLS* is the implied cost of equity capital estimate based on the Gebhardt et al. (2001) method; *rEAST* is the implied cost of equity capital estimate based on the Easton (2004) method; *rAVE* is the average of the four implied cost of equity capital estimates using the methods of Gode and Mohanram (2003), Claus and Thomas (2001), Gebhardt et al. (2001), and Easton (2004).

Panel B of Table 1 presents the pairwise correlations between the five estimates, which are all positive. The lowest observed correlation is between the Claus and Thomas (2001) (r_{CT}) and the Easton (2004) (r_{EAST}) methods with a value of 0.3461. The highest observed correlation is between the Claus and Thomas method (2001) (r_{CT}) and the Gode and Mohanram method (2003) (r_{GM}) with a value of 0.6951. These positive correlations suggest general agreement among the models.

Panel A of Table 2 presents summary statistics for firm characteristics. The average natural logarithm of firm size in the sample is 6.873 (or around AUD 966 million dollars) and the median natural logarithm of firm size is 6.721 (or around AUD 830 million dollars). Thus, the skewness in firm size often seen in prior studies is not present. Other summary statistics indicate that the sample firms on average have a market-to-book ratio (*MB*) of 7.186 and leverage (*LEV*) of 19.5%. The average return on assets (*ROA*) is 6.4%. The average share return in the past 12 months (*MOM*) is 21.1% and the average volatility (*VOL*) is 3.7%.

Panel B of Table 2 presents the correlation matrix for r_{AVE} and firm characteristics. These correlations suggest that the construct of the implied cost of equity capital is mostly intuitively consistent with the risk-return relationship. Specifically, r_{AVE} is significantly and inversely correlated with firm size, market-to-book ratio, and momentum. There is also an inverse relation between r_{AVE} and leverage (*LEV*), which is not consistent with the notion that higher financial leverage leading to higher equity risk. While r_{AVE} is negatively correlated with return on assets and volatility, the correlations are statistically insignificant.

Table 2: Firm Characteristics for ASX-listed firms: 1995-2021

Panel A: Summary Statistics for Firm Characteristics

	N	Mean	Median	Q_1	Q_3	Std.Dev.
SIZE	6,791	6.873	6.721	5.565	8.151	1.826
MB	6,791	7.186	2.750	1.569	5.424	15.825
LEV	6,791	0.195	0.185	0.058	0.298	0.156
ROA	6,791	0.064	0.058	0.031	0.095	0.278
MOM	6,791	0.211	0.106	-0.115	0.386	0.707
VOL	6,791	0.037	0.023	0.017	0.031	0.787

Panel B: Correlation Matrix for r_{AVE} and Firm Characteristics

	SIZE	*MB*	*LEV*	*ROA*	*MOM*	*VOL*
r_{AVE}	**-0.3114**	**-0.2278**	**-0.0661**	-0.0174	**-0.0776**	0.0071
	(0.000)	**(0.000)**	**(0.000)**	(0.153)	**(0.000)**	(0.559)
SIZE		**-0.0448**	**0.4108**	**-0.0703**	**-0.0993**	0.0016
		(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	(0.890)
MB			-0.0007	**0.0404**	**0.0687**	-0.0042
			(0.953)	**(0.000)**	**(0.000)**	(0.731)
LEV				**-0.0856**	**-0.0989**	0.0042
				(0.000)	**(0.000)**	(0.7315)
ROA					**0.0538**	-0.0019
					(0.000)	(0.873)
MOM						0.0101
						(0.406)

This table presents summary statistics for firm characteristics in the sample period 1995-2021. The sample comprises of 6,791 firm-year observations with data to estimate the implied cost of equity capital. Panel A presents summary statistics. Panel B presents the correlation matrix for *rAVE* and firm characteristics, and *p*- values are reported in parentheses (bold correlations are statistically significant at the 1 percent level). *rAVE* is the average of the four implied cost of equity capital estimates using the methods of Gode and Mohanram (2003), Claus and Thomas (2001), Gebhardt et al. (2001), and Easton (2004). *SIZE* is the natural log of market value of equity (in AUD millions) at the end of the fiscal year. *MB* is the ratio of market value of equity over book value of equity. *LEV* is the ratio of long-term debt over total assets. *ROA* is return on assets measured as income before extraordinary item divided by beginning value of book value of assets. *MOM* is the share return of the fiscal year. *VOL* is the standard deviation of the residuals from regressing daily individual share returns of the fiscal year on the contemporaneous value-weighted market returns. To mitigate for the impact of outliers, we winsorize all variables at their 1st and 99th percentiles.

4. AASB 15 *Revenue from Contracts with Customers* and AASB 16 *Leases* and their impact on the cost of capital

4.1 AASB 15 Revenue from Contracts with Customers

Australia adopted IFRS 15 *Revenue from Contracts with Customers* (IFRS 15), the Australian equivalent being AASB 15 *Revenue from Contracts with Customers* (AASB 15), on 1 January 2018, and is effective for annual reporting periods beginning on or after this date. AASB 15 replaces previous revenue recognition standards and introduced significant changes to the way revenue is recognised and then reported in financial statements. With the aim of improving the financial reporting of revenue, the IASB stated IFRS 15 was needed for several reasons. First, the previous revenue standards had different principles and were sometimes difficult to understand and apply to complex transactions. Second, there was limited guidance on important topics such as revenue recognition for multiple-element arrangements under previous revenue standards. Third, the disclosures required under previous revenue standards were inadequate and often did not provide financial statement users with information to sufficiently understand revenue arising from contracts with customers (IASB, 2014, para. BC2).

AASB 15 provides a comprehensive revenue recognition model that applies to a wide range of transactions and industries and improves the financial reporting of revenue by, amongst other things: (a) providing a robust framework for addressing revenue recognition; (b) improving comparability of revenue recognition practices across entities, industries, jurisdictions and capital markets; (c) simplifying financial statement preparation by reducing the amount of guidance to which entities must refer; and (d) requiring enhanced disclosures to assist financial statement users better understand the nature, amount, timing and uncertainty of revenue that is recognised (IASB, 2014, para. BC3). AASB 15 introduces a five-step model to recognise revenue, requiring entities to: (1) identify the contract with customers, if any; (2) identify the separate performance obligations within the contract; (3) determine the transaction price of the contract; (4) allocate the transaction price to the performance obligations; and (5) recognise revenue upon the satisfaction of performance obligations.

The introduction of AASB 15 required entities to review their existing revenue recognition policies and assess the financial reporting impact of policy changes required under AASB 15. To do so involved applying the five-step revenue recognition model outlined above, including reviewing existing contracts to determine if they fell within the scope of AASB 15 and, if so, assessing the timing and amount of revenue recognised in accordance with AASB 15 (Davern et al., 2018).

As outlined above, the intended benefits of AASB 15 include reduced diversity in revenue recognition practices, simplified financial statement preparation and improved transparency due to enhanced disclosure requirements. The adoption of AASB 15, however, has also imposed both implementation and ongoing costs on preparers. For example, the IASB identified the following costs likely to be incurred by preparers: (a) costs to implement and maintain changes in or develop new systems, processes and controls used to gather and archive contract data, make required estimates and provide required disclosures; (b) additional personnel costs; (c) increased audit fees; and (d) costs to educate staff and financial statement users about the effects of AASB 15 on the financial statements (IASB, 2014, para. BC486-487).

Overall, AASB 15 has had a significant impact on financial reporting practices for entities, with both benefits and challenges. Of the intended benefits, comparable and transparent financial reporting can improve investor confidence, which can lead to lower perceived risk and cost of capital. However, the compliance costs imposed on entities, whether in the form of implementation or ongoing costs, may increase an entity's reported expenses and have an opposing effect on an entity's cost of capital, particularly to the extent these firm-specific costs exceed the firm-specific benefits derived from AASB 15. As such, it is difficult to predict the impact of AASB 15 on a firm's cost of capital.

4.2 AASB 16 Leases

Australia adopted IFRS 16 *Leases*, the Australian equivalent being AASB 16 *Leases* (AASB 16), on 1 January 2019, and is effective for annual reporting periods beginning on or after this date. AASB 16 replaces the previous leases standard, AASB 117 *Leases*, and introduced significant changes to the way lessees account for leases in their financial statements. Previously, under AASB 117 lessees and lessors were required to classify their leases as either finance leases or operating leases and to account for those two types of leases differently, with lessees not required to recognise assets and liabilities arising from operating leases. This dual model of accounting for leases from a lessee's perspective was criticised for not meeting the needs of financial statement users as follows. First, information disclosed about operating lease commitments lacked transparency, with some financial statement users adjusting a lessee's financial statements to capitalise operating leases. Other users, however, lacked the skillset to make such adjustments, thereby creating information asymmetry in the market. Second, the existence of different accounting treatments for operating and finance leases resulted in economically similar transactions being accounted for differently, thereby reducing financial statement comparability and enabling opportunistic accounting policy choice (IASB, 2016b, para., BC3).

Under AASB 16, a single lease model applies for lessees whereby a lessee is required to recognise a right-of-use asset and lease liability for all leases with a term of more than 12 months and for which the underlying asset is not of low value. Impacting the financial ratios and performance indicators of those lessees that previously accounted for their leases as operating leases, the IASB concluded that such an approach will result in greater financial statement comparability, a more faithful representation of a lessee's assets and liabilities and, together with enhanced disclosures, greater transparency of a lessee's financial leverage and capital employed (IASB, 2016b, para., BC4). The dual model of accounting for leases was retained for lessors. Given that there were no significant changes in the requirements for accounting by lessors, in our empirical analysis we focus on the impact of AASB 16 on the cost of capital of lessees.

The impact of AASB 16 on the cost of capital for Australian entities depends on several factors, including whether the lease was previously classified as an operating or finance lease, the size of the lease obligations, and the nature of the industry in which the firm operates. On the one hand, AASB 16 requires entities to recognise right-of-use assets and lease liabilities, which increases their reported debt levels (IASB, 2016a). As a result, some investors may perceive the increase in reported debt as signifying higher firm-level risk and demand a higher return on their investment, which could increase the cost of capital for these firms. On the other hand, as detailed above the benefits of AASB 16 extend to greater transparency and financial statement comparability, which can enhance clarity about a firm's creditworthiness and potentially reduce its perceived risk. In turn, this could reduce the cost of capital for those firms. Overall, it is difficult to establish, *ex-ante*, the impact of AASB 16 on the cost of capital for firms, with the effect likely to vary according to a firm's unique circumstances.

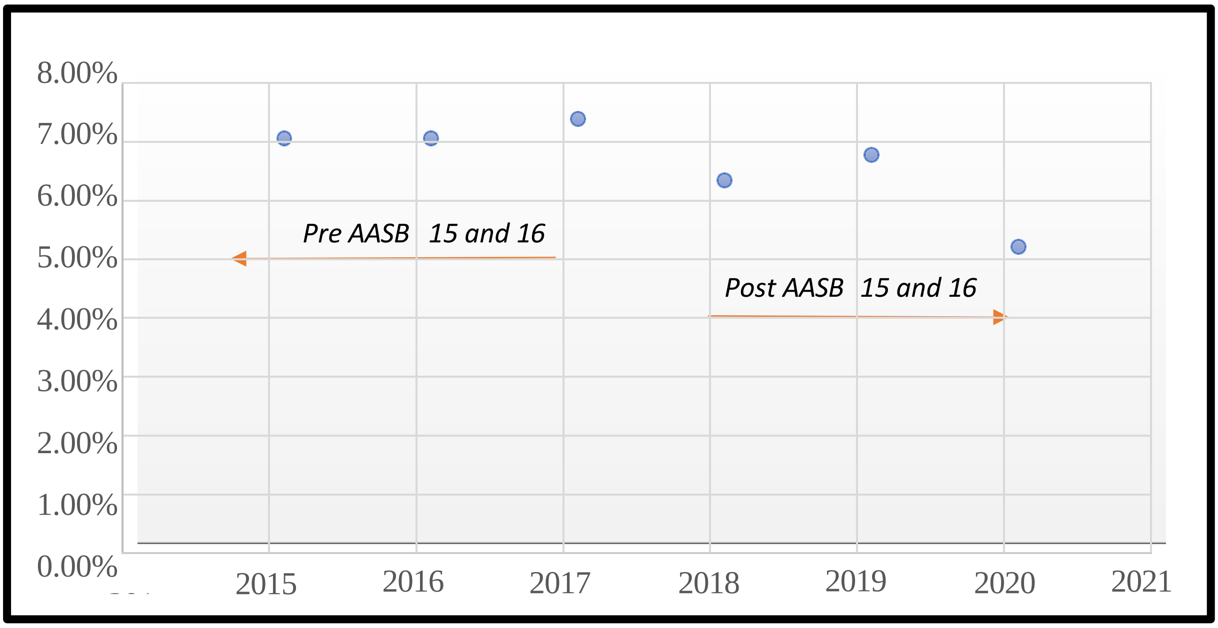
In our empirical analysis, we aim to investigate the impact of the introduction of AASB 15 and AASB 16 on the cost of equity capital for an average ASX-listed company, as well as those ASX- listed companies most affected by AASB 15 and AASB 16.

4.3 Empirical findings

First, to make the number of observations reasonably balanced between pre and post AASB 15 and AASB 16 reporting periods, we restrict our analysis to the sample period 2015- 2020.[20] Given our implied cost of equity capital is estimated using share prices in June each year, it is plausible that the implementation of AASB 15 in January 2018 and AASB 16 in January 2019 should be well incorporated into June share prices for the estimation of the cost of equity capital in 2018 and 2019, respectively. [21]

Figure 1 presents the average of r_{AVE} across our 2015-2020 sample period. The average cost of equity capital is reasonably flat at around 7% in 2015, 2016, and 2017. There appears to be a drop in the cost of equity capital to 6.18% in 2018 and this drop is also apparent in 2019 and 2020. Thus, this graph seems to show that there is a decline in the average cost of equity capital in the period after 2017 for Australian firms.

Figure 1. Average r_{AVE} for ASX-listed firms: 2015-2020



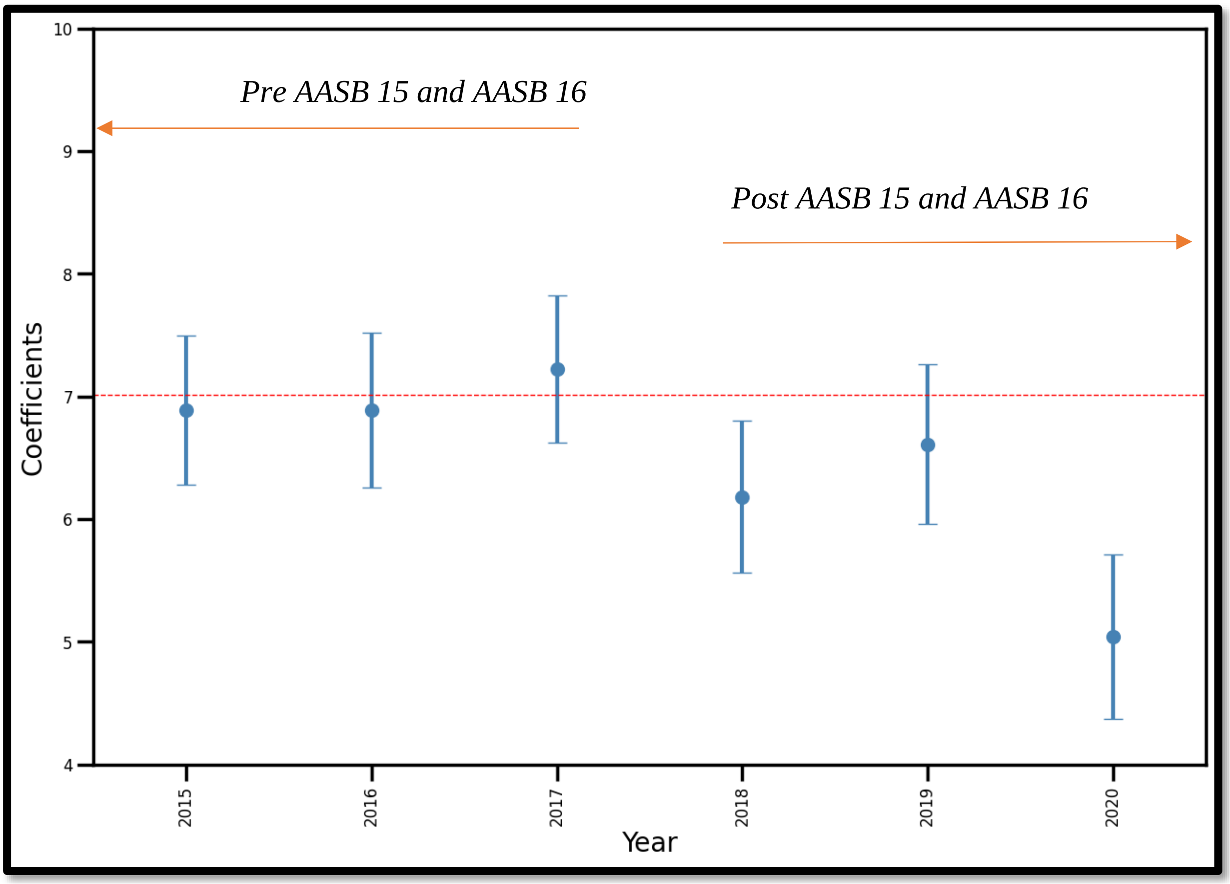
This figure plots the average $rAVE$ (×100) over the period 2015-2020. $rAVE$ is the average of the four implied cost of equity capital estimates using the methods of Gode and Mohanram (2003), Claus and Thomas (2001), Gebhardt et al. (2001), and Easton (2004).

Figure 2 shows the results from a regression of r_{AVE} on a set of dummy variables that indicate the year in the sample period 2015-2020 and with supressed intercept. The figure displays the coefficient estimates (multiplied by 100), together with the 95% confidence intervals. It is clear that r_{AVE} is lower from 2018 onwards. Overall, Figures 1 and 2 show that r_{AVE} drops in the period that follows the introduction of AASB 15 and, subsequently, AASB 16.

20 The findings are qualitatively similar if we extend the sample period from 2015-2021, but this gives us a slight imbalance between our pre (3 years) and post (4 years) periods.

21 In all empirical analysis, we measure the implied cost of equity capital for each sample firm as at 30 June of each calendar year during our sample period.

Figure 2. Variation in r_{AVE} around the adoption of AASB 15 and AASB 16



This figure displays the coefficients (×100), together with the 95% confidence intervals, from the regression of *rAVE* on dummy variables indicating years surrounding the adoption of AASB 15 and AASB 16 (with supressed intercept). The red line represents the average *rAVE* in the pre-adoption period.

Next, we continue our main empirical analysis by investigating the relationship between the adoption of AASB 15 and AASB 16 and the implied cost of equity capital in a regression framework. Table 3 reports the results of different regression models of the average implied cost of equity capital on *POST_AASB_15/16* and control variables. *POST_AASB_15/16* takes a value of 1 for observations from 2018 onwards, and 0 otherwise.[22]

In Table 3, Model 1 presents the regression without control variables or fixed effects; Model 2 presents the regression on both *POST_AASB_15/16* and control variables; Model 3 presents the regression on *POST_AASB_15/16*, controls, and industry fixed effects; and Model 4 presents the regression on *POST_AASB_15/16*, controls, and industry and year fixed effects.

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22 We choose 2018 as the commencement of the post period to coincide with the implementation date of AASB 15. We acknowledge that 2018 is prior to the implementation date of AASB 16. However, due to the difficulty in disentangling the individual effects, if any, of AASB 15 and AASB 16 on the implied cost of equity capital, our focus is on the cost of equity effects of accounting standard setting, which incorporates the collective effects of AASB 15 and AASB 16. As additional analysis, we reclassify *POST_AASB_15/16* to take a value of 1 for observations from 2019 onwards, and 0 otherwise. Our results are robust to this alternative specification. We cannot, however, attribute these findings solely to AASB 16 adoption, as there may be lingering cost of equity effects associated with AASB 15 adoption.

Table 3: Average Implied Cost of Equity Capital (r_{AVE}) and AASB 15 and AASB 16 Adoption

	Predicted Signs	*Model 1*	*Model 2*	*Model 3*	*Model 4*
POST_AASB_15/16	?	-0.0103	-0.0094	-0.0089	-0.0190
		(-3.93)***	(-3.61)***	(-3.65)***	(-4.20)***
Controls		No	Yes	Yes	Yes
Year Fixed Effect		No	No	No	Yes
Industry Fixed Effect		No	No	Yes	Yes
Adjusted R^2		0.010	0.115	0.209	0.227
Sample Size		1,420	1,420	1,420	1,420

This table presents results of regression tests of the average implied cost of equity capital on an indicator for the period after AASB 15 and AASB 16 adoption and controls. The sample period is 2015-2020. *POST_AASB_15/16* takes a value of 1 if the period is from 2018 onwards, and 0 otherwise. The first row in each cell reports the coefficient estimate and the second row reports the *t*-statistic. *rAVE* is the average of the four implied cost of equity capital estimates using the methods of Gode and Mohanram (2003), Claus and Thomas (2001), Gebhardt et al. (2001), and Easton (2004). ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

As shown in Table 3, in model 1 the coefficient on *POST_AASB_15/16* is negative and statistically significant at the 1 percent level. This negative and significant coefficient is consistent with the notion that, collectively, AASB 15 and AASB 16 improve financial reporting for firms, on average, and that investors perceive the adoption of both standards as of lower risk and, hence, demanding a lower cost of equity capital. More specifically, the coefficient estimates suggest that in the period after the introduction of AASB 15 and AASB 16, the average implied cost of equity capital drops by 103 basis points. As expected, the results in model 2 show that the inclusion of control variables somewhat attenuates the negative relation between AASB 15 and AASB 16 adoption and a firm's cost of equity.[23] Specifically, the coefficient estimate on *POST_AASB_15/16* is -0.0094 but is still significant at the 1 percent level.[24] In model 3, the inclusion of industry fixed effects reduces the coefficient on *POST_AASB_15/16* to -0.0089, but remains significant at the 1 percent level. In model 4, where we include control variables, industry and year fixed effects, the coefficient estimate on *POST_AASB_15/16* is -0.0190 and statistically significant at the 1 percent level. We choose model (4) as the main model for subsequent empirical analyses.

Given that the sample mean of the implied cost of equity is 8.86%, the 190 basis-point decrease in model 4 of Table 3 translates to a 21.44% (=0.0190/0.0886) drop in a firm's cost of equity capital relative to the

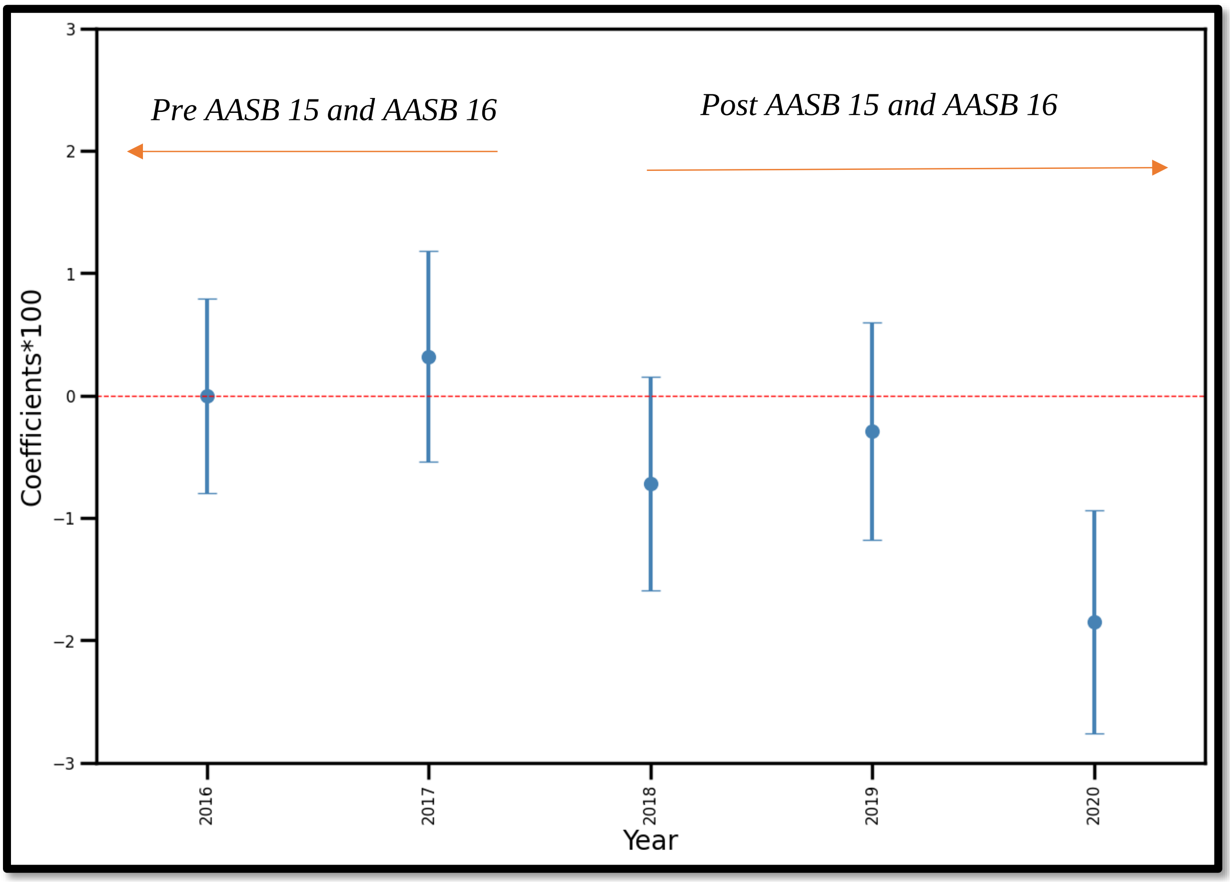
23 We also rerun the regressions in Table 3 using the implied cost of equity calculated by taking the median of the four individual estimates and by using the implied cost of equity in excess of the risk-free rate. The results are quantitatively and qualitatively similar to our main findings under both approaches.

24 Harvey (2017) suggests that researchers should take prior information into account by specifying a prior on all testable hypotheses and employ a Symmetric and Descending Minimum Bayes Factor (SD-MBF) approach. This is to assess the *p*-value of an effect in a Bayesian framework instead of inferring research conclusions from the normal reported *p*-value. Following Harvey (2017), on a prior probability of 20% that there might be an effect of AASB 15 and AASB 16 adoption on the average implied cost of equity capital and the reported *p*-value of 0.001 for the coefficient of *POST_AASB_15/16* in model 4 of Table 3, we can compute the SD-MBF for the adoption effect of 0.0188 with a Bayesianised *p*-value of 0.0699. Thus, there is a 7% chance the null hypothesis (no effect from *POST AASB 15/16* on the cost of equity capital given a prior of 20% probability) is true.

sample mean.[25] In dollar terms, considering an average market value of equity of AUD 966 million for firms in the sample, a 190 basis-point decrease in a firm's cost of equity capital translates to a saving of AUD 18.35 million for the firm to raise finance with equity capital. We conclude that there is an economically significant relationship between the adoption of AASB 15 and AASB 16 and the average implied cost of equity capital.

Figure 3 displays the coefficients (multiplied by 100), together with the 95% confidence intervals, from the regression of r_{AVE} on dummy variables indicating years surrounding the adoption of AASB 15 and AASB 16. In this regression, we include the intercept which represents the average r_{AVE} in 2015. Thus, the coefficient on each dummy variable can be interpreted as the difference between the average r_{AVE} in a particular year relative to the average r_{AVE} in 2015. It is evident that relative to the average r_{AVE} in 2015, there are significant drops in the average implied cost of equity capital in 2018 and 2020 and a drop, albeit less so, in 2019.[26]

Figure 3. Variation in the change in r_{AVE} (relative to the average r_{AVE} in 2015) around the adoption of AASB 15 and AASB 16



25 Alternatively, given an average cost of equity capital of 7.01% over the period 2015-2017, the 190 basis-point decrease in model (4) of Table 3 translates to a 27.10% (=0.0190/0.0701) drop in a firm's cost of equity capital relative to the pre-AASB 15 and AASB 16 period.

26 In this analysis, we conduct a dynamic model as suggested by Roberts and Whited (2013) to check for the possibility that either the adoption of AASB 15 and AASB 16 is anticipated or the documented decrease in the cost of equity capital merely follows a time trend. Both visual and statistical assessments of the changes in r_{AVE} do not suggest that there is an anticipation effect or a time trend effect in the average implied cost of equity capital.

This figure displays the coefficients (×100), together with the 95% confidence intervals, from the regression of $rAVE$ on dummy variables indicating years surrounding the adoption of AASB 15 and AASB 16 (with the intercept being the average $rAVE$ in 2015). *t*-statistics are -0.01, 0.75, -1.61, -0.63, -3.99 for the coefficient estimates in 2016, 2017, 2018, 2019, and 2020, respectively.

4.4 Multivariate analysis of individual cost of equity capital measures

We next report, in Table 4, the regression output from the four individual measures of the implied cost of equity capital. Consistent with the results reported in Table 3, the coefficient on *POST_AASB_15/16* is negative and statistically significant at the 1 percent level (with a *t*-statistic of -5.65) in the regression using the implied cost of equity capital from the Gode and Mohanram (2003) method (model 1). The coefficient estimate on *POST_AASB_15/16* is statistically significant at the 1 percent level (*t*-statistics of -3.02 and -4.10) in the regression using the implied cost of equity capital from the Claus and Thomas (2001) and Gebhardt et al. (2001) models (models 2 and 3), while it is statistically insignificant for the Easton (2004) model (model 4).

The coefficients on *POST_AASB_15/16* in models 1 to 4 in Table 4 indicate that the introduction of AASB 15 and AASB 16 led to a reduction of 257, 169, 193 and 91 basis points in a firm's implied cost of equity capital based on r_{GM}, r_{CT}, r_{GLS} and r_{EAST}, respectively. The effect of *POST_AASB_15/16* on the implied cost of equity capital, as inferred from the size of the coefficient estimates, is strongest for the Gode and Mohanram (2003) method and smallest for the Easton (2004) method.

Table 4: Individual Implied Cost of Equity Capital Measures and AASB 15 and AASB 16 Adoption

	Predicted Signs	***Model 1*** r_{GM}	***Model 2*** r_{CT}	***Model 3*** r_{GLS}	***Model 4*** r_{EAST}
POST_AASB_15/16	?	-0.0257 (-5.65)***	-0.0169 (-3.02)***	-0.0193 (-4.10)***	-0.0091 (-0.74)
Controls		Yes	Yes	Yes	Yes
Year Fixed Effect		Yes	Yes	Yes	Yes
Industry Fixed Effect		Yes	Yes	Yes	Yes
Adjusted R^2		0.209	0.283	0.174	0.162
Sample Size		1,420	1,420	1,420	1,420

This table presents results of regression tests of the individual implied cost of equity capital estimates on an indicator for the period after AASB 15 and AASB 16 adoption and controls. The sample period is 2015-2020. *POST_AASB_15/16* takes a value of 1 if the period is from 2018 onwards, and 0 otherwise. The first row in each cell reports the coefficient estimate and the second row reports the *t*-statistic. rGM is the implied cost of equity capital estimate based on the Gode and Mohanram (2003) method; rCT is the implied cost of equity capital estimate based on the Claus and Thomas (2001) method; $rGLS$ is the implied cost of equity capital estimate based on the Gebhardt et al. (2001) method; $rEAST$ is the implied cost of equity capital estimate based on the Easton (2004) method. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Overall, the results in Table 4 document that the negative relationship between AASB 15 and AASB 16 adoption and the implied cost of equity capital exists across a broad set of individual cost of equity capital estimates.

4.5 Heterogenous impact of AASB 15 and AASB 16 adoption on the cost of equity capital

In this analysis, we consider whether industry membership and the extent of discussion in earnings conference calls can influence the magnitude of the impact of AASB 15 and AASB 16 on the cost of equity capital.

4.5.1 Industry membership

AASB 15 has had a significant impact on various industries, including the telecommunications, software development and real estate industries. For example, entities within the telecommunications industry regularly bundle the sale of telecommunication services and equipment, such as handsets. These handsets tend to be either free or heavily discounted as an incentive to enter long-term telecommunication service contracts (PwC, 2016). Previously, any revenue allocated to the handset was often limited to the amount, if any, the customer paid for the handset, with the bulk of revenue from the contract recognised proportionately over the term of the service contract. Under AASB 15, however, the revenue from a contract is to be allocated to each distinct good or service provided on a relative standalone selling price basis, with revenue recognised when the performance obligation attached to the distinct good or service has been satisfied (Deloitte, 2014). The revenue recognition model of AASB 15 has, therefore, led to significant changes in revenue and profit recognition of entities within the telecommunications industry, as well as the need for entities to change their internal controls, processes and systems, including those pertaining to data collection to comply with AASB 15 reporting requirements (Davern et al., 2018; BDO Australia, 2021). Similar significant impact has also been experienced by those entities within the software development and real estate industries.[27]

Regarding AASB 16, entities within the airline and retail industries are most affected by its introduction. In support, the IASB identified that for a global sample of lessee companies, the balance sheet of those within these two industries would be most impacted by the introduction of IFRS 16 (IASB, 2016a). Previously, lessees within both industries tended to account for their high-value, long-term leases (of aircraft for airlines and retail stores or warehouses for retailers) off balance sheet (IASB, 2016a). The recognition of right-of-use assets and corresponding lease liabilities on balance sheet for almost all leases, per AASB 16, significantly impacted the financial position of airlines and retailers, with a global lease capitalisation study by PwC estimating that there would be a median increase in debt of 98% for retailers and 47% for airlines (PwC, 2018). Such significant increases in reported debt levels potentially lead to investor perceptions of heightened firm risk, including their lack of creditworthiness, and ultimately higher cost of capital.

4.5.2 Discussion of AASB 15 and AASB 16 in earnings conference calls

Another way to derive a firm's exposure to AASB 15 and AASB 16 is to analyse the extent of discussion of either accounting standard during earnings conference calls. Earnings conference calls provide an opportunity for firms to communicate with investors and analysts about their financial performance, as well as the impact of new accounting standards such as AASB 15 and AASB 16.

27 For a more detailed discussion of the impact of AASB 15 on the telecommunications, software development and real estate industries, refer to PwC (2017), PwC (2019) and BDO Australia (2015), respectively.

By analysing transcripts of these calls, researchers can identify the frequency and extent of discussion of AASB 15 and AASB 16 by the firm's management team. Extensive discussion of AASB 15 and/or AASB 16 during conference calls suggests that the respective standard has a significant impact on the relevant firm and may signal heightened exposure to the adoption of either or both standards. Neither standard being discussed during earnings conference calls suggests that the relevant firm is unaffected, or minimally impacted, by either or both standards.

Furthermore, the tone and sentiment of the discussion can also provide insights into the firm's perception of the impact of AASB 15 and AASB 16. If the management team expresses concerns and challenges (or a positive attitude) related to the implementation of these standards, it may suggest negative (positive) exposure to AASB 15 and AASB 16 implementation. Overall, analysing the extent of discussion and tone of discussion of AASB 15 and AASB 16 during earnings conference calls can be a useful approach to derive a firm's exposure to these standards and assess its potential impact on firms.

We begin by collecting revenue recognition and lease related text according to the language used in AASB 15 and AASB 16. Such text, which has a high likelihood of referring to revenue recognition or lease-related topics because of their presence in AASB 15 or AASB 16, serve as our training library of 'standard' language.[28] To create a baseline library of non-revenue recognition and non-lease related text, we rely on the language that is used in undergraduate textbooks on psychology, arts, educational psychology, philosophy and information technology. To enlarge the library of non-revenue recognition and non-lease related text, we also include the language from the Santa Barbara Corpus of Spoken American English (Du Bois et al., 2000). From these two libraries, we identify a list of bigrams (combinations of two adjacent words) that are exclusively used in revenue recognition and lease-related text.

We next decompose each conference call transcript for our firms in 2018 and 2019 into a list of bigrams.[29] We then develop an algorithm that parses each bigram and counts the number of times that bigrams from our revenue recognition and lease library appear. In conducting sentiment analysis of each target bigram, we use the FinBERT model trained by Huang et al. (2022) to evaluate the sentiment of sentences matched to the sentence containing the bigram.[30] Finally, we scale the total count by the total number of positive sentiment bigrams minus the total number of negative sentiment bigrams in the conference call transcript. Appendix B provides a description of this algorithm.

We next report, in Table 5, the regression output from the analysis of industry membership and conference call discussion. In model 1, *IND* is an indicator dummy that takes a value of 1 for firms operating in those industries that are likely more affected by AASB 15 or AASB 16, and 0 otherwise.[31] In model 2, *DIS(+)* takes a value of 1 for firms with positive discussion of AASB 15 and AASB 16, and 0 otherwise. In model 3, *DIS(-)* takes a value of 1 for firms with negative discussion of AASB 15 and AASB 16, and 0 otherwise.[32]

In model 1, the coefficient estimate on *POST_AASB_15/16×IND* is -0.0029 but statistically insignificant. Thus, we do not find evidence that the effect of AASB 15 and AASB 16 adoption is any stronger among firms operating in those industries where we may expect higher impact. In model 2, the coefficient

28 For example, bigrams of 'standard' language in AASB 16 include 'lessee under', 'with lease', or 'lease terms'.

29 We employ transcripts of conference calls for Australian firms from Refinitiv Eikon StreetEvents. Each conference call often begins with a management presentation about current and future firm performance, which is followed by a question-and-answer (Q&A) session that includes the participation of financial analysts and other parties. To measure revenue recognition and lease-related discussion, we use the entire textual data of each conference call transcript.

30 This method avoids the truncation of sentences and most importantly considers the context of text. This way, we are able to determine whether a revenue recognition or lease bigram is associated with positive or negative sentiment.

31 These are the telecommunications, software development, airline, retail, and real estate industries.

32 *DIS(+)* and *DIS(-)* are not strictly opposite of each other as there are call transcripts where we do not detect any discussion relating to AASB 15 or AASB 16, or where the discussion is neutral.

estimate on *POST_AASB_15/16×DIS(+)* is -0.0102 and statistically significant at the 10 percent level. Thus, there is some evidence that when firm management and analysts discuss AASB 15 or AASB 16 adoption in a positive sentiment, the overall reduction in the cost of equity capital is more pronounced compared to other firms. In model 3, the coefficient estimate on *POST_AASB_15/16×DIS(-)* is 0.0011 and statistically insignificant. Thus, there is no evidence that when firm management and analysts discuss AASB 15 or AASB 16 adoption in a negative sentiment, there is any differential impact on the cost of equity.

Table 5: Average Implied Cost of Equity Capital (r_{AVE}) and AASB 15 and AASB 16 Adoption by Industry Membership and Conference Call Discussion

	Predicted Signs	***Model 1***	***Model 2***	***Model 3***
POST_AASB_15/16	?	-0.0188 (-4.09)***	-0.0187 (-4.12)***	-0.0191 (-4.19)***
POST_AASB_15/16×IND	?	-0.0029 (-0.37)		
POST_AASB_15/16×DIS(+)	-		-0.0102 (1.88)*	
POST_AASB_15/16×DIS(-)	+			0.0011 (0.09)
Controls		Yes	Yes	Yes
Year Fixed Effect		Yes	Yes	Yes
Industry Fixed Effect		Yes	Yes	Yes
Adjusted R^2		0.227	0.229	0.227
Sample Size		1,420	1,420	1,420

This table presents results of regression tests of the average implied cost of equity capital on an indicator for the period after AASB 15 and AASB 16 adoption and controls. The sample period is 2015-2020. *POST_AASB_15/16* takes a value of 1 if the period is from 2018 onwards, and 0 otherwise. The first row in each cell reports the coefficient estimate and the second row reports the *t*-statistic. *IND* takes a value if the firm operates in the telecommunications industry, software development industry, airline industry, retail industry, or real estate industry, and 0 otherwise. *DIS(+)* takes a value of 1 if the discussion of AASB 15 and AASB 16 from earnings conference calls in 2018 and 2019 is positive, and 0 otherwise. *DIS(-)* takes a value of 1 if the discussion of AASB 15 and AASB 16 from earnings conference calls in 2018 and 2019 is negative, and 0 otherwise. *rAVE* is the average of the four implied cost of equity capital estimates using the methods of Gode and Mohanram (2003), Claus and Thomas (2001), Gebhardt et al. (2001), and Easton (2004). ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Overall, the results in Table 5 suggest that there is some evidence that when firms and stakeholders, such as analysts, view AASB 15 and AASB 16 positively, there is a stronger decreasing effect of AASB 15 and AASB 16 on the cost of equity capital. There is, however, no differential impact based on industry membership. Our findings generally support prior findings on the negative relationship between the Australian equivalents to IFRS and the cost of capital documented in Saha and Bose (2021) and Persakis and Iatridis (2017).

4.6 Caveats regarding the impact of AASB 15 and AASB 16 adoption on the cost of equity capital

The adoption of AASB 15 and AASB 16 may have an impact on a company's cost of equity capital, as discussed in the previous sections. However, the evidence supporting this claim should be interpreted with caution, due to the following caveats.

4.6.1 Small sample of firms covered

There is a limited amount of data available to examine the impact of AASB 15 and AASB 16 on the cost of equity capital. This is because these standards were only recently adopted by Australian companies and the data to construct the implied cost of equity capital cover only a certain percentage of ASX-listed firms (mostly tilted towards large market capitalisation firms). Our sample does not cover smaller public firms or any private firms. Therefore, the research that has been conducted has a relatively a small sample size, which can limit the generalisability of the findings.

4.6.2 Possible estimation error

To estimate the impact of AASB 15 and AASB 16 on the cost of equity capital, we use accounting models that reverse-engineer the implied cost of equity capital. These models are based on a number of assumptions as discussed above in the methodology section and there is a risk of estimation error. For example, the assumption of an efficient share price at the time of our cost of equity estimation can lead to inaccurate results if the market is, in fact, not efficient.[33]

4.6.3 Possible confounding effects

The adoption of AASB 15 and AASB 16 may be accompanied by other changes that could affect the cost of equity capital, such as changes in corporate governance practices or changes in management strategy. These confounding effects can make it difficult to isolate the impact of AASB 15 and AASB 16 on the cost of equity capital. As a result, it is important to control for these confounding effects when analysing the impact of AASB 15 and AASB 16.[34] However, given the annual frequency of the calculation of the implied cost of equity, it is inherently difficult to fully control for all confounding factors that may happen over the course of a year.

In summary, while evidence in our research suggests that the adoption of AASB 15 and AASB 16 has a negative impact on a company's cost of equity capital, the results should be interpreted with caution due to the small sample of firms covered, possible estimation error, and possible confounding effects. The AASB should be aware of these limitations when assessing the impact of AASB 15 and AASB 16, or the adoption of other Australian accounting standards, on the cost of equity capital.

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33 To address this point, we use share price at the end of March each year instead of at the end of June in the calibration of the implied cost of equity capital and repeat our main analysis. The results are qualitatively similar to those presented in this report.

34 In addition to firm-specific confounding effects, such as changes in corporate governance practices or changes in management strategy, there are also potential macro-level confounding effects, including the following: *Economic conditions*: The Australian economy may have experienced significant changes after 2018, which could have affected the cost of capital for companies. *Regulatory changes*: Apart from the adoption of AASB 15 and AASB 16, there may have been other regulatory changes in Australia after 2018, which could have influenced the cost of capital. *Industry-specific events*: Different industries in Australia may have experienced unique events after 2018 that could have affected the cost of capital. *Global events*: Global events such as geopolitical tensions, natural disasters, or pandemics can have significant impacts on the economy and financial markets, making it challenging to isolate the effect of AASB 15 and AASB 16 adoption on the cost of capital. While studying the impact of AASB 15 and AASB 16 adoption on the cost of capital in Australia, it is crucial to consider the potential confounding events that may have occurred after 2018.

5. Alternative proxies of the cost of capital

In this section, we examine a range of alternative ways to estimate the cost of capital, each of which provide different perspectives on the expected returns of an investment. These alternative proxies may be used by policy makers and researchers as substitutes, or complements, to the more traditional estimates previously discussed when examining the association between the cost of capital and accounting standard-setting.

5.1 Bond yield

Bond yield refers to the rate of return that investors receive from investing in bonds issued by a company. The yield on a bond is determined by a variety of factors, including the creditworthiness of the company, the term of the bond and prevailing market interest rates. Bond yield can be used as a measure of the cost of debt capital, as it reflects the interest rate that a company must pay on its debt obligations. However, it should be noted that the cost of debt capital is typically lower than the cost of equity capital, since bondholders have a lower level of risk and are paid before equity holders in the event of bankruptcy. Most importantly, the corporate bond market in Australia is considered to be relatively thin compared to other developed economies such as the United States and Europe.[35] Due to the thinness of the corporate bond market in Australia, bond yield as a cost of capital estimate is available for only a small number of Australian entities.

5.2 Bank loan spread

Bank loan spread refers to the difference between the interest rate charged on a loan and a benchmark interest rate, such as the London Inter-Bank Offered Rate (LIBOR) or the prime rate. Banks typically charge a spread to compensate for the risk of default on a loan and the spread will vary depending on the creditworthiness of the borrower, the term of the loan and other factors. Bank loan spread can be used as a measure of the cost of debt capital, as they reflect the additional interest that a company must pay on a loan due to its credit risk.

Both bond yield and bank loan spread have their advantages and disadvantages as measures of the cost of capital. Bond yield is a widely used and easily accessible measure but is not relevant in estimating the cost of equity capital given bondholders have a lower level of risk than equity holders (Bodie et al., 2017). Bank loan spread may be an accurate measure of the cost of debt, but data may not be available for all Australian entities and may be influenced by factors other than the creditworthiness of the borrower.[36]

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35 There are several reasons why the corporate bond market in Australia is thin. These are as follows. *Dominance of the banking sector*: The Australian financial system is dominated by banks, which means that companies often rely on bank financing rather than issuing bonds. This has limited the development of the corporate bond market in Australia. *Size of the economy*: Australia is a relatively small economy compared to the United States and Europe, which means that there are fewer large companies with the size and scale to issue bonds. *Investor preference for other asset classes*: Australian investors tend to prefer other asset classes such as equities and property, which can limit demand for corporate bonds. *Regulatory environment*: The regulatory environment in Australia can make it more difficult for companies to issue bonds, which can limit the number of issuers in the market.

36 For example, banking relationships or the geographical location of firms can relate to bank loan spreads. We have also conducted an empirical analysis of bank loan spreads for Australian firms around the implementation of AASB 15 and AASB 16 (untabulated). We do not find evidence of any effect of the implementation of AASB 15 and AASB 16 on bank loan spreads. In addition, the implementation of AASB 15 and AASB 16 has no effect on the size of bank loans (proxied by the dollar amount (in AUD) of loans). Thus, we conclude that the introduction of AASB 15 and AASB 16 has had no effect on the cost of debt capital.

5.3 Interest paid on debt

Measuring the cost of debt via interest paid over total interest-bearing borrowings is a relevant approach in estimating the cost of debt, especially for private firms. This is because it may be difficult to estimate the implied cost of equity capital, bond yield, or bank loan spread for private firms due to limited access to the capital markets or lack of publicly available financial information.

In this approach, the cost of debt is calculated as the total interest paid by the company divided by the total amount of interest-bearing debt that the company has. This calculation provides an estimate of the average interest rate that the company is paying on its debt, which can be considered as the cost of debt for the firm.

This method has been used in previous studies such as Francis, et el. (2005), Kim et al. (2011) and Pittman and Fortin (2004). These studies have shown that this measure of the cost of debt is a relevant and reliable proxy for the actual cost of debt, especially for private firms where other measures of the cost of capital may be difficult to estimate.[37]

5.4 Share liquidity

Share liquidity can be considered as an alternative measure of the cost of capital. Liquidity refers to the ease with which an asset can be bought or sold without causing a significant change in its price. In the context of shares, liquidity is often measured using metrics such as bid-ask spread, trading volume and market depth.

One way to view liquidity as a measure of the cost of capital is that a more liquid share is more attractive to investors because it can be easily bought and sold without causing significant price movements. This makes it easier and cheaper for the firm to raise capital by issuing new equity, as investors will be more willing to purchase shares knowing that they can easily sell them in the future (Amihud and Mendelson, 1986). On the other hand, a less liquid share may be viewed as having a higher cost of capital, as investors may require a higher return to compensate for the additional risk associated with holding a less liquid asset. In this sense, firms with less liquid shares may find it more difficult and expensive to raise capital through equity issuances.

Overall, while liquidity is not a direct measure of the cost of capital, it can provide important insights into the willingness of investors to hold a share, which can in turn impact the firm's ability to raise capital and the associated costs.

5.5 Seasoned equity offering discount

Seasoned equity offering (SEO) discount is the percentage difference between the offer price of new equity shares issued in an SEO and the market price of existing shares before the offering, and may be used as a measure of the cost of equity for firms that issue new shares of equity. The intuition behind using SEO discount as a measure of the cost of equity is that investors require a higher return on their investment in new equity shares compared to their investment in existing equity shares because of the dilution effect of the new equity shares. Thus, the higher the SEO discount, the higher the cost of equity for the firm.

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37 The removal of Australian Securities Investments Commission (ASIC) search fees for company information in Australia will make it easier for investors, analysts, and other stakeholders to access data on private firms, including interest paid and other financial information necessary for calculating the cost of debt. With greater access to this information, researchers can more accurately estimate the cost of debt for private firms, which is particularly important given that the cost of equity is often difficult to estimate for these companies. Thus, the removal of ASIC search fees is a welcome development for anyone interested in better understanding the cost of capital of private Australian firms.

However, using SEO discount as a measure of the cost of equity has some limitations. First, the SEO discount reflects only the market perception of the cost of equity at a particular point in time and may not reflect the true cost of equity for the firm over the long run. Second, the SEO discount may be influenced by factors other than the cost of equity, such as market conditions, investor sentiment, and the characteristics of the SEO itself. Finally, SEOs are relatively rare events for most firms and, therefore, using SEO discount as a measure of the cost of equity may not be applicable for all firms.

Overall, while SEO discount can be used as an alternative measure of the cost of equity, it should be used with caution and in conjunction with other measures of the cost of capital to obtain a more accurate estimate of a firm's true cost of capital.

5.6 Financial analyst forecast accuracy and disagreement

Analyst forecast accuracy and disagreement are commonly used outcome variables to study the decision-usefulness of information provided in accordance with accounting standards (see, for example, Asbaugh and Pincus, 2001). Analysts are financial experts who provide forecasts of a company's future financial performance. Forecast accuracy is typically measured by comparing the analyst’s forecasted earnings to the actual earnings reported by the company. If the analyst’s forecast is close to actual earnings, this suggests that the analyst has a good understanding of the company's financial performance and that accounting standards have been effective in providing relevant and faithfully representative information to the market. On the other hand, if the forecast is significantly different from actual earnings, this could indicate that accounting standards have not been effective in providing the market with relevant and faithfully representative information.

Forecast disagreement, on the other hand, measures the extent to which different analysts have divergent views on a company’s future performance. If there is a high level of forecast disagreement, this suggests that accounting standards have not been effective in providing comparable and understandable information to the market. A low level of forecast disagreement suggests the alternative.

By comparing forecast accuracy and disagreement before and after the adoption of a new accounting standard, researchers can evaluate whether the new standard has improved the decision-usefulness of information provided by financial statement preparers. Additionally, by studying differences in forecast accuracy and disagreement across different countries and industries, researchers can identify the factors that influence the effectiveness of accounting standards in different contexts.

6. Recommendations and conclusions

The cost of capital is an important concept in accounting and finance that plays a crucial role in decision-making, including that of investors. A statutory function of the AASB is to make or formulate accounting standards that reduce the cost of capital. To obtain greater clarity on the outcomes of its standard-setting process, and whether it is fulfilling its statutory functions, the AASB is seeking input on potential models for determining the cost of capital. This report examines the various models that estimate cost of capital and applies a subset of these estimates to investigate the association between the cost of capital and accounting standard-setting in Australia.

In our review of the various estimation models, we recommend that for ASX-listed companies the AASB consider using the implied cost of equity capital to assess the association between the cost of capital and accounting standard-setting in Australia. The implied cost of equity capital is derived from market prices and provides an estimate of the expected return required by investors for investing in a particular company's equity. This cost of equity measure reflects investors' expectations and perceptions of the company's future performance and risk and, by doing so, overcomes the shortcomings of other cost of capital models such as the CAPM, which relies on historical data as inputs to estimate a forward-looking measure. Using the implied cost of equity capital can also help the AASB to anticipate potential market reactions to the adoption of a new accounting standard, thereby enabling the AASB to make informed decisions about the implementation of specific accounting standards.

We do, however, acknowledge the limitations of estimating the implied cost of equity capital, including potential estimation error and its estimation being confined to a small subset of preparers. Given Australian accounting standards are applicable to a broad set of entities, including public and private for-profit and not-for-profit entities, we outline alternative proxies of the cost of capital that are applicable to a broader set of preparers. We recommend the AASB consider using these proxies to either complement, or act as an alternative to, the implied cost of equity capital estimates in the appropriate context. By utilising the implied cost of equity alongside other measures or qualitative assessments, the AASB can help demonstrate that its standard- setting facilitates fulfillment of its statutory functions for the benefit of a broad set of stakeholders.

APPENDIX A

TABLE A.1

ICC	Model	Source
r_{GM}	$R = A + \sqrt{A^2 + \frac{E_t[E_{t+1}]}{MV_t} \times (g - (\gamma - 1))}$, where $A = 0.5\left((\gamma - 1) + \frac{E_t[D_{t+1}]}{M_t}\right), g = 0.5\left(\frac{E_t[E_{t+3}] - E_t[E_{t+2}]}{E_t[E_{t+2}]} + \frac{E_t[E_{t+5}] - E_t[E_{t+4}]}{E_t[E_{t+4}]}\right)$, MV_t denotes the market value of equity in year t; R is the implied cost of equity capital (ICC); BV_t is the book value of equity; $E_t[.]$ denotes market expectations based on information available in year t; E_t is the earnings in year t; D_{t+1} is the dividend in year t+1, computed using the current dividend payout ratio for firms with positive earnings, or using current dividends divided by 0.06 × total assets as an estimate of the payout ratio for firms with negative earnings; g is the short-term growth rate. We follow Gode and Mohanram (2003) and use the average of forecasted near-term growth and five-year growth as an estimate of g. γ is the perpetual growth rate in abnormal earnings beyond the forecast horizon. It is set to the current risk-free rate minus 3%. If the difference is less than zero, it is set to be the difference between average historical risk-free rate minus 3%.	Gode and Mohanram (2003)

r_{CT}	$MV_t = BV_t + \sum_{k=1}^{5} \frac{E_t[(ROE_{t+k}-R)\times BV_{t+k-1}]}{(1+R)^k} + \frac{E_t[(ROE_{t+5}-R)\times BV_{t+4}](1+g)}{(R-g)\times(1+R)^5}$, where MV_t denotes the market value of equity in year t; R is the implied cost of equity capital (ICC); BV_t is the book value of equity; $E_t[.\ ]$ denotes market expectations based on information available in year t; and $(ROE_{t+k} - R) \times BV_{t+k-1}$ is the residual income in year *t+k*. Following Hou *et al.* (2012), we estimate the expected ROE_{t+k} in years *t*+1 to *t*+5 using model-based earnings forecasts in year *t+k*. Book value of equity is computed using clean surplus accounting: $BV_{t+k} = BV_{t+k-1} + E_{t+k} - D_{t+k}$, where E_{t+k} is the earnings in year *t+k*, D_{t+k} is the dividend in year *t+k*, computed using the current dividend payout ratio for firms with positive earnings, or using current dividends divided by 0.06 × total assets as an estimate of the payout ratio for firms with negative earnings. Following Claus and Thomas (2001), *g* is set to the current risk-free rate minus 3%. If the difference is less than zero, it is set to be the difference between average historical risk-free rate minus 3%.	Claus and Thomas (2001)

r_{GLS}	$MV_t = BV_t + \sum_{k=1}^{11} \frac{E_t[(ROE_{t+k} - R) \times BV_{t+k-1}]}{(1+R)^k} + \frac{E_t[(ROE_{t+12} - R) \times BV_{t+11}]}{R \times (1+R)^{11}}$, where MV_t denotes the market value of equity in year t; R is the implied cost of equity capital (ICC); BV_t is the book value of equity; $E_t[.]$ denotes market expectations based on information available in year t; and $(ROE_{t+k} - R) \times BV_{t+k-1}$ is the residual income in year $t+k$. Following Hou *et al.* (2012), we estimate the expected ROE_{t+k} in years t+1 to t+3 using model-based earnings forecasts in year $t+k$. Book value of equity is computed using clean surplus accounting: $BV_{t+k} = BV_{t+k-1} + E_{t+k} - D_{t+k}$, where E_{t+k} is the earnings in year $t+k$, D_{t+k} is the dividend in year $t+k$, computed using the current dividend payout ratio for firms with positive earnings, or using current dividends divided by 0.06 × total assets as an estimate of the payout ratio for firms with negative earnings. After year t+3, the expected ROE is assumed to mean-revert to the historical industry median value until year t+11, after which point the residual income becomes a perpetuity. Loss firms are excluded from the calculation of industry median ROE (Gebhardt et al., 2001).	Gebhardt et al. (2001)
r_{EAST}	$MV_t = \frac{E_t[E_{t+2}] + R \times E_t[D_{t+1}] - E_t[E_{t+1}]}{R^2}$, where MV_t denotes the market value of equity in year t; R is the implied cost of equity capital (ICC); $E_t[.]$ denotes market expectations based on information available in year t; E_{t+1} and E_{t+2} are the earnings in year t+1 and year t+2, respectively; D_{t+1} is the dividend in year t+1, computed using the current dividend payout ratio for firms with positive earnings, or using current dividends divided by 0.06 × total assets as an estimate of the payout ratio for firms with negative earnings.	Easton (2004)
r_{AVE}	$r_{AVE} = \frac{r_{GM} + r_{CT} + r_{GLS} + r_{EAST}}{4}$	Li (2010), Hou et al. (2012), Dahliwal et al. (2016)

Hou et al. (2012) show that analysts' forecasts exhibit critical biases that can, in turn, affect the final implied cost of equity capital estimate. Moreover, relying on analysts' forecasts constrains the cross-section to the sparse coverage of analysts (La Porta, 1996; Hong et al., 2000; Diether et al., 2002). Therefore, we follow Hou et al. and for each year between 1995 and 2021, we estimate the following pooled cross-sectional regression using the past ten years of data:

$$E_{j,t+\tau} = \beta_0 + \beta_1 TA_{j,t} + \beta_2 DIV_{j,t} + \beta_3 DD_{j,t} + \beta_4 E_{j,t} + \beta_5 NegE_{j,t} + \beta_6 Acc_{j,t} + \epsilon_{j,t}\ , \quad \text{(A.1)}$$

where $E_{j,t+\tau}$ $(\tau = 1, 2, 3, 4, or\ 5)$ represents the earnings of firm j in year $t + \tau$. All explanatory variables are measured at the end of year t: $TA_{j,t}$ is the total assets; $DIV_{j,t}$ is the dividend payment; $DD_{j,t}$

is a dummy variable that takes a value of 1 for dividend payers or 0 otherwise; $NegE_{j,t}$ is a dummy variable that equals 1 for firms with negative earnings or 0 otherwise; and $Acc_{j,t}$ is total accruals.[38] Similar to Hou et al. (2012), we focus on dollar earnings (in AUD) to make the model's forecasts comparable with analysts' forecasts. To mitigate the potential impact of outliers, we also winsorize the explanatory variables at the 1st and 99th percentiles.

For each firm *j* and year *t,* earnings forecasts from year *t*+1 to year *t*+5 into the future are estimated by multiplying the explanatory variables as of year *t* with the estimated coefficients from (B.1). As the estimation is conducted in current year *t*, survivorship bias is avoided. Having estimated earnings forecasts, we derive each of the four individual implied cost of equity capital estimates for each firm at the end of June each year *t* by computing the internal rate of return such that the market equity at the end of June is equal to the present value of future earnings.

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38 Following Hribar and Collins (2002), our accruals measure is computed using the cash flow statement method as the difference between earnings and cash flows from operations.

APPENDIX B

Our objective is straightforward: to measure the proportion of each quarterly conference call in which participants discuss revenue recognition and lease accounting topics in accordance with AASB 15 and AASB 16. Prior studies have identified topics of interest by relying on pre-specified lists of signal language. For example, Hassan et al. (2019) use political text to consider the language that could be associated with political topics and Hassan et al. (2021a, b) study COVID-19 and Brexit respectively by using individual words that exclusively relate to these shocks. Sautner et al. (2021) study firm-level climate exposure by identifying language that carries climate content. Li and Truong (2023) study firm-level auditing and accounting risk by identifying the language the PCAOB uses in auditing standards. To this end, we need to differentiate between the language that relates to revenue recognition and lease accounting topics in accordance with AASB 15 and AASB 16 and the language that relates to non-revenue recognition and non-lease accounting topics.

We employ a pattern-based classification approach from computational linguistics to identify whether the language that is used by participants relates to revenue recognition and lease accounting topics in accordance with AASB 15 and AASB 16. The standard approach to text categorisation has been to use a document representation in a word-based space where a simple-minded independent word-based representation, also known as a bag-of-words (BOW), can be very effective. However, Bekkerman and Allan (2004) suggest that the use of bigrams instead of single words can be particularly useful for text classification in domains where lexicons are relatively restrictive and the language can form stable phrases. We, therefore, apply the use of bigrams in our setup to identify the language that is associated with revenue recognition and lease accounting topics in accordance with AASB 15 and AASB 16 because such language is likely to have these features.

Although the use of bigrams can be more informative than the use of a BOW because bigrams capture more context around each word, this comes at a cost because a bag of bigrams can produce a much larger and sparser feature set than a BOW. Thus, a filtering process is required to help minimise this cost. For this purpose, we develop a training library of revenue recognition and lease accounting text in accordance with AASB 15 and AASB 16 and another training library of non-revenue recognition and non-lease accounting text. These libraries are a collection of bigrams from revenue recognition and lease accounting text in accordance with AASB 15 and AASB 16 or from non-revenue recognition and non-lease accounting text. Given that there is some overlap between these two libraries, we derive a final revenue recognition and lease accounting library of bigrams that exclusively appear in the first library.

We first decompose each conference call transcript into a list of bigrams. We then develop an algorithm that parses each bigram and counts the number of times that bigrams from our final revenue recognition and lease accounting library appear. Finally, we scale the total count by the total number of bigrams in the conference call transcript. The following formula depicts this construct of revenue recognition and lease accounting discussion:

$$\text{Rev Recognition \& Lease Discussion i, t} = \frac{\sum_{b_{i,t,1}}^{b_{i.t.j}} (1\ [\text{b} \in \text{A}\backslash\text{N}] \times \text{TF}_{\text{IDF}_\text{b}})}{B_{i.t}} \quad \text{(B.1)}$$

where: subscripts i, t, j represent firm, year, and bigram, respectively. $b_{i,t,1}$, …, $b_{i,t,j}$ is a list of firm *i's* bigrams, [b_1, …, b_j], in its quarterly earnings conference call t. $A\backslash N$ is a set of bigrams that are present in the revenue recognition and lease bigram library (A) but not in the non-revenue recognition and non-lease bigram library (N). $1[b \in A\backslash N]$ is an indicator of the existence of bigram b from the bigram list [b_1, …, b_j] in $A\backslash N$. It takes a value of one if bigram b exists in $A\backslash N$, and zero otherwise. TF_IDF_b is the term frequency–inverse document frequency of bigram b (i.e., the weighting) which is calculated as the product of the term frequency and the inverse document frequency (*TF×IDF*).[39] $B_{i,t}$ is the total number of bigrams in firm *i's* earnings conference call in year *t*. *Rev Recognition* & *Lease Discussion*$_{i,t}$ is the firm-level revenue recognition and lease discussion (or discussion of AASB 15 and AASB 16) for firm *i* in year *t*. In conducting sentiment analysis of each target bigram, we use the FinBERT model trained by Huang et al. (2022) to evaluate the sentiment of sentences matched to the sentence containing the bigram. Finally, we scale the total count by the total number of positive sentiment bigrams minus the total number of negative sentiment bigrams in the conference call transcript.

Equation (B.1) is an application of a classic text-classification algorithm in which we augment the algorithm with the revenue recognition and lease bigram and also use a scalar, which is equivalent to the length of the call. In this calculation, we employ a weighted count of bigrams because certain bigrams may be more relevant to revenue recognition and lease topics than others. In robustness checks, we construct revenue recognition and lease discussion in Equation (B.1) by employing a simple count in which each bigram is given an equal weight, that is, the term frequency–inverse document frequency of a bigram is set to one.

39 *TF* is the frequency of bigram *b* occurring in *A*. *IDF* is the number of all documents that are used to construct the revenue recognition and lease bigram library (*A*), divided by the number of documents in which bigram *b* occurs at least once.

APPENDIX C

Google Collaboratory Notebook Instructions

We have developed a Google Collaboratory Notebook where the script fetches the latest share price and financial information from Yahoo Finance to construct a simplified version of the implied cost of equity capital for Australian firms.

The address of the notebook is:

https://colab.research.google.com/drive/1RfpIfQR1rt2iCeC1IKzgaoCPpm_iG0dc#scrollTo=t DCp4YdhMTNH

Running steps:

1) Press the play button to install preparation packages.
2) Press the next play button to input an individual ticker to calculate the implied cost of equity capital. The script employs the latest trading price in the estimation of the implied cost of equity capital.
3) Press the next play button to input a list of tickers (separated by commas) to calculate the implied cost of equity capital (relevant for industry comparison).
4) Press the next play button to build a bubble chart for firms in comparison.

Figure C.1: Bubble Chart for the Implied Cost of Capital for Banking Firms

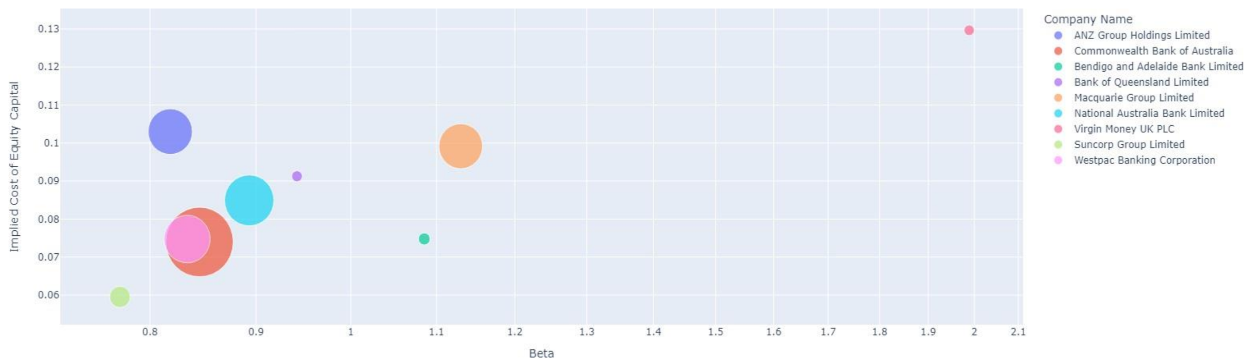


Figure C.2: Bubble Chart for the Implied Cost of Capital for Mining Firms

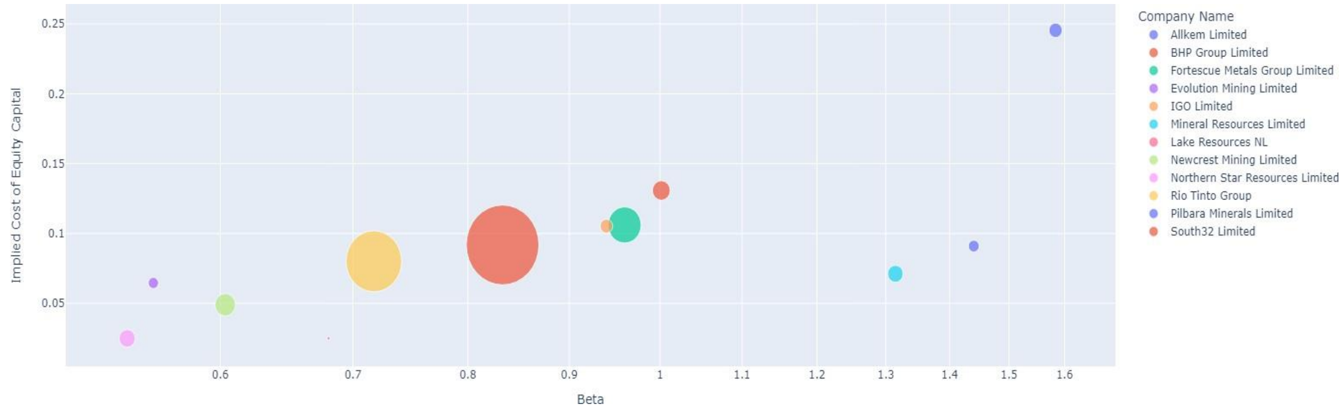
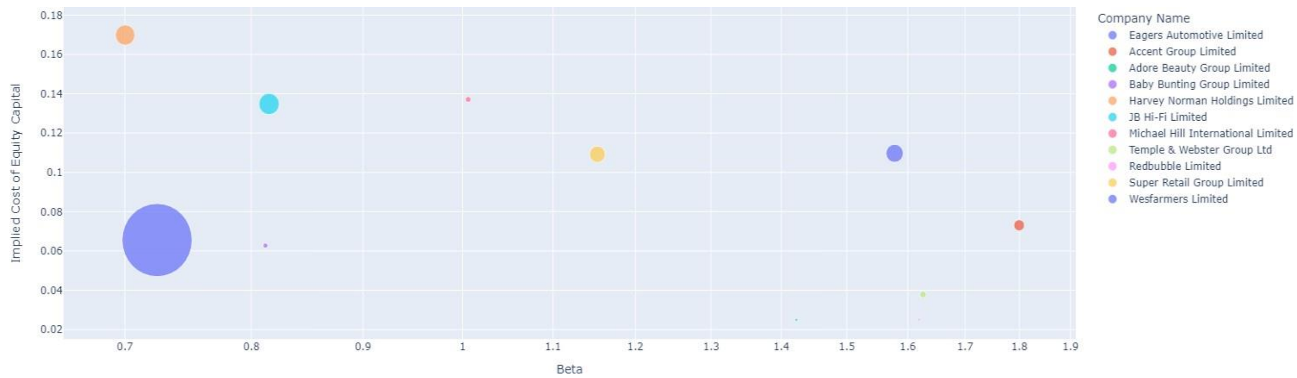


Figure C.3: Bubble Chart for the Implied Cost of Capital for Retail Firms



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