



## THE PROPOSED ADAPTATION OF IAS 17 ON BELGIAN LISTED FIRMS: A COMPANY PROFILE AND FINANCIAL IMPLICATIONS

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GENERAL TOPIC: ADAPTABILITY OF INTERNATIONAL ACCOUNTING STANDARDS

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# THE FINANCIAL IMPACT OF THE PROPOSED ADAPTATION ON IAS 17: EVIDENCE FROM BELGIUM AND THE NETHERLANDS

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## **Abstract**

Prior literature examined the financial impact of operating leases by using the constructive lease capitalization method of Imhoff et al. (1991) or a heuristic capitalization method. The empirical evidence of these studies result in the perception that operating leases lead to off-balance financing, improvements of financial ratios and earnings enhancement in the U.K. (e.g. Beattie et al. (1998)) and in the U.S.(e.g. Ely (1995)). Our results indicate that debt to equity ratio and the current ratio are significantly affected by capitalizing operating leases. Moreover, companies with a higher profitability are expected to find a significant change on their balance sheet.

## **Keywords**

Accounting, lease, IAS/IFRS, financial ratios, listed firms

## **1. Introduction**

According to the World Leasing Yearbook of 2010, the total annual leasing volume in 2008 for the top 50 countries amounted for \$644 billion, yet many of those lease contracts do not appear in the financial statement or balance sheet of an entity since the categorization as operating leases. Operating leases have resulted in benefits since both leased assets and liabilities can effectively be kept off the balance sheet with only footnote disclosures of future lease obligations. Consequently, a finance lease which is treated as an ‘in substance’ purchase by the lessee and a sale by the lessor is less popular since it requires both leased assets and liabilities to be recognized on the balance sheet. However, the finance lease does produce a tax benefit because of a larger expense, interest plus depreciation, compared to an operating lease which only reports the lease payments as an expense. Based on the International Accounting Standard (IAS) 17 (IASB (2008): Leases), managers can structure a lease to avoid the reporting of lease assets and liabilities. A finance lease is required when a transfer of all the risks and rewards of ownership is made towards the lessee (IASB, 2008). The equivalent U.S. Standard (SFAS 13), which uses the term ‘capital lease’ rather than ‘finance lease’, introduces requirements into lease classification. A capital lease is defined when one of the following conditions is met: (1) the present value at the beginning of the lease term (not representing executor costs paid by the lessor) equals or exceeds 90 % of the fair value of the leased item; (2) a transfer of ownership of the assets to the lessee

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at the end of the lease term; (3) a bargain purchase price is included; (4) the lease is equal to 75% or more of the estimated economic life of the asset (FASB, 1976).

Beattie et al. (2000) estimated that operating leases are approximately thirteen times larger than finance lease. Furthermore, a study of Beattie et al. (2004) notes that the importance of operating lease for the top 100 listed U.K. companies is shown by the median ratio of operating-lease liability to debt of 0.11 and the median ratio of operating-lease liability to finance-lease of 6.2. Concerns regarding the off-balance-sheet nature of operating leases have led many standard-setting bodies to consider treating all leases consistently. In July 2006, the IASB and FASB put the leasing concerns on the agenda in order to develop new accounting standards for leases to ensure a complete and transparent recognition of assets and liabilities arising from lease contracts on financial statements. Both IAS and FASB agreed to measure the right-to-use assets and its lease obligations based on the present values of future lease payments using the incremental borrowing rate of the lessee at the inception of a lease. Furthermore, the IASB decided to make no distinction anymore between finance lease and operating lease. Therefore, all leases will be treated as a finance lease. The underlying purpose of this study is to investigate the importance of leasing and the impact on the balance sheet of the new accounting proposal. This proposal has important implications for the reported levels of indebtedness and for standard performance measures. Not only profit margins and return on assets would be affected but also gearing measures such as leverage would change if operating leases were required to be recognized on the lessee's balance sheet rather than disclosed in a footnote (Imhoff et al., 1999 and Beattie et al., 1998). Moreover, lease capitalization could affect aggregate investor decisions (i.e. share prices) and management managers' behavior (i.e. financing decisions and earnings management). The impact of a regulatory change on the accounting numbers is captured effectively by observing the change in key accounting ratios. We empirically investigate these economic consequences of a change in regulation of lease accounting for Belgian listed firms in the year 2008. A database of operating lease information is created from published corporate annual reports and operating leases are capitalized using the method proposed by Imhoff, Lipe and Wright (1999).

This paper forms an extension of prior research in three ways. First, this article contributes to the ongoing international debate concerning lease-accounting reform proposed by the IASB. Secondly, to our knowledge, no studies have empirically documented the evidence of the impact of the capitalization of lease accounting in a Belgian setting. Furthermore, the question is asked whether the changes in financial ratios are statistically significant. Lastly, a model was made in order to find company characteristics that influence the capitalization of operational lease.

The remainder of the paper is organized as follows: section 2 provides a brief review of the prior research concerning operational lease accounting. Section 3 discusses sample selection criteria, data collection and methodology. Then the empirical results are described in section 4. Section 5 summarizes the results and concludes the paper.

## **2. Literature**

### *2.1 Lease accounting*

The international standard on lease accounting (IAS 17) makes a fundamental distinction between finance lease and operating leases. A finance lease is defined as a lease that transfers all risks and rewards of ownership to the lessee. The standard setters provide the reader with a number of potential indicators to conclude that a lease is a finance lease. Some of these indicators require judgment (e.g. assessment whether the lease term is for a significant portion of the asset's economic life) which is not allowed under Belgian GAAP. A finance lease is seen as an 'in substance' purchase by the lessee and a sale by the lessor. The asset will be placed on the balance sheet of the lessee presenting the value of the minimal lease payments together with the

corresponding lease liability. Under Belgian GAAP, the lessee recognizes an asset and a liability for an amount equal to the capital portion of the future lease payments. As a result, the amount capitalized under IAS may differ from Belgian GAAP. The distinction between finance lease and operating lease is also found in Belgian GAAP although there are some small differences. First, under Belgian GAAP a transaction will be classified as leasing if the capital portion of the lease payments reconstitutes the capital invested by the lessor in the leased asset. Secondly, the approach under IAS is broader which implies the recognition of all assets compared to Belgian GAAP which excludes agreements with respect to intangible fixed assets and undeveloped land. Any lease that does not qualify for a finance lease is treated as an operating lease. This implies that underlying assets stays on the balance sheet of the lessor and the lessee only recognizes the rental payments as an expense. Under Belgian GAAP, the rental costs are expensed as incurred. Under IAS, operating lease payments must be charged to income on a straight-line basis over the term of the lease unless another basis is more representative, with additional footnote disclosure on the total minimum future lease rental commitments. These commitments are classified into “less than one year”, “two to five years” and “more than five years”. Since 2005, all listed firms in Europe have to apply IAS.

### *2.1 ILW method for estimating the lease liability*

Imhoff, Libe and Wright (1991), hereafter ILW, described the pioneering work on the procedures of constructive lease capitalization. Their sample existed of 14 companies in seven industries where two companies of the same size in each industry were studied. Each pair is different in magnitude representing high and low operating leases. The lease liability is estimated as the present value of future cash flows under the operating lease. If future lease rentals are reported as one amount for different years, we assume equal payments over the specified period of time. This assumption is conservative since the lease rental obligations almost always decrease over time. This could be explained by new leases added to the existing operating leases. In order to determine the duration of the future cash flows we sum the cash flow payment for year 1, years 2 to 5 and more than 5 years and divide it by the cash payment of the first year. This slightly deviates from the method used by ILW where a procedure is suggested that takes the fifth future year's minimum cash payment and divides it into the 'beyond five years' out total to approximate how many years the payments would continue at the level of the fifth year's payment. The reason for the adaptation of the procedure consists of the unavailability of information about the fifth cash payment in the financial statements of Belgian listed firms. Ely (1995) reports that a 25 year lease term is representative for her sample of U.S. firms. To discount the lease cash flows, a procedure described by ILW (1997) is used where the weighted average interest rate for the finance lease of a company is estimated. This implies that for each company the finance lease payments scheduled for 2008 are separated into an interest part and a capital part. The interest is divided by the entire value of the finance lease which results in an interest rate. Because a higher ownership risk remains with the lessor in the case of operating leases, we might expect the interest rate for operating leases to be slightly higher. For some companies, it was not possible to calculate the interest rate according to the previous described procedure due to unavailability of information.

### **Table 1: Estimating the lease liability**

		Finance Leases	Operating Leases	
2008	<1jaar	403000	4646000	
2009-2013	≥1 and ≤5	4207000	7078000	
	> 5	1522000	0	
<b>Total</b>		<b>6132000</b>	<b>11724000</b>	
Less imputed interest		4536000		
Present Value at December 31, 2008		1596000		
Less current liabilities		251000		
Long-term liabilities		1345000		
Interest rate		0,10		
Duration of Cashflows		3		
<b>PV of Operating leases</b>	<b>Scheduled Cash Flows</b>	<b>Interest rate Present Value Factor</b>	<b>PV of Cash Flows</b>	
2008	4646000	0,9130	4242000	
2009-2013	2359333,333	2,2898	5402343	
2011 to 2014	0	2,4349	0	
<b>Estimated unrecorded debt</b>			<b>9644343</b>	
	50%			
Remaining lease life	3	2,51		
Total lease life	6	4,42		
	Ratio of asset balance to liability balance		0,88	
	Estimated unrecorded asset		<b>8492602,291</b>	

In table 1, an illustrative example is shown. The interest rate is calculated by dividing the finance lease <1 less current liabilities by the present value of the finance lease at December 31, 2008. This results in an interest rate of 10 %. Next, the duration of the cashflows is determined. The total amount of operating lease is divided by the amount of operating lease in 2008. To determine the estimated unrecorded debt, the scheduled cash flows are multiplied by a present value factor. To calculate this factor, the interest rate and duration of cashflows are used. Multiplying the present value factor with the scheduled cash flows, the present value of the cash flows is obtained. The total sum results in the estimated unrecorded debt.

## 2.2 ILW method for estimating the lease asset

Imhoff et al. (1991) provide a mechanism for estimating the unrecorded asset after estimating the unrecorded liability. The unamortized unrecorded operating lease asset is expressed as a percentage of the remaining unrecorded operating lease liability at various stages of the assets' weighted average remaining useful life. This implies that for a given total lease life ranging from 10 to 30 years and a marginal interest rate between 8% and 10% and an expired lease life from 20% to 80% the ratio of asset balance to liability balance could be taken out of the table. In this research, for each individual company a firm specific annuity factor is calculated in order to determine the unrecorded lease asset assuming that the remaining life is 50% of the total life. The estimated unrecorded asset is calculated by multiplying the estimated unrecorded debt with the ratio of asset to liability. This ratio can be expressed as:

$$\frac{PV_A}{PV_L} = \frac{RL}{TL} \times \frac{PVA_{F_{TL}}}{PVA_{F_{RL}}}$$

With:

$PV_A$  = present value of unrecorded asset,

$PV_L$  = present value of unrecorded debt,

RL = remaining lease life,

TL = total lease life,

$PVA_{F_{TL}}$  = present value annuity factor for 1€ at r% for n years for the total lease life

$PVA_{F_{RL}}$  = present value annuity factor for 1€ at r% for n years for the remaining lease life

In Table 1, the necessary information to calculate the estimated unrecorded asset and debt is given for a given company.

## 2.3 Hypothesis development

The results of the ILW study indicate that lease capitalization leads to a material decline in return on assets (ROA) ratio for both high and low lease usage. The impact on the debt to earnings (D/E) ratio was even more pronounced with an average increase of 191% for high lease usage and 47% for low lease usage. As a sequel on their 1991 paper, Imhoff et al. (1997) demonstrated that the income effects of off-balance sheet lease financing can materially alter the impressions about the financial performance of firms. Ignoring the income effect of constructive lease capitalization would result in misleading ROA and return on equity (ROE). In addition, the use of disclosed operating lease liabilities in assessing the equity risk was investigated by Imhoff et al. (1993). In this study the mean unrecorded lease liability was \$689 million for the airlines and \$194 million for the grocery companies using the modified Imhoff et al. (1991) capitalization method. Moreover an increase of debt to total assets ratio of 16.2 % and 15.2 % was found respectively for airlines and grocery firms. Other, more recent research, made use of the capitalization method of Imhoff et al. (1991). For instance, Beattie et al. (1998) adopted firm-specific assumptions concerning the remaining lease life, proportion of unrecorded lease asset to liabilities and the effective tax rate for a sample of 232 U.K. firms. A significant difference was found between seven financial ratios before and after capitalization of operational leases. Generally, it is believed that, due to the increased cost of depreciation of the asset and interest expense, lease capitalization has a negative impact on earnings. Consequently, a negative impact was expected on profit margin, ROE and ROA. Only the latter was negative, since the two other ratios had a positive impact from lease capitalization. Another recent study of Bennett and Bradbury (2003) investigates the impact of constructive capitalization on

the financial statement of 38 firms listed on the New Zealand Stock Exchange in 1995. The results suggest that capitalization will have a material impact on the balance sheet since 22.9% of total liabilities were not reported. Additionally, a decline in ROA was noted. The latter two studies did not report on the impact of lease capitalization on earnings and did not separate firms into positive and negative income impact firms when computing the mean of post capitalization ROA. The paper of Duke et al. (2009), on the other hand, provides additional insight into firm's motivation for using operating leases by partitioning the sample of 366 firms listed in 2003 S&P 500 index into negative and positive income impact subgroups. The researchers found that the top quartile positive subgroup experienced an 18 % increase in income while the top quartile negative subgroup had an 11 % decline in income. Furthermore, 11.13 % of the total reported liabilities were avoided by using operating leases. Moreover, the results indicate that the solvency measurement financial ratios such as D/E and debt/total assets have been significantly improved by reporting leases as operating leases. Ely (1995) applied a model derived by Modigliani and Miller (1958,1963) to the accounting data. The model stated that the standard deviation of the stock price namely the equity risk is related to the standard deviation of the return on asset namely the asset risk and the D/E ratio or the financial risk. This model was used to investigate whether the operating lease information is reflected in the equity risk. However, the capitalization of operating leases was not taken into account.

The common finding of all prior research investigating the impact of lease capitalization is that this results in significant increase in unreported lease liabilities and therefore has consequences on the firm's financial ratios. Since we are interested in comparing our results to prior studies (i.e. Bennett and Bradbury (2003) and Duke et al. (2009)), we selected ratios on which was extensively relied upon.

Therefore, the following hypotheses are expressed:

H1: Lease capitalization will have a significant influence on a firm's financial ratios.

International harmonization may be defined as a political process which aims to reduce differences in accounting practices across the world in order to achieve compatibility and comparability (Hoarau, 1996). In Europe, the European Union was created to assure a free market for goods and services. Therefore, a uniform set of commercial laws were established to facilitate the creation of a common market. Consequently, The Commission has drawn up two accounting directives (the Fourth and Seventh Company Law Directives) which have been implemented in the legislation of each member state to produce a uniform set of accounting standards among the member states. The Fourth Company Law Directive has as a main objective to present a true and fair view of the firm's assets, liabilities, financial position and profit and loss. Standardized formats are provided to present the balance sheet, profit and loss account and notes. Furthermore, it combines Anglo-Saxon and Continental accounting traditions since member states have a different accounting background. In the current debate on international accounting harmonization researchers often refer to these different accounting models. On the one hand, Anglo-Saxon accounting argues that they are better equipped to inform capital market participants (Epps, and Oh, 1997). Continental accounting, on the other hand, supports the prudence principle (Hoarau, 1995). If a country accepts international rules for listed companies, they are wary of the impact of international standards on the financial reporting rules for non-listed companies, especially for tax purposes. Many criteria are found for determining different clusters of nations in other accounting systems. Nobes (1983) for the first time classified a variety of national accounting systems of developed Western countries through hierarchical families. They found that The Netherlands were micro-based, mainly theoretically influenced by business economics, whereas Belgium was categorized under macro-uniform tax-based class, like Spain, France and Italy. Douppnik and Salter (1993) argue that, among others, The Netherlands and Belgium were misplaced in the classification system of Nobes

(1983). They found that The Netherlands fall under a micro-based class, but with a U.K influence and Belgium, part of the macro class, should be placed separately from Spain, Italy and France. Another study of Herrmann and Thomas (1995) investigated the impact of the 4<sup>th</sup> Directive on the harmonization in different European countries. They found that European countries could be divided into two categories: those with a legal influence (e.g. Belgium) and those with an economic influence (e.g. the Netherlands). Based on these previous studies, we could conclude that Belgium and the Netherlands never appear in the same category, regardless of which categorization was used.

Since capital markets have become increasingly globalized, the need for more relevant and reliable accounting information in the international arena increased. As a result, the process of international accounting harmonization has entered a new phase. From January 1, 2005 all listed companies in the European Union must prepare their consolidated accounts in accordance with International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB).

## **Research design and methodology**

### *Sample selection*

The sample consists of 128 companies listed on Euronext Brussels as at April 2009. From 2005 onwards the financial statements for listed companies in Belgium are conducted according to IFRS standards. Since the purpose of this study consists of investigating the impact of capitalizing off-balance lease as proposed in the discussion paper by the IASB and FASB, entities without operational leases (64%) were withdrawn from the sample. Furthermore, the banking industry was removed from the sample since the sector specific reporting methods. Consequently, the financial statements of 44 companies were collected from the National Bank of Belgium for the income year 2008. Some firms were withdrawn from the sample due to the unavailability of some key values to determine the capitalization of operational lease. This procedures result in a total sample of 41 companies.

The firms are required to disclose future operating lease rental in three ways: within 1 year, years 2-5 and over 5 years. This footnote disclosure is used to estimate the impact of capitalizing operating leases on the balance sheet and income statement. Two methods of lease capitalization exist. The first method uses heuristic capitalization that has been developed and used by analysts. Imhoff et al. (1993) suggest that the heuristic method substantially overstates the potential lease assets and liabilities. The use by analysts could be explained by the fact that the heuristic method is less costly than fully utilizing note disclosures. The second method follows the constructive capitalization developed by Imhoff et al. (1991) which requires estimating the amount of debt and assets that would be reported on the balance sheet if the operating leases had been treated as finance leases from their inception. The latter method is applied to the data.

## **Results**

### *Main results*



In table 1 the descriptive statistics were reported using the sample. The total lease life is on average 5 years and ranges from 2 to 16 years. This result is in accordance with previous research of Bennett and Bradbury (2003) in which the maximum total lease life was lower compared to the Imhoff et al. (1997) study. This could be explained by the use of the reported future operational lease payments based on the rental of the current operational assets. Since it could be expected that the operational lease will increase by additional lease contracts the real operational lease term will be higher. The average increase in total liabilities caused by capitalization of operating leases is 13,20% whereas the average increase of mean lease asset is 7,12% on the pre-capitalization assets. The marginal interest rate used to discount the operating lease is minimum 2% and maximum 26%. The estimated unrecorded debt (EDU) due to capitalization is on average 223m€ which is higher than the estimated unrecorded asset (EUA) of 222m€.

	Minimum	Maximum	Mean
Total lease life	2	16	4,27
Marginal Intrest rate %	2	26	6,59
Ratio of asset balance to liability balance %	80	99	94,07
EUD (in 000)	120	4193683	222767
EUA (in 000)	116	3385578	188755
Total assets (in 000)	15853	81313000	3445322
Total liabilities (in 000)	6405	63758000	2503830
% Increase in total liabilities	0	76	13,2
% Increase in total assets	0	40	7,12

#### *Impact of capitalization on key accounting ratios for 2008*

Ratios are widely used by investors, analysts and loan officers to study the financial statements of companies. To assess the potential impact of capitalizing operational leases on the balance sheet and income statement, the ROA, D/E and current ratios were investigated. The debt to equity ratio increases from 2.63 to 2.91. The current ratio on the other hand falls from 1.47 to 1.39 after capitalization. On average, the return on asset remains after capitalization equal to 0.06. Bennett and Bradbury (2003) found that the current ratio decreased from 2.11 to 1.8 and the return on assets decreased from 12.6% to 11.5% which results in the same conclusion as this study.

	Minimum	Maximum	Mean
D/E before	0,17	16,76	2,63
ROA before	-0,81	0,30	0,06
Current ratio before	0,37	3,72	1,47
D/E after	0,18	16,97	2,91
ROA after	-0,59	0,30	0,06
Current ratio after	0,36	3,65	1,39

To investigate whether these observed differences are significant, a paired sample t-test was computed. Table 3 shows that the mean difference between the D/E ratios before and after capitalization equals -0.28 which is significantly different from zero at a 0.001 significance level. The difference in ROA is not significant at a 0.05 significance level. Taken into account that the sample consist of 41 elements, the difference could become significant at a 0.05 level if the dataset would be enlarged by performing the analysis in different countries. Furthermore, the current ratio before and after capitalization is significant. This means the increase of 0.08 is significantly different from zero.

**Table 3: Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	D/E before - D/E after*	-,27933	,41000	,06403	-,40874	-,14991	-4,362	40	,000
Pair 2	ROA before - ROA after**	-,00012	,03792	,00592	-,01209	,01185	-,020	40	,984
Pair 3	Current ratio before - Current ratio after***	,07931	,13159	,02055	,03778	,12085	3,859	40	,000

\* D/E (Debt To Equity) = Total Liabilities/ Total Equity

\*\* ROA (Return On Assets) = EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization) / Total assets

\*\*\*Current ratio = Current Assets / Current Liabilities



### **Industry effect**

Previous research has documented industry effects associated with debt and leasing policy. Ang and Peterson (1984) found that the use of finance leases is different across industries and Sharpe and Nguyen (1995) document industry differences according to the use of operating leases. In order to analyze the industry effect in the model, dummy variables for each sector were added. Different classification systems can be used to divide companies into sectors. The most commonly known are the SIC and the NACE codes. In the 1930's the Standard Industry Classification System (SIC) was created by the US Census Bureau, a department of the US government, responsible for gathering data about the nation's people and economy. By the 1990's however, the coding was dated and replaced by the North American Industry Classification System (NAICS) in 1997 (US Census Bureau, 2008). The European equivalent of the SIC is the NACE code. Since SIC and NACE codes are equal up to 4 numbers (Williams, 2007), our preference goes to applying the NACE 2008 code (Eurostat, 2008) since it is used by the Belgian and European government. The companies were assigned to different industries, based on their main activity. When a lack of clarity occurred, we used information from Euronext Brussels which places the Belgian listed firms in the ICB classification system. Allocation to the appropriate industries in ICB classification system is made in collaboration with the management of the companies. This resulted in the companies being allocated to 18 different industries. Those industries were further grouped into 7 categories (see Appendix 1).

### **Size effect**

Large firms are more likely to be financed with debt compared to smaller companies due to more diversity and consequently more stable cash flows. Furthermore, smaller firms are likely to face higher costs in obtaining external financing due to information asymmetry. Sharpe and Nguyen (1995) found that leases solve these information asymmetries and result in lower financing costs. Adams and Hardwick (1998) partially supported the negative relationship between size and operational lease by reporting that lease decreased until firm size grew to a certain level, but they also claimed that lease increased after the level. Thus, the impact of the amount of operational lease should be inversely related to firm size to a certain level. To measure the construct size, different proxies can be used. In our model total assets on balance date will be used to determine the size of the firm. The natural logarithm transformation was performed in order to restrain the outliers.

### **Business finance**

The trade off theory (Kraus and Litzenberger, 1973) states that a firm chooses how much debt and equity finance to use by balancing the costs and benefits. Consequently, it can be expected that a firm financed with a considerable amount of equity will decide to make more use of operational lease since the increase in liabilities due to the use of financial lease will negatively affect the D/E ratio. Furthermore, the amount of financial lease can also affect the strategy concerning operational lease. Firms with a considerable amount of finance lease will have a high amount of operational lease since the negative effect of capitalizing lease on the debt to equity ratio. In order to investigate whether these two variables did not measure the same construct, the correlation between the two variables was made. The Pearson correlation matrix (see **Error! Reference source not found.**) shows no correlation between the variable equity and total finance lease which assures that there will be no problems of multicollinearity in the regression analysis between the displayed independent variables.

To determine the impact of company characteristics on the amount of capitalized debt influenced by the changes of IAS 17, a model was created.

$$EUD_i = b_0 + b_1 IND_i + b_2 SIZE_{it} + b_3 Equity_{it} + b_4 FinanceLease_{it}$$

where:

$EUD_i$  = the estimated unrecorded debt of firm ( $i$ ),

$IND_i$  = a dummy variable to indicate to which industry a firm ( $i$ ) belongs,

$SIZE_{it}$  = the LN of the total assets of firm ( $i$ ) at balance date ( $t$ ),

$Equity_{it}$  = the total amount of equity of firm ( $i$ ) at balance date ( $t$ ),

$FinanceLease_{it}$  = the total amount of finance lease of firm ( $i$ ) at balance date ( $t$ ).

The linear regression of the full model in Appendix 3 shows that only LN total asset as a measure for size is not significant. This means that there exists no relation between the company size and the amount of capitalization given the model. All the other explanatory variables such as industry, equity and total amount of financial lease have a significant effect on the amount of estimated unrecorded assets and debt. Consequently, a new model was created where the size effect was withdrawn. This results in a model for EUD where 86 % of the variability in the dependent variable is explained by the independent variables. The adjusted  $R^2$ , which takes into account the amount of variables, equals 83%. (See Appendix 4)

Next a similar regression was performed replacing the dependent variable EUD by EUA which is calculated according the method of Imhof et al (1999). The independent variables industry, equity and financial lease are still significant.

Concerning the industry variables, all the dummy variables are significantly different from the benchmark variable, namely telecommunications. A more in depth analysis of the different industries reveals that industry is an important variable in explaining the total amount of EUD since the significance in the linear regression. All industries have more operational lease and are consequently more affected by the proposed capitalization procedure compared to telecommunications. Furthermore, it can be noticed that companies with more equity on their balance sheet will have a greater amount of EUD. In a linear model that corrects for industry and financial lease, EUD will increase with 140 for every 1000 euro increase in equity with 95% confidence interval. The increase is significantly different from 0 (T-test on linear model parameter,  $p < 0.001$ ). Moreover, the total financial lease has a significant influence on the dependent variable given the model. An increase of 1000 euro in financial lease will result in an increase of 3698 euro for EUD.

### Coefficients<sup>a</sup>

Model (EUD)	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-8,668E8	2,455E8		-3,531	,001
Financial Intermediations	7,279E8	3,326E8	,215	2,188	,037
Retail and transport	9,264E8	2,612E8	,447	3,547	,001
Chemicals and pharmaceuticals	7,776E8	2,659E8	,420	2,924	,007
Manufacturing	7,254E8	2,614E8	,424	2,775	,009
Food and beverages	7,852E8	3,013E8	,319	2,606	,014
Equity	,142	,020	,546	7,128	,000
Total financial lease	3,698	,430	,679	8,610	,000

a. Dependent Variable: EUD

### Conclusion

In March 2009, the Boards published a discussion paper in which the current views on lease accounting were placed. All stakeholders have the opportunity to describe their opinion on this paper concerning lease accounting. The European Financial Reporting Advisory Group (EFRAG) announced in their comment letter on the paper their concern about the replacement of the border between operating and finance leases with another border between service arrangements and leases (EFRAG, 2009).

This study presents the impact on the financial ratios of 41 Belgian companies listed on Euronext Brussels affected by the proposed changes of IAS 17. Furthermore this paper describes company characteristics that influence the level of unrecorded debt. The results indicate that operating lease capitalization will have a significant effect on the current ratio and D/E ratio of listed companies. The proposed changes on IAS 17 will result in a significantly higher D/E ratio and in a lower current ratio. No significant difference is found between the ROA before and after capitalization is. The results have implications for the analysis of non-US financial statements. For example, the average lease time of Belgian companies is much lower compared to previous studies on US data. The impact of capitalization would result in a change of on average 13% increase in total liability. Next a model was created in order to determine company characteristics that would have an impact on lease capitalization. It was found that industry has a significant influence next to the amount of financial lease and equity of the firm. Size, which was a significant predictor in previous research, has no impact on the lease capitalization.

These results are relevant to international standard setters (the IASB) that might consider the impact of the proposed changes on IAS 17 described in the discussion paper by the boards. Furthermore the results are of relevance to analysts in determining

the impact of balance sheet figures such as equity and financial lease on the degree of operational lease and consequently on determining the profile of companies that choose for off balance financing. In a Belgian setting, companies with high amount of equity and finance leasing will be more affected by the proposed elimination of the difference between operational and finance lease.

Appendix 1

**Industry Classification**

<b>Services other than financial</b>	
62	Computer programming, consultancy and related activities
70	Activiteiten van hoofdkantoren; adviesbureaus op het gebied van bedrijfsbeheer
73	Advertising and market research
<b>Financial intermediations</b>	
64	Financial service activities, except insurance and pension funding
65	Financial intermediations
<b>Telecommunications</b>	
61	Telecommunications
<b>Food and beverages</b>	
10	Manufacture of food products
11	Manufacture of beverages
<b>Electronics &amp; ICT</b>	
26	Manufacture of computer, electronic and optical products
<b>Chemicals &amp; pharmaceuticals</b>	
20	Manufacture of chemicals and chemical products
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations
71	Biotechnology
72	Scientific research and development
<b>Retail &amp; transport</b>	
50	Transport
47	Retail trade, except of motor vehicles and motorcycles
<b>Manufacturing</b>	
17	Manufacture of paper and paper products
22	Manufacture of rubber and plastic products
24	Manufacture of basic metals
28	Manufacture of machinery and equipment, n.e.c.
42	Construction
58	Publishing activities



Appendix 2

**Correlations**

		Equity	Total financial lease
Pearson Correlation	Equity	1,000	,152
	Total financial lease	,152	1,000
Pearson Correlation	Equity	.	,177
	Total financial lease	,177	.

Appendix 3

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,615E8	1,053E9		,343	,734
	Food and beverages	6,448E8	3,212E8	,262	2,008	,054
	Financial Intermediations	6,376E8	3,387E8	,188	1,882	,070
	Retail and transport	8,580E8	2,655E8	,414	3,232	,003
	Chemicals and pharmaceuticals	6,541E8	2,834E8	,353	2,308	,028
	Manufacturing	6,661E8	2,642E8	,389	2,521	,017
	Electronics and ICT	6,971E8	2,986E8	,358	2,335	,027
	Lnassets	-5,811E7	4,845E7	-,143	-1,200	,240
	Totalfinlease	3,844	,443	,706	8,671	,000
	EV	,165	,028	,637	5,927	,000

a. Dependent Variable: EUD

Appendix 4

**Model Summary EUD**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,928	,861	,825	317303048,79218



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